APPENDIX A

Kerr Wood Leidal Hydrology Report

KERR WOOD LEIDAL
consulting engineers

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Technical Memorandum

DATE: December 2, 2022

TO: Amy Peters, RPBio, PAg, AScT, Water Quality and Resource Coordinator
City of Abbotsford

FROM: Dustin Dewan

RE: **2021 - 2022 AMWSC Bevan Environmental**
Our File 510.205-300

1. Introduction

This memorandum describes station maintenance and flow measurements performed during the 2021 - 2022 monitoring program at Downes Creek, Fishtrap Creek and Horn Creek in the City of Abbotsford (COA). The monitoring program ran from May 1, 2021 - April 30, 2022 and included:

- continuous data collection of water levels and estimated calculated flows, posted on FlowWorks;
- weekly data review for quality control and quality assurance;
- monthly site visits and offset checks;
- flow measurements performed; and
- development of a stage-discharge relationship that is applicable during low to mid-high flow periods.

2. Flow Monitoring

Water level is measured every minute at the Horn Creek and Fishtrap Creek stations and transmitted to the COA SCADA system, which forwards the data via FTP to FlowWorks. The Downes Creek station measures water level every 5 minutes and uploads the data to FlowWorks via cellular telemetry. KWL visited the site monthly to perform offset checks which were updated in FlowWorks by KWL and emailed to the COA to be updated in their SCADA system.

Enclosures A (Downes Creek), B (Fishtrap Creek), and C (Horn Creek) contain the following record of work done at both hydrometric stations:

- Site Visit Record,
- Flow Measurement Record,
- Stage-Discharge Curve,
- Annual Flow Data Graph, and
- Site Visit Photos.

Please note that when sensor data is not available, the value recorded in FlowWorks for stage and discharge is null.

2.1. Stage-Discharge Relationships

Stage-discharge relationships (SDRs) are determined by measuring flows at known water levels. Measured flows are calculated by measuring depths and velocities of the stream and applying the velocity-area method. At least five measurements at different flow magnitudes should be conducted to construct a reliable stage-discharge relationship. Once a stage-discharge relationship has been developed, at least two measurements should be taken every year to maintain the relationship and confirm that the established relationship remains valid.

Kerr Wood Leidal Associates Ltd. (KWL) uses the method of maximum likelihood to develop stage-discharge curves. Flow measurements are assigned an accuracy value based on hydrometric standards published by the BC Ministry of Environment. Maximizing the probability of the observed measurements generates a power law curve and the equation for that curve becomes the rating curve to calculate discharge.

2.2. Quality Control and Quality Assurance

Confidence in the recorded monitoring data is improved by frequently measuring the offset between the staff gauge and the logger data. This offset represents the difference between the depth recorded by the pressure transducer (PT) and the actual depth on the staff gauge. The offset can be affected by factors including sensor drift, physical movement of the sensor, or impact from debris movement.

Monthly maintenance visits are scheduled to measure offsets, clean instruments, and ensure that the station equipment is functioning properly. The data is reviewed weekly on FlowWorks to determine if a station visit outside of the regular maintenance schedule is needed.

2.3. Downes Creek

On April 23, 2019, Downes Creek hydrometric station was installed at 32438 Downes Rd (49.074416 / -122.326560). The primary function of the site is to ensure flow in the stream does not go below 10% of established baseline flows to protect aquatic life. KWL staff continue to aim for a complete range of flow measurements with special focus placed on the lower end of the stage-discharge relationship to better understand and establish what the baseline flow is at the site.

The Downes Creek hydrometric station was installed on the southside of Downes Rd at the most downstream culvert inlet of a double culvert crossing. This was the best location of the nearby options considered in 2019, described in the memorandum for the first year's program. The site has a stable stage-discharge relationship, but it should be noted that there are some instances of fluctuations in stage where no rainfall has been documented. The presence and activity of beaver dams, overgrowing vegetation, and backwatering conditions upstream of the station is likely the cause of the fluctuations. For example, on May 1, 2021, the stage-discharge data indicates a rainfall event and a shift in baseflow (44 l/s --> 77 l/s) but no rain gauges in the City of Abbotsford captured rainfall on this day. When KWL staff completed follow-up maintenance on May 31, 2021, the monitoring station was operating as expected. As a result of the consistency in the stage-discharge relationship, these sporadic events appear to be believable but should be monitored going forward.

The Downes Creek hydrometric station has operated without any major incidents during the reporting period with KWL staff collecting three flow measurements using the FlowTracker 2 Acoustic Doppler Velocimeter (ADV). There were three measurements taken in this period and the lowest stage and discharge measured was 0.221 m and 0.053 m^3/s on September 9, 2021. The second highest flow measurement taken to date at Downes Creek was collected on October 28, 2021 - the stage was 0.521 m and the discharge equalled 0.832 m^3/s.

Refinement on the low end of the rating curve is still the primary goal to better understand the baseflow level. In addition to the low flow focus, KWL believes a full range of flow measurements should be completed to further develop the stage-discharge relationship. It is recommended that 3 measurements be collected at low, middle, and high stages to continue refinement of the SDR.

2.4. Fishtrap Creek

On January 7, 2021, KWL staff installed the Fishtrap hydrometric monitoring station at a location 200 m west of Mt. Lehman Rd on the Marshall Road Extension Rd (49.038982 / -122.380786). The site is slightly downstream (10 m) from a newly constructed double box culverted bridge. The primary objective of the monitoring station is to act as a trigger to augment creek baseflows if discharge dips below 11 l/s until the creek is established enough to maintain aquatic life. A staff gauge and pressure transducer (PT) are mounted to the downstream side of a large round culvert. BC Hydro connected power on July 22, 2021 to the monitoring station and is now powered locally and connected to the SCADA system.

A stage-discharge relationship was to be created by completing 6 flow measurements with focus on low flows while still obtaining a full range of discharge measurements. KWL staff completed 5 flow measurements between June 18, 2021 – October 28, 2021. As previously outlined in last year's report, the 2020 road and dual-box culvert construction that occurred, subsequently created unfavourable conditions in this reach of Fishtrap Creek. These conditions include and are not limited to the following:

- Large pooling body of water at gauging and sensor location
- Deep, standing water
- Very soft mucky streambed
- Heavy grasses present throughout stream
- Minimal gradient contributing to slow moving and backwatering conditions
- Presence of beaver activity
- Downstream area inundated with fallen debris and small braided channels
- No suitable cross-section location for flow measurements

At low stages, water is nearly still, making collection of an accurate low magnitude flow measurement challenging. At higher stages, the water is still slow-moving and has a very soft mucky streambed and water depths are 1.5 m or more at the centre of the channel, which limits flow measurement with handheld flow measurement devices. Further, there was minimal to no correlation between the five flow measurements collected. See below for the 2 lowest flow measurements collected and see that flow is similar but stage is nearly double in the second measurement.

- July 21, 2021
  - Stage: **0.250 m**
  - Discharge: **11 l/s**
- September 14, 2021
  - Stage: **0.409 m**
  - Discharge: **10 l/s**

After the completion of a broader observation period, KWL staff met with Amy Peters (June 10, 2022) at Fishtrap Creek to thoroughly communicate and understand each parties priorities and possibilities. It was deemed from this meeting that the monitoring station at Fishtrap Creek would operate as a water level site going forward. KWL would continue regular QA/QC and site maintenance visits but would no longer aim to complete flow measurements. The City of Abbotsford communicated they would run the mitigation pumps during the summer months in order to meet their environmental guidelines.

2.5. Horn Creek

Stage-discharge relationships are typically extrapolated to include very low and very high stages because of the inherent difficulty and/or instrument error associated with performing these measurements. KWL has monitored Horn Creek since 2014. In previous years the COA requested a stage-discharge relationship be developed for very low flows to identify when Horn Creek flows are below 25 L/s as the COA is required to activate flow augmentation wells to maintain flows above this threshold. In the 2021/22 program, KWL staff obtained five flow measurements with heavier concentration on the lower section of the stage-discharge relationship due to lengthier drought periods and low flow conditions. Four pairs of measurements were used to confirm that flow was > 25 l/s and one pair to continue refining the upper section of the curve. All measurements were performed using a FlowTracker 2 Acoustic Doppler Velocimeter (ADV) and all are being included in the stage-discharge relationship. When a pair of measurements were performed, the first measurement was used as a point to calculate the stage-discharge relationship and the second measurement was used to determine the accuracy of the first measurement.

As previously communicated in past annual reports, Horn Creek has active sediment movement and erosion during storm events. During this reporting period, there was some subtle shifting with sediment both depositing and eroding away at different times, however, no major shifting occurred, and one discharge equation is being submitted for the entire period.

Between September 14, 2021 – October 15, 2021, the stage-discharge data indicates that flow goes below 25 l/s. KWL strategically obtained measurements in this period due to the very low flow conditions as the site. Those results are below:

- September 9, 2021
  - Stage: 0.669 m
  - Discharge: 30 l/s
- September 25, 2021
  - Stage: 0.671 m
  - Discharge: 27 l/s

The two discharge measurements obtained in September 2021 gave KWL the confidence that the 25 l/s threshold wasn't broken. Through data QAQC and site visits, for the remainder of the reporting period, KWL staff paid close attention to the potential shifting and movement of sediment in the creek. No major obvious shifts occurred through to April 30, 2022. During the periods for where the stage-discharge equation goes below 25 l/s, this is a result of the confines of the equation and should be assumed with confidence flow did not break the threshold.

It is recommended that 5 flow measurements be completed next year with the same primary focus on the low end. One or two of those flow measurements should be collected at the mid to high range to increase confidence in the whole SDR. Communication between COA and KWL staff should continue during low flow periods to provide input into operation of flow augmentation pump when warranted. In 2022/23, KWL staff will continue to monitor shifts to the channel.

3. Recommendations and Closing

KWL recommends the following steps be taken in 2022/23:

- Continue to perform monthly offset checks and weekly data review;
- If data analysis is to be performed using the 2021/22 Bevan flow record, the 'Final Stage' and 'Final Discharge' FlowWorks channels should be used because these have been corrected for all offset errors that occurred due to sensor shifts;
- At Downes Creek,
  - Complete 3 measurements to target low, mid and high flows;
- At Fishtrap Creek:
  - Continue to monitor water level at the location and monitor sediment and vegetation accumulation downstream of station.
- For Horn Creek,
  - At the beginning of the fish season, verify the 2021/22 low flow relationship by performing a flow measurement and a rudimentary hydrometric survey of the upstream and downstream controls to identify if a shift to the 2021/22 stage-discharge relationship is required;
  - Continue communicating between COA and KWL staff during low flow periods to provide input into operation of flow augmentation pump when warranted; and
  - Complete minimum five flow measurements to develop a comprehensive stage-discharge relationship;

We trust that this memorandum has provided useful information. Should you have any questions, please do not hesitate to contact the undersigned.

KERR WOOD LEIDAL ASSOCIATES LTD.

Prepared by:

Dustin Dewan
Hydrometric Technician

Reviewed by:

Caroline Gort, P.Eng.
Technical Reviewer

Encl.: A – Downes Creek Monitoring Records
B – Fishtrap Creek Monitoring Records
C – Horn Creek Monitoring Records

Statement of Limitations

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Revision History

Revision #	Date	Status	Revision Description	Author
0	December 2, 2022	Final		DRD

KERR WOOD LEIDAL
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Enclosure A

Downes Creek Flow Station

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Site Photographs – Downes Creek

Photo 1: Upstream at Downes Creek
June 18, 2021

Photo 2: Upstream at Downes Creek
October 28, 2021

Photo 3: Upstream at Downes Creek
January 19, 2022

Photo 4: Upstream at Downes Creek
February 15, 2022

Photo 5: Downstream at Downes Creek
June 18, 2021

Photo 6: Downstream at Downes Creek
October 28, 2021

Site Photographs – Downes Creek

Photo 7: Downstream at Downes Creek
January 19, 2022

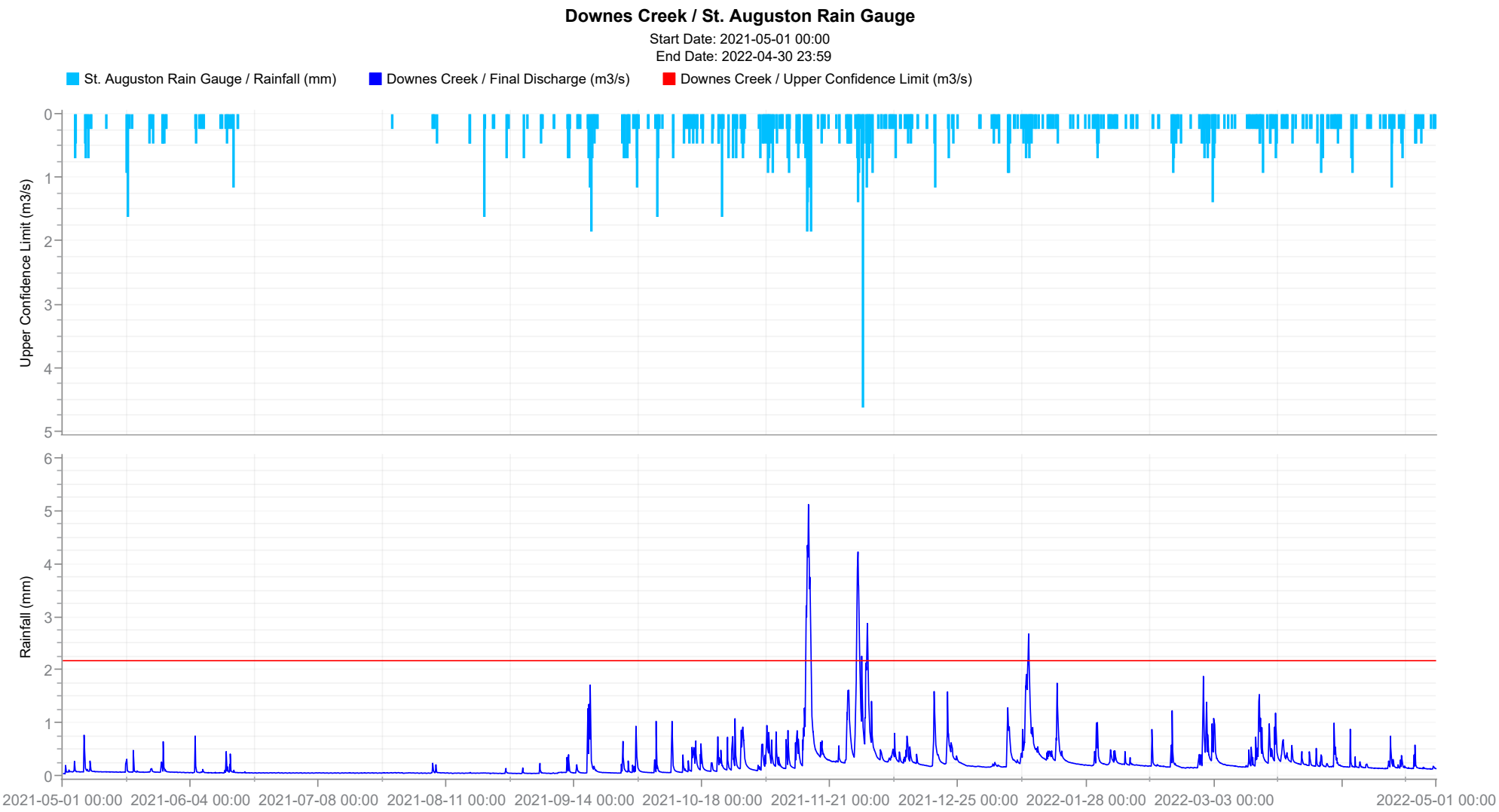
Photo 8: Downstream at Downes Creek
April 01, 2021

Photo 9: Staff Gauge at Downes Creek
June 18, 2021

Photo 10: Staff Gauge at Downes Creek
October 28, 2021

Photo 11: Staff Gauge at Downes Creek
January 19, 2022

Photo 12: Staff Gauge at Downes Creek
April 01, 2021


Downes Creek / St. Auguston Rain Gauge
Start Date: 2021-05-01 00:00
End Date: 2022-04-30 23:59
St. Auguston Rain Gauge / Rainfall (mm)
Downes Creek / Final Discharge (m3/s)
Downes Creek / Upper Confidence Limit (m3/s)
Upper Confidence Limit (m3/s)
0
1
2
3
4
5
Rainfall (mm)
0
1
2
3
4
5
6
2021-05-01 00:00
2021-06-04 00:00
2021-07-08 00:00
2021-08-11 00:00
2021-09-14 00:00
2021-10-18 00:00
2021-11-21 00:00
2021-12-25 00:00
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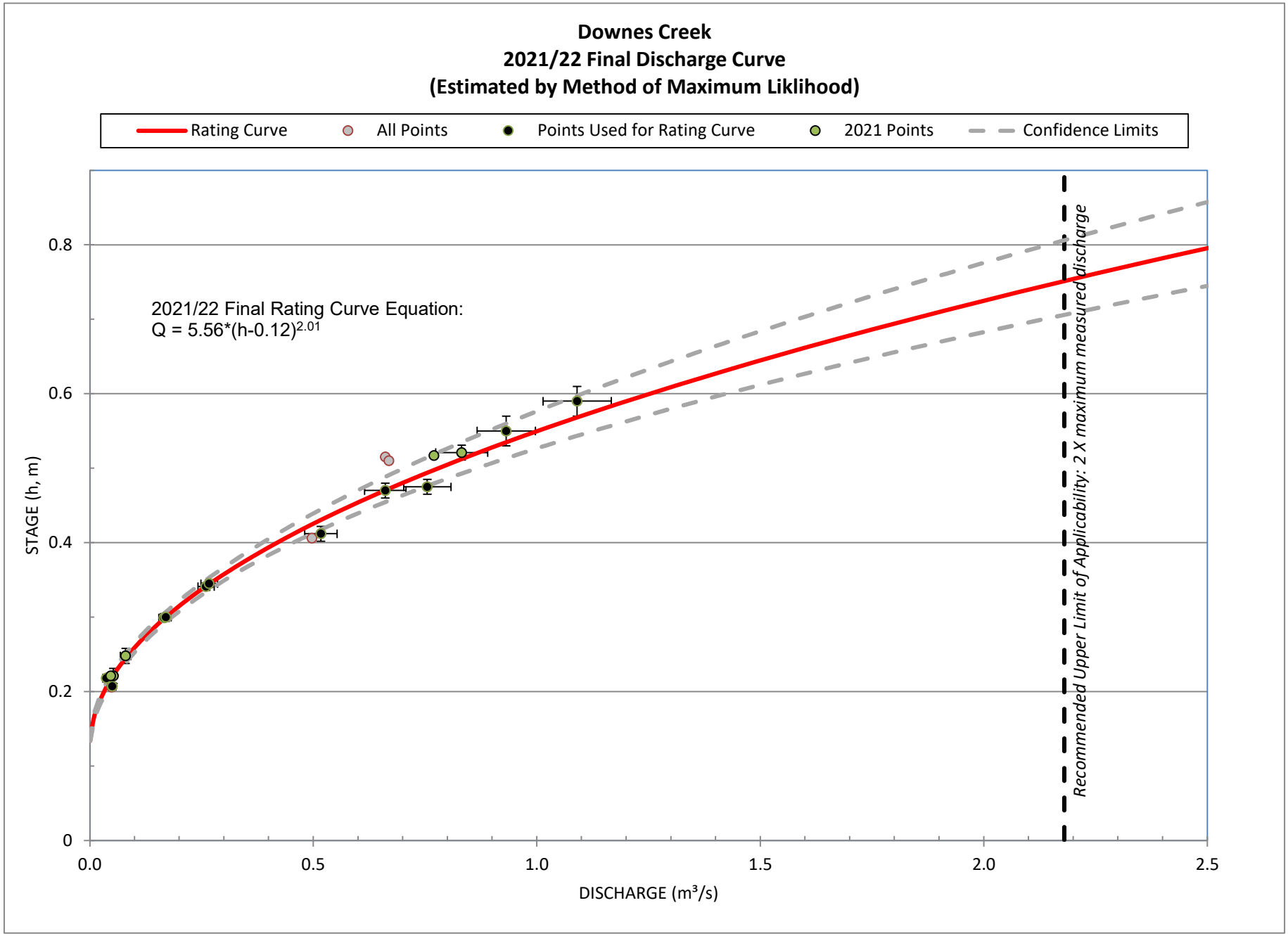
2022-03-03 00:00
2022-05-01 00:00



\\kwl.ca\projects\0500-0599\510-205\300-Report\2021-22_Bevan Report\Rating Curves\Downes Creek\2021_Downes_SDR_Final.xlsm[FIG Rating Curve (All Points)]

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Enclosure B

Fishtrap Creek Flow Station

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consulting engineers

Site Photographs – Fishtrap Creek

Photo 1: Upstream at Fishtrap Creek
June 11, 2021

Photo 2: Upstream at Fishtrap Creek
September 14, 2021

Photo 3: Upstream at Fishtrap Creek
October 28, 2021

Photo 4: Upstream at Fishtrap Creek
April 15, 2022

Photo 5: Downstream at Fishtrap Creek
June 11, 2021

Photo 6: Downstream at Fishtrap Creek
September 14, 2021

Site Photographs – Fishtrap Creek

Photo 7: Downstream at Fishtrap Creek
October 28, 2021

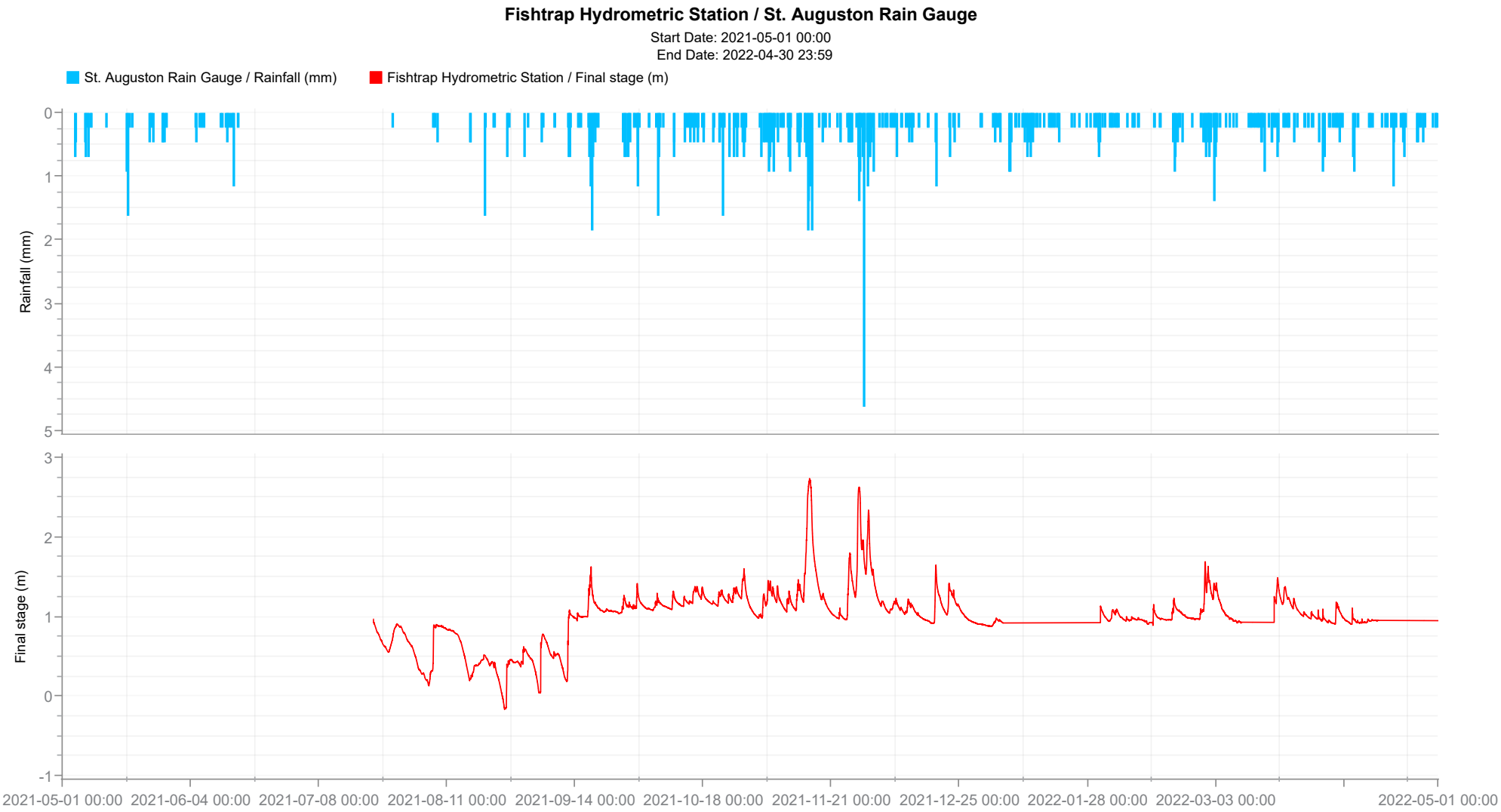
Photo 8: Downstream at Fishtrap Creek
April 15, 2022

Photo 9: Staff Gauge at Fishtrap Creek
June 11, 2021

Photo 10: Staff Gauge at Fishtrap Creek
September 14, 2021

Photo 11: Staff Gauge at Fishtrap Creek
October 28, 2021

Photo 12: Staff Gauge at Fishtrap Creek
April 15, 2022


Fishtrap Hydrometric Station / St. Auguston Rain Gauge
Start Date: 2021-05-01 00:00
End Date: 2022-04-30 23:59
St. Auguston Rain Gauge / Rainfall (mm)
Fishtrap Hydrometric Station / Final stage (m)
Rainfall (mm)
0
1
2
3
4
5
Final stage (m)
3
2
1
0
-1
2021-05-01 00:00
2021-06-04 00:00
2021-07-08 00:00
2021-08-11 00:00
2021-09-14 00:00
2021-10-18 00:00
2021-11-21 00:00
2021-12-25 00:00
2022-01-28 00:00
2022-03-03 00:00
2022-05-01 00:00

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Enclosure C

Horn Creek Flow Station

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Site Photographs – Horn Creek

Photo 1: Upstream at Horn Creek
May 22, 2021

Photo 2: Upstream at Horn Creek
September 09, 2021

Photo 3: Upstream at Horn Creek
October 28, 2021

Photo 4: Upstream at Horn Creek
February 15, 2022

Photo 5: Downstream at Horn Creek
May 22, 2021

Photo 6: Downstream at Horn Creek
September 09, 2021

Site Photographs – Horn Creek

Photo 7: Downstream at Horn Creek
October 28, 2021

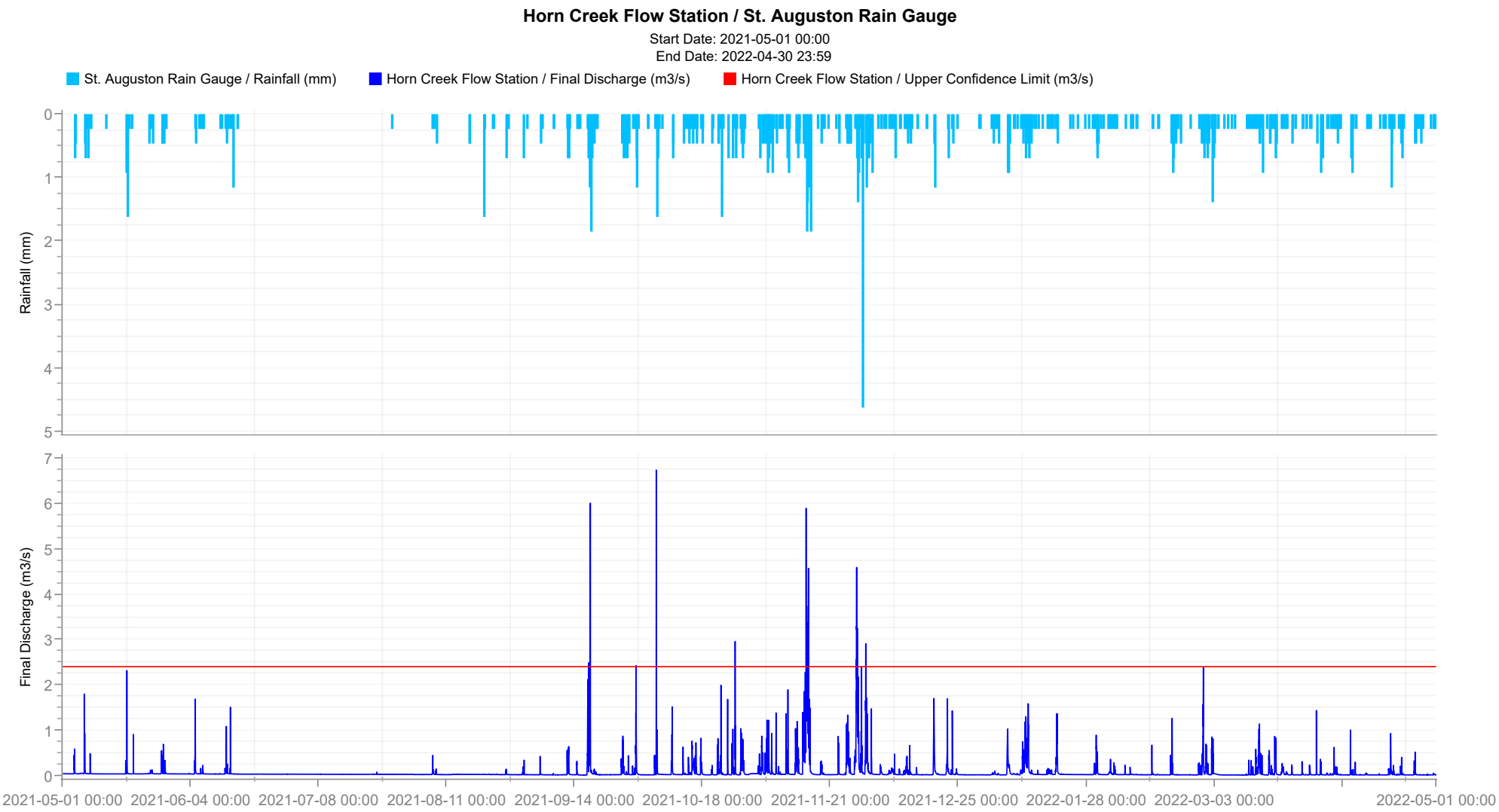
Photo 8: Downstream at Horn Creek
February 15, 2022

Photo 9: Staff Gauge at Horn Creek
May 22, 2021

Photo 10: Staff Gauge at Horn Creek
September 09, 2021

Photo 11: Staff Gauge at Horn Creek
October 28, 2021

Photo 12: Staff Gauge at Horn Creek
February 15, 2022


Horn Creek Flow Station / St. Auguston Rain Gauge
Start Date: 2021-05-01 00:00
End Date: 2022-04-30 23:59
St. Auguston Rain Gauge / Rainfall (mm)
Horn Creek Flow Station / Final Discharge (m3/s)
Horn Creek Flow Station / Upper Confidence Limit (m3/s)
Rainfall (mm)
0
1
2
3
4
5
Final Discharge (m3/s)
0
1
2
3
4
5
6
7
2021-05-01 00:00
2021-06-04 00:00
2021-07-08 00:00
2021-08-11 00:00
2021-09-14 00:00
2021-10-18 00:00
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2021-12-25 00:00
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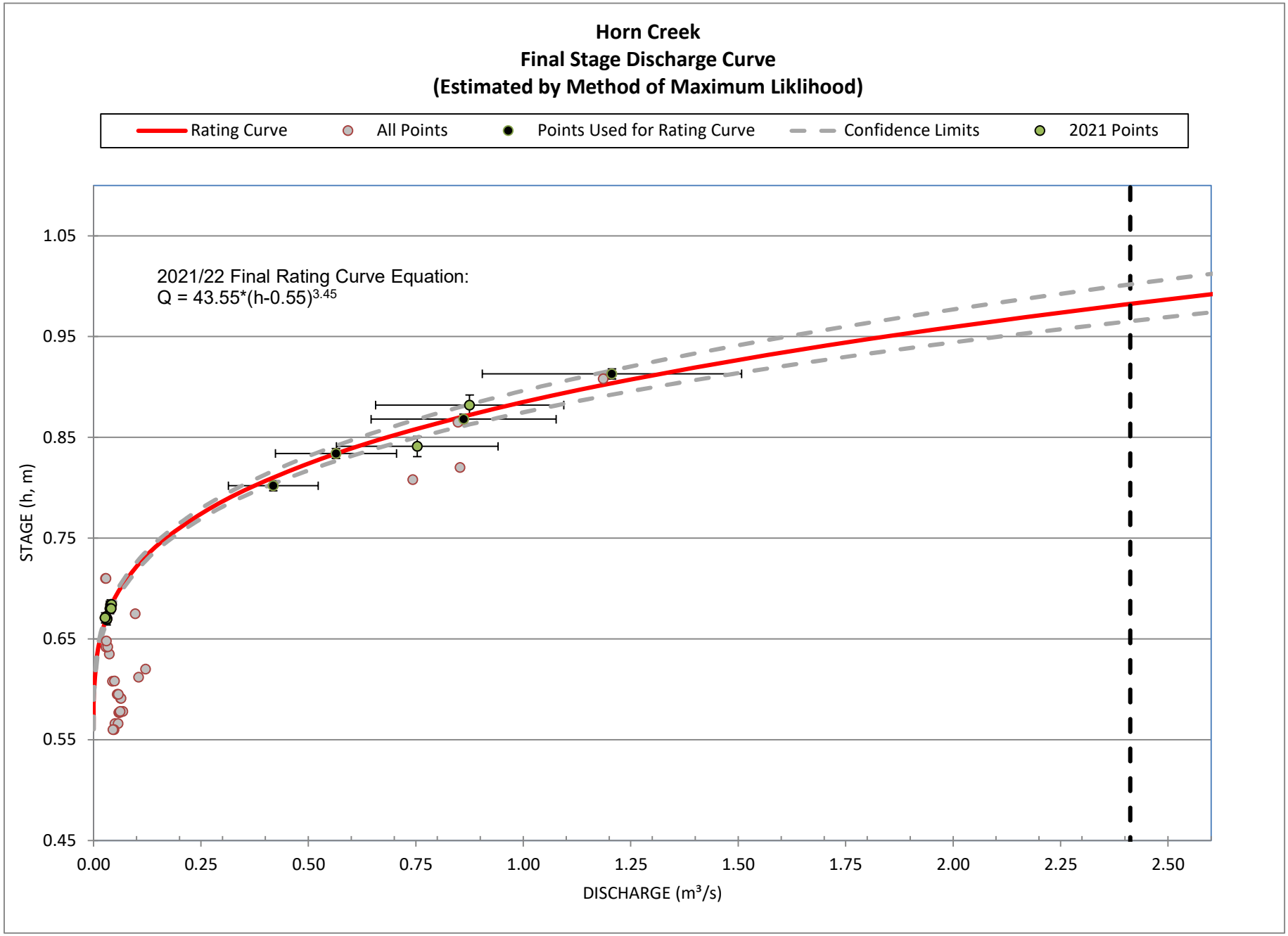
2022-03-03 00:00
2022-05-01 00:00



\\kwl.ca\projects\0500-0599\510-205\300-Report\2021-22_Bevan Report\Rating Curves\Horn Creek\2021-22_HornCreek_SDR_Final.xlsm[FIG Rating Curve (All Points)]

APPENDIX B

Horn Creek Flow Monitoring Site Event Log

Horn Creek flow monitoring site event log

Item	Date	Decription	Notes
1	2011-09-22	Voltage & flow in Historian	Q=0.00654 * (H3 - 548.5)^2.106; where Q in L/s, H3 in mm
2	Apr-13	Flow available to Flowworks	
3	2013-07-22	Level in Historian	
4	2014-01-09	Flow Calculation clarified	Q=0.00654 * (H3 - 427.85)^2.106; where Q in L/s, H3 in mm
5	2014-04-15	Flow sensor downstream removed	
6	Apr-14	Flow sensor relocated	Better location to improve flow accuracy
7	2014-05-22	Flow Calculation revised	Q=0.13 * (level + 0.89)^13.94; where Q in m^3/s, level in m
8	2014-05-26	Level available to Flowworks	
9	2014-10-20	Heavy rain damaged flow sensor	Flow sensor to be rebuilt
10	2014-11-07	flow sensor rebuilt	
11	2015-05-06	Flow Calculation revised	Q=(17.71 * (Raw level + 0.413 - 0.283)^4.22) * 1000; where Q=L/s, level/offset in m
12	2015-06-12	Flow Calculation revised	Q=(17.71 * (Raw level + 0.419 - 0.283)^4.22) * 1000; where Q=L/s, level/offset in m
13	2015-08-29	Windstorm damaged the flow sensor	Flow sensor to be rebuilt
14	2015-11-23	Flow sensor restored	
15	2015-12-18	Battery failed intermittently	Loss level and flow data intermittently
16	2016-01-20	Hydro power connected to flow sensor	
17	2017-02-28	Flow Calculation revised	Q=16.35 * (Raw level + 0.45 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
18	2/29/2017	Flow Calculation revised for offset	Q=16.35 * (Raw level + 0.36 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
19	2017-03-14	Flow data corrected in Historian	Flow data in Historian between Aug 26, 2014 and May 6, 2015 were re-populated by the preliminary flow from Flowworks which was based on Q=16.35 * (Raw level+offset+0.45) with various offsets
20	2017-05-12	Flow Calculation revised for offset	Q=16.35 * (Raw level + 0.356 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
21	2017-07-18	Flow Calculation revised for offset	Q=16.35 * (Raw level + 0.36 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
22	2017-09-05	Flow Calculation revised for offset	Q=16.35 * (Raw level + 0.419 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
23	2017-09-22	Flow Calculation revised for offset	Q=16.35 * (Raw level + 0.364 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
24	2017-11-17	Level Sensor Failed	Level Sensor Failed, readings became erratic
25	2017-12-27	Ice Storm, Power Lost. Flow Calc initialized to offset of 0.45m	Q=16.35 * (Raw level + 0.45 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
26	2018-04-25	New Level Sensor Installed	
27	2018-05-01	Flow Calculation revised for offset	Q=16.35 * (Raw level + 0.36 - 0.450) ^ 2.14 * 1000; where Q=L/s, level/offset in m
28	2018-08-16	Flow formula changed to provide more accurate low flow calculation	For h<0.65, Q=20.53 * (h - 0.47) ^ 2.53; For h>=0.65, Q=78.89 * (h - 0.31) ^ 4.81; where h=Raw level + **0.349**, Q=L/s, h=Raw level + KWL offset in meters
29	2019-03-22	KWL Offset Updated	New offset = 0.384m.
30	2019-05-15	KWL Cleaned Sediment and Debris	Cleaned around sensor. Caused sensor reading to drop by 4cm. Flow didn't change, so offset will be updated at a later date

Item	Date	Decription	Notes
31	2019-05-29	KWL Offset Updated	New offset = 0.436m
32	2019-06-07	Storm even impacted sensor	Sensor buried under large amount of sediment. Stilling well full of sediment.
33	2019-06-11	Sensor relocated	Due to storm event 6/7/2019, to facilitate cleaning KWL had to uninstall and reinstall this part of the site. Stilling well reinstalled slightly angled downsteam and closer to the bank.
34	2019-06-17	Flow formula changed, offset updated	For h<0.65, Q=6.23 * (h - 0.5) ^ 2.2 For h>0.65, Q=78.89 * (h - 0.31) ^ 4.81 Where h=Raw Level + KWL Offset in Meters. New offset = 0.4594m
35	2019-07-10	Storm event	
36	2019-07-25	Sensor relocated closer to the water surface to mitigate sediment issues.	
37	2019-07-31	KWL Offset Updated, Flow formula changed	New offset = 0.601m. Resulted in higher than actual flows, so KWL shifted the stage elevation for high flow calculation. For h<0.73, Q=6.23 * (h - 0.54) ^ 2.2 For h>0.73. Q=78.89 * (h - 0.31) ^ 4.81
38	2019-12-02	KWL Offset Updated	New offset = 0.580m.
39	2019-12-11	KWL Offset Updated	Offset updated to 0.564m first, then KWL corrected offset and Offset updated to 0.581m
40	2020-12-08	Calculation changed	Q=16.16(A-0.641)^1.75
41	2021-07-21	KWL Offset Updated	Offset updated from 0.601m to 0.670m
42	2021-12-20	Calculation changed, KWL Offset updated	Q=27.36(A-0.590)^2.73 New Offset = 0.621 (advised to add 0.020 to current offset)
43	2022-01-31	KWL Offset Updated	New Offset = 0.602 (advised to remove 0.019 from current offset)
44	2022-07-06	Calculation Changed	Q=27.36*(A-0.570)^2.73

APPENDIX C

Manual Stream Flow Data

Site	Sample Date (d/mmm/yy)	Total Discharge (m3/sec)	Staff Guage Height (m) - Start	Rod depth @ staff gauge (m)	Staff Guage Height (m) - End	Start Time	End Time	Uncertainty (%)
B-01	19-May-2021	0.0016	0.245	0.07	N/A	15:06	15:36	6.68
B-01	17-Jun-2021	0.0005	0.236	0.095	N/A	11:48	12:12	11.56
B-01	13-Jul-2021	-0.0064	0.228	0.08	n/a	12:45	13:19	88.84
B-01	18-Aug-2021	0.0016	0.2	0.05	NA	12:25	12:53	108.54
B-01	22-Sep-2021	0.0043	0.218	0.06		14:13	14:42	48.63
B-01	27-Oct-2021	0.0004	0.328	0.17	NA	11:20	11:49	34.47
B-01	20-Jan-2022	0.0116	0.354	0.27	0.356	10:40	11:50	3.2
B-01	20-Apr-2022	0.0016	0.248	0.01	0.247	11:04	11:40	12.68
B-02	19-May-2021	0.0182	0.25	0.18	N/A	11:15	12:00	11.52
B-02	13-Jul-2021	0.0083	0.258	0.17	n/a	10:55	11:34	21.99
B-02	18-Aug-2021	0.0065	0.242	0.16	NA	9:45	10:21	17.27
B-02	22-Sep-2021	0.0094	0.238	0.12	NA	10:46	11:17	22.26
D-01	20-May-2021	0.0836	0.242	11.5	N/A	9:44	10:20	4.78
D-01	17-Jun-2021	0.0499	0.232	0.11	N/A	16:42	17:11	4.67
D-01	12-Jul-2021	0.0439	0.224	0.09	n/a	15:40	16:14	5.62
D-01	17-Aug-2021	0.056	0.23	0.09	N/A	8:59	9:37	5.22
D-01	20-Sep-2021	0.0716	0.238	0.09	NA	10:24	10:53	4.43
D-01	25-Oct-2021	0.1034	0.263	0.11	NA	9:21	10:04	4.33
D-01	18-Jan-2022	0.342	0.344	0.22	0.344	9:15	10:08	4.67
D-01	19-Apr-2022	0.1479	0.288	nr	0.286	10:20	11:20	5.51
D-01 culvert inlet	20-May-2021	n/a	0.244	0.19	N/A	N/A	N/A	N/A
D-01 culvert inlet	17-Jun-2021	n/a	0.228	0.21	N/A	16:30	N/A	N/A
D-01 culvert inlet	12-Jul-2021	n/a	2.22	0.17	n/a	11:19	n/a	n/a
D-01 culvert inlet	17-Aug-2021	NA	0.224	0.17	NA	NA	NA	NA

Site	Sample Date (d/mmm/yy)	Total Discharge (m3/sec)	Staff Guage Height (m) - Start	Rod depth @ staff gauge (m)	Staff Guage Height (m) - End	Start Time	End Time	Uncertainty (%)
D-01 culvert inlet	20-Sep-2021	NA	0.238	0.16	NA	NA	NA	NA
D-01 culvert inlet	25-Oct-2021	NA	0.27	0.21	NA	NA	NA	NA
D-02	20-May-2021	0.0454	0.434	0.375	N/A	11:24	11:59	5.46
D-02	12-Jul-2021	0.0341	0.412	0.34	n/a	14:32	15:11	9.39
D-02	17-Aug-2021	0.0338	0.418	0.32	N/A	10:45	11:26	7.49
D-02	20-Sep-2021	0.0321	0.416	0.34	NA	11:38	12:10	7.72
D-02	18-Jan-2022	0.0676	0.53	0.17	0.545	10:30	11:20	5.2
D-02	19-Apr-2022	0.0327	0.428	0.031	0.428	11:39	12:20	7.01
D-03	20-May-2021	0.002	0.096	0.05	N/A	14:35	15:20	6.45
D-03	12-Jul-2021	0.0013	0.08	0.06	n/a	19:13	19:31	12.86
D-03	17-Aug-2021	0.0019	0.08	0.06	N/A	12:42	13:01	26.32
D-03	20-Sep-2021	0.0019	0.154	0.03	NA	14:00	14:20	14.99
D-03	18-Jan-2022	0.0063	0.072	0.09	0.072	13:50	14:43	11.3
D-03	19-Apr-2022	0.0033	0.084	0.01	0.084	13:45	14:51	13.29
D-04	20-May-2021	0.0026	0.17	0.16	N/A	13:44	14:10	7.03
D-04	12-Jul-2021	0.0026	0.18	0.18	N/A	17:29	18:07	9.76
D-04	17-Aug-2021	0.0016	0.178	0.2	N/A	14:16	14:56	9.94
D-04	20-Sep-2021	0.0024	0.254	0.19	NA	15:50	16:21	8.23
D-04	18-Jan-2022	0.0033	0.168	0.09	0.172	12:39	13:23	7.7
F-01	21-May-2021	0.0109	0.286	0.235	N/A	10:23	10:50	9.82
F-01	16-Jun-2021	0.0133	0.342	0.26	N/A	12:35	13:10	6.97
F-01	14-Jul-2021	0.0028	0.284	0.22	N/A	9:14	10:03	13.85

Site	Sample Date (d/mmm/yy)	Total Discharge (m3/sec)	Staff Guage Height (m) - Start	Rod depth @ staff gauge (m)	Staff Guage Height (m) - End	Start Time	End Time	Uncertainty (%)
F-01	19-Aug-2021	0.0033	0.274	0.18	NA	9:27	9:56	8.09
F-01	23-Sep-2021	0.0211	0.474	0.43	NA	9:32	10:03	7.81
F-01	26-Oct-2021	0.1567	0.842	0.74		11:42	12:18	4.11
F-01	19-Jan-2022	0.1267	0.612	1.22	0.612	16:15	17:00	12.03
F-01	20-Apr-2022	0.0456	0.424	0.26	0.422	14:15	14:50	4.66
F-02B	21-May-2021	0.1097	0.28	0.56	N/A	14:03	14:43	136.59
F-02B	16-Jun-2021	0.1083	0.402	0.69	N/A	16:10	16:53	12.7
F-02B	16-Jul-2021	0.0014	0	0		9:28	10:05	30.61
F-02B	19-Aug-2021	0.0027	0	0.027	N/A	11:35	12:03	19.71
F-02B	23-Sep-2021	0.1675	0.422	0.74	NA	12:41	13:25	3.29
F-02B	26-Oct-2021	NA	0.65	0.96		NA	NS	NA
F-02B	19-Jan-2022	0.5948	378 (1.378?)	0.76	"	14:45	15:40	7.85
F-04	21-May-2021	0.1607	0.394	0.2	N/A	11:31	12:10	4.16
F-04	14-Jul-2021	0.0471	0.268	0.13	N/A	16:20	16:52	3.62
F-04	19-Aug-2021	0.0086	0.288	0.37	Na	15:49	16:25	14.36

Site	Sample Date (d/mmm/yy)	Total Discharge (m3/sec)	Staff Guage Height (m) - Start	Rod depth @ staff gauge (m)	Staff Guage Height (m) - End	Start Time	End Time	Uncertainty (%)
F-04	23-Sep-2021	0.0734	0.654	0.525	NA	17:11	17:40	12.6
F-04	26-Oct-2021	NA	NA	NA	NA	NA	NA	NA
H-01	19-May-2021	0.0057	0.098	0.045	N/A	17:25	18:00	7.2
H-01	17-Jun-2021	0.0056	0.108	0.06	N/A	14:21	14:58	7.57
H-01	13-Jul-2021	0.0053	0.016	0.05	n/a	15:46	16:20	6.36
H-01	18-Aug-2021	0.0029	0.11	0.05	NA	14:52	15:21	12.18
H-01	22-Sep-2021	0.0031	0.114	0.01	NA	16:37	17:08	55.85
H-01	27-Oct-2021	0.0027	0.118	0.04		13:07	13:38	7.44
H-01	19-Jan-2022	0.0128	0.146	0.11	0.144	11:00	11:35	9.34
H-01	20-Apr-2022	0.0049	0.136	0.01	0.137	10:00	10:40	32.66
H-02	19-May-2021	0.0485	0.686	0.42	N/A	9:35	10:17	4.14
H-02	17-Jun-2021	0.028	0.684	0.4	N/A	8:59	9:34	3.39
H-02	13-Jul-2021	0.0319	0.678	0.41	n/a	13:22	14:06	8.03
H-02	18-Aug-2021	0.0279	0.674	0.415	NA	10:41	11:09	8.81
H-02	22-Sep-2021	0.0288	0.674	0.28	NA	11:53	12:28	5.18
H-02	19-Jan-2022	0.0401	0.674	0.09	0.674	8:15	8:55	21.4
H-02	19-Apr-2022	0.1588	0.678	0.16	0.724	15:35	16:10	3.06
H-02	27/oct/2021	0.0427	0.688	0.45	NA	9:35	10:07	7.28
H-03	19-May-2021	0.0096	0.148	0.06	N/A	16:10	16:36	4.39
H-03	17-Jun-2021	0.0083	0.146	0.07	N/A	13:15	13:58	4.32
H-03	13-Jul-2021	0.0058	0.148	0.06	n/a	14:30	15:06	56.28
H-03	18-Aug-2021	0.0053	0.136	0.03	NA	13:50	14:19	9.28
H-03	22-Sep-2021	0.0049	0.132	0.02	NA	17:17	17:50	12.1
H-03	27-Oct-2021	0.005	0	0	NA	13:51	14:22	14.7
H-03	19-Jan-2022	0.0131	0.178	Not recorded	0.176	10:04	10:40	8.19
H-03	20-Apr-2022	0.0294	0.197	0.01	0.198	8:50	9:30	7.95
W-01	19-May-2021	0.0409	0.123	0.24	N/A	13:38	14:16	3.09
W-01	17-Jun-2021	0.0361	0.13	0.23	N/A	10:52	11:19	2.8
W-01	14-Jul-2021	0.0282	0.138	0.21	n/a	18:32	19:03	2.65

Site	Sample Date (d/mmm/yy)	Total Discharge (m3/sec)	Staff Guage Height (m) - Start	Rod depth @ staff gauge (m)	Staff Guage Height (m) - End	Start Time	End Time	Uncertainty (%)
W-01	18-Aug-2021	0.0282	0.116	0.205	NA	16:23	16:50	3.33
W-01	24-Sep-2021	0.0211	0.114	0.19	NA	9:36	10:26	2.65
W-01	27-Oct-2021	0.0531	0.312	0.35		15:49	16:20	7.23
W-01	20-Jan-2022	0.2538	0.376	0.76	0.372	8:30	9:15	4.94
W-01	20-Apr-2022	0.084	0.228	0.22	0.228	12:15	12:56	4.24
WT-01	21-May-2021		0.268	0.19	N/A	15:30		
WT-01	14-Jul-2021	n/a	0	0	n/a	17:50	n/a	n/a
WT-01	19-Aug-2021	NA	0	0	0	13:27	NA	NA
WT-01	23-Sep-2021	NA	0	0	NA	NA	NA	NA
WT-01	20-Jan-2022	0.851	NA	NA	NA	12:50	13:30	2.38
Wetland	20-May-2021	NA	0.144	NA	NA	10:45	NA	NA
Wetland	12-Jul-2021	NA	0.136	NA	NA	NA	NA	NA
Wetland	17-Aug-2021	NA	NA	NA	NA	NA	NA	NA
Wetland	20-Sep-2021	NA	NA	NA	NA	NA	NA	NA
Wetland	25-Oct-2021	NA	NA	NA	NA	NA	NA	NA
Wetland	18-Jan-2022	NA	0.192	NA	NA	11:00	NA	NA
Wetland	19-Apr-2022	NA	0.141	NA	NA	NA	NA	NA

Site	Sample Date (d/mmm/yy)	Control	Comments
B-01	19-May-2021	fines, 3m ds from stg	
B-01	17-Jun-2021	fines, 3m ds from stg	
B-01	13-Jul-2021	Control: 10 mds Of staff gauge, organics	
B-01	18-Aug-2021	0.5 DS STG, fines	water levels low, flow negligible, two beaver dams approx 10 m DS flow station
B-01	22-Sep-2021	0.5m ds sg, fines	
B-01	27-Oct-2021		
B-01	20-Jan-2022	Control fines, 3m ds from stg	repeated measurement because negative discharge recorded first time.
B-01	20-Apr-2022	Control fines, 3m ds from stg	mud building up around staff gauge; water depth is not ~0.3 m
B-02	19-May-2021	LWD, 0.6m ds Of stg	
B-02	13-Jul-2021	control: 5m ds gravel/cobble	
B-02	18-Aug-2021	1m DS STG, fines	
B-02	22-Sep-2021	1m ds of sg, gravel, fines	
D-01	20-May-2021	gravel, 1m ds from stg	
D-01	17-Jun-2021	gravel, 1m ds from stg	
D-01	12-Jul-2021		time on flowtracker incorrect. end at 12:11pm
D-01	17-Aug-2021	1m d/s of staff gauge, cobbles and gravels	time on flowtraxker off. actual end time: 10:22
D-01	20-Sep-2021	1 m ds stg, gravel/cobble	
D-01	25-Oct-2021	1m ds of stg, gravel	Actual end time: 10.31
D-01	18-Jan-2022	control gravel, 1m ds from stg	
D-01	19-Apr-2022	control gravel, 1m ds from stg	
D-01 culvert inlet	20-May-2021		
D-01 culvert inlet	17-Jun-2021		
D-01 culvert inlet	12-Jul-2021		
D-01 culvert inlet	17-Aug-2021		

Site	Sample Date (d/mmm/yy)	Control	Comments
D-01 culvert inlet	20-Sep-2021	NA	
D-01 culvert inlet	25-Oct-2021	1m ds of stg, gravel	
D-02	20-May-2021	fines, gravel, 2m ds from stg	
D-02	12-Jul-2021		Time on FT incorrect.
D-02	17-Aug-2021	3m d/s of staff gauge, gravels	Time fixed on flowtracker
D-02	20-Sep-2021	2 m ds srg, gravel	
D-02	18-Jan-2022	Control fines, gravel, 2m ds from stg	
D-02	19-Apr-2022	Control fines, gravel, 2m ds from stg	
D-03	20-May-2021	gravel, 3m ds from stg	
D-03	12-Jul-2021		Time on FT incorrect. End at 15:30.
D-03	17-Aug-2021	4m d/s of staff gauge, gravel	
D-03	20-Sep-2021	3 m ds STG, gravel	STG toppled over, re-erected at 13:43, will need resurveying; wetted width too small for full measurements, 14 stations at 5cm apart
D-03	18-Jan-2022	Control gravel, 3m ds from stg	
D-03	19-Apr-2022	Control gravel, 3m ds from stg	
D-04	20-May-2021	cobble, 0.3m ds from stg	
D-04	12-Jul-2021		Time on FT incorrect.
D-04	17-Aug-2021	2.5 m d/s of staff gauge, gravel and cobble	
D-04	20-Sep-2021	5 m ds stg, gravel	
D-04	18-Jan-2022	Control cobble, 0.3m ds from stg	
F-01	21-May-2021	cobble, gravel, 5m ds from stg	
F-01	16-Jun-2021	cobble, gravel, 5m ds from stg	
F-01	14-Jul-2021	control: 5m ds of staff gauge, boulder, gravel	

Site	Sample Date (d/mmm/yy)	Control	Comments
F-01	19-Aug-2021	5m DS STG, cobble/gravel	
F-01	23-Sep-2021	5m ds stg, cobble gravel	
F-01	26-Oct-2021	5m DS STG, gravel/cobble	actual end time 12:47
F-01	19-Jan-2022	control cobble, gravel, 5m ds from stg	
F-01	20-Apr-2022	control cobble, gravel, 5m ds from stg	
F-02B	21-May-2021		staff gauge missing. measured from top of lower metal bracket to water surface. will need to determine stg gauge height when we reinstall. conrol fines 8m ds from stg
F-02B	16-Jun-2021	fines 8m ds from stg. Reinstalled staff gauge. Distance from top of black cap to water surface= 1.545m	
F-02B	16-Jul-2021		Substrate is 0.27 m from bottom of staff gauge. Control: 10m ds of staff gauge. Organics
F-02B	19-Aug-2021		STG 0.06 m above water
F-02B	23-Sep-2021	3m ds stg, gravel	No water in stream. Clearing on banks, property owner said the city asked nil to do the clearing
F-02B	26-Oct-2021	3m DS STG, fines/gravel	flow site too deep to sample, water levels extremely high
F-02B	19-Jan-2022	control fines	
F-04	21-May-2021	gravel 5m ds from stg	
F-04	14-Jul-2021	8m ds from stg, gravel.	
F-04	19-Aug-2021	8 m DS STG, gravel	

Site	Sample Date (d/mmm/yy)	Control	Comments
F-04	23-Sep-2021		
F-04	26-Oct-2021	Control gravel 5m ds from stg	too deep to sample
H-01	19-May-2021	gravel, 0.2m ds stg	
H-01	17-Jun-2021	gravel, 0.2m ds stg	
H-01	13-Jul-2021	0.3m ds from stg. Gravel.	
H-01	18-Aug-2021	0.3m DS STG,gravel	
H-01	22-Sep-2021	3m ds of sg, gravel and cobble	
H-01	27-Oct-2021	4m ds stg, gravel, cobble	
H-01	19-Jan-2022	Control gravel, 0.2m ds stg	
H-01	20-Apr-2022	Control gravel, 0.2m ds stg	creek very shallow
H-02	19-May-2021	gravel, 2m ds of stg	
H-02	17-Jun-2021	gravel, 2m ds of stg	
H-02	13-Jul-2021		time on machine incorrect. ended at 10:03
H-02	18-Aug-2021	2m DS STG, gravel	
H-02	22-Sep-2021	2m ds of ataff gauge, gravel	
H-02	19-Jan-2022	control gravel, 2m ds of stg	
H-02	19-Apr-2022	control gravel, 2m ds of stg	
H-02	27/oct/2021	3m DS STG, gravel/fines	Actual end time 10:03
H-03	19-May-2021	gravel, 2m ds from stg	
H-03	17-Jun-2021	gravel, 2m ds from stg	
H-03	13-Jul-2021	3m ds from stg, gravel	
H-03	18-Aug-2021	2m DS STG, gravel	
H-03	22-Sep-2021	6m DS STG, gravel	STG area infilled with gravel.
H-03	27-Oct-2021	4m ds stg, gravel, cobble	
H-03	19-Jan-2022	Control gravel, 2m ds from stg	
H-03	20-Apr-2022	Control gravel, 2m ds from stg	
W-01	19-May-2021	fines, 2m ds of stg	
W-01	17-Jun-2021	fines, 2m ds of stg	
W-01	14-Jul-2021	Control: 3m ds of staff gauge, fine, gravel	

Site	Sample Date (d/mmm/yy)	Control	Comments
W-01	18-Aug-2021	2m DS STG, fines/gravel	
W-01	24-Sep-2021	2m ds stg, fines	
W-01	27-Oct-2021	2m DS STG, fines	
W-01	20-Jan-2022	control fines, 2m ds of stg	
W-01	20-Apr-2022	control fines, 2m ds of stg	
WT-01	21-May-2021	gravel, 4m ds from stg.	TOO SHALLOW TO SAMPLE
WT-01	14-Jul-2021		Dry channel, no flow
WT-01	19-Aug-2021	10m DS STG, OM	No water present
WT-01	23-Sep-2021	NA	
WT-01	20-Jan-2022	control gravel, 4m ds from stg	no staff gauge present
Wetland	20-May-2021		
Wetland	12-Jul-2021	NA	
Wetland	17-Aug-2021	NA	wasp nest, crew stung, did not sample
Wetland	20-Sep-2021	NA	Wasp nest still active, did not measure
Wetland	25-Oct-2021	NA	Wasp nest still active, did not check STG
Wetland	18-Jan-2022	NA	
Wetland	19-Apr-2022	NA	

APPENDIX D

Compiled Year 11 Water Quality Data

BV Labs ID			ZV0883	AAA183	ABR637	AEA157	AGO427	AJG072
Sampling Date			2021-05-19 14:45	2021-06-17 14:10	2021-07-13 12:30	2021-08-18 12:06	2021-09-22 14:08	2021-10-27 09:22
	UNITS	**RDL**	**B01**	**B01**	**B01**	**B01**	**B01**	**B01**
pH	pH	N/A	7.00	6.95	7.01	6.77	6.85	6.68
Total Ammonia (N)	mg/L	0.015	0.097	0.045	0.029	0.066	0.048	0.044
Total Phosphorus (P)	mg/L	0.0030	0.026	0.039	0.022	0.013	0.06	0.034
Nitrate (N)	mg/L	0.0020	1.74	2.39	2.18	1.21	1.49	0.32
Nitrite (N)	mg/L	0.0020	0.0195	0.0175	0.0158	0.0126	0.0067	0.0047
Total Hardness (CaCO3)	mg/L	0.50	74.3	60.9	68.7	84.4	60.2	32.6
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	0.051	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	237	115	57.6	74.4	188	125
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	1.31	0.36	0.40	0.62	0.96	1.07
Total Barium (Ba)	ug/L	1.0	37.6	18.4	16.8	29.7	32.5	21.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.106	0.029	0.023	0.075	0.093	0.053
Total Chromium (Cr)	ug/L	1.0	3.2	2.2	1.5	<1.0	1.9	1.6
Total Cobalt (Co)	ug/L	0.20	1.66	0.25	0.29	0.91	1.08	0.67
Total Copper (Cu)	ug/L	0.50	6.71	1.03	0.89	2.13	4.84	6.53
Total Iron (Fe)	ug/L	10	2120	572	581	1070	1080	725
Total Lead (Pb)	ug/L	0.20	5.02	1.30	0.81	0.63	4.01	3.62
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	521	81.8	90.6	285	239	115
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	4.1	1.1	<1.0	2.0	2.4	2.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	9700	8970	11800	10100	9060	4540
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	218	199	198	305	186	87.3
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ZV0883	AAA183	ABR637	AEA157	AGO427	AJG072
Sampling Date			2021-05-19 14:45	2021-06-17 14:10	2021-07-13 12:30	2021-08-18 12:06	2021-09-22 14:08	2021-10-27 09:22
	UNITS	**RDL**	**B01**	**B01**	**B01**	**B01**	**B01**	**B01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	9.0	5.1	<5.0	<5.0	8.4	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	44.4	8.9	8.3	26.9	58.6	44.7
Total Zirconium (Zr)	ug/L	0.10	0.17	<0.10	<0.10	<0.10	0.17	0.27
Total Calcium (Ca)	mg/L	0.050	20.7	17.2	18.5	24.6	17.9	10.1
Total Magnesium (Mg)	mg/L	0.050	5.48	4.35	5.49	5.58	3.75	1.81
Total Potassium (K)	mg/L	0.050	1.27	1.11	0.871	1.34	1.11	1.00
Total Sodium (Na)	mg/L	0.050	18.6	20.9	13.3	15.0	19.5	10.8
Total Sulphur (S)	mg/L	3.0	4.4	3.1	5.0	5.2	7.9	<3.0
pH	pH units	--	6.23	6.35	6.3	5.86	5.82	7.62
Temperature	ºC	--	11.4	13.7	14.6	14	13.2	10.4
Specific Conductance	µS/cm	--	246	256.1	188.4	260	239.4	178.9
Dissolved Oxygen	%	--	6.4	3.6	3.63	7.12	1.9	9.45
Turbidity	NTU	--	3.65	1.62	5.07	4.37	5.08	2.55

RDL = Reportable Detection Limit

Dup Mean

BV Labs ID			ALP603		ANG911	AOU671	AQB818	ARV131
Sampling Date			2021-11-26 11:03	2021-12-15 12:20	2022-01-19 11:40	2022-02-17 11:01	2022-03-14 14:15	2022-04-20 11:14
	UNITS	**RDL**	**B01**	**B01**	**B01**	**B01**	**B01**	**B01**
pH	pH	N/A	6.59	7.30	7.10	6.97	6.85	7.16
Total Ammonia (N)	mg/L	0.015	0.034	0.072	0.082	0.081	0.12	0.073
Total Phosphorus (P)	mg/L	0.0030	0.023	0.0102	0.0082	0.011	0.028	0.017
Nitrate (N)	mg/L	0.0020	0.758	1.79	1.72	1.86	0.516	1.65
Nitrite (N)	mg/L	0.0020	0.0054	0.008	0.0076	0.0121	0.0165	0.0103
Total Hardness (CaCO3)	mg/L	0.50	30.1	71.6	69.9	70.1	20.1	66.2
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	85.9	45.3	74.6	52.0	329	61.5
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	0.65	<0.50
Total Arsenic (As)	ug/L	0.10	0.59	0.40	0.36	0.32	0.53	0.48
Total Barium (Ba)	ug/L	1.0	17.7	36.6	35.7	29.6	13.9	25
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.027	0.037	0.04	0.026	0.024	0.024
Total Chromium (Cr)	ug/L	1.0	1.2	1.2	1.4	1.2	1.9	1.4
Total Cobalt (Co)	ug/L	0.20	0.29	0.42	0.34	0.29	0.28	0.33
Total Copper (Cu)	ug/L	0.50	2.61	1.01	1.88	1.59	6.32	2.23
Total Iron (Fe)	ug/L	10	578	812	768	572	641	647
Total Lead (Pb)	ug/L	0.20	0.91	0.49	0.76	1.16	1.76	1.37
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	78	162	136	110	37.5	122
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	1.1	1.7	1.7	1.4	1.1	1.5
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	3740	8035	7260	8450	2770	7900
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	86.5	205	211	211	51.7	187
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Dup Mean

BV Labs ID			ALP603		ANG911	AOU671	AQB818	ARV131
Sampling Date			2021-11-26 11:03	2021-12-15 12:20	2022-01-19 11:40	2022-02-17 11:01	2022-03-14 14:15	2022-04-20 11:14
	UNITS	**RDL**	**B01**	**B01**	**B01**	**B01**	**B01**	**B01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	17	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	33.0	16.9	18.0	12.5	35.0	14.9
Total Zirconium (Zr)	ug/L	0.10	0.19	0.13	0.20	0.13	0.34	0.15
Total Calcium (Ca)	mg/L	0.050	9.02	20.8	20.5	20.4	6.09	19.3
Total Magnesium (Mg)	mg/L	0.050	1.83	4.77	4.55	4.64	1.19	4.37
Total Potassium (K)	mg/L	0.050	0.784	1.45	1.46	1.52	0.588	1.36
Total Sodium (Na)	mg/L	0.050	8.55	20.8	34.1	25.6	10.5	17.9
Total Sulphur (S)	mg/L	3.0	<3.0	3.4	3.1	3.4	<3.0	<3.0
pH	pH units	--	6.41	6.5	6.02	6.4	6.47	6.77
Temperature	ºC	--	8	8.1	7.8	8.2	8.1	8.6
Specific Conductance	µS/cm	--	93.4	264.6	338.7	286.5	99.8	254.3
Dissolved Oxygen	%	--	6.99	7.08	7.58	7.4	8.97	6.56
Turbidity	NTU	--	3.23	3.27	2.59	1.04	12	2.33

RDL = Reportable Detection Limit

BV Labs ID			ZV0884	AAA184	ABR638	AEA158	AGO428	AJG073
Sampling Date			2021-05-19 10:40	2021-06-17 09:08	2021-07-13 10:33	2021-08-18 09:14	2021-09-22 10:20	2021-10-27 11:05
	UNITS	**RDL**	**B02**	**B02**	**B02**	**B02**	**B02**	**B02**
pH	pH	N/A	7.62	7.53	7.69	7.76	7.91	7.13
Total Ammonia (N)	mg/L	0.015	0.025	0.019	<0.015	0.017	0.024	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.01	0.0079	0.012	0.0098	0.011	0.0077
Nitrate (N)	mg/L	0.0020	1.61	1.63	1.65	1.53	1.46	1.02
Nitrite (N)	mg/L	0.0020	0.0082	0.0094	0.0079	0.0082	0.0049	0.0024
Total Hardness (CaCO3)	mg/L	0.50	101	107	108	114	111	84.5
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	71.9	40.3	52.1	50.9	66.1	64.3
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.62	0.65	0.75	0.95	0.78	0.66
Total Barium (Ba)	ug/L	1.0	15.7	15.5	14.7	15.4	16.9	15.9
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	0.66	1.20
Total Iron (Fe)	ug/L	10	375	314	264	269	300	362
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.21
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	106	102	93.3	90.3	93.1	90.5
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.17	0.2	0.21	0.20	0.21	0.11
Total Silicon (Si)	ug/L	100	10400	10000	10500	11300	10700	8320
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	161	160	159	170	156	121
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ZV0884	AAA184	ABR638	AEA158	AGO428	AJG073
Sampling Date			2021-05-19 10:40	2021-06-17 09:08	2021-07-13 10:33	2021-08-18 09:14	2021-09-22 10:20	2021-10-27 11:05
	UNITS	**RDL**	**B02**	**B02**	**B02**	**B02**	**B02**	**B02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	27.7	29.4	29.6	31.2	31.1	23.6
Total Magnesium (Mg)	mg/L	0.050	7.67	8.25	8.37	8.87	8.03	6.19
Total Potassium (K)	mg/L	0.050	1.49	1.56	1.58	1.58	1.49	1.38
Total Sodium (Na)	mg/L	0.050	9.88	10.1	9.49	9.59	9.18	7.14
Total Sulphur (S)	mg/L	3.0	4.9	4.5	4.9	4.2	5.7	4.3
pH	pH units	--	7.56	7.6	7.74	7.45	7.46	6.35
Temperature	ºC	--	10.4	12.1	14.1	13.7	12.6	10.6
Specific Conductance	µS/cm	--	268.3	286.7	232.2	330.4	284.3	101.4
Dissolved Oxygen	%	--	13.12	11.18	8.24	13.41	9.2	3.64
Turbidity	NTU	--	3.14	2.03	4.78	3.08	3.04	1.51

RDL = Reportable Detection Limit

Dup Mean

BV Labs ID			ALP604	ALY344		AOU672	AQB819	ART709
Sampling Date			2021-11-26 10:53	2021-12-15 11:40	2022-01-18 16:00	2022-02-17 12:23	2022-03-14 12:47	2022-04-19 16:02
	UNITS	**RDL**	**B02**	**B02**	**B02**	**B02**	**B02**	**B02**
pH	pH	N/A	6.76	7.89	7.19	7.46	7.00	7.04
Total Ammonia (N)	mg/L	0.015	0.032	0.034	0.073	0.036	0.055	0.23
Total Phosphorus (P)	mg/L	0.0030	0.033	0.0077	0.0143	0.0046	0.033	0.072
Nitrate (N)	mg/L	0.0020	0.795	1.59	1.03	1.6	0.484	0.470
Nitrite (N)	mg/L	0.0020	0.0091	0.0057	0.0157	0.0088	0.0116	0.0183
Total Hardness (CaCO3)	mg/L	0.50	51.4	93.2	60.1	97.3	35.2	30.8
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	782	58.9	240	44.6	608	1110
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.82	0.53	0.66	0.53	0.60	1.28
Total Barium (Ba)	ug/L	1.0	20.0	20.0	19.0	17.9	14.4	17.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.024	0.013	0.021	0.011	0.018	0.032
Total Chromium (Cr)	ug/L	1.0	2.1	<1.0	<1.1	<1.0	1.6	3.0
Total Cobalt (Co)	ug/L	0.20	0.6	<0.20	<0.24	<0.20	0.40	0.72
Total Copper (Cu)	ug/L	0.50	2.88	0.64	1.88	0.56	3.21	6.07
Total Iron (Fe)	ug/L	10	1420	451	532	474	989	2140
Total Lead (Pb)	ug/L	0.20	0.55	<0.20	<0.33	<0.20	0.67	2.28
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	97.4	122	76.8	116	67.3	106
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0027
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	2.4	<1.0	<1.1	<1.0	1.3	2.4
Total Selenium (Se)	ug/L	0.10	<0.10	0.13	<0.11	0.16	<0.10	<0.10
Total Silicon (Si)	ug/L	100	5720	9570	5785	10300	4540	4240
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	85.9	151	105	163	56.3	47.9
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Dup Mean

BV Labs ID			ALP604	ALY344		AOU672	AQB819	ART709
Sampling Date			2021-11-26 10:53	2021-12-15 11:40	2022-01-18 16:00	2022-02-17 12:23	2022-03-14 12:47	2022-04-19 16:02
	UNITS	**RDL**	**B02**	**B02**	**B02**	**B02**	**B02**	**B02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	40.3	<5.0	11.2	<5.0	28.8	49.9
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	18.7	6.0	9.8	<5.0	12.5	24.5
Total Zirconium (Zr)	ug/L	0.10	0.28	<0.10	0.14	<0.10	0.21	0.32
Total Calcium (Ca)	mg/L	0.050	14.4	26	16.8	26.9	9.81	8.64
Total Magnesium (Mg)	mg/L	0.050	3.76	6.86	4.41	7.31	2.59	2.24
Total Potassium (K)	mg/L	0.050	0.922	1.45	1.35	1.46	0.669	0.834
Total Sodium (Na)	mg/L	0.050	4.99	11.9	16.5	12.6	6.1	4.53
Total Sulphur (S)	mg/L	3.0	<3.0	4.8	<3.3	4.8	<3.0	<3.0
pH	pH units	--	7.25	7.55	7.17	7.54	7.16	7.11
Temperature	ºC	--	8	7.5	7.6	8.5	8.2	10.8
Specific Conductance	µS/cm	--	109.6	249.9	156.1	270.8	103.8	85.5
Dissolved Oxygen	%	--	10.79	11.79	10.2	11.23	9.71	9.37
Turbidity	NTU	--	14.4	2.3	10.6	1.01	14.7	32.3

RDL = Reportable Detection Limit

							Dup Mean	
BV Labs ID			ZV0886	AAA186	ABR640	ADY307		AIZ020
Sampling Date			2021-05-19 11:55	2021-06-17 11:58	2021-07-13 07:45	2021-08-17 09:26	2021-09-20 10:15	2021-10-25 09:32
	UNITS	**RDL**	**D01**	**D01**	**D01**	**D01**	**D01**	**D01**
pH	pH	N/A	7.73	7.77	7.80	7.31	7.86	7.96
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	0.018	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.012	0.017	0.016	0.02	0.014	0.014
Nitrate (N)	mg/L	0.0020	0.985	1.01	0.99	0.920	0.943	0.924
Nitrite (N)	mg/L	0.0020	0.0045	0.0054	0.0042	0.003	0.0021	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	109	108	114	124	108	91.6
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	27.7	41.3	45	50.8	44.6	47.4
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	1.09	1.39	1.58	1.88	1.29	0.88
Total Barium (Ba)	ug/L	1.0	12.9	14.2	14.6	15	15.8	16
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	0.66	1.04
Total Iron (Fe)	ug/L	10	334	436	446	557	355	313
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	88.3	113	152	168	109	65.4
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.23	0.23	0.25	0.27	0.25	0.19
Total Silicon (Si)	ug/L	100	11100	10100	10700	12600	10350	9210
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	156	154	158	164	151	132
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

							Dup Mean	
BV Labs ID			ZV0886	AAA186	ABR640	ADY307		AIZ020
Sampling Date			2021-05-19 11:55	2021-06-17 11:58	2021-07-13 07:45	2021-08-17 09:26	2021-09-20 10:15	2021-10-25 09:32
	UNITS	**RDL**	**D01**	**D01**	**D01**	**D01**	**D01**	**D01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	0.10	0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	29.4	27.9	29.4	32.8	28.3	24.6
Total Magnesium (Mg)	mg/L	0.050	8.61	9.37	9.91	10.2	8.96	7.30
Total Potassium (K)	mg/L	0.050	1.35	1.51	1.54	1.71	1.98	1.83
Total Sodium (Na)	mg/L	0.050	9.39	10.4	9.76	10.0	11.3	10.8
Total Sulphur (S)	mg/L	3.0	4.5	4.7	5.1	5.4	6.7	6.0
pH	pH units	--	7.2	7.45	7.03	6.99	7.33	7.12
Temperature	ºC	--	11.1	13.9	13.4	13.9	13.4	10.5
Specific Conductance	µS/cm	--	248	279.2	231.2	329.3	275.6	194
Dissolved Oxygen	%	--	11.36	7.98	8.78	12.08	8.48	9.8
Turbidity	NTU	--	2.43	3.4	6.33	4.99	3.93	3.23

RDL = Reportable Detection Limit

BV Labs ID			ALP606	ALY346	ANF056	AOU674	AQB821	ART710
Sampling Date			2021-11-26 08:02	2021-12-15 09:35	2022-01-18 08:50	2022-02-17 14:03	2022-03-14 08:54	2022-04-19 10:49
	UNITS	**RDL**	**D01**	**D01**	**D01**	**D01**	**D01**	**D01**
pH	pH	N/A	6.71	7.85	7.18	7.52	7.27	7.63
Total Ammonia (N)	mg/L	0.015	0.018	0.02	0.086	<0.015	0.036	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.028	0.0081	0.019	0.0069	0.015	0.009
Nitrate (N)	mg/L	0.0020	0.937	1.33	0.979	1.23	0.693	0.908
Nitrite (N)	mg/L	0.0020	0.005	0.0065	0.0235	0.0056	0.0087	0.0038
Total Hardness (CaCO3)	mg/L	0.50	46.3	79.1	56.0	89.5	55.4	76.6
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	366	42.9	306	34.3	127	52.5
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.89	0.65	0.59	0.76	0.77	0.80
Total Barium (Ba)	ug/L	1.0	17.7	17.3	17.7	15.9	13.4	14.9
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.017	<0.010	0.024	<0.010	0.012	<0.010
Total Chromium (Cr)	ug/L	1.0	1.0	<1.0	1.2	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	0.34	<0.20	0.30	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	1.96	0.68	2.40	<0.50	1.34	0.88
Total Iron (Fe)	ug/L	10	675	232	781	245	427	331
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	0.49	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	57.7	71.4	92.8	69.0	52.6	64.0
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	1.4	<1.0	1.2	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.10	0.18	<0.10	0.20	0.10	0.15
Total Silicon (Si)	ug/L	100	4560	8170	5780	9050	5910	8340
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	81	119	99	140	86.9	124
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ALP606	ALY346	ANF056	AOU674	AQB821	ART710
Sampling Date			2021-11-26 08:02	2021-12-15 09:35	2022-01-18 08:50	2022-02-17 14:03	2022-03-14 08:54	2022-04-19 10:49
	UNITS	**RDL**	**D01**	**D01**	**D01**	**D01**	**D01**	**D01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	17.6	<5.0	14.4	<5.0	5.4	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	6.7	<5.0	16.3	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	0.17	<0.10	0.25	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	12.9	21.2	15.8	23.4	15.2	20.9
Total Magnesium (Mg)	mg/L	0.050	3.44	6.35	4.01	7.53	4.22	5.90
Total Potassium (K)	mg/L	0.050	1.75	1.75	1.02	1.58	1.18	1.33
Total Sodium (Na)	mg/L	0.050	6.01	13.6	16.0	12.4	9.25	10.2
Total Sulphur (S)	mg/L	3.0	3.5	5.7	<3.0	5.0	3.3	4.1
pH	pH units	--	7.31	7.38	7.42	7.42	7.14	7.33
Temperature	ºC	--	7.8	6.8	6.2	7.9	7.5	8.6
Specific Conductance	µS/cm	--	109	230.7	181.3	254.9	153.7	216.6
Dissolved Oxygen	%	--	10.55	11.6	10.47	11.23	11.18	11.62
Turbidity	NTU	--	6.29	3.34	3.81	0.65	4.57	1.3

RDL = Reportable Detection Limit

BV Labs ID			ZV0887	AAA187	ABR641	ADY308	AGI855	AIZ021
Sampling Date			2021-05-19 12:08	2021-06-17 12:12	2021-07-13 08:00	2021-08-17 09:25	2021-09-20 10:45	2021-10-25 09:42
	UNITS	**RDL**	**D02**	**D02**	**D02**	**D02**	**D02**	**D02**
pH	pH	N/A	7.75	7.61	7.79	7.39	7.75	7.96
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	0.026	<0.015	0.017
Total Phosphorus (P)	mg/L	0.0030	0.013	0.018	0.016	0.016	0.021	0.014
Nitrate (N)	mg/L	0.0020	0.797	0.781	0.768	0.758	0.746	0.737
Nitrite (N)	mg/L	0.0020	0.0036	0.0042	0.0047	0.004	0.0038	0.0027
Total Hardness (CaCO3)	mg/L	0.50	114	120	122	134	121	115
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	18.4	43.0	41.8	47.8	92.0	53.3
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	1.46	2.05	2.10	2.46	2.34	1.77
Total Barium (Ba)	ug/L	1.0	12.5	13.7	14.6	16.3	15.0	13.6
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	392	655	642	756	813	577
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	156	209	254	263	252	185
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.21	0.25	0.26	0.26	0.25	0.25
Total Silicon (Si)	ug/L	100	10700	10800	11300	13100	11900	12400
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	167	171	176	180	163	155
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ZV0887	AAA187	ABR641	ADY308	AGI855	AIZ021
Sampling Date			2021-05-19 12:08	2021-06-17 12:12	2021-07-13 08:00	2021-08-17 09:25	2021-09-20 10:45	2021-10-25 09:42
	UNITS	**RDL**	**D02**	**D02**	**D02**	**D02**	**D02**	**D02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	29.6	31.1	31.7	35.8	31.6	29.9
Total Magnesium (Mg)	mg/L	0.050	9.73	10.3	10.4	10.9	10.3	9.78
Total Potassium (K)	mg/L	0.050	1.26	1.33	1.38	1.66	1.68	1.59
Total Sodium (Na)	mg/L	0.050	9.15	9.71	9.71	10.3	10.1	9.36
Total Sulphur (S)	mg/L	3.0	3.6	3.4	4.3	4.0	4.2	4.4
pH	pH units	--	7.01	7.29	7.08	7.01	7.02	6.92
Temperature	ºC	--	11.6	15.2	13.1	14.1	13.2	10.2
Specific Conductance	µS/cm	--	249.3	299.7	242.2	350.7	294.1	217.9
Dissolved Oxygen	%	--	9.74	6.94	7.53	10.18	7.2	7.8
Turbidity	NTU	--	2.66	5.05	7.54	6.83	3.9	4.05

RDL = Reportable Detection Limit

BV Labs ID			ALP607	ALY347	ANF057	AOU675	AQB822	ART711
Sampling Date			2021-11-26 08:14	2021-12-15 15:50	2022-01-18 10:40	2022-02-17 14:15	2022-03-14 09:21	2022-04-19 11:49
	UNITS	**RDL**	**D02**	**D02**	**D02**	**D02**	**D02**	**D02**
pH	pH	N/A	6.83	7.99	7.34	7.67	7.67	7.56
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	0.050	0.016	0.019	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.012	0.013	0.019	0.0087	0.012	0.012
Nitrate (N)	mg/L	0.0020	0.617	0.892	0.804	0.943	0.696	0.805
Nitrite (N)	mg/L	0.0020	0.0042	0.0056	0.0058	0.0057	0.0058	0.0035
Total Hardness (CaCO3)	mg/L	0.50	73.0	104	86.0	109	90.2	106
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	74.0	27.9	150	32.3	64.7	34.6
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	1.37	1.11	1.93	1.33	1.60	1.56
Total Barium (Ba)	ug/L	1.0	10.7	11.1	12.7	11.8	10.9	13.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	0.54	<0.50	0.77	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	465	306	858	387	521	486
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	116	137	153	127	119	141
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.15	0.24	0.20	0.24	0.15	0.21
Total Silicon (Si)	ug/L	100	7330	10500	9060	11500	9910	12000
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	110	141	123	157	136	161
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ALP607	ALY347	ANF057	AOU675	AQB822	ART711
Sampling Date			2021-11-26 08:14	2021-12-15 15:50	2022-01-18 10:40	2022-02-17 14:15	2022-03-14 09:21	2022-04-19 11:49
	UNITS	**RDL**	**D02**	**D02**	**D02**	**D02**	**D02**	**D02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	6.8	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	5.5	<5.0	8.1	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	19.3	27.2	22.2	28.2	23.7	28.4
Total Magnesium (Mg)	mg/L	0.050	6.00	8.79	7.46	9.41	7.55	8.51
Total Potassium (K)	mg/L	0.050	1.18	1.42	1.27	1.46	1.19	1.25
Total Sodium (Na)	mg/L	0.050	5.95	8.36	10.1	9.05	7.79	8.85
Total Sulphur (S)	mg/L	3.0	3.1	4.0	4.1	4.7	3.6	4.1
pH	pH units	--	7.13	7.24	7.08	7.24	7.03	7.23
Temperature	ºC	--	7.8	7.4	6.4	8.3	7.8	10
Specific Conductance	µS/cm	--	144.5	252.9	173.4	266.5	212.4	255.7
Dissolved Oxygen	%	--	9.52	9.91	10.79	9.9	8.79	9.97
Turbidity	NTU	--	3.16	3.29	3.62	0.98	4.25	2.07

RDL = Reportable Detection Limit

Dup Mean

BV Labs ID				AAA188	ABT983	AEC966	AGR046	AJC342
Sampling Date			2021-05-19 16:47	2021-06-17 16:43	2021-07-14 14:46	2021-08-19 09:03	2021-09-23 11:50	2021-10-26 11:51
	UNITS	**RDL**	**F01**	**F01**	**F01**	**F01**	**F01**	**F01**
pH	pH	N/A	7.50	7.67	7.74	7.23	7.02	6.83
Total Ammonia (N)	mg/L	0.015	0.16	0.079	0.015	0.023	0.056	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.038	0.023	0.026	0.041	0.027	0.032
Nitrate (N)	mg/L	0.0020	0.550	0.649	0.297	0.288	1.19	1.16
Nitrite (N)	mg/L	0.0020	0.0207	0.0157	0.0064	0.0085	0.0136	0.0088
Total Hardness (CaCO3)	mg/L	0.50	79.8	93.1	121	113	91.2	65.8
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	0.05	0.054	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	95.1	54.2	42.4	36.9	333	419
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	2.36	2.18	2.57	2.48	1.89	1.55
Total Barium (Ba)	ug/L	1.0	16.7	16.9	13.1	19.6	20.9	17.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	0.043	<0.010	0.011
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.2
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	0.24	0.28
Total Copper (Cu)	ug/L	0.50	3.13	1.94	0.92	2.0	3.59	3.02
Total Iron (Fe)	ug/L	10	850	560	559	442	693	613
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	275	163	164	132	147	65.3
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.002	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	1.8	1.1
Total Selenium (Se)	ug/L	0.10	0.11	0.13	0.14	0.12	0.16	0.12
Total Silicon (Si)	ug/L	100	4590	5550	6420	6890	5670	4420
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	124	138	172	157	130	98.9
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Dup Mean

BV Labs ID				AAA188	ABT983	AEC966	AGR046	AJC342
Sampling Date			2021-05-19 16:47	2021-06-17 16:43	2021-07-14 14:46	2021-08-19 09:03	2021-09-23 11:50	2021-10-26 11:51
	UNITS	**RDL**	**F01**	**F01**	**F01**	**F01**	**F01**	**F01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	12.5	13.2
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	0.18	0.18	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	5.4	<5.0	<5.0	<5.0	<5.0	7.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	0.21	0.15
Total Calcium (Ca)	mg/L	0.050	21.4	24.7	30.9	29.4	25.1	18.7
Total Magnesium (Mg)	mg/L	0.050	6.38	7.63	10.6	9.48	6.95	4.64
Total Potassium (K)	mg/L	0.050	1.46	1.75	1.86	2.42	2.73	1.78
Total Sodium (Na)	mg/L	0.050	11.1	12.0	13.5	15.1	10.4	7.26
Total Sulphur (S)	mg/L	3.0	3.4	4.7	5.2	4.4	8.1	6.0
pH	pH units	--	7.06	7.24	7.83	7.24	5.77	7.23
Temperature	ºC	--	14.6	19.4	19.3	18	14.3	11.8
Specific Conductance	µS/cm	--	209.6	256.9	236.7	344.7	231.8	133.8
Dissolved Oxygen	%	--	7.4	4.93	7.29	8.26	6.73	8.18
Turbidity	NTU	--	5.30	3.07	6.3	5.4	11	9.98

RDL = Reportable Detection Limit

Dup Mean

BV Labs ID				ALY348	ANG913	AOU676	AQB823	ARV133
Sampling Date			2021-11-26 12:58	2021-12-15 14:50	2022-01-19 17:15	2022-02-17 15:54	2022-03-14 17:50	2022-04-20 14:15
	UNITS	**RDL**	**F01**	**F01**	**F01**	**F01**	**F01**	**F01**
pH	pH	N/A	6.81	7.97	7.63	7.73	7.49	7.73
Total Ammonia (N)	mg/L	0.015	<0.015	0.13	0.054	0.046	0.055	0.034
Total Phosphorus (P)	mg/L	0.0030	0.026	0.017	0.008	0.0095	0.036	0.016
Nitrate (N)	mg/L	0.0020	1.08	1.01	1.01	0.826	0.427	0.629
Nitrite (N)	mg/L	0.0020	0.0057	0.0103	0.01	0.0104	0.0112	0.0088
Total Hardness (CaCO3)	mg/L	0.50	53.0	95.7	107	116	36.3	81.7
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	191	132	96.3	57.7	532	84.8
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	1.26	1.00	1.26	1.09	2.13	1.16
Total Barium (Ba)	ug/L	1.0	15.5	22.4	28.6	23.0	13.5	15.9
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.011	0.011	0.013	<0.010	0.017	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	0.23	0.20	<0.20	0.31	<0.20
Total Copper (Cu)	ug/L	0.50	2.53	1.53	1.78	1.19	3.66	2.46
Total Iron (Fe)	ug/L	10	396	605	562	958	934	549
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	0.46	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	65.3	181	154	179	73.0	136
Total Mercury (Hg)	ug/L	0.0019	0.0021	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	1.0	<1.0	<1.0	<1.0	1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	0.14	0.12	0.13	<0.10	0.11
Total Silicon (Si)	ug/L	100	3460	6110	5200	6450	2730	4110
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	89.0	149	180	186	55.3	125
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Dup Mean

BV Labs ID				ALY348	ANG913	AOU676	AQB823	ARV133
Sampling Date			2021-11-26 12:58	2021-12-15 14:50	2022-01-19 17:15	2022-02-17 15:54	2022-03-14 17:50	2022-04-20 14:15
	UNITS	**RDL**	**F01**	**F01**	**F01**	**F01**	**F01**	**F01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	8.1	5.9	<5.0	<5.0	21.9	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	7.6	6.2	6.8	<5.0	12.4	<5.0
Total Zirconium (Zr)	ug/L	0.10	0.15	0.11	0.11	<0.10	0.14	<0.10
Total Calcium (Ca)	mg/L	0.050	15.4	26.5	30.2	31.4	10.3	22.4
Total Magnesium (Mg)	mg/L	0.050	3.56	7.14	7.56	9.18	2.56	6.29
Total Potassium (K)	mg/L	0.050	1.52	1.76	1.81	1.8	0.845	1.38
Total Sodium (Na)	mg/L	0.050	5.85	35.0	31.5	23.4	7.63	13.2
Total Sulphur (S)	mg/L	3.0	3.9	6.2	5.5	5.9	<3.0	4.6
pH	pH units	--	7.14	7.44	6.97	7.46	7.09	7.48
Temperature	ºC	--	8.7	7.3	7.5	7.3	8.1	9.8
Specific Conductance	µS/cm	--	116.4	369.5	388.3	356.5	116.7	234.8
Dissolved Oxygen	%	--	9.49	11.14	9.56	10.66	10.34	10.45
Turbidity	NTU	--	5.21	6.08	4.56	4.23	14.2	5.15

RDL = Reportable Detection Limit

Dup Mean

BV Labs ID			ZV0889		ABT984	AEC967	AGR047	AJC343
Sampling Date			2021-05-19 17:21	2021-06-17 15:20	2021-07-14 14:46	2021-08-19 11:15	2021-09-23 18:28	2021-10-26 09:57
	UNITS	**RDL**	**F02**	**F02**	**F02**	**F02**	**F02**	**F02**
pH	pH	N/A	7.52	7.48	7.53	6.89	6.83	6.82
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	0.24	0.063	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.024	0.034	0.067	0.078	0.030	0.027
Nitrate (N)	mg/L	0.0020	0.0398	0.0395	0.068	0.030	0.0214	0.556
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	0.0115	<0.020	<0.0020	0.0037
Total Hardness (CaCO3)	mg/L	0.50	77.2	64.4	95.2	98.2	53.3	50.9
Dissolved Fluoride (F)	mg/L	0.050	0.054	0.060	0.072	0.064	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	25.4	23.1	59.1	60.0	22.7	178
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.83	1.20	1.88	3.08	1.7	0.50
Total Barium (Ba)	ug/L	1.0	12.6	13.1	33.9	65.1	26.4	18.6
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	0.53	1.05	1.78	0.86	<0.20
Total Copper (Cu)	ug/L	0.50	0.99	0.83	0.65	0.52	0.95	1.97
Total Iron (Fe)	ug/L	10	739	1015	2160	4200	1190	503
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	134	2045	2420	3930	975	38.1
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	0.11	<0.10	<0.10
Total Silicon (Si)	ug/L	100	3050	3310	4330	6020	3600	3790
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	131	110	159	163	78.6	77.9
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Dup Mean

BV Labs ID			ZV0889		ABT984	AEC967	AGR047	AJC343
Sampling Date			2021-05-19 17:21	2021-06-17 15:20	2021-07-14 14:46	2021-08-19 11:15	2021-09-23 18:28	2021-10-26 09:57
	UNITS	**RDL**	**F02**	**F02**	**F02**	**F02**	**F02**	**F02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.2
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	9.2	<5.0	5.3	6.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.12
Total Calcium (Ca)	mg/L	0.050	21.4	18.1	27	27.7	15.2	14.4
Total Magnesium (Mg)	mg/L	0.050	5.76	4.67	6.71	7.06	3.75	3.63
Total Potassium (K)	mg/L	0.050	0.642	1.48	1.54	3.25	2.31	1.8
Total Sodium (Na)	mg/L	0.050	15.5	11.5	16.8	21.1	8.25	7.58
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	<3.0	3.4	4.4
pH	pH units	--	6.78	6.95	7.12	6.53	5.81	6.51
Temperature	ºC	--	14.5	17.9	19.2	17.3	14.5	10.4
Specific Conductance	µS/cm	--	215.4	205.3	233.3	282.9	149.9	119.1
Dissolved Oxygen	%	--	4.3	3.79	2.5	3.42	2.47	5.85
Turbidity	NTU	--	4.35	2.38	13.1	14.3	6.66	6.65

RDL = Reportable Detection Limit

BV Labs ID			ALP609	ALY349	ANG914	AOU677	AQB824	ARV134
Sampling Date			2021-11-26 13:26	2021-12-15 13:55	2022-01-19 14:30	2022-02-17 15:14	2022-03-14 17:17	2022-04-20 15:00
	UNITS	**RDL**	**F02**	**F02**	**F02**	**F02**	**F02**	**F02**
pH	pH	N/A	6.64	7.59	7.26	7.19	7.29	7.50
Total Ammonia (N)	mg/L	0.015	<0.015	0.086	0.61	0.026	0.090	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.013	0.01	0.0051	0.0076	0.022	0.011
Nitrate (N)	mg/L	0.0020	0.774	1.02	0.856	0.912	0.420	0.182
Nitrite (N)	mg/L	0.0020	0.0029	0.0037	0.0029	0.0039	0.0045	0.002
Total Hardness (CaCO3)	mg/L	0.50	33.5	60.4	62.7	70.8	46.9	52.7
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	0.059	0.052
Total Aluminum (Al)	ug/L	3.0	144	78.5	51.7	75.7	309	32.5
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.40	0.37	0.28	0.32	0.41	0.36
Total Barium (Ba)	ug/L	1.0	14.6	25.1	25.9	33.8	17.6	15.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	0.011	0.014	0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	0.21	<0.20
Total Copper (Cu)	ug/L	0.50	2.0	1.39	1.56	1.2	2.84	1.44
Total Iron (Fe)	ug/L	10	308	379	198	351	579	291
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	0.34	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	17.9	80	35.9	97.8	36.0	44.6
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	2600	4870	3630	4330	3150	2220
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	56.6	93.7	109	125	76.2	87.0
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ALP609	ALY349	ANG914	AOU677	AQB824	ARV134
Sampling Date			2021-11-26 13:26	2021-12-15 13:55	2022-01-19 14:30	2022-02-17 15:14	2022-03-14 17:17	2022-04-20 15:00
	UNITS	**RDL**	**F02**	**F02**	**F02**	**F02**	**F02**	**F02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	6.0	<5.0	<5.0	<5.0	13.8	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	7.9	9.3	8.7	6.7	9.0	5.1
Total Zirconium (Zr)	ug/L	0.10	0.10	0.12	<0.10	<0.10	0.12	0.18
Total Calcium (Ca)	mg/L	0.050	9.77	17.4	18.0	20.1	13.2	14.9
Total Magnesium (Mg)	mg/L	0.050	2.22	4.12	4.30	5.03	3.35	3.78
Total Potassium (K)	mg/L	0.050	1.27	1.83	1.61	2.28	1.46	0.974
Total Sodium (Na)	mg/L	0.050	4.61	17.0	33.7	23.9	15.8	13.2
Total Sulphur (S)	mg/L	3.0	<3.0	4.6	3.3	3.9	<3.0	<3.0
pH	pH units	--	6.89	6.82	6.41	6.71	6.87	6.92
Temperature	ºC	--	7.7	6	6.8	7.0	7.5	9.2
Specific Conductance	µS/cm	--	79.9	211.8	314.1	284	102	190.5
Dissolved Oxygen	%	--	9.43	9.97	7.34	8.5	7.94	7.45
Turbidity	NTU	--	5.05	3.48	2.22	1.62	7.44	1.3

RDL = Reportable Detection Limit

BV Labs ID			ABT981	AEC971	AJC353	ABT982	AEC972	AJC354
Sampling Date			2021-07-14 14:46	2021-08-19 14:42	2021-10-26 13:54	2021-07-14 14:46	2021-08-19 15:27	2021-10-26 14:25
	UNITS	**RDL**	**F-03**	**F-03**	**F-03**	**F-04**	**F-04**	**F-04**
pH	pH	N/A	7.17	7.02	6.82	7.13	6.77	7.05
Total Ammonia (N)	mg/L	0.015	0.023	<0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.019	0.055	0.025	0.011	0.010	0.061
Nitrate (N)	mg/L	0.0020	0.917	<0.020	0.675	1.89	1.69	2.11
Nitrite (N)	mg/L	0.0020	0.0056	<0.020	0.0038	0.0046	0.003	0.0029
Total Hardness (CaCO3)	mg/L	0.50	92.6	102	51.8	90.5	97.8	77.4
Dissolved Fluoride (F)	mg/L	0.050	<0.050	0.057	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	120	39.1	193	39.9	24.0	782
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.71	2.03	0.47	0.43	0.41	0.92
Total Barium (Ba)	ug/L	1.0	20.1	35.3	19.1	14.8	12.9	23.5
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	0.159	0.011	<0.010	0.015	0.013
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0
Total Cobalt (Co)	ug/L	0.20	0.28	0.66	<0.20	<0.20	<0.20	0.32
Total Copper (Cu)	ug/L	0.50	0.57	0.53	2.15	0.51	0.91	3.29
Total Iron (Fe)	ug/L	10	848	1350	396	227	312	851
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.25
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	339	2800	33.4	144	139	25.9
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0030
Total Molybdenum (Mo)	ug/L	1.0	<1.0	2.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	1.2	2.9	<1.0	<1.0	<1.0	1.7
Total Selenium (Se)	ug/L	0.10	0.1	0.14	<0.10	0.15	0.16	0.15
Total Silicon (Si)	ug/L	100	7810	5690	3970	7130	7600	7610
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	112	139	82.0	136	162	118
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ABT981	AEC971	AJC353	ABT982	AEC972	AJC354
Sampling Date			2021-07-14 14:46	2021-08-19 14:42	2021-10-26 13:54	2021-07-14 14:46	2021-08-19 15:27	2021-10-26 14:25
	UNITS	**RDL**	**F-03**	**F-03**	**F-03**	**F-04**	**F-04**	**F-04**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	5.2	<5.0	8.2	<5.0	<5.0	31.5
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	5.4	<5.0	<5.0	5.3
Total Zirconium (Zr)	ug/L	0.10	0.12	<0.10	0.13	<0.10	<0.10	0.5
Total Calcium (Ca)	mg/L	0.050	24.6	27.2	14.4	24.4	26.1	19.8
Total Magnesium (Mg)	mg/L	0.050	7.54	8.29	3.83	7.18	7.92	6.75
Total Potassium (K)	mg/L	0.050	2.1	3.43	2.07	2.59	2.73	2.81
Total Sodium (Na)	mg/L	0.050	10.9	15.9	7.61	8.92	8.74	6.05
Total Sulphur (S)	mg/L	3.0	8.2	3.5	5.0	8.2	6.4	6.7
pH	pH units	--	6.66	6.69	6.84	6.45	6.11	7.8
Temperature	ºC	--	15.7	16.9	14.6	14.3	12.5	10.4
Specific Conductance	µS/cm	--	205.1	344.9	145.5	193.3	260.1	169.4
Dissolved Oxygen	%	--	4.81	1.44	4.51	4.11	4.13	6.24
Turbidity	NTU	--	9.9	6.85	4.03	5:00	1.99	23.7

RDL = Reportable Detection Limit

BV Labs ID			ZV0899	AAA207	ABT985	AEC968	AGR045	AJC339
Sampling Date			2021-05-19 17:52	2021-06-17 16:05	2021-07-14 14:46	2021-08-19 17:54	2021-09-23 09:15	2021-10-26 14:48
	UNITS	**RDL**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**
pH	pH	N/A	7.34	7.34	7.27	6.92	6.74	6.71
Total Ammonia (N)	mg/L	0.015	0.19	0.072	0.22	0.16	0.036	0.015
Total Phosphorus (P)	mg/L	0.0030	0.031	0.033	0.030	0.15	0.027	0.016
Nitrate (N)	mg/L	0.0020	0.323	0.245	0.117	0.024	0.227	0.809
Nitrite (N)	mg/L	0.0020	0.0342	0.0085	0.0148	<0.020	0.0075	0.0075
Total Hardness (CaCO3)	mg/L	0.50	65.6	67.1	111	90.9	49.6	51.1
Dissolved Fluoride (F)	mg/L	0.050	0.05	<0.050	0.052	0.054	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	56.6	31.6	31.0	76.5	82.2	147
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	1.82	2.06	1.98	4.89	1.64	0.99
Total Barium (Ba)	ug/L	1.0	18.7	16.6	26.0	32.9	17.6	14.8
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.011
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	0.21	<0.20	0.26	0.46	0.26	<0.20
Total Copper (Cu)	ug/L	0.50	3.13	1.42	0.65	1.40	3.47	2.48
Total Iron (Fe)	ug/L	10	1220	1520	1600	3790	781	388
Total Lead (Pb)	ug/L	0.20	0.31	<0.20	<0.20	0.33	0.35	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	245	195	668	1170	108	34.7
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	0.0019	0.0024	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	3500	3910	5520	8480	3550	3280
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	0.022	<0.020
Total Strontium (Sr)	ug/L	1.0	109	108	173	137	72.5	77.2
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ZV0899	AAA207	ABT985	AEC968	AGR045	AJC339
Sampling Date			2021-05-19 17:52	2021-06-17 16:05	2021-07-14 14:46	2021-08-19 17:54	2021-09-23 09:15	2021-10-26 14:48
	UNITS	**RDL**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.3
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	0.11	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	7.0	<5.0	<5.0	6.3	9.6	9.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.12
Total Calcium (Ca)	mg/L	0.050	18.0	18.2	29.2	24.6	13.7	14.9
Total Magnesium (Mg)	mg/L	0.050	5.03	5.25	9.20	7.16	3.74	3.41
Total Potassium (K)	mg/L	0.050	1.45	0.941	1.66	1.36	1.69	1.5
Total Sodium (Na)	mg/L	0.050	11.2	10.7	15.6	13.1	7.60	6.71
Total Sulphur (S)	mg/L	3.0	3.3	<3.0	5.0	<3.0	3.3	4.6
pH	pH units	--	6.62	6.66	6.82	6.59	7.12	7.11
Temperature	ºC	--	15.1	19.3	19.9	17.7	16.3	11.5
Specific Conductance	µS/cm	--	186.1	200.1	251.4	291.1	137.2	113.1
Dissolved Oxygen	%	--	4.31	3.21	0.69	3.13	2.71	5.79
Turbidity	NTU	--	5.88	3.75	11.2	12.9	3.07	4.94

RDL = Reportable Detection Limit

BV Labs ID			ALP610	ALY350	ANG922	AOU679	AQB825	ARV125
Sampling Date			2021-11-26 14:11	2021-12-15 14:30	2022-01-19 16:00	2022-02-17 15:34	2022-03-14 17:32	2022-04-20 14:50
	UNITS	**RDL**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**
pH	pH	N/A	6.69	7.53	7.20	7.17	6.74	7.20
Total Ammonia (N)	mg/L	0.015	0.062	0.10	0.097	0.073	0.13	0.056
Total Phosphorus (P)	mg/L	0.0030	0.019	0.018	0.011	0.017	0.069	0.016
Nitrate (N)	mg/L	0.0020	0.807	1.01	1.06	0.611	0.272	0.337
Nitrite (N)	mg/L	0.0020	0.0144	0.0237	0.0122	0.0079	0.0082	0.0062
Total Hardness (CaCO3)	mg/L	0.50	41.7	66.2	80.5	80.0	21.9	65.3
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	0.058	<0.050
Total Aluminum (Al)	ug/L	3.0	131	111	147	57.7	1780	64.0
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	0.72	<0.50
Total Arsenic (As)	ug/L	0.10	0.97	1.02	1.23	1.01	1.03	1.03
Total Barium (Ba)	ug/L	1.0	16.0	23.8	34.9	26.2	23.5	18.2
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.013	0.011	0.024	<0.010	0.053	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	3.5	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	0.29	0.36	0.30	1.0	<0.20
Total Copper (Cu)	ug/L	0.50	2.06	1.47	2.20	1.21	9.71	2.07
Total Iron (Fe)	ug/L	10	494	913	900	1220	2350	749
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	0.48	<0.20	3.33	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	55.7	143	166	178	71.2	113
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0021	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	2.2	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	3050	5590	4690	4770	3670	2100
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	0.025	<0.020
Total Strontium (Sr)	ug/L	1.0	70.9	107	141	140	32.6	108
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ALP610	ALY350	ANG922	AOU679	AQB825	ARV125
Sampling Date			2021-11-26 14:11	2021-12-15 14:30	2022-01-19 16:00	2022-02-17 15:34	2022-03-14 17:32	2022-04-20 14:50
	UNITS	**RDL**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**	**FOF**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	5.4	<5.0	6.4	<5.0	50.1	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	9.2	10.0	22.4	7.7	49.8	7.4
Total Zirconium (Zr)	ug/L	0.10	0.12	0.11	0.21	<0.10	0.32	<0.10
Total Calcium (Ca)	mg/L	0.050	12.1	18.8	24.1	22.1	5.97	18.2
Total Magnesium (Mg)	mg/L	0.050	2.78	4.67	4.91	5.99	1.69	4.82
Total Potassium (K)	mg/L	0.050	1.26	1.62	1.64	1.69	0.61	1.40
Total Sodium (Na)	mg/L	0.050	5.97	18.1	38.2	24.1	6.58	13.7
Total Sulphur (S)	mg/L	3.0	3.3	4.4	6.8	4.4	<3.0	3.3
pH	pH units	--	6.74	6.64	7.49	6.64	6.9	6.86
Temperature	ºC	--	7.7	6.2	7	7.0	8.5	10.5
Specific Conductance	µS/cm	--	100.1	232	377.6	295.2	83.4	214.2
Dissolved Oxygen	%	--	8.82	5.67	5.49	6.31	8.19	7.49
Turbidity	NTU	--	4.45	3.35	4.31	2.94	31.1	4.06

RDL = Reportable Detection Limit

						Dup Mean		
BV Labs ID			ZV0880	AAA180	ABR634		AGO424	AJG069
Sampling Date			2021-05-19 15:45	2021-06-17 13:18	2021-07-13 15:25	2021-08-18 15:08	2021-09-22 16:02	2021-10-27 12:55
	UNITS	**RDL**	**H01**	**H01**	**H01**	**H01**	**H01**	**H01**
pH	pH	N/A	7.07	7.10	7.19	7.03	6.88	6.74
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.0092	0.0070	0.017	0.0114	0.0089	0.02
Nitrate (N)	mg/L	0.0020	2.36	2.48	2.45	2.2	2.16	1.61
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0031
Total Hardness (CaCO3)	mg/L	0.50	107	105	103	96.3	98.9	83.7
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	0.075	0.054	<0.050	0.072
Total Aluminum (Al)	ug/L	3.0	7.4	7.7	105	21.8	50.4	34.5
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.49	0.44	0.62	0.43	0.49	0.47
Total Barium (Ba)	ug/L	1.0	12.6	12.0	14.3	12.4	12.0	11.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.019	0.019	0.028	0.021	0.019	0.017
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	1.63	0.84	2.07	1.76	2.01	3.54
Total Iron (Fe)	ug/L	10	57	54	317	71	90	66
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	0.65	0.29	0.5	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	7.7	7.6	16.1	17.9	4.0	3.3
Total Mercury (Hg)	ug/L	0.0019	0.0113	<0.0019	0.0056	0.015	0.0142	0.0187
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.21	0.22	0.25	0.25	0.26	0.19
Total Silicon (Si)	ug/L	100	9740	9230	9470	10100	9950	8590
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	167	156	159	147	149	120
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

						Dup Mean		
BV Labs ID			ZV0880	AAA180	ABR634		AGO424	AJG069
Sampling Date			2021-05-19 15:45	2021-06-17 13:18	2021-07-13 15:25	2021-08-18 15:08	2021-09-22 16:02	2021-10-27 12:55
	UNITS	**RDL**	**H01**	**H01**	**H01**	**H01**	**H01**	**H01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	11.9	8.4	7.2	14.7
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	0.14	<0.10	0.17	0.28
Total Calcium (Ca)	mg/L	0.050	30.3	29.1	29.1	27	28.5	23.7
Total Magnesium (Mg)	mg/L	0.050	7.64	7.77	7.5	6.98	6.72	5.93
Total Potassium (K)	mg/L	0.050	1.64	1.65	1.64	1.54	1.45	1.42
Total Sodium (Na)	mg/L	0.050	17.1	17.1	17.5	16.9	16.8	14.1
Total Sulphur (S)	mg/L	3.0	5.7	5.7	5.8	5.15	5.6	4.3
pH	pH units	--	6.19	6.38	6.37	6.04	6.77	6.33
Temperature	ºC	--	12.9	13.4	13.3	13.6	13.5	13.1
Specific Conductance	µS/cm	--	310.7	330.1	265.8	350.5	314.1	165.8
Dissolved Oxygen	%	--	7.44	6.05	5.57	6.94	7.35	4.84
Turbidity	NTU	--	1.69	1.26	4.67	2.19	1.53	1.02

RDL = Reportable Detection Limit

						Dup Mean		
BV Labs ID			ALP600	ALY340	ANG908		AQB815	ARV129
Sampling Date			2021-11-26 11:30	2021-12-15 10:55	2022-01-19 10:22	2022-02-17 11:40	2022-03-14 13:51	2022-04-20 10:10
	UNITS	**RDL**	**H01**	**H01**	**H01**	**H01**	**H01**	**H01**
pH	pH	N/A	6.69	7.29	7.14	7.09	6.74	6.89
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	0.081	<0.015	0.17	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.0079	0.025	0.013	0.0073	0.028	0.0086
Nitrate (N)	mg/L	0.0020	1.05	2.81	1.67	3.10	0.816	2.91
Nitrite (N)	mg/L	0.0020	0.0035	0.0041	<0.0020	<0.0021	0.0186	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	47.4	114	65.9	112	30.2	118
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	35.3	1000	176	14.3	354	19.4
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	0.70	<0.50
Total Arsenic (As)	ug/L	0.10	0.47	0.73	0.51	0.53	0.51	0.53
Total Barium (Ba)	ug/L	1.0	8.5	22.6	10.8	14.9	11.8	16.5
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.014	0.024	0.017	0.020	0.023	0.025
Total Chromium (Cr)	ug/L	1.0	<1.0	1.6	<1.0	<1.0	1.4	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	0.44	<0.20	<0.20	0.22	<0.20
Total Copper (Cu)	ug/L	0.50	2.64	2.11	1.53	0.62	6.96	1.55
Total Iron (Fe)	ug/L	10	89	1090	228	110	476	156
Total Lead (Pb)	ug/L	0.20	<0.20	0.39	<0.20	<0.20	1.19	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	8.1	47.9	17.7	25.0	16.0	22.2
Total Mercury (Hg)	ug/L	0.0019	0.0048	<0.0019	<0.0019	0.0038	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.12	0.25	0.13	0.24	<0.10	0.2
Total Silicon (Si)	ug/L	100	4230	11400	6340	10145	3080	9440
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	74.5	171	103	170	43.1	178
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

						Dup Mean		
BV Labs ID			ALP600	ALY340	ANG908		AQB815	ARV129
Sampling Date			2021-11-26 11:30	2021-12-15 10:55	2022-01-19 10:22	2022-02-17 11:40	2022-03-14 13:51	2022-04-20 10:10
	UNITS	**RDL**	**H01**	**H01**	**H01**	**H01**	**H01**	**H01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	43.6	8.1	<5.0	18	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	15.9	9.3	9.0	<5.0	38.4	6.2
Total Zirconium (Zr)	ug/L	0.10	<0.10	0.29	0.1	<0.10	0.39	<0.10
Total Calcium (Ca)	mg/L	0.050	13.5	32.4	18.7	31.5	8.73	33.4
Total Magnesium (Mg)	mg/L	0.050	3.29	8.05	4.68	7.96	2.03	8.26
Total Potassium (K)	mg/L	0.050	0.856	1.91	1.11	1.8	0.655	1.82
Total Sodium (Na)	mg/L	0.050	8.33	19.5	14.7	18.9	10.3	19
Total Sulphur (S)	mg/L	3.0	<3.0	6.0	3.0	5.8	<3.0	7.2
pH	pH units	--	6.39	6.48	5.33	6.29	6.4	6.27
Temperature	ºC	--	10.4	12	8.7	12.5	9.3	12.5
Specific Conductance	µS/cm	--	125	329.4	183.2	341.3	108.3	363.7
Dissolved Oxygen	%	--	8.46	7.63	9.3	6.51	8.8	7.54
Turbidity	NTU	--	2.43	25.6	4.73	0.18	14.7	2.31

RDL = Reportable Detection Limit

								Dup Mean
BV Labs ID			ZV0881	AAA181	ABR635	AEA155	AGO425	
Sampling Date			2021-05-19 09:05	2021-06-17 08:45	2021-07-13 08:55	2021-08-18 08:57	2021-09-22 10:03	2021-10-27 09:10
	UNITS	**RDL**	**H02**	**H02**	**H02**	**H02**	**H02**	**H02**
pH	pH	N/A	7.65	7.60	7.61	7.73	7.84	7.15
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.012	0.0090	0.0077	0.011	0.0075	0.0066
Nitrate (N)	mg/L	0.0020	1.27	1.32	1.30	1.18	1.13	0.913
Nitrite (N)	mg/L	0.0020	0.0026	0.0043	0.0026	<0.0020	<0.0020	<0.0022
Total Hardness (CaCO3)	mg/L	0.50	105	109	111	114	113	91.4
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	15.9	25.7	15.9	16.6	21.6	31.6
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.84	0.89	0.97	1.17	1.07	0.83
Total Barium (Ba)	ug/L	1.0	12.8	12.8	11.6	12.0	14.3	15.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.011
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	0.76	0.77	0.67	0.56	0.62	1.16
Total Iron (Fe)	ug/L	10	111	126	88	89	123	150
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	28.9	25.6	20.3	19.4	29.4	28.1
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	2.6	2.2	1.4	1.4	1.4	1.6
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	0.15	0.17	0.19	0.18	0.16	0.11
Total Silicon (Si)	ug/L	100	8830	8670	8920	9630	9300	7710
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	141	140	138	150	135	114
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

								Dup Mean
BV Labs ID			ZV0881	AAA181	ABR635	AEA155	AGO425	
Sampling Date			2021-05-19 09:05	2021-06-17 08:45	2021-07-13 08:55	2021-08-18 08:57	2021-09-22 10:03	2021-10-27 09:10
	UNITS	**RDL**	**H02**	**H02**	**H02**	**H02**	**H02**	**H02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.6
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	29.9	30.9	31.8	32.8	33.4	26.6
Total Magnesium (Mg)	mg/L	0.050	7.32	7.71	7.63	7.82	7.26	6.09
Total Potassium (K)	mg/L	0.050	1.69	1.7	1.69	1.66	1.55	1.59
Total Sodium (Na)	mg/L	0.050	10.1	10.4	10.1	9.93	9.08	7.77
Total Sulphur (S)	mg/L	3.0	5.8	5.7	6.1	6.7	6.8	5.8
pH	pH units	--	7.12	7.36	7.82	7.31	7.25	6.96
Temperature	ºC	--	11	12.4	13.9	13.6	12.8	10.8
Specific Conductance	µS/cm	--	276.9	280.5	237.3	333.5	291.7	186.7
Dissolved Oxygen	%	--	10.26	10.33	8.37	12.28	8.32	8.94
Turbidity	NTU	--	3.08	1.88	3.55	7.02	2.77	1.34

RDL = Reportable Detection Limit

							Dup Mean	
BV Labs ID			ALP601	ALY341	ANG909	AOU669		ART708
Sampling Date			2021-11-26 10:06	2021-12-15 11:30	2022-01-19 09:15	2022-02-17 12:11	2022-03-14 13:06	2022-04-19 15:45
	UNITS	**RDL**	**H02**	**H02**	**H02**	**H02**	**H02**	**H02**
pH	pH	N/A	6.79	7.91	7.74	7.51	6.99	7.36
Total Ammonia (N)	mg/L	0.015	0.020	<0.015	0.041	<0.015	0.049	0.078
Total Phosphorus (P)	mg/L	0.0030	0.012	0.0093	0.0063	0.0064	0.014	0.019
Nitrate (N)	mg/L	0.0020	0.701	1.36	1.24	1.38	0.546	0.851
Nitrite (N)	mg/L	0.0020	0.0051	0.0027	0.0073	0.0059	0.0147	0.0167
Total Hardness (CaCO3)	mg/L	0.50	51.9	104	95.0	107	37	61.7
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	178	24.9	51.0	23.4	166	172
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.76	0.77	0.78	0.84	0.57	0.77
Total Barium (Ba)	ug/L	1.0	12.1	14.6	14.9	12.9	8.1	11.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.015	<0.010	0.014	<0.010	0.014	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	1.64	0.51	0.99	0.52	2.98	4.09
Total Iron (Fe)	ug/L	10	365	171	197	162	243	315
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	0.38	0.53
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	37.6	53.4	48.8	40.5	18.6	27.4
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	2.3	7.5
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	0.15	0.14	0.18	<0.10	0.11
Total Silicon (Si)	ug/L	100	4330	9000	7930	9310	3340	5830
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	71	135	128	143	48.1	84
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

							Dup Mean	
BV Labs ID			ALP601	ALY341	ANG909	AOU669		ART708
Sampling Date			2021-11-26 10:06	2021-12-15 11:30	2022-01-19 09:15	2022-02-17 12:11	2022-03-14 13:06	2022-04-19 15:45
	UNITS	**RDL**	**H02**	**H02**	**H02**	**H02**	**H02**	**H02**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	8.3	<5.0	<5.0	<5.0	7.6	8.7
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	16.5	5.8	10.0	5.8	20.4	18.1
Total Zirconium (Zr)	ug/L	0.10	0.1	<0.10	<0.10	<0.10	0.19	1.26
Total Calcium (Ca)	mg/L	0.050	15.3	30.1	27.5	30.7	10.9	18.3
Total Magnesium (Mg)	mg/L	0.050	3.30	7.10	6.41	7.32	2.42	3.85
Total Potassium (K)	mg/L	0.050	0.897	1.64	1.59	1.67	0.833	1.17
Total Sodium (Na)	mg/L	0.050	4.96	11.3	15.1	11.7	7.40	7.72
Total Sulphur (S)	mg/L	3.0	<3.0	5.9	5.6	5.8	<3.0	3.5
pH	pH units	--	7.2	7.65	7.92	7.58	7.25	7.26
Temperature	ºC	--	8.5	8.5	8.4	9.5	8.9	11.2
Specific Conductance	µS/cm	--	113.7	268.1	260.9	287.6	121.8	150.9
Dissolved Oxygen	%	--	9.93	11.38	10.6	10.91	10.37	9.19
Turbidity	NTU	--	4.61	2.04	2.05	0.31	5.83	5.28

RDL = Reportable Detection Limit

BV Labs ID			ZV0882	AAA182	ABR636	AEA156	AGO426	AJG071
Sampling Date			2021-05-19 15:23	2021-06-17 13:00	2021-07-13 14:05	2021-08-18 13:43	2021-09-22 16:30	2021-10-27 12:42
	UNITS	**RDL**	**H03**	**H03**	**H03**	**H03**	**H03**	**H03**
pH	pH	N/A	7.34	7.51	7.39	7.39	7.53	7.00
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	0.012	0.0093	0.015	0.023	0.0093	0.0072
Nitrate (N)	mg/L	0.0020	1.81	1.91	1.94	1.79	1.65	1.27
Nitrite (N)	mg/L	0.0020	0.0021	0.0021	0.0044	0.0040	<0.0020	0.0020
Total Hardness (CaCO3)	mg/L	0.50	115	108	103	103	105	81.7
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	0.056	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	21.2	11.3	55.6	73.5	12.3	23.9
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.49	0.48	0.53	0.65	0.57	0.46
Total Barium (Ba)	ug/L	1.0	13.4	12.9	13.3	13.9	13.9	14.5
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.016	0.017	0.018	0.017	0.019	0.019
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	2	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	1.79	0.94	2.11	2.72	1.78	2.29
Total Iron (Fe)	ug/L	10	49	26	114	123	37	42
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	0.49	0.24	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	10.8	9.2	8.9	12.8	8.2	10.6
Total Mercury (Hg)	ug/L	0.0019	0.0063	<0.0019	0.0062	<0.0019	0.0083	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	33.5	6.4	10.9	18.7	4.1	4.9
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0
Total Selenium (Se)	ug/L	0.10	0.20	0.19	0.19	0.21	0.20	0.14
Total Silicon (Si)	ug/L	100	9900	8710	8460	9350	9410	7250
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	162	153	147	156	144	108
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ZV0882	AAA182	ABR636	AEA156	AGO426	AJG071
Sampling Date			2021-05-19 15:23	2021-06-17 13:00	2021-07-13 14:05	2021-08-18 13:43	2021-09-22 16:30	2021-10-27 12:42
	UNITS	**RDL**	**H03**	**H03**	**H03**	**H03**	**H03**	**H03**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	12.6	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	13.4	10.3	14.0	11.7	15.5	25.4
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	33.9	30.4	29.4	29.2	30.2	23.6
Total Magnesium (Mg)	mg/L	0.050	7.41	7.73	7.11	7.21	7.17	5.55
Total Potassium (K)	mg/L	0.050	1.74	1.74	1.73	1.71	1.59	1.66
Total Sodium (Na)	mg/L	0.050	15.6	15.8	15.4	15.7	15.2	11.4
Total Sulphur (S)	mg/L	3.0	6.1	5.9	5.6	5.8	5.6	5.2
pH	pH units	--	6.71	7.02	6.94	6.74	6.05	7.73
Temperature	ºC	--	12.7	13.8	14.4	14.1	13.7	12.3
Specific Conductance	µS/cm	--	305.1	336.1	257.5	349.1	310.8	189.3
Dissolved Oxygen	%	--	9	7.25	7.53	12.23	4.3	7.42
Turbidity	NTU	--	2.4	0.69	5.4	5.45	1.41	0.93

RDL = Reportable Detection Limit

								Dup Mean
BV Labs ID			ALP602	ALY342	ANG910	AOU670	AQB817	
Sampling Date			2021-11-26 11:15	2021-12-15 10:45	2022-01-19 10:00	2022-02-17 11:30	2022-03-14 13:41	2022-04-20 09:02
	UNITS	**RDL**	**H03**	**H03**	**H03**	**H03**	**H03**	**H03**
pH	pH	N/A	6.71	7.73	7.33	7.37	6.84	7.27
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	0.32	<0.015	0.12	0.047
Total Phosphorus (P)	mg/L	0.0030	0.013	0.0094	0.013	0.008	0.026	0.013
Nitrate (N)	mg/L	0.0020	0.851	1.91	1.46	2.31	0.414	2.49
Nitrite (N)	mg/L	0.0020	0.0048	<0.0020	0.0036	0.0035	0.0122	0.0050
Total Hardness (CaCO3)	mg/L	0.50	45.0	107	68.9	113	23.5	101
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	69.0	14.2	160	22.8	277	29.5
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	0.63	<0.50
Total Arsenic (As)	ug/L	0.10	0.44	0.50	0.59	0.56	0.49	0.47
Total Barium (Ba)	ug/L	1.0	10.3	14.0	12.8	14.3	8.8	17.4
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.014	0.017	0.018	0.023	0.022	0.022
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	2.65	0.73	1.82	0.92	5.79	1.69
Total Iron (Fe)	ug/L	10	103	36	173	53	337	81.5
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	0.85	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	10.3	15.0	18.5	16.7	13.2	15.7
Total Mercury (Hg)	ug/L	0.0019	0.0026	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	1.4	<1.0	1.7	1.3	67.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	0.17	0.12	0.22	<0.10	0.16
Total Silicon (Si)	ug/L	100	3460	9040	6130	9710	2190	8260
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	65.9	153	102	166	33.9	164
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

								Dup Mean
BV Labs ID			ALP602	ALY342	ANG910	AOU670	AQB817	
Sampling Date			2021-11-26 11:15	2021-12-15 10:45	2022-01-19 10:00	2022-02-17 11:30	2022-03-14 13:41	2022-04-20 09:02
	UNITS	**RDL**	**H03**	**H03**	**H03**	**H03**	**H03**	**H03**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	6.0	<5.0	15	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	34.2	10.3	13.8	9.4	40.5	23.4
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	0.28	<0.10
Total Calcium (Ca)	mg/L	0.050	13.3	30.4	19.8	31.8	6.95	29.4
Total Magnesium (Mg)	mg/L	0.050	2.89	7.47	4.73	8.09	1.48	6.77
Total Potassium (K)	mg/L	0.050	0.934	1.86	1.43	1.97	0.676	1.86
Total Sodium (Na)	mg/L	0.050	6.58	17.2	16.6	18.6	8.73	17.6
Total Sulphur (S)	mg/L	3.0	<3.0	7.1	3.8	6.6	<3.0	5.2
pH	pH units	--	6.84	7.06	4.4	6.93	6.77	6.92
Temperature	ºC	--	9.7	10.9	9.4	11.4	9.1	11.1
Specific Conductance	µS/cm	--	111.1	309.7	243.8	328.8	100.7	311.3
Dissolved Oxygen	%	--	9.62	8.99	9.12	9.21	9.1	9.49
Turbidity	NTU	--	3.43	1.54	3.3	0.53	11.4	1.85

RDL = Reportable Detection Limit

Dup Mean

BV Labs ID			ZV0885	AAA185		AEA159	AGO429	AJG074
Sampling Date			2021-05-19 16:08	2021-06-17 14:43	2021-07-13 16:55	2021-08-18 16:18	2021-09-22 15:37	2021-10-27 15:40
	UNITS	**RDL**	**W01**	**W01**	**W01**	**W01**	**W01**	**W01**
pH	pH	N/A	7.31	7.44	7.43	7.55	7.67	6.82
Total Ammonia (N)	mg/L	0.015	0.023	<0.015	<0.015	0.028	0.026	0.064
Total Phosphorus (P)	mg/L	0.0030	0.066	0.013	0.0126	0.012	0.0093	0.011
Nitrate (N)	mg/L	0.0020	1.60	1.62	1.65	1.49	1.42	0.532
Nitrite (N)	mg/L	0.0020	0.01	0.0098	0.0080	0.0051	0.0045	0.0057
Total Hardness (CaCO3)	mg/L	0.50	95.7	100	101	107	108	40.8
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	182	29.2	32.3	21.7	31.5	21.2
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	1.44	0.68	0.68	0.76	0.69	0.68
Total Barium (Ba)	ug/L	1.0	33.6	31.6	32.1	33.8	31.9	16.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	0.023	0.012	<0.011	0.014	0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	0.21	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	0.94	<0.50	<0.50	<0.50	<0.50	0.84
Total Iron (Fe)	ug/L	10	1180	362	411	390	411	514
Total Lead (Pb)	ug/L	0.20	0.62	<0.20	<0.20	<0.20	<0.20	0.22
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	60.2	39.8	44.0	46.6	61.4	37.1
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	1.4	<1.0	<1.0	1.0	1.1	<1.0
Total Selenium (Se)	ug/L	0.10	0.11	0.10	0.15	0.14	0.13	<0.10
Total Silicon (Si)	ug/L	100	10000	9670	9875	11100	11300	4180
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	194	190	195	213	205	69.7
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Dup Mean

BV Labs ID			ZV0885	AAA185		AEA159	AGO429	AJG074
Sampling Date			2021-05-19 16:08	2021-06-17 14:43	2021-07-13 16:55	2021-08-18 16:18	2021-09-22 15:37	2021-10-27 15:40
	UNITS	**RDL**	**W01**	**W01**	**W01**	**W01**	**W01**	**W01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	9.8	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	5.7	<5.0	<5.0	<5.0	<5.0	5.3
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	25.4	26.9	27.3	28.6	29.3	11.1
Total Magnesium (Mg)	mg/L	0.050	7.82	8.04	8.07	8.54	8.43	3.16
Total Potassium (K)	mg/L	0.050	1.24	1.25	1.25	1.24	1.25	0.877
Total Sodium (Na)	mg/L	0.050	12.3	12.6	12.8	13.4	13.1	16.4
Total Sulphur (S)	mg/L	3.0	4.3	3.8	4.3	4.5	3.8	<3.0
pH	pH units	--	6.79	7.03	7.08	6.86	6.62	7.68
Temperature	ºC	--	11.7	13.4	13.8	13.8	12.7	11.1
Specific Conductance	µS/cm	--	247.9	283.3	238.4	345	300.7	150.9
Dissolved Oxygen	%	--	10.13	7.46	7.69	11.51	7.51	7.21
Turbidity	NTU	--	4.95	2.28	4.35	3.73	2.59	1.77

RDL = Reportable Detection Limit

BV Labs ID			ALP605	ALY345	ANG912	AOU673	AQB820	ARV132
Sampling Date			2021-11-26 11:57	2021-12-15 13:05	2022-01-19 12:30	2022-02-17 10:32	2022-03-14 14:38	2022-04-20 12:29
	UNITS	**RDL**	**W01**	**W01**	**W01**	**W01**	**W01**	**W01**
pH	pH	N/A	6.53	7.37	7.14	7.22	6.94	7.30
Total Ammonia (N)	mg/L	0.015	0.24	0.20	0.79	0.041	0.12	0.067
Total Phosphorus (P)	mg/L	0.0030	0.022	0.025	0.0098	0.0075	0.018	0.017
Nitrate (N)	mg/L	0.0020	0.37	0.737	1.01	1.58	0.691	1.13
Nitrite (N)	mg/L	0.0020	0.0081	0.0124	0.0085	0.011	0.0086	0.0079
Total Hardness (CaCO3)	mg/L	0.50	21.6	42.6	51.9	85.8	39.5	60.3
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	35.9	71.5	37.8	26.1	107	21.4
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	0.66	0.80	0.62	0.62	0.75	0.61
Total Barium (Ba)	ug/L	1.0	12.0	17.9	20.0	28.1	18.8	22.7
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	0.011	0.010	0.012	0.012
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	1.09	0.92	0.81	<0.50	1.67	0.89
Total Iron (Fe)	ug/L	10	650	955	435	353	633	376
Total Lead (Pb)	ug/L	0.20	0.41	0.43	<0.20	<0.20	0.40	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	34.8	47.5	47.2	52.8	44.4	45.1
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	0.14	<0.10	<0.10
Total Silicon (Si)	ug/L	100	1910	4720	5600	9960	4260	6160
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	39.5	76.0	101	172	75.8	117
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

BV Labs ID			ALP605	ALY345	ANG912	AOU673	AQB820	ARV132
Sampling Date			2021-11-26 11:57	2021-12-15 13:05	2022-01-19 12:30	2022-02-17 10:32	2022-03-14 14:38	2022-04-20 12:29
	UNITS	**RDL**	**W01**	**W01**	**W01**	**W01**	**W01**	**W01**
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	5.6	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	11.2	6.1	7.4	<5.0	10.6	6.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	0.13	<0.10
Total Calcium (Ca)	mg/L	0.050	6.15	11.7	14.2	23.1	10.9	16.5
Total Magnesium (Mg)	mg/L	0.050	1.51	3.24	4.01	6.80	2.98	4.63
Total Potassium (K)	mg/L	0.050	0.657	0.870	0.913	1.27	0.852	1.08
Total Sodium (Na)	mg/L	0.050	12.6	15.0	20.3	15.6	37.0	26.1
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	4.4	<3.0	<3.0
pH	pH units	--	6.76	6.91	5.05	6.84	6.71	6.87
Temperature	ºC	--	7.2	6.9	6.8	9.6	8.7	10.7
Specific Conductance	µS/cm	--	98.4	173.2	230.4	267.5	274.4	287.7
Dissolved Oxygen	%	--	10.3	10.82	9.42	9.7	9.09	8.62
Turbidity	NTU	--	2.26	4.41	2.16	1.12	4.06	0.84

RDL = Reportable Detection Limit

BV Labs ID			ZV0901	AAA209	ABR643	ADY310
Sampling Date			2021-05-19	2021-06-17	2021-07-13	2021-08-17
	UNITS	**RDL**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**
pH	pH	N/A	6.15	5.79	5.93	6.11
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	**0.0051**	<0.0030	<0.0030	<0.0030
Nitrate (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	<3.0	<3.0	<3.0	<3.0
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	<10	<10	<10	<10
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	<100	<100	<100	<100
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Magnesium (Mg)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Potassium (K)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sodium (Na)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	<3.0

RDL = Reportable Detection Limit

BV Labs ID			AGI857	AJC340	ALP612	ALY378
Sampling Date			2021-09-20	2021-10-26	2021-11-26	2021-12-15
	UNITS	**RDL**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**
pH	pH	N/A	7.33	5.93	5.44	5.97
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Nitrate (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	<3.0	<3.0	<3.0	<3.0
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	<10	<10	<10	<10
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	<100	<100	<100	<100
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Magnesium (Mg)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Potassium (K)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sodium (Na)	mg/L	0.050	<0.050	**0.086**	<0.050	<0.050
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	<3.0

RDL = Reportable Detection Limit

BV Labs ID			ANG923	AOU681	AQB827	ARV127
Sampling Date			2022-01-19	2022-02-17 11:45	2022-03-14 13:10	2022-04-20 17:33
	UNITS	**RDL**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**
pH	pH	N/A	5.86	5.91	6.20	6.77
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Nitrate (N)	mg/L	0.0020	<0.0020	<0.0020	**0.0028**	<0.0020
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	<3.0	<3.0	<3.0	<3.0
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	<10	<10	<10	<10
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	<100	<100	<100	<100
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Magnesium (Mg)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Potassium (K)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sodium (Na)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	<3.0

RDL = Reportable Detection Limit

BV Labs ID			ZV0902	AAA210	ABR644	ADY311
Sampling Date			2021-05-19 18:10	2021-06-17 16:57	2021-07-13 17:30	2021-08-17 16:45
	UNITS	**RDL**	**FIELD BLANK**	**FIELD BLANK**	**FIELD BLANK**	**FIELD BLANK**
pH	pH	N/A	5.70	5.24	5.46	5.35
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Nitrate (N)	mg/L	0.0020	<0.0020	<0.0020	**0.0034**	<0.0020
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	<3.0	<3.0	<3.0	<3.0
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	<10	<10	<10	<10
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	<100	<100	<100	<100
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Magnesium (Mg)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Potassium (K)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sodium (Na)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	<3.0

RDL = Reportable Detection Limit

BV Labs ID			AGI858	AJC341	ALP613	ALY379
Sampling Date			2021-09-20 18:38	2021-10-26 16:32	2021-11-26 14:30	2021-12-15 13:05
	UNITS	**RDL**	**FIELD BLANK**	**FIELD BLANK**	**FIELD BLANK**	**FIELD BLANK**
pH	pH	N/A	6.07	5.72	5.06	5.36
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Nitrate (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	<3.0	<3.0	<3.0	<3.0
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	<10	<10	<10	<10
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	<100	<100	<100	<100
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Magnesium (Mg)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Potassium (K)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sodium (Na)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	<3.0

RDL = Reportable Detection Limit

BV Labs ID			ANG924	AOU682	AQB828	ARV128
Sampling Date			2022-01-19 17:30	2022-02-17 16:00	2022-03-14 17:55	2022-04-20 09:15
	UNITS	**RDL**	**FIELD BLANK**	**FIELD BLANK**	**FIELD BLANK**	**FIELD BLANK**
pH	pH	N/A	5.43	5.61	5.78	5.78
Total Ammonia (N)	mg/L	0.015	1.4	<0.015	<0.015	<0.015
Total Phosphorus (P)	mg/L	0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Nitrate (N)	mg/L	0.0020	**0.0044**	<0.0020	**0.0020**	<0.0020
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Hardness (CaCO3)	mg/L	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Aluminum (Al)	ug/L	3.0	<3.0	<3.0	<3.0	<3.0
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.50	**0.76**	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	10	<10	<10	<10	<10
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	<0.20	<0.20
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	<2.0	<2.0
Total Manganese (Mn)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	100	<100	<100	<100	<100
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1.0	<1.0	<1.0	<1.0	<1.0
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	<0.010	<0.010
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Magnesium (Mg)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Potassium (K)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sodium (Na)	mg/L	0.050	<0.050	<0.050	<0.050	<0.050
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	<3.0	<3.0

RDL = Reportable Detection Limit

BV Labs ID			ALY343	ALY376	
Sampling Date			2021-12-15 12:20	2021-12-15 12:15	
	UNITS	**RDL**	**B01**	**B01 DUP**	**RPD**
pH	pH	N/A	7.24	7.36	0.06
Total Ammonia (N)	mg/L	0.015	0.071	0.073	3%
Total Phosphorus (P)	mg/L	0.0030	0.011	0.0094	16%
Nitrate (N)	mg/L	0.0020	1.78	1.80	1%
Nitrite (N)	mg/L	0.0020	0.0078	0.0082	5%
Total Hardness (CaCO3)	mg/L	0.50	70.8	72.4	2%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	44.2	46.3	5%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.39	0.40	3%
Total Barium (Ba)	ug/L	1.0	36.2	36.9	2%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.038	0.035	8%
Total Chromium (Cr)	ug/L	1.0	1.2	1.2	0%
Total Cobalt (Co)	ug/L	0.20	0.41	0.42	2%
Total Copper (Cu)	ug/L	0.50	1.01	1	1%
Total Iron (Fe)	ug/L	10	808	816	1%
Total Lead (Pb)	ug/L	0.20	0.49	0.49	0%
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	160	163	2%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	1.6	1.7	6%
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	nc
Total Silicon (Si)	ug/L	100	7960	8110	2%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	203	207	2%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	16.5	17.2	4%
Total Zirconium (Zr)	ug/L	0.10	0.13	0.12	8%
Total Calcium (Ca)	mg/L	0.050	20.6	21	2%
Total Magnesium (Mg)	mg/L	0.050	4.69	4.84	3%
Total Potassium (K)	mg/L	0.050	1.43	1.47	3%
Total Sodium (Na)	mg/L	0.050	20.5	21	2%
Total Sulphur (S)	mg/L	3.0	3.3	3.5	6%
pH	pH units	--	6.5	6.5	0.00
Temperature	ºC	--	8.1	8.1	0.00
Specific Conductance	µS/cm	--	265	264.1	0%
Dissolved Oxygen	%	--	7.06	7.1	1%
Turbidity	NTU	--	3.15	3.38	7%

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			ANF058	ANF059	
Sampling Date			2022-01-18 16:00	2022-01-18 16:10	
	UNITS	**RDL**	**B02**	**B02 DUP**	**RPD**
pH	pH	N/A	7.26	7.11	0.07
Total Ammonia (N)	mg/L	0.015	0.050	0.095	**62%**
Total Phosphorus (P)	mg/L	0.0030	0.0095	0.0190	**67%**
Nitrate (N)	mg/L	0.0020	1.07	0.981	9%
Nitrite (N)	mg/L	0.0020	0.0087	0.0226	**89%**
Total Hardness (CaCO3)	mg/L	0.50	66.4	53.7	21%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	122	357	**98%**
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.72	0.59	20%
Total Barium (Ba)	ug/L	1.0	20.8	17.2	19%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.020	0.021	5%
Total Chromium (Cr)	ug/L	1.0	<1.0	1.2	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	0.28	nc
Total Copper (Cu)	ug/L	0.50	1.22	2.53	**70%**
Total Iron (Fe)	ug/L	10	311	753	**83%**
Total Lead (Pb)	ug/L	0.20	<0.20	0.45	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	60.0	93.6	**44%**
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	<1.0	1.1	nc
Total Selenium (Se)	ug/L	0.10	0.12	<0.10	nc
Total Silicon (Si)	ug/L	100	5980	5590	7%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	115	94.9	19%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	5.5	16.9	*102%*
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	6.4	13.2	*69%*
Total Zirconium (Zr)	ug/L	0.10	0.10	0.17	*52%*
Total Calcium (Ca)	mg/L	0.050	18.3	15.2	19%
Total Magnesium (Mg)	mg/L	0.050	5.01	3.80	**27%**
Total Potassium (K)	mg/L	0.050	1.64	1.05	**44%**
Total Sodium (Na)	mg/L	0.050	17.5	15.4	13%
Total Sulphur (S)	mg/L	3.0	3.5	<3.0	nc
pH	pH units	--	--	--	--
Temperature	ºC	--	--	--	--
Specific Conductance	µS/cm	--	--	--	--
Dissolved Oxygen	%	--	--	--	--
Turbidity	NTU	--	--	--	--

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			AGI854	AGI856	
Sampling Date			2021-09-20 10:15	2021-09-20 10:15	
	UNITS	**RDL**	**D01**	**D01 DUP**	**RPD**
pH	pH	N/A	7.80	7.91	0.06
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	nc
Total Phosphorus (P)	mg/L	0.0030	0.014	0.013	7%
Nitrate (N)	mg/L	0.0020	0.942	0.943	0%
Nitrite (N)	mg/L	0.0020	0.0021	0.002	5%
Total Hardness (CaCO3)	mg/L	0.50	108	108	0%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	47.2	42.0	12%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	1.30	1.27	2%
Total Barium (Ba)	ug/L	1.0	16.1	15.5	4%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	nc
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	0.68	0.64	6%
Total Iron (Fe)	ug/L	10	360	349	3%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	110	107	3%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	0.24	0.25	4%
Total Silicon (Si)	ug/L	100	10300	10400	1%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	150	152	1%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	nc
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	28.3	28.3	0%
Total Magnesium (Mg)	mg/L	0.050	8.97	8.94	0%
Total Potassium (K)	mg/L	0.050	2.01	1.94	4%
Total Sodium (Na)	mg/L	0.050	11.4	11.2	2%
Total Sulphur (S)	mg/L	3.0	6.5	6.9	6%
pH	pH units	--	--	--	--
Temperature	ºC	--	--	--	--
Specific Conductance	µS/cm	--	--	--	--
Dissolved Oxygen	%	--	--	--	--
Turbidity	NTU	--	--	--	--

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			ZV0888	ZV0900	
Sampling Date			2021-05-19 16:47	2021-05-19 16:47	
	UNITS	**RDL**	**F01**	**F01 DUP**	**RPD**
pH	pH	N/A	7.49	7.51	0.01
Total Ammonia (N)	mg/L	0.015	0.16	0.15	6%
Total Phosphorus (P)	mg/L	0.0030	0.037	0.039	5%
Nitrate (N)	mg/L	0.0020	0.556	0.544	2%
Nitrite (N)	mg/L	0.0020	0.0216	0.0198	9%
Total Hardness (CaCO3)	mg/L	0.50	80.6	78.9	2%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	94.7	95.4	1%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	2.35	2.36	0%
Total Barium (Ba)	ug/L	1.0	16.9	16.4	3%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	nc
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	3.14	3.12	1%
Total Iron (Fe)	ug/L	10	859	840	2%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	273	276	1%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	0.11	0.11	0%
Total Silicon (Si)	ug/L	100	4650	4530	3%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	123	125	2%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	5.2	5.5	6%
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	21.7	21.1	3%
Total Magnesium (Mg)	mg/L	0.050	6.42	6.34	1%
Total Potassium (K)	mg/L	0.050	1.45	1.47	1%
Total Sodium (Na)	mg/L	0.050	11.0	11.1	1%
Total Sulphur (S)	mg/L	3.0	3.4	3.3	3%
pH	pH units	--	7.05	7.06	0.00
Temperature	ºC	--	14.8	14.3	0.25
Specific Conductance	µS/cm	--	209.7	209.5	0%
Dissolved Oxygen	%	--	7.4	7.4	0%
Turbidity	NTU	--	5.33	5.26	1%

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			ALP608	ALP611	
Sampling Date			2021-11-26 12:58	2021-11-26 12:58	
	UNITS	**RDL**	**F01**	**F01 DUP**	**RPD**
pH	pH	N/A	6.79	6.82	0.01
Total Ammonia (N)	mg/L	0.015	0.015	<0.015	nc
Total Phosphorus (P)	mg/L	0.0030	0.025	0.026	4%
Nitrate (N)	mg/L	0.0020	1.07	1.08	1%
Nitrite (N)	mg/L	0.0020	0.0058	0.0055	5%
Total Hardness (CaCO3)	mg/L	0.50	53.2	52.8	1%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	191	190	1%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	1.23	1.28	4%
Total Barium (Ba)	ug/L	1.0	15.2	15.7	3%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.011	0.010	10%
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	2.55	2.51	2%
Total Iron (Fe)	ug/L	10	394	397	1%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	65.0	65.6	1%
Total Mercury (Hg)	ug/L	0.0019	0.0021	0.0021	0%
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	1.0	1.0	0%
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	nc
Total Silicon (Si)	ug/L	100	3500	3420	2%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	88.3	89.6	1%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	8.3	7.9	5%
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	7.3	7.9	8%
Total Zirconium (Zr)	ug/L	0.10	0.14	0.16	13%
Total Calcium (Ca)	mg/L	0.050	15.5	15.2	2%
Total Magnesium (Mg)	mg/L	0.050	3.54	3.58	1%
Total Potassium (K)	mg/L	0.050	1.52	1.52	0%
Total Sodium (Na)	mg/L	0.050	5.87	5.83	1%
Total Sulphur (S)	mg/L	3.0	3.8	3.9	3%
pH	pH units	--	7.14	7.14	0.00
Temperature	ºC	--	8.7	8.7	0.00
Specific Conductance	µS/cm	--	116.4	116.4	0%
Dissolved Oxygen	%	--	9.49	9.49	0%
Turbidity	NTU	--	5.21	5.21	0%

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			AAA189	AAA208	
Sampling Date			2021-06-17 15:20	2021-06-17 15:20	
	UNITS	**RDL**	**F02**	**F02 DUP**	**RPD**
pH	pH	N/A	7.55	7.40	0.08
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	nc
Total Phosphorus (P)	mg/L	0.0030	0.036	0.032	12%
Nitrate (N)	mg/L	0.0020	0.0405	0.0384	5%
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	nc
Total Hardness (CaCO3)	mg/L	0.50	64.8	63.9	1%
Dissolved Fluoride (F)	mg/L	0.050	0.059	0.06	2%
Total Aluminum (Al)	ug/L	3.0	25.1	21.0	18%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	1.18	1.21	3%
Total Barium (Ba)	ug/L	1.0	13.1	13.1	0%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	nc
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	0.52	0.53	2%
Total Copper (Cu)	ug/L	0.50	0.83	0.83	0%
Total Iron (Fe)	ug/L	10	1020	1010	1%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	2060	2030	1%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	nc
Total Silicon (Si)	ug/L	100	3350	3270	2%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	109	110	1%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	nc
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	18.3	17.8	3%
Total Magnesium (Mg)	mg/L	0.050	4.64	4.69	1%
Total Potassium (K)	mg/L	0.050	1.47	1.48	1%
Total Sodium (Na)	mg/L	0.050	11.5	11.5	0%
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	nc
pH	pH units	--	6.96	6.94	0.01
Temperature	ºC	--	17.9	17.8	0.05
Specific Conductance	µS/cm	--	204.7	205.9	1%
Dissolved Oxygen	%	--	4.07	3.50	15%
Turbidity	NTU	--	2.41	2.35	3%

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			AEA154	AEA160	
Sampling Date			2021-08-18 15:08	2021-08-18 15:08	
	UNITS	**RDL**	**H01**	**H01 DUP**	**RPD**
pH	pH	N/A	6.99	7.06	0.04
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	nc
Total Phosphorus (P)	mg/L	0.0030	0.013	0.0098	*28%*
Nitrate (N)	mg/L	0.0020	2.20	2.20	0%
Nitrite (N)	mg/L	0.0020	<0.0020	<0.0020	nc
Total Hardness (CaCO3)	mg/L	0.50	96.0	96.5	1%
Dissolved Fluoride (F)	mg/L	0.050	0.055	0.053	4%
Total Aluminum (Al)	ug/L	3.0	20.9	22.6	8%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.44	0.41	7%
Total Barium (Ba)	ug/L	1.0	12.3	12.5	2%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.02	0.022	10%
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	1.73	1.79	3%
Total Iron (Fe)	ug/L	10	69	72	4%
Total Lead (Pb)	ug/L	0.20	0.28	0.29	4%
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	17.7	18.1	2%
Total Mercury (Hg)	ug/L	0.0019	0.0142	0.0148	4%
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	0.25	0.24	4%
Total Silicon (Si)	ug/L	100	10000	10200	2%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	148	146	1%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	8.5	8.3	2%
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	26.9	27.1	1%
Total Magnesium (Mg)	mg/L	0.050	6.98	6.98	0%
Total Potassium (K)	mg/L	0.050	1.53	1.54	1%
Total Sodium (Na)	mg/L	0.050	16.9	16.9	0%
Total Sulphur (S)	mg/L	3.0	5.1	5.2	2%
pH	pH units	--	--	--	--
Temperature	ºC	--	--	--	--
Specific Conductance	µS/cm	--	--	--	--
Dissolved Oxygen	%	--	--	--	--
Turbidity	NTU	--	--	--	--

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			AOU668	AOU680	
Sampling Date			2022-02-17 11:40	2022-02-17 11:45	
	UNITS	**RDL**	**H01**	**H01 DUP**	**RPD**
pH	pH	N/A	7.08	7.10	0.01
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	nc
Total Phosphorus (P)	mg/L	0.0030	0.0068	0.0077	12%
Nitrate (N)	mg/L	0.0020	3.09	3.10	0%
Nitrite (N)	mg/L	0.0020	<0.0020	0.0022	nc
Total Hardness (CaCO3)	mg/L	0.50	111	112	1%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	19.0	9.5	**67%**
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.54	0.51	6%
Total Barium (Ba)	ug/L	1.0	15.0	14.8	1%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.02	0.019	5%
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	0.61	0.63	3%
Total Iron (Fe)	ug/L	10	119	101	16%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	26.2	23.7	10%
Total Mercury (Hg)	ug/L	0.0019	0.0038	0.0038	0%
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	0.24	0.24	0%
Total Silicon (Si)	ug/L	100	9990	10300	3%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	167	173	4%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	nc
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	31.3	31.7	1%
Total Magnesium (Mg)	mg/L	0.050	7.9	8.01	1%
Total Potassium (K)	mg/L	0.050	1.8	1.8	0%
Total Sodium (Na)	mg/L	0.050	18.8	19	1%
Total Sulphur (S)	mg/L	3.0	5.6	5.9	5%
pH	pH units	--	6.29	6.29	0.00
Temperature	ºC	--	12.5	12.4	0.05
Specific Conductance	µS/cm	--	341	341.5	0%
Dissolved Oxygen	%	--	6.53	6.49	1%
Turbidity	NTU	--	0.22	0.13	**51%**

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			AJG070	AJG075	
Sampling Date			2021-10-27 09:10	2021-10-27 09:10	
	UNITS	**RDL**	**H02**	**H02 DUP**	**RPD**
pH	pH	N/A	7.12	7.17	0.02
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	nc
Total Phosphorus (P)	mg/L	0.0030	0.0076	0.0055	*32%*
Nitrate (N)	mg/L	0.0020	0.915	0.911	0%
Nitrite (N)	mg/L	0.0020	0.0024	<0.0020	nc
Total Hardness (CaCO3)	mg/L	0.50	91.1	91.6	1%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	32.4	30.8	5%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.83	0.83	0%
Total Barium (Ba)	ug/L	1.0	15.7	15.7	0%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	<0.010	0.011	nc
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	1.17	1.14	3%
Total Iron (Fe)	ug/L	10	150	149	1%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	28.3	27.9	1%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	1.6	1.5	6%
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	0.11	0.11	0%
Total Silicon (Si)	ug/L	100	7700	7720	0%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	115	112	3%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	8.0	7.2	11%
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	26.5	26.6	0%
Total Magnesium (Mg)	mg/L	0.050	6.06	6.12	1%
Total Potassium (K)	mg/L	0.050	1.60	1.58	1%
Total Sodium (Na)	mg/L	0.050	7.80	7.74	1%
Total Sulphur (S)	mg/L	3.0	6.0	5.5	9%
pH	pH units	--	--	--	--
Temperature	ºC	--	--	--	--
Specific Conductance	µS/cm	--	--	--	--
Dissolved Oxygen	%	--	--	--	--
Turbidity	NTU	--	--	--	--

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			AQB816	AQB826	
Sampling Date			2022-03-14 13:06	2022-03-14 13:10	
	UNITS	**RDL**	**H02**	**H02 DUP**	**RPD**
pH	pH	N/A	7.00	6.97	0.02
Total Ammonia (N)	mg/L	0.015	0.042	0.056	*29%*
Total Phosphorus (P)	mg/L	0.0030	0.014	0.014	0%
Nitrate (N)	mg/L	0.0020	0.543	0.549	1%
Nitrite (N)	mg/L	0.0020	0.0153	0.014	9%
Total Hardness (CaCO3)	mg/L	0.50	37.7	36.3	4%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	171	160	7%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.6	0.54	11%
Total Barium (Ba)	ug/L	1.0	8.3	7.9	5%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.014	0.014	0%
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	3.06	2.9	5%
Total Iron (Fe)	ug/L	10	251	234	7%
Total Lead (Pb)	ug/L	0.20	0.38	0.37	3%
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	18.9	18.2	4%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	1.6	2.9	*58%*
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	<0.10	<0.10	nc
Total Silicon (Si)	ug/L	100	3420	3260	5%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	48.6	47.5	2%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	7.9	7.2	9%
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	20.4	20.3	0%
Total Zirconium (Zr)	ug/L	0.10	0.14	0.23	*49%*
Total Calcium (Ca)	mg/L	0.050	11.1	10.6	5%
Total Magnesium (Mg)	mg/L	0.050	2.44	2.40	2%
Total Potassium (K)	mg/L	0.050	0.843	0.822	3%
Total Sodium (Na)	mg/L	0.050	7.49	7.3	3%
Total Sulphur (S)	mg/L	3.0	<3.0	<3.0	nc
pH	pH units	--	7.21	7.29	0.04
Temperature	ºC	--	8.9	8.9	0.00
Specific Conductance	µS/cm	--	121.6	122	0%
Dissolved Oxygen	%	--	10.37	10.36	0%
Turbidity	NTU	--	5.68	5.98	5%

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			ARV130	ARV126	
Sampling Date			2022-04-20 09:02	2022-04-20 09:25	
	UNITS	**RDL**	**H03**	**H03 DUP**	**RPD**
pH	pH	N/A	7.25	7.29	0.02
Total Ammonia (N)	mg/L	0.015	0.020	0.073	*114%*
Total Phosphorus (P)	mg/L	0.0030	0.012	0.014	15%
Nitrate (N)	mg/L	0.0020	2.51	2.47	2%
Nitrite (N)	mg/L	0.0020	0.0054	0.0045	18%
Total Hardness (CaCO3)	mg/L	0.50	106	96.9	9%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	26.9	32.1	18%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.47	0.47	0%
Total Barium (Ba)	ug/L	1.0	17.2	17.6	2%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.018	0.025	*33%*
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	1.75	1.62	8%
Total Iron (Fe)	ug/L	10	82	81	1%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	16.4	14.9	10%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	79.6	54.4	**38%**
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	0.16	0.15	6%
Total Silicon (Si)	ug/L	100	8150	8370	3%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	172	155	10%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	22.1	24.6	11%
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	30.5	28.2	8%
Total Magnesium (Mg)	mg/L	0.050	7.10	6.44	10%
Total Potassium (K)	mg/L	0.050	1.91	1.80	6%
Total Sodium (Na)	mg/L	0.050	18.8	16.4	14%
Total Sulphur (S)	mg/L	3.0	5.5	4.9	12%
pH	pH units	--	6.92	6.92	0.00
Temperature	ºC	--	11.1	11.1	0.00
Specific Conductance	µS/cm	--	311.2	311.4	0%
Dissolved Oxygen	%	--	9.49	9.49	0%
Turbidity	NTU	--	2.61	1.08	**83%**

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

BV Labs ID			ABR639	ABR642	
Sampling Date			2021-07-13 16:55	2021-07-13 16:55	
	UNITS	**RDL**	**W01**	**W01 DUP**	**RPD**
pH	pH	N/A	7.43	7.42	0.00
Total Ammonia (N)	mg/L	0.015	<0.015	<0.015	nc
Total Phosphorus (P)	mg/L	0.0030	0.0092	0.016	**54%**
Nitrate (N)	mg/L	0.0020	1.64	1.65	1%
Nitrite (N)	mg/L	0.0020	0.0081	0.0078	4%
Total Hardness (CaCO3)	mg/L	0.50	101	101	0%
Dissolved Fluoride (F)	mg/L	0.050	<0.050	<0.050	nc
Total Aluminum (Al)	ug/L	3.0	30.7	33.9	10%
Total Antimony (Sb)	ug/L	0.50	<0.50	<0.50	nc
Total Arsenic (As)	ug/L	0.10	0.65	0.70	7%
Total Barium (Ba)	ug/L	1.0	31.9	32.2	1%
Total Beryllium (Be)	ug/L	0.10	<0.10	<0.10	nc
Total Bismuth (Bi)	ug/L	1.0	<1.0	<1.0	nc
Total Boron (B)	ug/L	50	<50	<50	nc
Total Cadmium (Cd)	ug/L	0.010	0.011	<0.010	nc
Total Chromium (Cr)	ug/L	1.0	<1.0	<1.0	nc
Total Cobalt (Co)	ug/L	0.20	<0.20	<0.20	nc
Total Copper (Cu)	ug/L	0.50	<0.50	<0.50	nc
Total Iron (Fe)	ug/L	10	396	425	7%
Total Lead (Pb)	ug/L	0.20	<0.20	<0.20	nc
Total Lithium (Li)	ug/L	2.0	<2.0	<2.0	nc
Total Manganese (Mn)	ug/L	1.0	43.0	44.9	4%
Total Mercury (Hg)	ug/L	0.0019	<0.0019	<0.0019	nc
Total Molybdenum (Mo)	ug/L	1.0	<1.0	<1.0	nc
Total Nickel (Ni)	ug/L	1.0	<1.0	<1.0	nc
Total Selenium (Se)	ug/L	0.10	0.14	0.15	7%
Total Silicon (Si)	ug/L	100	9920	9830	1%
Total Silver (Ag)	ug/L	0.020	<0.020	<0.020	nc
Total Strontium (Sr)	ug/L	1.0	194	195	1%
Total Thallium (Tl)	ug/L	0.010	<0.010	<0.010	nc
Total Tin (Sn)	ug/L	5.0	<5.0	<5.0	nc
Total Titanium (Ti)	ug/L	5.0	<5.0	<5.0	nc
Total Uranium (U)	ug/L	0.10	<0.10	<0.10	nc
Total Vanadium (V)	ug/L	5.0	<5.0	<5.0	nc
Total Zinc (Zn)	ug/L	5.0	<5.0	<5.0	nc
Total Zirconium (Zr)	ug/L	0.10	<0.10	<0.10	nc
Total Calcium (Ca)	mg/L	0.050	27.3	27.2	0%
Total Magnesium (Mg)	mg/L	0.050	8.06	8.08	0%
Total Potassium (K)	mg/L	0.050	1.23	1.26	2%
Total Sodium (Na)	mg/L	0.050	12.7	12.8	1%
Total Sulphur (S)	mg/L	3.0	4.1	4.4	7%
pH	pH units	--	--	--	--
Temperature	ºC	--	--	--	--
Specific Conductance	µS/cm	--	--	--	--
Dissolved Oxygen	%	--	--	--	--
Turbidity	NTU	--	--	--	--

RDL = Reportable Detection Limit

RPD - Relative Percent Difference

nc - Not Calculable

APPENDIX E

Analytical Laboratory Reports

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 636547-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 3956C, 41C64, 636547-02-01, 3AF04, 3SF05

Report Date: 2021/05/28
Report #: R3025541
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C133577
Received: 2021/05/20, 08:00

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	14	N/A	2021/05/20	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/05/21	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	12	N/A	2021/05/25	BBY WI-00033	Auto Calc
Mercury (Total) by CV	14	2021/05/25	2021/05/25	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/05/20	2021/05/21	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	12	2021/05/20	2021/05/25	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	2	2021/05/20	2021/05/20	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	12	2021/05/21	2021/05/21	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	14	N/A	2021/05/21	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	14	N/A	2021/05/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	14	N/A	2021/05/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2021/05/21	BBY WI-00033	Auto Calc
pH @25°C (3)	10	N/A	2021/05/20	BBY6SOP-00026	SM 23 4500-H+ B m
pH @25°C (3)	4	N/A	2021/05/21	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	14	2021/05/27	2021/05/28	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or

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Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 636547-01-01, 39565, 39566, 39567, 39568, 39569,
3956A, 3956D, 3956B, 3956C, 41C64, 636547-02-01, 3AF04, 3SF05

Report Date: 2021/05/28
Report #: R3025541
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C133577
Received: 2021/05/20, 08:00

implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary Environmental
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			ZV0880		ZV0881		ZV0882		ZV0883		
Sampling Date			2021/05/19 15:45		2021/05/19 09:05		2021/05/19 15:23		2021/05/19 14:45		
COC Number			39565		39566		39567		39568		
	UNITS	**Criteria**	**H01 (39565)**	**RDL**	**H02 (39566)**	**QC Batch**	**H03 (39567)**	**QC Batch**	**B01 (39568)**	**RDL**	**QC Batch**
Calculated Parameters											
Nitrate (N)	mg/L	-	2.36	0.0040	1.27	A230998	1.81	A230998	1.74	0.0020	A230998
Misc. Inorganics											
pH	pH	6.5:9.0	7.07	N/A	7.65	A231502	7.34	A231502	7.00	N/A	A231502
Anions											
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	<0.050	A231664	<0.050	A231664	<0.050	0.050	A231664
Nutrients											
Total Ammonia (N)	mg/L	-	<0.015	0.015	<0.015	A232301	<0.015	A232300	0.097	0.015	A232301
Total Phosphorus (P)	mg/L	-	0.0092	0.0030	0.012	A236618	0.012	A236618	0.026	0.0030	A236618
Nitrate plus Nitrite (N)	mg/L	-	2.36 (1)	0.0040	1.27	A231591	1.82	A231591	1.76	0.0020	A231591
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	0.0026	A231596	0.0021	A231596	0.0195	0.0020	A231596

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

BV Labs ID			ZV0884	ZV0885	ZV0886		ZV0887		
Sampling Date			2021/05/19 10:40	2021/05/19 16:08	2021/05/19 11:55		2021/05/19 12:08		
COC Number			39569	3956A	3956D		3956D		
	UNITS	**Criteria**	**B02 (39569)**	**W01 (3956A)**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	1.61	1.60	0.985	A230998	0.797	0.0020	A230998
Misc. Inorganics									
pH	pH	6.5:9.0	7.62	7.31	7.73	A231502	7.75	N/A	A231502
Anions									
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	<0.050	A231664	<0.050	0.050	A231705
Nutrients									
Total Ammonia (N)	mg/L	-	0.025	0.023	<0.015	A232301	<0.015	0.015	A232301
Total Phosphorus (P)	mg/L	-	0.010	0.066	0.012	A236618	0.013	0.0030	A236618
Nitrate plus Nitrite (N)	mg/L	-	1.62	1.61	0.990	A231591	0.801	0.0020	A231591
Nitrite (N)	mg/L	0.06	0.0082	0.0100	0.0045	A231596	0.0036	0.0020	A231596

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			ZV0888	ZV0889	ZV0899	ZV0900		
Sampling Date			2021/05/19 16:47	2021/05/19 17:21	2021/05/19 17:52	2021/05/19 16:47		
COC Number			3956B	3956C	41C64	636547-02-01		
	UNITS	**Criteria**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**DUP**	**RDL**	**QC Batch**
Calculated Parameters								
Nitrate (N)	mg/L	-	0.556	0.0398	0.323	0.544	0.0020	A230998
Misc. Inorganics								
pH	pH	6.5:9.0	7.49	7.52	7.34	7.51	N/A	A231511
Anions								
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.054	0.050	<0.050	0.050	A231664
Nutrients								
Total Ammonia (N)	mg/L	-	0.16	<0.015	0.19	0.15	0.015	A232301
Total Phosphorus (P)	mg/L	-	0.037	0.024	0.031	0.039	0.0030	A236618
Nitrate plus Nitrite (N)	mg/L	-	0.577	0.0398	0.357	0.564	0.0020	A231591
Nitrite (N)	mg/L	0.06	0.0216	<0.0020	0.0342	0.0198	0.0020	A231596

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID			ZV0901	ZV0902		
Sampling Date			2021/05/19	2021/05/19 18:10		
COC Number			3AF04	3SF05		
	UNITS	**Criteria**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters						
Nitrate (N)	mg/L	-	<0.0020	<0.0020	0.0020	A230998
Misc. Inorganics						
pH	pH	6.5:9.0	**6.15**	**5.70**	N/A	A231494
Anions						
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	0.050	A231664
Nutrients						
Total Ammonia (N)	mg/L	-	<0.015	<0.015	0.015	A232299
Total Phosphorus (P)	mg/L	-	0.0051	<0.0030	0.0030	A236618
Nitrate plus Nitrite (N)	mg/L	-	<0.0020	<0.0020	0.0020	A231591
Nitrite (N)	mg/L	0.06	<0.0020	<0.0020	0.0020	A231596

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ZV0880	ZV0881	ZV0882	ZV0883	ZV0884	ZV0885		
Sampling Date			2021/05/19 15:45	2021/05/19 09:05	2021/05/19 15:23	2021/05/19 14:45	2021/05/19 10:40	2021/05/19 16:08		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	107	105	115	74.3	101	95.7	0.50	A230863
Elements										
Total Mercury (Hg)	ug/L	0.026	0.0113	<0.0019	0.0063	<0.0019	<0.0019	<0.0019	0.0019	A234255
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	7.4	15.9	21.2	237	71.9	182	3.0	A232078
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A232078
Total Arsenic (As)	ug/L	5	0.49	0.84	0.49	1.31	0.62	1.44	0.10	A232078
Total Barium (Ba)	ug/L	-	12.6	12.8	13.4	37.6	15.7	33.6	1.0	A232078
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A232078
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A232078
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	<50	50	A232078
Total Cadmium (Cd)	ug/L	-	0.019	<0.010	0.016	0.106	<0.010	0.023	0.010	A232078
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	3.2	<1.0	1.8	1.0	A232078
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	1.66	<0.20	0.21	0.20	A232078
Total Copper (Cu)	ug/L	-	1.63	0.76	1.79	6.71	<0.50	0.94	0.50	A232078
Total Iron (Fe)	ug/L	300	57	111	49	**2120**	**375**	**1180**	10	A232078
Total Lead (Pb)	ug/L	-	<0.20	<0.20	<0.20	5.02	<0.20	0.62	0.20	A232078
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A232078
Total Manganese (Mn)	ug/L	-	7.7	28.9	10.8	521	106	60.2	1.0	A232078
Total Molybdenum (Mo)	ug/L	73	<1.0	2.6	33.5	<1.0	<1.0	<1.0	1.0	A232078
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	4.1	<1.0	1.4	1.0	A232078
Total Selenium (Se)	ug/L	1	0.21	0.15	0.20	<0.10	0.17	0.11	0.10	A232078
Total Silicon (Si)	ug/L	-	9740	8830	9900	9700	10400	10000	100	A232078
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A232078
Total Strontium (Sr)	ug/L	-	167	141	162	218	161	194	1.0	A232078
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A232078
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A232078
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	9.0	<5.0	9.8	5.0	A232078
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A232078
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A232078
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	13.4	**44.4**	<5.0	5.7	5.0	A232078

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ZV0880	ZV0881	ZV0882	ZV0883	ZV0884	ZV0885		
Sampling Date			2021/05/19 15:45	2021/05/19 09:05	2021/05/19 15:23	2021/05/19 14:45	2021/05/19 10:40	2021/05/19 16:08		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	0.17	<0.10	<0.10	0.10	A232078
Total Calcium (Ca)	mg/L	-	30.3	29.9	33.9	20.7	27.7	25.4	0.050	A230864
Total Magnesium (Mg)	mg/L	-	7.64	7.32	7.41	5.48	7.67	7.82	0.050	A230864
Total Potassium (K)	mg/L	-	1.64	1.69	1.74	1.27	1.49	1.24	0.050	A230864
Total Sodium (Na)	mg/L	-	17.1	10.1	15.6	18.6	9.88	12.3	0.050	A230864
Total Sulphur (S)	mg/L	-	5.7	5.8	6.1	4.4	4.9	4.3	3.0	A230864

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ZV0886		ZV0887	ZV0888	ZV0889	ZV0899		
Sampling Date			2021/05/19 11:55		2021/05/19 12:08	2021/05/19 16:47	2021/05/19 17:21	2021/05/19 17:52		
COC Number			3956D		3956D	3956B	3956C	41C64		
	UNITS	**Criteria**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	109	A230863	114	80.6	77.2	65.6	0.50	A230863
Elements										
Total Mercury (Hg)	ug/L	0.026	<0.0019	A234255	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A234390
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	27.7	A232078	18.4	94.7	25.4	56.6	3.0	A232078
Total Antimony (Sb)	ug/L	-	<0.50	A232078	<0.50	<0.50	<0.50	<0.50	0.50	A232078
Total Arsenic (As)	ug/L	5	1.09	A232078	1.46	2.35	0.83	1.82	0.10	A232078
Total Barium (Ba)	ug/L	-	12.9	A232078	12.5	16.9	12.6	18.7	1.0	A232078
Total Beryllium (Be)	ug/L	-	<0.10	A232078	<0.10	<0.10	<0.10	<0.10	0.10	A232078
Total Bismuth (Bi)	ug/L	-	<1.0	A232078	<1.0	<1.0	<1.0	<1.0	1.0	A232078
Total Boron (B)	ug/L	1500	<50	A232078	<50	<50	<50	<50	50	A232078
Total Cadmium (Cd)	ug/L	-	<0.010	A232078	<0.010	<0.010	<0.010	<0.010	0.010	A232078
Total Chromium (Cr)	ug/L	-	<1.0	A232078	<1.0	<1.0	<1.0	<1.0	1.0	A232078
Total Cobalt (Co)	ug/L	-	<0.20	A232078	<0.20	<0.20	<0.20	0.21	0.20	A232078
Total Copper (Cu)	ug/L	-	<0.50	A232078	<0.50	3.14	0.99	3.13	0.50	A232078
Total Iron (Fe)	ug/L	300	**334**	A232078	**392**	**859**	**739**	**1220**	10	A232078
Total Lead (Pb)	ug/L	-	<0.20	A232078	<0.20	<0.20	<0.20	0.31	0.20	A232078
Total Lithium (Li)	ug/L	-	<2.0	A232078	<2.0	<2.0	<2.0	<2.0	2.0	A232078
Total Manganese (Mn)	ug/L	-	88.3	A232078	156	273	134	245	1.0	A232078
Total Molybdenum (Mo)	ug/L	73	<1.0	A232078	<1.0	<1.0	<1.0	<1.0	1.0	A232078
Total Nickel (Ni)	ug/L	-	<1.0	A232078	<1.0	<1.0	<1.0	<1.0	1.0	A232078
Total Selenium (Se)	ug/L	1	0.23	A232078	0.21	0.11	<0.10	<0.10	0.10	A232078
Total Silicon (Si)	ug/L	-	11100	A232078	10700	4650	3050	3500	100	A232078
Total Silver (Ag)	ug/L	0.25	<0.020	A232078	<0.020	<0.020	<0.020	<0.020	0.020	A232078
Total Strontium (Sr)	ug/L	-	156	A232078	167	123	131	109	1.0	A232078
Total Thallium (Tl)	ug/L	0.8	<0.010	A232078	<0.010	<0.010	<0.010	<0.010	0.010	A232078
Total Tin (Sn)	ug/L	-	<5.0	A232078	<5.0	<5.0	<5.0	<5.0	5.0	A232078
Total Titanium (Ti)	ug/L	-	<5.0	A232078	<5.0	<5.0	<5.0	<5.0	5.0	A232078
Total Uranium (U)	ug/L	15	<0.10	A232078	<0.10	<0.10	<0.10	<0.10	0.10	A232078
Total Vanadium (V)	ug/L	-	<5.0	A232078	<5.0	<5.0	<5.0	<5.0	5.0	A232078
Total Zinc (Zn)	ug/L	30	<5.0	A232078	<5.0	5.2	<5.0	7.0	5.0	A232078

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ZV0886		ZV0887	ZV0888	ZV0889	ZV0899		
Sampling Date			2021/05/19 11:55		2021/05/19 12:08	2021/05/19 16:47	2021/05/19 17:21	2021/05/19 17:52		
COC Number			3956D		3956D	3956B	3956C	41C64		
	UNITS	**Criteria**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	A232078	<0.10	<0.10	<0.10	<0.10	0.10	A232078
Total Calcium (Ca)	mg/L	-	29.4	A230864	29.6	21.7	21.4	18.0	0.050	A230864
Total Magnesium (Mg)	mg/L	-	8.61	A230864	9.73	6.42	5.76	5.03	0.050	A230864
Total Potassium (K)	mg/L	-	1.35	A230864	1.26	1.45	0.642	1.45	0.050	A230864
Total Sodium (Na)	mg/L	-	9.39	A230864	9.15	11.0	15.5	11.2	0.050	A230864
Total Sulphur (S)	mg/L	-	4.5	A230864	3.6	3.4	<3.0	3.3	3.0	A230864

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ZV0900		ZV0901	ZV0902		
Sampling Date			2021/05/19 16:47		2021/05/19	2021/05/19 18:10		
COC Number			636547-02-01		3AF04	3SF05		
	UNITS	**Criteria**	**DUP**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	-	78.9	A230863	<0.50	<0.50	0.50	A230863
Elements								
Total Mercury (Hg)	ug/L	0.026	<0.0019	A234390	<0.0019	<0.0019	0.0019	A234390
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	-	95.4	A232078	<3.0	<3.0	3.0	A231379
Total Antimony (Sb)	ug/L	-	<0.50	A232078	<0.50	<0.50	0.50	A231379
Total Arsenic (As)	ug/L	5	2.36	A232078	<0.10	<0.10	0.10	A231379
Total Barium (Ba)	ug/L	-	16.4	A232078	<1.0	<1.0	1.0	A231379
Total Beryllium (Be)	ug/L	-	<0.10	A232078	<0.10	<0.10	0.10	A231379
Total Bismuth (Bi)	ug/L	-	<1.0	A232078	<1.0	<1.0	1.0	A231379
Total Boron (B)	ug/L	1500	<50	A232078	<50	<50	50	A231379
Total Cadmium (Cd)	ug/L	-	<0.010	A232078	<0.010	<0.010	0.010	A231379
Total Chromium (Cr)	ug/L	-	<1.0	A232078	<1.0	<1.0	1.0	A231379
Total Cobalt (Co)	ug/L	-	<0.20	A232078	<0.20	<0.20	0.20	A231379
Total Copper (Cu)	ug/L	-	3.12	A232078	<0.50	<0.50	0.50	A231379
Total Iron (Fe)	ug/L	300	**840**	A232078	<10	<10	10	A231379
Total Lead (Pb)	ug/L	-	<0.20	A232078	<0.20	<0.20	0.20	A231379
Total Lithium (Li)	ug/L	-	<2.0	A232078	<2.0	<2.0	2.0	A231379
Total Manganese (Mn)	ug/L	-	276	A232078	<1.0	<1.0	1.0	A231379
Total Molybdenum (Mo)	ug/L	73	<1.0	A232078	<1.0	<1.0	1.0	A231379
Total Nickel (Ni)	ug/L	-	<1.0	A232078	<1.0	<1.0	1.0	A231379
Total Selenium (Se)	ug/L	1	0.11	A232078	<0.10	<0.10	0.10	A231379
Total Silicon (Si)	ug/L	-	4530	A232078	<100	<100	100	A231379
Total Silver (Ag)	ug/L	0.25	<0.020	A232078	<0.020	<0.020	0.020	A231379
Total Strontium (Sr)	ug/L	-	125	A232078	<1.0	<1.0	1.0	A231379
Total Thallium (Tl)	ug/L	0.8	<0.010	A232078	<0.010	<0.010	0.010	A231379
Total Tin (Sn)	ug/L	-	<5.0	A232078	<5.0	<5.0	5.0	A231379
Total Titanium (Ti)	ug/L	-	<5.0	A232078	<5.0	<5.0	5.0	A231379
Total Uranium (U)	ug/L	15	<0.10	A232078	<0.10	<0.10	0.10	A231379
Total Vanadium (V)	ug/L	-	<5.0	A232078	<5.0	<5.0	5.0	A231379
Total Zinc (Zn)	ug/L	30	5.5	A232078	<5.0	<5.0	5.0	A231379

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C133577
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CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ZV0900		ZV0901	ZV0902		
Sampling Date			2021/05/19 16:47		2021/05/19	2021/05/19 18:10		
COC Number			636547-02-01		3AF04	3SF05		
	UNITS	**Criteria**	**DUP**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	A232078	<0.10	<0.10	0.10	A231379
Total Calcium (Ca)	mg/L	-	21.1	A230864	<0.050	<0.050	0.050	A230864
Total Magnesium (Mg)	mg/L	-	6.34	A230864	<0.050	<0.050	0.050	A230864
Total Potassium (K)	mg/L	-	1.47	A230864	<0.050	<0.050	0.050	A230864
Total Sodium (Na)	mg/L	-	11.1	A230864	<0.050	<0.050	0.050	A230864
Total Sulphur (S)	mg/L	-	3.3	A230864	<3.0	<3.0	3.0	A230864

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C133577
Report Date: 2021/05/28

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A231379	Total Aluminum (Al)	2021/05/20	101	80 - 120	101	80 - 120	<3.0	ug/L	NC	20		
A231379	Total Antimony (Sb)	2021/05/20	102	80 - 120	101	80 - 120	<0.50	ug/L	NC	20		
A231379	Total Arsenic (As)	2021/05/20	101	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A231379	Total Barium (Ba)	2021/05/20	100	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A231379	Total Beryllium (Be)	2021/05/20	101	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
A231379	Total Bismuth (Bi)	2021/05/20	94	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A231379	Total Boron (B)	2021/05/20	99	80 - 120	104	80 - 120	<50	ug/L	NC	20		
A231379	Total Cadmium (Cd)	2021/05/20	100	80 - 120	99	80 - 120	<0.010	ug/L	NC	20		
A231379	Total Chromium (Cr)	2021/05/20	98	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A231379	Total Cobalt (Co)	2021/05/20	98	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A231379	Total Copper (Cu)	2021/05/20	95	80 - 120	96	80 - 120	<0.50	ug/L	NC	20		
A231379	Total Iron (Fe)	2021/05/20	102	80 - 120	103	80 - 120	<10	ug/L	NC	20		
A231379	Total Lead (Pb)	2021/05/20	99	80 - 120	103	80 - 120	<0.20	ug/L	NC	20		
A231379	Total Lithium (Li)	2021/05/20	101	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
A231379	Total Manganese (Mn)	2021/05/20	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A231379	Total Molybdenum (Mo)	2021/05/20	100	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A231379	Total Nickel (Ni)	2021/05/20	97	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A231379	Total Selenium (Se)	2021/05/20	98	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A231379	Total Silicon (Si)	2021/05/20	106	80 - 120	108	80 - 120	<100	ug/L	NC	20		
A231379	Total Silver (Ag)	2021/05/20	96	80 - 120	97	80 - 120	<0.020	ug/L	NC	20		
A231379	Total Strontium (Sr)	2021/05/20	101	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A231379	Total Thallium (Tl)	2021/05/20	100	80 - 120	102	80 - 120	<0.010	ug/L	NC	20		
A231379	Total Tin (Sn)	2021/05/20	98	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A231379	Total Titanium (Ti)	2021/05/20	100	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A231379	Total Uranium (U)	2021/05/20	100	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A231379	Total Vanadium (V)	2021/05/20	98	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A231379	Total Zinc (Zn)	2021/05/20	100	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A231379	Total Zirconium (Zr)	2021/05/20	103	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A231494	pH	2021/05/20			101	97 - 103			0.96	N/A		
A231502	pH	2021/05/20			101	97 - 103						
A231511	pH	2021/05/20			101	97 - 103						

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BV Labs Job #: C133577
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QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A231591	Nitrate plus Nitrite (N)	2021/05/20	NC	80 - 120	107	80 - 120	<0.0020	mg/L	0.30	25		
A231596	Nitrite (N)	2021/05/20	99	80 - 120	102	80 - 120	<0.0020	mg/L	0	25		
A231664	Dissolved Fluoride (F)	2021/05/20	107	80 - 120	98	80 - 120	<0.050	mg/L	NC	20		
A231705	Dissolved Fluoride (F)	2021/05/20	101	80 - 120	98	80 - 120	<0.050	mg/L	0	20		
A232078	Total Aluminum (Al)	2021/05/21	101	80 - 120	100	80 - 120	<3.0	ug/L	17	20		
A232078	Total Antimony (Sb)	2021/05/21	103	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A232078	Total Arsenic (As)	2021/05/21	103	80 - 120	99	80 - 120	<0.10	ug/L	1.7	20		
A232078	Total Barium (Ba)	2021/05/21	101	80 - 120	100	80 - 120	<1.0	ug/L	1.1	20		
A232078	Total Beryllium (Be)	2021/05/21	100	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A232078	Total Bismuth (Bi)	2021/05/21	96	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A232078	Total Boron (B)	2021/05/21	104	80 - 120	100	80 - 120	<50	ug/L	NC	20		
A232078	Total Cadmium (Cd)	2021/05/21	100	80 - 120	100	80 - 120	<0.010	ug/L	5.0	20		
A232078	Total Chromium (Cr)	2021/05/21	98	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A232078	Total Cobalt (Co)	2021/05/21	97	80 - 120	97	80 - 120	<0.20	ug/L	NC	20		
A232078	Total Copper (Cu)	2021/05/21	93	80 - 120	95	80 - 120	<0.50	ug/L	1.0	20		
A232078	Total Iron (Fe)	2021/05/21	99	80 - 120	102	80 - 120	<10	ug/L	2.4	20		
A232078	Total Lead (Pb)	2021/05/21	101	80 - 120	101	80 - 120	<0.20	ug/L	NC	20		
A232078	Total Lithium (Li)	2021/05/21	97	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
A232078	Total Manganese (Mn)	2021/05/21	101	80 - 120	100	80 - 120	<1.0	ug/L	0.57	20		
A232078	Total Molybdenum (Mo)	2021/05/21	109	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A232078	Total Nickel (Ni)	2021/05/21	94	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A232078	Total Selenium (Se)	2021/05/21	101	80 - 120	98	80 - 120	<0.10	ug/L	7.5	20		
A232078	Total Silicon (Si)	2021/05/21	NC	80 - 120	106	80 - 120	<100	ug/L	3.7	20		
A232078	Total Silver (Ag)	2021/05/21	99	80 - 120	97	80 - 120	<0.020	ug/L	NC	20		
A232078	Total Strontium (Sr)	2021/05/21	NC	80 - 120	101	80 - 120	<1.0	ug/L	1.2	20		
A232078	Total Thallium (Tl)	2021/05/21	99	80 - 120	99	80 - 120	<0.010	ug/L	NC	20		
A232078	Total Tin (Sn)	2021/05/21	99	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A232078	Total Titanium (Ti)	2021/05/21	106	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A232078	Total Uranium (U)	2021/05/21	105	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A232078	Total Vanadium (V)	2021/05/21	102	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A232078	Total Zinc (Zn)	2021/05/21	98	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		

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BV Labs Job #: C133577
Report Date: 2021/05/28

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A232078	Total Zirconium (Zr)	2021/05/21	106	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A232299	Total Ammonia (N)	2021/05/21	98	80 - 120	100	80 - 120	<0.015	mg/L	NC	20		
A232300	Total Ammonia (N)	2021/05/21	98	80 - 120	97	80 - 120	<0.015	mg/L	NC	20		
A232301	Total Ammonia (N)	2021/05/21	98	80 - 120	99	80 - 120	<0.015	mg/L	0.63	20		
A234255	Total Mercury (Hg)	2021/05/25	87	80 - 120	88	80 - 120	<0.0019	ug/L	9.6	20		
A234390	Total Mercury (Hg)	2021/05/25	83	80 - 120	94	80 - 120	<0.0019	ug/L	NC	20		
A236618	Total Phosphorus (P)	2021/05/28	NC	80 - 120	103	80 - 120	<0.0030	mg/L	0.60 (1)	20	95	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

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BV Labs Job #: C133577
Report Date: 2021/05/28

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

C133577_COC

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	Nicole Lamarche

Bottle Order #: 636547

Chain Of Custody Record: C#636547-02-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	21/05/19 17:52	17:52	water	N	X	X	X	X	X	X	X	X				
2		DUP	21/05/19 16:47	16:47	↓	↓	X	X	X	X	X	X	X	X				
3		TRIP BLANK (3AF04)	21/05/19	N/A	↓	↓	X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)	21/05/19	18:10	↓	↓	X	X	X	X	X	X	X	X				
5																		
6																		
7																		
8																		
9																		
10																		

Tumaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) [ ]
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____
Rush Confirmation Number: _____ (call lab for #)

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
N Lamarche Nicole Lamarche	21/05/19	19:05	MPEDRO TACE	2021/05/20	08:00		[ ]	9.9, 10 8, 10, 9	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

Chain Of Custody Record

C133577_COC

Bottle Order #: 636547

Chain Of Custody Record: C#636547-01-01

Project Manager: Customer Solutions

INVOICE TO:

Company Name: #1414 CITY OF ABBOTSFORD
Contact Name: Amy Peters
Address: 32315 SOUTH FRASER WAY
ABBOTSFORD BC V2T 1W7
Phone: (778) 549-1240 Fax: (604) 850-6418
Email: apeters@abbotsford.ca

Report Information

Company Name:
Contact Name: Amy Peters
Address: 32315 SOUTH FRASER WAY
ABBOTSFORD BC V2T 1W7
Phone: (778) 549-1240 Fax:
Email: apeters@abbotsford.ca

Project Information

Quotation #: C01193
P.O. #:
Project #: Bevan #1 Creek Water Quality
Project Name:
Site #:
Sampled By: Nicole Lamarche

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	2021/05/19	15:45	WATER	N	X	X	X	X	X	X	X	X				
2		H02 (39566)		09:05			X	X	X	X	X	X	X	X				
3		H03 (39567)		15:23			X	X	X	X	X	X	X	X				
4		B01 (39568)		14:45			X	X	X	X	X	X	X	X				
5		B02 (39569)		10:40			X	X	X	X	X	X	X	X				
6		W01 (3956A)		16:08			X	X	X	X	X	X	X	X				
7		D01 (3956D)		11:55			X	X	X	X	X	X	X	X				
8		D02 (3956D)		12:08			X	X	X	X	X	X	X	X				
9		F01 (3956B)		16:47			X	X	X	X	X	X	X	X				
10		F02 (3956C)		17:21			X	X	X	X	X	X	X	X				

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Nicole Lamarche	21/05/19	19:05	LUPEDRO TACE	2021/05/20	08:00	

Lab Use Only: Time Sensitive [ ] | Temperature (°C) on Receipt: 9.9, 10 / 8, 10, 9 | Custody Seal Intact on Cooler? [ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

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White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 638915-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 41C64, 638915-02-01, 3AF04, 3AF05

Report Date: 2021/06/24
Report #: R3037667
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C142536
Received: 2021/06/18, 08:00

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	14	N/A	2021/06/19	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	12	N/A	2021/06/19	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/06/22	BBY WI-00033	Auto Calc
Mercury (Total) by CV	14	2021/06/21	2021/06/21	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	12	2021/06/18	2021/06/19	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/06/18	2021/06/22	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	12	2021/06/18	2021/06/19	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2021/06/21	2021/06/21	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	14	N/A	2021/06/22	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	14	N/A	2021/06/18	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	14	N/A	2021/06/18	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2021/06/19	BBY WI-00033	Auto Calc
pH @25°C (3)	14	N/A	2021/06/19	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	14	2021/06/23	2021/06/24	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 638915-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 41C64, 638915-02-01, 3AF04, 3AF05

Report Date: 2021/06/24
Report #: R3037667
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C142536
Received: 2021/06/18, 08:00

Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary Environmental
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C142536
Report Date: 2021/06/24

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID		AAA180		AAA181	AAA182			AAA183		
Sampling Date		2021/06/17 13:18		2021/06/17 08:45	2021/06/17 13:00			2021/06/17 14:10		
COC Number		39565		39566	39567			39568		
	UNITS	**H01 (39565)**	**RDL**	**H02 (39566)**	**H03 (39567)**	**RDL**	**QC Batch**	**B01 (39568)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	2.48	0.010	1.32	1.91	0.0020	A259598	2.39	0.010	A259598
Misc. Inorganics										
pH	pH	7.10	N/A	7.60	7.51	N/A	A261704	6.95	N/A	A261704
Anions										
Dissolved Fluoride (F)	mg/L	<0.050	0.050	<0.050	<0.050	0.050	A260292	<0.050	0.050	A260292
Nutrients										
Total Ammonia (N)	mg/L	<0.015	0.015	<0.015	<0.015	0.015	A262745	0.045	0.015	A262745
Total Phosphorus (P)	mg/L	0.0070	0.0030	0.0090	0.0093	0.0030	A264299	0.039	0.0030	A264320
Nitrate plus Nitrite (N)	mg/L	2.48	0.010	1.32	1.91	0.0020	A259801	2.41	0.010	A259801
Nitrite (N)	mg/L	<0.0020	0.0020	0.0043	0.0021	0.0020	A259813	0.0175	0.0020	A259813

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID		AAA184		AAA185		AAA186		AAA187		
Sampling Date		2021/06/17 09:08		2021/06/17 14:43		2021/06/17 11:58		2021/06/17 12:12		
COC Number		39569		3956A		3956D		3956D		
	UNITS	**B02 (39569)**	**QC Batch**	**W01 (3956A)**	**QC Batch**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	1.63	A259598	1.62	A259598	1.01	A259598	0.781	0.0020	A259598
Misc. Inorganics										
pH	pH	7.53	A261740	7.44	A261704	7.77	A261704	7.61	N/A	A261709
Anions										
Dissolved Fluoride (F)	mg/L	<0.050	A260292	<0.050	A260292	<0.050	A260292	<0.050	0.050	A260292
Nutrients										
Total Ammonia (N)	mg/L	0.019	A262745	<0.015	A262745	<0.015	A262745	<0.015	0.015	A262745
Total Phosphorus (P)	mg/L	0.0079	A264320	0.013	A264320	0.017	A264299	0.018	0.0030	A264299
Nitrate plus Nitrite (N)	mg/L	1.64	A259801	1.63	A259801	1.02	A259801	0.786	0.0020	A259801
Nitrite (N)	mg/L	0.0094	A259813	0.0098	A259813	0.0054	A259813	0.0042	0.0020	A259813

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C142536
Report Date: 2021/06/24

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID		AAA188		AAA189		AAA207		AAA208		
Sampling Date		2021/06/17 16:43		2021/06/17 15:20		2021/06/17 16:05		2021/06/17 15:20		
COC Number		3956B		41C64		41C64		638915-02-01		
	UNITS	**F01 (3956B)**	**QC Batch**	**F02 (3956C)**	**QC Batch**	**F0F (41C64)**	**QC Batch**	**DUP**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	0.649	A259598	0.0405	A259598	0.245	A259598	0.0384	0.0020	A259598
Misc. Inorganics										
pH	pH	7.67	A261704	7.55	A261704	7.34	A261709	7.40	N/A	A261709
Anions										
Dissolved Fluoride (F)	mg/L	<0.050	A260292	0.059	A260292	<0.050	A260292	0.060	0.050	A260292
Nutrients										
Total Ammonia (N)	mg/L	0.079	A262745	<0.015	A262745	0.072	A262745	<0.015	0.015	A262745
Total Phosphorus (P)	mg/L	0.023	A264299	0.036	A264320	0.033	A264320	0.032	0.0030	A264299
Nitrate plus Nitrite (N)	mg/L	0.665	A259801	0.0405	A259801	0.253	A259801	0.0384	0.0020	A259801
Nitrite (N)	mg/L	0.0157	A259813	<0.0020	A259813	0.0085	A259813	<0.0020	0.0020	A259813

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID		AAA209		AAA210		
Sampling Date		2021/06/17		2021/06/17 16:57		
COC Number		3AF04		3AF05		
	UNITS	**TRIP BLANK(3AF04)**	**QC Batch**	**FIELD BLANK(3AF05)**	**RDL**	**QC Batch**
Calculated Parameters						
Nitrate (N)	mg/L	<0.0020	A259598	<0.0020	0.0020	A259598
Misc. Inorganics						
pH	pH	5.79	A261709	5.24	N/A	A261709
Anions						
Dissolved Fluoride (F)	mg/L	<0.050	A260292	<0.050	0.050	A260292
Nutrients						
Total Ammonia (N)	mg/L	<0.015	A262745	<0.015	0.015	A262745
Total Phosphorus (P)	mg/L	<0.0030	A264320	<0.0030	0.0030	A264299
Nitrate plus Nitrite (N)	mg/L	<0.0020	A259801	<0.0020	0.0020	A259801
Nitrite (N)	mg/L	<0.0020	A259813	<0.0020	0.0020	A259813

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C142536
Report Date: 2021/06/24

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AAA180	AAA181	AAA182	AAA183	AAA184		
Sampling Date		2021/06/17 13:18	2021/06/17 08:45	2021/06/17 13:00	2021/06/17 14:10	2021/06/17 09:08		
COC Number		39565	39566	39567	39568	39569		
	UNITS	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**RDL**	**QC Batch**
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	105	109	108	60.9	107	0.50	A259423
Elements								
Total Mercury (Hg)	ug/L	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A261261
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	7.7	25.7	11.3	115	40.3	3.0	A259752
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A259752
Total Arsenic (As)	ug/L	0.44	0.89	0.48	0.36	0.65	0.10	A259752
Total Barium (Ba)	ug/L	12.0	12.8	12.9	18.4	15.5	1.0	A259752
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A259752
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A259752
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	50	A259752
Total Cadmium (Cd)	ug/L	0.019	<0.010	0.017	0.029	<0.010	0.010	A259752
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	2.2	<1.0	1.0	A259752
Total Cobalt (Co)	ug/L	<0.20	<0.20	<0.20	0.25	<0.20	0.20	A259752
Total Copper (Cu)	ug/L	0.84	0.77	0.94	1.03	<0.50	0.50	A259752
Total Iron (Fe)	ug/L	54	126	26	572	314	10	A259752
Total Lead (Pb)	ug/L	<0.20	<0.20	<0.20	1.30	<0.20	0.20	A259752
Total Lithium (Li)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A259752
Total Manganese (Mn)	ug/L	7.6	25.6	9.2	81.8	102	1.0	A259752
Total Molybdenum (Mo)	ug/L	<1.0	2.2	6.4	<1.0	<1.0	1.0	A259752
Total Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	1.1	<1.0	1.0	A259752
Total Selenium (Se)	ug/L	0.22	0.17	0.19	<0.10	0.20	0.10	A259752
Total Silicon (Si)	ug/L	9230	8670	8710	8970	10000	100	A259752
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A259752
Total Strontium (Sr)	ug/L	156	140	153	199	160	1.0	A259752
Total Thallium (Tl)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A259752
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A259752
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	5.1	<5.0	5.0	A259752
Total Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A259752
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A259752
Total Zinc (Zn)	ug/L	<5.0	<5.0	10.3	8.9	<5.0	5.0	A259752
Total Zirconium (Zr)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A259752
RDL = Reportable Detection Limit								

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C142536
Report Date: 2021/06/24

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AAA180	AAA181	AAA182	AAA183	AAA184		
Sampling Date		2021/06/17 13:18	2021/06/17 08:45	2021/06/17 13:00	2021/06/17 14:10	2021/06/17 09:08		
COC Number		39565	39566	39567	39568	39569		
	UNITS	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	29.1	30.9	30.4	17.2	29.4	0.050	A259691
Total Magnesium (Mg)	mg/L	7.77	7.71	7.73	4.35	8.25	0.050	A259691
Total Potassium (K)	mg/L	1.65	1.70	1.74	1.11	1.56	0.050	A259691
Total Sodium (Na)	mg/L	17.1	10.4	15.8	20.9	10.1	0.050	A259691
Total Sulphur (S)	mg/L	5.7	5.7	5.9	3.1	4.5	3.0	A259691
RDL = Reportable Detection Limit								

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BV Labs Job #: C142536
Report Date: 2021/06/24

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AAA185	AAA186	AAA187	AAA188	AAA189	AAA207		
Sampling Date		2021/06/17 14:43	2021/06/17 11:58	2021/06/17 12:12	2021/06/17 16:43	2021/06/17 15:20	2021/06/17 16:05		
COC Number		3956A	3956D	3956D	3956B	41C64	41C64		
	UNITS	**W01 (3956A)**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	100	108	120	93.1	64.8	67.1	0.50	A259423
Elements									
Total Mercury (Hg)	ug/L	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A261407
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	29.2	41.3	43.0	54.2	25.1	31.6	3.0	A259752
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A259752
Total Arsenic (As)	ug/L	0.68	1.39	2.05	2.18	1.18	2.06	0.10	A259752
Total Barium (Ba)	ug/L	31.6	14.2	13.7	16.9	13.1	16.6	1.0	A259752
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A259752
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A259752
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	50	A259752
Total Cadmium (Cd)	ug/L	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A259752
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A259752
Total Cobalt (Co)	ug/L	<0.20	<0.20	<0.20	<0.20	0.52	<0.20	0.20	A259752
Total Copper (Cu)	ug/L	<0.50	<0.50	<0.50	1.94	0.83	1.42	0.50	A259752
Total Iron (Fe)	ug/L	362	436	655	560	1020	1520	10	A259752
Total Lead (Pb)	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	A259752
Total Lithium (Li)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A259752
Total Manganese (Mn)	ug/L	39.8	113	209	163	2060	195	1.0	A259752
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A259752
Total Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A259752
Total Selenium (Se)	ug/L	0.10	0.23	0.25	0.13	<0.10	<0.10	0.10	A259752
Total Silicon (Si)	ug/L	9670	10100	10800	5550	3350	3910	100	A259752
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A259752
Total Strontium (Sr)	ug/L	190	154	171	138	109	108	1.0	A259752
Total Thallium (Tl)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A259752
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A259752
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A259752
Total Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A259752
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A259752
Total Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A259752
Total Zirconium (Zr)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A259752
RDL = Reportable Detection Limit									

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CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AAA185	AAA186	AAA187	AAA188	AAA189	AAA207		
Sampling Date		2021/06/17 14:43	2021/06/17 11:58	2021/06/17 12:12	2021/06/17 16:43	2021/06/17 15:20	2021/06/17 16:05		
COC Number		3956A	3956D	3956D	3956B	41C64	41C64		
	UNITS	**W01 (3956A)**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	26.9	27.9	31.1	24.7	18.3	18.2	0.050	A259691
Total Magnesium (Mg)	mg/L	8.04	9.37	10.3	7.63	4.64	5.25	0.050	A259691
Total Potassium (K)	mg/L	1.25	1.51	1.33	1.75	1.47	0.941	0.050	A259691
Total Sodium (Na)	mg/L	12.6	10.4	9.71	12.0	11.5	10.7	0.050	A259691
Total Sulphur (S)	mg/L	3.8	4.7	3.4	4.7	<3.0	<3.0	3.0	A259691
RDL = Reportable Detection Limit									

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BV Labs Job #: C142536
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CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AAA208		AAA209	AAA210		
Sampling Date		2021/06/17 15:20		2021/06/17	2021/06/17 16:57		
COC Number		638915-02-01		3AF04	3AF05		
	UNITS	**DUP**	**QC Batch**	**TRIP BLANK(3AF04)**	**FIELD BLANK(3AF05)**	**RDL**	**QC Batch**
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	63.9	A259423	<0.50	<0.50	0.50	A259423
Elements							
Total Mercury (Hg)	ug/L	<0.0019	A261407	<0.0019	<0.0019	0.0019	A261407
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	21.0	A259752	<3.0	<3.0	3.0	A262017
Total Antimony (Sb)	ug/L	<0.50	A259752	<0.50	<0.50	0.50	A262017
Total Arsenic (As)	ug/L	1.21	A259752	<0.10	<0.10	0.10	A262017
Total Barium (Ba)	ug/L	13.1	A259752	<1.0	<1.0	1.0	A262017
Total Beryllium (Be)	ug/L	<0.10	A259752	<0.10	<0.10	0.10	A262017
Total Bismuth (Bi)	ug/L	<1.0	A259752	<1.0	<1.0	1.0	A262017
Total Boron (B)	ug/L	<50	A259752	<50	<50	50	A262017
Total Cadmium (Cd)	ug/L	<0.010	A259752	<0.010	<0.010	0.010	A262017
Total Chromium (Cr)	ug/L	<1.0	A259752	<1.0	<1.0	1.0	A262017
Total Cobalt (Co)	ug/L	0.53	A259752	<0.20	<0.20	0.20	A262017
Total Copper (Cu)	ug/L	0.83	A259752	<0.50	<0.50	0.50	A262017
Total Iron (Fe)	ug/L	1010	A259752	<10	<10	10	A262017
Total Lead (Pb)	ug/L	<0.20	A259752	<0.20	<0.20	0.20	A262017
Total Lithium (Li)	ug/L	<2.0	A259752	<2.0	<2.0	2.0	A262017
Total Manganese (Mn)	ug/L	2030	A259752	<1.0	<1.0	1.0	A262017
Total Molybdenum (Mo)	ug/L	<1.0	A259752	<1.0	<1.0	1.0	A262017
Total Nickel (Ni)	ug/L	<1.0	A259752	<1.0	<1.0	1.0	A262017
Total Selenium (Se)	ug/L	<0.10	A259752	<0.10	<0.10	0.10	A262017
Total Silicon (Si)	ug/L	3270	A259752	<100	<100	100	A262017
Total Silver (Ag)	ug/L	<0.020	A259752	<0.020	<0.020	0.020	A262017
Total Strontium (Sr)	ug/L	110	A259752	<1.0	<1.0	1.0	A262017
Total Thallium (Tl)	ug/L	<0.010	A259752	<0.010	<0.010	0.010	A262017
Total Tin (Sn)	ug/L	<5.0	A259752	<5.0	<5.0	5.0	A262017
Total Titanium (Ti)	ug/L	<5.0	A259752	<5.0	<5.0	5.0	A262017
Total Uranium (U)	ug/L	<0.10	A259752	<0.10	<0.10	0.10	A262017
Total Vanadium (V)	ug/L	<5.0	A259752	<5.0	<5.0	5.0	A262017
Total Zinc (Zn)	ug/L	<5.0	A259752	<5.0	<5.0	5.0	A262017
Total Zirconium (Zr)	ug/L	<0.10	A259752	<0.10	<0.10	0.10	A262017
RDL = Reportable Detection Limit							

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CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AAA208		AAA209	AAA210		
Sampling Date		2021/06/17 15:20		2021/06/17	2021/06/17 16:57		
COC Number		638915-02-01		3AF04	3AF05		
	UNITS	**DUP**	**QC Batch**	**TRIP BLANK(3AF04)**	**FIELD BLANK(3AF05)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	17.8	A259691	<0.050	<0.050	0.050	A259691
Total Magnesium (Mg)	mg/L	4.69	A259691	<0.050	<0.050	0.050	A259691
Total Potassium (K)	mg/L	1.48	A259691	<0.050	<0.050	0.050	A259691
Total Sodium (Na)	mg/L	11.5	A259691	<0.050	<0.050	0.050	A259691
Total Sulphur (S)	mg/L	<3.0	A259691	<3.0	<3.0	3.0	A259691
RDL = Reportable Detection Limit							

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GENERAL COMMENTS

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A259752	Total Aluminum (Al)	2021/06/19	105	80 - 120	107	80 - 120	<3.0	ug/L	NC	20		
A259752	Total Antimony (Sb)	2021/06/19	106	80 - 120	108	80 - 120	<0.50	ug/L	NC	20		
A259752	Total Arsenic (As)	2021/06/19	104	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A259752	Total Barium (Ba)	2021/06/19	102	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A259752	Total Beryllium (Be)	2021/06/19	103	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A259752	Total Bismuth (Bi)	2021/06/19	102	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A259752	Total Boron (B)	2021/06/19	103	80 - 120	103	80 - 120	<50	ug/L	NC	20		
A259752	Total Cadmium (Cd)	2021/06/19	105	80 - 120	104	80 - 120	<0.010	ug/L	NC	20		
A259752	Total Chromium (Cr)	2021/06/19	102	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A259752	Total Cobalt (Co)	2021/06/19	104	80 - 120	105	80 - 120	<0.20	ug/L	NC	20		
A259752	Total Copper (Cu)	2021/06/19	101	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A259752	Total Iron (Fe)	2021/06/19	105	80 - 120	105	80 - 120	<10	ug/L	NC	20		
A259752	Total Lead (Pb)	2021/06/19	104	80 - 120	106	80 - 120	<0.20	ug/L	NC	20		
A259752	Total Lithium (Li)	2021/06/19	103	80 - 120	103	80 - 120	<2.0	ug/L	NC	20		
A259752	Total Manganese (Mn)	2021/06/19	102	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A259752	Total Molybdenum (Mo)	2021/06/19	106	80 - 120	106	80 - 120	<1.0	ug/L	NC	20		
A259752	Total Nickel (Ni)	2021/06/19	101	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A259752	Total Selenium (Se)	2021/06/19	105	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
A259752	Total Silicon (Si)	2021/06/19	102	80 - 120	102	80 - 120	<100	ug/L	NC	20		
A259752	Total Silver (Ag)	2021/06/19	101	80 - 120	101	80 - 120	<0.020	ug/L	NC	20		
A259752	Total Strontium (Sr)	2021/06/19	105	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A259752	Total Thallium (Tl)	2021/06/19	104	80 - 120	106	80 - 120	<0.010	ug/L	NC	20		
A259752	Total Tin (Sn)	2021/06/19	103	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A259752	Total Titanium (Ti)	2021/06/19	104	80 - 120	106	80 - 120	<5.0	ug/L	NC	20		
A259752	Total Uranium (U)	2021/06/19	105	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A259752	Total Vanadium (V)	2021/06/19	103	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A259752	Total Zinc (Zn)	2021/06/19	104	80 - 120	105	80 - 120	<5.0	ug/L	NC	20		
A259752	Total Zirconium (Zr)	2021/06/19	98	80 - 120	98	80 - 120	<0.10	ug/L	NC	20		
A259801	Nitrate plus Nitrite (N)	2021/06/18	NC	80 - 120	107	80 - 120	<0.0020	mg/L	0.23	25		
A259813	Nitrite (N)	2021/06/18	101	80 - 120	102	80 - 120	<0.0020	mg/L	4.5	25		
A260292	Dissolved Fluoride (F)	2021/06/19	105	80 - 120	102	80 - 120	<0.050	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A261261	Total Mercury (Hg)	2021/06/21	100	80 - 120	95	80 - 120	<0.0019	ug/L	NC	20		
A261407	Total Mercury (Hg)	2021/06/21	93	80 - 120	94	80 - 120	<0.0019	ug/L	NC	20		
A261704	pH	2021/06/19			102	97 - 103			0.51	N/A		
A261709	pH	2021/06/19			102	97 - 103			0.25	N/A		
A261740	pH	2021/06/19			101	97 - 103			0.37	N/A		
A262017	Total Aluminum (Al)	2021/06/21	102	80 - 120	99	80 - 120	<3.0	ug/L				
A262017	Total Antimony (Sb)	2021/06/21	103	80 - 120	104	80 - 120	<0.50	ug/L				
A262017	Total Arsenic (As)	2021/06/21	99	80 - 120	99	80 - 120	<0.10	ug/L				
A262017	Total Barium (Ba)	2021/06/21	102	80 - 120	99	80 - 120	<1.0	ug/L				
A262017	Total Beryllium (Be)	2021/06/21	94	80 - 120	96	80 - 120	<0.10	ug/L				
A262017	Total Bismuth (Bi)	2021/06/21	93	80 - 120	100	80 - 120	<1.0	ug/L				
A262017	Total Boron (B)	2021/06/21	91	80 - 120	96	80 - 120	<50	ug/L				
A262017	Total Cadmium (Cd)	2021/06/21	99	80 - 120	100	80 - 120	<0.010	ug/L				
A262017	Total Chromium (Cr)	2021/06/21	98	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A262017	Total Cobalt (Co)	2021/06/21	101	80 - 120	101	80 - 120	<0.20	ug/L				
A262017	Total Copper (Cu)	2021/06/21	95	80 - 120	95	80 - 120	<0.50	ug/L				
A262017	Total Iron (Fe)	2021/06/21	105	80 - 120	107	80 - 120	<10	ug/L				
A262017	Total Lead (Pb)	2021/06/21	100	80 - 120	101	80 - 120	<0.20	ug/L				
A262017	Total Lithium (Li)	2021/06/21	96	80 - 120	98	80 - 120	<2.0	ug/L				
A262017	Total Manganese (Mn)	2021/06/21	100	80 - 120	99	80 - 120	<1.0	ug/L				
A262017	Total Molybdenum (Mo)	2021/06/21	103	80 - 120	102	80 - 120	<1.0	ug/L				
A262017	Total Nickel (Ni)	2021/06/21	97	80 - 120	96	80 - 120	<1.0	ug/L				
A262017	Total Selenium (Se)	2021/06/21	96	80 - 120	100	80 - 120	<0.10	ug/L				
A262017	Total Silicon (Si)	2021/06/21	106	80 - 120	105	80 - 120	<100	ug/L				
A262017	Total Silver (Ag)	2021/06/21	97	80 - 120	98	80 - 120	<0.020	ug/L				
A262017	Total Strontium (Sr)	2021/06/21	103	80 - 120	101	80 - 120	<1.0	ug/L				
A262017	Total Thallium (Tl)	2021/06/21	100	80 - 120	100	80 - 120	<0.010	ug/L				
A262017	Total Tin (Sn)	2021/06/21	110	80 - 120	106	80 - 120	<5.0	ug/L				
A262017	Total Titanium (Ti)	2021/06/21	101	80 - 120	98	80 - 120	<5.0	ug/L				
A262017	Total Uranium (U)	2021/06/21	99	80 - 120	101	80 - 120	<0.10	ug/L				
A262017	Total Vanadium (V)	2021/06/21	100	80 - 120	100	80 - 120	<5.0	ug/L				

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QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A262017	Total Zinc (Zn)	2021/06/21	100	80 - 120	99	80 - 120	<5.0	ug/L				
A262017	Total Zirconium (Zr)	2021/06/21	97	80 - 120	97	80 - 120	<0.10	ug/L				
A262745	Total Ammonia (N)	2021/06/22	113	80 - 120	100	80 - 120	<0.015	mg/L	NC	20		
A264299	Total Phosphorus (P)	2021/06/24	99	80 - 120	99	80 - 120	<0.0030	mg/L	10	20	86	80 - 120
A264320	Total Phosphorus (P)	2021/06/24	NC	80 - 120	99	80 - 120	<0.0030	mg/L	5.8	20	80	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C142536
Report Date: 2021/06/24

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax (604) 850-6418	Phone	(778) 549-1240 Fax	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	Katie Piper

C142536_COC

Bottle Order #: 438915

Chain Of Custody Record: C#038915-01-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions:

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: [ ]
Rush Confirmation Number: (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	21/06/17	13:18	water	N	X	X	X	X	X	X	X	X			5	
2		H02 (39566)		8:45			X	X	X	X	X	X	X	X				
3		H03 (39567)		13:00			X	X	X	X	X	X	X	X				
4		B01 (39568)		14:10			X	X	X	X	X	X	X	X				
5		B02 (39569)		9:08			X	X	X	X	X	X	X	X				
6		W01 (3956A)		14:43			X	X	X	X	X	X	X	X				
7		D01 (3956D)		11:58			X	X	X	X	X	X	X	X				
8		D02 (3956D)		12:12			X	X	X	X	X	X	X	X				
9		F01 (3956B)		16:43			X	X	X	X	X	X	X	X				
10		F02 (3956C)		15:20			X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Katie Piper	21/06/17	18:40	[illegible]	2021/06/18	08:00		[ ]	11.7, 6.5, 7	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

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C142536_COC

Bottle Order #: 638915

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	Katie Piper

Chain Of Custody Record: C#638915-02-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	21/06/17	16:05	water	N	X	X	X	X	X	X	X	X			5	
2		DUP F02	↓	15:20	↓	↓	X	X	X	X	X	X	X	X			↓	
3		TRIP BLANK (3AF04)					X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)	↓	16:57	↓	↓	X	X	X	X	X	X	X	X			↓	
5																		
6																		
7																		
8																		
9																		
10																		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Katie Piper	21/06/17	18:40	[illegible] TOC	2021/06/18	08:00	

Lab Use Only: Time Sensitive [ ] Temperature (°C) on Receipt 11, 7, 6, 6, 5, 7 Custody Seal Intact on Cooler? [ ] Yes [X] No

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White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 640598-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3AF04, 3AF05

Report Date: 2022/05/27
Report #: R3177760
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C149800
Received: 2021/07/14, 07:30

Sample Matrix: Water
Samples Received: 11

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	11	N/A	2021/07/17	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	9	N/A	2021/07/16	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/07/19	BBY WI-00033	Auto Calc
Mercury (Total) by CV	11	2021/07/14	2021/07/14	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	9	2021/07/14	2021/07/16	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/07/14	2021/07/19	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	9	2021/07/15	2021/07/15	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2021/07/16	2021/07/17	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	11	N/A	2021/07/16	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	11	N/A	2021/07/15	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	9	N/A	2021/07/15	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	2	N/A	2021/07/16	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	11	N/A	2021/07/16	BBY WI-00033	Auto Calc
pH @25°C (3)	11	N/A	2021/07/15	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	1	2021/07/17	2021/07/18	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	2	2021/07/18	2021/07/19	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	8	2021/07/20	2021/07/20	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 640598-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3AF04, 3AF05

Report Date: 2022/05/27
Report #: R3177760
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C149800
Received: 2021/07/14, 07:30

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ABR634			ABR635		ABR636		
Sampling Date			2021/07/13 15:25			2021/07/13 08:55		2021/07/13 14:05		
COC Number			39565			39566		39567		
	UNITS	**Criteria**	**H01 (39565)**	**RDL**	**QC Batch**	**H02 (39566)**	**QC Batch**	**H03 (39567)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	2.45	0.0040	A285929	1.30	A285929	1.94	0.0020	A285929
Misc. Inorganics										
pH	pH	6.5:9.0	7.19	N/A	A287390	7.61	A287390	7.39	N/A	A287339
Anions										
Dissolved Fluoride (F)	mg/L	0.12	0.075	0.050	A289381	<0.050	A289381	0.056	0.050	A289432
Nutrients										
Total Ammonia (N)	mg/L	-	<0.015	0.015	A288889	<0.015	A288889	<0.015	0.015	A288889
Total Phosphorus (P)	mg/L	-	0.017	0.0030	A291376	0.0077	A289608	0.015	0.0030	A291376
Nitrate plus Nitrite (N)	mg/L	-	2.45	0.0040	A287345	1.31	A287345	1.95	0.0020	A287345
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	A289065	0.0026	A287353	0.0044	0.0020	A287353

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			ABR637			ABR638	ABR639		ABR640		
Sampling Date			2021/07/13 12:30			2021/07/13 10:33	2021/07/13 16:55		2021/07/13 07:45		
COC Number			39568			39569	3956A		3956D		
	UNITS	**Criteria**	**B01 (39568)**	**RDL**	**QC Batch**	**B02 (39569)**	**W01 (3956A)**	**QC Batch**	**D01 (3956D)**	**RDL**	**QC Batch**
Calculated Parameters											
Nitrate (N)	mg/L	-	2.18	0.0040	A285929	1.65	1.64	A285929	0.990	0.0020	A285929
Misc. Inorganics											
pH	pH	6.5:9.0	7.01	N/A	A287339	7.69	7.43	A287339	7.80	N/A	A287390
Anions											
Dissolved Fluoride (F)	mg/L	0.12	0.051	0.050	A289432	<0.050	<0.050	A289432	<0.050	0.050	A289381
Nutrients											
Total Ammonia (N)	mg/L	-	0.029	0.015	A288889	<0.015	<0.015	A288889	<0.015	0.015	A288889
Total Phosphorus (P)	mg/L	-	0.022	0.0030	A291376	0.012	0.0092	A291376	0.016	0.0030	A289781
Nitrate plus Nitrite (N)	mg/L	-	2.20	0.0040	A287345	1.66	1.65	A287345	0.994	0.0020	A287345
Nitrite (N)	mg/L	0.06	0.0158	0.0020	A289065	0.0079	0.0081	A287353	0.0042	0.0020	A287353

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ABR641		ABR642	ABR643		
Sampling Date			2021/07/13 08:00		2021/07/13 16:55	2021/07/13		
COC Number			3956D		3956A	3AF04		
	UNITS	**Criteria**	**D02 (3956D)**	**QC Batch**	**DUP W01**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Calculated Parameters								
Nitrate (N)	mg/L	-	0.768	A285929	1.65	<0.0020	0.0020	A285929
Misc. Inorganics								
pH	pH	6.5:9.0	7.79	A287339	7.42	**5.93**	N/A	A287339
Anions								
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A289432	<0.050	<0.050	0.050	A289432
Nutrients								
Total Ammonia (N)	mg/L	-	<0.015	A288889	<0.015	<0.015	0.015	A288889
Total Phosphorus (P)	mg/L	-	0.016	A289781	0.016	<0.0030	0.0030	A291376
Nitrate plus Nitrite (N)	mg/L	-	0.772	A287345	1.65	<0.0020	0.0020	A287345
Nitrite (N)	mg/L	0.06	0.0047	A287353	0.0078	<0.0020	0.0020	A287353

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			ABR644		
Sampling Date			2021/07/13 17:30		
COC Number			3AF05		
	UNITS	**Criteria**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters					
Nitrate (N)	mg/L	-	0.0034	0.0020	A285929
Misc. Inorganics					
pH	pH	6.5:9.0	**5.46**	N/A	A287339
Anions					
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A289381
Nutrients					
Total Ammonia (N)	mg/L	-	<0.015	0.015	A288889
Total Phosphorus (P)	mg/L	-	<0.0030	0.0030	A291376
Nitrate plus Nitrite (N)	mg/L	-	0.0034	0.0020	A287345
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	A287353

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ABR634	ABR635	ABR636	ABR637	ABR638	ABR639		
Sampling Date			2021/07/13 15:25	2021/07/13 08:55	2021/07/13 14:05	2021/07/13 12:30	2021/07/13 10:33	2021/07/13 16:55		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	103	111	103	68.7	108	101	0.50	A285552
Elements										
Total Mercury (Hg)	ug/L	0.026	0.0056	<0.0019	0.0062	<0.0019	<0.0019	<0.0019	0.0019	A286060
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	105	15.9	55.6	57.6	52.1	30.7	3.0	A286943
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A286943
Total Arsenic (As)	ug/L	5	0.62	0.97	0.53	0.40	0.75	0.65	0.10	A286943
Total Barium (Ba)	ug/L	-	14.3	11.6	13.3	16.8	14.7	31.9	1.0	A286943
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A286943
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A286943
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	<50	50	A286943
Total Cadmium (Cd)	ug/L	-	0.028	<0.010	0.018	0.023	<0.010	0.011	0.010	A286943
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	1.0	A286943
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	0.29	<0.20	<0.20	0.20	A286943
Total Copper (Cu)	ug/L	-	2.07	0.67	2.11	0.89	<0.50	<0.50	0.50	A286943
Total Iron (Fe)	ug/L	300	**317**	88	114	**581**	264	**396**	10	A286943
Total Lead (Pb)	ug/L	-	0.65	<0.20	0.49	0.81	<0.20	<0.20	0.20	A286943
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A286943
Total Manganese (Mn)	ug/L	-	16.1	20.3	8.9	90.6	93.3	43.0	1.0	A286943
Total Molybdenum (Mo)	ug/L	73	<1.0	1.4	10.9	<1.0	<1.0	<1.0	1.0	A286943
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A286943
Total Selenium (Se)	ug/L	1	0.25	0.19	0.19	<0.10	0.21	0.14	0.10	A286943
Total Silicon (Si)	ug/L	-	9470	8920	8460	11800	10500	9920	100	A286943
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A286943
Total Strontium (Sr)	ug/L	-	159	138	147	198	159	194	1.0	A286943
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A286943
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A286943
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A286943
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A286943
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A286943
Total Zinc (Zn)	ug/L	30	11.9	<5.0	14.0	8.3	<5.0	<5.0	5.0	A286943

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ABR634	ABR635	ABR636	ABR637	ABR638	ABR639		
Sampling Date			2021/07/13 15:25	2021/07/13 08:55	2021/07/13 14:05	2021/07/13 12:30	2021/07/13 10:33	2021/07/13 16:55		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	0.14	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A286943
Total Calcium (Ca)	mg/L	-	29.1	31.8	29.4	18.5	29.6	27.3	0.050	A285780
Total Magnesium (Mg)	mg/L	-	7.50	7.63	7.11	5.49	8.37	8.06	0.050	A285780
Total Potassium (K)	mg/L	-	1.64	1.69	1.73	0.871	1.58	1.23	0.050	A285780
Total Sodium (Na)	mg/L	-	17.5	10.1	15.4	13.3	9.49	12.7	0.050	A285780
Total Sulphur (S)	mg/L	-	5.8	6.1	5.6	5.0	4.9	4.1	3.0	A285780

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ABR640	ABR641	ABR642		ABR643		
Sampling Date			2021/07/13 07:45	2021/07/13 08:00	2021/07/13 16:55		2021/07/13		
COC Number			3956D	3956D	3956A		3AF04		
	UNITS	**Criteria**	**D01 (3956D)**	**D02 (3956D)**	**DUP W01**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	114	122	101	A285552	<0.50	0.50	A285552
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	A286060	<0.0019	0.0019	A286060
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	45.0	41.8	33.9	A286943	<3.0	3.0	A288542
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	A286943	<0.50	0.50	A288542
Total Arsenic (As)	ug/L	5	1.58	2.10	0.70	A286943	<0.10	0.10	A288542
Total Barium (Ba)	ug/L	-	14.6	14.6	32.2	A286943	<1.0	1.0	A288542
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	A286943	<0.10	0.10	A288542
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	A286943	<1.0	1.0	A288542
Total Boron (B)	ug/L	1500	<50	<50	<50	A286943	<50	50	A288542
Total Cadmium (Cd)	ug/L	-	<0.010	<0.010	<0.010	A286943	<0.010	0.010	A288542
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	A286943	<1.0	1.0	A288542
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	A286943	<0.20	0.20	A288542
Total Copper (Cu)	ug/L	-	<0.50	<0.50	<0.50	A286943	<0.50	0.50	A288542
Total Iron (Fe)	ug/L	300	**446**	**642**	**425**	A286943	<10	10	A288542
Total Lead (Pb)	ug/L	-	<0.20	<0.20	<0.20	A286943	<0.20	0.20	A288542
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	A286943	<2.0	2.0	A288542
Total Manganese (Mn)	ug/L	-	152	254	44.9	A286943	<1.0	1.0	A288542
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	A286943	<1.0	1.0	A288542
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	A286943	<1.0	1.0	A288542
Total Selenium (Se)	ug/L	1	0.25	0.26	0.15	A286943	<0.10	0.10	A288542
Total Silicon (Si)	ug/L	-	10700	11300	9830	A286943	<100	100	A288542
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	A286943	<0.020	0.020	A288542
Total Strontium (Sr)	ug/L	-	158	176	195	A286943	<1.0	1.0	A288542
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	A286943	<0.010	0.010	A288542
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	A286943	<5.0	5.0	A288542
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	A286943	<5.0	5.0	A288542
Total Uranium (U)	ug/L	15	0.10	<0.10	<0.10	A286943	<0.10	0.10	A288542
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	A286943	<5.0	5.0	A288542
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	<5.0	A286943	<5.0	5.0	A288542

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ABR640	ABR641	ABR642		ABR643		
Sampling Date			2021/07/13 07:45	2021/07/13 08:00	2021/07/13 16:55		2021/07/13		
COC Number			3956D	3956D	3956A		3AF04		
	UNITS	**Criteria**	**D01 (3956D)**	**D02 (3956D)**	**DUP W01**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	A286943	<0.10	0.10	A288542
Total Calcium (Ca)	mg/L	-	29.4	31.7	27.2	A285780	<0.050	0.050	A285780
Total Magnesium (Mg)	mg/L	-	9.91	10.4	8.08	A285780	<0.050	0.050	A285780
Total Potassium (K)	mg/L	-	1.54	1.38	1.26	A285780	<0.050	0.050	A285780
Total Sodium (Na)	mg/L	-	9.76	9.71	12.8	A285780	<0.050	0.050	A285780
Total Sulphur (S)	mg/L	-	5.1	4.3	4.4	A285780	<3.0	3.0	A285780

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ABR644		
Sampling Date			2021/07/13 17:30		
COC Number			3AF05		
	UNITS	**Criteria**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters					
Total Hardness (CaCO3)	mg/L	-	<0.50	0.50	A285552
Elements					
Total Mercury (Hg)	ug/L	0.026	<0.0019	0.0019	A286060
Total Metals by ICPMS					
Total Aluminum (Al)	ug/L	-	<3.0	3.0	A288542
Total Antimony (Sb)	ug/L	-	<0.50	0.50	A288542
Total Arsenic (As)	ug/L	5	<0.10	0.10	A288542
Total Barium (Ba)	ug/L	-	<1.0	1.0	A288542
Total Beryllium (Be)	ug/L	-	<0.10	0.10	A288542
Total Bismuth (Bi)	ug/L	-	<1.0	1.0	A288542
Total Boron (B)	ug/L	1500	<50	50	A288542
Total Cadmium (Cd)	ug/L	-	<0.010	0.010	A288542
Total Chromium (Cr)	ug/L	-	<1.0	1.0	A288542
Total Cobalt (Co)	ug/L	-	<0.20	0.20	A288542
Total Copper (Cu)	ug/L	-	<0.50	0.50	A288542
Total Iron (Fe)	ug/L	300	<10	10	A288542
Total Lead (Pb)	ug/L	-	<0.20	0.20	A288542
Total Lithium (Li)	ug/L	-	<2.0	2.0	A288542
Total Manganese (Mn)	ug/L	-	<1.0	1.0	A288542
Total Molybdenum (Mo)	ug/L	73	<1.0	1.0	A288542
Total Nickel (Ni)	ug/L	-	<1.0	1.0	A288542
Total Selenium (Se)	ug/L	1	<0.10	0.10	A288542
Total Silicon (Si)	ug/L	-	<100	100	A288542
Total Silver (Ag)	ug/L	0.25	<0.020	0.020	A288542
Total Strontium (Sr)	ug/L	-	<1.0	1.0	A288542
Total Thallium (Tl)	ug/L	0.8	<0.010	0.010	A288542
Total Tin (Sn)	ug/L	-	<5.0	5.0	A288542
Total Titanium (Ti)	ug/L	-	<5.0	5.0	A288542
Total Uranium (U)	ug/L	15	<0.10	0.10	A288542
Total Vanadium (V)	ug/L	-	<5.0	5.0	A288542
Total Zinc (Zn)	ug/L	30	<5.0	5.0	A288542

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ABR644		
Sampling Date			2021/07/13 17:30		
COC Number			3AF05		
	UNITS	**Criteria**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	0.10	A288542
Total Calcium (Ca)	mg/L	-	<0.050	0.050	A285780
Total Magnesium (Mg)	mg/L	-	<0.050	0.050	A285780
Total Potassium (K)	mg/L	-	<0.050	0.050	A285780
Total Sodium (Na)	mg/L	-	<0.050	0.050	A285780
Total Sulphur (S)	mg/L	-	<3.0	3.0	A285780

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Version #2: Client sample ID for sample ABR642 was changed from F01 to DUP W01, ABR643 was changed from FOF to Trip Blank, and ABR644 was changed from DUP to Field blank, as per original Chain of Custody.
Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A286060	Total Mercury (Hg)	2021/07/14	74 (1)	80 - 120	87	80 - 120	<0.0019	ug/L	6.8	20		
A286943	Total Aluminum (Al)	2021/07/15	107	80 - 120	102	80 - 120	<3.0	ug/L	1.4	20		
A286943	Total Antimony (Sb)	2021/07/15	104	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
A286943	Total Arsenic (As)	2021/07/15	103	80 - 120	100	80 - 120	<0.10	ug/L	0.81	20		
A286943	Total Barium (Ba)	2021/07/15	99	80 - 120	101	80 - 120	<1.0	ug/L	1.8	20		
A286943	Total Beryllium (Be)	2021/07/15	100	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A286943	Total Bismuth (Bi)	2021/07/15	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A286943	Total Boron (B)	2021/07/15	102	80 - 120	100	80 - 120	<50	ug/L	NC	20		
A286943	Total Cadmium (Cd)	2021/07/15	103	80 - 120	101	80 - 120	<0.010	ug/L	6.0	20		
A286943	Total Chromium (Cr)	2021/07/15	99	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A286943	Total Cobalt (Co)	2021/07/15	98	80 - 120	101	80 - 120	<0.20	ug/L	NC	20		
A286943	Total Copper (Cu)	2021/07/15	96	80 - 120	99	80 - 120	<0.50	ug/L	1.7	20		
A286943	Total Iron (Fe)	2021/07/15	103	80 - 120	104	80 - 120	<10	ug/L	0.44	20		
A286943	Total Lead (Pb)	2021/07/15	102	80 - 120	101	80 - 120	<0.20	ug/L	0.64	20		
A286943	Total Lithium (Li)	2021/07/15	97	80 - 120	95	80 - 120	<2.0	ug/L	NC	20		
A286943	Total Manganese (Mn)	2021/07/15	100	80 - 120	102	80 - 120	<1.0	ug/L	1.4	20		
A286943	Total Molybdenum (Mo)	2021/07/15	107	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A286943	Total Nickel (Ni)	2021/07/15	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A286943	Total Selenium (Se)	2021/07/15	105	80 - 120	103	80 - 120	<0.10	ug/L	5.3	20		
A286943	Total Silicon (Si)	2021/07/15	NC	80 - 120	102	80 - 120	<100	ug/L	1.1	20		
A286943	Total Silver (Ag)	2021/07/15	102	80 - 120	100	80 - 120	<0.020	ug/L	NC	20		
A286943	Total Strontium (Sr)	2021/07/15	NC	80 - 120	99	80 - 120	<1.0	ug/L	0.95	20		
A286943	Total Thallium (Tl)	2021/07/15	102	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A286943	Total Tin (Sn)	2021/07/15	104	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A286943	Total Titanium (Ti)	2021/07/15	104	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A286943	Total Uranium (U)	2021/07/15	107	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A286943	Total Vanadium (V)	2021/07/15	103	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A286943	Total Zinc (Zn)	2021/07/15	102	80 - 120	103	80 - 120	<5.0	ug/L	0.83	20		
A286943	Total Zirconium (Zr)	2021/07/15	108	80 - 120	98	80 - 120	<0.10	ug/L	NC	20		
A287339	pH	2021/07/15			102	97 - 103						
A287345	Nitrate plus Nitrite (N)	2021/07/15	NC	80 - 120	106	80 - 120	<0.0020	mg/L	1.8	25		

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C149800
Report Date: 2022/05/27

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A287353	Nitrite (N)	2021/07/15	99	80 - 120	104	80 - 120	<0.0020	mg/L	12	25		
A287390	pH	2021/07/15			101	97 - 103			0.12	N/A		
A288542	Total Aluminum (Al)	2021/07/17	96	80 - 120	101	80 - 120	<3.0	ug/L	NC	20		
A288542	Total Antimony (Sb)	2021/07/17	96	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
A288542	Total Arsenic (As)	2021/07/17	95	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
A288542	Total Barium (Ba)	2021/07/17	91	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
A288542	Total Beryllium (Be)	2021/07/17	93	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A288542	Total Bismuth (Bi)	2021/07/17	95	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A288542	Total Boron (B)	2021/07/17	91	80 - 120	94	80 - 120	<50	ug/L	NC	20		
A288542	Total Cadmium (Cd)	2021/07/17	97	80 - 120	103	80 - 120	<0.010	ug/L	NC	20		
A288542	Total Chromium (Cr)	2021/07/17	95	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A288542	Total Cobalt (Co)	2021/07/17	95	80 - 120	100	80 - 120	<0.20	ug/L	NC	20		
A288542	Total Copper (Cu)	2021/07/17	94	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
A288542	Total Iron (Fe)	2021/07/17	96	80 - 120	104	80 - 120	<10	ug/L	NC	20		
A288542	Total Lead (Pb)	2021/07/17	95	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A288542	Total Lithium (Li)	2021/07/17	90	80 - 120	95	80 - 120	<2.0	ug/L	NC	20		
A288542	Total Manganese (Mn)	2021/07/17	96	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A288542	Total Molybdenum (Mo)	2021/07/17	98	80 - 120	106	80 - 120	<1.0	ug/L	NC	20		
A288542	Total Nickel (Ni)	2021/07/17	94	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A288542	Total Selenium (Se)	2021/07/17	98	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A288542	Total Silicon (Si)	2021/07/17	92	80 - 120	97	80 - 120	<100	ug/L	NC	20		
A288542	Total Silver (Ag)	2021/07/17	95	80 - 120	100	80 - 120	<0.020	ug/L	NC	20		
A288542	Total Strontium (Sr)	2021/07/17	96	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A288542	Total Thallium (Tl)	2021/07/17	95	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A288542	Total Tin (Sn)	2021/07/17	99	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A288542	Total Titanium (Ti)	2021/07/17	98	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A288542	Total Uranium (U)	2021/07/17	98	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A288542	Total Vanadium (V)	2021/07/17	95	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A288542	Total Zinc (Zn)	2021/07/17	97	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A288542	Total Zirconium (Zr)	2021/07/17	97	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A288889	Total Ammonia (N)	2021/07/16	102	80 - 120	95	80 - 120	<0.015	mg/L	NC	20		

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Bureau Veritas Job #: C149800
Report Date: 2022/05/27

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A289065	Nitrite (N)	2021/07/16			102	80 - 120	<0.0020	mg/L				
A289381	Dissolved Fluoride (F)	2021/07/17	102	80 - 120	100	80 - 120	<0.050	mg/L	0	20		
A289432	Dissolved Fluoride (F)	2021/07/17			102	80 - 120	<0.050	mg/L				
A289608	Total Phosphorus (P)	2021/07/18	105	80 - 120	103	80 - 120	<0.0030	mg/L	NC	20	86	80 - 120
A289781	Total Phosphorus (P)	2021/07/19	112	80 - 120	95	80 - 120	<0.0030	mg/L	3.1	20	88	80 - 120
A291376	Total Phosphorus (P)	2021/07/20	109	80 - 120	112	80 - 120	<0.0030	mg/L	6.7	20	87	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Sandy Yuan, M.Sc., QP, Scientific Specialist

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Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

C149800_COC

Bottle Order #: 640598

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax (604) 850-6418	Phone	(778) 549-1240 Fax	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	

Chain Of Custody Record: C#640598-01-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	21/07/13	15:25	Water		X	X	X	X	X	X	X	X			5	
2		H02 (39566)		08:55			X	X	X	X	X	X	X	X			5	
3		H03 (39567)		14:05			X	X	X	X	X	X	X	X				
4		B01 (39568)		12:30			X	X	X	X	X	X	X	X				
5		B02 (39569)		10:33			X	X	X	X	X	X	X	X				
6		W01 (3956A)		16:55			X	X	X	X	X	X	X	X				
7		D01 (3956D)		07:45			X	X	X	X	X	X	X	X				
8		D02 (3956D)		08:00			X	X	X	X	X	X	X	X				
9		~~F01 (3956B)~~ DUP W01		16:55			X	X	X	X	X	X	X	X				
10		~~F02 (3956C)~~ TRIP B					X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
L. Williams	21/07/13	19:10	Renesyn Lingon	21/07/14	07:30	

Lab Use Only: Time Sensitive [ ] Temperature (°C) on Receipt 3,2,2 Custody Seal Intact on Cooler? [ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Icey

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C149800_COC

Bottle Order #: 640598

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	

Chain Of Custody Record: C#640598-02-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: [ ]
Rush Confirmation Number: (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y/N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		~~FOP (41C64)~~					X	X	X	X	X	X	X	X				
2		~~DUP~~					X	X	X	X	X	X	X	X				
3		TRIP BLANK (3AF04)	21/07/13	n/a	water		X	X	X	X	X	X	X	X			5	
4		FIELD BLANK (3AF05)	21/07/13	17:30	↓		X	X	X	X	X	X	X	X			5	
5																		
6																		
7																		
8																		
9																		
10																		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
L. Williams	21/07/13	19:10	Renye Lang	21/07/14	07:30	

Lab Use Only: Time Sensitive [ ] Temperature (°C) on Receipt 2.2.2 Custody Seal Intact on Cooler? [ ] Yes [/] No

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IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #7 Creek Water Quality

Your C.O.C. #: 640621-01-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/07/22
Report #: R3048926
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C150227
Received: 2021/07/15, 08:00

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	3	N/A	2021/07/17	BBY6SOP-00048	SM 23 4500-F C m
Fluoride	2	N/A	2021/07/20	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	5	N/A	2021/07/19	BBY WI-00033	Auto Calc
Mercury (Total) by CV	5	2021/07/16	2021/07/16	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	5	2021/07/15	2021/07/19	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	5	2021/07/16	2021/07/16	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	5	N/A	2021/07/20	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	5	N/A	2021/07/16	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	5	N/A	2021/07/16	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	5	N/A	2021/07/17	BBY WI-00033	Auto Calc
pH @25°C (3)	5	N/A	2021/07/16	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	5	2021/07/20	2021/07/20	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Your Project #: Bevan #7 Creek Water Quality

Your C.O.C. #: 640621-01-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/07/22
Report #: R3048926
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C150227
Received: 2021/07/15, 08:00

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary Environmental

(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276

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BV Labs Job #: C150227
Report Date: 2021/07/22

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID		ABT981	ABT982		ABT983		ABT984		
Sampling Date		2021/07/14 14:46	2021/07/14 14:46		2021/07/14 14:46		2021/07/14 14:46		
COC Number		640621-01-01	640621-01-01		640621-01-01		640621-01-01		
	UNITS	**F-03**	**F-04**	**QC Batch**	**F-01**	**QC Batch**	**F-02**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	0.917	1.89	A287732	0.297	A287732	0.0680	0.0020	A287732
Misc. Inorganics									
pH	pH	7.17	7.13	A288910	7.74	A288910	7.53	N/A	A288910
Anions									
Dissolved Fluoride (F)	mg/L	<0.050	<0.050	A292015	0.050	A289673	0.072	0.050	A289673
Nutrients									
Total Ammonia (N)	mg/L	0.023	<0.015	A292659	0.015	A292660	0.24	0.015	A292659
Total Phosphorus (P)	mg/L	0.019	0.011	A291855	0.026	A291855	0.067	0.0030	A291855
Nitrate plus Nitrite (N)	mg/L	0.923	1.90	A288623	0.303	A288623	0.0795	0.0020	A288623
Nitrite (N)	mg/L	0.0056	0.0046	A288628	0.0064	A288628	0.0115	0.0020	A288628

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID		ABT985		
Sampling Date		2021/07/14 14:46		
COC Number		640621-01-01		
	UNITS	**FOF**	**RDL**	**QC Batch**
Calculated Parameters				
Nitrate (N)	mg/L	0.117	0.0020	A287732
Misc. Inorganics				
pH	pH	7.27	N/A	A288922
Anions				
Dissolved Fluoride (F)	mg/L	0.052	0.050	A289673
Nutrients				
Total Ammonia (N)	mg/L	0.22	0.015	A292659
Total Phosphorus (P)	mg/L	0.030	0.0030	A291855
Nitrate plus Nitrite (N)	mg/L	0.132	0.0020	A288623
Nitrite (N)	mg/L	0.0148	0.0020	A288628

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C150227
Report Date: 2021/07/22

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		ABT981	ABT982	ABT983	ABT984	ABT985		
Sampling Date		2021/07/14 14:46	2021/07/14 14:46	2021/07/14 14:46	2021/07/14 14:46	2021/07/14 14:46		
COC Number		640621-01-01	640621-01-01	640621-01-01	640621-01-01	640621-01-01		
	UNITS	**F-03**	**F-04**	**F-01**	**F-02**	**FOF**	**RDL**	**QC Batch**
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	92.6	90.5	121	95.2	111	0.50	A287377
Elements								
Total Mercury (Hg)	ug/L	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A288450
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	120	39.9	42.4	59.1	31.0	3.0	A288306
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A288306
Total Arsenic (As)	ug/L	0.71	0.43	2.57	1.88	1.98	0.10	A288306
Total Barium (Ba)	ug/L	20.1	14.8	13.1	33.9	26.0	1.0	A288306
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A288306
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A288306
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	50	A288306
Total Cadmium (Cd)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A288306
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A288306
Total Cobalt (Co)	ug/L	0.28	<0.20	<0.20	1.05	0.26	0.20	A288306
Total Copper (Cu)	ug/L	0.57	0.51	0.92	0.65	0.65	0.50	A288306
Total Iron (Fe)	ug/L	848	227	559	2160	1600	10	A288306
Total Lead (Pb)	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	A288306
Total Lithium (Li)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A288306
Total Manganese (Mn)	ug/L	339	144	164	2420	668	1.0	A288306
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A288306
Total Nickel (Ni)	ug/L	1.2	<1.0	<1.0	<1.0	<1.0	1.0	A288306
Total Selenium (Se)	ug/L	0.10	0.15	0.14	<0.10	<0.10	0.10	A288306
Total Silicon (Si)	ug/L	7810	7130	6420	4330	5520	100	A288306
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A288306
Total Strontium (Sr)	ug/L	112	136	172	159	173	1.0	A288306
Total Thallium (Tl)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A288306
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A288306
Total Titanium (Ti)	ug/L	5.2	<5.0	<5.0	<5.0	<5.0	5.0	A288306
Total Uranium (U)	ug/L	<0.10	<0.10	0.18	<0.10	0.11	0.10	A288306
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A288306
Total Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	9.2	<5.0	5.0	A288306
Total Zirconium (Zr)	ug/L	0.12	<0.10	<0.10	<0.10	<0.10	0.10	A288306
RDL = Reportable Detection Limit								

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		ABT981	ABT982	ABT983	ABT984	ABT985		
Sampling Date		2021/07/14 14:46	2021/07/14 14:46	2021/07/14 14:46	2021/07/14 14:46	2021/07/14 14:46		
COC Number		640621-01-01	640621-01-01	640621-01-01	640621-01-01	640621-01-01		
	UNITS	**F-03**	**F-04**	**F-01**	**F-02**	**FOF**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	24.6	24.4	30.9	27.0	29.2	0.050	A287582
Total Magnesium (Mg)	mg/L	7.54	7.18	10.6	6.71	9.20	0.050	A287582
Total Potassium (K)	mg/L	2.10	2.59	1.86	1.54	1.66	0.050	A287582
Total Sodium (Na)	mg/L	10.9	8.92	13.5	16.8	15.6	0.050	A287582
Total Sulphur (S)	mg/L	8.2	8.2	5.2	<3.0	5.0	3.0	A287582
RDL = Reportable Detection Limit								

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GENERAL COMMENTS

Results relate only to the items tested.

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BV Labs Job #: C150227
Report Date: 2021/07/22

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A288306	Total Aluminum (Al)	2021/07/16	107	80 - 120	102	80 - 120	<3.0	ug/L	9.8	20		
A288306	Total Antimony (Sb)	2021/07/16	99	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
A288306	Total Arsenic (As)	2021/07/16	97	80 - 120	99	80 - 120	<0.10	ug/L	7.9	20		
A288306	Total Barium (Ba)	2021/07/16	95	80 - 120	100	80 - 120	<1.0	ug/L	2.4	20		
A288306	Total Beryllium (Be)	2021/07/16	100	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A288306	Total Bismuth (Bi)	2021/07/16	95	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A288306	Total Boron (B)	2021/07/16	98	80 - 120	98	80 - 120	<50	ug/L	NC	20		
A288306	Total Cadmium (Cd)	2021/07/16	100	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A288306	Total Chromium (Cr)	2021/07/16	97	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A288306	Total Cobalt (Co)	2021/07/16	96	80 - 120	100	80 - 120	<0.20	ug/L	0.39	20		
A288306	Total Copper (Cu)	2021/07/16	95	80 - 120	99	80 - 120	<0.50	ug/L	3.7	20		
A288306	Total Iron (Fe)	2021/07/16	NC	80 - 120	102	80 - 120	<10	ug/L	2.4	20		
A288306	Total Lead (Pb)	2021/07/16	97	80 - 120	100	80 - 120	<0.20	ug/L	NC	20		
A288306	Total Lithium (Li)	2021/07/16	96	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
A288306	Total Manganese (Mn)	2021/07/16	NC	80 - 120	100	80 - 120	<1.0	ug/L	0.83	20		
A288306	Total Molybdenum (Mo)	2021/07/16	103	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A288306	Total Nickel (Ni)	2021/07/16	95	80 - 120	101	80 - 120	<1.0	ug/L	5.3	20		
A288306	Total Selenium (Se)	2021/07/16	102	80 - 120	104	80 - 120	<0.10	ug/L	15	20		
A288306	Total Silicon (Si)	2021/07/16	NC	80 - 120	100	80 - 120	<100	ug/L	2.2	20		
A288306	Total Silver (Ag)	2021/07/16	98	80 - 120	99	80 - 120	<0.020	ug/L	NC	20		
A288306	Total Strontium (Sr)	2021/07/16	NC	80 - 120	99	80 - 120	<1.0	ug/L	1.3	20		
A288306	Total Thallium (Tl)	2021/07/16	98	80 - 120	102	80 - 120	<0.010	ug/L	NC	20		
A288306	Total Tin (Sn)	2021/07/16	99	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A288306	Total Titanium (Ti)	2021/07/16	100	80 - 120	104	80 - 120	<5.0	ug/L	8.3	20		
A288306	Total Uranium (U)	2021/07/16	101	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A288306	Total Vanadium (V)	2021/07/16	99	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A288306	Total Zinc (Zn)	2021/07/16	98	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A288306	Total Zirconium (Zr)	2021/07/16	99	80 - 120	100	80 - 120	<0.10	ug/L	15	20		
A288450	Total Mercury (Hg)	2021/07/16	78 (1)	80 - 120	89	80 - 120	<0.0019	ug/L	NC	20		
A288623	Nitrate plus Nitrite (N)	2021/07/16	NC	80 - 120	105	80 - 120	<0.0020	mg/L	0.71	25		
A288628	Nitrite (N)	2021/07/16	100	80 - 120	102	80 - 120	<0.0020	mg/L	1.8	25		
A288910	pH	2021/07/16			101	97 - 103			0.54	N/A		

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BV Labs Job #: C150227
Report Date: 2021/07/22

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A288922	pH	2021/07/16			101	97 - 103			0.77	N/A		
A289673	Dissolved Fluoride (F)	2021/07/17	113	80 - 120	104	80 - 120	<0.050	mg/L	1.3	20		
A291855	Total Phosphorus (P)	2021/07/20	102	80 - 120	113	80 - 120	<0.0030	mg/L	1.5	20	96	80 - 120
A292015	Dissolved Fluoride (F)	2021/07/20	108	80 - 120	110	80 - 120	<0.050	mg/L	NC	20		
A292659	Total Ammonia (N)	2021/07/20	95	80 - 120	97	80 - 120	<0.015	mg/L	NC	20		
A292660	Total Ammonia (N)	2021/07/20	95	80 - 120	96	80 - 120	<0.015	mg/L	6.5	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

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Bureau Veritas Laboratories
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Page 1 of 1

C150227_COC

Order #:

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #7 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	

C#540621-01-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F-03	21/07/14	14:46	water		X	X	X	X	X	X	X	X			5	
2		F-04		15:50			X	X	X	X	X	X	X	X				
3		F-01		09:33			X	X	X	X	X	X	X	X				
4		F-02		11:22			X	X	X	X	X	X	X	X				
5		FOF		18:25			X	X	X	X	X	X	X	X				
6																		
7																		
8																		
9																		
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
L. Williams	21/07/14	19:30	[signature]	2014/07/15	08:00		[ ]	7/7/7	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Your C.O.C. #: 644669-01-01, 644669-02-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/08/23
Report #: R3062220
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C159878
Received: 2021/08/18, 07:30

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	4	N/A	2021/08/21	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/08/20	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/08/23	BBY WI-00033	Auto Calc
Mercury (Total) by CV	4	2021/08/20	2021/08/20	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/08/18	2021/08/20	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/08/18	2021/08/23	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	2	2021/08/19	2021/08/20	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2021/08/20	2021/08/21	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	4	N/A	2021/08/19	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	4	N/A	2021/08/18	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	4	N/A	2021/08/18	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	4	N/A	2021/08/18	BBY WI-00033	Auto Calc
pH @25°C (3)	4	N/A	2021/08/19	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	3	2021/08/21	2021/08/23	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	1	2021/08/23	2021/08/23	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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Your Project #: Bevan #1 Creek Water Quality

Your C.O.C. #: 644669-01-01, 644669-02-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/08/23
Report #: R3062220
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C159878
Received: 2021/08/18, 07:30

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary Environmental
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
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BV Labs Job #: C159878
Report Date: 2021/08/23

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			ADY307		ADY308		ADY310		
Sampling Date			2021/08/17 09:26		2021/08/17 09:25		2021/08/17		
COC Number			644669-01-01		644669-01-01		644669-02-01		
	UNITS	**Criteria**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	0.920	A323926	0.758	A323926	<0.0020	0.0020	A323926
Misc. Inorganics									
pH	pH	6.5:9.0	7.31	A325114	7.39	A325114	**6.11**	N/A	A325114
Anions									
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A327375	<0.050	A327375	<0.050	0.050	A327375
Nutrients									
Total Ammonia (N)	mg/L	-	0.018	A325182	0.026	A325182	<0.015	0.015	A325182
Total Phosphorus (P)	mg/L	-	0.020	A327295	0.016	A328171	<0.0030	0.0030	A327295
Nitrate plus Nitrite (N)	mg/L	-	0.923	A324135	0.762	A324135	<0.0020	0.0020	A323828
Nitrite (N)	mg/L	0.06	0.0030	A324136	0.0040	A324136	<0.0020	0.0020	A323830

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID			ADY311		
Sampling Date			2021/08/17 16:45		
COC Number			644669-02-01		
	UNITS	**Criteria**	**FILED BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters					
Nitrate (N)	mg/L	-	<0.0020	0.0020	A323926
Misc. Inorganics					
pH	pH	6.5:9.0	**5.35**	N/A	A325114
Anions					
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A327375
Nutrients					
Total Ammonia (N)	mg/L	-	<0.015	0.015	A325182
Total Phosphorus (P)	mg/L	-	<0.0030	0.0030	A327295
Nitrate plus Nitrite (N)	mg/L	-	<0.0020	0.0020	A323828
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	A323830

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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BV Labs Job #: C159878
Report Date: 2021/08/23

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ADY307		ADY308		ADY310		
Sampling Date			2021/08/17 09:26		2021/08/17 09:25		2021/08/17		
COC Number			644669-01-01		644669-01-01		644669-02-01		
	UNITS	**Criteria**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	124	A323922	134	A323922	<0.50	0.50	A323922
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	A326695	<0.0019	A326695	<0.0019	0.0019	A326695
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	50.8	A325404	47.8	A325404	<3.0	3.0	A326835
Total Antimony (Sb)	ug/L	-	<0.50	A325404	<0.50	A325404	<0.50	0.50	A326835
Total Arsenic (As)	ug/L	5	1.88	A325404	2.46	A325404	<0.10	0.10	A326835
Total Barium (Ba)	ug/L	-	15.0	A325404	16.3	A325404	<1.0	1.0	A326835
Total Beryllium (Be)	ug/L	-	<0.10	A325404	<0.10	A325404	<0.10	0.10	A326835
Total Bismuth (Bi)	ug/L	-	<1.0	A325404	<1.0	A325404	<1.0	1.0	A326835
Total Boron (B)	ug/L	1500	<50	A325404	<50	A325404	<50	50	A326835
Total Cadmium (Cd)	ug/L	-	<0.010	A325404	<0.010	A325404	<0.010	0.010	A326835
Total Chromium (Cr)	ug/L	-	<1.0	A325404	<1.0	A325404	<1.0	1.0	A326835
Total Cobalt (Co)	ug/L	-	<0.20	A325404	<0.20	A325404	<0.20	0.20	A326835
Total Copper (Cu)	ug/L	-	<0.50	A325404	<0.50	A325404	<0.50	0.50	A326835
Total Iron (Fe)	ug/L	300	**557**	A325404	**756**	A325404	<10	10	A326835
Total Lead (Pb)	ug/L	-	<0.20	A325404	<0.20	A325404	<0.20	0.20	A326835
Total Lithium (Li)	ug/L	-	<2.0	A325404	<2.0	A325404	<2.0	2.0	A326835
Total Manganese (Mn)	ug/L	-	168	A325404	263	A325404	<1.0	1.0	A326835
Total Molybdenum (Mo)	ug/L	73	<1.0	A325404	<1.0	A325404	<1.0	1.0	A326835
Total Nickel (Ni)	ug/L	-	<1.0	A325404	<1.0	A325404	<1.0	1.0	A326835
Total Selenium (Se)	ug/L	1	0.27	A325404	0.26	A325404	<0.10	0.10	A326835
Total Silicon (Si)	ug/L	-	12600	A325404	13100	A325404	<100	100	A326835
Total Silver (Ag)	ug/L	0.25	<0.020	A325404	<0.020	A325404	<0.020	0.020	A326835
Total Strontium (Sr)	ug/L	-	164	A325404	180	A325404	<1.0	1.0	A326835
Total Thallium (Tl)	ug/L	0.8	<0.010	A325404	<0.010	A325404	<0.010	0.010	A326835
Total Tin (Sn)	ug/L	-	<5.0	A325404	<5.0	A325404	<5.0	5.0	A326835
Total Titanium (Ti)	ug/L	-	<5.0	A325404	<5.0	A325404	<5.0	5.0	A326835
Total Uranium (U)	ug/L	15	0.10	A325404	<0.10	A325404	<0.10	0.10	A326835
Total Vanadium (V)	ug/L	-	<5.0	A325404	<5.0	A325404	<5.0	5.0	A326835
Total Zinc (Zn)	ug/L	30	<5.0	A325404	<5.0	A325404	<5.0	5.0	A326835

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C159878
Report Date: 2021/08/23

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ADY307		ADY308		ADY310		
Sampling Date			2021/08/17 09:26		2021/08/17 09:25		2021/08/17		
COC Number			644669-01-01		644669-01-01		644669-02-01		
	UNITS	**Criteria**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	A325404	<0.10	A325404	<0.10	0.10	A326835
Total Calcium (Ca)	mg/L	-	32.8	A323923	35.8	A323924	<0.050	0.050	A323924
Total Magnesium (Mg)	mg/L	-	10.2	A323923	10.9	A323924	<0.050	0.050	A323924
Total Potassium (K)	mg/L	-	1.71	A323923	1.66	A323924	<0.050	0.050	A323924
Total Sodium (Na)	mg/L	-	10.0	A323923	10.3	A323924	<0.050	0.050	A323924
Total Sulphur (S)	mg/L	-	5.4	A323923	4.0	A323924	<3.0	3.0	A323924

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C159878
Report Date: 2021/08/23

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ADY311		
Sampling Date			2021/08/17 16:45		
COC Number			644669-02-01		
	UNITS	**Criteria**	**FILED BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters					
Total Hardness (CaCO3)	mg/L	-	<0.50	0.50	A323922
Elements					
Total Mercury (Hg)	ug/L	0.026	<0.0019	0.0019	A326695
Total Metals by ICPMS					
Total Aluminum (Al)	ug/L	-	<3.0	3.0	A326835
Total Antimony (Sb)	ug/L	-	<0.50	0.50	A326835
Total Arsenic (As)	ug/L	5	<0.10	0.10	A326835
Total Barium (Ba)	ug/L	-	<1.0	1.0	A326835
Total Beryllium (Be)	ug/L	-	<0.10	0.10	A326835
Total Bismuth (Bi)	ug/L	-	<1.0	1.0	A326835
Total Boron (B)	ug/L	1500	<50	50	A326835
Total Cadmium (Cd)	ug/L	-	<0.010	0.010	A326835
Total Chromium (Cr)	ug/L	-	<1.0	1.0	A326835
Total Cobalt (Co)	ug/L	-	<0.20	0.20	A326835
Total Copper (Cu)	ug/L	-	<0.50	0.50	A326835
Total Iron (Fe)	ug/L	300	<10	10	A326835
Total Lead (Pb)	ug/L	-	<0.20	0.20	A326835
Total Lithium (Li)	ug/L	-	<2.0	2.0	A326835
Total Manganese (Mn)	ug/L	-	<1.0	1.0	A326835
Total Molybdenum (Mo)	ug/L	73	<1.0	1.0	A326835
Total Nickel (Ni)	ug/L	-	<1.0	1.0	A326835
Total Selenium (Se)	ug/L	1	<0.10	0.10	A326835
Total Silicon (Si)	ug/L	-	<100	100	A326835
Total Silver (Ag)	ug/L	0.25	<0.020	0.020	A326835
Total Strontium (Sr)	ug/L	-	<1.0	1.0	A326835
Total Thallium (Tl)	ug/L	0.8	<0.010	0.010	A326835
Total Tin (Sn)	ug/L	-	<5.0	5.0	A326835
Total Titanium (Ti)	ug/L	-	<5.0	5.0	A326835
Total Uranium (U)	ug/L	15	<0.10	0.10	A326835
Total Vanadium (V)	ug/L	-	<5.0	5.0	A326835
Total Zinc (Zn)	ug/L	30	<5.0	5.0	A326835

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C159878
Report Date: 2021/08/23

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			ADY311		
Sampling Date			2021/08/17 16:45		
COC Number			644669-02-01		
	UNITS	**Criteria**	**FILED BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	0.10	A326835
Total Calcium (Ca)	mg/L	-	<0.050	0.050	A323924
Total Magnesium (Mg)	mg/L	-	<0.050	0.050	A323924
Total Potassium (K)	mg/L	-	<0.050	0.050	A323924
Total Sodium (Na)	mg/L	-	<0.050	0.050	A323924
Total Sulphur (S)	mg/L	-	<3.0	3.0	A323924

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C159878
Report Date: 2021/08/23

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A323828	Nitrate plus Nitrite (N)	2021/08/18	NC	80 - 120	107	80 - 120	<0.0020	mg/L	2.5	25		
A323830	Nitrite (N)	2021/08/18	96	80 - 120	101	80 - 120	<0.0020	mg/L	0.98	25		
A324135	Nitrate plus Nitrite (N)	2021/08/18			109	80 - 120	<0.0020	mg/L				
A324136	Nitrite (N)	2021/08/18			101	80 - 120	<0.0020	mg/L				
A325114	pH	2021/08/19			101	97 - 103			0.15	N/A		
A325182	Total Ammonia (N)	2021/08/19	98	80 - 120	101	80 - 120	<0.015	mg/L	NC	20		
A325404	Total Aluminum (Al)	2021/08/20	102	80 - 120	101	80 - 120	<3.0	ug/L	3.4	20		
A325404	Total Antimony (Sb)	2021/08/20	104	80 - 120	103	80 - 120	<0.50	ug/L	NC	20		
A325404	Total Arsenic (As)	2021/08/20	102	80 - 120	101	80 - 120	<0.10	ug/L	6.6	20		
A325404	Total Barium (Ba)	2021/08/20	102	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A325404	Total Beryllium (Be)	2021/08/20	101	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A325404	Total Bismuth (Bi)	2021/08/20	101	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A325404	Total Boron (B)	2021/08/20	105	80 - 120	102	80 - 120	<50	ug/L	NC	20		
A325404	Total Cadmium (Cd)	2021/08/20	102	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A325404	Total Chromium (Cr)	2021/08/20	100	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A325404	Total Cobalt (Co)	2021/08/20	99	80 - 120	98	80 - 120	<0.20	ug/L	NC	20		
A325404	Total Copper (Cu)	2021/08/20	97	80 - 120	97	80 - 120	<0.50	ug/L	0.67	20		
A325404	Total Iron (Fe)	2021/08/20	105	80 - 120	104	80 - 120	<10	ug/L	0.48	20		
A325404	Total Lead (Pb)	2021/08/20	104	80 - 120	102	80 - 120	<0.20	ug/L	0.35	20		
A325404	Total Lithium (Li)	2021/08/20	99	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
A325404	Total Manganese (Mn)	2021/08/20	NC	80 - 120	98	80 - 120	<1.0	ug/L	1.2	20		
A325404	Total Molybdenum (Mo)	2021/08/20	104	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
A325404	Total Nickel (Ni)	2021/08/20	99	80 - 120	97	80 - 120	<1.0	ug/L	6.5	20		
A325404	Total Selenium (Se)	2021/08/20	99	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A325404	Total Silicon (Si)	2021/08/20	NC	80 - 120	114	80 - 120	<100	ug/L	2.3	20		
A325404	Total Silver (Ag)	2021/08/20	101	80 - 120	98	80 - 120	<0.020	ug/L	NC	20		
A325404	Total Strontium (Sr)	2021/08/20	NC	80 - 120	102	80 - 120	<1.0	ug/L	0.85	20		
A325404	Total Thallium (Tl)	2021/08/20	104	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A325404	Total Tin (Sn)	2021/08/20	105	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A325404	Total Titanium (Ti)	2021/08/20	104	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A325404	Total Uranium (U)	2021/08/20	112	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		

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BV Labs Job #: C159878
Report Date: 2021/08/23

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A325404	Total Vanadium (V)	2021/08/20	102	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A325404	Total Zinc (Zn)	2021/08/20	101	80 - 120	100	80 - 120	<5.0	ug/L	1.3	20		
A325404	Total Zirconium (Zr)	2021/08/20	104	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A326695	Total Mercury (Hg)	2021/08/20	97	80 - 120	96	80 - 120	<0.0019	ug/L	8.0	20		
A326835	Total Aluminum (Al)	2021/08/23	101	80 - 120	103	80 - 120	<3.0	ug/L	NC	20		
A326835	Total Antimony (Sb)	2021/08/23	104	80 - 120	105	80 - 120	<0.50	ug/L	NC	20		
A326835	Total Arsenic (As)	2021/08/23	105	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A326835	Total Barium (Ba)	2021/08/23	100	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A326835	Total Beryllium (Be)	2021/08/23	102	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A326835	Total Bismuth (Bi)	2021/08/23	93	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A326835	Total Boron (B)	2021/08/23	100	80 - 120	105	80 - 120	<50	ug/L	NC	20		
A326835	Total Cadmium (Cd)	2021/08/23	105	80 - 120	104	80 - 120	<0.010	ug/L	NC	20		
A326835	Total Chromium (Cr)	2021/08/23	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A326835	Total Cobalt (Co)	2021/08/23	97	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A326835	Total Copper (Cu)	2021/08/23	95	80 - 120	96	80 - 120	<0.50	ug/L	NC	20		
A326835	Total Iron (Fe)	2021/08/23	101	80 - 120	107	80 - 120	<10	ug/L	NC	20		
A326835	Total Lead (Pb)	2021/08/23	91	80 - 120	96	80 - 120	<0.20	ug/L	NC	20		
A326835	Total Lithium (Li)	2021/08/23	95	80 - 120	100	80 - 120	<2.0	ug/L	NC	20		
A326835	Total Manganese (Mn)	2021/08/23	96	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A326835	Total Molybdenum (Mo)	2021/08/23	103	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A326835	Total Nickel (Ni)	2021/08/23	98	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A326835	Total Selenium (Se)	2021/08/23	107	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A326835	Total Silicon (Si)	2021/08/23	101	80 - 120	106	80 - 120	<100	ug/L	NC	20		
A326835	Total Silver (Ag)	2021/08/23	98	80 - 120	101	80 - 120	<0.020	ug/L	NC	20		
A326835	Total Strontium (Sr)	2021/08/23	101	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A326835	Total Thallium (Tl)	2021/08/23	95	80 - 120	98	80 - 120	<0.010	ug/L	NC	20		
A326835	Total Tin (Sn)	2021/08/23	102	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A326835	Total Titanium (Ti)	2021/08/23	102	80 - 120	107	80 - 120	<5.0	ug/L	NC	20		
A326835	Total Uranium (U)	2021/08/23	105	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A326835	Total Vanadium (V)	2021/08/23	101	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A326835	Total Zinc (Zn)	2021/08/23	105	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		

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BV Labs Job #: C159878
Report Date: 2021/08/23

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A326835	Total Zirconium (Zr)	2021/08/23	103	80 - 120	108	80 - 120	<0.10	ug/L	NC	20		
A327295	Total Phosphorus (P)	2021/08/23	80	80 - 120	99	80 - 120	<0.0030	mg/L	12	20	84	80 - 120
A327375	Dissolved Fluoride (F)	2021/08/21	105	80 - 120	102	80 - 120	<0.050	mg/L	NC	20		
A328171	Total Phosphorus (P)	2021/08/23	NC	80 - 120	100	80 - 120	<0.0030	mg/L	15	20	83	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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BV Labs Job #: C159878
Report Date: 2021/08/23

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5. Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

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Chain C

C159878_COC

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax (604) 850-6418	Phone	(778) 549-1240 Fax	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	K. Piper / N. Lamarche

Chain Of Custody Record

C#644669-01-01

Customer Solutions

Regulatory Criteria:

- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]

(will be applied if Rush TAT is not specified)

Standard TAT = 5-7 Working days for most tests.

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]

Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		~~H01 (39565)~~					X	X	X	X	X	X	X	X				
2		~~H02 (39566)~~					X	X	X	X	X	X	X	X				
3		~~H03 (39567)~~					X	X	X	X	X	X	X	X				
4		~~B01 (39568)~~					X	X	X	X	X	X	X	X				
5		~~B02 (39569)~~					X	X	X	X	X	X	X	X				
6		~~W01 (3956A)~~					X	X	X	X	X	X	X	X				
7		D01 (3956D)	17-Aug-21	09:26	Water	N	X	X	X	X	X	X	X	X			5	
8		D02 (3956D)	17-Aug-21	09:25	Water	N	X	X	X	X	X	X	X	X			5	
9		~~F01 (3956B)~~					X	X	X	X	X	X	X	X				
10		~~F02 (3956C)~~					X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Katie Piper	21/08/17	18:19	[signature]	2021/08/18	07:30		[ ]	8.3	[ ] Yes [✓] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Ice: y

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

Ch

C159878_COC

C#644669-02-01

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	K. Piper / E.N. Lumarche

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		~~POP (41C64)~~					X	X	X	X	X	X	X	X				
2		~~DUP~~					X	X	X	X	X	X	X	X				
3		TRIP BLANK (3AF04)	17-Aug-21	NA	Water	N	X	X	X	X	X	X	X	X			5	
4		FIELD BLANK (3AF05)	17-Aug-21	16:45	Water	N	X	X	X	X	X	X	X	X			5	
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: [ ]
Rush Confirmation Number: (call lab for #)

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Katie Piper	21/08/17	18:19	[signature]	2021/08/17	07:30		[ ]	8.3	[ ] Yes [✓] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Icely

Your Project #: BEVAN #1 CREEK WATER QUALITY
Your C.O.C. #: G159076

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/08/26
Report #: R3063659
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C160296
Received: 2021/08/19, 07:30

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	7	N/A	2021/08/21	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	7	N/A	2021/08/23	BBY WI-00033	Auto Calc
Mercury (Total) by CV	7	2021/08/23	2021/08/23	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	7	2021/08/19	2021/08/23	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	7	2021/08/20	2021/08/21	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	7	N/A	2021/08/25	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	7	N/A	2021/08/19	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	7	N/A	2021/08/19	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	7	N/A	2021/08/19	BBY WI-00033	Auto Calc
pH @25°C (3)	7	N/A	2021/08/20	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	7	2021/08/24	2021/08/25	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: BEVAN #1 CREEK WATER QUALITY
Your C.O.C. #: G159076

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
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Report Date: 2021/08/26
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CERTIFICATE OF ANALYSIS

BV LABS JOB #: C160296
Received: 2021/08/19, 07:30

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary Environmental
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C160296
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID		AEA154		AEA155	AEA156	AEA157		AEA158		
Sampling Date		2021/08/18 15:08		2021/08/18 08:57	2021/08/18 13:43	2021/08/18 12:06		2021/08/18 09:14		
COC Number		G159076		G159076	G159076	G159076		G159076		
	UNITS	**H01 (39565)**	**RDL**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**QC Batch**	**B02 (39569)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	2.20	0.0040	1.18	1.79	1.21	A325172	1.53	0.0020	A325172
Misc. Inorganics										
pH	pH	6.99	N/A	7.73	7.39	6.77	A326642	7.76	N/A	A326642
Anions										
Dissolved Fluoride (F)	mg/L	0.055	0.050	<0.050	<0.050	<0.050	A327375	<0.050	0.050	A327500
Nutrients										
Total Ammonia (N)	mg/L	<0.015	0.015	<0.015	<0.015	0.066	A331080	0.017	0.015	A331080
Total Phosphorus (P)	mg/L	0.013	0.0030	0.011	0.023	0.013	A329673	0.0098	0.0030	A329673
Nitrate plus Nitrite (N)	mg/L	2.20	0.0040	1.18	1.79	1.23	A325664	1.53	0.0020	A325664
Nitrite (N)	mg/L	<0.0020	0.0020	<0.0020	0.0040	0.0126	A325666	0.0082	0.0020	A325666

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID		AEA159			AEA160		
Sampling Date		2021/08/18 16:18			2021/08/18 15:08		
COC Number		G159076			G159076		
	UNITS	**W01 (3956A)**	**RDL**	**QC Batch**	**DUP (H01)**	**RDL**	**QC Batch**
Calculated Parameters							
Nitrate (N)	mg/L	1.49	0.0020	A325172	2.20	0.0040	A325172
Misc. Inorganics							
pH	pH	7.55	N/A	A326642	7.06	N/A	A326642
Anions							
Dissolved Fluoride (F)	mg/L	<0.050	0.050	A327500	0.053	0.050	A327500
Nutrients							
Total Ammonia (N)	mg/L	0.028	0.015	A331078	<0.015	0.015	A331080
Total Phosphorus (P)	mg/L	0.012	0.0030	A329673	0.0098	0.0030	A329673
Nitrate plus Nitrite (N)	mg/L	1.50	0.0020	A325664	2.20	0.0040	A325664
Nitrite (N)	mg/L	0.0051	0.0020	A325666	<0.0020	0.0020	A325666

RDL = Reportable Detection Limit
N/A = Not Applicable

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BV Labs Job #: C160296
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AEA154	AEA155	AEA156	AEA157	AEA158	AEA159		
Sampling Date		2021/08/18 15:08	2021/08/18 08:57	2021/08/18 13:43	2021/08/18 12:06	2021/08/18 09:14	2021/08/18 16:18		
COC Number		G159076	G159076	G159076	G159076	G159076	G159076		
	UNITS	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	96.0	114	103	84.4	114	107	0.50	A325120
Elements									
Total Mercury (Hg)	ug/L	0.0142	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A328570
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	20.9	16.6	73.5	74.4	50.9	21.7	3.0	A326202
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A326202
Total Arsenic (As)	ug/L	0.44	1.17	0.65	0.62	0.95	0.76	0.10	A326202
Total Barium (Ba)	ug/L	12.3	12.0	13.9	29.7	15.4	33.8	1.0	A326202
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A326202
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A326202
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	50	A326202
Total Cadmium (Cd)	ug/L	0.020	<0.010	0.017	0.075	<0.010	0.014	0.010	A326202
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A326202
Total Cobalt (Co)	ug/L	<0.20	<0.20	<0.20	0.91	<0.20	<0.20	0.20	A326202
Total Copper (Cu)	ug/L	1.73	0.56	2.72	2.13	<0.50	<0.50	0.50	A326202
Total Iron (Fe)	ug/L	69	89	123	1070	269	390	10	A326202
Total Lead (Pb)	ug/L	0.28	<0.20	0.24	0.63	<0.20	<0.20	0.20	A326202
Total Lithium (Li)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A326202
Total Manganese (Mn)	ug/L	17.7	19.4	12.8	285	90.3	46.6	1.0	A326202
Total Molybdenum (Mo)	ug/L	<1.0	1.4	18.7	<1.0	<1.0	<1.0	1.0	A326202
Total Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	2.0	<1.0	1.0	1.0	A326202
Total Selenium (Se)	ug/L	0.25	0.18	0.21	<0.10	0.20	0.14	0.10	A326202
Total Silicon (Si)	ug/L	10000	9630	9350	10100	11300	11100	100	A326202
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A326202
Total Strontium (Sr)	ug/L	148	150	156	305	170	213	1.0	A326202
Total Thallium (Tl)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A326202
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A326202
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A326202
Total Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A326202
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A326202
Total Zinc (Zn)	ug/L	8.5	<5.0	11.7	26.9	<5.0	<5.0	5.0	A326202
Total Zirconium (Zr)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A326202
RDL = Reportable Detection Limit									

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BV Labs Job #: C160296
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AEA154	AEA155	AEA156	AEA157	AEA158	AEA159		
Sampling Date		2021/08/18 15:08	2021/08/18 08:57	2021/08/18 13:43	2021/08/18 12:06	2021/08/18 09:14	2021/08/18 16:18		
COC Number		G159076	G159076	G159076	G159076	G159076	G159076		
	UNITS	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	26.9	32.8	29.2	24.6	31.2	28.6	0.050	A325170
Total Magnesium (Mg)	mg/L	6.98	7.82	7.21	5.58	8.87	8.54	0.050	A325170
Total Potassium (K)	mg/L	1.53	1.66	1.71	1.34	1.58	1.24	0.050	A325170
Total Sodium (Na)	mg/L	16.9	9.93	15.7	15.0	9.59	13.4	0.050	A325170
Total Sulphur (S)	mg/L	5.1	6.7	5.8	5.2	4.2	4.5	3.0	A325170
RDL = Reportable Detection Limit									

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BV Labs Job #: C160296
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AEA160		
Sampling Date		2021/08/18 15:08		
COC Number		G159076		
	UNITS	**DUP (H01)**	**RDL**	**QC Batch**
Calculated Parameters				
Total Hardness (CaCO3)	mg/L	96.5	0.50	A325120
Elements				
Total Mercury (Hg)	ug/L	0.0148	0.0019	A328570
Total Metals by ICPMS				
Total Aluminum (Al)	ug/L	22.6	3.0	A326202
Total Antimony (Sb)	ug/L	<0.50	0.50	A326202
Total Arsenic (As)	ug/L	0.41	0.10	A326202
Total Barium (Ba)	ug/L	12.5	1.0	A326202
Total Beryllium (Be)	ug/L	<0.10	0.10	A326202
Total Bismuth (Bi)	ug/L	<1.0	1.0	A326202
Total Boron (B)	ug/L	<50	50	A326202
Total Cadmium (Cd)	ug/L	0.022	0.010	A326202
Total Chromium (Cr)	ug/L	<1.0	1.0	A326202
Total Cobalt (Co)	ug/L	<0.20	0.20	A326202
Total Copper (Cu)	ug/L	1.79	0.50	A326202
Total Iron (Fe)	ug/L	72	10	A326202
Total Lead (Pb)	ug/L	0.29	0.20	A326202
Total Lithium (Li)	ug/L	<2.0	2.0	A326202
Total Manganese (Mn)	ug/L	18.1	1.0	A326202
Total Molybdenum (Mo)	ug/L	<1.0	1.0	A326202
Total Nickel (Ni)	ug/L	<1.0	1.0	A326202
Total Selenium (Se)	ug/L	0.24	0.10	A326202
Total Silicon (Si)	ug/L	10200	100	A326202
Total Silver (Ag)	ug/L	<0.020	0.020	A326202
Total Strontium (Sr)	ug/L	146	1.0	A326202
Total Thallium (Tl)	ug/L	<0.010	0.010	A326202
Total Tin (Sn)	ug/L	<5.0	5.0	A326202
Total Titanium (Ti)	ug/L	<5.0	5.0	A326202
Total Uranium (U)	ug/L	<0.10	0.10	A326202
Total Vanadium (V)	ug/L	<5.0	5.0	A326202
Total Zinc (Zn)	ug/L	8.3	5.0	A326202
Total Zirconium (Zr)	ug/L	<0.10	0.10	A326202
RDL = Reportable Detection Limit				

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BV Labs Job #: C160296
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID		AEA160		
Sampling Date		2021/08/18 15:08		
COC Number		G159076		
	UNITS	**DUP (H01)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	27.1	0.050	A325170
Total Magnesium (Mg)	mg/L	6.98	0.050	A325170
Total Potassium (K)	mg/L	1.54	0.050	A325170
Total Sodium (Na)	mg/L	16.9	0.050	A325170
Total Sulphur (S)	mg/L	5.2	3.0	A325170
RDL = Reportable Detection Limit				

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C160296
Report Date: 2021/08/26

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A325664	Nitrate plus Nitrite (N)	2021/08/19			105	80 - 120	<0.0020	mg/L				
A325666	Nitrite (N)	2021/08/19			102	80 - 120	<0.0020	mg/L				
A326202	Total Aluminum (Al)	2021/08/21	107	80 - 120	108	80 - 120	<3.0	ug/L	0.71	20		
A326202	Total Antimony (Sb)	2021/08/21	106	80 - 120	103	80 - 120	<0.50	ug/L	NC	20		
A326202	Total Arsenic (As)	2021/08/21	117	80 - 120	104	80 - 120	<0.10	ug/L	1.6	20		
A326202	Total Barium (Ba)	2021/08/21	107	80 - 120	103	80 - 120	<1.0	ug/L	2.7	20		
A326202	Total Beryllium (Be)	2021/08/21	105	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A326202	Total Bismuth (Bi)	2021/08/21	92	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A326202	Total Boron (B)	2021/08/21	110	80 - 120	106	80 - 120	<50	ug/L	NC	20		
A326202	Total Cadmium (Cd)	2021/08/21	109	80 - 120	103	80 - 120	<0.010	ug/L	NC	20		
A326202	Total Chromium (Cr)	2021/08/21	99	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A326202	Total Cobalt (Co)	2021/08/21	97	80 - 120	101	80 - 120	<0.20	ug/L	NC	20		
A326202	Total Copper (Cu)	2021/08/21	90	80 - 120	98	80 - 120	<0.50	ug/L	NC	20		
A326202	Total Iron (Fe)	2021/08/21	107	80 - 120	111	80 - 120	<10	ug/L	3.2	20		
A326202	Total Lead (Pb)	2021/08/21	92	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A326202	Total Lithium (Li)	2021/08/21	102	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
A326202	Total Manganese (Mn)	2021/08/21	NC	80 - 120	102	80 - 120	<1.0	ug/L	2.4	20		
A326202	Total Molybdenum (Mo)	2021/08/21	110	80 - 120	110	80 - 120	<1.0	ug/L	NC	20		
A326202	Total Nickel (Ni)	2021/08/21	93	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A326202	Total Selenium (Se)	2021/08/21	114	80 - 120	104	80 - 120	<0.10	ug/L	2.1	20		
A326202	Total Silicon (Si)	2021/08/21	NC	80 - 120	113	80 - 120	<100	ug/L	0.011	20		
A326202	Total Silver (Ag)	2021/08/21	104	80 - 120	100	80 - 120	<0.020	ug/L	NC	20		
A326202	Total Strontium (Sr)	2021/08/21	NC	80 - 120	108	80 - 120	<1.0	ug/L	1.7	20		
A326202	Total Thallium (Tl)	2021/08/21	100	80 - 120	99	80 - 120	<0.010	ug/L	NC	20		
A326202	Total Tin (Sn)	2021/08/21	102	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A326202	Total Titanium (Ti)	2021/08/21	110	80 - 120	113	80 - 120	<5.0	ug/L	NC	20		
A326202	Total Uranium (U)	2021/08/21	115	80 - 120	110	80 - 120	<0.10	ug/L	NC	20		
A326202	Total Vanadium (V)	2021/08/21	107	80 - 120	105	80 - 120	<5.0	ug/L	NC	20		
A326202	Total Zinc (Zn)	2021/08/21	98	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A326202	Total Zirconium (Zr)	2021/08/21	110	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A326642	pH	2021/08/20			101	97 - 103			2.2	N/A		
A327375	Dissolved Fluoride (F)	2021/08/21	105	80 - 120	102	80 - 120	<0.050	mg/L	NC	20		

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BV Labs Job #: C160296
Report Date: 2021/08/26

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A327500	Dissolved Fluoride (F)	2021/08/21	107	80 - 120	104	80 - 120	<0.050	mg/L	NC	20		
A328570	Total Mercury (Hg)	2021/08/23	86	80 - 120	95	80 - 120	<0.0019	ug/L	NC	20		
A329673	Total Phosphorus (P)	2021/08/26	110	80 - 120	91	80 - 120	<0.0030	mg/L	1.2	20	90	80 - 120
A331078	Total Ammonia (N)	2021/08/25	105	80 - 120	94	80 - 120	<0.015	mg/L	13	20		
A331080	Total Ammonia (N)	2021/08/25	87	80 - 120	98	80 - 120	<0.015	mg/L	6.2	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Sandy Yuan, M.Sc., QP, Scientific Specialist

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Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5 Toll Free (833) 282-5227
Victoria: 851 Viewfield Road, Unit 1, Victoria, BC V9A 6V2 Toll Free (833) 282-5227
bvlabs.com

CHAIN OF CUSTODY RECORD

G 159076

Page _____ of _____

Invoice Information		Report Information (if differs from invoice)		Project Information		Turnaround Time (TAT) Required
Company:	#1414 City of Abbotsford	Company:		Quotation	C01193	☒ 5 - 7 Days Regular (Most analyses)
Contact Name:	Amy Peters	Contact Name:		P.O. #/AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	32315 South Fraser Way Abbotsford BC PC: V2T 1W7	Address:	PC:	Project #:	Bevan #1 Creek Water Quality	Rush TAT (Surcharges will be applied): ☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3-4 Days
Phone/Fax:	7785491240 / 6048506418	Phone/Fax:		Site Location:		Date Required:
Email:	apeters@abbotsford.ca	Email:		Site #:		Rush Confirmation #:
Copies:		Copies:		Sampled By:	K. Piper / N. Lamarche	

Laboratory Use Only

	YES	NO	Cooler ID			
Seal Present		/				
Seal Intact		/	Temp	0	2	2
Cooling Media	/					
	YES	NO	Cooler ID			
Seal Present						
Seal Intact			Temp			
Cooling Media						
	YES	NO	Cooler ID			
Seal Present						
Seal Intact			Temp			
Cooling Media						

Depot Reception

Analysis Requested

	Sample Identification	Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	☐ BTEX5 / VPH	☐ BTEX F1	☐ PAH	☐ EPH	☐ Dissolved Metals	☐ Dissolved Mercury	☐ Total Metals	☐ Total Mercury	☐ Chloride	☐ TSS	☐ pH @ 25°C	☐ Nitrite (low level)	☐ CSR / CCME Tot. Metals in H2O w/ CV Hg	☐ Nitrogen - Nitrate (as N) (low level) Calc	☐ Total Phosphorus			HOLD - DO NOT ANALYZE
1	H01 (39565)	2021/08/18	15:08	Water	5									X		X	X	X	X	X			
2	H02 (39566)	↓	08:57	↓	↓									↓		↓	↓	↓	↓	↓			
3	H03 (39567)	↓	13:43	↓	↓									↓		↓	↓	↓	↓	↓			
4	B01 (39568)	↓	12:06	↓	↓									↓		↓	↓	↓	↓	↓			
5	B02 (39569)	↓	09:14	↓	↓									↓		↓	↓	↓	↓	↓			
6	W01 (39566A)	↓	16:18	↓	↓									↓		↓	↓	↓	↓	↓			
7	DUP (H01)	↓	15:08	↓	↓									↓		↓	↓	↓	↓	↓			
8																							
9																							
10																							

Regulatory Criteria: ☐ BC CSR ☐ YK CSR ☐ CCME ☐ Drinking Water ☐ BC Water Quality ☐ Other

Special Instructions

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgement and acceptance of o

Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):
Katie Piper	2021/08/18	18:37	Renegie Lay	2021/08/19	07:30

C160296_COC

Your Project #: BEVAN #1 CREEK WATER QUALITY
Your C.O.C. #: g159077, 3956B, 3956C, 41C64

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/08/26
Report #: R3063993
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C160680
Received: 2021/08/20, 07:30

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	3	N/A	2021/08/25	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	3	N/A	2021/08/25	BBY WI-00033	Auto Calc
Mercury (Total) by CV	3	2021/08/23	2021/08/23	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	3	2021/08/20	2021/08/25	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	3	2021/08/21	2021/08/23	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	3	N/A	2021/08/25	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	3	N/A	2021/08/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	3	N/A	2021/08/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	3	N/A	2021/08/20	BBY WI-00033	Auto Calc
pH @25°C (3)	3	N/A	2021/08/20	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	3	2021/08/26	2021/08/26	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
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Your Project #: BEVAN #1 CREEK WATER QUALITY
Your C.O.C. #: g159077, 3956B, 3956C, 41C64

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/08/26
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Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C160680
Received: 2021/08/20, 07:30

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary Environmental
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
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BV Labs Job #: C160680
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			AEC966			AEC967	AEC968		
Sampling Date			2021/08/19 09:03			2021/08/19 11:15	2021/08/19 17:54		
COC Number			3956B			3956C	41C64		
	UNITS	**Criteria**	**F01 (3956B)**	**RDL**	**QC Batch**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	0.288	0.0020	A326479	0.030	0.024	0.020	A326479
Misc. Inorganics									
pH	pH	6.5:9.0	7.23	N/A	A328316	6.89	6.92	N/A	A328353
Anions									
Dissolved Fluoride (F)	mg/L	0.12	0.054	0.050	A332025	0.064	0.054	0.050	A332025
Nutrients									
Total Ammonia (N)	mg/L	-	0.023	0.015	A331080	0.063	0.16	0.015	A331080
Total Phosphorus (P)	mg/L	-	0.041	0.0030	A332473	0.078	0.15	0.0030	A332473
Nitrate plus Nitrite (N)	mg/L	-	0.297	0.0020	A326744	0.030 (1)	0.024 (1)	0.020	A326744
Nitrite (N)	mg/L	0.06	0.0085	0.0020	A326745	<0.020 (1)	<0.020 (1)	0.020	A326745

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) RDL raised due to sample matrix interference.

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BV Labs Job #: C160680
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AEC966	AEC967	AEC968		
Sampling Date			2021/08/19 09:03	2021/08/19 11:15	2021/08/19 17:54		
COC Number			3956B	3956C	41C64		
	UNITS	**Criteria**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	113	98.2	90.9	0.50	A326269
Elements							
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	0.0019	0.0019	A328691
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	-	36.9	60.0	76.5	3.0	A327195
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	0.50	A327195
Total Arsenic (As)	ug/L	5	2.48	3.08	4.89	0.10	A327195
Total Barium (Ba)	ug/L	-	19.6	65.1	32.9	1.0	A327195
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	0.10	A327195
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	1.0	A327195
Total Boron (B)	ug/L	1500	<50	<50	<50	50	A327195
Total Cadmium (Cd)	ug/L	-	0.043	<0.010	<0.010	0.010	A327195
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	1.0	A327195
Total Cobalt (Co)	ug/L	-	<0.20	1.78	0.46	0.20	A327195
Total Copper (Cu)	ug/L	-	2.00	0.52	1.40	0.50	A327195
Total Iron (Fe)	ug/L	300	**442**	**4200**	**3790**	10	A327195
Total Lead (Pb)	ug/L	-	<0.20	<0.20	0.33	0.20	A327195
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	2.0	A327195
Total Manganese (Mn)	ug/L	-	132	3930	1170	1.0	A327195
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	1.0	A327195
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	1.0	A327195
Total Selenium (Se)	ug/L	1	0.12	0.11	<0.10	0.10	A327195
Total Silicon (Si)	ug/L	-	6890	6020	8480	100	A327195
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	0.020	A327195
Total Strontium (Sr)	ug/L	-	157	163	137	1.0	A327195
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	0.010	A327195
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	5.0	A327195
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	5.0	A327195
Total Uranium (U)	ug/L	15	0.18	<0.10	<0.10	0.10	A327195
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	5.0	A327195
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	6.3	5.0	A327195
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	0.10	A327195

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C160680
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AEC966	AEC967	AEC968		
Sampling Date			2021/08/19 09:03	2021/08/19 11:15	2021/08/19 17:54		
COC Number			3956B	3956C	41C64		
	UNITS	**Criteria**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	-	29.4	27.7	24.6	0.050	A326437
Total Magnesium (Mg)	mg/L	-	9.48	7.06	7.16	0.050	A326437
Total Potassium (K)	mg/L	-	2.42	3.25	1.36	0.050	A326437
Total Sodium (Na)	mg/L	-	15.1	21.1	13.1	0.050	A326437
Total Sulphur (S)	mg/L	-	4.4	<3.0	<3.0	3.0	A326437

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C160680
Report Date: 2021/08/26

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A326744	Nitrate plus Nitrite (N)	2021/08/20	96	80 - 120	106	80 - 120	<0.0020	mg/L	0.10	25		
A326745	Nitrite (N)	2021/08/20	95	80 - 120	103	80 - 120	<0.0020	mg/L	5.7	25		
A327195	Total Aluminum (Al)	2021/08/23	105	80 - 120	102	80 - 120	<3.0	ug/L	1.8	20		
A327195	Total Antimony (Sb)	2021/08/23	104	80 - 120	104	80 - 120	<0.50	ug/L	NC	20		
A327195	Total Arsenic (As)	2021/08/23	102	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Barium (Ba)	2021/08/23	104	80 - 120	105	80 - 120	<1.0	ug/L	0.30	20		
A327195	Total Beryllium (Be)	2021/08/23	92	80 - 120	92	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Bismuth (Bi)	2021/08/23	95	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Boron (B)	2021/08/23	92	80 - 120	93	80 - 120	<50	ug/L	NC	20		
A327195	Total Cadmium (Cd)	2021/08/23	104	80 - 120	104	80 - 120	<0.010	ug/L	9.5	20		
A327195	Total Chromium (Cr)	2021/08/23	103	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Cobalt (Co)	2021/08/23	105	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A327195	Total Copper (Cu)	2021/08/23	NC	80 - 120	98	80 - 120	<0.50	ug/L	1.2	20		
A327195	Total Iron (Fe)	2021/08/23	102	80 - 120	105	80 - 120	<10	ug/L	NC	20		
A327195	Total Lead (Pb)	2021/08/23	99	80 - 120	102	80 - 120	<0.20	ug/L	0.60	20		
A327195	Total Lithium (Li)	2021/08/23	85	80 - 120	84	80 - 120	<2.0	ug/L	NC	20		
A327195	Total Manganese (Mn)	2021/08/23	104	80 - 120	100	80 - 120	<1.0	ug/L	5.3	20		
A327195	Total Molybdenum (Mo)	2021/08/23	106	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Nickel (Ni)	2021/08/23	101	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Selenium (Se)	2021/08/23	105	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Silicon (Si)	2021/08/23	NC	80 - 120	109	80 - 120	<100	ug/L	1.6	20		
A327195	Total Silver (Ag)	2021/08/23	102	80 - 120	102	80 - 120	<0.020	ug/L	NC	20		
A327195	Total Strontium (Sr)	2021/08/23	108	80 - 120	103	80 - 120	<1.0	ug/L	0.42	20		
A327195	Total Thallium (Tl)	2021/08/23	98	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A327195	Total Tin (Sn)	2021/08/23	103	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A327195	Total Titanium (Ti)	2021/08/23	106	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A327195	Total Uranium (U)	2021/08/23	101	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Vanadium (V)	2021/08/23	104	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A327195	Total Zinc (Zn)	2021/08/23	NC	80 - 120	101	80 - 120	<5.0	ug/L	0.54	20		
A327195	Total Zirconium (Zr)	2021/08/23	105	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A328316	pH	2021/08/20			101	97 - 103			3.9	N/A		
A328353	pH	2021/08/20			101	97 - 103			1.7	N/A		

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BV Labs Job #: C160680
Report Date: 2021/08/26

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A328691	Total Mercury (Hg)	2021/08/23	88	80 - 120	95	80 - 120	<0.0019	ug/L	NC	20		
A331080	Total Ammonia (N)	2021/08/25	87	80 - 120	98	80 - 120	<0.015	mg/L	6.2	20		
A332025	Dissolved Fluoride (F)	2021/08/25	109	80 - 120	100	80 - 120	<0.050	mg/L	NC	20		
A332473	Total Phosphorus (P)	2021/08/26	101	80 - 120	115	80 - 120	<0.0030	mg/L	13	20	97	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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BV Labs Job #: C160680
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

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Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5 Toll Free (833) 282-5227
Victoria: 851 Viewfield Road, Unit 1, Victoria, BC V9A 4V2 Toll Free (833) 282-5227
bvlabs.com

CHAIN OF CUSTODY RECORD

G 159077

Page _____ of _____

Invoice Information		Report Information (if differs from invoice)		Project Information		Turnaround Time (TAT) Required
Company:	#1414 City of Abbotsford	Company:		Quotation	C01193	☒ 5 - 7 Days Regular (Most analyses)
Contact Name:	Amy Peters	Contact Name:		P.O. #/AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	32315 South Fraser Way Abbotsford BC PC: V2T 1W7	Address:	PC:	Project #:	Bevan #1 Creek Water Quality	Rush TAT (Surcharges will be applied) ☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3-4 Days
Phone/Fax:	778 549 1240 / 604 850 6418	Phone/Fax:		Site Location:		Date Required:
Email:	apeters@abbotsford.ca	Email:		Site #:		Rush Confirmation #:
Copies:		Copies:		Sampled By:	K. Piper / N. Lamarche	

Laboratory Use Only

	YES	NO	Cooler ID			
Seal Present		/		1		
Seal Intact		/	Temp	4	3	-1
Cooling Media	/					
	YES	NO	Cooler ID			
Seal Present						
Seal Intact			Temp			
Cooling Media						
	YES	NO	Cooler ID			
Seal Present						
Seal Intact			Temp			
Cooling Media						

Depot Reception

Analysis Requested

	Sample Identification	Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	BTEXS / VPH	VOC / BTEXS / VPH	MTBE	BTEX F1	VOC / BTEX / F1	PAH	LEPH / HEPH / PAH	EPH	TEH	F2 - F4	Dissolved Metals	Filtered?	Preserved?	Dissolved Mercury	Filtered?	Preserved?	Total Metals	Field Preserved?	Total Mercury	Field Preserved?	Chloride	Fluoride	Sulphate	TSS	TDS	COD	BOD	pH @ 25°C	Conductivity	Alkalinity	Nitrite (low level)	Nitrate (low level)	Ammonia (Total)	CSR/CCME Tot. Metals in H2O w/ Cr(Hg)	Nitrogen-Nitrate (as N) Low Level Calc	Total Phosphorus				HOLD - DO NOT ANALYZE
1	F01 (3956B)	2021/08/19	9:03	Water	5																					X		X					X	X	X	X	X	X	X							
2	F02 (3956C)	↓	11:15																																											
3	F0F (41C64)		17:54																																											
4																																														
5																																														
6																																														
7																																														
8																																														
9																																														
10																																														

Regulatory Criteria

- ☐ BC CSR
- ☐ YK CSR
- ☐ CCME
- ☐ Drinking Water
- ☐ BC Water Quality
- ☐ Other

Special Instructions

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgement and acceptance

Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):
Katie Piper	2021/08/19	19:11	Rangie Lumpay	2021/08/20	07:30

C160680_COC

COC-1020

Bureau Veritas Shaping a World of Trust©

>00077/13

Your Project #: Bevan #7 Creek Water Quality

Your C.O.C. #: 644682-01-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/08/26
Report #: R3063990
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C160682
Received: 2021/08/20, 07:30

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	2	N/A	2021/08/25	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/08/25	BBY WI-00033	Auto Calc
Mercury (Total) by CV	2	2021/08/23	2021/08/23	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/08/20	2021/08/25	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	2	2021/08/21	2021/08/23	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	2	N/A	2021/08/25	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	2	N/A	2021/08/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	2	N/A	2021/08/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	2	N/A	2021/08/20	BBY WI-00033	Auto Calc
pH @25°C (3)	2	N/A	2021/08/20	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	2	2021/08/26	2021/08/26	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
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Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #7 Creek Water Quality

Your C.O.C. #: 644682-01-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/08/26
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Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C160682
Received: 2021/08/20, 07:30

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary Environmental

(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276

==========

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BV Labs Job #: C160682
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			AEC971		AEC972		
Sampling Date			2021/08/19 14:42		2021/08/19 15:27		
COC Number			644682-01-01		644682-01-01		
	UNITS	**Criteria**	**F-03**	**RDL**	**F-04**	**RDL**	**QC Batch**
Calculated Parameters							
Nitrate (N)	mg/L	-	<0.020	0.020	1.69	0.0020	A326479
Misc. Inorganics							
pH	pH	6.5:9.0	7.02	N/A	6.77	N/A	A328353
Anions							
Dissolved Fluoride (F)	mg/L	0.12	0.057	0.050	<0.050	0.050	A332025
Nutrients							
Total Ammonia (N)	mg/L	-	<0.015	0.015	<0.015	0.015	A331080
Total Phosphorus (P)	mg/L	-	0.055	0.0030	0.010	0.0030	A332473
Nitrate plus Nitrite (N)	mg/L	-	<0.020 (1)	0.020	1.70	0.0020	A326744
Nitrite (N)	mg/L	0.06	<0.020 (1)	0.020	0.0030	0.0020	A326745

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) RDL raised due to sample matrix interference.

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BV Labs Job #: C160682
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AEC971	AEC972		
Sampling Date			2021/08/19 14:42	2021/08/19 15:27		
COC Number			644682-01-01	644682-01-01		
	UNITS	**Criteria**	**F-03**	**F-04**	**RDL**	**QC Batch**
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	-	102	97.8	0.50	A326269
Elements						
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	0.0019	A328691
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	-	39.1	24.0	3.0	A327195
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	0.50	A327195
Total Arsenic (As)	ug/L	5	2.03	0.41	0.10	A327195
Total Barium (Ba)	ug/L	-	35.3	12.9	1.0	A327195
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	0.10	A327195
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	1.0	A327195
Total Boron (B)	ug/L	1500	<50	<50	50	A327195
Total Cadmium (Cd)	ug/L	-	0.159	0.015	0.010	A327195
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	1.0	A327195
Total Cobalt (Co)	ug/L	-	0.66	<0.20	0.20	A327195
Total Copper (Cu)	ug/L	-	0.53	0.91	0.50	A327195
Total Iron (Fe)	ug/L	300	**1350**	**312**	10	A327195
Total Lead (Pb)	ug/L	-	<0.20	<0.20	0.20	A327195
Total Lithium (Li)	ug/L	-	<2.0	<2.0	2.0	A327195
Total Manganese (Mn)	ug/L	-	2800	139	1.0	A327195
Total Molybdenum (Mo)	ug/L	73	2.0	<1.0	1.0	A327195
Total Nickel (Ni)	ug/L	-	2.9	<1.0	1.0	A327195
Total Selenium (Se)	ug/L	1	0.14	0.16	0.10	A327195
Total Silicon (Si)	ug/L	-	5690	7600	100	A327195
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	0.020	A327195
Total Strontium (Sr)	ug/L	-	139	162	1.0	A327195
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	0.010	A327195
Total Tin (Sn)	ug/L	-	<5.0	<5.0	5.0	A327195
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	5.0	A327195
Total Uranium (U)	ug/L	15	<0.10	<0.10	0.10	A327195
Total Vanadium (V)	ug/L	-	<5.0	<5.0	5.0	A327195
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	5.0	A327195
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	0.10	A327195

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C160682
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AEC971	AEC972		
Sampling Date			2021/08/19 14:42	2021/08/19 15:27		
COC Number			644682-01-01	644682-01-01		
	UNITS	**Criteria**	**F-03**	**F-04**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	-	27.2	26.1	0.050	A326437
Total Magnesium (Mg)	mg/L	-	8.29	7.92	0.050	A326437
Total Potassium (K)	mg/L	-	3.43	2.73	0.050	A326437
Total Sodium (Na)	mg/L	-	15.9	8.74	0.050	A326437
Total Sulphur (S)	mg/L	-	3.5	6.4	3.0	A326437

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C160682
Report Date: 2021/08/26

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A326744	Nitrate plus Nitrite (N)	2021/08/20	96	80 - 120	106	80 - 120	<0.0020	mg/L	0.10	25		
A326745	Nitrite (N)	2021/08/20	95	80 - 120	103	80 - 120	<0.0020	mg/L	5.7	25		
A327195	Total Aluminum (Al)	2021/08/23	105	80 - 120	102	80 - 120	<3.0	ug/L	1.8	20		
A327195	Total Antimony (Sb)	2021/08/23	104	80 - 120	104	80 - 120	<0.50	ug/L	NC	20		
A327195	Total Arsenic (As)	2021/08/23	102	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Barium (Ba)	2021/08/23	104	80 - 120	105	80 - 120	<1.0	ug/L	0.30	20		
A327195	Total Beryllium (Be)	2021/08/23	92	80 - 120	92	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Bismuth (Bi)	2021/08/23	95	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Boron (B)	2021/08/23	92	80 - 120	93	80 - 120	<50	ug/L	NC	20		
A327195	Total Cadmium (Cd)	2021/08/23	104	80 - 120	104	80 - 120	<0.010	ug/L	9.5	20		
A327195	Total Chromium (Cr)	2021/08/23	103	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Cobalt (Co)	2021/08/23	105	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A327195	Total Copper (Cu)	2021/08/23	NC	80 - 120	98	80 - 120	<0.50	ug/L	1.2	20		
A327195	Total Iron (Fe)	2021/08/23	102	80 - 120	105	80 - 120	<10	ug/L	NC	20		
A327195	Total Lead (Pb)	2021/08/23	99	80 - 120	102	80 - 120	<0.20	ug/L	0.60	20		
A327195	Total Lithium (Li)	2021/08/23	85	80 - 120	84	80 - 120	<2.0	ug/L	NC	20		
A327195	Total Manganese (Mn)	2021/08/23	104	80 - 120	100	80 - 120	<1.0	ug/L	5.3	20		
A327195	Total Molybdenum (Mo)	2021/08/23	106	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Nickel (Ni)	2021/08/23	101	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A327195	Total Selenium (Se)	2021/08/23	105	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Silicon (Si)	2021/08/23	NC	80 - 120	109	80 - 120	<100	ug/L	1.6	20		
A327195	Total Silver (Ag)	2021/08/23	102	80 - 120	102	80 - 120	<0.020	ug/L	NC	20		
A327195	Total Strontium (Sr)	2021/08/23	108	80 - 120	103	80 - 120	<1.0	ug/L	0.42	20		
A327195	Total Thallium (Tl)	2021/08/23	98	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A327195	Total Tin (Sn)	2021/08/23	103	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A327195	Total Titanium (Ti)	2021/08/23	106	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A327195	Total Uranium (U)	2021/08/23	101	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A327195	Total Vanadium (V)	2021/08/23	104	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A327195	Total Zinc (Zn)	2021/08/23	NC	80 - 120	101	80 - 120	<5.0	ug/L	0.54	20		
A327195	Total Zirconium (Zr)	2021/08/23	105	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A328353	pH	2021/08/20			101	97 - 103			1.7	N/A		

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C160682
Report Date: 2021/08/26

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A328691	Total Mercury (Hg)	2021/08/23	88	80 - 120	95	80 - 120	<0.0019	ug/L	NC	20		
A331080	Total Ammonia (N)	2021/08/25	87	80 - 120	98	80 - 120	<0.015	mg/L	6.2	20		
A332025	Dissolved Fluoride (F)	2021/08/25	109	80 - 120	100	80 - 120	<0.050	mg/L	NC	20		
A332473	Total Phosphorus (P)	2021/08/26	101	80 - 120	115	80 - 120	<0.0030	mg/L	13	20	97	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C160682
Report Date: 2021/08/26

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

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For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

Chai

1 of 1

C160682_COC

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #7 Creek Water Quality
Phone	(778) 549-1240 Fax (604) 850-6418	Phone	(778) 549-1240 Fax	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	K. Piper / N. Lamarche

Chain Of Custody Record: C#644682-01-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: [ ]
Rush Confirmation Number: (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F-03	21/08/19	14:42	Water	N	X	X	X	X	X	X	X	X			5	
2		F-04	21/08/19	15:27	↓	N	X	X	X	X	X	X	X	X			5	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
K. Piper	21/08/19	19:11	Renegre Lampony	2021/08/20	07:30		[ ]	4, 3, -1	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Icey

Your Project #: BEVAN #1 CREEK WATER QUALITY
Your C.O.C. #: 3956D, D01, 3AF04, 3AF05

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/09/27
Report #: R3076737
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C170212
Received: 2021/09/21, 07:30

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	5	N/A	2021/09/23	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/09/23	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	3	N/A	2021/09/24	BBY WI-00033	Auto Calc
Mercury (Total) by CV	5	2021/09/22	2021/09/22	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/09/22	2021/09/23	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	3	2021/09/22	2021/09/24	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	5	2021/09/22	2021/09/23	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	5	N/A	2021/09/23	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	5	N/A	2021/09/22	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	5	N/A	2021/09/22	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	5	N/A	2021/09/23	BBY WI-00033	Auto Calc
pH @25°C (3)	5	N/A	2021/09/22	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	3	2021/09/24	2021/09/24	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	2	2021/09/24	2021/09/25	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope

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Your Project #: BEVAN #1 CREEK WATER QUALITY
Your C.O.C. #: 3956D, D01, 3AF04, 3AF05

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/09/27
Report #: R3076737
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C170212
Received: 2021/09/21, 07:30

dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
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BV Labs Job #: C170212
Report Date: 2021/09/27

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			AGI854	AGI855	AGI856	AGI857		
Sampling Date			2021/09/20 10:15	2021/09/20 10:45	2021/09/20 10:15	2021/09/20		
COC Number			3956D	3956D	D01	3AF04		
	UNITS	**Criteria**	**DO1 (WTX 3956D)**	**DO2 (WTX 3956D)**	**DUP (D01)**	**TRIP BLANK (WTX 3AF04)**	**RDL**	**QC Batch**
Calculated Parameters								
Nitrate (N)	mg/L	-	0.942	0.746	0.943	<0.0020	0.0020	A361890
Misc. Inorganics								
pH	pH	6.5:9.0	7.80	7.75	7.91	7.33	N/A	A364825
Anions								
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	<0.050	<0.050	0.050	A363421
Nutrients								
Total Ammonia (N)	mg/L	-	<0.015	<0.015	<0.015	<0.015	0.015	A364542
Total Phosphorus (P)	mg/L	-	0.014	0.021	0.013	<0.0030	0.0030	A364290
Nitrate plus Nitrite (N)	mg/L	-	0.944	0.749	0.945	<0.0020	0.0020	A362582
Nitrite (N)	mg/L	0.06	0.0021	0.0038	0.0020	<0.0020	0.0020	A362583

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID			AGI858		
Sampling Date			2021/09/20 18:38		
COC Number			3AF05		
	UNITS	**Criteria**	**FIELD BLANK (WTX 3AF05)**	**RDL**	**QC Batch**
Calculated Parameters					
Nitrate (N)	mg/L	-	<0.0020	0.0020	A361890
Misc. Inorganics					
pH	pH	6.5:9.0	**6.07**	N/A	A364825
Anions					
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A363421
Nutrients					
Total Ammonia (N)	mg/L	-	<0.015	0.015	A364547
Total Phosphorus (P)	mg/L	-	<0.0030	0.0030	A364290
Nitrate plus Nitrite (N)	mg/L	-	<0.0020	0.0020	A362582
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	A362583

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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BV Labs Job #: C170212
Report Date: 2021/09/27

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGI854	AGI855	AGI856		
Sampling Date			2021/09/20 10:15	2021/09/20 10:45	2021/09/20 10:15		
COC Number			3956D	3956D	D01		
	UNITS	**Criteria**	**DO1 (WTX 3956D)**	**DO2 (WTX 3956D)**	**DUP (D01)**	**RDL**	**QC Batch**
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	108	121	108	0.50	A361481
Elements							
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	0.0019	A362068
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	-	47.2	92.0	42.0	3.0	A362105
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	0.50	A362105
Total Arsenic (As)	ug/L	5	1.30	2.34	1.27	0.10	A362105
Total Barium (Ba)	ug/L	-	16.1	15.0	15.5	1.0	A362105
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	0.10	A362105
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	1.0	A362105
Total Boron (B)	ug/L	1500	<50	<50	<50	50	A362105
Total Cadmium (Cd)	ug/L	-	<0.010	<0.010	<0.010	0.010	A362105
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	1.0	A362105
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	0.20	A362105
Total Copper (Cu)	ug/L	-	0.68	<0.50	0.64	0.50	A362105
Total Iron (Fe)	ug/L	300	**360**	**813**	**349**	10	A362105
Total Lead (Pb)	ug/L	-	<0.20	<0.20	<0.20	0.20	A362105
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	2.0	A362105
Total Manganese (Mn)	ug/L	-	110	252	107	1.0	A362105
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	1.0	A362105
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	1.0	A362105
Total Selenium (Se)	ug/L	1	0.24	0.25	0.25	0.10	A362105
Total Silicon (Si)	ug/L	-	10300	11900	10400	100	A362105
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	0.020	A362105
Total Strontium (Sr)	ug/L	-	150	163	152	1.0	A362105
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	0.010	A362105
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	5.0	A362105
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	5.0	A362105
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	0.10	A362105
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	5.0	A362105
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	<5.0	5.0	A362105

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C170212
Report Date: 2021/09/27

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGI854	AGI855	AGI856		
Sampling Date			2021/09/20 10:15	2021/09/20 10:45	2021/09/20 10:15		
COC Number			3956D	3956D	D01		
	UNITS	**Criteria**	**DO1 (WTX 3956D)**	**DO2 (WTX 3956D)**	**DUP (D01)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	0.10	A362105
Total Calcium (Ca)	mg/L	-	28.3	31.6	28.3	0.050	A361489
Total Magnesium (Mg)	mg/L	-	8.97	10.3	8.94	0.050	A361489
Total Potassium (K)	mg/L	-	2.01	1.68	1.94	0.050	A361489
Total Sodium (Na)	mg/L	-	11.4	10.1	11.2	0.050	A361489
Total Sulphur (S)	mg/L	-	6.5	4.2	6.9	3.0	A361489

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C170212
Report Date: 2021/09/27

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGI857	AGI858		
Sampling Date			2021/09/20	2021/09/20 18:38		
COC Number			3AF04	3AF05		
	UNITS	**Criteria**	**TRIP BLANK (WTX 3AF04)**	**FIELD BLANK (WTX 3AF05)**	**RDL**	**QC Batch**
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	-	<0.50	<0.50	0.50	A361481
Elements						
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	0.0019	A362068
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	-	<3.0	<3.0	3.0	A361132
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	0.50	A361132
Total Arsenic (As)	ug/L	5	<0.10	<0.10	0.10	A361132
Total Barium (Ba)	ug/L	-	<1.0	<1.0	1.0	A361132
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	0.10	A361132
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	1.0	A361132
Total Boron (B)	ug/L	1500	<50	<50	50	A361132
Total Cadmium (Cd)	ug/L	-	<0.010	<0.010	0.010	A361132
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	1.0	A361132
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	0.20	A361132
Total Copper (Cu)	ug/L	-	<0.50	<0.50	0.50	A361132
Total Iron (Fe)	ug/L	300	<10	<10	10	A361132
Total Lead (Pb)	ug/L	-	<0.20	<0.20	0.20	A361132
Total Lithium (Li)	ug/L	-	<2.0	<2.0	2.0	A361132
Total Manganese (Mn)	ug/L	-	<1.0	<1.0	1.0	A361132
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	1.0	A361132
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	1.0	A361132
Total Selenium (Se)	ug/L	1	<0.10	<0.10	0.10	A361132
Total Silicon (Si)	ug/L	-	<100	<100	100	A361132
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	0.020	A361132
Total Strontium (Sr)	ug/L	-	<1.0	<1.0	1.0	A361132
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	0.010	A361132
Total Tin (Sn)	ug/L	-	<5.0	<5.0	5.0	A361132
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	5.0	A361132
Total Uranium (U)	ug/L	15	<0.10	<0.10	0.10	A361132
Total Vanadium (V)	ug/L	-	<5.0	<5.0	5.0	A361132
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	5.0	A361132

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C170212
Report Date: 2021/09/27

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGI857	AGI858		
Sampling Date			2021/09/20	2021/09/20 18:38		
COC Number			3AF04	3AF05		
	UNITS	**Criteria**	**TRIP BLANK (WTX 3AF04)**	**FIELD BLANK (WTX 3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	0.10	A361132
Total Calcium (Ca)	mg/L	-	<0.050	<0.050	0.050	A361489
Total Magnesium (Mg)	mg/L	-	<0.050	<0.050	0.050	A361489
Total Potassium (K)	mg/L	-	<0.050	<0.050	0.050	A361489
Total Sodium (Na)	mg/L	-	<0.050	<0.050	0.050	A361489
Total Sulphur (S)	mg/L	-	<3.0	<3.0	3.0	A361489

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C170212
Report Date: 2021/09/27

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A361132	Total Aluminum (Al)	2021/09/23	98	80 - 120	101	80 - 120	<3.0	ug/L	1.4	20		
A361132	Total Antimony (Sb)	2021/09/23	100	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A361132	Total Arsenic (As)	2021/09/23	99	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A361132	Total Barium (Ba)	2021/09/23	98	80 - 120	100	80 - 120	<1.0	ug/L	3.3	20		
A361132	Total Beryllium (Be)	2021/09/23	97	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A361132	Total Bismuth (Bi)	2021/09/23	96	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A361132	Total Boron (B)	2021/09/23	96	80 - 120	101	80 - 120	<50	ug/L	0.17	20		
A361132	Total Cadmium (Cd)	2021/09/23	99	80 - 120	102	80 - 120	<0.010	ug/L	17	20		
A361132	Total Chromium (Cr)	2021/09/23	94	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A361132	Total Cobalt (Co)	2021/09/23	93	80 - 120	96	80 - 120	<0.20	ug/L	NC	20		
A361132	Total Copper (Cu)	2021/09/23	90	80 - 120	94	80 - 120	<0.50	ug/L	0.83	20		
A361132	Total Iron (Fe)	2021/09/23	102	80 - 120	105	80 - 120	<10	ug/L	2.1	20		
A361132	Total Lead (Pb)	2021/09/23	99	80 - 120	103	80 - 120	<0.20	ug/L	1.0	20		
A361132	Total Lithium (Li)	2021/09/23	97	80 - 120	97	80 - 120	<2.0	ug/L	NC	20		
A361132	Total Manganese (Mn)	2021/09/23	95	80 - 120	99	80 - 120	<1.0	ug/L	1.4	20		
A361132	Total Molybdenum (Mo)	2021/09/23	101	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A361132	Total Nickel (Ni)	2021/09/23	95	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A361132	Total Selenium (Se)	2021/09/23	99	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A361132	Total Silicon (Si)	2021/09/23	102	80 - 120	110	80 - 120	<100	ug/L	1.7	20		
A361132	Total Silver (Ag)	2021/09/23	93	80 - 120	98	80 - 120	<0.020	ug/L	NC	20		
A361132	Total Strontium (Sr)	2021/09/23	94	80 - 120	97	80 - 120	<1.0	ug/L	2.3	20		
A361132	Total Thallium (Tl)	2021/09/23	98	80 - 120	100	80 - 120	<0.010	ug/L	NC	20		
A361132	Total Tin (Sn)	2021/09/23	99	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A361132	Total Titanium (Ti)	2021/09/23	101	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A361132	Total Uranium (U)	2021/09/23	102	80 - 120	108	80 - 120	<0.10	ug/L	NC	20		
A361132	Total Vanadium (V)	2021/09/23	96	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A361132	Total Zinc (Zn)	2021/09/23	100	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A361132	Total Zirconium (Zr)	2021/09/23	100	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A362068	Total Mercury (Hg)	2021/09/22	81	80 - 120	85	80 - 120	<0.0019	ug/L	NC	20		
A362105	Total Aluminum (Al)	2021/09/23	105	80 - 120	104	80 - 120	<3.0	ug/L	0.32	20		
A362105	Total Antimony (Sb)	2021/09/23	102	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A362105	Total Arsenic (As)	2021/09/23	101	80 - 120	101	80 - 120	<0.10	ug/L	0.95	20		

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BV Labs Job #: C170212
Report Date: 2021/09/27

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A362105	Total Barium (Ba)	2021/09/23	98	80 - 120	101	80 - 120	<1.0	ug/L	1.5	20		
A362105	Total Beryllium (Be)	2021/09/23	98	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A362105	Total Bismuth (Bi)	2021/09/23	96	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A362105	Total Boron (B)	2021/09/23	98	80 - 120	107	80 - 120	<50	ug/L	NC	20		
A362105	Total Cadmium (Cd)	2021/09/23	101	80 - 120	102	80 - 120	<0.010	ug/L	NC	20		
A362105	Total Chromium (Cr)	2021/09/23	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A362105	Total Cobalt (Co)	2021/09/23	96	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A362105	Total Copper (Cu)	2021/09/23	95	80 - 120	100	80 - 120	<0.50	ug/L	0.18	20		
A362105	Total Iron (Fe)	2021/09/23	107	80 - 120	103	80 - 120	<10	ug/L	2.0	20		
A362105	Total Lead (Pb)	2021/09/23	103	80 - 120	104	80 - 120	<0.20	ug/L	NC	20		
A362105	Total Lithium (Li)	2021/09/23	99	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
A362105	Total Manganese (Mn)	2021/09/23	NC	80 - 120	102	80 - 120	<1.0	ug/L	0.24	20		
A362105	Total Molybdenum (Mo)	2021/09/23	104	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A362105	Total Nickel (Ni)	2021/09/23	97	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
A362105	Total Selenium (Se)	2021/09/23	102	80 - 120	100	80 - 120	<0.10	ug/L	3.0	20		
A362105	Total Silicon (Si)	2021/09/23	NC	80 - 120	108	80 - 120	<100	ug/L	2.4	20		
A362105	Total Silver (Ag)	2021/09/23	98	80 - 120	99	80 - 120	<0.020	ug/L	NC	20		
A362105	Total Strontium (Sr)	2021/09/23	NC	80 - 120	99	80 - 120	<1.0	ug/L	0.70	20		
A362105	Total Thallium (Tl)	2021/09/23	100	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A362105	Total Tin (Sn)	2021/09/23	101	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A362105	Total Titanium (Ti)	2021/09/23	107	80 - 120	105	80 - 120	<5.0	ug/L	NC	20		
A362105	Total Uranium (U)	2021/09/23	106	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
A362105	Total Vanadium (V)	2021/09/23	103	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A362105	Total Zinc (Zn)	2021/09/23	101	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A362105	Total Zirconium (Zr)	2021/09/23	102	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A362582	Nitrate plus Nitrite (N)	2021/09/22	100	80 - 120	103	80 - 120	<0.0020	mg/L	0.31	25		
A362583	Nitrite (N)	2021/09/22	97	80 - 120	104	80 - 120	<0.0020	mg/L	NC	25		
A363421	Dissolved Fluoride (F)	2021/09/23	92	80 - 120	98	80 - 120	<0.050	mg/L	NC	20		
A364290	Total Phosphorus (P)	2021/09/24	100	80 - 120	94	80 - 120	<0.0030	mg/L	0.22	20	89	80 - 120
A364542	Total Ammonia (N)	2021/09/23	89	80 - 120	100	80 - 120	<0.015	mg/L	3.0	20		
A364547	Total Ammonia (N)	2021/09/23	NC	80 - 120	102	80 - 120	<0.015	mg/L	0.13	20		

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BV Labs Job #: C170212
Report Date: 2021/09/27

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A364825	pH	2021/09/22			102	97 - 103			0.27	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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4606 Canada Way, Burnaby, BC V5G 1K5
Tel: (604) 734-7276 Toll Free: (800) 665-8566

CHAIN OF CUSTODY RECORD

ENV COC - 00015v0

Page 1 of 1

C170212_COC

Invoice Information	Invoice To Requires Report ☐
Company:	CITY OF ABBOTSFORD
Contact Name:	AMY PETERS
Street Address:	32315 South Fraser Way
City: Abbotsford	Prov: BC Postal Code: V2T 1W7
Phone:	(778) 549-1240
Email:	apeters@abbotsford.ca
Copies:	

Report Information (if differs from invoice)	
Company:	CITY OF ABBOTSFORD
Contact Name:	AMY PETERS
Street Address:	32315 South Fraser Way
City: Abbotsford	Prov: BC Postal Code: V2T 1W7
Phone:	(778) 549-1240
Email:	apeters@abbotsford.ca
Copies:	

Project Information	
Quotation #:	C01193
P.O. #/ AFE#:	
Project #:	Bevan #1 Creek Water Quality
Site #:	
Site Location:	
Site Location Province:	
Sampled By:	K. Piper / N. Lumsdaine.

Rush Confirmation #:

Regulatory Criteria

☐ BC CSR ☐ CCME ☐ Drinking Water
☐ YUKON CSR ☐ BC Water Quality ☐ Other: _____

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Regular TurnAround Time (TAT): ☑ 5 to 7 days ☐ 10 days

Rush TurnAround Time (TAT) - Surcharges apply: ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 DAY

Date Required: YY MM DD

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 CSR/CCME TOT. METALS W/CV Hg	5 AMMONIA	6 FLUORIDE	7 NITRATE+NITRITE	8 NITRITE	9 NITRATE	10 pH	11 TOTAL PHOSPHORUS	12	13	14	15	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	COMMENTS
1	~~HE1 (WTX 88045)~~							☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
2	~~HD8 (WTX 88504)~~							☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
3	~~HE6 (WTX 295671)~~							☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
4	~~B06 (WTX 295681)~~							☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
5	~~B02 (WTX 295691)~~							☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
6	~~W04 (WTX 295701)~~			20				☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
7	D01 (WTX 39560)	21	09	~~20~~	10	15	Water	☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
8	D02 (WTX 39540)	21	09	~~20~~	10	45	Water	☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
9	~~PB1 (WTX 39546)~~			20				☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
10	~~HE2 (WTX 39552)~~							☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
11	~~FDF (WTX 39558)~~			20				☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
12	DUP (D01)	21	09	~~20~~	10	15	Water	☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
13	TRIP BLANK (WTX 3AF04)	21	09	~~20~~	—			☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
14	FIELD BLANK (WTX 3AF05)	21	09	~~20~~	19	30	Water	☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
15				20				☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present		✓				
Seal intact		✓				
Cooling media present	✓			5	7	7

LAB USE ONLY	Yes	No	°C	1	2	3
Seal Present						
Seal Intact						
Cooling Media Present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling Media Present						

TEMPS BY: RLC

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM
K. Piper	21	09	20	19	15	Renegie Lampay	2021	09	21	07	30

SPECIAL INSTRUCTIONS

Scenario 16974

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 647254-01-01, 39565, 39566, 39567, 39568, 39569, 3956A

Report Date: 2021/09/29
Report #: R3078116
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C171084
Received: 2021/09/23, 07:30

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	6	N/A	2021/09/24	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	6	N/A	2021/09/27	BBY WI-00033	Auto Calc
Mercury (Total) by CV	6	2021/09/27	2021/09/27	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	6	2021/09/23	2021/09/27	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	6	2021/09/23	2021/09/25	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	6	N/A	2021/09/28	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	6	N/A	2021/09/23	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	6	N/A	2021/09/23	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	6	N/A	2021/09/25	BBY WI-00033	Auto Calc
pH @25°C (3)	6	N/A	2021/09/23	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	6	2021/09/25	2021/09/26	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 647254-01-01, 39565, 39566, 39567, 39568, 39569, 3956A

Report Date: 2021/09/29
Report #: R3078116
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C171084
Received: 2021/09/23, 07:30

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
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BV Labs Job #: C171084
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			AGO424		AGO425	AGO426	AGO427	AGO428		
Sampling Date			2021/09/22 16:02		2021/09/22 10:03	2021/09/22 16:30	2021/09/22 14:08	2021/09/22 10:20		
COC Number			39565		39566	39567	39568	39569		
	UNITS	**Criteria**	**H01 (39565)**	**RDL**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	2.16	0.0040	1.13	1.65	1.49	1.46	0.0020	A363305
Misc. Inorganics										
pH	pH	6.5:9.0	6.88	N/A	7.84	7.53	6.85	7.91	N/A	A365409
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	<0.050	<0.050	<0.050	<0.050	0.050	A364982
Nutrients										
Total Ammonia (N)	mg/L	-	<0.015	0.015	<0.015	<0.015	0.048	0.024	0.015	A368615
Total Phosphorus (P)	mg/L	-	0.0089	0.0030	0.0075	0.0093	0.060	0.011	0.0030	A365825
Nitrate plus Nitrite (N)	mg/L	-	2.16	0.0040	1.13	1.65	1.49	1.47	0.0020	A363888
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	<0.0020	<0.0020	0.0067	0.0049	0.0020	A363891

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs ID			AGO429		
Sampling Date			2021/09/22 15:37		
COC Number			3956A		
	UNITS	**Criteria**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters					
Nitrate (N)	mg/L	-	1.42	0.0020	A363305
Misc. Inorganics					
pH	pH	6.5:9.0	7.67	N/A	A365409
Anions					
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A364982
Nutrients					
Total Ammonia (N)	mg/L	-	0.026	0.015	A368615
Total Phosphorus (P)	mg/L	-	0.0093	0.0030	A365825
Nitrate plus Nitrite (N)	mg/L	-	1.42	0.0020	A363888
Nitrite (N)	mg/L	0.06	0.0045	0.0020	A363891

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C171084
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGO424	AGO425	AGO426	AGO427	AGO428	AGO429		
Sampling Date			2021/09/22 16:02	2021/09/22 10:03	2021/09/22 16:30	2021/09/22 14:08	2021/09/22 10:20	2021/09/22 15:37		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	98.9	113	105	60.2	111	108	0.50	A362714
Elements										
Total Mercury (Hg)	ug/L	0.026	0.0142	<0.0019	0.0083	<0.0019	<0.0019	<0.0019	0.0019	A367105
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	50.4	21.6	12.3	188	66.1	31.5	3.0	A363568
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A363568
Total Arsenic (As)	ug/L	5	0.49	1.07	0.57	0.96	0.78	0.69	0.10	A363568
Total Barium (Ba)	ug/L	-	12.0	14.3	13.9	32.5	16.9	31.9	1.0	A363568
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A363568
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A363568
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	<50	50	A363568
Total Cadmium (Cd)	ug/L	-	0.019	<0.010	0.019	0.093	<0.010	0.010	0.010	A363568
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	2.0	1.9	<1.0	<1.0	1.0	A363568
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	1.08	<0.20	<0.20	0.20	A363568
Total Copper (Cu)	ug/L	-	2.01	0.62	1.78	4.84	0.66	<0.50	0.50	A363568
Total Iron (Fe)	ug/L	300	90	123	37	**1080**	300	**411**	10	A363568
Total Lead (Pb)	ug/L	-	0.50	<0.20	<0.20	4.01	<0.20	<0.20	0.20	A363568
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A363568
Total Manganese (Mn)	ug/L	-	4.0	29.4	8.2	239	93.1	61.4	1.0	A363568
Total Molybdenum (Mo)	ug/L	73	<1.0	1.4	4.1	<1.0	<1.0	<1.0	1.0	A363568
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	1.6	2.4	<1.0	1.1	1.0	A363568
Total Selenium (Se)	ug/L	1	0.26	0.16	0.20	<0.10	0.21	0.13	0.10	A363568
Total Silicon (Si)	ug/L	-	9950	9300	9410	9060	10700	11300	100	A363568
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A363568
Total Strontium (Sr)	ug/L	-	149	135	144	186	156	205	1.0	A363568
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A363568
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A363568
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	12.6	8.4	<5.0	<5.0	5.0	A363568
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A363568
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A363568
Total Zinc (Zn)	ug/L	30	7.2	<5.0	15.5	**58.6**	<5.0	<5.0	5.0	A363568
Total Zirconium (Zr)	ug/L	-	0.17	<0.10	<0.10	0.17	<0.10	<0.10	0.10	A363568

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C171084
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGO424	AGO425	AGO426	AGO427	AGO428	AGO429		
Sampling Date			2021/09/22 16:02	2021/09/22 10:03	2021/09/22 16:30	2021/09/22 14:08	2021/09/22 10:20	2021/09/22 15:37		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	-	28.5	33.4	30.2	17.9	31.1	29.3	0.050	A363304
Total Magnesium (Mg)	mg/L	-	6.72	7.26	7.17	3.75	8.03	8.43	0.050	A363304
Total Potassium (K)	mg/L	-	1.45	1.55	1.59	1.11	1.49	1.25	0.050	A363304
Total Sodium (Na)	mg/L	-	16.8	9.08	15.2	19.5	9.18	13.1	0.050	A363304
Total Sulphur (S)	mg/L	-	5.6	6.8	5.6	7.9	5.7	3.8	3.0	A363304

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C171084
Report Date: 2021/09/29

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A363568	Total Aluminum (Al)	2021/09/25	102	80 - 120	102	80 - 120	<3.0	ug/L	3.9	20		
A363568	Total Antimony (Sb)	2021/09/25	105	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A363568	Total Arsenic (As)	2021/09/25	104	80 - 120	101	80 - 120	<0.10	ug/L	1.3	20		
A363568	Total Barium (Ba)	2021/09/25	103	80 - 120	100	80 - 120	<1.0	ug/L	1.3	20		
A363568	Total Beryllium (Be)	2021/09/25	101	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A363568	Total Bismuth (Bi)	2021/09/25	101	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A363568	Total Boron (B)	2021/09/25	106	80 - 120	107	80 - 120	<50	ug/L	NC	20		
A363568	Total Cadmium (Cd)	2021/09/25	103	80 - 120	102	80 - 120	<0.010	ug/L	5.9	20		
A363568	Total Chromium (Cr)	2021/09/25	101	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A363568	Total Cobalt (Co)	2021/09/25	101	80 - 120	102	80 - 120	<0.20	ug/L	NC	20		
A363568	Total Copper (Cu)	2021/09/25	98	80 - 120	101	80 - 120	<0.50	ug/L	4.2	20		
A363568	Total Iron (Fe)	2021/09/25	105	80 - 120	101	80 - 120	<10	ug/L	7.4	20		
A363568	Total Lead (Pb)	2021/09/25	101	80 - 120	102	80 - 120	<0.20	ug/L	NC	20		
A363568	Total Lithium (Li)	2021/09/25	96	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
A363568	Total Manganese (Mn)	2021/09/25	102	80 - 120	101	80 - 120	<1.0	ug/L	3.6	20		
A363568	Total Molybdenum (Mo)	2021/09/25	111	80 - 120	102	80 - 120	<1.0	ug/L	1.3	20		
A363568	Total Nickel (Ni)	2021/09/25	99	80 - 120	101	80 - 120	<1.0	ug/L	10	20		
A363568	Total Selenium (Se)	2021/09/25	105	80 - 120	101	80 - 120	<0.10	ug/L	2.2	20		
A363568	Total Silicon (Si)	2021/09/25	NC	80 - 120	108	80 - 120	<100	ug/L	1.2	20		
A363568	Total Silver (Ag)	2021/09/25	100	80 - 120	99	80 - 120	<0.020	ug/L	NC	20		
A363568	Total Strontium (Sr)	2021/09/25	NC	80 - 120	101	80 - 120	<1.0	ug/L	1.0	20		
A363568	Total Thallium (Tl)	2021/09/25	104	80 - 120	100	80 - 120	<0.010	ug/L	NC	20		
A363568	Total Tin (Sn)	2021/09/25	104	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A363568	Total Titanium (Ti)	2021/09/25	83	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A363568	Total Uranium (U)	2021/09/25	111	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A363568	Total Vanadium (V)	2021/09/25	106	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A363568	Total Zinc (Zn)	2021/09/25	104	80 - 120	103	80 - 120	<5.0	ug/L	0.11	20		
A363568	Total Zirconium (Zr)	2021/09/25	109	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
A363888	Nitrate plus Nitrite (N)	2021/09/23	103	80 - 120	106	80 - 120	<0.0020	mg/L	0.28	25		
A363891	Nitrite (N)	2021/09/23	101	80 - 120	102	80 - 120	<0.0020	mg/L	NC	25		
A364982	Dissolved Fluoride (F)	2021/09/24	101	80 - 120	100	80 - 120	<0.050	mg/L	NC	20		

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BV Labs Job #: C171084
Report Date: 2021/09/29

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A365409	pH	2021/09/23			102	97 - 103			0	N/A		
A365825	Total Phosphorus (P)	2021/09/26	96	80 - 120	92	80 - 120	<0.0030	mg/L	5.0	20	83	80 - 120
A367105	Total Mercury (Hg)	2021/09/27	87	80 - 120	90	80 - 120	<0.0019	ug/L	NC	20		
A368615	Total Ammonia (N)	2021/09/28	97	80 - 120	98	80 - 120	<0.015	mg/L	NC	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C171084
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free 800-563-6266 Fax:(604) 731 2386 www.bvlabs.com

Page 1 of 1

Chain Of Custody Record

C171084_COC

Bottle Order #: 647254

Project Manager

C#647254-01-01

Customer Solutions

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	K.Piper / N. Lamirande

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	21/09/22	16:02		N	X	X	X	X	X	X	X	X			5	
2		H02 (39566)		10:03		N	X	X	X	X	X	X	X	X				
3		H03 (39567)		16:30		N	X	X	X	X	X	X	X	X				
4		B01 (39568)		14:08		N	X	X	X	X	X	X	X	X				
5		B02 (39569)		10:20		N	X	X	X	X	X	X	X	X				
6		W01 (3956A)		15:37		N	X	X	X	X	X	X	X	X				
7		~~D01 (3956D)~~					X	X	X	X	X	X	X	X				
8		~~D02 (3956D)~~					X	X	X	X	X	X	X	X				
9		~~P01 (3956P)~~					X	X	X	X	X	X	X	X				
10		~~P02 (3956P)~~					X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
K. Piper	21/09/22	19:15	Renegie Langoday	2021/09/23	07:30	

Lab Use Only: Time Sensitive [ ] | Temperature (°C) on Receipt: 6.7, 9 | Custody Seal Intact on Cooler? [ ] Yes [/] No

Icey

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 647254-02-01, 41C64, 3956B, 3956C

Report Date: 2021/09/29
Report #: R3078193
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C171564
Received: 2021/09/24, 07:30

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	3	N/A	2021/09/27	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	3	N/A	2021/09/28	BBY WI-00033	Auto Calc
Mercury (Total) by CV	3	2021/09/27	2021/09/27	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	3	2021/09/24	2021/09/28	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	3	2021/09/24	2021/09/27	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	3	N/A	2021/09/28	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	3	N/A	2021/09/24	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	3	N/A	2021/09/24	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	3	N/A	2021/09/25	BBY WI-00033	Auto Calc
pH @25°C (3)	3	N/A	2021/09/24	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	2	2021/09/28	2021/09/28	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	1	2021/09/28	2021/09/29	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 647254-02-01, 41C64, 3956B, 3956C

Report Date: 2021/09/29
Report #: R3078193
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C171564
Received: 2021/09/24, 07:30

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C171564
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID			AGR045	AGR046		AGR047		
Sampling Date			2021/09/23 09:15	2021/09/23 11:50		2021/09/23 18:28		
COC Number			41C64	3956B		3956C		
	UNITS	**Criteria**	**F0F (41C64)**	**F01 (3956B)**	**QC Batch**	**F02 (3956C)**	**RDL**	**QC Batch**
Calculated Parameters								
Nitrate (N)	mg/L	-	0.227	1.19	A364222	0.0214	0.0020	A364222
Misc. Inorganics								
pH	pH	6.5:9.0	6.74	7.02	A367317	6.83	N/A	A367317
Anions								
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	A367039	<0.050	0.050	A367039
Nutrients								
Total Ammonia (N)	mg/L	-	0.036	0.056	A368623	<0.015	0.015	A368623
Total Phosphorus (P)	mg/L	-	0.027	0.027	A368119	0.030	0.0030	A369273
Nitrate plus Nitrite (N)	mg/L	-	0.235	1.20	A365338	0.0214	0.0020	A365338
Nitrite (N)	mg/L	0.06	0.0075	0.0136	A365339	<0.0020	0.0020	A365339

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C171564
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGR045	AGR046	AGR047		
Sampling Date			2021/09/23 09:15	2021/09/23 11:50	2021/09/23 18:28		
COC Number			41C64	3956B	3956C		
	UNITS	**Criteria**	**F0F (41C64)**	**F01 (3956B)**	**F02 (3956C)**	**RDL**	**QC Batch**
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	49.6	91.2	53.3	0.50	A364294
Elements							
Total Mercury (Hg)	ug/L	0.026	0.0024	0.0020	<0.0019	0.0019	A367344
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	-	82.2	333	22.7	3.0	A365057
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	0.50	A365057
Total Arsenic (As)	ug/L	5	1.64	1.89	1.70	0.10	A365057
Total Barium (Ba)	ug/L	-	17.6	20.9	26.4	1.0	A365057
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	0.10	A365057
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	1.0	A365057
Total Boron (B)	ug/L	1500	<50	<50	<50	50	A365057
Total Cadmium (Cd)	ug/L	-	0.013	<0.010	<0.010	0.010	A365057
Total Chromium (Cr)	ug/L	-	<1.0	1.1	<1.0	1.0	A365057
Total Cobalt (Co)	ug/L	-	0.26	0.24	0.86	0.20	A365057
Total Copper (Cu)	ug/L	-	3.47	3.59	0.95	0.50	A365057
Total Iron (Fe)	ug/L	300	**781**	**693**	**1190**	10	A365057
Total Lead (Pb)	ug/L	-	0.35	<0.20	<0.20	0.20	A365057
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	2.0	A365057
Total Manganese (Mn)	ug/L	-	108	147	975	1.0	A365057
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	1.0	A365057
Total Nickel (Ni)	ug/L	-	<1.0	1.8	<1.0	1.0	A365057
Total Selenium (Se)	ug/L	1	<0.10	0.16	<0.10	0.10	A365057
Total Silicon (Si)	ug/L	-	3550	5670	3600	100	A365057
Total Silver (Ag)	ug/L	0.25	0.022	<0.020	<0.020	0.020	A365057
Total Strontium (Sr)	ug/L	-	72.5	130	78.6	1.0	A365057
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	0.010	A365057
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	5.0	A365057
Total Titanium (Ti)	ug/L	-	<5.0	12.5	<5.0	5.0	A365057
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	0.10	A365057
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	5.0	A365057
Total Zinc (Zn)	ug/L	30	9.6	<5.0	5.3	5.0	A365057
Total Zirconium (Zr)	ug/L	-	<0.10	0.21	<0.10	0.10	A365057

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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BV Labs Job #: C171564
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

BV Labs ID			AGR045	AGR046	AGR047		
Sampling Date			2021/09/23 09:15	2021/09/23 11:50	2021/09/23 18:28		
COC Number			41C64	3956B	3956C		
	UNITS	**Criteria**	**F0F (41C64)**	**F01 (3956B)**	**F02 (3956C)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	-	13.7	25.1	15.2	0.050	A364699
Total Magnesium (Mg)	mg/L	-	3.74	6.95	3.75	0.050	A364699
Total Potassium (K)	mg/L	-	1.69	2.73	2.31	0.050	A364699
Total Sodium (Na)	mg/L	-	7.60	10.4	8.25	0.050	A364699
Total Sulphur (S)	mg/L	-	3.3	8.1	3.4	3.0	A364699

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C171564
Report Date: 2021/09/29

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A365057	Total Aluminum (Al)	2021/09/27	104	80 - 120	104	80 - 120	<3.0	ug/L	NC	20		
A365057	Total Antimony (Sb)	2021/09/27	101	80 - 120	105	80 - 120	<0.50	ug/L	NC	20		
A365057	Total Arsenic (As)	2021/09/27	99	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A365057	Total Barium (Ba)	2021/09/27	100	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A365057	Total Beryllium (Be)	2021/09/27	96	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A365057	Total Bismuth (Bi)	2021/09/27	103	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A365057	Total Boron (B)	2021/09/27	101	80 - 120	103	80 - 120	<50	ug/L	NC	20		
A365057	Total Cadmium (Cd)	2021/09/27	102	80 - 120	103	80 - 120	<0.010	ug/L	NC	20		
A365057	Total Chromium (Cr)	2021/09/27	102	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A365057	Total Cobalt (Co)	2021/09/27	98	80 - 120	98	80 - 120	<0.20	ug/L	NC	20		
A365057	Total Copper (Cu)	2021/09/27	99	80 - 120	99	80 - 120	<0.50	ug/L	NC	20		
A365057	Total Iron (Fe)	2021/09/27	101	80 - 120	99	80 - 120	<10	ug/L	NC	20		
A365057	Total Lead (Pb)	2021/09/27	107	80 - 120	108	80 - 120	<0.20	ug/L	NC	20		
A365057	Total Lithium (Li)	2021/09/27	100	80 - 120	99	80 - 120	<2.0	ug/L	NC	20		
A365057	Total Manganese (Mn)	2021/09/27	101	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A365057	Total Molybdenum (Mo)	2021/09/27	104	80 - 120	106	80 - 120	<1.0	ug/L	NC	20		
A365057	Total Nickel (Ni)	2021/09/27	100	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A365057	Total Selenium (Se)	2021/09/27	101	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A365057	Total Silicon (Si)	2021/09/27	109	80 - 120	113	80 - 120	<100	ug/L	NC	20		
A365057	Total Silver (Ag)	2021/09/27	100	80 - 120	100	80 - 120	<0.020	ug/L	NC	20		
A365057	Total Strontium (Sr)	2021/09/27	99	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A365057	Total Thallium (Tl)	2021/09/27	104	80 - 120	105	80 - 120	<0.010	ug/L	NC	20		
A365057	Total Tin (Sn)	2021/09/27	101	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A365057	Total Titanium (Ti)	2021/09/27	104	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A365057	Total Uranium (U)	2021/09/27	105	80 - 120	109	80 - 120	<0.10	ug/L	NC	20		
A365057	Total Vanadium (V)	2021/09/27	102	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A365057	Total Zinc (Zn)	2021/09/27	102	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A365057	Total Zirconium (Zr)	2021/09/27	103	80 - 120	106	80 - 120	<0.10	ug/L	NC	20		
A365338	Nitrate plus Nitrite (N)	2021/09/24	101	80 - 120	104	80 - 120	<0.0020	mg/L	0.35	25		
A365339	Nitrite (N)	2021/09/24	99	80 - 120	100	80 - 120	<0.0020	mg/L	4.9	25		
A367039	Dissolved Fluoride (F)	2021/09/27	104	80 - 120	102	80 - 120	<0.050	mg/L	NC	20		

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BV Labs Job #: C171564
Report Date: 2021/09/29

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A367317	pH	2021/09/24			101	97 - 103			1.8	N/A		
A367344	Total Mercury (Hg)	2021/09/27	77 (1)	80 - 120	90	80 - 120	<0.0019	ug/L	NC	20		
A368119	Total Phosphorus (P)	2021/09/28	91	80 - 120	92	80 - 120	<0.0030	mg/L	NC	20	85	80 - 120
A368623	Total Ammonia (N)	2021/09/28	95	80 - 120	95	80 - 120	<0.015	mg/L	10	20		
A369273	Total Phosphorus (P)	2021/09/29	109	80 - 120	99	80 - 120	<0.0030	mg/L	12	20	98	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: C171564
Report Date: 2021/09/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

C171564_COC

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax (604) 850-6418	Phone	(778) 549-1240 Fax	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	K. Piper / N. Lamarche

Bottle Order #: 647254

Chain Of Custody Record: C#647254-02-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	21-09-23	9:15	Water	N	X	X	X	X	X	X	X	X			5	
2		~~DUP~~ F01 (39588)	↓	11:50	↓	↓	X	X	X	X	X	X	X	X			↓	
3		~~TRIP BLANK (DAF04)~~ F02 (3956C)	↓	18:28	↓	↓	X	X	X	X	X	X	X	X			↓	
4		~~FIELD BLANK (DAF05)~~					X	X	X	X	X	X	X	X				
5																		
6																		
7																		
8																		
9																		
10																		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Katie Piper	21/09/23	19:38	[illegible]	2021/09/24	07:30		[ ]	5.5.8	[✓] Yes [ ] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Ice

Your Project #: Bevan #1 CREEK WATER QUALITY
Your C.O.C. #: 651039-01-01, 3956D

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/10/31
Report #: R3092904
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C181489
Received: 2021/10/25, 17:10

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	2	N/A	2021/10/27	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/10/29	BBY WI-00033	Auto Calc
Mercury (Total) by CV	2	2021/10/27	2021/10/27	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/10/26	2021/10/29	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	2	2021/10/28	2021/10/29	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	2	N/A	2021/10/28	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	2	N/A	2021/10/26	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	2	N/A	2021/10/26	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	2	N/A	2021/10/27	BBY WI-00033	Auto Calc
pH @25°C (3)	2	N/A	2021/10/27	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	2	2021/10/29	2021/10/30	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
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Your Project #: Bevan #1 CREEK WATER QUALITY
Your C.O.C. #: 651039-01-01, 3956D

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/10/31
Report #: R3092904
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C181489
Received: 2021/10/25, 17:10

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
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Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181489
Report Date: 2021/10/31

CITY OF ABBOTSFORD
Client Project #: Bevan #1 CREEK WATER QUALITY
Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			AIZ020	AIZ021		
Sampling Date			2021/10/25 09:32	2021/10/25 09:42		
COC Number			3956D	3956D		
	UNITS	**Criteria**	**DO1 (3956D)**	**DO2 (3956D)**	**RDL**	**QC Batch**
Calculated Parameters						
Nitrate (N)	mg/L	-	0.924	0.737	0.0020	A401702
Misc. Inorganics						
pH	pH	6.5:9.0	7.96	7.96	N/A	A404272
Anions						
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	0.050	A403630
Nutrients						
Total Ammonia (N)	mg/L	-	<0.015	0.017	0.015	A405029
Total Phosphorus (P)	mg/L	-	0.014	0.014	0.0030	A406489
Nitrate plus Nitrite (N)	mg/L	-	0.924	0.740	0.0020	A402189
Nitrite (N)	mg/L	0.06	<0.0020	0.0027	0.0020	A402191

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181489
Report Date: 2021/10/31

CITY OF ABBOTSFORD
Client Project #: Bevan #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AIZ020	AIZ021		
Sampling Date			2021/10/25 09:32	2021/10/25 09:42		
COC Number			3956D	3956D		
	UNITS	**Criteria**	**DO1 (3956D)**	**DO2 (3956D)**	**RDL**	**QC Batch**
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	-	91.6	115	0.50	A401231
Elements						
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	0.0019	A403328
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	-	47.4	53.3	3.0	A404892
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	0.50	A404892
Total Arsenic (As)	ug/L	5	0.88	1.77	0.10	A404892
Total Barium (Ba)	ug/L	-	16.0	13.6	1.0	A404892
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	0.10	A404892
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	1.0	A404892
Total Boron (B)	ug/L	1500	<50	<50	50	A404892
Total Cadmium (Cd)	ug/L	-	<0.010	<0.010	0.010	A404892
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	1.0	A404892
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	0.20	A404892
Total Copper (Cu)	ug/L	-	1.04	<0.50	0.50	A404892
Total Iron (Fe)	ug/L	300	**313**	**577**	10	A404892
Total Lead (Pb)	ug/L	-	<0.20	<0.20	0.20	A404892
Total Lithium (Li)	ug/L	-	<2.0	<2.0	2.0	A404892
Total Manganese (Mn)	ug/L	-	65.4	185	1.0	A404892
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	1.0	A404892
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	1.0	A404892
Total Selenium (Se)	ug/L	1	0.19	0.25	0.10	A404892
Total Silicon (Si)	ug/L	-	9210	12400	100	A404892
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	0.020	A404892
Total Strontium (Sr)	ug/L	-	132	155	1.0	A404892
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	0.010	A404892
Total Tin (Sn)	ug/L	-	<5.0	<5.0	5.0	A404892
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	5.0	A404892
Total Uranium (U)	ug/L	15	<0.10	<0.10	0.10	A404892
Total Vanadium (V)	ug/L	-	<5.0	<5.0	5.0	A404892
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	5.0	A404892
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	0.10	A404892

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181489
Report Date: 2021/10/31

CITY OF ABBOTSFORD
Client Project #: Bevan #1 CREEK WATER QUALITY
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AIZ020	AIZ021		
Sampling Date			2021/10/25 09:32	2021/10/25 09:42		
COC Number			3956D	3956D		
	UNITS	**Criteria**	**DO1 (3956D)**	**DO2 (3956D)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	-	24.6	29.9	0.050	A401236
Total Magnesium (Mg)	mg/L	-	7.30	9.78	0.050	A401236
Total Potassium (K)	mg/L	-	1.83	1.59	0.050	A401236
Total Sodium (Na)	mg/L	-	10.8	9.36	0.050	A401236
Total Sulphur (S)	mg/L	-	6.0	4.4	3.0	A401236

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181489
Report Date: 2021/10/31

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A402189	Nitrate plus Nitrite (N)	2021/10/26			105	80 - 120	<0.0020	mg/L				
A402191	Nitrite (N)	2021/10/26			98	80 - 120	<0.0020	mg/L				
A403328	Total Mercury (Hg)	2021/10/27	74 (1)	80 - 120	94	80 - 120	<0.0019	ug/L	NC	20		
A403630	Dissolved Fluoride (F)	2021/10/27			100	80 - 120	<0.050	mg/L				
A404272	pH	2021/10/27			102	97 - 103			0.97	N/A		
A404892	Total Aluminum (Al)	2021/10/29	102	80 - 120	101	80 - 120	<3.0	ug/L	8.2	20		
A404892	Total Antimony (Sb)	2021/10/29	106	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A404892	Total Arsenic (As)	2021/10/29	103	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A404892	Total Barium (Ba)	2021/10/29	NC	80 - 120	100	80 - 120	<1.0	ug/L	0.46	20		
A404892	Total Beryllium (Be)	2021/10/29	100	80 - 120	98	80 - 120	<0.10	ug/L	NC	20		
A404892	Total Bismuth (Bi)	2021/10/29	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A404892	Total Boron (B)	2021/10/29	101	80 - 120	99	80 - 120	<50	ug/L	3.7	20		
A404892	Total Cadmium (Cd)	2021/10/29	103	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A404892	Total Chromium (Cr)	2021/10/29	100	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A404892	Total Cobalt (Co)	2021/10/29	97	80 - 120	101	80 - 120	<0.20	ug/L	NC	20		
A404892	Total Copper (Cu)	2021/10/29	94	80 - 120	99	80 - 120	<0.50	ug/L	4.5	20		
A404892	Total Iron (Fe)	2021/10/29	101	80 - 120	104	80 - 120	<10	ug/L	0.82	20		
A404892	Total Lead (Pb)	2021/10/29	99	80 - 120	101	80 - 120	<0.20	ug/L	NC	20		
A404892	Total Lithium (Li)	2021/10/29	96	80 - 120	96	80 - 120	<2.0	ug/L	3.1	20		
A404892	Total Manganese (Mn)	2021/10/29	101	80 - 120	101	80 - 120	<1.0	ug/L	3.4	20		
A404892	Total Molybdenum (Mo)	2021/10/29	111	80 - 120	106	80 - 120	<1.0	ug/L	1.2	20		
A404892	Total Nickel (Ni)	2021/10/29	94	80 - 120	101	80 - 120	<1.0	ug/L	7.7	20		
A404892	Total Selenium (Se)	2021/10/29	103	80 - 120	102	80 - 120	<0.10	ug/L	0.27	20		
A404892	Total Silicon (Si)	2021/10/29	111	80 - 120	115	80 - 120	<100	ug/L	2.8	20		
A404892	Total Silver (Ag)	2021/10/29	102	80 - 120	100	80 - 120	<0.020	ug/L	NC	20		
A404892	Total Strontium (Sr)	2021/10/29	NC	80 - 120	101	80 - 120	<1.0	ug/L	0.13	20		
A404892	Total Thallium (Tl)	2021/10/29	104	80 - 120	103	80 - 120	<0.010	ug/L	NC	20		
A404892	Total Tin (Sn)	2021/10/29	101	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A404892	Total Titanium (Ti)	2021/10/29	107	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A404892	Total Uranium (U)	2021/10/29	110	80 - 120	108	80 - 120	<0.10	ug/L	4.7	20		
A404892	Total Vanadium (V)	2021/10/29	103	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A404892	Total Zinc (Zn)	2021/10/29	99	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181489
Report Date: 2021/10/31

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 CREEK WATER QUALITY
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A404892	Total Zirconium (Zr)	2021/10/29	109	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A405029	Total Ammonia (N)	2021/10/28	NC	80 - 120	96	80 - 120	<0.015	mg/L	4.1	20		
A406489	Total Phosphorus (P)	2021/10/30	NC	80 - 120	96	80 - 120	<0.0030	mg/L	2.7	20	92	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
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Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvna.com

C181489_COC

Only

Bottle Order #: 651039

Chain Of Custody Record: C#651039-01-01

Project Manager: Customer Solutions

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax (604) 850-6418	Phone	(778) 549-1240 Fax	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	K. Piper / N. Lamoroche

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		~~H01 (39565)~~			Water		X	X	X	X	X	X	X	X				
2		~~H02 (39566)~~					X	X	X	X	X	X	X	X				
3		~~H03 (39567)~~					X	X	X	X	X	X	X	X				
4		~~B01 (39568)~~					X	X	X	X	X	X	X	X				
5		~~B02 (39569)~~					X	X	X	X	X	X	X	X				
6		~~W01 (3956A)~~					X	X	X	X	X	X	X	X				
7		D01 (3956D)	21/10/25	9:32			X	X	X	X	X	X	X	X			5	
8		D02 (3956D)	21/10/25	9:42			X	X	X	X	X	X	X	X			5	
9		~~F01 (3956B)~~					X	X	X	X	X	X	X	X				
10		~~F02 (3956C)~~					X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
K. Piper	21/10/25	17:10	Francisco Cantu	2021/10/25	17:10		[ ]	8, 7, 8	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Bureau Veritas Yellow: Client

iee:x

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Your C.O.C. #: C#651039-02-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/11/02
Report #: R3094099
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C181980
Received: 2021/10/26, 16:40

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	5	N/A	2021/10/27	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/10/29	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	3	N/A	2021/11/02	BBY WI-00033	Auto Calc
Mercury (Total) by CV	5	2021/10/27	2021/10/27	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/10/26	2021/10/29	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	3	2021/10/26	2021/11/02	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	2	2021/10/27	2021/10/28	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	3	2021/11/01	2021/11/02	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	5	N/A	2021/10/28	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	5	N/A	2021/10/27	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	5	N/A	2021/10/27	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	5	N/A	2021/10/27	BBY WI-00033	Auto Calc
pH @25°C (3)	5	N/A	2021/10/27	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	5	2021/10/30	2021/10/31	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Your C.O.C. #: C#651039-02-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/11/02
Report #: R3094099
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C181980
Received: 2021/10/26, 16:40

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
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Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181980
Report Date: 2021/11/02

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		AJC339	AJC340		AJC341		
Sampling Date		2021/10/26 14:48	2021/10/26		2021/10/26 16:32		
COC Number		C#651039-02-01	C#651039-02-01		C#651039-02-01		
	UNITS	**FOF(41C64)**	**TRIP BLANK(3AF04)**	**QC Batch**	**FIELD BLANK(3AF05)**	**RDL**	**QC Batch**
Calculated Parameters							
Nitrate (N)	mg/L	0.809	<0.0020	A401702	<0.0020	0.0020	A401702
Misc. Inorganics							
pH	pH	6.71	5.93	A405552	5.72	N/A	A405552
Anions							
Dissolved Fluoride (F)	mg/L	<0.050	<0.050	A403628	<0.050	0.050	A403628
Nutrients							
Total Ammonia (N)	mg/L	0.015	<0.015	A405039	<0.015	0.015	A405039
Total Phosphorus (P)	mg/L	0.016	<0.0030	A407872	<0.0030	0.0030	A407859
Nitrate plus Nitrite (N)	mg/L	0.817	<0.0020	A403761	<0.0020	0.0020	A403761
Nitrite (N)	mg/L	0.0075	<0.0020	A403766	<0.0020	0.0020	A403766

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		AJC342	AJC343		
Sampling Date		2021/10/26 11:51	2021/10/26 09:57		
COC Number		C#651039-02-01	C#651039-02-01		
	UNITS	**FO1(3956B)**	**FO2(3956C)**	**RDL**	**QC Batch**
Calculated Parameters					
Nitrate (N)	mg/L	1.16	0.556	0.0020	A401702
Misc. Inorganics					
pH	pH	6.83	6.82	N/A	A405552
Anions					
Dissolved Fluoride (F)	mg/L	<0.050	<0.050	0.050	A403628
Nutrients					
Total Ammonia (N)	mg/L	<0.015	<0.015	0.015	A405039
Total Phosphorus (P)	mg/L	0.032	0.027	0.0030	A407872
Nitrate plus Nitrite (N)	mg/L	1.17	0.560	0.0020	A403761
Nitrite (N)	mg/L	0.0088	0.0037	0.0020	A403766

RDL = Reportable Detection Limit
N/A = Not Applicable

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CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		AJC339		AJC340	AJC341		
Sampling Date		2021/10/26 14:48		2021/10/26	2021/10/26 16:32		
COC Number		C#651039-02-01		C#651039-02-01	C#651039-02-01		
	UNITS	**FOF(41C64)**	**QC Batch**	**TRIP BLANK(3AF04)**	**FIELD BLANK(3AF05)**	**RDL**	**QC Batch**
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	51.1	A401231	<0.50	<0.50	0.50	A401231
Elements							
Total Mercury (Hg)	ug/L	<0.0019	A403357	<0.0019	<0.0019	0.0019	A403682
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	147	A409065	<3.0	<3.0	3.0	A403603
Total Antimony (Sb)	ug/L	<0.50	A409065	<0.50	<0.50	0.50	A403603
Total Arsenic (As)	ug/L	0.99	A409065	<0.10	<0.10	0.10	A403603
Total Barium (Ba)	ug/L	14.8	A409065	<1.0	<1.0	1.0	A403603
Total Beryllium (Be)	ug/L	<0.10	A409065	<0.10	<0.10	0.10	A403603
Total Bismuth (Bi)	ug/L	<1.0	A409065	<1.0	<1.0	1.0	A403603
Total Boron (B)	ug/L	<50	A409065	<50	<50	50	A403603
Total Cadmium (Cd)	ug/L	0.011	A409065	<0.010	<0.010	0.010	A403603
Total Chromium (Cr)	ug/L	<1.0	A409065	<1.0	<1.0	1.0	A403603
Total Cobalt (Co)	ug/L	<0.20	A409065	<0.20	<0.20	0.20	A403603
Total Copper (Cu)	ug/L	2.48	A409065	<0.50	<0.50	0.50	A403603
Total Iron (Fe)	ug/L	388	A409065	<10	<10	10	A403603
Total Lead (Pb)	ug/L	<0.20	A409065	<0.20	<0.20	0.20	A403603
Total Lithium (Li)	ug/L	<2.0	A409065	<2.0	<2.0	2.0	A403603
Total Manganese (Mn)	ug/L	34.7	A409065	<1.0	<1.0	1.0	A403603
Total Molybdenum (Mo)	ug/L	<1.0	A409065	<1.0	<1.0	1.0	A403603
Total Nickel (Ni)	ug/L	<1.0	A409065	<1.0	<1.0	1.0	A403603
Total Selenium (Se)	ug/L	<0.10	A409065	<0.10	<0.10	0.10	A403603
Total Silicon (Si)	ug/L	3280	A409065	<100	<100	100	A403603
Total Silver (Ag)	ug/L	<0.020	A409065	<0.020	<0.020	0.020	A403603
Total Strontium (Sr)	ug/L	77.2	A409065	<1.0	<1.0	1.0	A403603
Total Thallium (Tl)	ug/L	<0.010	A409065	<0.010	<0.010	0.010	A403603
Total Tin (Sn)	ug/L	<5.0	A409065	<5.0	<5.0	5.0	A403603
Total Titanium (Ti)	ug/L	5.3	A409065	<5.0	<5.0	5.0	A403603
Total Uranium (U)	ug/L	<0.10	A409065	<0.10	<0.10	0.10	A403603
Total Vanadium (V)	ug/L	<5.0	A409065	<5.0	<5.0	5.0	A403603
Total Zinc (Zn)	ug/L	9.0	A409065	<5.0	<5.0	5.0	A403603
Total Zirconium (Zr)	ug/L	0.12	A409065	<0.10	<0.10	0.10	A403603
RDL = Reportable Detection Limit							

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Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		AJC339		AJC340	AJC341		
Sampling Date		2021/10/26 14:48		2021/10/26	2021/10/26 16:32		
COC Number		C#651039-02-01		C#651039-02-01	C#651039-02-01		
	UNITS	**FOF(41C64)**	**QC Batch**	**TRIP BLANK(3AF04)**	**FIELD BLANK(3AF05)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	14.9	A401236	<0.050	<0.050	0.050	A401236
Total Magnesium (Mg)	mg/L	3.41	A401236	<0.050	<0.050	0.050	A401236
Total Potassium (K)	mg/L	1.50	A401236	<0.050	<0.050	0.050	A401236
Total Sodium (Na)	mg/L	6.71	A401236	0.086	<0.050	0.050	A401236
Total Sulphur (S)	mg/L	4.6	A401236	<3.0	<3.0	3.0	A401236
RDL = Reportable Detection Limit							

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		AJC342	AJC343		
Sampling Date		2021/10/26 11:51	2021/10/26 09:57		
COC Number		C#651039-02-01	C#651039-02-01		
	UNITS	**FO1(3956B)**	**FO2(3956C)**	**RDL**	**QC Batch**
Calculated Parameters					
Total Hardness (CaCO3)	mg/L	65.8	50.9	0.50	A401231
Elements					
Total Mercury (Hg)	ug/L	<0.0019	<0.0019	0.0019	A403682
Total Metals by ICPMS					
Total Aluminum (Al)	ug/L	419	178	3.0	A409065
Total Antimony (Sb)	ug/L	<0.50	<0.50	0.50	A409065
Total Arsenic (As)	ug/L	1.55	0.50	0.10	A409065
Total Barium (Ba)	ug/L	17.7	18.6	1.0	A409065
Total Beryllium (Be)	ug/L	<0.10	<0.10	0.10	A409065
Total Bismuth (Bi)	ug/L	<1.0	<1.0	1.0	A409065
Total Boron (B)	ug/L	<50	<50	50	A409065
Total Cadmium (Cd)	ug/L	0.011	<0.010	0.010	A409065
Total Chromium (Cr)	ug/L	1.2	<1.0	1.0	A409065
Total Cobalt (Co)	ug/L	0.28	<0.20	0.20	A409065
Total Copper (Cu)	ug/L	3.02	1.97	0.50	A409065
Total Iron (Fe)	ug/L	613	503	10	A409065
Total Lead (Pb)	ug/L	<0.20	<0.20	0.20	A409065
Total Lithium (Li)	ug/L	<2.0	<2.0	2.0	A409065
Total Manganese (Mn)	ug/L	65.3	38.1	1.0	A409065
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	1.0	A409065
Total Nickel (Ni)	ug/L	1.1	<1.0	1.0	A409065
Total Selenium (Se)	ug/L	0.12	<0.10	0.10	A409065
Total Silicon (Si)	ug/L	4420	3790	100	A409065
Total Silver (Ag)	ug/L	<0.020	<0.020	0.020	A409065
Total Strontium (Sr)	ug/L	98.9	77.9	1.0	A409065
Total Thallium (Tl)	ug/L	<0.010	<0.010	0.010	A409065
Total Tin (Sn)	ug/L	<5.0	<5.0	5.0	A409065
Total Titanium (Ti)	ug/L	13.2	7.2	5.0	A409065
Total Uranium (U)	ug/L	<0.10	<0.10	0.10	A409065
Total Vanadium (V)	ug/L	<5.0	<5.0	5.0	A409065
Total Zinc (Zn)	ug/L	7.0	6.0	5.0	A409065
Total Zirconium (Zr)	ug/L	0.15	0.12	0.10	A409065
RDL = Reportable Detection Limit					

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Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		AJC342	AJC343		
Sampling Date		2021/10/26 11:51	2021/10/26 09:57		
COC Number		C#651039-02-01	C#651039-02-01		
	UNITS	**FO1(3956B)**	**FO2(3956C)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	18.7	14.4	0.050	A401236
Total Magnesium (Mg)	mg/L	4.64	3.63	0.050	A401236
Total Potassium (K)	mg/L	1.78	1.80	0.050	A401236
Total Sodium (Na)	mg/L	7.26	7.58	0.050	A401236
Total Sulphur (S)	mg/L	6.0	4.4	3.0	A401236
RDL = Reportable Detection Limit					

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GENERAL COMMENTS

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A403357	Total Mercury (Hg)	2021/10/27	84	80 - 120	87	80 - 120	<0.0019	ug/L	NC	20		
A403603	Total Aluminum (Al)	2021/10/28	99	80 - 120	98	80 - 120	<3.0	ug/L	NC	20		
A403603	Total Antimony (Sb)	2021/10/28	99	80 - 120	99	80 - 120	<0.50	ug/L	NC	20		
A403603	Total Arsenic (As)	2021/10/28	95	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A403603	Total Barium (Ba)	2021/10/28	96	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A403603	Total Beryllium (Be)	2021/10/28	97	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A403603	Total Bismuth (Bi)	2021/10/28	86	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
A403603	Total Boron (B)	2021/10/28	93	80 - 120	96	80 - 120	<50	ug/L	NC	20		
A403603	Total Cadmium (Cd)	2021/10/28	96	80 - 120	99	80 - 120	<0.010	ug/L	NC	20		
A403603	Total Chromium (Cr)	2021/10/28	96	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A403603	Total Cobalt (Co)	2021/10/28	94	80 - 120	95	80 - 120	<0.20	ug/L	NC	20		
A403603	Total Copper (Cu)	2021/10/28	93	80 - 120	95	80 - 120	<0.50	ug/L	NC	20		
A403603	Total Iron (Fe)	2021/10/28	98	80 - 120	100	80 - 120	<10	ug/L	NC	20		
A403603	Total Lead (Pb)	2021/10/28	95	80 - 120	95	80 - 120	<0.20	ug/L	NC	20		
A403603	Total Lithium (Li)	2021/10/28	94	80 - 120	93	80 - 120	<2.0	ug/L	NC	20		
A403603	Total Manganese (Mn)	2021/10/28	96	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A403603	Total Molybdenum (Mo)	2021/10/28	97	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A403603	Total Nickel (Ni)	2021/10/28	93	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
A403603	Total Selenium (Se)	2021/10/28	98	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
A403603	Total Silicon (Si)	2021/10/28	107	80 - 120	108	80 - 120	<100	ug/L	NC	20		
A403603	Total Silver (Ag)	2021/10/28	92	80 - 120	96	80 - 120	<0.020	ug/L	NC	20		
A403603	Total Strontium (Sr)	2021/10/28	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A403603	Total Thallium (Tl)	2021/10/28	98	80 - 120	96	80 - 120	<0.010	ug/L	NC	20		
A403603	Total Tin (Sn)	2021/10/28	94	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A403603	Total Titanium (Ti)	2021/10/28	99	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A403603	Total Uranium (U)	2021/10/28	98	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A403603	Total Vanadium (V)	2021/10/28	96	80 - 120	97	80 - 120	<5.0	ug/L	NC	20		
A403603	Total Zinc (Zn)	2021/10/28	98	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A403603	Total Zirconium (Zr)	2021/10/28	93	80 - 120	96	80 - 120	<0.10	ug/L	NC	20		
A403628	Dissolved Fluoride (F)	2021/10/27	110	80 - 120	106	80 - 120	<0.050	mg/L	NC	20		
A403682	Total Mercury (Hg)	2021/10/27	81	80 - 120	83	80 - 120	<0.0019	ug/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A403761	Nitrate plus Nitrite (N)	2021/10/27	NC	80 - 120	107	80 - 120	<0.0020	mg/L	0.098	25		
A403766	Nitrite (N)	2021/10/27	100	80 - 120	102	80 - 120	<0.0020	mg/L	1.3	25		
A405039	Total Ammonia (N)	2021/10/28	NC	80 - 120	98	80 - 120	<0.015	mg/L	3.2	20		
A405552	pH	2021/10/27			102	97 - 103			1.1	N/A		
A407859	Total Phosphorus (P)	2021/10/31	93	80 - 120	82	80 - 120	<0.0030	mg/L	8.7	20	93	80 - 120
A407872	Total Phosphorus (P)	2021/10/31	NC	80 - 120	94	80 - 120	<0.0030	mg/L	0.18	20	86	80 - 120
A409065	Total Aluminum (Al)	2021/11/02	112	80 - 120	107	80 - 120	<3.0	ug/L	0.75	20		
A409065	Total Antimony (Sb)	2021/11/02	108	80 - 120	104	80 - 120	<0.50	ug/L	NC	20		
A409065	Total Arsenic (As)	2021/11/02	102	80 - 120	103	80 - 120	<0.10	ug/L	2.9	20		
A409065	Total Barium (Ba)	2021/11/02	106	80 - 120	102	80 - 120	<1.0	ug/L	3.6	20		
A409065	Total Beryllium (Be)	2021/11/02	105	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A409065	Total Bismuth (Bi)	2021/11/02	99	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Boron (B)	2021/11/02	106	80 - 120	102	80 - 120	<50	ug/L	NC	20		
A409065	Total Cadmium (Cd)	2021/11/02	104	80 - 120	102	80 - 120	<0.010	ug/L	4.4	20		
A409065	Total Chromium (Cr)	2021/11/02	100	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Cobalt (Co)	2021/11/02	100	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A409065	Total Copper (Cu)	2021/11/02	93	80 - 120	95	80 - 120	<0.50	ug/L	3.0	20		
A409065	Total Iron (Fe)	2021/11/02	103	80 - 120	100	80 - 120	<10	ug/L	1.4	20		
A409065	Total Lead (Pb)	2021/11/02	101	80 - 120	99	80 - 120	<0.20	ug/L	4.8	20		
A409065	Total Lithium (Li)	2021/11/02	106	80 - 120	104	80 - 120	<2.0	ug/L	NC	20		
A409065	Total Manganese (Mn)	2021/11/02	104	80 - 120	100	80 - 120	<1.0	ug/L	1.1	20		
A409065	Total Molybdenum (Mo)	2021/11/02	110	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Nickel (Ni)	2021/11/02	97	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Selenium (Se)	2021/11/02	101	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
A409065	Total Silicon (Si)	2021/11/02	115	80 - 120	113	80 - 120	<100	ug/L	0.34	20		
A409065	Total Silver (Ag)	2021/11/02	101	80 - 120	99	80 - 120	<0.020	ug/L	NC	20		
A409065	Total Strontium (Sr)	2021/11/02	NC	80 - 120	101	80 - 120	<1.0	ug/L	1.5	20		
A409065	Total Thallium (Tl)	2021/11/02	103	80 - 120	100	80 - 120	<0.010	ug/L	NC	20		
A409065	Total Tin (Sn)	2021/11/02	102	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A409065	Total Titanium (Ti)	2021/11/02	106	80 - 120	103	80 - 120	<5.0	ug/L	2.1	20		
A409065	Total Uranium (U)	2021/11/02	103	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A409065	Total Vanadium (V)	2021/11/02	101	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A409065	Total Zinc (Zn)	2021/11/02	101	80 - 120	101	80 - 120	<5.0	ug/L	2.9	20		
A409065	Total Zirconium (Zr)	2021/11/02	103	80 - 120	101	80 - 120	<0.10	ug/L	13	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free 800-563-6266 Fax:(604) 731 2386 www.bvna.com

Page 2 of 2

C181980_COC

nly

Bottle Order #: 651039

Project Manager: Customer Solutions

Chain Of Custody Record: C#651039-02-01

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
				Project Name	
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Site #	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Sampled By	K. Piper / N. Lamarche

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	21/10/26	14:48	Water	N	X	X	X	X	X	X	X	X			5	
2		~~DUPLICATE~~					X	X	X	X	X	X	X	X				
3		TRIP BLANK (3AF04)		—			X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)		16:32			X	X	X	X	X	X	X	X				
5		F01 (3956B)		11:51			X	X	X	X	X	X	X	X				
6		F02 (3956C)		9:57			X	X	X	X	X	X	X	X				
7																		
8																		
9																		
10																		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Kellie Piper	21/10/26	16:41	Francisco Cantu	2021/10/26	16:40	

Lab Use Only: Time Sensitive [ ] Temperature (°C) on Receipt 9, 8, 7 Custody Seal Intact on Cooler? [ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Bureau Veritas Yellow: Client

ice: y

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #7 Creek Water Quality

Your C.O.C. #: 651043-01-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/11/02
Report #: R3094098
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C181984
Received: 2021/10/26, 16:40

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	2	N/A	2021/10/27	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/11/02	BBY WI-00033	Auto Calc
Mercury (Total) by CV	2	2021/10/27	2021/10/27	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/10/26	2021/11/02	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	2	2021/11/01	2021/11/02	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	2	N/A	2021/10/28	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	2	N/A	2021/10/27	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	2	N/A	2021/10/27	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	2	N/A	2021/10/27	BBY WI-00033	Auto Calc
pH @25°C (3)	2	N/A	2021/10/27	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	2	2021/10/30	2021/10/31	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #7 Creek Water Quality

Your C.O.C. #: 651043-01-01

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2021/11/02
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CERTIFICATE OF ANALYSIS

BV LABS JOB #: C181984
Received: 2021/10/26, 16:40

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181984
Report Date: 2021/11/02

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		AJC353			AJC354		
Sampling Date		2021/10/26 13:54			2021/10/26 14:25		
COC Number		651043-01-01			651043-01-01		
	UNITS	**F-03**	**RDL**	**QC Batch**	**F-04**	**RDL**	**QC Batch**
Calculated Parameters							
Nitrate (N)	mg/L	0.675	0.0020	A401702	2.11	0.0040	A401702
Misc. Inorganics							
pH	pH	6.82	N/A	A405552	7.05	N/A	A405552
Anions							
Dissolved Fluoride (F)	mg/L	<0.050	0.050	A403628	<0.050	0.050	A403628
Nutrients							
Total Ammonia (N)	mg/L	<0.015	0.015	A405039	<0.015	0.015	A405039
Total Phosphorus (P)	mg/L	0.025	0.0030	A407859	0.061	0.0030	A407872
Nitrate plus Nitrite (N)	mg/L	0.679	0.0020	A403761	2.11	0.0040	A403761
Nitrite (N)	mg/L	0.0038	0.0020	A403766	0.0029	0.0020	A403766

RDL = Reportable Detection Limit
N/A = Not Applicable

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Bureau Veritas Job #: C181984
Report Date: 2021/11/02

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		AJC353	AJC354		
Sampling Date		2021/10/26 13:54	2021/10/26 14:25		
COC Number		651043-01-01	651043-01-01		
	UNITS	**F-03**	**F-04**	**RDL**	**QC Batch**
Calculated Parameters					
Total Hardness (CaCO3)	mg/L	51.8	77.4	0.50	A401231
Elements					
Total Mercury (Hg)	ug/L	<0.0019	0.0030	0.0019	A403357
Total Metals by ICPMS					
Total Aluminum (Al)	ug/L	193	782	3.0	A409065
Total Antimony (Sb)	ug/L	<0.50	<0.50	0.50	A409065
Total Arsenic (As)	ug/L	0.47	0.92	0.10	A409065
Total Barium (Ba)	ug/L	19.1	23.5	1.0	A409065
Total Beryllium (Be)	ug/L	<0.10	<0.10	0.10	A409065
Total Bismuth (Bi)	ug/L	<1.0	<1.0	1.0	A409065
Total Boron (B)	ug/L	<50	<50	50	A409065
Total Cadmium (Cd)	ug/L	0.011	0.013	0.010	A409065
Total Chromium (Cr)	ug/L	<1.0	2.0	1.0	A409065
Total Cobalt (Co)	ug/L	<0.20	0.32	0.20	A409065
Total Copper (Cu)	ug/L	2.15	3.29	0.50	A409065
Total Iron (Fe)	ug/L	396	851	10	A409065
Total Lead (Pb)	ug/L	<0.20	0.25	0.20	A409065
Total Lithium (Li)	ug/L	<2.0	<2.0	2.0	A409065
Total Manganese (Mn)	ug/L	33.4	25.9	1.0	A409065
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	1.0	A409065
Total Nickel (Ni)	ug/L	<1.0	1.7	1.0	A409065
Total Selenium (Se)	ug/L	<0.10	0.15	0.10	A409065
Total Silicon (Si)	ug/L	3970	7610	100	A409065
Total Silver (Ag)	ug/L	<0.020	<0.020	0.020	A409065
Total Strontium (Sr)	ug/L	82.0	118	1.0	A409065
Total Thallium (Tl)	ug/L	<0.010	<0.010	0.010	A409065
Total Tin (Sn)	ug/L	<5.0	<5.0	5.0	A409065
Total Titanium (Ti)	ug/L	8.2	31.5	5.0	A409065
Total Uranium (U)	ug/L	<0.10	<0.10	0.10	A409065
Total Vanadium (V)	ug/L	<5.0	<5.0	5.0	A409065
Total Zinc (Zn)	ug/L	5.4	5.3	5.0	A409065
Total Zirconium (Zr)	ug/L	0.13	0.50	0.10	A409065
RDL = Reportable Detection Limit					

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181984
Report Date: 2021/11/02

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		AJC353	AJC354		
Sampling Date		2021/10/26 13:54	2021/10/26 14:25		
COC Number		651043-01-01	651043-01-01		
	UNITS	**F-03**	**F-04**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	14.4	19.8	0.050	A401236
Total Magnesium (Mg)	mg/L	3.83	6.75	0.050	A401236
Total Potassium (K)	mg/L	2.07	2.81	0.050	A401236
Total Sodium (Na)	mg/L	7.61	6.05	0.050	A401236
Total Sulphur (S)	mg/L	5.0	6.7	3.0	A401236
RDL = Reportable Detection Limit					

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C181984
Report Date: 2021/11/02

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A403357	Total Mercury (Hg)	2021/10/27	84	80 - 120	87	80 - 120	<0.0019	ug/L	NC	20		
A403628	Dissolved Fluoride (F)	2021/10/27	110	80 - 120	106	80 - 120	<0.050	mg/L	NC	20		
A403761	Nitrate plus Nitrite (N)	2021/10/27	NC	80 - 120	107	80 - 120	<0.0020	mg/L	0.098	25		
A403766	Nitrite (N)	2021/10/27	100	80 - 120	102	80 - 120	<0.0020	mg/L	1.3	25		
A405039	Total Ammonia (N)	2021/10/28	NC	80 - 120	98	80 - 120	<0.015	mg/L	3.2	20		
A405552	pH	2021/10/27			102	97 - 103			1.1	N/A		
A407859	Total Phosphorus (P)	2021/10/31	93	80 - 120	82	80 - 120	<0.0030	mg/L	8.7	20	93	80 - 120
A407872	Total Phosphorus (P)	2021/10/31	NC	80 - 120	94	80 - 120	<0.0030	mg/L	0.18	20	86	80 - 120
A409065	Total Aluminum (Al)	2021/11/02	112	80 - 120	107	80 - 120	<3.0	ug/L	0.75	20		
A409065	Total Antimony (Sb)	2021/11/02	108	80 - 120	104	80 - 120	<0.50	ug/L	NC	20		
A409065	Total Arsenic (As)	2021/11/02	102	80 - 120	103	80 - 120	<0.10	ug/L	2.9	20		
A409065	Total Barium (Ba)	2021/11/02	106	80 - 120	102	80 - 120	<1.0	ug/L	3.6	20		
A409065	Total Beryllium (Be)	2021/11/02	105	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A409065	Total Bismuth (Bi)	2021/11/02	99	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Boron (B)	2021/11/02	106	80 - 120	102	80 - 120	<50	ug/L	NC	20		
A409065	Total Cadmium (Cd)	2021/11/02	104	80 - 120	102	80 - 120	<0.010	ug/L	4.4	20		
A409065	Total Chromium (Cr)	2021/11/02	100	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Cobalt (Co)	2021/11/02	100	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A409065	Total Copper (Cu)	2021/11/02	93	80 - 120	95	80 - 120	<0.50	ug/L	3.0	20		
A409065	Total Iron (Fe)	2021/11/02	103	80 - 120	100	80 - 120	<10	ug/L	1.4	20		
A409065	Total Lead (Pb)	2021/11/02	101	80 - 120	99	80 - 120	<0.20	ug/L	4.8	20		
A409065	Total Lithium (Li)	2021/11/02	106	80 - 120	104	80 - 120	<2.0	ug/L	NC	20		
A409065	Total Manganese (Mn)	2021/11/02	104	80 - 120	100	80 - 120	<1.0	ug/L	1.1	20		
A409065	Total Molybdenum (Mo)	2021/11/02	110	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Nickel (Ni)	2021/11/02	97	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A409065	Total Selenium (Se)	2021/11/02	101	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
A409065	Total Silicon (Si)	2021/11/02	115	80 - 120	113	80 - 120	<100	ug/L	0.34	20		
A409065	Total Silver (Ag)	2021/11/02	101	80 - 120	99	80 - 120	<0.020	ug/L	NC	20		
A409065	Total Strontium (Sr)	2021/11/02	NC	80 - 120	101	80 - 120	<1.0	ug/L	1.5	20		
A409065	Total Thallium (Tl)	2021/11/02	103	80 - 120	100	80 - 120	<0.010	ug/L	NC	20		
A409065	Total Tin (Sn)	2021/11/02	102	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		

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Bureau Veritas Job #: C181984
Report Date: 2021/11/02

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A409065	Total Titanium (Ti)	2021/11/02	106	80 - 120	103	80 - 120	<5.0	ug/L	2.1	20		
A409065	Total Uranium (U)	2021/11/02	103	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A409065	Total Vanadium (V)	2021/11/02	101	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
A409065	Total Zinc (Zn)	2021/11/02	101	80 - 120	101	80 - 120	<5.0	ug/L	2.9	20		
A409065	Total Zirconium (Zr)	2021/11/02	103	80 - 120	101	80 - 120	<0.10	ug/L	13	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Bureau Veritas Job #: C181984
Report Date: 2021/11/02

CITY OF ABBOTSFORD
Client Project #: Bevan #7 Creek Water Quality

Sampler Initials: KP

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
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Page 1 of 1

C181984_COC

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY	Address	32315 SOUTH FRASER WAY	Project #	Bevan #7 Creek Water Qual
	ABBOTSFORD BC V2T 1W7		ABBOTSFORD BC V2T 1W7	Project Name	
Phone	(778) 549-1240 Fax (604) 850-6418	Phone	(778) 549-1240 Fax	Site #	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Sampled By	K. Piper / N. Lamarche

Bottle Order #: 651043

Chain Of Custody Record: C#651043-01-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

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(will be applied if Rush TAT is not specified):
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Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: [ ]
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	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F-03	21/10/26	13:54	Water	N	X	X	X	X	X	X	X	X			5	
2		F-04	↓	14:25	↓	↓	X	X	X	X	X	X	X	X			↓	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
K. Piper	21/10/26	16:41	Francisco Castro	2021/10/26	16:40	

Lab Use Only: Time Sensitive [ ] | Temperature (°C) on Receipt: 9, 6, 7 | Custody Seal Intact on Cooler? [ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Bureau Veritas Yellow: Client

ice:y

Bureau Veritas Canada (2019) Inc.

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 08500318, 39565, 39566, 39567, 39568, 39569, 3956A, H02

Report Date: 2021/11/03
Report #: R3094679
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C182678
Received: 2021/10/27, 17:45

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	4	N/A	2021/11/01	BBY6SOP-00048	SM 23 4500-F C m
Fluoride	3	N/A	2021/11/03	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	7	N/A	2021/11/03	BBY WI-00033	Auto Calc
Mercury (Total) by CV	7	2021/11/01	2021/11/01	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	7	2021/10/28	2021/11/03	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	7	2021/11/01	2021/11/03	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	7	N/A	2021/11/02	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	7	N/A	2021/10/29	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	7	N/A	2021/10/29	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	7	N/A	2021/10/29	BBY WI-00033	Auto Calc
pH @25°C (3)	7	N/A	2021/10/29	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	7	2021/11/02	2021/11/02	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Attention: Amy Peters

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CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 08500318, 39565, 39566, 39567, 39568, 39569, 3956A, H02

Report Date: 2021/11/03
Report #: R3094679
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C182678
Received: 2021/10/27, 17:45

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C182678
Report Date: 2021/11/03

CITY OF ABBOTSFORD
Sampler Initials: KP

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			AJG069	AJG070	AJG071		AJG072		
Sampling Date			2021/10/27 12:55	2021/10/27 09:10	2021/10/27 12:42		2021/10/27 09:22		
COC Number			39565	39566	39567		39568		
	UNITS	**Criteria**	**H01(WTX 39565)**	**H02(WTX 39566)**	**H03(WTX 39567)**	**QC Batch**	**B01(WTX 39568)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	1.61	0.915	1.27	A405889	0.320	0.0020	A405889
Misc. Inorganics									
pH	pH	6.5:9.0	6.74	7.12	7.00	A409919	6.68	N/A	A409919
Anions									
Dissolved Fluoride (F)	mg/L	0.12	0.072	<0.050	<0.050	A409362	<0.050	0.050	A412236
Nutrients									
Total Ammonia (N)	mg/L	-	<0.015	<0.015	<0.015	A410577	0.044	0.015	A410577
Total Phosphorus (P)	mg/L	-	0.020	0.0076	0.0072	A410398	0.034	0.0030	A410398
Nitrate plus Nitrite (N)	mg/L	-	1.62	0.918	1.27	A407389	0.324	0.0020	A407389
Nitrite (N)	mg/L	0.06	0.0031	0.0024	0.0020	A407392	0.0047	0.0020	A407392

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			AJG073	AJG074		AJG075		
Sampling Date			2021/10/27 11:05	2021/10/27 15:40		2021/10/27 09:10		
COC Number			39569	3956A		H02		
	UNITS	**Criteria**	**B02(WTX 39569)**	**W01(WTX 3956A)**	**QC Batch**	**DUP(H02)**	**RDL**	**QC Batch**
Calculated Parameters								
Nitrate (N)	mg/L	-	1.02	0.532	A405889	0.911	0.0020	A405889
Misc. Inorganics								
pH	pH	6.5:9.0	7.13	6.82	A409919	7.17	N/A	A409919
Anions								
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	A412236	<0.050	0.050	A409362
Nutrients								
Total Ammonia (N)	mg/L	-	<0.015	0.064	A410577	<0.015	0.015	A410581
Total Phosphorus (P)	mg/L	-	0.0077	0.011	A410398	0.0055	0.0030	A410398
Nitrate plus Nitrite (N)	mg/L	-	1.02	0.538	A407389	0.911	0.0020	A407389
Nitrite (N)	mg/L	0.06	0.0024	0.0057	A407392	<0.0020	0.0020	A407392

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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Bureau Veritas Job #: C182678
Report Date: 2021/11/03

CITY OF ABBOTSFORD
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AJG069	AJG070	AJG071	AJG072		
Sampling Date			2021/10/27 12:55	2021/10/27 09:10	2021/10/27 12:42	2021/10/27 09:22		
COC Number			39565	39566	39567	39568		
	UNITS	**Criteria**	**H01(WTX 39565)**	**H02(WTX 39566)**	**H03(WTX 39567)**	**B01(WTX 39568)**	**RDL**	**QC Batch**
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	-	83.7	91.1	81.7	32.6	0.50	A404493
Elements								
Total Mercury (Hg)	ug/L	0.026	0.0187	<0.0019	<0.0019	<0.0019	0.0019	A409364
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	-	34.5	32.4	23.9	125	3.0	A409746
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	0.50	A409746
Total Arsenic (As)	ug/L	5	0.47	0.83	0.46	1.07	0.10	A409746
Total Barium (Ba)	ug/L	-	11.7	15.7	14.5	21.0	1.0	A409746
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	0.10	A409746
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	1.0	A409746
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	50	A409746
Total Cadmium (Cd)	ug/L	-	0.017	<0.010	0.019	0.053	0.010	A409746
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	1.6	1.0	A409746
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	0.67	0.20	A409746
Total Copper (Cu)	ug/L	-	3.54	1.17	2.29	6.53	0.50	A409746
Total Iron (Fe)	ug/L	300	66	150	42	**725**	10	A409746
Total Lead (Pb)	ug/L	-	<0.20	<0.20	<0.20	3.62	0.20	A409746
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	2.0	A409746
Total Manganese (Mn)	ug/L	-	3.3	28.3	10.6	115	1.0	A409746
Total Molybdenum (Mo)	ug/L	73	<1.0	1.6	4.9	<1.0	1.0	A409746
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	2.0	1.0	A409746
Total Selenium (Se)	ug/L	1	0.19	0.11	0.14	<0.10	0.10	A409746
Total Silicon (Si)	ug/L	-	8590	7700	7250	4540	100	A409746
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	0.020	A409746
Total Strontium (Sr)	ug/L	-	120	115	108	87.3	1.0	A409746
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	0.010	A409746
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	5.0	A409746
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	<5.0	5.0	A409746
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	0.10	A409746
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	5.0	A409746
Total Zinc (Zn)	ug/L	30	14.7	8.0	25.4	**44.7**	5.0	A409746
Total Zirconium (Zr)	ug/L	-	0.28	<0.10	<0.10	0.27	0.10	A409746
Total Calcium (Ca)	mg/L	-	23.7	26.5	23.6	10.1	0.050	A404496

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C182678
Report Date: 2021/11/03

CITY OF ABBOTSFORD
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AJG069	AJG070	AJG071	AJG072		
Sampling Date			2021/10/27 12:55	2021/10/27 09:10	2021/10/27 12:42	2021/10/27 09:22		
COC Number			39565	39566	39567	39568		
	UNITS	**Criteria**	**H01(WTX 39565)**	**H02(WTX 39566)**	**H03(WTX 39567)**	**B01(WTX 39568)**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	-	5.93	6.06	5.55	1.81	0.050	A404496
Total Potassium (K)	mg/L	-	1.42	1.60	1.66	1.00	0.050	A404496
Total Sodium (Na)	mg/L	-	14.1	7.80	11.4	10.8	0.050	A404496
Total Sulphur (S)	mg/L	-	4.3	6.0	5.2	<3.0	3.0	A404496

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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Bureau Veritas Job #: C182678
Report Date: 2021/11/03

CITY OF ABBOTSFORD
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AJG073	AJG074	AJG075		
Sampling Date			2021/10/27 11:05	2021/10/27 15:40	2021/10/27 09:10		
COC Number			39569	3956A	H02		
	UNITS	**Criteria**	**B02(WTX 39569)**	**W01(WTX 3956A)**	**DUP(H02)**	**RDL**	**QC Batch**
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	84.5	40.8	91.6	0.50	A404493
Elements							
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	0.0019	A409364
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	-	64.3	21.2	30.8	3.0	A409746
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	0.50	A409746
Total Arsenic (As)	ug/L	5	0.66	0.68	0.83	0.10	A409746
Total Barium (Ba)	ug/L	-	15.9	16.7	15.7	1.0	A409746
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	0.10	A409746
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	1.0	A409746
Total Boron (B)	ug/L	1500	<50	<50	<50	50	A409746
Total Cadmium (Cd)	ug/L	-	0.010	<0.010	0.011	0.010	A409746
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	1.0	A409746
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	0.20	A409746
Total Copper (Cu)	ug/L	-	1.20	0.84	1.14	0.50	A409746
Total Iron (Fe)	ug/L	300	**362**	**514**	149	10	A409746
Total Lead (Pb)	ug/L	-	0.21	0.22	<0.20	0.20	A409746
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	2.0	A409746
Total Manganese (Mn)	ug/L	-	90.5	37.1	27.9	1.0	A409746
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	1.5	1.0	A409746
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	1.0	A409746
Total Selenium (Se)	ug/L	1	0.11	<0.10	0.11	0.10	A409746
Total Silicon (Si)	ug/L	-	8320	4180	7720	100	A409746
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	0.020	A409746
Total Strontium (Sr)	ug/L	-	121	69.7	112	1.0	A409746
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	0.010	A409746
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	5.0	A409746
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	5.0	A409746
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	0.10	A409746
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	5.0	A409746
Total Zinc (Zn)	ug/L	30	<5.0	5.3	7.2	5.0	A409746
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	0.10	A409746
Total Calcium (Ca)	mg/L	-	23.6	11.1	26.6	0.050	A404496

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C182678
Report Date: 2021/11/03

CITY OF ABBOTSFORD
Sampler Initials: KP

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AJG073	AJG074	AJG075		
Sampling Date			2021/10/27 11:05	2021/10/27 15:40	2021/10/27 09:10		
COC Number			39569	3956A	H02		
	UNITS	**Criteria**	**B02(WTX 39569)**	**W01(WTX 3956A)**	**DUP(H02)**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	-	6.19	3.16	6.12	0.050	A404496
Total Potassium (K)	mg/L	-	1.38	0.877	1.58	0.050	A404496
Total Sodium (Na)	mg/L	-	7.14	16.4	7.74	0.050	A404496
Total Sulphur (S)	mg/L	-	4.3	<3.0	5.5	3.0	A404496

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C182678
Report Date: 2021/11/03

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A407389	Nitrate plus Nitrite (N)	2021/10/29	87	80 - 120	107	80 - 120	<0.0020	mg/L	0.48	25		
A407392	Nitrite (N)	2021/10/29	100	80 - 120	102	80 - 120	<0.0020	mg/L	12	25		
A409362	Dissolved Fluoride (F)	2021/11/01	104	80 - 120	102	80 - 120	<0.050	mg/L	0	20		
A409364	Total Mercury (Hg)	2021/11/01	82	80 - 120	93	80 - 120	<0.0019	ug/L	NC	20		
A409746	Total Aluminum (Al)	2021/11/03	99	80 - 120	99	80 - 120	<3.0	ug/L	0.88	20		
A409746	Total Antimony (Sb)	2021/11/03	102	80 - 120	101	80 - 120	<0.50	ug/L	NC	20		
A409746	Total Arsenic (As)	2021/11/03	100	80 - 120	98	80 - 120	<0.10	ug/L	0.69	20		
A409746	Total Barium (Ba)	2021/11/03	101	80 - 120	99	80 - 120	<1.0	ug/L	0.99	20		
A409746	Total Beryllium (Be)	2021/11/03	107	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A409746	Total Bismuth (Bi)	2021/11/03	99	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A409746	Total Boron (B)	2021/11/03	105	80 - 120	102	80 - 120	<50	ug/L	NC	20		
A409746	Total Cadmium (Cd)	2021/11/03	102	80 - 120	100	80 - 120	<0.010	ug/L	NC	20		
A409746	Total Chromium (Cr)	2021/11/03	97	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A409746	Total Cobalt (Co)	2021/11/03	98	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A409746	Total Copper (Cu)	2021/11/03	95	80 - 120	98	80 - 120	<0.50	ug/L	1.8	20		
A409746	Total Iron (Fe)	2021/11/03	99	80 - 120	103	80 - 120	<10	ug/L	2.2	20		
A409746	Total Lead (Pb)	2021/11/03	101	80 - 120	100	80 - 120	<0.20	ug/L	NC	20		
A409746	Total Lithium (Li)	2021/11/03	108	80 - 120	109	80 - 120	<2.0	ug/L	NC	20		
A409746	Total Manganese (Mn)	2021/11/03	98	80 - 120	100	80 - 120	<1.0	ug/L	1.0	20		
A409746	Total Molybdenum (Mo)	2021/11/03	105	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A409746	Total Nickel (Ni)	2021/11/03	97	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A409746	Total Selenium (Se)	2021/11/03	101	80 - 120	98	80 - 120	<0.10	ug/L	6.0	20		
A409746	Total Silicon (Si)	2021/11/03	NC	80 - 120	111	80 - 120	<100	ug/L	3.4	20		
A409746	Total Silver (Ag)	2021/11/03	101	80 - 120	97	80 - 120	<0.020	ug/L	NC	20		
A409746	Total Strontium (Sr)	2021/11/03	NC	80 - 120	98	80 - 120	<1.0	ug/L	1.5	20		
A409746	Total Thallium (Tl)	2021/11/03	102	80 - 120	102	80 - 120	<0.010	ug/L	NC	20		
A409746	Total Tin (Sn)	2021/11/03	99	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A409746	Total Titanium (Ti)	2021/11/03	100	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A409746	Total Uranium (U)	2021/11/03	104	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A409746	Total Vanadium (V)	2021/11/03	100	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A409746	Total Zinc (Zn)	2021/11/03	98	80 - 120	100	80 - 120	<5.0	ug/L	3.9	20		
A409746	Total Zirconium (Zr)	2021/11/03	102	80 - 120	98	80 - 120	<0.10	ug/L	3.9	20		
A409919	pH	2021/10/29			101	97 - 103			1.7	N/A		

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Bureau Veritas Job #: C182678
Report Date: 2021/11/03

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Sampler Initials: KP

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A410398	Total Phosphorus (P)	2021/11/02	90	80 - 120	97	80 - 120	<0.0030	mg/L	NC	20	89	80 - 120
A410577	Total Ammonia (N)	2021/11/02	88	80 - 120	95	80 - 120	<0.015	mg/L	11	20		
A410581	Total Ammonia (N)	2021/11/02	93	80 - 120	98	80 - 120	<0.015	mg/L	NC	20		
A412236	Dissolved Fluoride (F)	2021/11/03	106	80 - 120	102	80 - 120	<0.050	mg/L	NC	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

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For Service Group specific validation please refer to the Validation Signature Page.

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Tel: (604) 734-7276 Toll Free: (800) 665-8569

08500318

CHAIN OF CUSTODY RECORD
ENV COC - 0015v0

Page 1 of 1

C182678_COC

Invoice Information		Report Information (if differs from invoice)		Project Information	
Invoice To Requires Report ☐					
Company:	CITY OF ABBOTSFORD	Company:	CITY OF ABBOTSFORD	Quotation #:	
Contact Name:	AMY PETERS	Contact Name:	AMY PETERS	P.O. #/ AFE#:	
Street Address:	32315 South Fraser Way	Street Address:	32315 South Fraser Way	Project #:	on #1 Creek Water Quality
City: Abbotsford Prov: BC Postal Code: V2T 1W7		City: Abbotsford Prov: BC Postal Code: V2T 1W7		Site #:	
Phone:	(778) 549-1240	Phone:	(778) 549-1240	Site Location:	
Email:	apeters@abbotsford.ca	Email:	apeters@abbotsford.ca	Site Location Province:	
Copies:		Copies:		Sampled By:	K. Piper / N. Lamarche

Rush Confirmation #:

Regulatory Criteria

☐ BC CSR ☐ CCME ☐ Drinking Water
☐ YUKON CSR ☐ BC Water Quality ☐ Other: _____

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Regular TurnAround Time (TAT): ☑ 5 to 7 days ☐ 10 days

Rush TurnAround Time (TAT) - Surcharges apply: ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 DAY

Date Required: YY MM DD

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 CN/CCME TOT. METALS W/CV Hg	5 AMMONIA	6 FLUORIDE	7 NITRATE+NITRITE	8 NITRITE	9 NITRATE	10 [illegible]	11 TOTAL PHOSPHORUS	12	13	14	15	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	COMMENTS
1	H01 (WTX 39565)	21	10	27	12	55	Water	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	5	☐	
2	H02 (WTX 39566)	↓	↓	↓	9	10	↓	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	↓	☐	
3	H03 (WTX 39567)				12	42		☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
4	B01 (WTX 39568)				9	22		☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
5	B02 (WTX 39569)				11	05		☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
6	W01 (WTX 39564)				15	40		☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
7	~~D01 (WTX 39560)~~							☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
8	~~D02 (WTX 39561)~~							☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
9	~~D03 (WTX 39562)~~							☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
10	~~E01 (WTX 39563)~~							☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
11	~~F01 (WTX 46049)~~							☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
12	DUP (H02)	21	10	27	9	10	Water	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	5	☐	
13	~~TRIP BLANK (WTX 34704)~~							☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
14	~~FIELD BLANK (WTX 34705)~~							☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
15								☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present		X		10	11	8
Seal intact		X				
Cooling medal present	X					

LAB USE ONLY	Yes	No	°C	1	2	3
Seal Present						
Seal Intact						
Cooling Media Present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present				~~10~~	~~10~~	9
Seal intact						
Cooling Media Present						

TEMPS BY: AFE 2021/10/27

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM
K. Piper	21	10	27	17	36	AMALA FRANCIS	2021	10	27	17	45

SPECIAL INSTRUCTIONS

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 653449-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 3956C, 41C64, 653449-02-01, 3AF04, 3AF05

Report Date: 2022/01/10
Report #: R3119955
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C192582
Received: 2021/11/26, 17:00

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	14	N/A	2021/11/29	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	12	N/A	2021/12/18	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/12/21	BBY WI-00033	Auto Calc
Mercury (Total) by CV	6	2021/11/29	2021/11/29	AB SOP-00084	BCMOE BCLM Oct2013 m
Mercury (Total) by CV	8	2021/11/30	2021/11/30	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	12	2021/12/15	2021/12/18	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/12/15	2021/12/21	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	12	2021/11/30	2021/11/30	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2021/12/01	2021/12/01	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	14	N/A	2021/11/30	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	14	N/A	2021/11/27	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	14	N/A	2021/11/27	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2022/01/07	BBY WI-00033	Auto Calc
pH @25°C (3)	14	N/A	2021/11/29	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	14	2021/12/07	2021/12/07	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or

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Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 653449-01-01, 39565, 39566, 39567, 39568, 39569,
3956A, 3956D, 3956B, 3956C, 41C64, 653449-02-01, 3AF04, 3AF05

Report Date: 2022/01/10
Report #: R3119955
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C192582
Received: 2021/11/26, 17:00

implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
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Bureau Veritas Job #: C192582
Report Date: 2022/01/10

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		ALP600	ALP601	ALP602	ALP603	ALP604	ALP605		
Sampling Date		2021/11/26 11:30	2021/11/26 10:06	2021/11/26 11:15	2021/11/26 11:03	2021/11/26 10:53	2021/11/26 11:57		
COC Number		39565	39566	39567	39568	39569	3956A		
	UNITS	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	1.05	0.701	0.851	0.758	0.795	0.370	0.0020	A445265
Misc. Inorganics									
pH	pH	6.69	6.79	6.71	6.59	6.76	6.53	N/A	A458005
Anions									
Dissolved Fluoride (F)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A460589
Nutrients									
Total Ammonia (N)	mg/L	<0.015	0.020	<0.015	0.034	0.032	0.24	0.015	A467476
Total Phosphorus (P)	mg/L	0.0079	0.012	0.013	0.023	0.033	0.022	0.0030	A459137
Nitrate plus Nitrite (N)	mg/L	1.06	0.706	0.856	0.764	0.805	0.378	0.0020	A466544
Nitrite (N)	mg/L	0.0035	0.0051	0.0048	0.0054	0.0091	0.0081	0.0020	A466587

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		ALP606	ALP607		ALP608	ALP609	ALP610		
Sampling Date		2021/11/26 08:02	2021/11/26 08:14		2021/11/26 12:58	2021/11/26 13:26	2021/11/26 14:11		
COC Number		3956D	3956D		3956B	3956C	41C64		
	UNITS	**D01 (3956D)**	**D02 (3956D)**	**QC Batch**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	0.937	0.617	A445265	1.07	0.774	0.807	0.0020	A445265
Misc. Inorganics									
pH	pH	6.71	6.83	A457985	6.79	6.64	6.69	N/A	A457985
Anions									
Dissolved Fluoride (F)	mg/L	<0.050	<0.050	A460589	<0.050	<0.050	<0.050	0.050	A460589
Nutrients									
Total Ammonia (N)	mg/L	0.018	<0.015	A467476	0.015	<0.015	0.062	0.015	A467478
Total Phosphorus (P)	mg/L	0.028	0.012	A459137	0.025	0.013	0.019	0.0030	A459137
Nitrate plus Nitrite (N)	mg/L	0.942	0.621	A466544	1.08	0.777	0.821	0.0020	A466544
Nitrite (N)	mg/L	0.0050	0.0042	A466587	0.0058	0.0029	0.0144	0.0020	A466587

RDL = Reportable Detection Limit
N/A = Not Applicable

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RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		ALP611		ALP612	ALP613		
Sampling Date		2021/11/26 12:58		2021/11/26	2021/11/26 14:30		
COC Number		653449-02-01		3AF04	3AF05		
	UNITS	**DUPLICATE**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters							
Nitrate (N)	mg/L	1.08	A445265	<0.0020	<0.0020	0.0020	A445265
Misc. Inorganics							
pH	pH	6.82	A457985	5.44	5.06	N/A	A457985
Anions							
Dissolved Fluoride (F)	mg/L	<0.050	A460612	<0.050	<0.050	0.050	A460612
Nutrients							
Total Ammonia (N)	mg/L	<0.015	A467478	<0.015	<0.015	0.015	A467478
Total Phosphorus (P)	mg/L	0.026	A459137	<0.0030	<0.0030	0.0030	A459137
Nitrate plus Nitrite (N)	mg/L	1.08	A466544	<0.0020 (1)	<0.0020	0.0020	A466592
Nitrite (N)	mg/L	0.0055	A466587	<0.0020 (1)	<0.0020	0.0020	A466595

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Matrix spike exceeds acceptance limits due to suspected matrix interference.

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		ALP600	ALP601		ALP602	ALP603	ALP604	ALP605		
Sampling Date		2021/11/26 11:30	2021/11/26 10:06		2021/11/26 11:15	2021/11/26 11:03	2021/11/26 10:53	2021/11/26 11:57		
COC Number		39565	39566		39567	39568	39569	3956A		
	UNITS	**H01 (39565)**	**H02 (39566)**	**QC Batch**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	47.4	51.9	A445155	45.0	30.1	51.4	21.6	0.50	A445155
Elements										
Total Mercury (Hg)	ug/L	0.0048	<0.0019	A447174	0.0026	<0.0019	<0.0019	<0.0019	0.0019	A447129
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	35.3	178	A449456	69.0	85.9	782	35.9	3.0	A449456
Total Antimony (Sb)	ug/L	<0.50	<0.50	A449456	<0.50	<0.50	<0.50	<0.50	0.50	A449456
Total Arsenic (As)	ug/L	0.47	0.76	A449456	0.44	0.59	0.82	0.66	0.10	A449456
Total Barium (Ba)	ug/L	8.5	12.1	A449456	10.3	17.7	20.0	12.0	1.0	A449456
Total Beryllium (Be)	ug/L	<0.10	<0.10	A449456	<0.10	<0.10	<0.10	<0.10	0.10	A449456
Total Bismuth (Bi)	ug/L	<1.0	<1.0	A449456	<1.0	<1.0	<1.0	<1.0	1.0	A449456
Total Boron (B)	ug/L	<50	<50	A449456	<50	<50	<50	<50	50	A449456
Total Cadmium (Cd)	ug/L	0.014	0.015	A449456	0.014	0.027	0.024	<0.010	0.010	A449456
Total Chromium (Cr)	ug/L	<1.0	<1.0	A449456	<1.0	1.2	2.1	<1.0	1.0	A449456
Total Cobalt (Co)	ug/L	<0.20	<0.20	A449456	<0.20	0.29	0.60	<0.20	0.20	A449456
Total Copper (Cu)	ug/L	2.64	1.64	A449456	2.65	2.61	2.88	1.09	0.50	A449456
Total Iron (Fe)	ug/L	89	365	A449456	103	578	1420	650	10	A449456
Total Lead (Pb)	ug/L	<0.20	<0.20	A449456	<0.20	0.91	0.55	0.41	0.20	A449456
Total Lithium (Li)	ug/L	<2.0	<2.0	A449456	<2.0	<2.0	<2.0	<2.0	2.0	A449456
Total Manganese (Mn)	ug/L	8.1	37.6	A449456	10.3	78.0	97.4	34.8	1.0	A449456
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	A449456	<1.0	<1.0	<1.0	<1.0	1.0	A449456
Total Nickel (Ni)	ug/L	<1.0	<1.0	A449456	<1.0	1.1	2.4	<1.0	1.0	A449456
Total Selenium (Se)	ug/L	0.12	<0.10	A449456	<0.10	<0.10	<0.10	<0.10	0.10	A449456
Total Silicon (Si)	ug/L	4230	4330	A449456	3460	3740	5720	1910	100	A449456
Total Silver (Ag)	ug/L	<0.020	<0.020	A449456	<0.020	<0.020	<0.020	<0.020	0.020	A449456
Total Strontium (Sr)	ug/L	74.5	71.0	A449456	65.9	86.5	85.9	39.5	1.0	A449456
Total Thallium (Tl)	ug/L	<0.010	<0.010	A449456	<0.010	<0.010	<0.010	<0.010	0.010	A449456
Total Tin (Sn)	ug/L	<5.0	<5.0	A449456	<5.0	<5.0	<5.0	<5.0	5.0	A449456
Total Titanium (Ti)	ug/L	<5.0	8.3	A449456	<5.0	<5.0	40.3	<5.0	5.0	A449456
Total Uranium (U)	ug/L	<0.10	<0.10	A449456	<0.10	<0.10	<0.10	<0.10	0.10	A449456
Total Vanadium (V)	ug/L	<5.0	<5.0	A449456	<5.0	<5.0	<5.0	<5.0	5.0	A449456
Total Zinc (Zn)	ug/L	15.9	16.5	A449456	34.2	33.0	18.7	11.2	5.0	A449456
RDL = Reportable Detection Limit										

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		ALP600	ALP601		ALP602	ALP603	ALP604	ALP605		
Sampling Date		2021/11/26 11:30	2021/11/26 10:06		2021/11/26 11:15	2021/11/26 11:03	2021/11/26 10:53	2021/11/26 11:57		
COC Number		39565	39566		39567	39568	39569	3956A		
	UNITS	**H01 (39565)**	**H02 (39566)**	**QC Batch**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	<0.10	0.10	A449456	<0.10	0.19	0.28	<0.10	0.10	A449456
Total Calcium (Ca)	mg/L	13.5	15.3	A445156	13.3	9.02	14.4	6.15	0.050	A445156
Total Magnesium (Mg)	mg/L	3.29	3.30	A445156	2.89	1.83	3.76	1.51	0.050	A445156
Total Potassium (K)	mg/L	0.856	0.897	A445156	0.934	0.784	0.922	0.657	0.050	A445156
Total Sodium (Na)	mg/L	8.33	4.96	A445156	6.58	8.55	4.99	12.6	0.050	A445156
Total Sulphur (S)	mg/L	<3.0	<3.0	A445156	<3.0	<3.0	<3.0	<3.0	3.0	A445156
RDL = Reportable Detection Limit										

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		ALP606		ALP607	ALP608	ALP609	ALP610	ALP611		
Sampling Date		2021/11/26 08:02		2021/11/26 08:14	2021/11/26 12:58	2021/11/26 13:26	2021/11/26 14:11	2021/11/26 12:58		
COC Number		3956D		3956D	3956B	3956C	41C64	653449-02-01		
	UNITS	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**DUPLICATE**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	46.3	A445155	73.0	53.2	33.5	41.7	52.8	0.50	A445155
Elements										
Total Mercury (Hg)	ug/L	<0.0019	A447129	<0.0019	0.0021	<0.0019	<0.0019	0.0021	0.0019	A447174
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	366	A449456	74.0	191	144	131	190	3.0	A449456
Total Antimony (Sb)	ug/L	<0.50	A449456	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A449456
Total Arsenic (As)	ug/L	0.89	A449456	1.37	1.23	0.40	0.97	1.28	0.10	A449456
Total Barium (Ba)	ug/L	17.7	A449456	10.7	15.2	14.6	16.0	15.7	1.0	A449456
Total Beryllium (Be)	ug/L	<0.10	A449456	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A449456
Total Bismuth (Bi)	ug/L	<1.0	A449456	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A449456
Total Boron (B)	ug/L	<50	A449456	<50	<50	<50	<50	<50	50	A449456
Total Cadmium (Cd)	ug/L	0.017	A449456	<0.010	0.011	<0.010	0.013	0.010	0.010	A449456
Total Chromium (Cr)	ug/L	1.0	A449456	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A449456
Total Cobalt (Co)	ug/L	0.34	A449456	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	A449456
Total Copper (Cu)	ug/L	1.96	A449456	0.54	2.55	2.00	2.06	2.51	0.50	A449456
Total Iron (Fe)	ug/L	675	A449456	465	394	308	494	397	10	A449456
Total Lead (Pb)	ug/L	<0.20	A449456	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	A449456
Total Lithium (Li)	ug/L	<2.0	A449456	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A449456
Total Manganese (Mn)	ug/L	57.7	A449456	116	65.0	17.9	55.7	65.6	1.0	A449456
Total Molybdenum (Mo)	ug/L	<1.0	A449456	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A449456
Total Nickel (Ni)	ug/L	1.4	A449456	<1.0	1.0	<1.0	<1.0	1.0	1.0	A449456
Total Selenium (Se)	ug/L	0.10	A449456	0.15	<0.10	<0.10	<0.10	<0.10	0.10	A449456
Total Silicon (Si)	ug/L	4560	A449456	7330	3500	2600	3050	3420	100	A449456
Total Silver (Ag)	ug/L	<0.020	A449456	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A449456
Total Strontium (Sr)	ug/L	81.0	A449456	110	88.3	56.6	70.9	89.6	1.0	A449456
Total Thallium (Tl)	ug/L	<0.010	A449456	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A449456
Total Tin (Sn)	ug/L	<5.0	A449456	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A449456
Total Titanium (Ti)	ug/L	17.6	A449456	<5.0	8.3	6.0	5.4	7.9	5.0	A449456
Total Uranium (U)	ug/L	<0.10	A449456	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A449456
Total Vanadium (V)	ug/L	<5.0	A449456	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A449456
Total Zinc (Zn)	ug/L	6.7	A449456	5.5	7.3	7.9	9.2	7.9	5.0	A449456
RDL = Reportable Detection Limit										

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		ALP606		ALP607	ALP608	ALP609	ALP610	ALP611		
Sampling Date		2021/11/26 08:02		2021/11/26 08:14	2021/11/26 12:58	2021/11/26 13:26	2021/11/26 14:11	2021/11/26 12:58		
COC Number		3956D		3956D	3956B	3956C	41C64	653449-02-01		
	UNITS	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**DUPLICATE**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	0.17	A449456	<0.10	0.14	0.10	0.12	0.16	0.10	A449456
Total Calcium (Ca)	mg/L	12.9	A445156	19.3	15.5	9.77	12.1	15.2	0.050	A445156
Total Magnesium (Mg)	mg/L	3.44	A445156	6.00	3.54	2.22	2.78	3.58	0.050	A445156
Total Potassium (K)	mg/L	1.75	A445156	1.18	1.52	1.27	1.26	1.52	0.050	A445156
Total Sodium (Na)	mg/L	6.01	A445156	5.95	5.87	4.61	5.97	5.83	0.050	A445156
Total Sulphur (S)	mg/L	3.5	A445156	3.1	3.8	<3.0	3.3	3.9	3.0	A445156
RDL = Reportable Detection Limit										

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		ALP612		ALP613		
Sampling Date		2021/11/26		2021/11/26 14:30		
COC Number		3AF04		3AF05		
	UNITS	**TRIP BLANK (3AF04)**	**QC Batch**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	<0.50	A445155	<0.50	0.50	A445155
Elements						
Total Mercury (Hg)	ug/L	<0.0019	A447142	<0.0019	0.0019	A447129
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	<3.0	A453455	<3.0	3.0	A453455
Total Antimony (Sb)	ug/L	<0.50	A453455	<0.50	0.50	A453455
Total Arsenic (As)	ug/L	<0.10	A453455	<0.10	0.10	A453455
Total Barium (Ba)	ug/L	<1.0	A453455	<1.0	1.0	A453455
Total Beryllium (Be)	ug/L	<0.10	A453455	<0.10	0.10	A453455
Total Bismuth (Bi)	ug/L	<1.0	A453455	<1.0	1.0	A453455
Total Boron (B)	ug/L	<50	A453455	<50	50	A453455
Total Cadmium (Cd)	ug/L	<0.010	A453455	<0.010	0.010	A453455
Total Chromium (Cr)	ug/L	<1.0	A453455	<1.0	1.0	A453455
Total Cobalt (Co)	ug/L	<0.20	A453455	<0.20	0.20	A453455
Total Copper (Cu)	ug/L	<0.50	A453455	<0.50	0.50	A453455
Total Iron (Fe)	ug/L	<10	A453455	<10	10	A453455
Total Lead (Pb)	ug/L	<0.20	A453455	<0.20	0.20	A453455
Total Lithium (Li)	ug/L	<2.0	A453455	<2.0	2.0	A453455
Total Manganese (Mn)	ug/L	<1.0	A453455	<1.0	1.0	A453455
Total Molybdenum (Mo)	ug/L	<1.0	A453455	<1.0	1.0	A453455
Total Nickel (Ni)	ug/L	<1.0	A453455	<1.0	1.0	A453455
Total Selenium (Se)	ug/L	<0.10	A453455	<0.10	0.10	A453455
Total Silicon (Si)	ug/L	<100	A453455	<100	100	A453455
Total Silver (Ag)	ug/L	<0.020	A453455	<0.020	0.020	A453455
Total Strontium (Sr)	ug/L	<1.0	A453455	<1.0	1.0	A453455
Total Thallium (Tl)	ug/L	<0.010	A453455	<0.010	0.010	A453455
Total Tin (Sn)	ug/L	<5.0	A453455	<5.0	5.0	A453455
Total Titanium (Ti)	ug/L	<5.0	A453455	<5.0	5.0	A453455
Total Uranium (U)	ug/L	<0.10	A453455	<0.10	0.10	A453455
Total Vanadium (V)	ug/L	<5.0	A453455	<5.0	5.0	A453455
Total Zinc (Zn)	ug/L	<5.0	A453455	<5.0	5.0	A453455
RDL = Reportable Detection Limit						

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID		ALP612		ALP613		
Sampling Date		2021/11/26		2021/11/26 14:30		
COC Number		3AF04		3AF05		
	UNITS	**TRIP BLANK (3AF04)**	**QC Batch**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	<0.10	A453455	<0.10	0.10	A453455
Total Calcium (Ca)	mg/L	<0.050	A445156	<0.050	0.050	A445156
Total Magnesium (Mg)	mg/L	<0.050	A445156	<0.050	0.050	A445156
Total Potassium (K)	mg/L	<0.050	A445156	<0.050	0.050	A445156
Total Sodium (Na)	mg/L	<0.050	A445156	<0.050	0.050	A445156
Total Sulphur (S)	mg/L	<3.0	A445156	<3.0	3.0	A445156
RDL = Reportable Detection Limit						

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GENERAL COMMENTS

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A447129	Total Mercury (Hg)	2021/11/29	109	80 - 120	105	80 - 120	<0.0019	ug/L	NC	20
A447142	Total Mercury (Hg)	2021/11/30	121 (1)	80 - 120	106	80 - 120	<0.0019	ug/L	NC	20
A447174	Total Mercury (Hg)	2021/11/30	88	80 - 120	104	80 - 120	<0.0019	ug/L	0.21	20
A449456	Total Aluminum (Al)	2021/11/30	108	80 - 120	94	80 - 120	<3.0	ug/L	0.94	20
A449456	Total Antimony (Sb)	2021/11/30	105	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
A449456	Total Arsenic (As)	2021/11/30	105	80 - 120	103	80 - 120	<0.10	ug/L	2.3	20
A449456	Total Barium (Ba)	2021/11/30	105	80 - 120	105	80 - 120	<1.0	ug/L	1.3	20
A449456	Total Beryllium (Be)	2021/11/30	103	80 - 120	99	80 - 120	<0.10	ug/L	NC	20
A449456	Total Bismuth (Bi)	2021/11/30	100	80 - 120	101	80 - 120	<1.0	ug/L	NC	20
A449456	Total Boron (B)	2021/11/30	103	80 - 120	107	80 - 120	<50	ug/L	NC	20
A449456	Total Cadmium (Cd)	2021/11/30	104	80 - 120	102	80 - 120	<0.010	ug/L	7.5	20
A449456	Total Chromium (Cr)	2021/11/30	101	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
A449456	Total Cobalt (Co)	2021/11/30	98	80 - 120	97	80 - 120	<0.20	ug/L	NC	20
A449456	Total Copper (Cu)	2021/11/30	98	80 - 120	98	80 - 120	<0.50	ug/L	1.7	20
A449456	Total Iron (Fe)	2021/11/30	118	80 - 120	109	80 - 120	<10	ug/L	2.0	20
A449456	Total Lead (Pb)	2021/11/30	105	80 - 120	102	80 - 120	<0.20	ug/L	NC	20
A449456	Total Lithium (Li)	2021/11/30	102	80 - 120	100	80 - 120	<2.0	ug/L	NC	20
A449456	Total Manganese (Mn)	2021/11/30	104	80 - 120	101	80 - 120	<1.0	ug/L	0.64	20
A449456	Total Molybdenum (Mo)	2021/11/30	108	80 - 120	106	80 - 120	<1.0	ug/L	NC	20
A449456	Total Nickel (Ni)	2021/11/30	99	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
A449456	Total Selenium (Se)	2021/11/30	105	80 - 120	103	80 - 120	<0.10	ug/L	NC	20
A449456	Total Silicon (Si)	2021/11/30	96	80 - 120	98	80 - 120	<100	ug/L	2.2	20
A449456	Total Silver (Ag)	2021/11/30	101	80 - 120	100	80 - 120	<0.020	ug/L	NC	20
A449456	Total Strontium (Sr)	2021/11/30	NC	80 - 120	104	80 - 120	<1.0	ug/L	1.0	20
A449456	Total Thallium (Tl)	2021/11/30	104	80 - 120	102	80 - 120	<0.010	ug/L	NC	20
A449456	Total Tin (Sn)	2021/11/30	103	80 - 120	104	80 - 120	<5.0	ug/L	NC	20
A449456	Total Titanium (Ti)	2021/11/30	113	80 - 120	102	80 - 120	<5.0	ug/L	14	20
A449456	Total Uranium (U)	2021/11/30	105	80 - 120	103	80 - 120	<0.10	ug/L	NC	20
A449456	Total Vanadium (V)	2021/11/30	104	80 - 120	100	80 - 120	<5.0	ug/L	NC	20
A449456	Total Zinc (Zn)	2021/11/30	105	80 - 120	102	80 - 120	<5.0	ug/L	0.94	20
A449456	Total Zirconium (Zr)	2021/11/30	108	80 - 120	103	80 - 120	<0.10	ug/L	11	20
A453455	Total Aluminum (Al)	2021/12/01	100	80 - 120	99	80 - 120	<3.0	ug/L		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A453455	Total Antimony (Sb)	2021/12/01	103	80 - 120	101	80 - 120	<0.50	ug/L		
A453455	Total Arsenic (As)	2021/12/01	102	80 - 120	100	80 - 120	<0.10	ug/L		
A453455	Total Barium (Ba)	2021/12/01	102	80 - 120	99	80 - 120	<1.0	ug/L		
A453455	Total Beryllium (Be)	2021/12/01	101	80 - 120	101	80 - 120	<0.10	ug/L		
A453455	Total Bismuth (Bi)	2021/12/01	91	80 - 120	98	80 - 120	<1.0	ug/L		
A453455	Total Boron (B)	2021/12/01	102	80 - 120	105	80 - 120	<50	ug/L		
A453455	Total Cadmium (Cd)	2021/12/01	104	80 - 120	102	80 - 120	<0.010	ug/L		
A453455	Total Chromium (Cr)	2021/12/01	99	80 - 120	101	80 - 120	<1.0	ug/L		
A453455	Total Cobalt (Co)	2021/12/01	103	80 - 120	104	80 - 120	<0.20	ug/L		
A453455	Total Copper (Cu)	2021/12/01	100	80 - 120	103	80 - 120	<0.50	ug/L		
A453455	Total Iron (Fe)	2021/12/01	104	80 - 120	104	80 - 120	<10	ug/L		
A453455	Total Lead (Pb)	2021/12/01	99	80 - 120	100	80 - 120	<0.20	ug/L		
A453455	Total Lithium (Li)	2021/12/01	99	80 - 120	100	80 - 120	<2.0	ug/L		
A453455	Total Manganese (Mn)	2021/12/01	100	80 - 120	102	80 - 120	<1.0	ug/L		
A453455	Total Molybdenum (Mo)	2021/12/01	103	80 - 120	103	80 - 120	<1.0	ug/L		
A453455	Total Nickel (Ni)	2021/12/01	102	80 - 120	105	80 - 120	<1.0	ug/L		
A453455	Total Selenium (Se)	2021/12/01	104	80 - 120	104	80 - 120	<0.10	ug/L		
A453455	Total Silicon (Si)	2021/12/01	104	80 - 120	100	80 - 120	<100	ug/L		
A453455	Total Silver (Ag)	2021/12/01	98	80 - 120	101	80 - 120	<0.020	ug/L		
A453455	Total Strontium (Sr)	2021/12/01	96	80 - 120	95	80 - 120	<1.0	ug/L		
A453455	Total Thallium (Tl)	2021/12/01	99	80 - 120	99	80 - 120	<0.010	ug/L		
A453455	Total Tin (Sn)	2021/12/01	101	80 - 120	103	80 - 120	<5.0	ug/L		
A453455	Total Titanium (Ti)	2021/12/01	105	80 - 120	109	80 - 120	<5.0	ug/L		
A453455	Total Uranium (U)	2021/12/01	99	80 - 120	102	80 - 120	<0.10	ug/L		
A453455	Total Vanadium (V)	2021/12/01	101	80 - 120	103	80 - 120	<5.0	ug/L		
A453455	Total Zinc (Zn)	2021/12/01	106	80 - 120	104	80 - 120	<5.0	ug/L		
A453455	Total Zirconium (Zr)	2021/12/01	103	80 - 120	101	80 - 120	<0.10	ug/L		
A457985	pH	2021/11/29			101	97 - 103			1.2	N/A
A458005	pH	2021/11/29			101	97 - 103				
A459137	Total Phosphorus (P)	2021/12/07	92	80 - 120	96	80 - 120	<0.0030	mg/L	4.4	20
A460589	Dissolved Fluoride (F)	2021/11/29	110	80 - 120	108	80 - 120	<0.050	mg/L	NC	20
A460612	Dissolved Fluoride (F)	2021/11/29			108	80 - 120	<0.050	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A466544	Nitrate plus Nitrite (N)	2021/11/27			107	80 - 120	<0.0020	mg/L		
A466587	Nitrite (N)	2021/11/27			103	80 - 120	<0.0020	mg/L		
A466592	Nitrate plus Nitrite (N)	2021/11/27	42	80 - 120	109	80 - 120	<0.0020	mg/L		
A466595	Nitrite (N)	2021/11/27	40	80 - 120	103	80 - 120	<0.0020	mg/L		
A467476	Total Ammonia (N)	2021/11/30	93	80 - 120	97	80 - 120	<0.015	mg/L	7.5	20
A467478	Total Ammonia (N)	2021/11/30			98	80 - 120	<0.015	mg/L		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

Chain Of Custody Record

INVOICE TO:
Company Name: #1414 CITY OF ABBOTSFORD
Contact Name: Amy Peters
Address: 32315 SOUTH FRASER WAY, ABBOTSFORD BC V2T 1W7
Phone: (778) 549-1240 Fax: (604) 850-6418
Email: apeters@abbotsford.ca

Report Information
Company Name:
Contact Name: Amy Peters
Address: 32315 SOUTH FRASER WAY, ABBOTSFORD BC V2T 1W7
Phone: (778) 549-1240 Fax:
Email: apeters@abbotsford.ca

Project Information
Quotation #: C01193
P.O. #:
Project #: Bevan #1 Creek Water Quality
Project Name:
Site #:
Sampled By:

Laboratory Use Only
Bureau Veritas Job #:
Bottle Order #: 653449
Chain Of Custody Record: C#653449-01-01
Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions:

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	26 Nov 21	11:30	water		X	X	X	X	X	X	X	X			5	
2		H02 (39566)		10:06			X	X	X	X	X	X	X	X				
3		H03 (39567)		11:15			X	X	X	X	X	X	X	X				
4		B01 (39568)		11:03			X	X	X	X	X	X	X	X				
5		B02 (39569)		10:53			X	X	X	X	X	X	X	X				
6		W01 (3956A)		11:57			X	X	X	X	X	X	X	X				
7		D01 (3956D)		8:02			X	X	X	X	X	X	X	X				
8		D02 (3956D)		8:14			X	X	X	X	X	X	X	X				
9		F01 (3956B)		12:58			X	X	X	X	X	X	X	X				
10		F02 (3956C)		13:26			X	X	X	X	X	X	X	X				

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects
Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: [ ]
Rush Confirmation Number: (call lab for #)

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Emma Flanagan	21/11/26	16:30	Francisco Cantu	2021/11/26	17:00	

Lab Use Only
Time Sensitive: [ ]
Temperature (°C) on Receipt: 17, 14, 15 / 9, 9, 12
Custody Seal Intact on Cooler?: [ ] Yes [X] No
ice-y

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
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White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

Chain Of Custody Record

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Project Information

Quotation #: C01193
P.O. #:
Project #: Bevan #1 Creek Water Quality
Project Name:
Site #:
Sampled By:

Laboratory Use Only

Bureau Veritas Job #:
Bottle Order #: 653449
Chain Of Custody Record: C#653449-02-01
Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions:

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	26-Nov-21	14:11	water		X	X	X	X	X	X	X	X			5	
2		DUPLICATE (F01)	↓	12:58	↓		X	X	X	X	X	X	X	X			↓	
3		TRIP BLANK (3AF04)		–			X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)		14:30			X	X	X	X	X	X	X	X				
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required:
Rush Confirmation Number: (call lab for #)

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Emma Flanagan	21/11/26	16:30	Francisco Cantu	2021/11/26	17:00	

Lab Use Only
Time Sensitive: [ ]
Temperature (°C) on Receipt: 17, 14, 15
Custody Seal Intact on Cooler: [ ] Yes [X] No
9, 9, 12
icey

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

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White: Bureau Veritas Yellow:

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/01/12
Report #: R3121287
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C194153
Received: 2021/12/16, 07:50

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	14	N/A	2021/12/17	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	12	N/A	2021/12/20	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	2	N/A	2021/12/22	BBY WI-00033	Auto Calc
Mercury (Total) by CV	14	2021/12/17	2021/12/17	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	12	2021/12/16	2021/12/20	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2021/12/16	2021/12/22	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	12	2021/12/17	2021/12/18	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2021/12/20	2021/12/22	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	13	N/A	2021/12/23	AB SOP-00007	SM 23 4500 NH3 A G m
Ammonia-N (Total)	1	N/A	2022/01/04	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	13	N/A	2021/12/17	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrate+Nitrite (N) (low level)	1	N/A	2022/01/12	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	14	N/A	2021/12/17	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2021/12/23	BBY WI-00033	Auto Calc
pH @25°C (3)	14	N/A	2021/12/17	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	3	2021/12/22	2021/12/22	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	11	2021/12/22	2021/12/23	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/01/12
Report #: R3121287
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C194153
Received: 2021/12/16, 07:50

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
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Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ALY340			ALY341	ALY342	ALY343	ALY344		
Sampling Date			2021/12/15 10:55			2021/12/15 11:30	2021/12/15 10:45	2021/12/15 12:20	2021/12/15 11:40		
COC Number			39565			39566	39567	39568	39569		
	UNITS	**Criteria**	**H01 (39565)**	**RDL**	**QC Batch**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**RDL**	**QC Batch**
Calculated Parameters											
Nitrate (N)	mg/L	-	2.81	0.0040	A446778	1.36	1.91	1.78	1.59	0.0020	A446778
Misc. Inorganics											
pH	pH	6.5:9.0	7.29	N/A	A453451	7.91	7.73	7.24	7.89	N/A	A453451
Anions											
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A448290	<0.050	<0.050	<0.050	<0.050	0.050	A448290
Nutrients											
Total Ammonia (N)	mg/L	-	<0.015	0.015	A456888	<0.015	<0.015	0.071	0.034	0.015	A456888
Total Phosphorus (P)	mg/L	-	0.025	0.0030	A454417	0.0093	0.0094	0.011	0.0077	0.0030	A454417
Nitrate plus Nitrite (N)	mg/L	-	2.81	0.0040	A456543	1.37	1.91	1.79	1.59	0.0020	A456673
Nitrite (N)	mg/L	0.06	0.0041	0.0020	A456674	0.0027	<0.0020	0.0078	0.0057	0.0020	A456674

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			ALY345	ALY346	ALY347	ALY348		ALY349		
Sampling Date			2021/12/15 13:05	2021/12/15 09:35	2021/12/15 15:50	2021/12/15 14:50		2021/12/15 13:55		
COC Number			3956A	3956D	3956D	3956B		3956C		
	UNITS	**Criteria**	**W01 (3956A)**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**QC Batch**	**F02 (3956C)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	0.737	1.33	0.892	1.01	A446778	1.02	0.0020	A446778
Misc. Inorganics										
pH	pH	6.5:9.0	7.37	7.85	7.99	7.97	A453451	7.59	N/A	A453451
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	<0.050	<0.050	A448290	<0.050	0.050	A448290
Nutrients										
Total Ammonia (N)	mg/L	-	0.20	0.020	<0.015	0.13	A456888	0.086	0.015	A456888
Total Phosphorus (P)	mg/L	-	0.025	0.0081	0.013	0.017	A454417	0.010	0.0030	A454481
Nitrate plus Nitrite (N)	mg/L	-	0.749	1.34	0.897	1.02	A456676	1.02	0.0020	A456676
Nitrite (N)	mg/L	0.06	0.0124	0.0065	0.0056	0.0103	A456680	0.0037	0.0020	A456680

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ALY350		ALY376		ALY378		
Sampling Date			2021/12/15 14:30		2021/12/15 12:15		2021/12/15		
COC Number			41C64		39568		3AF04		
	UNITS	**Criteria**	**F0F (41C64)**	**QC Batch**	**DUPLICATE**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	1.01	A446778	1.80	A446778	<0.0020	0.0020	A446778
Misc. Inorganics									
pH	pH	6.5:9.0	7.53	A453451	7.36	A453451	**5.97**	N/A	A453451
Anions									
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A448290	<0.050	A448290	<0.050	0.050	A448290
Nutrients									
Total Ammonia (N)	mg/L	-	0.10	A456888	0.073	A456888	<0.015	0.015	A456888
Total Phosphorus (P)	mg/L	-	0.018	A454417	0.0094	A454478	<0.0030	0.0030	A454478
Nitrate plus Nitrite (N)	mg/L	-	1.04	A456673	1.80	A456676	<0.0020	0.0020	A456533
Nitrite (N)	mg/L	0.06	0.0237	A456674	0.0082	A456680	<0.0020	0.0020	A456535

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			ALY379		
Sampling Date			2021/12/15 13:05		
COC Number			3AF05		
	UNITS	**Criteria**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters					
Nitrate (N)	mg/L	-	<0.0020	0.0020	A446778
Misc. Inorganics					
pH	pH	6.5:9.0	**5.36**	N/A	A453451
Anions					
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A448290
Nutrients					
Total Ammonia (N)	mg/L	-	<0.015	0.015	A463498
Total Phosphorus (P)	mg/L	-	<0.0030	0.0030	A454478
Nitrate plus Nitrite (N)	mg/L	-	<0.0020	0.0020	A469828
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	A456680

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY340	ALY341	ALY342		ALY343		
Sampling Date			2021/12/15 10:55	2021/12/15 11:30	2021/12/15 10:45		2021/12/15 12:20		
COC Number			39565	39566	39567		39568		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**QC Batch**	**B01 (39568)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	114	104	107	A446651	70.8	0.50	A446651
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	A447908	<0.0019	0.0019	A448260
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	1000	24.9	14.2	A448100	44.2	3.0	A448100
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	A448100	<0.50	0.50	A448100
Total Arsenic (As)	ug/L	5	0.73	0.77	0.50	A448100	0.39	0.10	A448100
Total Barium (Ba)	ug/L	-	22.6	14.6	14.0	A448100	36.2	1.0	A448100
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	A448100	<0.10	0.10	A448100
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	A448100	<1.0	1.0	A448100
Total Boron (B)	ug/L	1500	<50	<50	<50	A448100	<50	50	A448100
Total Cadmium (Cd)	ug/L	-	0.024	<0.010	0.017	A448100	0.038	0.010	A448100
Total Chromium (Cr)	ug/L	-	1.6	<1.0	<1.0	A448100	1.2	1.0	A448100
Total Cobalt (Co)	ug/L	-	0.44	<0.20	<0.20	A448100	0.41	0.20	A448100
Total Copper (Cu)	ug/L	-	2.11	0.51	0.73	A448100	1.01	0.50	A448100
Total Iron (Fe)	ug/L	300	**1090**	171	36	A448100	**808**	10	A448100
Total Lead (Pb)	ug/L	-	0.39	<0.20	<0.20	A448100	0.49	0.20	A448100
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	A448100	<2.0	2.0	A448100
Total Manganese (Mn)	ug/L	-	47.9	53.4	15.0	A448100	160	1.0	A448100
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	1.4	A448100	<1.0	1.0	A448100
Total Nickel (Ni)	ug/L	-	1.3	<1.0	<1.0	A448100	1.6	1.0	A448100
Total Selenium (Se)	ug/L	1	0.25	0.15	0.17	A448100	<0.10	0.10	A448100
Total Silicon (Si)	ug/L	-	11400	9000	9040	A448100	7960	100	A448100
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	A448100	<0.020	0.020	A448100
Total Strontium (Sr)	ug/L	-	171	135	153	A448100	203	1.0	A448100
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	A448100	<0.010	0.010	A448100
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	A448100	<5.0	5.0	A448100
Total Titanium (Ti)	ug/L	-	43.6	<5.0	<5.0	A448100	<5.0	5.0	A448100
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	A448100	<0.10	0.10	A448100
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	A448100	<5.0	5.0	A448100
Total Zinc (Zn)	ug/L	30	9.3	5.8	10.3	A448100	16.5	5.0	A448100

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY340	ALY341	ALY342		ALY343		
Sampling Date			2021/12/15 10:55	2021/12/15 11:30	2021/12/15 10:45		2021/12/15 12:20		
COC Number			39565	39566	39567		39568		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**QC Batch**	**B01 (39568)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	0.29	<0.10	<0.10	A448100	0.13	0.10	A448100
Total Calcium (Ca)	mg/L	-	32.4	30.1	30.4	A446652	20.6	0.050	A446652
Total Magnesium (Mg)	mg/L	-	8.05	7.10	7.47	A446652	4.69	0.050	A446652
Total Potassium (K)	mg/L	-	1.91	1.64	1.86	A446652	1.43	0.050	A446652
Total Sodium (Na)	mg/L	-	19.5	11.3	17.2	A446652	20.5	0.050	A446652
Total Sulphur (S)	mg/L	-	6.0	5.9	7.1	A446652	3.3	3.0	A446652

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY344	ALY345	ALY346	ALY347	ALY348		
Sampling Date			2021/12/15 11:40	2021/12/15 13:05	2021/12/15 09:35	2021/12/15 15:50	2021/12/15 14:50		
COC Number			39569	3956A	3956D	3956D	3956B		
	UNITS	**Criteria**	**B02 (39569)**	**W01 (3956A)**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	93.2	42.6	79.1	104	95.7	0.50	A446651
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A447908
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	58.9	71.5	42.9	27.9	132	3.0	A448100
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A448100
Total Arsenic (As)	ug/L	5	0.53	0.80	0.65	1.11	1.00	0.10	A448100
Total Barium (Ba)	ug/L	-	20.0	17.9	17.3	11.1	22.4	1.0	A448100
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A448100
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A448100
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	50	A448100
Total Cadmium (Cd)	ug/L	-	0.013	<0.010	<0.010	<0.010	0.011	0.010	A448100
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A448100
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	<0.20	0.23	0.20	A448100
Total Copper (Cu)	ug/L	-	0.64	0.92	0.68	<0.50	1.53	0.50	A448100
Total Iron (Fe)	ug/L	300	**451**	**955**	232	**306**	**605**	10	A448100
Total Lead (Pb)	ug/L	-	<0.20	0.43	<0.20	<0.20	<0.20	0.20	A448100
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A448100
Total Manganese (Mn)	ug/L	-	122	47.5	71.4	137	181	1.0	A448100
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A448100
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A448100
Total Selenium (Se)	ug/L	1	0.13	<0.10	0.18	0.24	0.14	0.10	A448100
Total Silicon (Si)	ug/L	-	9570	4720	8170	10500	6110	100	A448100
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A448100
Total Strontium (Sr)	ug/L	-	151	76.0	119	141	149	1.0	A448100
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A448100
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A448100
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	<5.0	5.9	5.0	A448100
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A448100
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A448100
Total Zinc (Zn)	ug/L	30	6.0	6.1	<5.0	<5.0	6.2	5.0	A448100

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY344	ALY345	ALY346	ALY347	ALY348		
Sampling Date			2021/12/15 11:40	2021/12/15 13:05	2021/12/15 09:35	2021/12/15 15:50	2021/12/15 14:50		
COC Number			39569	3956A	3956D	3956D	3956B		
	UNITS	**Criteria**	**B02 (39569)**	**W01 (3956A)**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	<0.10	0.11	0.10	A448100
Total Calcium (Ca)	mg/L	-	26.0	11.7	21.2	27.2	26.5	0.050	A446652
Total Magnesium (Mg)	mg/L	-	6.86	3.24	6.35	8.79	7.14	0.050	A446652
Total Potassium (K)	mg/L	-	1.45	0.870	1.75	1.42	1.76	0.050	A446652
Total Sodium (Na)	mg/L	-	11.9	15.0	13.6	8.36	35.0	0.050	A446652
Total Sulphur (S)	mg/L	-	4.8	<3.0	5.7	4.0	6.2	3.0	A446652

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY349	ALY350	ALY376		ALY378		
Sampling Date			2021/12/15 13:55	2021/12/15 14:30	2021/12/15 12:15		2021/12/15		
COC Number			3956C	41C64	39568		3AF04		
	UNITS	**Criteria**	**F02 (3956C)**	**F0F (41C64)**	**DUPLICATE**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	60.4	66.2	72.4	A446651	<0.50	0.50	A446651
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	A448260	<0.0019	0.0019	A448260
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	78.5	111	46.3	A448100	<3.0	3.0	A451471
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	A448100	<0.50	0.50	A451471
Total Arsenic (As)	ug/L	5	0.37	1.02	0.40	A448100	<0.10	0.10	A451471
Total Barium (Ba)	ug/L	-	25.1	23.8	36.9	A448100	<1.0	1.0	A451471
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	A448100	<0.10	0.10	A451471
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	A448100	<1.0	1.0	A451471
Total Boron (B)	ug/L	1500	<50	<50	<50	A448100	<50	50	A451471
Total Cadmium (Cd)	ug/L	-	<0.010	0.011	0.035	A448100	<0.010	0.010	A451471
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	1.2	A448100	<1.0	1.0	A451471
Total Cobalt (Co)	ug/L	-	<0.20	0.29	0.42	A448100	<0.20	0.20	A451471
Total Copper (Cu)	ug/L	-	1.39	1.47	1.00	A448100	<0.50	0.50	A451471
Total Iron (Fe)	ug/L	300	**379**	**913**	**816**	A448100	<10	10	A451471
Total Lead (Pb)	ug/L	-	<0.20	<0.20	0.49	A448100	<0.20	0.20	A451471
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	A448100	<2.0	2.0	A451471
Total Manganese (Mn)	ug/L	-	80.0	143	163	A448100	<1.0	1.0	A451471
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	A448100	<1.0	1.0	A451471
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	1.7	A448100	<1.0	1.0	A451471
Total Selenium (Se)	ug/L	1	<0.10	<0.10	<0.10	A448100	<0.10	0.10	A451471
Total Silicon (Si)	ug/L	-	4870	5590	8110	A448100	<100	100	A451471
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	A448100	<0.020	0.020	A451471
Total Strontium (Sr)	ug/L	-	93.7	107	207	A448100	<1.0	1.0	A451471
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	A448100	<0.010	0.010	A451471
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	A448100	<5.0	5.0	A451471
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	A448100	<5.0	5.0	A451471
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	A448100	<0.10	0.10	A451471
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	A448100	<5.0	5.0	A451471
Total Zinc (Zn)	ug/L	30	9.3	10.0	17.2	A448100	<5.0	5.0	A451471

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY349	ALY350	ALY376		ALY378		
Sampling Date			2021/12/15 13:55	2021/12/15 14:30	2021/12/15 12:15		2021/12/15		
COC Number			3956C	41C64	39568		3AF04		
	UNITS	**Criteria**	**F02 (3956C)**	**F0F (41C64)**	**DUPLICATE**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	0.12	0.11	0.12	A448100	<0.10	0.10	A451471
Total Calcium (Ca)	mg/L	-	17.4	18.8	21.0	A446652	<0.050	0.050	A446652
Total Magnesium (Mg)	mg/L	-	4.12	4.67	4.84	A446652	<0.050	0.050	A446652
Total Potassium (K)	mg/L	-	1.83	1.62	1.47	A446652	<0.050	0.050	A446652
Total Sodium (Na)	mg/L	-	17.0	18.1	21.0	A446652	<0.050	0.050	A446652
Total Sulphur (S)	mg/L	-	4.6	4.4	3.5	A446652	<3.0	3.0	A446652

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY379		
Sampling Date			2021/12/15 13:05		
COC Number			3AF05		
	UNITS	**Criteria**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters					
Total Hardness (CaCO3)	mg/L	-	<0.50	0.50	A446651
Elements					
Total Mercury (Hg)	ug/L	0.026	<0.0019	0.0019	A448260
Total Metals by ICPMS					
Total Aluminum (Al)	ug/L	-	<3.0	3.0	A451471
Total Antimony (Sb)	ug/L	-	<0.50	0.50	A451471
Total Arsenic (As)	ug/L	5	<0.10	0.10	A451471
Total Barium (Ba)	ug/L	-	<1.0	1.0	A451471
Total Beryllium (Be)	ug/L	-	<0.10	0.10	A451471
Total Bismuth (Bi)	ug/L	-	<1.0	1.0	A451471
Total Boron (B)	ug/L	1500	<50	50	A451471
Total Cadmium (Cd)	ug/L	-	<0.010	0.010	A451471
Total Chromium (Cr)	ug/L	-	<1.0	1.0	A451471
Total Cobalt (Co)	ug/L	-	<0.20	0.20	A451471
Total Copper (Cu)	ug/L	-	<0.50	0.50	A451471
Total Iron (Fe)	ug/L	300	<10	10	A451471
Total Lead (Pb)	ug/L	-	<0.20	0.20	A451471
Total Lithium (Li)	ug/L	-	<2.0	2.0	A451471
Total Manganese (Mn)	ug/L	-	<1.0	1.0	A451471
Total Molybdenum (Mo)	ug/L	73	<1.0	1.0	A451471
Total Nickel (Ni)	ug/L	-	<1.0	1.0	A451471
Total Selenium (Se)	ug/L	1	<0.10	0.10	A451471
Total Silicon (Si)	ug/L	-	<100	100	A451471
Total Silver (Ag)	ug/L	0.25	<0.020	0.020	A451471
Total Strontium (Sr)	ug/L	-	<1.0	1.0	A451471
Total Thallium (Tl)	ug/L	0.8	<0.010	0.010	A451471
Total Tin (Sn)	ug/L	-	<5.0	5.0	A451471
Total Titanium (Ti)	ug/L	-	<5.0	5.0	A451471
Total Uranium (U)	ug/L	15	<0.10	0.10	A451471
Total Vanadium (V)	ug/L	-	<5.0	5.0	A451471
Total Zinc (Zn)	ug/L	30	<5.0	5.0	A451471

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ALY379		
Sampling Date			2021/12/15 13:05		
COC Number			3AF05		
	UNITS	**Criteria**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	0.10	A451471
Total Calcium (Ca)	mg/L	-	<0.050	0.050	A446652
Total Magnesium (Mg)	mg/L	-	<0.050	0.050	A446652
Total Potassium (K)	mg/L	-	<0.050	0.050	A446652
Total Sodium (Na)	mg/L	-	<0.050	0.050	A446652
Total Sulphur (S)	mg/L	-	<3.0	3.0	A446652

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Sample ALY379 [FIELD BLANK (3AF05)] : Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.
Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C194153
Report Date: 2022/01/12

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A447908	Total Mercury (Hg)	2021/12/17	73 (1)	80 - 120	95	80 - 120	<0.0019	ug/L	NC	20		
A448100	Total Aluminum (Al)	2021/12/18	105	80 - 120	103	80 - 120	<3.0	ug/L	1.0	20		
A448100	Total Antimony (Sb)	2021/12/18	105	80 - 120	104	80 - 120	<0.50	ug/L	NC	20		
A448100	Total Arsenic (As)	2021/12/18	105	80 - 120	101	80 - 120	<0.10	ug/L	1.9	20		
A448100	Total Barium (Ba)	2021/12/18	103	80 - 120	102	80 - 120	<1.0	ug/L	1.6	20		
A448100	Total Beryllium (Be)	2021/12/18	100	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A448100	Total Bismuth (Bi)	2021/12/18	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A448100	Total Boron (B)	2021/12/18	98	80 - 120	98	80 - 120	<50	ug/L	NC	20		
A448100	Total Cadmium (Cd)	2021/12/18	103	80 - 120	103	80 - 120	<0.010	ug/L	5.8	20		
A448100	Total Chromium (Cr)	2021/12/18	100	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A448100	Total Cobalt (Co)	2021/12/18	98	80 - 120	99	80 - 120	<0.20	ug/L	NC	20		
A448100	Total Copper (Cu)	2021/12/18	97	80 - 120	99	80 - 120	<0.50	ug/L	0.82	20		
A448100	Total Iron (Fe)	2021/12/18	104	80 - 120	104	80 - 120	<10	ug/L	2.0	20		
A448100	Total Lead (Pb)	2021/12/18	103	80 - 120	103	80 - 120	<0.20	ug/L	NC	20		
A448100	Total Lithium (Li)	2021/12/18	95	80 - 120	95	80 - 120	<2.0	ug/L	NC	20		
A448100	Total Manganese (Mn)	2021/12/18	101	80 - 120	101	80 - 120	<1.0	ug/L	1.8	20		
A448100	Total Molybdenum (Mo)	2021/12/18	108	80 - 120	104	80 - 120	<1.0	ug/L	4.1	20		
A448100	Total Nickel (Ni)	2021/12/18	97	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A448100	Total Selenium (Se)	2021/12/18	107	80 - 120	103	80 - 120	<0.10	ug/L	4.6	20		
A448100	Total Silicon (Si)	2021/12/18	NC	80 - 120	107	80 - 120	<100	ug/L	0.55	20		
A448100	Total Silver (Ag)	2021/12/18	100	80 - 120	99	80 - 120	<0.020	ug/L	NC	20		
A448100	Total Strontium (Sr)	2021/12/18	NC	80 - 120	99	80 - 120	<1.0	ug/L	0.57	20		
A448100	Total Thallium (Tl)	2021/12/18	100	80 - 120	98	80 - 120	<0.010	ug/L	NC	20		
A448100	Total Tin (Sn)	2021/12/18	104	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A448100	Total Titanium (Ti)	2021/12/18	106	80 - 120	105	80 - 120	<5.0	ug/L	NC	20		
A448100	Total Uranium (U)	2021/12/18	107	80 - 120	106	80 - 120	<0.10	ug/L	NC	20		
A448100	Total Vanadium (V)	2021/12/18	104	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A448100	Total Zinc (Zn)	2021/12/18	101	80 - 120	102	80 - 120	<5.0	ug/L	0.033	20		
A448100	Total Zirconium (Zr)	2021/12/18	105	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A448260	Total Mercury (Hg)	2021/12/17	84	80 - 120	98	80 - 120	<0.0019	ug/L	NC	20		
A448290	Dissolved Fluoride (F)	2021/12/17	104	80 - 120	106	80 - 120	<0.050	mg/L	NC	20		

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Bureau Veritas Job #: C194153
Report Date: 2022/01/12

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A451471	Total Aluminum (Al)	2021/12/22	103	80 - 120	102	80 - 120	<3.0	ug/L	NC	20		
A451471	Total Antimony (Sb)	2021/12/22	102	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A451471	Total Arsenic (As)	2021/12/22	103	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A451471	Total Barium (Ba)	2021/12/22	99	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A451471	Total Beryllium (Be)	2021/12/22	106	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A451471	Total Bismuth (Bi)	2021/12/22	89	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A451471	Total Boron (B)	2021/12/22	100	80 - 120	102	80 - 120	<50	ug/L	NC	20		
A451471	Total Cadmium (Cd)	2021/12/22	102	80 - 120	100	80 - 120	<0.010	ug/L	NC	20		
A451471	Total Chromium (Cr)	2021/12/22	96	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A451471	Total Cobalt (Co)	2021/12/22	94	80 - 120	96	80 - 120	<0.20	ug/L	NC	20		
A451471	Total Copper (Cu)	2021/12/22	95	80 - 120	94	80 - 120	<0.50	ug/L	NC	20		
A451471	Total Iron (Fe)	2021/12/22	101	80 - 120	104	80 - 120	<10	ug/L	NC	20		
A451471	Total Lead (Pb)	2021/12/22	100	80 - 120	101	80 - 120	<0.20	ug/L	NC	20		
A451471	Total Lithium (Li)	2021/12/22	102	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
A451471	Total Manganese (Mn)	2021/12/22	98	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A451471	Total Molybdenum (Mo)	2021/12/22	100	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A451471	Total Nickel (Ni)	2021/12/22	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A451471	Total Selenium (Se)	2021/12/22	102	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A451471	Total Silicon (Si)	2021/12/22	107	80 - 120	111	80 - 120	<100	ug/L	NC	20		
A451471	Total Silver (Ag)	2021/12/22	95	80 - 120	96	80 - 120	<0.020	ug/L	NC	20		
A451471	Total Strontium (Sr)	2021/12/22	99	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A451471	Total Thallium (Tl)	2021/12/22	98	80 - 120	99	80 - 120	<0.010	ug/L	NC	20		
A451471	Total Tin (Sn)	2021/12/22	98	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A451471	Total Titanium (Ti)	2021/12/22	102	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A451471	Total Uranium (U)	2021/12/22	101	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A451471	Total Vanadium (V)	2021/12/22	98	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A451471	Total Zinc (Zn)	2021/12/22	104	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A451471	Total Zirconium (Zr)	2021/12/22	100	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
A453451	pH	2021/12/17			102	97 - 103			0.42	N/A		
A454417	Total Phosphorus (P)	2021/12/23	98	80 - 120	97	80 - 120	<0.0030	mg/L	3.0	20	91	80 - 120
A454478	Total Phosphorus (P)	2021/12/22	94	80 - 120	95	80 - 120	<0.0030	mg/L	NC	20	82	N/A

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Bureau Veritas Job #: C194153
Report Date: 2022/01/12

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A454481	Total Phosphorus (P)	2021/12/23	98	80 - 120	93	80 - 120	<0.0030	mg/L	4.2	20	89	80 - 120
A456533	Nitrate plus Nitrite (N)	2021/12/17			104	80 - 120	<0.0020	mg/L				
A456535	Nitrite (N)	2021/12/17			100	80 - 120	<0.0020	mg/L				
A456543	Nitrate plus Nitrite (N)	2021/12/17			107	80 - 120	<0.0020	mg/L				
A456673	Nitrate plus Nitrite (N)	2021/12/17			103	80 - 120	<0.0020	mg/L				
A456674	Nitrite (N)	2021/12/17			95	80 - 120	<0.0020	mg/L				
A456676	Nitrate plus Nitrite (N)	2021/12/17	103	80 - 120	109	80 - 120	<0.0020	mg/L	0.35	25		
A456680	Nitrite (N)	2021/12/17	104	80 - 120	100	80 - 120	<0.0020	mg/L	1.6	25		
A456888	Total Ammonia (N)	2021/12/23	NC	80 - 120	97	80 - 120	<0.015	mg/L	2.2	20		
A463498	Total Ammonia (N)	2022/01/04			98	80 - 120	<0.015	mg/L				
A469828	Nitrate plus Nitrite (N)	2022/01/12	106	80 - 120	108	80 - 120	<0.0020	mg/L	3.8	25		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Bureau Veritas Job #: C194153
Report Date: 2022/01/12

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: NA

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

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C194153_COC

Order #: 654270

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	

Chain Of Custody Record: C#654270-01-01

Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY ☐ 2 Day ☐ 3 Day ☐ Date Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	15/12/21	10:55	water		X	X	X	X	X	X	X	X			5	
2		H02 (39566)		11:30			X	X	X	X	X	X	X	X				
3		H03 (39567)		10:45			X	X	X	X	X	X	X	X				
4		B01 (39568)		12:20			X	X	X	X	X	X	X	X				
5		B02 (39569)		11:40			X	X	X	X	X	X	X	X				
6		W01 (3956A)		13:05			X	X	X	X	X	X	X	X				
7		D01 (3956D)		9:35			X	X	X	X	X	X	X	X				
8		D02 (3956D)		15:50			X	X	X	X	X	X	X	X				
9		F01 (3956B)		14:50			X	X	X	X	X	X	X	X				
10		F02 (3956C)		13:55			X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Emma Flanagan	21/12/15	19:20	Renaye Lamoy	2021/12/16	07:30	

Lab Use Only: Time Sensitive ☐ | Temperature (°C) on Receipt 5, 5, 7 | Custody Seal Intact on Cooler? ☐ Yes ☑ No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Icey

White: Bureau Veritas Yellow: Client

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

C194153_COC

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	

Title Order #: 654270

Chain Of Custody Record	Project Manager
C#654270-02-01	Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY ☐ 2 Day ☐ 3 Day ☐ Date Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	15/12/21	14:30			X	X	X	X	X	X	X	X				
2		DUPLICATE		12:15			X	X	X	X	X	X	X	X				
3		TRIP BLANK (3AF04)		—			X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)		13:05			X	X	X	X	X	X	X	X				
5																		
6																		
7																		
8																		
9																		
10																		

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Emma Flanagan	21/12/15	19:20	Renaye Lamy	2021/12/16	07:50		☐	5,5,5	☐ Yes ☑ No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Icely

White: Bureau Veritas Yellow: Client

Your Project #: BEVAN # 1 CREEK WATER QUALITY
Your C.O.C. #: g153024, 3956D, 39569

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2022/01/27
Report #: R3127308
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C203039
Received: 2022/01/19, 07:30

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	4	N/A	2022/01/21	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	4	N/A	2022/01/24	BBY WI-00033	Auto Calc
Mercury (Total) by CV	4	2022/01/24	2022/01/24	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	4	2022/01/20	2022/01/24	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	4	2022/01/21	2022/01/21	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	2	N/A	2022/01/24	AB SOP-00007	SM 23 4500 NH3 A G m
Ammonia-N (Total)	2	N/A	2022/01/27	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	4	N/A	2022/01/21	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	2	N/A	2022/01/21	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	2	N/A	2022/01/26	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	2	N/A	2022/01/25	BBY WI-00033	Auto Calc
Nitrogen - Nitrate (as N) Low Level Calc	2	N/A	2022/01/26	BBY WI-00033	Auto Calc
pH @25°C (3)	4	N/A	2022/01/21	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	2	2022/01/23	2022/01/24	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	2	2022/01/27	2022/01/27	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: BEVAN # 1 CREEK WATER QUALITY
Your C.O.C. #: g153024, 3956D, 39569

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Report Date: 2022/01/27
Report #: R3127308
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C203039
Received: 2022/01/19, 07:30

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
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Bureau Veritas Job #: C203039
Report Date: 2022/01/27

CITY OF ABBOTSFORD
Client Project #: BEVAN # 1 CREEK WATER QUALITY

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ANF056		ANF057		ANF058	ANF059		
Sampling Date			2022/01/18 08:50		2022/01/18 10:40		2022/01/18 16:00	2022/01/18 16:10		
COC Number			3956D		3956D		39569	g153024		
	UNITS	**Criteria**	**DO1(3956D)**	**QC Batch**	**DO2(3956D)**	**QC Batch**	**BO2(39569)**	**DUBPLICATE (BO2)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	0.979	A476939	0.804	A476939	1.07	0.981	0.0020	A476939
Misc. Inorganics										
pH	pH	6.5:9.0	7.18	A479760	7.34	A479760	7.26	7.11	N/A	A479760
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A477891	<0.050	A477891	<0.050	<0.050	0.050	A477891
Nutrients										
Total Ammonia (N)	mg/L	-	0.086	A480002	0.050	A480001	0.050	0.095	0.015	A483077
Total Phosphorus (P)	mg/L	-	0.019	A478835	0.019	A478835	0.0095	0.019	0.0030	A482511
Nitrate plus Nitrite (N)	mg/L	-	1.00	A478257	0.810	A478257	1.08	1.00	0.0020	A478257
Nitrite (N)	mg/L	0.06	0.0235	A478258	0.0058	A478258	0.0087	0.0226	0.0020	A482305

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C203039
Report Date: 2022/01/27

CITY OF ABBOTSFORD
Client Project #: BEVAN # 1 CREEK WATER QUALITY

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ANF056	ANF057		ANF058	ANF059		
Sampling Date			2022/01/18 08:50	2022/01/18 10:40		2022/01/18 16:00	2022/01/18 16:10		
COC Number			3956D	3956D		39569	g153024		
	UNITS	**Criteria**	**DO1(3956D)**	**DO2(3956D)**	**QC Batch**	**BO2(39569)**	**DUBPLICATE (BO2)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	56.0	86.0	A476683	66.4	53.7	0.50	A476683
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	A479170	<0.0019	<0.0019	0.0019	A479170
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	306	150	A477556	122	357	3.0	A481992
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	A477556	<0.50	<0.50	0.50	A477556
Total Arsenic (As)	ug/L	5	0.59	1.93	A477556	0.72	0.59	0.10	A477556
Total Barium (Ba)	ug/L	-	17.7	12.7	A477556	20.8	17.2	1.0	A477556
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	A477556	<0.10	<0.10	0.10	A477556
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	A477556	<1.0	<1.0	1.0	A477556
Total Boron (B)	ug/L	1500	<50	<50	A477556	<50	<50	50	A477556
Total Cadmium (Cd)	ug/L	-	0.024	0.012	A477556	0.020	0.021	0.010	A477556
Total Chromium (Cr)	ug/L	-	1.2	1.1	A477556	<1.0	1.2	1.0	A477556
Total Cobalt (Co)	ug/L	-	0.30	<0.20	A477556	<0.20	0.28	0.20	A477556
Total Copper (Cu)	ug/L	-	2.40	0.77	A477556	1.22	2.53	0.50	A481992
Total Iron (Fe)	ug/L	300	**781**	**858**	A477556	**311**	**753**	10	A477556
Total Lead (Pb)	ug/L	-	0.49	<0.20	A477556	<0.20	0.45	0.20	A477556
Total Lithium (Li)	ug/L	-	<2.0	<2.0	A477556	<2.0	<2.0	2.0	A477556
Total Manganese (Mn)	ug/L	-	92.8	153	A477556	60.0	93.6	1.0	A481992
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	A477556	<1.0	<1.0	1.0	A477556
Total Nickel (Ni)	ug/L	-	1.2	<1.0	A477556	<1.0	1.1	1.0	A477556
Total Selenium (Se)	ug/L	1	<0.10	0.20	A477556	0.12	<0.10	0.10	A477556
Total Silicon (Si)	ug/L	-	5780	9060	A477556	5980	5590	100	A477556
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	A477556	<0.020	<0.020	0.020	A477556
Total Strontium (Sr)	ug/L	-	99.0	123	A477556	115	94.9	1.0	A477556
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	A477556	<0.010	<0.010	0.010	A477556
Total Tin (Sn)	ug/L	-	<5.0	<5.0	A477556	<5.0	<5.0	5.0	A477556
Total Titanium (Ti)	ug/L	-	14.4	6.8	A477556	5.5	16.9	5.0	A481992
Total Uranium (U)	ug/L	15	<0.10	<0.10	A477556	<0.10	<0.10	0.10	A477556
Total Vanadium (V)	ug/L	-	<5.0	<5.0	A477556	<5.0	<5.0	5.0	A477556
Total Zinc (Zn)	ug/L	30	16.3	8.1	A477556	6.4	13.2	5.0	A477556
Total Zirconium (Zr)	ug/L	-	0.25	<0.10	A477556	0.10	0.17	0.10	A477556
Total Calcium (Ca)	mg/L	-	15.8	22.2	A476789	18.3	15.2	0.050	A476789

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C203039
Report Date: 2022/01/27

CITY OF ABBOTSFORD
Client Project #: BEVAN # 1 CREEK WATER QUALITY

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ANF056	ANF057		ANF058	ANF059		
Sampling Date			2022/01/18 08:50	2022/01/18 10:40		2022/01/18 16:00	2022/01/18 16:10		
COC Number			3956D	3956D		39569	g153024		
	UNITS	**Criteria**	**DO1(3956D)**	**DO2(3956D)**	**QC Batch**	**BO2(39569)**	**DUBPLICATE (BO2)**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	-	4.01	7.46	A476789	5.01	3.80	0.050	A476789
Total Potassium (K)	mg/L	-	1.02	1.27	A476789	1.64	1.05	0.050	A476789
Total Sodium (Na)	mg/L	-	16.0	10.1	A476789	17.5	15.4	0.050	A476789
Total Sulphur (S)	mg/L	-	<3.0	4.1	A476789	3.5	<3.0	3.0	A476789

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Sample ANF058 [BO2(39569)] : Sample was analyzed past method specified hold time for Nitrite (N) (low level). Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample ANF059 [DUBPLICATE (BO2)] : Sample was analyzed past method specified hold time for Nitrite (N) (low level). Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.
Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Sample ANF058, Elements by CRC ICPMS (total): Test repeated.
Sample ANF059, Elements by CRC ICPMS (total): Test repeated.

Results relate only to the items tested.

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Bureau Veritas Job #: C203039
Report Date: 2022/01/27

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: BEVAN # 1 CREEK WATER QUALITY

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A477556	Total Aluminum (Al)	2022/01/21	126 (1)	80 - 120	103	80 - 120	<3.0	ug/L	1.8	20		
A477556	Total Antimony (Sb)	2022/01/21	105	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A477556	Total Arsenic (As)	2022/01/21	106	80 - 120	103	80 - 120	<0.10	ug/L	2.5	20		
A477556	Total Barium (Ba)	2022/01/21	105	80 - 120	101	80 - 120	<1.0	ug/L	2.2	20		
A477556	Total Beryllium (Be)	2022/01/21	104	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A477556	Total Bismuth (Bi)	2022/01/21	103	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
A477556	Total Boron (B)	2022/01/21	101	80 - 120	100	80 - 120	<50	ug/L	NC	20		
A477556	Total Cadmium (Cd)	2022/01/21	104	80 - 120	104	80 - 120	<0.010	ug/L	11	20		
A477556	Total Chromium (Cr)	2022/01/21	104	80 - 120	103	80 - 120	<1.0	ug/L	1.3	20		
A477556	Total Cobalt (Co)	2022/01/21	103	80 - 120	103	80 - 120	<0.20	ug/L	1.8	20		
A477556	Total Copper (Cu)	2022/01/21	99	80 - 120	101	80 - 120	<0.50	ug/L	1.8	20		
A477556	Total Iron (Fe)	2022/01/21	NC	80 - 120	103	80 - 120	<10	ug/L	1.4	20		
A477556	Total Lead (Pb)	2022/01/21	108	80 - 120	107	80 - 120	<0.20	ug/L	3.9	20		
A477556	Total Lithium (Li)	2022/01/21	100	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
A477556	Total Manganese (Mn)	2022/01/21	NC	80 - 120	103	80 - 120	<1.0	ug/L	0.37	20		
A477556	Total Molybdenum (Mo)	2022/01/21	115	80 - 120	109	80 - 120	<1.0	ug/L	NC	20		
A477556	Total Nickel (Ni)	2022/01/21	102	80 - 120	103	80 - 120	<1.0	ug/L	4.0	20		
A477556	Total Selenium (Se)	2022/01/21	106	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A477556	Total Silicon (Si)	2022/01/21	NC	80 - 120	104	80 - 120	<100	ug/L	0.15	20		
A477556	Total Silver (Ag)	2022/01/21	104	80 - 120	105	80 - 120	<0.020	ug/L	NC	20		
A477556	Total Strontium (Sr)	2022/01/21	NC	80 - 120	105	80 - 120	<1.0	ug/L	0.064	20		
A477556	Total Thallium (Tl)	2022/01/21	107	80 - 120	103	80 - 120	<0.010	ug/L	NC	20		
A477556	Total Tin (Sn)	2022/01/21	104	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A477556	Total Titanium (Ti)	2022/01/21	115	80 - 120	104	80 - 120	<5.0	ug/L	0.0053	20		
A477556	Total Uranium (U)	2022/01/21	111	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A477556	Total Vanadium (V)	2022/01/21	108	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A477556	Total Zinc (Zn)	2022/01/21	104	80 - 120	106	80 - 120	<5.0	ug/L	1.6	20		
A477556	Total Zirconium (Zr)	2022/01/21	110	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A477891	Dissolved Fluoride (F)	2022/01/21	96	80 - 120	104	80 - 120	<0.050	mg/L	0	20		
A478257	Nitrate plus Nitrite (N)	2022/01/21	NC	80 - 120	107	80 - 120	<0.0020	mg/L	0.12	25		
A478258	Nitrite (N)	2022/01/21	99	80 - 120	101	80 - 120	<0.0020	mg/L	NC	25		
A478835	Total Phosphorus (P)	2022/01/24	99	80 - 120	92	80 - 120	<0.0030	mg/L	4.9	20	88	80 - 120
A479170	Total Mercury (Hg)	2022/01/24	119	80 - 120	101	80 - 120	<0.0019	ug/L	NC	20		

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Bureau Veritas Job #: C203039
Report Date: 2022/01/27

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: BEVAN # 1 CREEK WATER QUALITY

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A479760	pH	2022/01/21			102	97 - 103			0.24	N/A		
A480001	Total Ammonia (N)	2022/01/24	NC	80 - 120	92	80 - 120	<0.015	mg/L	0.56	20		
A480002	Total Ammonia (N)	2022/01/24	NC	80 - 120	92	80 - 120	<0.015	mg/L	3.9	20		
A481992	Total Aluminum (Al)	2022/01/26			106	80 - 120	<3.0	ug/L				
A481992	Total Copper (Cu)	2022/01/26			103	80 - 120	<0.50	ug/L				
A481992	Total Manganese (Mn)	2022/01/26			101	80 - 120	<1.0	ug/L				
A481992	Total Titanium (Ti)	2022/01/26			105	80 - 120	<5.0	ug/L				
A482305	Nitrite (N)	2022/01/26	94	80 - 120	101	80 - 120	<0.0020	mg/L	0.89	25		
A482511	Total Phosphorus (P)	2022/01/27	96	80 - 120	92	80 - 120	<0.0030	mg/L	11	20	92	80 - 120
A483077	Total Ammonia (N)	2022/01/27	88	80 - 120	95	80 - 120	<0.015	mg/L	1.8	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Heather Groves, Dip.BioSci, QP, Senior Laboratory Manager - Inorganics

Sze Yeung Fock, B.Sc., Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5 Toll Free (833) 282-5227
Victoria: 851 Viewfield Road, Unit 1, Victoria, BC V9A 4V2 Toll Free (833) 282-5227
bvlabs.com

CHAIN OF CUSTODY RECORD

G 153024

Page 1 of 1

Invoice Information		Report Information (if differs from invoice)		Project Information		Turnaround Time (TAT) Required
Company:	#1414 CITY OF ABBOTSFORD	Company:		Quotation	C01193	☑ 5 - 7 Days Regular (Most analyses)
Contact Name:	Amy Peters	Contact Name:	AMY PETERS	P.O. #/AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	32315 SOUTH FRASER WY ABBOTSFORD, BC PC: V2T 1W7	Address:	32315 SOUTH FRASER WY. ABBOTSFORD, BC PC V2T 1W7	Project #:	~~Bevan #1 Creek~~ Bevan #1 Creek Water Quality	Rush TAT (Surcharges will be applied) ☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3-4 Days
Phone/Fax:	(778) 549 1240	Phone/Fax:	(778) 549 1240	Site Location:		
Email:	apeters@abbotsford.ca	Email:	apeters@abbotsford.ca	Site #:		Date Required:
Copies:		Copies:		Sampled By:		Rush Confirmation #:

Laboratory Use Only

	YES	NO	Cooler ID			
Seal Present		/	Temp	7	5	9
Seal Intact		/				
Cooling Media	/					
	YES	NO	Cooler ID			
Seal Present			Temp			
Seal Intact						
Cooling Media						
	YES	NO	Cooler ID			
Seal Present			Temp			
Seal Intact						
Cooling Media						

Depot Reception

Analysis Requested

	Sample Identification	Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	BTEX/VPH	VOC/BTEX/VPH	MTBE	BTEX F1	VOC/BTEX/F1	PAH	LEPH/HEPH/PAH	EPH	TEH	F2-F4	Dissolved Metals	Filtered?	Dissolved Mercury	Filtered?	Total Metals	Preserved?	Total Mercury	Preserved?	Chloride	Fluoride	Sulphate	TSS	TDS	COD	BOD	pH	Conductivity	Alkalinity	Nitrate (low level)	Nitrate	Ammonia	CSR/CCME Tot. Metals in water w/ CV Hg	Ammonia-N (Total)	Nitrate+Nitrite (N) (low level)	Nitrogen-Nitrate (as N) Low Level Calc	Total Phosphorus	HOLD - DO NOT ANALYZE	Special Instructions
1	D02 (39560)	2022/01/18	8:50	water	5																			X							X				++	X	X	X	X	X				
2	D02 (39560)	↓	10:40	↓	5																			X							X				+	X	X	X	X	X				
3	B02 (39569)		16:00		5																			X							X				+	X	X	X	X	X				
4	DUPLICATE (B02)		16:10		5																			X							X				+	X	X	X	X	X				
5																																												
6																																												
7																																												
8																																												
9																																												
10																																												

Regulatory Criteria

- ☐ BC CSR
- ☐ YK CSR
- ☐ CCME
- ☐ Drinking Water
- ☐ BC Water Quality
- ☐ Other

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgement and acceptar

Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):
Emma Flanagan	2022/01/18	20:30	Akenyie Lipay	2022/01/19	07:30

C203039_COC

COC-1020

Bureau Veritas Shaping a World of Trust©

D-00077/13

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 655221-01-01, 39565, 39566, 39567, 39568, 3956A, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/01/26
Report #: R3126753
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C203455
Received: 2022/01/20, 07:30

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	10	N/A	2022/01/21	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	10	N/A	2022/01/24	BBY WI-00033	Auto Calc
Mercury (Total) by CV	10	2022/01/24	2022/01/24	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	10	2022/01/20	2022/01/24	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	8	2022/01/21	2022/01/21	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2022/01/21	2022/01/22	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	10	N/A	2022/01/24	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	10	N/A	2022/01/21	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	10	N/A	2022/01/21	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	10	N/A	2022/01/25	BBY WI-00033	Auto Calc
pH @25°C (3)	10	N/A	2022/01/21	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	1	2022/01/23	2022/01/24	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	4	2022/01/24	2022/01/24	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	1	2022/01/25	2022/01/25	AB SOP-00024	SM 23 4500-P A,B,F m
Total Phosphorus (1)	4	2022/01/25	2022/01/26	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 655221-01-01, 39565, 39566, 39567, 39568, 3956A, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/01/26
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CERTIFICATE OF ANALYSIS

BV LABS JOB #: C203455
Received: 2022/01/20, 07:30

implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C203455
Report Date: 2022/01/26

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ANG908		ANG909	ANG910	ANG911	ANG912		
Sampling Date			2022/01/19 10:22		2022/01/19 09:15	2022/01/19 10:00	2022/01/19 11:40	2022/01/19 12:30		
COC Number			39565		39566	39567	39568	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**QC Batch**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	1.67	A476939	1.24	1.46	1.72	1.01	0.0020	A476939
Misc. Inorganics										
pH	pH	6.5:9.0	7.14	A478246	7.74	7.33	7.10	7.14	N/A	A478246
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A477898	<0.050	<0.050	<0.050	<0.050	0.050	A477898
Nutrients										
Total Ammonia (N)	mg/L	-	0.081	A480001	0.041	0.32	0.082	0.79	0.015	A480001
Total Phosphorus (P)	mg/L	-	0.013	A479503	0.0063	0.013	0.0082	0.0098	0.0030	A480156
Nitrate plus Nitrite (N)	mg/L	-	1.67	A478257	1.25	1.46	1.73	1.02	0.0020	A478257
Nitrite (N)	mg/L	0.06	<0.0020	A478258	0.0073	0.0036	0.0076	0.0085	0.0020	A478258

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			ANG913		ANG914			ANG922		
Sampling Date			2022/01/19 17:15		2022/01/19 14:30			2022/01/19 16:00		
COC Number			3956B		3956C			41C64		
	UNITS	**Criteria**	**F01 (3956B)**	**RDL**	**F02 (3956C)**	**RDL**	**QC Batch**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	1.01	0.0020	0.856	0.0020	A476939	1.06	0.0020	A476939
Misc. Inorganics										
pH	pH	6.5:9.0	7.63	N/A	7.26	N/A	A478246	7.20	N/A	A478246
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	<0.050	0.050	A477898	<0.050	0.050	A477898
Nutrients										
Total Ammonia (N)	mg/L	-	0.054	0.015	0.61 (1)	0.15	A480001	0.097	0.015	A480001
Total Phosphorus (P)	mg/L	-	0.0080	0.0030	0.0051	0.0030	A479503	0.011	0.0030	A478837
Nitrate plus Nitrite (N)	mg/L	-	1.02	0.0020	0.858	0.0020	A478257	1.08	0.0020	A478257
Nitrite (N)	mg/L	0.06	0.0100	0.0020	0.0029	0.0020	A478258	0.0122	0.0020	A478258

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) RDL raised due to sample matrix interference.

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Bureau Veritas Job #: C203455
Report Date: 2022/01/26

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ANG923		ANG924		
Sampling Date			2022/01/19		2022/01/19 17:30		
COC Number			3AF04		3AF05		
	UNITS	**Criteria**	**TRIP BLANK (3AF04)**	**QC Batch**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters							
Nitrate (N)	mg/L	-	<0.0020	A476939	0.0044	0.0020	A476939
Misc. Inorganics							
pH	pH	6.5:9.0	**5.86**	A478246	**5.43**	N/A	A478246
Anions							
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A477898	<0.050	0.050	A477898
Nutrients							
Total Ammonia (N)	mg/L	-	<0.015	A480002	1.4	0.015	A480001
Total Phosphorus (P)	mg/L	-	<0.0030	A480156	<0.0030	0.0030	A479503
Nitrate plus Nitrite (N)	mg/L	-	<0.0020	A478257	0.0044	0.0020	A478257
Nitrite (N)	mg/L	0.06	<0.0020	A478258	<0.0020	0.0020	A478258

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ANG908	ANG909	ANG910	ANG911	ANG912	ANG913		
Sampling Date			2022/01/19 10:22	2022/01/19 09:15	2022/01/19 10:00	2022/01/19 11:40	2022/01/19 12:30	2022/01/19 17:15		
COC Number			39565	39566	39567	39568	3956A	3956B		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**W01 (3956A)**	**F01 (3956B)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	65.9	95.0	68.9	69.9	51.9	107	0.50	A476683
Elements										
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A479525
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	176	51.0	160	74.6	37.8	96.3	3.0	A477556
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A477556
Total Arsenic (As)	ug/L	5	0.51	0.78	0.59	0.36	0.62	1.26	0.10	A477556
Total Barium (Ba)	ug/L	-	10.8	14.9	12.8	35.7	20.0	28.6	1.0	A477556
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A477556
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A477556
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	<50	50	A477556
Total Cadmium (Cd)	ug/L	-	0.017	0.014	0.018	0.040	0.011	0.013	0.010	A477556
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	1.0	A477556
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	0.34	<0.20	0.20	0.20	A477556
Total Copper (Cu)	ug/L	-	1.53	0.99	1.82	1.88	0.81	1.78	0.50	A477556
Total Iron (Fe)	ug/L	300	228	197	173	**768**	**435**	**562**	10	A477556
Total Lead (Pb)	ug/L	-	<0.20	<0.20	<0.20	0.76	<0.20	<0.20	0.20	A477556
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A477556
Total Manganese (Mn)	ug/L	-	17.7	48.8	18.5	136	47.2	154	1.0	A477556
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A477556
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	1.0	A477556
Total Selenium (Se)	ug/L	1	0.13	0.14	0.12	<0.10	<0.10	0.12	0.10	A477556
Total Silicon (Si)	ug/L	-	6340	7930	6130	7260	5600	5200	100	A477556
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A477556
Total Strontium (Sr)	ug/L	-	103	128	102	211	101	180	1.0	A477556
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A477556
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A477556
Total Titanium (Ti)	ug/L	-	8.1	<5.0	6.0	<5.0	<5.0	<5.0	5.0	A477556
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A477556
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A477556
Total Zinc (Zn)	ug/L	30	9.0	10.0	13.8	18.0	7.4	6.8	5.0	A477556

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ANG908	ANG909	ANG910	ANG911	ANG912	ANG913		
Sampling Date			2022/01/19 10:22	2022/01/19 09:15	2022/01/19 10:00	2022/01/19 11:40	2022/01/19 12:30	2022/01/19 17:15		
COC Number			39565	39566	39567	39568	3956A	3956B		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**W01 (3956A)**	**F01 (3956B)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	0.10	<0.10	<0.10	0.20	<0.10	0.11	0.10	A477556
Total Calcium (Ca)	mg/L	-	18.7	27.5	19.8	20.5	14.2	30.2	0.050	A476789
Total Magnesium (Mg)	mg/L	-	4.68	6.41	4.73	4.55	4.01	7.56	0.050	A476789
Total Potassium (K)	mg/L	-	1.11	1.59	1.43	1.46	0.913	1.81	0.050	A476789
Total Sodium (Na)	mg/L	-	14.7	15.1	16.6	34.1	20.3	31.5	0.050	A476789
Total Sulphur (S)	mg/L	-	3.0	5.6	3.8	3.1	<3.0	5.5	3.0	A476789

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ANG914	ANG922		ANG923	ANG924		
Sampling Date			2022/01/19 14:30	2022/01/19 16:00		2022/01/19	2022/01/19 17:30		
COC Number			3956C	41C64		3AF04	3AF05		
	UNITS	**Criteria**	**F02 (3956C)**	**F0F (41C64)**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	62.7	80.5	A476683	<0.50	<0.50	0.50	A476683
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	A479525	<0.0019	<0.0019	0.0019	A479525
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	51.7	147	A477556	<3.0	<3.0	3.0	A477992
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	A477556	<0.50	<0.50	0.50	A477992
Total Arsenic (As)	ug/L	5	0.28	1.23	A477556	<0.10	<0.10	0.10	A477992
Total Barium (Ba)	ug/L	-	25.9	34.9	A477556	<1.0	<1.0	1.0	A477992
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	A477556	<0.10	<0.10	0.10	A477992
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	A477556	<1.0	<1.0	1.0	A477992
Total Boron (B)	ug/L	1500	<50	<50	A477556	<50	<50	50	A477992
Total Cadmium (Cd)	ug/L	-	<0.010	0.024	A477556	<0.010	<0.010	0.010	A477992
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	A477556	<1.0	<1.0	1.0	A477992
Total Cobalt (Co)	ug/L	-	<0.20	0.36	A477556	<0.20	<0.20	0.20	A477992
Total Copper (Cu)	ug/L	-	1.56	2.20	A477556	<0.50	0.76	0.50	A477992
Total Iron (Fe)	ug/L	300	198	**900**	A477556	<10	<10	10	A477992
Total Lead (Pb)	ug/L	-	<0.20	0.48	A477556	<0.20	<0.20	0.20	A477992
Total Lithium (Li)	ug/L	-	<2.0	<2.0	A477556	<2.0	<2.0	2.0	A477992
Total Manganese (Mn)	ug/L	-	35.9	166	A477556	<1.0	<1.0	1.0	A477992
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	A477556	<1.0	<1.0	1.0	A477992
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	A477556	<1.0	<1.0	1.0	A477992
Total Selenium (Se)	ug/L	1	<0.10	<0.10	A477556	<0.10	<0.10	0.10	A477992
Total Silicon (Si)	ug/L	-	3630	4690	A477556	<100	<100	100	A477992
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	A477556	<0.020	<0.020	0.020	A477992
Total Strontium (Sr)	ug/L	-	109	141	A477556	<1.0	<1.0	1.0	A477992
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	A477556	<0.010	<0.010	0.010	A477992
Total Tin (Sn)	ug/L	-	<5.0	<5.0	A477556	<5.0	<5.0	5.0	A477992
Total Titanium (Ti)	ug/L	-	<5.0	6.4	A477556	<5.0	<5.0	5.0	A477992
Total Uranium (U)	ug/L	15	<0.10	<0.10	A477556	<0.10	<0.10	0.10	A477992
Total Vanadium (V)	ug/L	-	<5.0	<5.0	A477556	<5.0	<5.0	5.0	A477992
Total Zinc (Zn)	ug/L	30	8.7	22.4	A477556	<5.0	<5.0	5.0	A477992

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ANG914	ANG922		ANG923	ANG924		
Sampling Date			2022/01/19 14:30	2022/01/19 16:00		2022/01/19	2022/01/19 17:30		
COC Number			3956C	41C64		3AF04	3AF05		
	UNITS	**Criteria**	**F02 (3956C)**	**F0F (41C64)**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	0.21	A477556	<0.10	<0.10	0.10	A477992
Total Calcium (Ca)	mg/L	-	18.0	24.1	A476789	<0.050	<0.050	0.050	A476789
Total Magnesium (Mg)	mg/L	-	4.30	4.91	A476789	<0.050	<0.050	0.050	A476789
Total Potassium (K)	mg/L	-	1.61	1.64	A476789	<0.050	<0.050	0.050	A476789
Total Sodium (Na)	mg/L	-	33.7	38.2	A476789	<0.050	<0.050	0.050	A476789
Total Sulphur (S)	mg/L	-	3.3	6.8	A476789	<3.0	<3.0	3.0	A476789

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C203455
Report Date: 2022/01/26

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A477556	Total Aluminum (Al)	2022/01/21	126 (1)	80 - 120	103	80 - 120	<3.0	ug/L	1.8	20		
A477556	Total Antimony (Sb)	2022/01/21	105	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
A477556	Total Arsenic (As)	2022/01/21	106	80 - 120	103	80 - 120	<0.10	ug/L	2.5	20		
A477556	Total Barium (Ba)	2022/01/21	105	80 - 120	101	80 - 120	<1.0	ug/L	2.2	20		
A477556	Total Beryllium (Be)	2022/01/21	104	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A477556	Total Bismuth (Bi)	2022/01/21	103	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
A477556	Total Boron (B)	2022/01/21	101	80 - 120	100	80 - 120	<50	ug/L	NC	20		
A477556	Total Cadmium (Cd)	2022/01/21	104	80 - 120	104	80 - 120	<0.010	ug/L	11	20		
A477556	Total Chromium (Cr)	2022/01/21	104	80 - 120	103	80 - 120	<1.0	ug/L	1.3	20		
A477556	Total Cobalt (Co)	2022/01/21	103	80 - 120	103	80 - 120	<0.20	ug/L	1.8	20		
A477556	Total Copper (Cu)	2022/01/21	99	80 - 120	101	80 - 120	<0.50	ug/L	1.8	20		
A477556	Total Iron (Fe)	2022/01/21	NC	80 - 120	103	80 - 120	<10	ug/L	1.4	20		
A477556	Total Lead (Pb)	2022/01/21	108	80 - 120	107	80 - 120	<0.20	ug/L	3.9	20		
A477556	Total Lithium (Li)	2022/01/21	100	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
A477556	Total Manganese (Mn)	2022/01/21	NC	80 - 120	103	80 - 120	<1.0	ug/L	0.37	20		
A477556	Total Molybdenum (Mo)	2022/01/21	115	80 - 120	109	80 - 120	<1.0	ug/L	NC	20		
A477556	Total Nickel (Ni)	2022/01/21	102	80 - 120	103	80 - 120	<1.0	ug/L	4.0	20		
A477556	Total Selenium (Se)	2022/01/21	106	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A477556	Total Silicon (Si)	2022/01/21	NC	80 - 120	104	80 - 120	<100	ug/L	0.15	20		
A477556	Total Silver (Ag)	2022/01/21	104	80 - 120	105	80 - 120	<0.020	ug/L	NC	20		
A477556	Total Strontium (Sr)	2022/01/21	NC	80 - 120	105	80 - 120	<1.0	ug/L	0.064	20		
A477556	Total Thallium (Tl)	2022/01/21	107	80 - 120	103	80 - 120	<0.010	ug/L	NC	20		
A477556	Total Tin (Sn)	2022/01/21	104	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A477556	Total Titanium (Ti)	2022/01/21	115	80 - 120	104	80 - 120	<5.0	ug/L	0.0053	20		
A477556	Total Uranium (U)	2022/01/21	111	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A477556	Total Vanadium (V)	2022/01/21	108	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A477556	Total Zinc (Zn)	2022/01/21	104	80 - 120	106	80 - 120	<5.0	ug/L	1.6	20		
A477556	Total Zirconium (Zr)	2022/01/21	110	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A477898	Dissolved Fluoride (F)	2022/01/21	109	80 - 120	106	80 - 120	<0.050	mg/L	NC	20		
A477992	Total Aluminum (Al)	2022/01/22	102	80 - 120	94	80 - 120	<3.0	ug/L	NC	20		
A477992	Total Antimony (Sb)	2022/01/22	101	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
A477992	Total Arsenic (As)	2022/01/22	102	80 - 120	96	80 - 120	<0.10	ug/L	NC	20		

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Bureau Veritas Job #: C203455
Report Date: 2022/01/26

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A477992	Total Barium (Ba)	2022/01/22	102	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A477992	Total Beryllium (Be)	2022/01/22	100	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A477992	Total Bismuth (Bi)	2022/01/22	90	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A477992	Total Boron (B)	2022/01/22	94	80 - 120	91	80 - 120	<50	ug/L	NC	20		
A477992	Total Cadmium (Cd)	2022/01/22	101	80 - 120	98	80 - 120	<0.010	ug/L	NC	20		
A477992	Total Chromium (Cr)	2022/01/22	98	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A477992	Total Cobalt (Co)	2022/01/22	96	80 - 120	97	80 - 120	<0.20	ug/L	NC	20		
A477992	Total Copper (Cu)	2022/01/22	96	80 - 120	97	80 - 120	<0.50	ug/L	2.0	20		
A477992	Total Iron (Fe)	2022/01/22	102	80 - 120	99	80 - 120	<10	ug/L	NC	20		
A477992	Total Lead (Pb)	2022/01/22	101	80 - 120	100	80 - 120	<0.20	ug/L	NC	20		
A477992	Total Lithium (Li)	2022/01/22	98	80 - 120	91	80 - 120	<2.0	ug/L	NC	20		
A477992	Total Manganese (Mn)	2022/01/22	99	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A477992	Total Molybdenum (Mo)	2022/01/22	102	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A477992	Total Nickel (Ni)	2022/01/22	96	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A477992	Total Selenium (Se)	2022/01/22	99	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A477992	Total Silicon (Si)	2022/01/22	106	80 - 120	99	80 - 120	<100	ug/L	NC	20		
A477992	Total Silver (Ag)	2022/01/22	97	80 - 120	96	80 - 120	<0.020	ug/L	NC	20		
A477992	Total Strontium (Sr)	2022/01/22	103	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A477992	Total Thallium (Tl)	2022/01/22	100	80 - 120	96	80 - 120	<0.010	ug/L	NC	20		
A477992	Total Tin (Sn)	2022/01/22	99	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A477992	Total Titanium (Ti)	2022/01/22	104	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A477992	Total Uranium (U)	2022/01/22	101	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A477992	Total Vanadium (V)	2022/01/22	101	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A477992	Total Zinc (Zn)	2022/01/22	102	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A477992	Total Zirconium (Zr)	2022/01/22	105	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A478246	pH	2022/01/21			101	97 - 103			0.56	N/A		
A478257	Nitrate plus Nitrite (N)	2022/01/21	NC	80 - 120	107	80 - 120	<0.0020	mg/L	0.12	25		
A478258	Nitrite (N)	2022/01/21	99	80 - 120	101	80 - 120	<0.0020	mg/L	NC	25		
A478837	Total Phosphorus (P)	2022/01/24	97	80 - 120	91	80 - 120	<0.0030	mg/L	0.016	20	88	80 - 120
A479503	Total Phosphorus (P)	2022/01/24	94	80 - 120	92	80 - 120	<0.0030	mg/L	7.4	20	88	80 - 120
A479525	Total Mercury (Hg)	2022/01/24	109	80 - 120	99	80 - 120	<0.0019	ug/L	NC	20		
A480001	Total Ammonia (N)	2022/01/24	NC	80 - 120	92	80 - 120	<0.015	mg/L	0.56	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A480002	Total Ammonia (N)	2022/01/24	NC	80 - 120	92	80 - 120	<0.015	mg/L	3.9	20		
A480156	Total Phosphorus (P)	2022/01/26	92	80 - 120	96	80 - 120	<0.0030	mg/L	4.0	20	94	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193	Bureau Veritas Job #	Bottle Order #: 655221
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #			
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality	Chain Of Custody Record	Project Manager
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name		C#655221-02-01	Customer Solutions
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #			
				Sampled By			

Regulatory Criteria: ☐ CSR ☐ CCME ☐ BC Water Quality ☐ Other _____

Special Instructions:

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	19/01/22	16:00	water	N	X	X	X	X	X	X	X	X			5	
2		~~DUPLICATE~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~				
3		TRIP BLANK (3AF04)		~~X~~		N	X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)		17:30		N	X	X	X	X	X	X	X	X				
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☐
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
1 DAY ☐ 2 Day ☐ 3 Day ☐ Date Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

C203455_COC

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[signature]	2022/01/19	20:00	[signature]	2022/01/20	07:30		☐	10, 10, 12	☐ Yes ☑ No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvna.com

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193	Bureau Veritas Job #	Bottle Order #: 655221
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #			
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality		
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name		Chain Of Custody Record	Project Manager
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #		C#655221-01-01	Customer Solutions
				Sampled By			

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	A/01/22	10:22	water	N	X	X	X	X	X	X	X	X			5	
2		H02 (39566)		9:15		N	X	X	X	X	X	X	X	X				
3		H03 (39567)		10:00		N	X	X	X	X	X	X	X	X				
4		B01 (39568)		11:40		N	X	X	X	X	X	X	X	X				
5		~~B02 (39569)~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~				
6		W01 (3956A)		12:30		N	X	X	X	X	X	X	X	X				
7		~~D01 (3956D)~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~				
8		~~D02 (3956D)~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~				
9		F01 (3956B)		17:15		N	X	X	X	X	X	X	X	X				
10		F02 (3956C)		14:30		N	X	X	X	X	X	X	X	X				

C203455_COC

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
			AT Rego	2022/01/20	07:30		[ ]	10, 10, 12	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

ICC

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 657374-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/02/25
Report #: R3139568
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C210423
Received: 2022/02/18, 08:19

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	14	N/A	2022/02/18	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	14	N/A	2022/02/23	BBY WI-00033	Auto Calc
Mercury (Total) by CV	14	2022/02/22	2022/02/22	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	14	2022/02/18	2022/02/23	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	12	2022/02/22	2022/02/23	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2022/02/23	2022/02/23	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	14	N/A	2022/02/23	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	14	N/A	2022/02/19	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	14	N/A	2022/02/19	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2022/02/19	BBY WI-00033	Auto Calc
pH @25°C (3)	14	N/A	2022/02/19	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	14	2022/02/24	2022/02/24	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 657374-01-01, 39565, 39566, 39567, 39568, 39569,
3956A, 3956D, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/02/25
Report #: R3139568
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C210423
Received: 2022/02/18, 08:19
customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
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For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			AOU668			AOU669			AOU670		
Sampling Date			2022/02/17 11:40			2022/02/17 12:11			2022/02/17 11:30		
COC Number			39565			39566			39567		
	UNITS	**Criteria**	**HO1 (39565)**	**RDL**	**QC Batch**	**HO2 (39566)**	**RDL**	**QC Batch**	**HO3 (39567)**	**RDL**	**QC Batch**
Calculated Parameters											
Nitrate (N)	mg/L	-	3.09	0.010	A503354	1.38	0.0020	A503354	2.31	0.0040	A503354
Misc. Inorganics											
pH	pH	6.5:9.0	7.08	N/A	A505531	7.51	N/A	A505531	7.37	N/A	A505531
Anions											
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A504049	<0.050	0.050	A504049	<0.050	0.050	A504049
Nutrients											
Total Ammonia (N)	mg/L	-	<0.015	0.015	A506366	<0.015	0.015	A506366	<0.015	0.015	A506366
Total Phosphorus (P)	mg/L	-	0.0068	0.0030	A507014	0.0064	0.0030	A507014	0.0080	0.0030	A507014
Nitrate plus Nitrite (N)	mg/L	-	3.09	0.010	A504480	1.39	0.0020	A504406	2.31	0.0040	A504480
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	A504407	0.0059	0.0020	A504407	0.0035	0.0020	A504407

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			AOU671	AOU672		AOU673		AOU674		
Sampling Date			2022/02/17 11:01	2022/02/17 12:23		2022/02/17 10:32		2022/02/17 14:03		
COC Number			39568	39569		3956A		3956D		
	UNITS	**Criteria**	**BO1 (39568)**	**BO2 (39569)**	**QC Batch**	**W01 (3956A)**	**QC Batch**	**D01 (3956D)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	1.86	1.60	A503354	1.58	A503354	1.23	0.0020	A503354
Misc. Inorganics										
pH	pH	6.5:9.0	6.97	7.46	A505531	7.22	A505531	7.52	N/A	A505531
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	A504049	<0.050	A504080	<0.050	0.050	A504049
Nutrients										
Total Ammonia (N)	mg/L	-	0.081	0.036	A506365	0.041	A506365	<0.015	0.015	A506365
Total Phosphorus (P)	mg/L	-	0.011	0.0046	A507014	0.0075	A507014	0.0069	0.0030	A507014
Nitrate plus Nitrite (N)	mg/L	-	1.88	1.61	A504406	1.59	A504406	1.23	0.0020	A504406
Nitrite (N)	mg/L	0.06	0.0121	0.0088	A504407	0.0110	A504407	0.0056	0.0020	A504407

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			AOU675		AOU676	AOU677	AOU679		
Sampling Date			2022/02/17 14:15		2022/02/17 15:54	2022/02/17 15:14	2022/02/17 15:34		
COC Number			3956D		3956B	3956C	41C64		
	UNITS	**Criteria**	**D02 (3956D)**	**QC Batch**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	0.943	A503354	0.826	0.912	0.611	0.0020	A503354
Misc. Inorganics									
pH	pH	6.5:9.0	7.67	A505531	7.73	7.19	7.17	N/A	A505531
Anions									
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A504049	<0.050	<0.050	<0.050	0.050	A504049
Nutrients									
Total Ammonia (N)	mg/L	-	0.016	A506365	0.046	0.026	0.073	0.015	A506366
Total Phosphorus (P)	mg/L	-	0.0087	A507014	0.0095	0.0076	0.017	0.0030	A507014
Nitrate plus Nitrite (N)	mg/L	-	0.949	A504406	0.837	0.916	0.619	0.0020	A504406
Nitrite (N)	mg/L	0.06	0.0057	A504407	0.0104	0.0039	0.0079	0.0020	A504407

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			AOU680			AOU681	AOU682		
Sampling Date			2022/02/17 11:45			2022/02/17 11:45	2022/02/17 16:00		
COC Number			39565			3AF04	3AF05		
	UNITS	**Criteria**	**DUPLICATE (H01)**	**RDL**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	3.10	0.010	A503354	<0.0020	<0.0020	0.0020	A503354
Misc. Inorganics									
pH	pH	6.5:9.0	7.10	N/A	A505531	**5.91**	**5.61**	N/A	A505531
Anions									
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	A504049	<0.050	<0.050	0.050	A504049
Nutrients									
Total Ammonia (N)	mg/L	-	<0.015	0.015	A506366	<0.015	<0.015	0.015	A506366
Total Phosphorus (P)	mg/L	-	0.0077	0.0030	A507014	<0.0030	<0.0030	0.0030	A507014
Nitrate plus Nitrite (N)	mg/L	-	3.11	0.010	A504480	<0.0020	<0.0020	0.0020	A504406
Nitrite (N)	mg/L	0.06	0.0022	0.0020	A504407	<0.0020	<0.0020	0.0020	A504407

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AOU668	AOU669	AOU670	AOU671	AOU672	AOU673		
Sampling Date			2022/02/17 11:40	2022/02/17 12:11	2022/02/17 11:30	2022/02/17 11:01	2022/02/17 12:23	2022/02/17 10:32		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**HO1 (39565)**	**HO2 (39566)**	**HO3 (39567)**	**BO1 (39568)**	**BO2 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	111	107	113	70.1	97.3	85.8	0.50	A503320
Elements										
Total Mercury (Hg)	ug/L	0.026	0.0038	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A505082
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	19.0	23.4	22.8	52.0	44.6	26.1	3.0	A505049
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A505049
Total Arsenic (As)	ug/L	5	0.54	0.84	0.56	0.32	0.53	0.62	0.10	A505049
Total Barium (Ba)	ug/L	-	15.0	12.9	14.3	29.6	17.9	28.1	1.0	A505049
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A505049
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A505049
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	<50	50	A505049
Total Cadmium (Cd)	ug/L	-	0.020	<0.010	0.023	0.026	0.011	0.010	0.010	A505049
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	1.0	A505049
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	0.29	<0.20	<0.20	0.20	A505049
Total Copper (Cu)	ug/L	-	0.61	0.52	0.92	1.59	0.56	<0.50	0.50	A505049
Total Iron (Fe)	ug/L	300	119	162	53	**572**	**474**	**353**	10	A505049
Total Lead (Pb)	ug/L	-	<0.20	<0.20	<0.20	1.16	<0.20	<0.20	0.20	A505049
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A505049
Total Manganese (Mn)	ug/L	-	26.2	40.5	16.7	110	116	52.8	1.0	A505049
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	1.0	A505049
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	1.0	A505049
Total Selenium (Se)	ug/L	1	0.24	0.18	0.22	<0.10	0.16	0.14	0.10	A505049
Total Silicon (Si)	ug/L	-	9990	9310	9710	8450	10300	9960	100	A505049
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A505049
Total Strontium (Sr)	ug/L	-	167	143	166	211	163	172	1.0	A505049
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A505049
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A505049
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A505049
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A505049
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A505049
Total Zinc (Zn)	ug/L	30	<5.0	5.8	9.4	12.5	<5.0	<5.0	5.0	A505049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AOU668	AOU669	AOU670	AOU671	AOU672	AOU673		
Sampling Date			2022/02/17 11:40	2022/02/17 12:11	2022/02/17 11:30	2022/02/17 11:01	2022/02/17 12:23	2022/02/17 10:32		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**HO1 (39565)**	**HO2 (39566)**	**HO3 (39567)**	**BO1 (39568)**	**BO2 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	0.13	<0.10	<0.10	0.10	A505049
Total Calcium (Ca)	mg/L	-	31.3	30.7	31.8	20.4	26.9	23.1	0.050	A503353
Total Magnesium (Mg)	mg/L	-	7.90	7.32	8.09	4.64	7.31	6.80	0.050	A503353
Total Potassium (K)	mg/L	-	1.80	1.67	1.97	1.52	1.46	1.27	0.050	A503353
Total Sodium (Na)	mg/L	-	18.8	11.7	18.6	25.6	12.6	15.6	0.050	A503353
Total Sulphur (S)	mg/L	-	5.6	5.8	6.6	3.4	4.8	4.4	3.0	A503353

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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Bureau Veritas Job #: C210423
Report Date: 2022/02/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AOU674	AOU675	AOU676	AOU677	AOU679		
Sampling Date			2022/02/17 14:03	2022/02/17 14:15	2022/02/17 15:54	2022/02/17 15:14	2022/02/17 15:34		
COC Number			3956D	3956D	3956B	3956C	41C64		
	UNITS	**Criteria**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	89.5	109	116	70.8	80.0	0.50	A503320
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A505082
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	34.3	32.3	57.7	75.7	57.7	3.0	A505049
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A505049
Total Arsenic (As)	ug/L	5	0.76	1.33	1.09	0.32	1.01	0.10	A505049
Total Barium (Ba)	ug/L	-	15.9	11.8	23.0	33.8	26.2	1.0	A505049
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A505049
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A505049
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	50	A505049
Total Cadmium (Cd)	ug/L	-	<0.010	<0.010	<0.010	0.011	<0.010	0.010	A505049
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A505049
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	<0.20	<0.20	0.30	0.20	A505049
Total Copper (Cu)	ug/L	-	<0.50	<0.50	1.19	1.20	1.21	0.50	A505049
Total Iron (Fe)	ug/L	300	245	**387**	**958**	**351**	**1220**	10	A505049
Total Lead (Pb)	ug/L	-	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	A505049
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A505049
Total Manganese (Mn)	ug/L	-	69.0	127	179	97.8	178	1.0	A505049
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A505049
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A505049
Total Selenium (Se)	ug/L	1	0.20	0.24	0.13	<0.10	<0.10	0.10	A505049
Total Silicon (Si)	ug/L	-	9050	11500	6450	4330	4770	100	A505049
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A505049
Total Strontium (Sr)	ug/L	-	140	157	186	125	140	1.0	A505049
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A505049
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A505049
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A505049
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A505049
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A505049
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	<5.0	6.7	7.7	5.0	A505049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AOU674	AOU675	AOU676	AOU677	AOU679		
Sampling Date			2022/02/17 14:03	2022/02/17 14:15	2022/02/17 15:54	2022/02/17 15:14	2022/02/17 15:34		
COC Number			3956D	3956D	3956B	3956C	41C64		
	UNITS	**Criteria**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**F0F (41C64)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A505049
Total Calcium (Ca)	mg/L	-	23.4	28.2	31.4	20.1	22.1	0.050	A503353
Total Magnesium (Mg)	mg/L	-	7.53	9.41	9.18	5.03	5.99	0.050	A503353
Total Potassium (K)	mg/L	-	1.58	1.46	1.80	2.28	1.69	0.050	A503353
Total Sodium (Na)	mg/L	-	12.4	9.05	23.4	23.9	24.1	0.050	A503353
Total Sulphur (S)	mg/L	-	5.0	4.7	5.9	3.9	4.4	3.0	A503353

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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Bureau Veritas Job #: C210423
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CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AOU680		AOU681	AOU682		
Sampling Date			2022/02/17 11:45		2022/02/17 11:45	2022/02/17 16:00		
COC Number			39565		3AF04	3AF05		
	UNITS	**Criteria**	**DUPLICATE (H01)**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	-	112	A503320	<0.50	<0.50	0.50	A503320
Elements								
Total Mercury (Hg)	ug/L	0.026	0.0038	A505082	<0.0019	<0.0019	0.0019	A505249
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	-	9.5	A505049	<3.0	<3.0	3.0	A506069
Total Antimony (Sb)	ug/L	-	<0.50	A505049	<0.50	<0.50	0.50	A506069
Total Arsenic (As)	ug/L	5	0.51	A505049	<0.10	<0.10	0.10	A506069
Total Barium (Ba)	ug/L	-	14.8	A505049	<1.0	<1.0	1.0	A506069
Total Beryllium (Be)	ug/L	-	<0.10	A505049	<0.10	<0.10	0.10	A506069
Total Bismuth (Bi)	ug/L	-	<1.0	A505049	<1.0	<1.0	1.0	A506069
Total Boron (B)	ug/L	1500	<50	A505049	<50	<50	50	A506069
Total Cadmium (Cd)	ug/L	-	0.019	A505049	<0.010	<0.010	0.010	A506069
Total Chromium (Cr)	ug/L	-	<1.0	A505049	<1.0	<1.0	1.0	A506069
Total Cobalt (Co)	ug/L	-	<0.20	A505049	<0.20	<0.20	0.20	A506069
Total Copper (Cu)	ug/L	-	0.63	A505049	<0.50	<0.50	0.50	A506069
Total Iron (Fe)	ug/L	300	101	A505049	<10	<10	10	A506069
Total Lead (Pb)	ug/L	-	<0.20	A505049	<0.20	<0.20	0.20	A506069
Total Lithium (Li)	ug/L	-	<2.0	A505049	<2.0	<2.0	2.0	A506069
Total Manganese (Mn)	ug/L	-	23.7	A505049	<1.0	<1.0	1.0	A506069
Total Molybdenum (Mo)	ug/L	73	<1.0	A505049	<1.0	<1.0	1.0	A506069
Total Nickel (Ni)	ug/L	-	<1.0	A505049	<1.0	<1.0	1.0	A506069
Total Selenium (Se)	ug/L	1	0.24	A505049	<0.10	<0.10	0.10	A506069
Total Silicon (Si)	ug/L	-	10300	A505049	<100	<100	100	A506069
Total Silver (Ag)	ug/L	0.25	<0.020	A505049	<0.020	<0.020	0.020	A506069
Total Strontium (Sr)	ug/L	-	173	A505049	<1.0	<1.0	1.0	A506069
Total Thallium (Tl)	ug/L	0.8	<0.010	A505049	<0.010	<0.010	0.010	A506069
Total Tin (Sn)	ug/L	-	<5.0	A505049	<5.0	<5.0	5.0	A506069
Total Titanium (Ti)	ug/L	-	<5.0	A505049	<5.0	<5.0	5.0	A506069
Total Uranium (U)	ug/L	15	<0.10	A505049	<0.10	<0.10	0.10	A506069
Total Vanadium (V)	ug/L	-	<5.0	A505049	<5.0	<5.0	5.0	A506069
Total Zinc (Zn)	ug/L	30	<5.0	A505049	<5.0	<5.0	5.0	A506069

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AOU680		AOU681	AOU682		
Sampling Date			2022/02/17 11:45		2022/02/17 11:45	2022/02/17 16:00		
COC Number			39565		3AF04	3AF05		
	UNITS	**Criteria**	**DUPLICATE (H01)**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	A505049	<0.10	<0.10	0.10	A506069
Total Calcium (Ca)	mg/L	-	31.7	A503353	<0.050	<0.050	0.050	A503353
Total Magnesium (Mg)	mg/L	-	8.01	A503353	<0.050	<0.050	0.050	A503353
Total Potassium (K)	mg/L	-	1.80	A503353	<0.050	<0.050	0.050	A503353
Total Sodium (Na)	mg/L	-	19.0	A503353	<0.050	<0.050	0.050	A503353
Total Sulphur (S)	mg/L	-	5.9	A503353	<3.0	<3.0	3.0	A503353

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A504049	Dissolved Fluoride (F)	2022/02/18	104	80 - 120	106	80 - 120	<0.050	mg/L	NC	20		
A504080	Dissolved Fluoride (F)	2022/02/18	104	80 - 120	106	80 - 120	<0.050	mg/L	NC	20		
A504406	Nitrate plus Nitrite (N)	2022/02/19			106	80 - 120	<0.0020	mg/L				
A504407	Nitrite (N)	2022/02/19	101	80 - 120	102	80 - 120	<0.0020	mg/L	NC	25		
A504480	Nitrate plus Nitrite (N)	2022/02/19	101	80 - 120	109	80 - 120	<0.0020	mg/L	0.73	25		
A505049	Total Aluminum (Al)	2022/02/23	107	80 - 120	104	80 - 120	<3.0	ug/L	2.1	20		
A505049	Total Antimony (Sb)	2022/02/23	105	80 - 120	103	80 - 120	<0.50	ug/L	NC	20		
A505049	Total Arsenic (As)	2022/02/23	107	80 - 120	103	80 - 120	<0.10	ug/L	3.1	20		
A505049	Total Barium (Ba)	2022/02/23	106	80 - 120	103	80 - 120	<1.0	ug/L	1.0	20		
A505049	Total Beryllium (Be)	2022/02/23	104	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
A505049	Total Bismuth (Bi)	2022/02/23	98	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A505049	Total Boron (B)	2022/02/23	106	80 - 120	105	80 - 120	<50	ug/L	NC	20		
A505049	Total Cadmium (Cd)	2022/02/23	104	80 - 120	104	80 - 120	<0.010	ug/L	12	20		
A505049	Total Chromium (Cr)	2022/02/23	100	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A505049	Total Cobalt (Co)	2022/02/23	98	80 - 120	100	80 - 120	<0.20	ug/L	NC	20		
A505049	Total Copper (Cu)	2022/02/23	96	80 - 120	99	80 - 120	<0.50	ug/L	3.6	20		
A505049	Total Iron (Fe)	2022/02/23	102	80 - 120	104	80 - 120	<10	ug/L	0.30	20		
A505049	Total Lead (Pb)	2022/02/23	101	80 - 120	103	80 - 120	<0.20	ug/L	NC	20		
A505049	Total Lithium (Li)	2022/02/23	103	80 - 120	105	80 - 120	<2.0	ug/L	NC	20		
A505049	Total Manganese (Mn)	2022/02/23	NC	80 - 120	102	80 - 120	<1.0	ug/L	0.71	20		
A505049	Total Molybdenum (Mo)	2022/02/23	111	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A505049	Total Nickel (Ni)	2022/02/23	98	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A505049	Total Selenium (Se)	2022/02/23	109	80 - 120	104	80 - 120	<0.10	ug/L	0.91	20		
A505049	Total Silicon (Si)	2022/02/23	NC	80 - 120	111	80 - 120	<100	ug/L	0.49	20		
A505049	Total Silver (Ag)	2022/02/23	102	80 - 120	101	80 - 120	<0.020	ug/L	NC	20		
A505049	Total Strontium (Sr)	2022/02/23	NC	80 - 120	103	80 - 120	<1.0	ug/L	1.3	20		
A505049	Total Thallium (Tl)	2022/02/23	101	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
A505049	Total Tin (Sn)	2022/02/23	102	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A505049	Total Titanium (Ti)	2022/02/23	105	80 - 120	106	80 - 120	<5.0	ug/L	NC	20		
A505049	Total Uranium (U)	2022/02/23	107	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
A505049	Total Vanadium (V)	2022/02/23	105	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C210423
Report Date: 2022/02/25

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A505049	Total Zinc (Zn)	2022/02/23	101	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A505049	Total Zirconium (Zr)	2022/02/23	109	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
A505082	Total Mercury (Hg)	2022/02/22	99	80 - 120	99	80 - 120	<0.0019	ug/L	5.5	20		
A505249	Total Mercury (Hg)	2022/02/22	93	80 - 120	102	80 - 120	<0.0019	ug/L	NC	20		
A505531	pH	2022/02/19			101	97 - 103			3.4	N/A		
A506069	Total Aluminum (Al)	2022/02/23	100	80 - 120	100	80 - 120	<3.0	ug/L	NC	20		
A506069	Total Antimony (Sb)	2022/02/23	100	80 - 120	101	80 - 120	<0.50	ug/L				
A506069	Total Arsenic (As)	2022/02/23	102	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A506069	Total Barium (Ba)	2022/02/23	101	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A506069	Total Beryllium (Be)	2022/02/23	102	80 - 120	102	80 - 120	<0.10	ug/L				
A506069	Total Bismuth (Bi)	2022/02/23	98	80 - 120	96	80 - 120	<1.0	ug/L				
A506069	Total Boron (B)	2022/02/23	98	80 - 120	98	80 - 120	<50	ug/L				
A506069	Total Cadmium (Cd)	2022/02/23	100	80 - 120	100	80 - 120	<0.010	ug/L	NC	20		
A506069	Total Chromium (Cr)	2022/02/23	96	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A506069	Total Cobalt (Co)	2022/02/23	94	80 - 120	96	80 - 120	<0.20	ug/L				
A506069	Total Copper (Cu)	2022/02/23	95	80 - 120	97	80 - 120	<0.50	ug/L	NC	20		
A506069	Total Iron (Fe)	2022/02/23	100	80 - 120	100	80 - 120	<10	ug/L	NC	20		
A506069	Total Lead (Pb)	2022/02/23	99	80 - 120	98	80 - 120	<0.20	ug/L	NC	20		
A506069	Total Lithium (Li)	2022/02/23	100	80 - 120	98	80 - 120	<2.0	ug/L				
A506069	Total Manganese (Mn)	2022/02/23	97	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A506069	Total Molybdenum (Mo)	2022/02/23	102	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A506069	Total Nickel (Ni)	2022/02/23	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A506069	Total Selenium (Se)	2022/02/23	101	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A506069	Total Silicon (Si)	2022/02/23	108	80 - 120	105	80 - 120	<100	ug/L				
A506069	Total Silver (Ag)	2022/02/23	96	80 - 120	97	80 - 120	<0.020	ug/L	NC	20		
A506069	Total Strontium (Sr)	2022/02/23	100	80 - 120	98	80 - 120	<1.0	ug/L				
A506069	Total Thallium (Tl)	2022/02/23	98	80 - 120	97	80 - 120	<0.010	ug/L	NC	20		
A506069	Total Tin (Sn)	2022/02/23	99	80 - 120	99	80 - 120	<5.0	ug/L				
A506069	Total Titanium (Ti)	2022/02/23	99	80 - 120	100	80 - 120	<5.0	ug/L				
A506069	Total Uranium (U)	2022/02/23	102	80 - 120	101	80 - 120	<0.10	ug/L				
A506069	Total Vanadium (V)	2022/02/23	98	80 - 120	99	80 - 120	<5.0	ug/L				

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Bureau Veritas Job #: C210423
Report Date: 2022/02/25

QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

Sampler Initials: N/A

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A506069	Total Zinc (Zn)	2022/02/23	105	80 - 120	107	80 - 120	<5.0	ug/L	NC	20		
A506069	Total Zirconium (Zr)	2022/02/23	101	80 - 120	101	80 - 120	<0.10	ug/L				
A506365	Total Ammonia (N)	2022/02/23	NC	80 - 120	105	80 - 120	<0.015	mg/L	15	20		
A506366	Total Ammonia (N)	2022/02/23	94	80 - 120	99	80 - 120	<0.015	mg/L	NC	20		
A507014	Total Phosphorus (P)	2022/02/24	97	80 - 120	98	80 - 120	<0.0030	mg/L	17	20	88	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193	Bureau Veritas Job #	Bottle Order #: 657374
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #			
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality		
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name		Chain Of Custody Record	Project Manager
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #		C#657374-01-01	Customer Solutions
				Sampled By			

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	17 Feb 22	11:40	water	N	X	X	X	X	X	X	X	X			5	
2		H02 (39566)		12:11			X	X	X	X	X	X	X	X				
3		H03 (39567)		11:30			X	X	X	X	X	X	X	X				
4		B01 (39568)		11:01			X	X	X	X	X	X	X	X				
5		B02 (39569)		12:23			X	X	X	X	X	X	X	X				
6		W01 (3956A)		10:32			X	X	X	X	X	X	X	X				
7		D01 (3956D)		14:03			X	X	X	X	X	X	X	X				
8		D02 (3956D)		14:15			X	X	X	X	X	X	X	X				
9		F01 (3956B)		15:54			X	X	X	X	X	X	X	X				
10		F02 (3956C)		15:14			X	X	X	X	X	X	X	X				

C210423_COC

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[signature]	22/02/17	18:15	[signature] SALLY SEY	2022/02/18	08:00		[ ]	9, 8, 8	[ ] Yes [✓] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

8, 8, 7

Cooling Media Present

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193	Bureau Veritas Job #	Bottle Order #: 657374
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #			
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality	Chain Of Custody Record	Project Manager
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name		C#657374-02-01	Customer Solutions
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #			
				Sampled By			

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	17 Feb 22	15:34	water	N	X	X	X	X	X	X	X	X			5	
2		DUPLICATE (HD1)	↓	11:45	↓	↓	X	X	X	X	X	X	X	X			↓	
3		TRIP BLANK (3AF04)		/			X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)	↓	16:00	↓	↓	X	X	X	X	X	X	X	X			↓	
5																		
6																		
7																		
8																		
9																		
10																		

C210423_COC

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[signature]	22/02/17	18:19	[signature] SALLY SEY	2022/02/18	08:00		[ ]	9.8.8 8.8.7	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Bureau Veritas Yellow: Client

Cooling media present

Bureau Veritas Canada (2019) Inc.

Your Project #: BEVAN #1 CREEK WATER QUALITY

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 658747-01-01, 39565, 39566, 39567, 39568, 39569, 3956A, 3956D, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/03/22
Report #: R3150590
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C216421
Received: 2022/03/15, 11:20

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	4	N/A	2022/03/15	BBY6SOP-00048	SM 23 4500-F C m
Fluoride	10	N/A	2022/03/17	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	11	N/A	2022/03/17	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	1	N/A	2022/03/18	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	2	N/A	2022/03/21	BBY WI-00033	Auto Calc
Mercury (Total) by CV	4	2022/03/15	2022/03/15	AB SOP-00084	BCMOE BCLM Oct2013 m
Mercury (Total) by CV	10	2022/03/16	2022/03/16	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	11	2022/03/15	2022/03/17	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	2022/03/15	2022/03/18	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2022/03/15	2022/03/21	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	2	2022/03/15	2022/03/16	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	12	2022/03/16	2022/03/17	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	14	N/A	2022/03/16	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	3	N/A	2022/03/15	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrate+Nitrite (N) (low level)	11	N/A	2022/03/16	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	3	N/A	2022/03/15	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	11	N/A	2022/03/16	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2022/03/17	BBY WI-00033	Auto Calc
pH @25°C (3)	4	N/A	2022/03/15	BBY6SOP-00026	SM 23 4500-H+ B m
pH @25°C (3)	10	N/A	2022/03/16	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	14	2022/03/21	2022/03/21	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: BEVAN #1 CREEK WATER QUALITY

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
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Canada V2T 1W7

Your C.O.C. #: 658747-01-01, 39565, 39566, 39567, 39568, 39569,
3956A, 3956D, 3956B, 3956C, 41C64, 3AF04, 3AF05

Report Date: 2022/03/22
Report #: R3150590
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C216421
Received: 2022/03/15, 11:20

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
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For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C216421
Report Date: 2022/03/22

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			AQB815		AQB816	AQB817	AQB818	AQB819		
Sampling Date			2022/03/14 13:51		2022/03/14 13:06	2022/03/14 13:41	2022/03/14 14:15	2022/03/14 12:47		
COC Number			39565		39566	39567	39568	39569		
	UNITS	**Criteria**	**H01 (39565)**	**QC Batch**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	0.816	A525849	0.543	0.414	0.516	0.484	0.0020	A525849
Misc. Inorganics										
pH	pH	6.5:9.0	6.74	A527513	7.00	6.84	6.85	7.00	N/A	A527513
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A528534	<0.050	<0.050	<0.050	<0.050	0.050	A528534
Nutrients										
Total Ammonia (N)	mg/L	-	0.17	A527263	0.042	0.12	0.12	0.055	0.015	A527259
Total Phosphorus (P)	mg/L	-	0.028	A530810	0.014	0.026	0.028	0.033	0.0030	A530810
Nitrate plus Nitrite (N)	mg/L	-	0.835	A527545	0.559	0.426	0.532	0.495	0.0020	A527545
Nitrite (N)	mg/L	0.06	0.0186	A527546	0.0153	0.0122	0.0165	0.0116	0.0020	A527546

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			AQB820	AQB821		AQB822	AQB823		
Sampling Date			2022/03/14 14:38	2022/03/14 08:54		2022/03/14 09:21	2022/03/14 17:50		
COC Number			3956A	3956D		3956D	3956B		
	UNITS	**Criteria**	**W01 (3956A)**	**D01 (3956D)**	**QC Batch**	**D02 (3956D)**	**F01 (3956B)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	0.691	0.693	A525849	0.696	0.427	0.0020	A525849
Misc. Inorganics									
pH	pH	6.5:9.0	6.94	7.27	A527513	7.67	7.49	N/A	A527513
Anions									
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	A528534	<0.050	<0.050	0.050	A528979
Nutrients									
Total Ammonia (N)	mg/L	-	0.12	0.036	A527259	0.019	0.055	0.015	A527259
Total Phosphorus (P)	mg/L	-	0.018	0.015	A530810	0.012	0.036	0.0030	A530810
Nitrate plus Nitrite (N)	mg/L	-	0.700	0.702	A527545	0.702	0.438	0.0020	A527545
Nitrite (N)	mg/L	0.06	0.0086	0.0087	A527546	0.0058	0.0112	0.0020	A527546

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C216421
Report Date: 2022/03/22

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			AQB824		AQB825	AQB826		
Sampling Date			2022/03/14 17:17		2022/03/14 17:32	2022/03/14 13:10		
COC Number			3956C		41C64	39566		
	UNITS	**Criteria**	**F02 (3956C)**	**QC Batch**	**F0F (41C64)**	**DUPLICATE (@H02)**	**RDL**	**QC Batch**
Calculated Parameters								
Nitrate (N)	mg/L	-	0.420	A525849	0.272	0.549	0.0020	A525849
Misc. Inorganics								
pH	pH	6.5:9.0	7.29	A527513	6.74	6.97	N/A	A527497
Anions								
Dissolved Fluoride (F)	mg/L	0.12	0.059	A528534	0.058	<0.050	0.050	A526420
Nutrients								
Total Ammonia (N)	mg/L	-	0.090	A527259	0.13	0.056	0.015	A527259
Total Phosphorus (P)	mg/L	-	0.022	A530810	0.069	0.014	0.0030	A530810
Nitrate plus Nitrite (N)	mg/L	-	0.425	A527545	0.281	0.563	0.0020	A526983
Nitrite (N)	mg/L	0.06	0.0045	A527546	0.0082	0.0140	0.0020	A526986

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			AQB827		AQB828		
Sampling Date			2022/03/14 13:10		2022/03/14 17:55		
COC Number			3AF04		3AF05		
	UNITS	**Criteria**	**TRIP BLANK (3AF04)**	**QC Batch**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters							
Nitrate (N)	mg/L	-	0.0028	A525849	0.0020	0.0020	A525849
Misc. Inorganics							
pH	pH	6.5:9.0	**6.20**	A527497	**5.78**	N/A	A527497
Anions							
Dissolved Fluoride (F)	mg/L	0.12	<0.050	A526420	<0.050	0.050	A526420
Nutrients							
Total Ammonia (N)	mg/L	-	<0.015	A527259	<0.015	0.015	A527259
Total Phosphorus (P)	mg/L	-	<0.0030	A530810	<0.0030	0.0030	A530810
Nitrate plus Nitrite (N)	mg/L	-	0.0028	A527562	0.0020	0.0020	A526983
Nitrite (N)	mg/L	0.06	<0.0020	A527565	<0.0020	0.0020	A526986

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C216421
Report Date: 2022/03/22

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AQB815	AQB816	AQB817	AQB818	AQB819	AQB820		
Sampling Date			2022/03/14 13:51	2022/03/14 13:06	2022/03/14 13:41	2022/03/14 14:15	2022/03/14 12:47	2022/03/14 14:38		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	30.2	37.7	23.5	20.1	35.2	39.5	0.50	A525839
Elements										
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A526818
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	354	171	277	329	608	107	3.0	A526820
Total Antimony (Sb)	ug/L	-	0.70	<0.50	0.63	0.65	<0.50	<0.50	0.50	A526820
Total Arsenic (As)	ug/L	5	0.51	0.60	0.49	0.53	0.60	0.75	0.10	A526820
Total Barium (Ba)	ug/L	-	11.8	8.3	8.8	13.9	14.4	18.8	1.0	A526820
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A526820
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A526820
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	<50	50	A526820
Total Cadmium (Cd)	ug/L	-	0.023	0.014	0.022	0.024	0.018	0.012	0.010	A526820
Total Chromium (Cr)	ug/L	-	1.4	<1.0	1.3	1.9	1.6	<1.0	1.0	A526820
Total Cobalt (Co)	ug/L	-	0.22	<0.20	<0.20	0.28	0.40	<0.20	0.20	A526820
Total Copper (Cu)	ug/L	-	6.96	3.06	5.79	6.32	3.21	1.67	0.50	A526820
Total Iron (Fe)	ug/L	300	**476 (1)**	251	**337**	**641**	**989**	**633**	10	A526820
Total Lead (Pb)	ug/L	-	1.19	0.38	0.85	1.76	0.67	0.40	0.20	A526820
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A526820
Total Manganese (Mn)	ug/L	-	16.0	18.9	13.2	37.5	67.3	44.4	1.0	A526820
Total Molybdenum (Mo)	ug/L	73	<1.0	1.6	1.3	<1.0	<1.0	<1.0	1.0	A526820
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	<1.0	1.1	1.3	<1.0	1.0	A526820
Total Selenium (Se)	ug/L	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A526820
Total Silicon (Si)	ug/L	-	3080 (1)	3420	2190	2770	4540	4260	100	A526820
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A526820
Total Strontium (Sr)	ug/L	-	43.1	48.6	33.9	51.7	56.3	75.8	1.0	A526820
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A526820
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A526820
Total Titanium (Ti)	ug/L	-	18.0	7.9	15.0	17.0	28.8	5.6	5.0	A526820
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A526820
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A526820
Total Zinc (Zn)	ug/L	30	**38.4**	20.4	**40.5**	**35.0**	12.5	10.6	5.0	A526820

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
(1) Matrix Spike outside acceptance criteria due to sample matrix interference.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C216421
Report Date: 2022/03/22

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AQB815	AQB816	AQB817	AQB818	AQB819	AQB820		
Sampling Date			2022/03/14 13:51	2022/03/14 13:06	2022/03/14 13:41	2022/03/14 14:15	2022/03/14 12:47	2022/03/14 14:38		
COC Number			39565	39566	39567	39568	39569	3956A		
	UNITS	**Criteria**	**H01 (39565)**	**H02 (39566)**	**H03 (39567)**	**B01 (39568)**	**B02 (39569)**	**W01 (3956A)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	0.39 (1)	0.14	0.28	0.34	0.21	0.13	0.10	A526820
Total Calcium (Ca)	mg/L	-	8.73	11.1	6.95	6.09	9.81	10.9	0.050	A525848
Total Magnesium (Mg)	mg/L	-	2.03	2.44	1.48	1.19	2.59	2.98	0.050	A525848
Total Potassium (K)	mg/L	-	0.655	0.843	0.676	0.588	0.669	0.852	0.050	A525848
Total Sodium (Na)	mg/L	-	10.3	7.49	8.73	10.5	6.10	37.0	0.050	A525848
Total Sulphur (S)	mg/L	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	3.0	A525848

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
(1) Matrix Spike outside acceptance criteria due to sample matrix interference.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C216421
Report Date: 2022/03/22

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AQB821	AQB822	AQB823	AQB824		AQB825		
Sampling Date			2022/03/14 08:54	2022/03/14 09:21	2022/03/14 17:50	2022/03/14 17:17		2022/03/14 17:32		
COC Number			3956D	3956D	3956B	3956C		41C64		
	UNITS	**Criteria**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**QC Batch**	**F0F (41C64)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	55.4	90.2	36.3	46.9	A525839	21.9	0.50	A525839
Elements										
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	<0.0019	A526818	0.0021	0.0019	A526346
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	127	64.7	532	309	A526820	1780	3.0	A526820
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	A526820	0.72	0.50	A526820
Total Arsenic (As)	ug/L	5	0.77	1.60	2.13	0.41	A526820	1.03	0.10	A526820
Total Barium (Ba)	ug/L	-	13.4	10.9	13.5	17.6	A526820	23.5	1.0	A526820
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	A526820	<0.10	0.10	A526820
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	A526820	<1.0	1.0	A526820
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	A526820	<50	50	A526820
Total Cadmium (Cd)	ug/L	-	0.012	<0.010	0.017	0.014	A526820	0.053	0.010	A526820
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	1.7	<1.0	A526820	3.5	1.0	A526820
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	0.31	0.21	A526820	1.00	0.20	A526820
Total Copper (Cu)	ug/L	-	1.34	<0.50	3.66	2.84	A526820	9.71	0.50	A526820
Total Iron (Fe)	ug/L	300	**427**	**521**	**934**	**579**	A526820	**2350**	10	A526820
Total Lead (Pb)	ug/L	-	<0.20	<0.20	0.46	0.34	A526820	3.33	0.20	A526820
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	A526820	<2.0	2.0	A526820
Total Manganese (Mn)	ug/L	-	52.6	119	73.0	36.0	A526820	71.2	1.0	A526820
Total Molybdenum (Mo)	ug/L	73	<1.0	<1.0	<1.0	<1.0	A526820	<1.0	1.0	A526820
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	1.0	<1.0	A526820	2.2	1.0	A526820
Total Selenium (Se)	ug/L	1	0.10	0.15	<0.10	<0.10	A526820	<0.10	0.10	A526820
Total Silicon (Si)	ug/L	-	5910	9910	2730	3150	A526820	3670	100	A526820
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	A526820	0.025	0.020	A526820
Total Strontium (Sr)	ug/L	-	86.9	136	55.3	76.2	A526820	32.6	1.0	A526820
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	A526820	<0.010	0.010	A526820
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	A526820	<5.0	5.0	A526820
Total Titanium (Ti)	ug/L	-	5.4	<5.0	21.9	13.8	A526820	50.1	5.0	A526820
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	A526820	<0.10	0.10	A526820
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	A526820	<5.0	5.0	A526820
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	12.4	9.0	A526820	**49.8**	5.0	A526820

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C216421
Report Date: 2022/03/22

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AQB821	AQB822	AQB823	AQB824		AQB825		
Sampling Date			2022/03/14 08:54	2022/03/14 09:21	2022/03/14 17:50	2022/03/14 17:17		2022/03/14 17:32		
COC Number			3956D	3956D	3956B	3956C		41C64		
	UNITS	**Criteria**	**D01 (3956D)**	**D02 (3956D)**	**F01 (3956B)**	**F02 (3956C)**	**QC Batch**	**F0F (41C64)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	0.14	0.12	A526820	0.32	0.10	A526820
Total Calcium (Ca)	mg/L	-	15.2	23.7	10.3	13.2	A525848	5.97	0.050	A525848
Total Magnesium (Mg)	mg/L	-	4.22	7.55	2.56	3.35	A525848	1.69	0.050	A525848
Total Potassium (K)	mg/L	-	1.18	1.19	0.845	1.46	A525848	0.610	0.050	A525848
Total Sodium (Na)	mg/L	-	9.25	7.79	7.63	15.8	A525848	6.58	0.050	A525848
Total Sulphur (S)	mg/L	-	3.3	3.6	<3.0	<3.0	A525848	<3.0	3.0	A525848

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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Report Date: 2022/03/22

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AQB826		AQB827	AQB828		
Sampling Date			2022/03/14 13:10		2022/03/14 13:10	2022/03/14 17:55		
COC Number			39566		3AF04	3AF05		
	UNITS	**Criteria**	**DUPLICATE (@H02)**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	-	36.3	A525839	<0.50	<0.50	0.50	A525839
Elements								
Total Mercury (Hg)	ug/L	0.026	<0.0019	A526346	<0.0019	<0.0019	0.0019	A526346
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	-	160	A526820	<3.0	<3.0	3.0	A526495
Total Antimony (Sb)	ug/L	-	<0.50	A526820	<0.50	<0.50	0.50	A526495
Total Arsenic (As)	ug/L	5	0.54	A526820	<0.10	<0.10	0.10	A526495
Total Barium (Ba)	ug/L	-	7.9	A526820	<1.0	<1.0	1.0	A526495
Total Beryllium (Be)	ug/L	-	<0.10	A526820	<0.10	<0.10	0.10	A526495
Total Bismuth (Bi)	ug/L	-	<1.0	A526820	<1.0	<1.0	1.0	A526495
Total Boron (B)	ug/L	1500	<50	A526820	<50	<50	50	A526495
Total Cadmium (Cd)	ug/L	-	0.014	A526820	<0.010	<0.010	0.010	A526495
Total Chromium (Cr)	ug/L	-	<1.0	A526820	<1.0	<1.0	1.0	A526495
Total Cobalt (Co)	ug/L	-	<0.20	A526820	<0.20	<0.20	0.20	A526495
Total Copper (Cu)	ug/L	-	2.90	A526820	<0.50	<0.50	0.50	A526495
Total Iron (Fe)	ug/L	300	234	A526820	<10	<10	10	A526495
Total Lead (Pb)	ug/L	-	0.37	A526820	<0.20	<0.20	0.20	A526495
Total Lithium (Li)	ug/L	-	<2.0	A526820	<2.0	<2.0	2.0	A526495
Total Manganese (Mn)	ug/L	-	18.2	A526820	<1.0	<1.0	1.0	A526495
Total Molybdenum (Mo)	ug/L	73	2.9	A526820	<1.0	<1.0	1.0	A526495
Total Nickel (Ni)	ug/L	-	<1.0	A526820	<1.0	<1.0	1.0	A526495
Total Selenium (Se)	ug/L	1	<0.10	A526820	<0.10	<0.10	0.10	A526495
Total Silicon (Si)	ug/L	-	3260	A526820	<100	<100	100	A526495
Total Silver (Ag)	ug/L	0.25	<0.020	A526820	<0.020	<0.020	0.020	A526495
Total Strontium (Sr)	ug/L	-	47.5	A526820	<1.0	<1.0	1.0	A526495
Total Thallium (Tl)	ug/L	0.8	<0.010	A526820	<0.010	<0.010	0.010	A526495
Total Tin (Sn)	ug/L	-	<5.0	A526820	<5.0	<5.0	5.0	A526495
Total Titanium (Ti)	ug/L	-	7.2	A526820	<5.0	<5.0	5.0	A526495
Total Uranium (U)	ug/L	15	<0.10	A526820	<0.10	<0.10	0.10	A526495
Total Vanadium (V)	ug/L	-	<5.0	A526820	<5.0	<5.0	5.0	A526495
Total Zinc (Zn)	ug/L	30	20.3	A526820	<5.0	<5.0	5.0	A526495

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

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CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			AQB826		AQB827	AQB828		
Sampling Date			2022/03/14 13:10		2022/03/14 13:10	2022/03/14 17:55		
COC Number			39566		3AF04	3AF05		
	UNITS	**Criteria**	**DUPLICATE (@H02)**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	0.23	A526820	<0.10	<0.10	0.10	A526495
Total Calcium (Ca)	mg/L	-	10.6	A525848	<0.050	<0.050	0.050	A525848
Total Magnesium (Mg)	mg/L	-	2.40	A525848	<0.050	<0.050	0.050	A525848
Total Potassium (K)	mg/L	-	0.822	A525848	<0.050	<0.050	0.050	A525848
Total Sodium (Na)	mg/L	-	7.30	A525848	<0.050	<0.050	0.050	A525848
Total Sulphur (S)	mg/L	-	<3.0	A525848	<3.0	<3.0	3.0	A525848

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

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GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C216421
Report Date: 2022/03/22

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A526346	Total Mercury (Hg)	2022/03/15	96	80 - 120	93	80 - 120	<0.0019	ug/L	NC	20		
A526420	Dissolved Fluoride (F)	2022/03/15	106	80 - 120	100	80 - 120	<0.050	mg/L	NC	20		
A526495	Total Aluminum (Al)	2022/03/16	101	80 - 120	106	80 - 120	<3.0	ug/L	NC	20		
A526495	Total Antimony (Sb)	2022/03/16	102	80 - 120	113	80 - 120	<0.50	ug/L	NC	20		
A526495	Total Arsenic (As)	2022/03/16	102	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A526495	Total Barium (Ba)	2022/03/16	97	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A526495	Total Beryllium (Be)	2022/03/16	105	80 - 120	109	80 - 120	<0.10	ug/L	NC	20		
A526495	Total Bismuth (Bi)	2022/03/16	79 (1)	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A526495	Total Boron (B)	2022/03/16	104	80 - 120	111	80 - 120	<50	ug/L	NC	20		
A526495	Total Cadmium (Cd)	2022/03/16	98	80 - 120	102	80 - 120	<0.010	ug/L	NC	20		
A526495	Total Chromium (Cr)	2022/03/16	96	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A526495	Total Cobalt (Co)	2022/03/16	96	80 - 120	102	80 - 120	<0.20	ug/L	NC	20		
A526495	Total Copper (Cu)	2022/03/16	93	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
A526495	Total Iron (Fe)	2022/03/16	100	80 - 120	107	80 - 120	<10	ug/L	NC	20		
A526495	Total Lead (Pb)	2022/03/16	98	80 - 120	105	80 - 120	<0.20	ug/L	NC	20		
A526495	Total Lithium (Li)	2022/03/16	104	80 - 120	104	80 - 120	<2.0	ug/L	NC	20		
A526495	Total Manganese (Mn)	2022/03/16	96	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A526495	Total Molybdenum (Mo)	2022/03/16	100	80 - 120	112	80 - 120	<1.0	ug/L	NC	20		
A526495	Total Nickel (Ni)	2022/03/16	94	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
A526495	Total Selenium (Se)	2022/03/16	100	80 - 120	108	80 - 120	<0.10	ug/L	NC	20		
A526495	Total Silicon (Si)	2022/03/16	119	80 - 120	120	80 - 120	<100	ug/L	NC	20		
A526495	Total Silver (Ag)	2022/03/16	93	80 - 120	100	80 - 120	<0.020	ug/L	NC	20		
A526495	Total Strontium (Sr)	2022/03/16	102	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A526495	Total Thallium (Tl)	2022/03/16	97	80 - 120	104	80 - 120	<0.010	ug/L	NC	20		
A526495	Total Tin (Sn)	2022/03/16	90	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A526495	Total Titanium (Ti)	2022/03/16	99	80 - 120	108	80 - 120	<5.0	ug/L	NC	20		
A526495	Total Uranium (U)	2022/03/16	99	80 - 120	106	80 - 120	<0.10	ug/L	NC	20		
A526495	Total Vanadium (V)	2022/03/16	96	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
A526495	Total Zinc (Zn)	2022/03/16	101	80 - 120	112	80 - 120	<5.0	ug/L	NC	20		
A526495	Total Zirconium (Zr)	2022/03/16	106	80 - 120	118	80 - 120	<0.10	ug/L	NC	20		
A526818	Total Mercury (Hg)	2022/03/16	98	80 - 120	96	80 - 120	<0.0019	ug/L	NC	20		
A526820	Total Aluminum (Al)	2022/03/17	119	80 - 120	107	80 - 120	<3.0	ug/L	4.0	20		

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QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A526820	Total Antimony (Sb)	2022/03/17	106	80 - 120	104	80 - 120	<0.50	ug/L	4.0	20		
A526820	Total Arsenic (As)	2022/03/17	109	80 - 120	107	80 - 120	<0.10	ug/L	1.7	20		
A526820	Total Barium (Ba)	2022/03/17	106	80 - 120	103	80 - 120	<1.0	ug/L	3.2	20		
A526820	Total Beryllium (Be)	2022/03/17	108	80 - 120	107	80 - 120	<0.10	ug/L	NC	20		
A526820	Total Bismuth (Bi)	2022/03/17	105	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A526820	Total Boron (B)	2022/03/17	111	80 - 120	107	80 - 120	<50	ug/L	NC	20		
A526820	Total Cadmium (Cd)	2022/03/17	105	80 - 120	104	80 - 120	<0.010	ug/L	1.9	20		
A526820	Total Chromium (Cr)	2022/03/17	97	80 - 120	97	80 - 120	<1.0	ug/L	0.53	20		
A526820	Total Cobalt (Co)	2022/03/17	96	80 - 120	97	80 - 120	<0.20	ug/L	0.53	20		
A526820	Total Copper (Cu)	2022/03/17	94	80 - 120	96	80 - 120	<0.50	ug/L	1.9	20		
A526820	Total Iron (Fe)	2022/03/17	123 (2)	80 - 120	103	80 - 120	<10	ug/L	0.55	20		
A526820	Total Lead (Pb)	2022/03/17	107	80 - 120	105	80 - 120	<0.20	ug/L	3.0	20		
A526820	Total Lithium (Li)	2022/03/17	110	80 - 120	110	80 - 120	<2.0	ug/L	NC	20		
A526820	Total Manganese (Mn)	2022/03/17	104	80 - 120	103	80 - 120	<1.0	ug/L	1.9	20		
A526820	Total Molybdenum (Mo)	2022/03/17	110	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
A526820	Total Nickel (Ni)	2022/03/17	99	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A526820	Total Selenium (Se)	2022/03/17	104	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A526820	Total Silicon (Si)	2022/03/17	127 (2)	80 - 120	118	80 - 120	<100	ug/L	3.5	20		
A526820	Total Silver (Ag)	2022/03/17	102	80 - 120	100	80 - 120	<0.020	ug/L	NC	20		
A526820	Total Strontium (Sr)	2022/03/17	115	80 - 120	108	80 - 120	<1.0	ug/L	1.0	20		
A526820	Total Thallium (Tl)	2022/03/17	106	80 - 120	104	80 - 120	<0.010	ug/L	NC	20		
A526820	Total Tin (Sn)	2022/03/17	102	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A526820	Total Titanium (Ti)	2022/03/17	117	80 - 120	105	80 - 120	<5.0	ug/L	0.20	20		
A526820	Total Uranium (U)	2022/03/17	110	80 - 120	108	80 - 120	<0.10	ug/L	NC	20		
A526820	Total Vanadium (V)	2022/03/17	102	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A526820	Total Zinc (Zn)	2022/03/17	101	80 - 120	102	80 - 120	<5.0	ug/L	1.4	20		
A526820	Total Zirconium (Zr)	2022/03/17	128 (2)	80 - 120	106	80 - 120	<0.10	ug/L	6.9	20		
A526983	Nitrate plus Nitrite (N)	2022/03/15	NC	80 - 120	107	80 - 120	<0.0020	mg/L	0.48	25		
A526986	Nitrite (N)	2022/03/15	107	80 - 120	101	80 - 120	<0.0020	mg/L	1.4	25		
A527259	Total Ammonia (N)	2022/03/16	97	80 - 120	97	80 - 120	<0.015	mg/L	NC	20		
A527263	Total Ammonia (N)	2022/03/16	NC	80 - 120	96	80 - 120	<0.015	mg/L	3.3	20		
A527497	pH	2022/03/15			102	97 - 103			0.44	N/A		

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QUALITY ASSURANCE REPORT(CONT'D)

CITY OF ABBOTSFORD
Client Project #: BEVAN #1 CREEK WATER QUALITY
Sampler Initials: SR

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A527513	pH	2022/03/16			101	97 - 103			1.2	N/A		
A527545	Nitrate plus Nitrite (N)	2022/03/16			105	80 - 120	<0.0020	mg/L				
A527546	Nitrite (N)	2022/03/16			100	80 - 120	<0.0020	mg/L				
A527562	Nitrate plus Nitrite (N)	2022/03/16			108	80 - 120	<0.0020	mg/L				
A527565	Nitrite (N)	2022/03/16			100	80 - 120	<0.0020	mg/L				
A528534	Dissolved Fluoride (F)	2022/03/17	110	80 - 120	104	80 - 120	<0.050	mg/L	0	20		
A528979	Dissolved Fluoride (F)	2022/03/17			102	80 - 120	<0.050	mg/L				
A530810	Total Phosphorus (P)	2022/03/21	91	80 - 120	86	80 - 120	<0.0030	mg/L	4.2	20	91	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Matrix Spike outside acceptance criteria (10% of analytes failure allowed).

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Sze Yeung Fock, B.Sc., Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193	Bureau Veritas Job #	Bottle Order #:
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #			658747
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality	Chain Of Custody Record	Project Manager
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name		C#658747-01-01	Customer Solutions
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #			
				Sampled By			

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Tumaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for it)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		H01 (39565)	14-03-22	13:51	water		X	X	X	X	X	X	X	X			5	
2		H02 (39566)		13:06			X	X	X	X	X	X	X	X				
3		H03 (39567)		13:41			X	X	X	X	X	X	X	X				
4		B01 (39568)		14:15			X	X	X	X	X	X	X	X				
5		B02 (39569)		12:47			X	X	X	X	X	X	X	X				
6		W01 (3956A)		14:38			X	X	X	X	X	X	X	X				
7		D01 (3956D)	~~14-03-22~~	8:54			X	X	X	X	X	X	X	X				labelled w/ marker & ~~tape~~ grouped in ziplock bags w/c labels are unsticking / rubbing off (D02 & D03 only)
8		D02 (3956D)		9:21			X	X	X	X	X	X	X	X				
9		F01 (3956B)		17:50			X	X	X	X	X	X	X	X				
10		F02 (3956C)		17:17			X	X	X	X	X	X	X	X				

C216421_COC

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Emma Emmerson	2022/03/14	19:45	SALLY SEY	2022/03/15	08:00		[ ]	6, 7, 7	[ ] Yes [x] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

cooling media: yes 5, 3, 7

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvna.com

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193	Bureau Veritas Job #	Bottle Order #: 658747
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #			
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality		
				Project Name		Chain Of Custody Record	Project Manager
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Site #		C#658747-02-01	Customer Solutions
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Sampled By			

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions:

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) [ ]
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	14-03-22	17:32	water		X	X	X	X	X	X	X	X			5	
2		DUPLICATE (@HQ)	↓	13:10	↓		X	X	X	X	X	X	X	X			↓	
3		TRIP BLANK (3AF04)	↓	—	↓		X	X	X	X	X	X	X	X			↓	
4		FIELD BLANK (3AF05)	↓	17:55	↓		X	X	X	X	X	X	X	X			↓	
5																		
6																		
7																		
8																		
9																		
10																		

C216421_COC

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[illegible]	14 Mar	19:45	[illegible] SALLY SOI	2022/03/15	08:00		[ ]	6, 7, 7	[ ] Yes [X] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

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Cooling media: Yes 5, 3, 7

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 660838-01-01, 39566, 39569, 3956D

Report Date: 2022/04/25
Report #: R3164777
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C225578
Received: 2022/04/20, 08:00

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	4	N/A	2022/04/21	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	4	N/A	2022/04/22	BBY WI-00033	Auto Calc
Mercury (Total) by CV	4	2022/04/20	2022/04/20	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	4	2022/04/20	2022/04/22	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	4	2022/04/21	2022/04/21	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	4	N/A	2022/04/22	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	4	N/A	2022/04/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	4	N/A	2022/04/20	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	4	N/A	2022/04/21	BBY WI-00033	Auto Calc
pH @25°C (3)	4	N/A	2022/04/20	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	4	2022/04/23	2022/04/25	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 660838-01-01, 39566, 39569, 3956D

Report Date: 2022/04/25
Report #: R3164777
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C225578
Received: 2022/04/20, 08:00

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C225578
Report Date: 2022/04/25

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ART708		ART709		ART710		ART711		
Sampling Date			2022/04/19 15:45		2022/04/19 16:02		2022/04/19 10:49		2022/04/19 11:49		
COC Number			39566		39569		3956D		3956D		
	UNITS	**Criteria**	**H02 (39566)**	**RDL**	**B02(39569)**	**RDL**	**D01(3956D)**	**QC Batch**	**D02(3956D)**	**RDL**	**QC Batch**
Calculated Parameters											
Nitrate (N)	mg/L	-	0.851	0.0020	0.470	0.0020	0.908	A555881	0.805	0.0020	A555881
Misc. Inorganics											
pH	pH	6.5:9.0	7.36	N/A	7.04	N/A	7.63	A557556	7.56	N/A	A557561
Anions											
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	<0.050	0.050	<0.050	A557049	<0.050	0.050	A557049
Nutrients											
Total Ammonia (N)	mg/L	-	0.078	0.015	0.23	0.015	<0.015	A558532	<0.015	0.015	A558532
Total Phosphorus (P)	mg/L	-	0.019	0.0030	0.072 (1)	0.030	0.0090	A558802	0.012	0.0030	A558802
Nitrate plus Nitrite (N)	mg/L	-	0.868	0.0020	0.488	0.0020	0.912	A556382	0.808	0.0020	A556382
Nitrite (N)	mg/L	0.06	0.0167	0.0020	0.0183	0.0020	0.0038	A556417	0.0035	0.0020	A556417

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ART708	ART709	ART710	ART711		
Sampling Date			2022/04/19 15:45	2022/04/19 16:02	2022/04/19 10:49	2022/04/19 11:49		
COC Number			39566	39569	3956D	3956D		
	UNITS	**Criteria**	**H02 (39566)**	**B02(39569)**	**D01(3956D)**	**D02(3956D)**	**RDL**	**QC Batch**
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	-	61.7	30.8	76.6	106	0.50	A555879
Elements								
Total Mercury (Hg)	ug/L	0.026	<0.0019	0.0027	<0.0019	<0.0019	0.0019	A555416
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	-	172	1110	52.5	34.6	3.0	A556677
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	0.50	A556677
Total Arsenic (As)	ug/L	5	0.77	1.28	0.80	1.56	0.10	A556677
Total Barium (Ba)	ug/L	-	11.7	17.7	14.9	13.0	1.0	A556677
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	0.10	A556677
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	1.0	A556677
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	50	A556677
Total Cadmium (Cd)	ug/L	-	<0.010	0.032	<0.010	<0.010	0.010	A556677
Total Chromium (Cr)	ug/L	-	<1.0	3.0	<1.0	<1.0	1.0	A556677
Total Cobalt (Co)	ug/L	-	<0.20	0.72	<0.20	<0.20	0.20	A556677
Total Copper (Cu)	ug/L	-	4.09	6.07	0.88	<0.50	0.50	A556677
Total Iron (Fe)	ug/L	300	**315**	**2140**	**331**	**486**	10	A556677
Total Lead (Pb)	ug/L	-	0.53	2.28	<0.20	<0.20	0.20	A556677
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	2.0	A556677
Total Manganese (Mn)	ug/L	-	27.4	106	64.0	141	1.0	A556677
Total Molybdenum (Mo)	ug/L	73	7.5	<1.0	<1.0	<1.0	1.0	A556677
Total Nickel (Ni)	ug/L	-	<1.0	2.4	<1.0	<1.0	1.0	A556677
Total Selenium (Se)	ug/L	1	0.11	<0.10	0.15	0.21	0.10	A556677
Total Silicon (Si)	ug/L	-	5830	4240	8340	12000	100	A556677
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	0.020	A556677
Total Strontium (Sr)	ug/L	-	84.0	47.9	124	161	1.0	A556677
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	0.010	A556677
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	5.0	A556677
Total Titanium (Ti)	ug/L	-	8.7	49.9	<5.0	<5.0	5.0	A556677
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	0.10	A556677
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	5.0	A556677
Total Zinc (Zn)	ug/L	30	18.1	24.5	<5.0	<5.0	5.0	A556677
Total Zirconium (Zr)	ug/L	-	1.26	0.32	<0.10	<0.10	0.10	A556677

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ART708	ART709	ART710	ART711		
Sampling Date			2022/04/19 15:45	2022/04/19 16:02	2022/04/19 10:49	2022/04/19 11:49		
COC Number			39566	39569	3956D	3956D		
	UNITS	**Criteria**	**H02 (39566)**	**B02(39569)**	**D01(3956D)**	**D02(3956D)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	-	18.3	8.64	20.9	28.4	0.050	A555880
Total Magnesium (Mg)	mg/L	-	3.85	2.24	5.90	8.51	0.050	A555880
Total Potassium (K)	mg/L	-	1.17	0.834	1.33	1.25	0.050	A555880
Total Sodium (Na)	mg/L	-	7.72	4.53	10.2	8.85	0.050	A555880
Total Sulphur (S)	mg/L	-	3.5	<3.0	4.1	4.1	3.0	A555880

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C225578
Report Date: 2022/04/25

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A555416	Total Mercury (Hg)	2022/04/20	82	80 - 120	104	80 - 120	<0.0019	ug/L	NC	20		
A556382	Nitrate plus Nitrite (N)	2022/04/20	105	80 - 120	106	80 - 120	<0.0020	mg/L	NC	25		
A556417	Nitrite (N)	2022/04/20	103	80 - 120	104	80 - 120	<0.0020	mg/L	NC	25		
A556677	Total Aluminum (Al)	2022/04/21	101	80 - 120	101	80 - 120	<3.0	ug/L	2.0	20		
A556677	Total Antimony (Sb)	2022/04/21	103	80 - 120	104	80 - 120	<0.50	ug/L	3.8	20		
A556677	Total Arsenic (As)	2022/04/21	105	80 - 120	104	80 - 120	<0.10	ug/L	0.53	20		
A556677	Total Barium (Ba)	2022/04/21	107	80 - 120	103	80 - 120	<1.0	ug/L	1.0	20		
A556677	Total Beryllium (Be)	2022/04/21	98	80 - 120	98	80 - 120	<0.10	ug/L	NC	20		
A556677	Total Bismuth (Bi)	2022/04/21	103	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
A556677	Total Boron (B)	2022/04/21	97	80 - 120	94	80 - 120	<50	ug/L	NC	20		
A556677	Total Cadmium (Cd)	2022/04/21	102	80 - 120	102	80 - 120	<0.010	ug/L	8.1	20		
A556677	Total Chromium (Cr)	2022/04/21	101	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A556677	Total Cobalt (Co)	2022/04/21	96	80 - 120	96	80 - 120	<0.20	ug/L	4.1	20		
A556677	Total Copper (Cu)	2022/04/21	94	80 - 120	95	80 - 120	<0.50	ug/L	20	20		
A556677	Total Iron (Fe)	2022/04/21	NC	80 - 120	98	80 - 120	<10	ug/L	3.5	20		
A556677	Total Lead (Pb)	2022/04/21	100	80 - 120	99	80 - 120	<0.20	ug/L	7.2	20		
A556677	Total Lithium (Li)	2022/04/21	95	80 - 120	95	80 - 120	<2.0	ug/L	4.6	20		
A556677	Total Manganese (Mn)	2022/04/21	100	80 - 120	101	80 - 120	<1.0	ug/L	4.8	20		
A556677	Total Molybdenum (Mo)	2022/04/21	111	80 - 120	109	80 - 120	<1.0	ug/L	4.6	20		
A556677	Total Nickel (Ni)	2022/04/21	98	80 - 120	99	80 - 120	<1.0	ug/L	19	20		
A556677	Total Selenium (Se)	2022/04/21	102	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A556677	Total Silicon (Si)	2022/04/21	116	80 - 120	120	80 - 120	<100	ug/L	4.6	20		
A556677	Total Silver (Ag)	2022/04/21	101	80 - 120	102	80 - 120	<0.020	ug/L	NC	20		
A556677	Total Strontium (Sr)	2022/04/21	109	80 - 120	107	80 - 120	<1.0	ug/L	1.2	20		
A556677	Total Thallium (Tl)	2022/04/21	104	80 - 120	102	80 - 120	<0.010	ug/L	NC	20		
A556677	Total Tin (Sn)	2022/04/21	104	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
A556677	Total Titanium (Ti)	2022/04/21	102	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
A556677	Total Uranium (U)	2022/04/21	115	80 - 120	115	80 - 120	<0.10	ug/L	NC	20		
A556677	Total Vanadium (V)	2022/04/21	102	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
A556677	Total Zinc (Zn)	2022/04/21	96	80 - 120	98	80 - 120	<5.0	ug/L	2.9	20		
A556677	Total Zirconium (Zr)	2022/04/21	110	80 - 120	107	80 - 120	<0.10	ug/L	8.8	20		
A557049	Dissolved Fluoride (F)	2022/04/21	89	80 - 120	106	80 - 120	<0.050	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A557556	pH	2022/04/20			101	97 - 103			0.14	N/A		
A557561	pH	2022/04/20			101	97 - 103			0.13	N/A		
A558532	Total Ammonia (N)	2022/04/22	NC	80 - 120	104	80 - 120	<0.015	mg/L	0.11	20		
A558802	Total Phosphorus (P)	2022/04/25	103	80 - 120	97	80 - 120	<0.0030	mg/L	NC	20	90	80 - 120

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

Page 1 of 1

C225578_COC

Bottle Order #: 660838

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY	Address	32315 SOUTH FRASER WAY	Project #	Bevan #1 Creek Water Quality
	ABBOTSFORD BC V2T 1W7		ABBOTSFORD BC V2T 1W7	Project Name	
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Site #	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Sampled By	

Chain Of Custody Record: C660838-01-01

Project Manager: Customer Solutions

Regulatory Criteria: ☐ CSR ☐ CCME ☐ BC Water Quality ☐ Other

Special Instructions:

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☐
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission): 1 DAY ☐ 2 Day ☐ 3 Day ☐ Date Required: ☐
Rush Confirmation Number: (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		~~H01 (39565)~~					X	X	X	X	X	X	X	X				
2		H02 (39566)	19 Apr	15:45	water		X	X	X	X	X	X	X	X			5	
3		~~H03 (39567)~~					X	X	X	X	X	X	X	X				
4		~~B01 (39568)~~					X	X	X	X	X	X	X	X				
5		B02 (39569)	19 Apr	16:02	"		X	X	X	X	X	X	X	X			"	
6		~~W01 (3956A)~~					X	X	X	X	X	X	X	X				
7		D01 (3956D)	19 Apr	10:49	"		X	X	X	X	X	X	X	X			"	
8		D02 (3956D)	19 Apr	11:49	"		X	X	X	X	X	X	X	X			"	
9		~~F01 (3956B)~~					X	X	X	X	X	X	X	X				
10		~~F02 (3956C)~~					X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[illegible]	27/04/19	18:30	[illegible] SALLY SEY	2019/04/26	08:00		☐	8, 6, 7	☐ Yes ☒ No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. ICE PACKS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 660838-02-01, 41C64, 3AF04, 3AF05, 39565, 39567, 39568, 3956A, 3956B, 3956C

Report Date: 2022/04/29
Report #: R3166926
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C225938
Received: 2022/04/20, 17:33

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Fluoride	10	N/A	2022/04/23	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO3) (2)	10	N/A	2022/04/25	BBY WI-00033	Auto Calc
Mercury (Total) by CV	10	2022/04/21	2022/04/21	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	10	2022/04/21	2022/04/25	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	8	2022/04/21	2022/04/22	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Elements by CRC ICPMS (total)	2	2022/04/22	2022/04/23	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Ammonia-N (Total)	10	N/A	2022/04/22	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate+Nitrite (N) (low level)	9	N/A	2022/04/21	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrate+Nitrite (N) (low level)	1	N/A	2022/04/28	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) (low level)	10	N/A	2022/04/21	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	10	N/A	2022/04/22	BBY WI-00033	Auto Calc
pH @25°C (3)	10	N/A	2022/04/21	BBY6SOP-00026	SM 23 4500-H+ B m
Total Phosphorus (1)	10	2022/04/26	2022/04/28	AB SOP-00024	SM 23 4500-P A,B,F m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless

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Your Project #: Bevan #1 Creek Water Quality

Attention: Amy Peters

CITY OF ABBOTSFORD
CITYOABB-ABB
32315 SOUTH FRASER WAY
ABBOTSFORD, BC
Canada V2T 1W7

Your C.O.C. #: 660838-02-01, 41C64, 3AF04, 3AF05, 39565, 39567, 39568, 3956A, 3956B, 3956C

Report Date: 2022/04/29
Report #: R3166926
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C225938
Received: 2022/04/20, 17:33

otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276
==========
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Bureau Veritas Job #: C225938
Report Date: 2022/04/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ARV125		ARV126			ARV127		
Sampling Date			2022/04/20 14:50		2022/04/20 09:25			2022/04/20 17:33		
COC Number			41C64		660838-02-01			3AF04		
	UNITS	**Criteria**	**F0F (41C64)**	**RDL**	**DUPLICATE**	**RDL**	**QC Batch**	**TRIP BLANK (3AF04)**	**RDL**	**QC Batch**
Calculated Parameters										
Nitrate (N)	mg/L	-	0.337	0.0020	2.47	0.0040	A556882	<0.0020	0.0020	A556882
Misc. Inorganics										
pH	pH	6.5:9.0	7.20	N/A	7.29	N/A	A558613	6.77	N/A	A558613
Anions										
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	<0.050	0.050	A558942	<0.050	0.050	A558942
Nutrients										
Total Ammonia (N)	mg/L	-	0.056	0.015	0.073	0.015	A558536	<0.015	0.015	A558536
Total Phosphorus (P)	mg/L	-	0.016	0.0030	0.014	0.0030	A560386	<0.0030	0.0030	A560386
Nitrate plus Nitrite (N)	mg/L	-	0.343	0.0020	2.47	0.0040	A558118	<0.0020	0.0020	A564113
Nitrite (N)	mg/L	0.06	0.0062	0.0020	0.0045	0.0020	A558120	<0.0020	0.0020	A558120

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID			ARV128		ARV129		ARV130		
Sampling Date			2022/04/20 09:15		2022/04/20 10:10		2022/04/20 09:02		
COC Number			3AF05		39565		39567		
	UNITS	**Criteria**	**FIELD BLANK (3AF05)**	**RDL**	**H01 (39565)**	**QC Batch**	**H03 (39567)**	**RDL**	**QC Batch**
Calculated Parameters									
Nitrate (N)	mg/L	-	<0.0020	0.0020	2.91	A556882	2.51	0.0040	A556882
Misc. Inorganics									
pH	pH	6.5:9.0	**5.78**	N/A	6.89	A558613	7.25	N/A	A558613
Anions									
Dissolved Fluoride (F)	mg/L	0.12	<0.050	0.050	<0.050	A558942	<0.050	0.050	A558942
Nutrients									
Total Ammonia (N)	mg/L	-	<0.015	0.015	<0.015	A558536	0.020	0.015	A558536
Total Phosphorus (P)	mg/L	-	<0.0030	0.0030	0.0086	A560386	0.012	0.0030	A560386
Nitrate plus Nitrite (N)	mg/L	-	<0.0020	0.0020	2.91	A558118	2.52	0.0040	A558121
Nitrite (N)	mg/L	0.06	<0.0020	0.0020	<0.0020	A558120	0.0054	0.0020	A558123

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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Bureau Veritas Job #: C225938
Report Date: 2022/04/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			ARV131	ARV132	ARV133	ARV134		
Sampling Date			2022/04/20 11:14	2022/04/20 12:29	2022/04/20 14:15	2022/04/20 15:00		
COC Number			39568	3956A	3956B	3956C		
	UNITS	**Criteria**	**B01 (39568)**	**W01 (3956A)**	**F01 (3956B)**	**F02 (3956C)**	**RDL**	**QC Batch**
Calculated Parameters								
Nitrate (N)	mg/L	-	1.65	1.13	0.629	0.182	0.0020	A556882
Misc. Inorganics								
pH	pH	6.5:9.0	7.16	7.30	7.73	7.50	N/A	A558613
Anions								
Dissolved Fluoride (F)	mg/L	0.12	<0.050	<0.050	<0.050	0.052	0.050	A558942
Nutrients								
Total Ammonia (N)	mg/L	-	0.073	0.067	0.034	<0.015	0.015	A558536
Total Phosphorus (P)	mg/L	-	0.017	0.017	0.016	0.011	0.0030	A560386
Nitrate plus Nitrite (N)	mg/L	-	1.66	1.14	0.638	0.184	0.0020	A558121
Nitrite (N)	mg/L	0.06	0.0103	0.0079	0.0088	0.0020	0.0020	A558123

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
N/A = Not Applicable

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Bureau Veritas Job #: C225938
Report Date: 2022/04/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ARV125	ARV126		ARV127	ARV128		
Sampling Date			2022/04/20 14:50	2022/04/20 09:25		2022/04/20 17:33	2022/04/20 09:15		
COC Number			41C64	660838-02-01		3AF04	3AF05		
	UNITS	**Criteria**	**F0F (41C64)**	**DUPLICATE**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	65.3	96.9	A556880	<0.50	<0.50	0.50	A556880
Elements									
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	A557188	<0.0019	<0.0019	0.0019	A557188
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	64.0	32.1	A557288	<3.0	<3.0	3.0	A558450
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	A557288	<0.50	<0.50	0.50	A558450
Total Arsenic (As)	ug/L	5	1.03	0.47	A557288	<0.10	<0.10	0.10	A558450
Total Barium (Ba)	ug/L	-	18.2	17.6	A557288	<1.0	<1.0	1.0	A558450
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	A557288	<0.10	<0.10	0.10	A558450
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	A557288	<1.0 (1)	<1.0	1.0	A558450
Total Boron (B)	ug/L	1500	<50	<50	A557288	<50	<50	50	A558450
Total Cadmium (Cd)	ug/L	-	<0.010	0.025	A557288	<0.010	<0.010	0.010	A558450
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	A557288	<1.0	<1.0	1.0	A558450
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	A557288	<0.20	<0.20	0.20	A558450
Total Copper (Cu)	ug/L	-	2.07	1.62	A557288	<0.50	<0.50	0.50	A558450
Total Iron (Fe)	ug/L	300	**749**	81	A557288	<10	<10	10	A558450
Total Lead (Pb)	ug/L	-	<0.20	<0.20	A557288	<0.20	<0.20	0.20	A558450
Total Lithium (Li)	ug/L	-	<2.0	<2.0	A557288	<2.0	<2.0	2.0	A558450
Total Manganese (Mn)	ug/L	-	113	14.9	A557288	<1.0	<1.0	1.0	A558450
Total Molybdenum (Mo)	ug/L	73	<1.0	54.4	A557288	<1.0	<1.0	1.0	A558450
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	A557288	<1.0	<1.0	1.0	A558450
Total Selenium (Se)	ug/L	1	<0.10	0.15	A557288	<0.10	<0.10	0.10	A558450
Total Silicon (Si)	ug/L	-	2100	8370	A557288	<100	<100	100	A558450
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	A557288	<0.020	<0.020	0.020	A558450
Total Strontium (Sr)	ug/L	-	108	155	A557288	<1.0	<1.0	1.0	A558450
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	A557288	<0.010	<0.010	0.010	A558450
Total Tin (Sn)	ug/L	-	<5.0	<5.0	A557288	<5.0	<5.0	5.0	A558450
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	A557288	<5.0	<5.0	5.0	A558450
Total Uranium (U)	ug/L	15	<0.10	<0.10	A557288	<0.10	<0.10	0.10	A558450
Total Vanadium (V)	ug/L	-	<5.0	<5.0	A557288	<5.0	<5.0	5.0	A558450
Total Zinc (Zn)	ug/L	30	7.4	24.6	A557288	<5.0	<5.0	5.0	A558450

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

(1) Matrix Spike for (Bismuth) outside acceptance criteria. Re-analysis yields similar results.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C225938
Report Date: 2022/04/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ARV125	ARV126		ARV127	ARV128		
Sampling Date			2022/04/20 14:50	2022/04/20 09:25		2022/04/20 17:33	2022/04/20 09:15		
COC Number			41C64	660838-02-01		3AF04	3AF05		
	UNITS	**Criteria**	**F0F (41C64)**	**DUPLICATE**	**QC Batch**	**TRIP BLANK (3AF04)**	**FIELD BLANK (3AF05)**	**RDL**	**QC Batch**
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	A557288	<0.10	<0.10	0.10	A558450
Total Calcium (Ca)	mg/L	-	18.2	28.2	A556881	<0.050	<0.050	0.050	A556881
Total Magnesium (Mg)	mg/L	-	4.82	6.44	A556881	<0.050	<0.050	0.050	A556881
Total Potassium (K)	mg/L	-	1.40	1.80	A556881	<0.050	<0.050	0.050	A556881
Total Sodium (Na)	mg/L	-	13.7	16.4	A556881	<0.050	<0.050	0.050	A556881
Total Sulphur (S)	mg/L	-	3.3	4.9	A556881	<3.0	<3.0	3.0	A556881

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C225938
Report Date: 2022/04/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ARV129	ARV130	ARV131	ARV132	ARV133	ARV134		
Sampling Date			2022/04/20 10:10	2022/04/20 09:02	2022/04/20 11:14	2022/04/20 12:29	2022/04/20 14:15	2022/04/20 15:00		
COC Number			39565	39567	39568	3956A	3956B	3956C		
	UNITS	**Criteria**	**H01 (39565)**	**H03 (39567)**	**B01 (39568)**	**W01 (3956A)**	**F01 (3956B)**	**F02 (3956C)**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	-	118	106	66.2	60.3	81.7	52.7	0.50	A556880
Elements										
Total Mercury (Hg)	ug/L	0.026	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0019	A557188
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	-	19.4	26.9	61.5	21.4	84.8	32.5	3.0	A557288
Total Antimony (Sb)	ug/L	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	A557288
Total Arsenic (As)	ug/L	5	0.53	0.47	0.48	0.61	1.16	0.36	0.10	A557288
Total Barium (Ba)	ug/L	-	16.5	17.2	25.0	22.7	15.9	15.7	1.0	A557288
Total Beryllium (Be)	ug/L	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A557288
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	A557288
Total Boron (B)	ug/L	1500	<50	<50	<50	<50	<50	<50	50	A557288
Total Cadmium (Cd)	ug/L	-	0.025	0.018	0.024	0.012	<0.010	0.010	0.010	A557288
Total Chromium (Cr)	ug/L	-	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	1.0	A557288
Total Cobalt (Co)	ug/L	-	<0.20	<0.20	0.33	<0.20	<0.20	<0.20	0.20	A557288
Total Copper (Cu)	ug/L	-	1.55	1.75	2.23	0.89	2.46	1.44	0.50	A557288
Total Iron (Fe)	ug/L	300	156	82	**647**	**376**	**549**	291	10	A557288
Total Lead (Pb)	ug/L	-	<0.20	<0.20	1.37	<0.20	<0.20	<0.20	0.20	A557288
Total Lithium (Li)	ug/L	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	A557288
Total Manganese (Mn)	ug/L	-	22.2	16.4	122	45.1	136	44.6	1.0	A557288
Total Molybdenum (Mo)	ug/L	73	<1.0	**79.6**	<1.0	<1.0	<1.0	<1.0	1.0	A557288
Total Nickel (Ni)	ug/L	-	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	1.0	A557288
Total Selenium (Se)	ug/L	1	0.20	0.16	<0.10	<0.10	0.11	<0.10	0.10	A557288
Total Silicon (Si)	ug/L	-	9440	8150	7900	6160	4110	2220	100	A557288
Total Silver (Ag)	ug/L	0.25	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A557288
Total Strontium (Sr)	ug/L	-	178	172	187	117	125	87.0	1.0	A557288
Total Thallium (Tl)	ug/L	0.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A557288
Total Tin (Sn)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A557288
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A557288
Total Uranium (U)	ug/L	15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A557288
Total Vanadium (V)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	A557288
Total Zinc (Zn)	ug/L	30	6.2	22.1	14.9	6.0	<5.0	5.1	5.0	A557288
Total Zirconium (Zr)	ug/L	-	<0.10	<0.10	0.15	<0.10	<0.10	0.18	0.10	A557288

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C225938
Report Date: 2022/04/29

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

CSR/CCME TOT. METALS IN WATER W/ CV HG (WATER)

Bureau Veritas ID			ARV129	ARV130	ARV131	ARV132	ARV133	ARV134		
Sampling Date			2022/04/20 10:10	2022/04/20 09:02	2022/04/20 11:14	2022/04/20 12:29	2022/04/20 14:15	2022/04/20 15:00		
COC Number			39565	39567	39568	3956A	3956B	3956C		
	UNITS	**Criteria**	**H01 (39565)**	**H03 (39567)**	**B01 (39568)**	**W01 (3956A)**	**F01 (3956B)**	**F02 (3956C)**	**RDL**	**QC Batch**
Total Calcium (Ca)	mg/L	-	33.4	30.5	19.3	16.5	22.4	14.9	0.050	A556881
Total Magnesium (Mg)	mg/L	-	8.26	7.10	4.37	4.63	6.29	3.78	0.050	A556881
Total Potassium (K)	mg/L	-	1.82	1.91	1.36	1.08	1.38	0.974	0.050	A556881
Total Sodium (Na)	mg/L	-	19.0	18.8	17.9	26.1	13.2	13.2	0.050	A556881
Total Sulphur (S)	mg/L	-	7.2	5.5	<3.0	<3.0	4.6	<3.0	3.0	A556881

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Sample ARV127 [TRIP BLANK (3AF04)] : Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.
Criteria: Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME). Freshwater Long Term Guidelines.
Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C225938
Report Date: 2022/04/29

QUALITY ASSURANCE REPORT

CITY OF ABBOTSFORD
Client Project #: Bevan #1 Creek Water Quality

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A557188	Total Mercury (Hg)	2022/04/21	102	80 - 120	110	80 - 120	<0.0019	ug/L	NC	20		
A557288	Total Aluminum (Al)	2022/04/22	107	80 - 120	99	80 - 120	<3.0	ug/L	10	20		
A557288	Total Antimony (Sb)	2022/04/22	101	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
A557288	Total Arsenic (As)	2022/04/22	103	80 - 120	101	80 - 120	<0.10	ug/L	1.8	20		
A557288	Total Barium (Ba)	2022/04/22	99	80 - 120	96	80 - 120	<1.0	ug/L	0.84	20		
A557288	Total Beryllium (Be)	2022/04/22	104	80 - 120	102	80 - 120	<0.10	ug/L	NC	20		
A557288	Total Bismuth (Bi)	2022/04/22	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A557288	Total Boron (B)	2022/04/22	103	80 - 120	101	80 - 120	<50	ug/L	NC	20		
A557288	Total Cadmium (Cd)	2022/04/22	102	80 - 120	100	80 - 120	<0.010	ug/L	8.9	20		
A557288	Total Chromium (Cr)	2022/04/22	103	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
A557288	Total Cobalt (Co)	2022/04/22	103	80 - 120	100	80 - 120	<0.20	ug/L	NC	20		
A557288	Total Copper (Cu)	2022/04/22	99	80 - 120	97	80 - 120	<0.50	ug/L	5.2	20		
A557288	Total Iron (Fe)	2022/04/22	107	80 - 120	101	80 - 120	<10	ug/L	3.8	20		
A557288	Total Lead (Pb)	2022/04/22	99	80 - 120	101	80 - 120	<0.20	ug/L	NC	20		
A557288	Total Lithium (Li)	2022/04/22	101	80 - 120	99	80 - 120	<2.0	ug/L	NC	20		
A557288	Total Manganese (Mn)	2022/04/22	108	80 - 120	96	80 - 120	<1.0	ug/L	2.1	20		
A557288	Total Molybdenum (Mo)	2022/04/22	108	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
A557288	Total Nickel (Ni)	2022/04/22	99	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
A557288	Total Selenium (Se)	2022/04/22	103	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
A557288	Total Silicon (Si)	2022/04/22	110	80 - 120	109	80 - 120	<100	ug/L	1.6	20		
A557288	Total Silver (Ag)	2022/04/22	101	80 - 120	99	80 - 120	<0.020	ug/L	NC	20		
A557288	Total Strontium (Sr)	2022/04/22	NC	80 - 120	100	80 - 120	<1.0	ug/L	4.4	20		
A557288	Total Thallium (Tl)	2022/04/22	98	80 - 120	96	80 - 120	<0.010	ug/L	NC	20		
A557288	Total Tin (Sn)	2022/04/22	100	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
A557288	Total Titanium (Ti)	2022/04/22	106	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
A557288	Total Uranium (U)	2022/04/22	101	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A557288	Total Vanadium (V)	2022/04/22	103	80 - 120	97	80 - 120	<5.0	ug/L	NC	20		
A557288	Total Zinc (Zn)	2022/04/22	102	80 - 120	98	80 - 120	<5.0	ug/L	4.1	20		
A557288	Total Zirconium (Zr)	2022/04/22	103	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A558118	Nitrate plus Nitrite (N)	2022/04/21			106	80 - 120	<0.0020	mg/L				
A558120	Nitrite (N)	2022/04/21			102	80 - 120	<0.0020	mg/L				
A558121	Nitrate plus Nitrite (N)	2022/04/21			105	80 - 120	<0.0020	mg/L				
A558123	Nitrite (N)	2022/04/21			103	80 - 120	<0.0020	mg/L				

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A558450	Total Aluminum (Al)	2022/04/23	95	80 - 120	95	80 - 120	<3.0	ug/L	1.8	20		
A558450	Total Antimony (Sb)	2022/04/23	95	80 - 120	96	80 - 120	<0.50	ug/L	NC	20		
A558450	Total Arsenic (As)	2022/04/23	96	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
A558450	Total Barium (Ba)	2022/04/23	92	80 - 120	93	80 - 120	<1.0	ug/L	NC	20		
A558450	Total Beryllium (Be)	2022/04/23	99	80 - 120	98	80 - 120	<0.10	ug/L	NC	20		
A558450	Total Bismuth (Bi)	2022/04/23	64 (1)	80 - 120	93	80 - 120	<1.0	ug/L	NC	20		
A558450	Total Boron (B)	2022/04/23	97	80 - 120	100	80 - 120	<50	ug/L	NC	20		
A558450	Total Cadmium (Cd)	2022/04/23	96	80 - 120	98	80 - 120	<0.010	ug/L	NC	20		
A558450	Total Chromium (Cr)	2022/04/23	95	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
A558450	Total Cobalt (Co)	2022/04/23	100	80 - 120	103	80 - 120	<0.20	ug/L	NC	20		
A558450	Total Copper (Cu)	2022/04/23	98	80 - 120	102	80 - 120	<0.50	ug/L	1.1	20		
A558450	Total Iron (Fe)	2022/04/23	99	80 - 120	103	80 - 120	<10	ug/L	NC	20		
A558450	Total Lead (Pb)	2022/04/23	95	80 - 120	97	80 - 120	<0.20	ug/L	NC	20		
A558450	Total Lithium (Li)	2022/04/23	100	80 - 120	100	80 - 120	<2.0	ug/L	NC	20		
A558450	Total Manganese (Mn)	2022/04/23	94	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
A558450	Total Molybdenum (Mo)	2022/04/23	85	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A558450	Total Nickel (Ni)	2022/04/23	95	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
A558450	Total Selenium (Se)	2022/04/23	98	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
A558450	Total Silicon (Si)	2022/04/23	105	80 - 120	102	80 - 120	<100	ug/L	NC	20		
A558450	Total Silver (Ag)	2022/04/23	93	80 - 120	97	80 - 120	<0.020	ug/L	NC	20		
A558450	Total Strontium (Sr)	2022/04/23	96	80 - 120	93	80 - 120	<1.0	ug/L	NC	20		
A558450	Total Thallium (Tl)	2022/04/23	92	80 - 120	94	80 - 120	<0.010	ug/L	NC	20		
A558450	Total Tin (Sn)	2022/04/23	88	80 - 120	95	80 - 120	<5.0	ug/L	NC	20		
A558450	Total Titanium (Ti)	2022/04/23	93	80 - 120	97	80 - 120	<5.0	ug/L	NC	20		
A558450	Total Uranium (U)	2022/04/23	93	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
A558450	Total Vanadium (V)	2022/04/23	94	80 - 120	97	80 - 120	<5.0	ug/L	NC	20		
A558450	Total Zinc (Zn)	2022/04/23	113	80 - 120	113	80 - 120	<5.0	ug/L	NC	20		
A558450	Total Zirconium (Zr)	2022/04/23	91	80 - 120	93	80 - 120	<0.10	ug/L	NC	20		
A558536	Total Ammonia (N)	2022/04/22	96	80 - 120	112	80 - 120	<0.015	mg/L	3.6	20		
A558613	pH	2022/04/21			102	97 - 103			0.29	N/A		
A558942	Dissolved Fluoride (F)	2022/04/23	100	80 - 120	94	80 - 120	<0.050	mg/L	NC	20		
A560386	Total Phosphorus (P)	2022/04/28	108	80 - 120	92	80 - 120	<0.0030	mg/L	5.5	20	92	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A564113	Nitrate plus Nitrite (N)	2022/04/28	113	80 - 120	111	80 - 120	<0.0020	mg/L	NC	25		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Sandy Yuan, M.Sc., QP, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-free:800-563-6266 Fax:(604) 731 2386 www.bvna.com

1 of 1

C225938_COC

INVOICE TO:		Report Information		Project Information	
Company Name	#1414 CITY OF ABBOTSFORD	Company Name		Quotation #	C01193
Contact Name	Amy Peters	Contact Name	Amy Peters	P.O. #	
Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Address	32315 SOUTH FRASER WAY ABBOTSFORD BC V2T 1W7	Project #	Bevan #1 Creek Water Quality
Phone	(778) 549-1240 Fax: (604) 850-6418	Phone	(778) 549-1240 Fax:	Project Name	
Email	apeters@abbotsford.ca	Email	apeters@abbotsford.ca	Site #	
				Sampled By	

ly
Bottle Order #: 660838
Chain Of Custody Record: C4660838-02-01
Project Manager: Customer Solutions

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other _____

Special Instructions

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects
Regular (Standard) TAT:
(will be applied if Rush TAT is not specified): [ ]
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [ ] 3 Day [ ] Date Required: _____ [ ]
Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	CSR/CCME Tot. Metals in Water w/ CV Hg	Ammonia-N (Total)	Fluoride	Nitrate+Nitrite (N) (low level)	Nitrite (N) (low level)	Nitrogen - Nitrate (as N) Low Level Calc	pH @25°C	Total Phosphorus			# of Bottles	Comments
1		F0F (41C64)	20 Apr	14:50	water		X	X	X	X	X	X	X	X			5	
2		DUPLICATE		9:25			X	X	X	X	X	X	X	X				
3		TRIP BLANK (3AF04)		–			X	X	X	X	X	X	X	X				
4		FIELD BLANK (3AF05)		9:15			X	X	X	X	X	X	X	X				
5		H01 (39565)		10:10			X	X	X	X	X	X	X	X				
6		H03 (39567)		9:02			X	X	X	X	X	X	X	X				
7		B01 (39568)		11:14			X	X	X	X	X	X	X	X				
8		W01 (3956A)		12:29			X	X	X	X	X	X	X	X				
9		F01 (3956B)		14:15			X	X	X	X	X	X	X	X				
10		F02 (3956C)		15:00			X	X	X	X	X	X	X	X				

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
	22/04/20	17:20	Adam AMR AMER AMR	2022/04/20	17:33		[ ]	10,10,11	[ ] Yes [✓] No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Bureau Veritas Yellow: Client

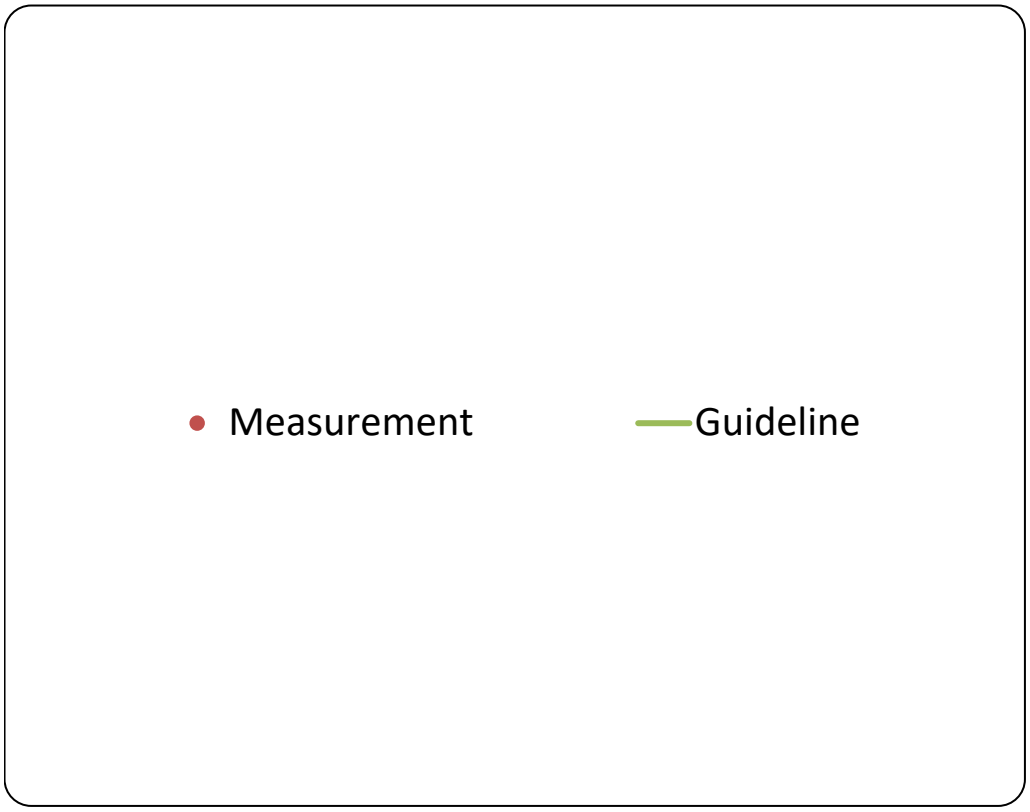
Bureau Veritas Canada (2019) Inc.

I of 1

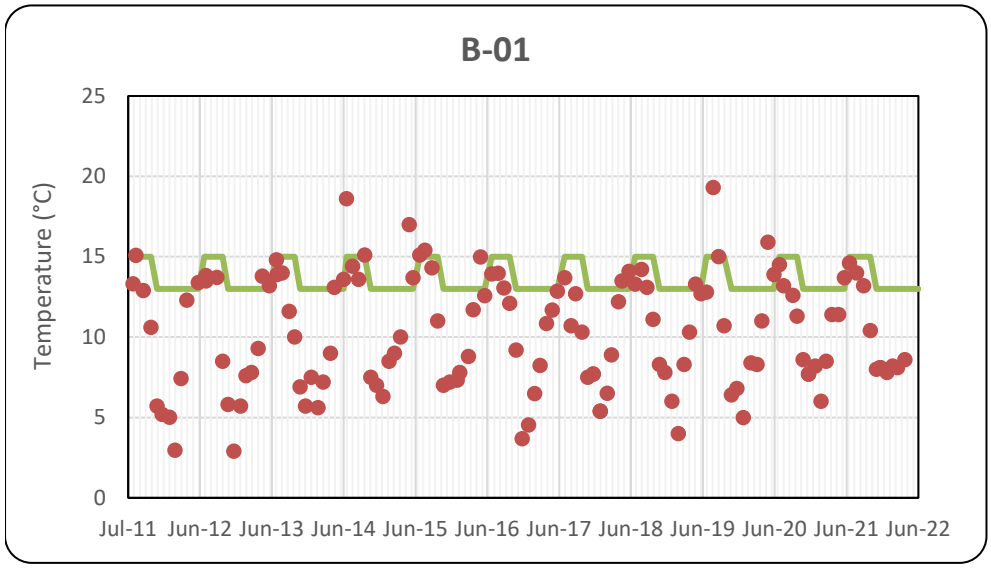
APPENDIX F

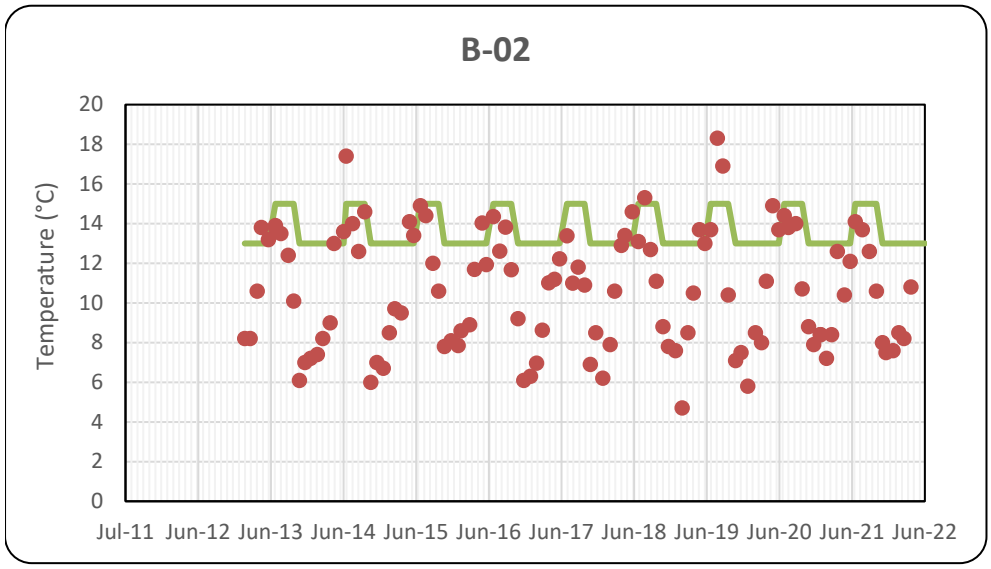
Temporal Water Quality Graphs

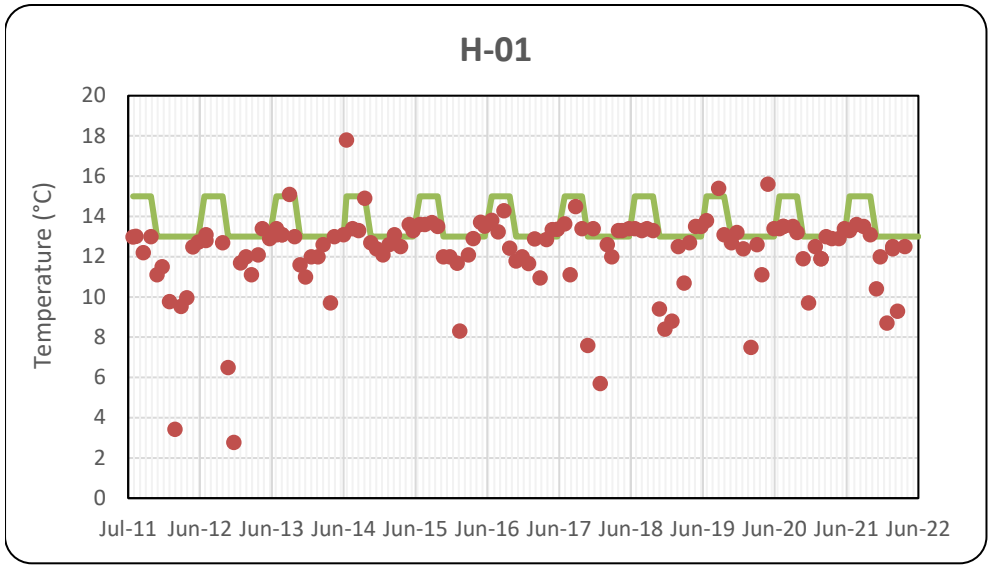
Legend for Water Quality Graphs



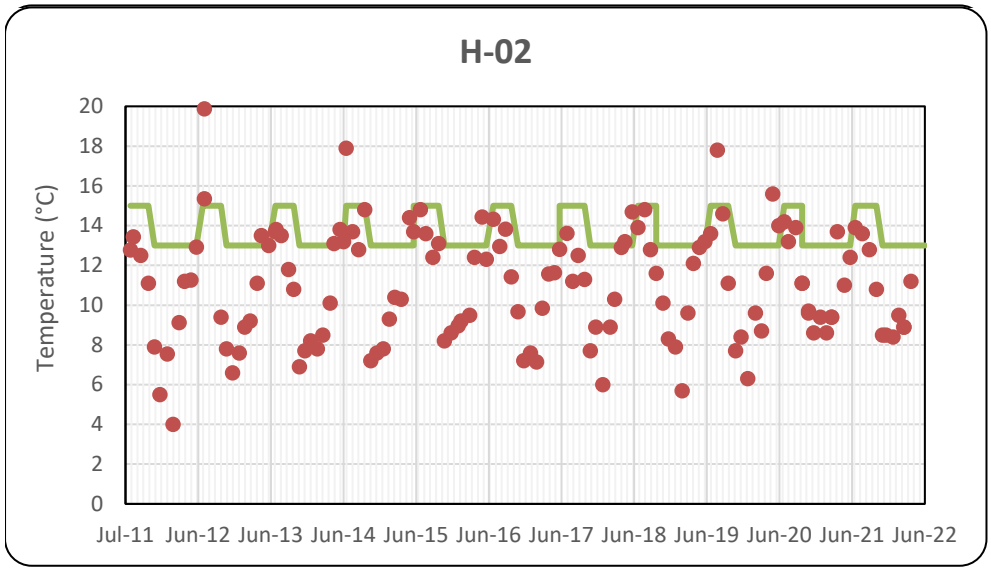
Water Temperature, 2011-2022

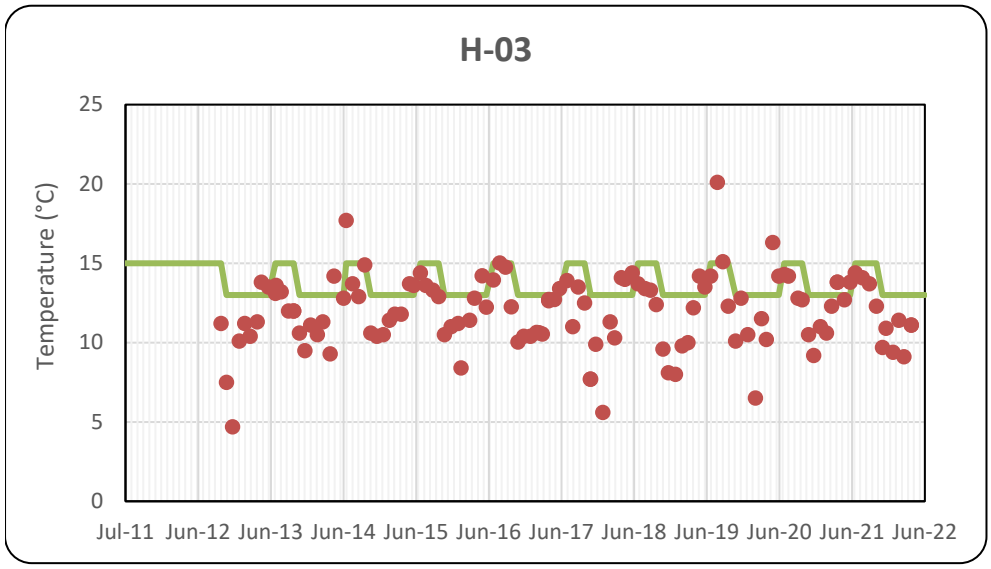


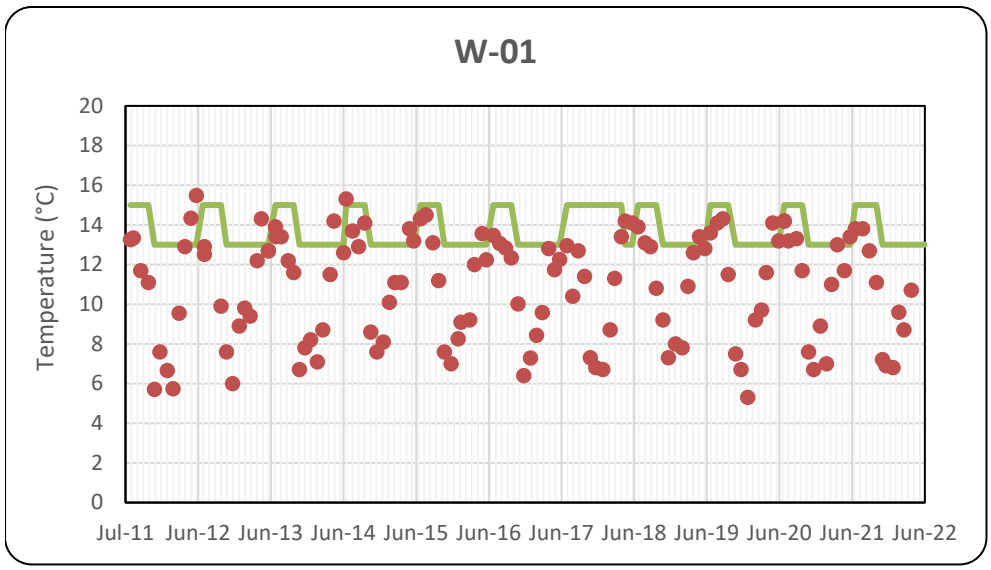




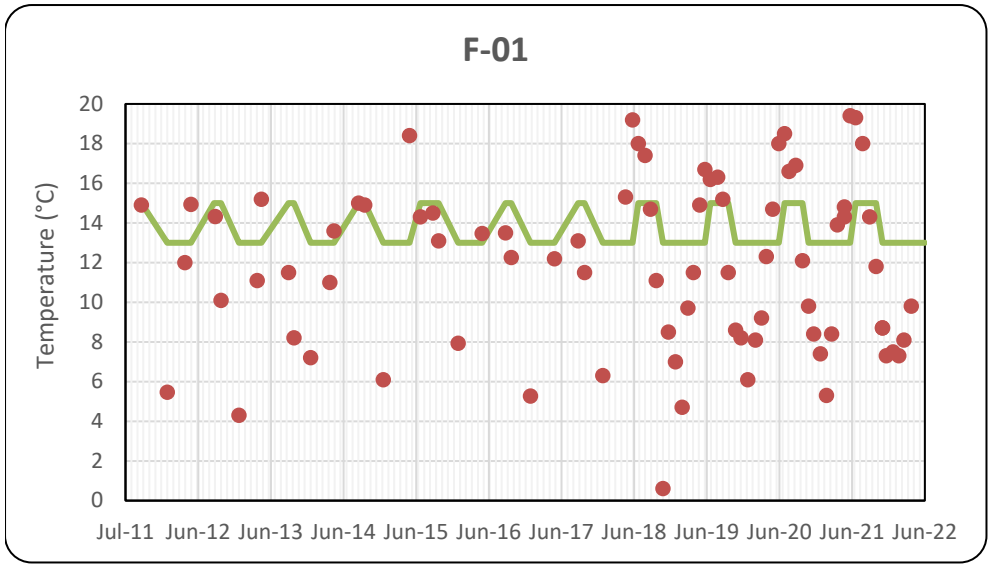
Water Temperature, 2011-2022

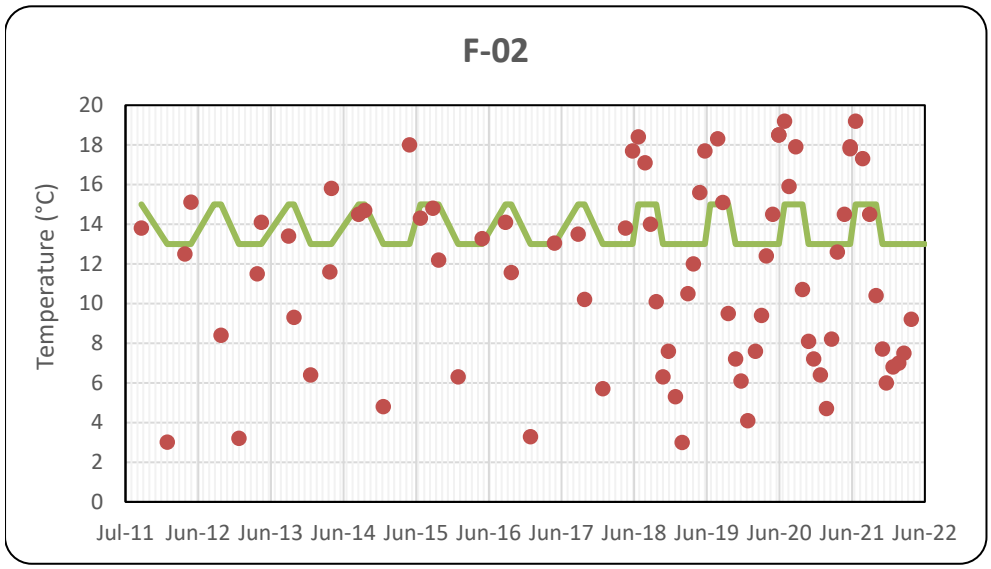


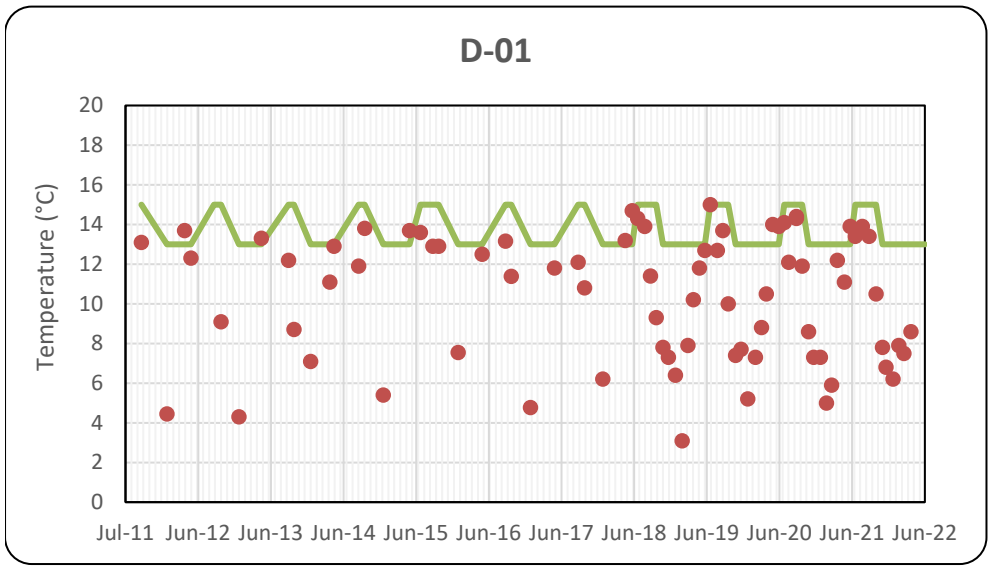




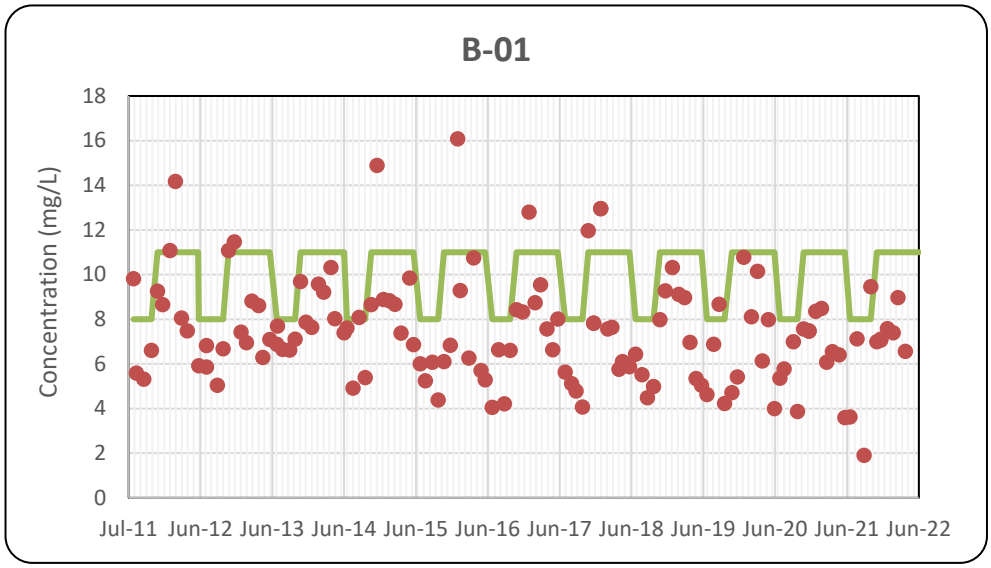
Water Temperature, 2011-2022

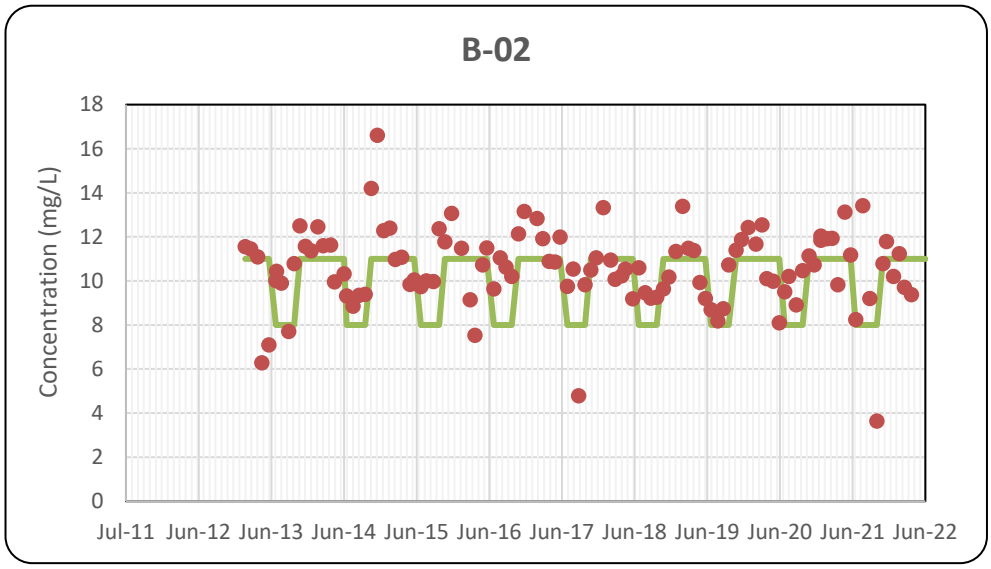


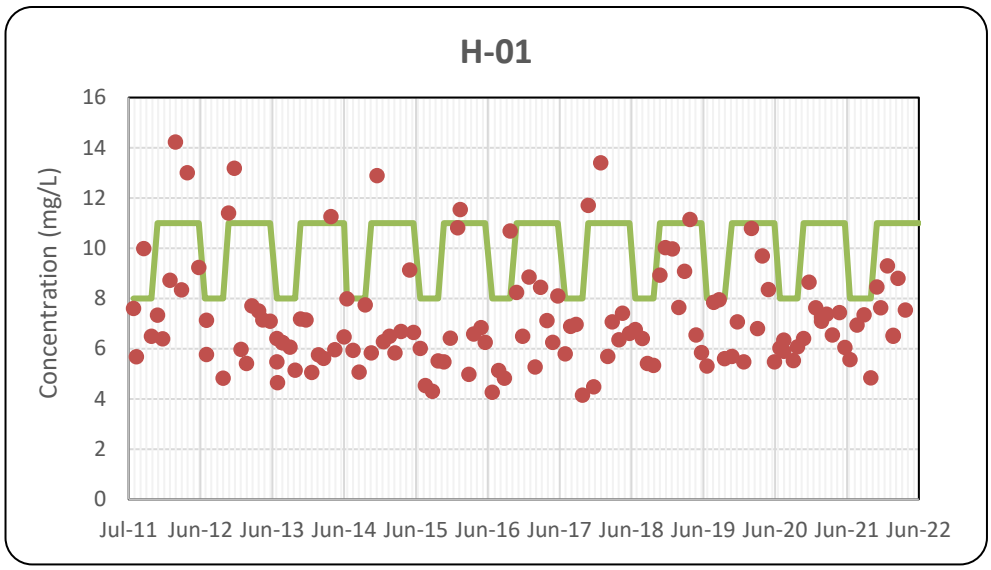




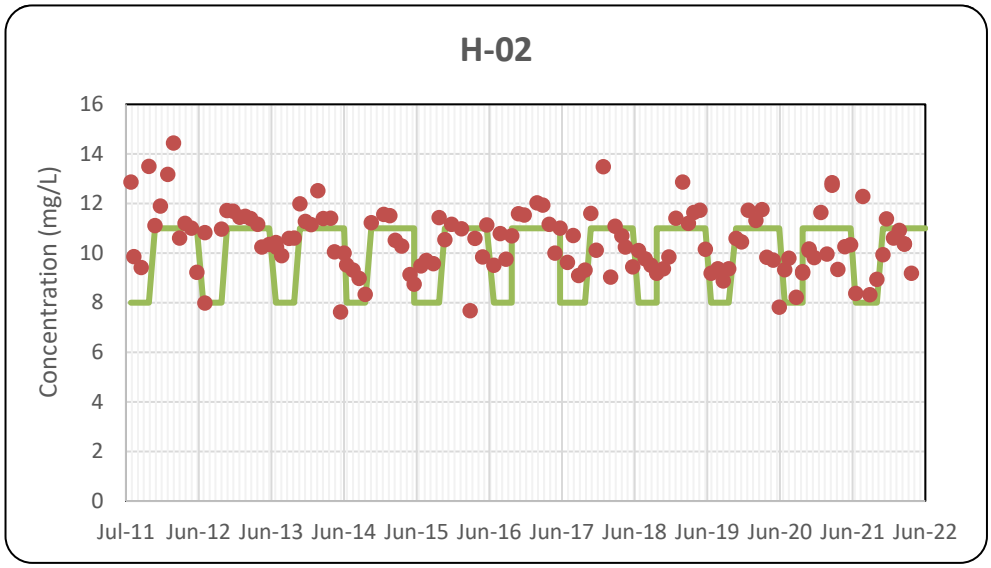
Dissolved Oxygen Concentrations, 2011-2022

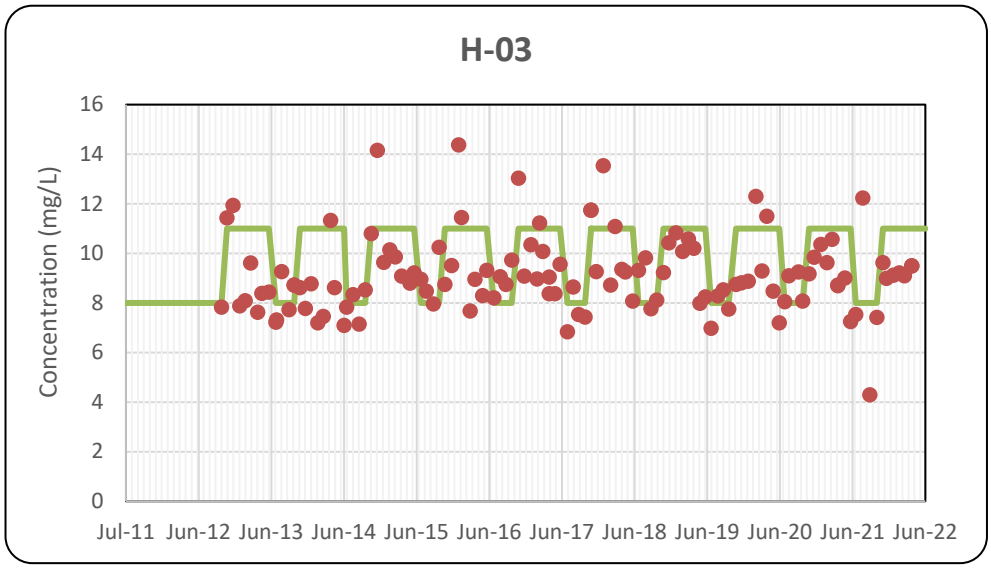


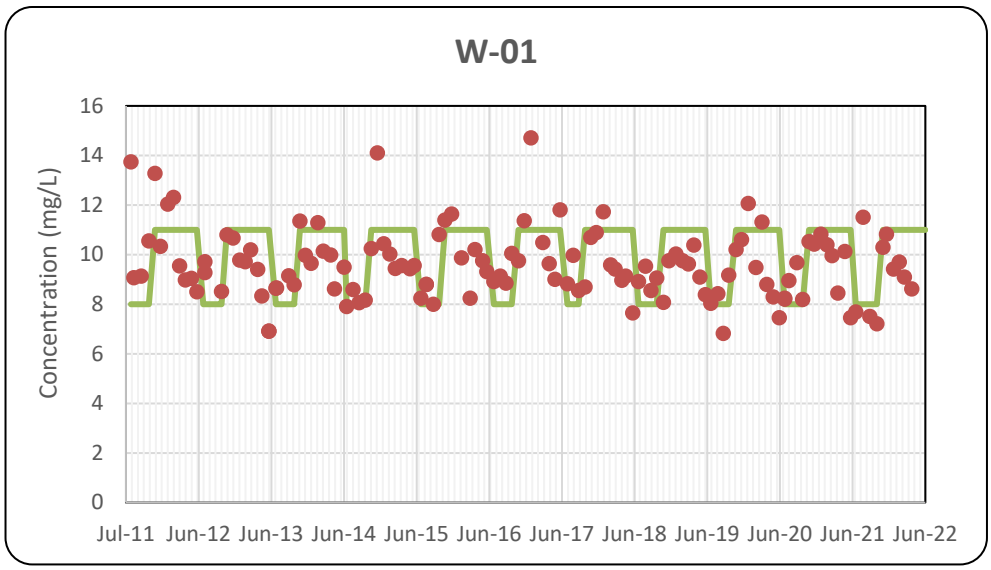




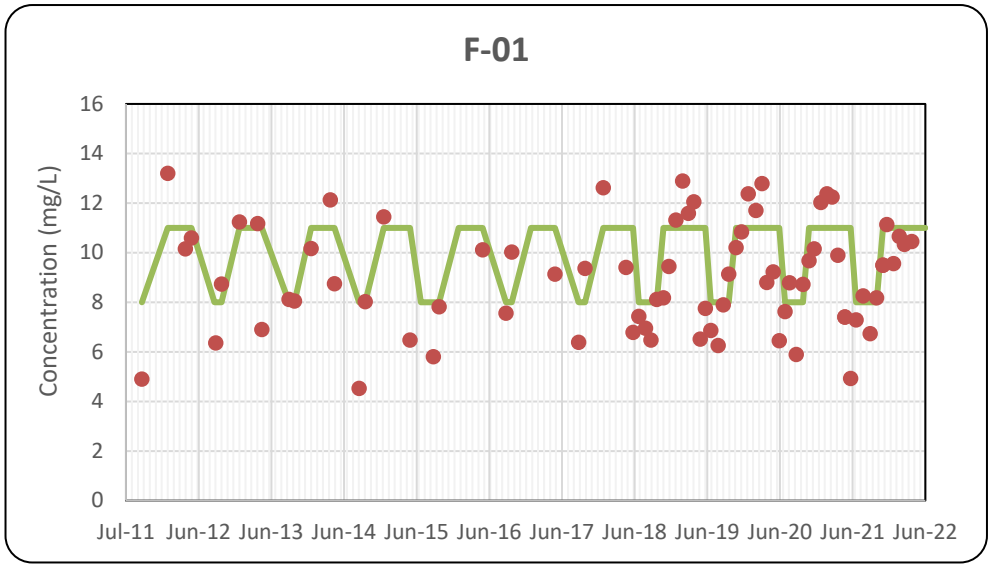
Dissolved Oxygen Concentrations, 2011-2022

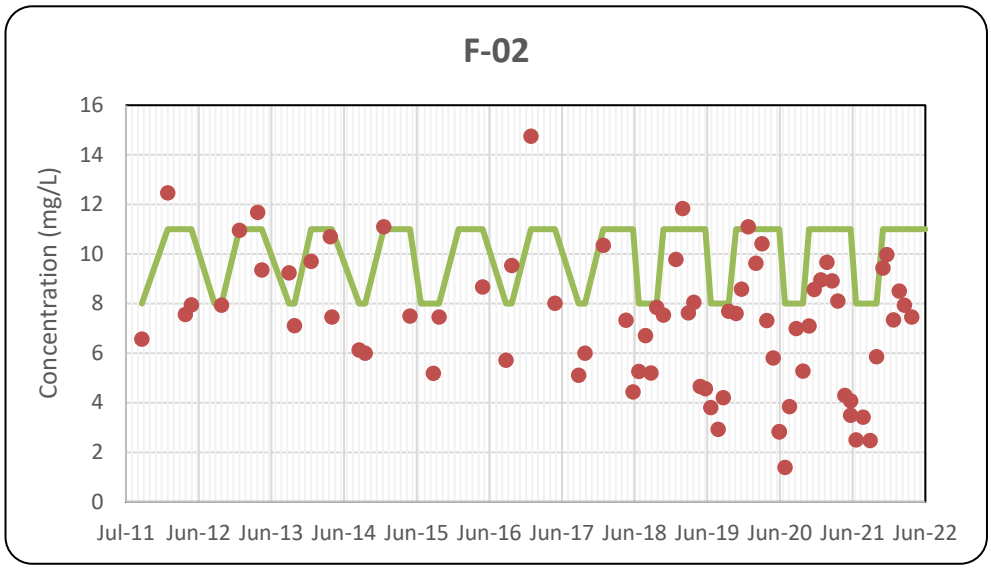


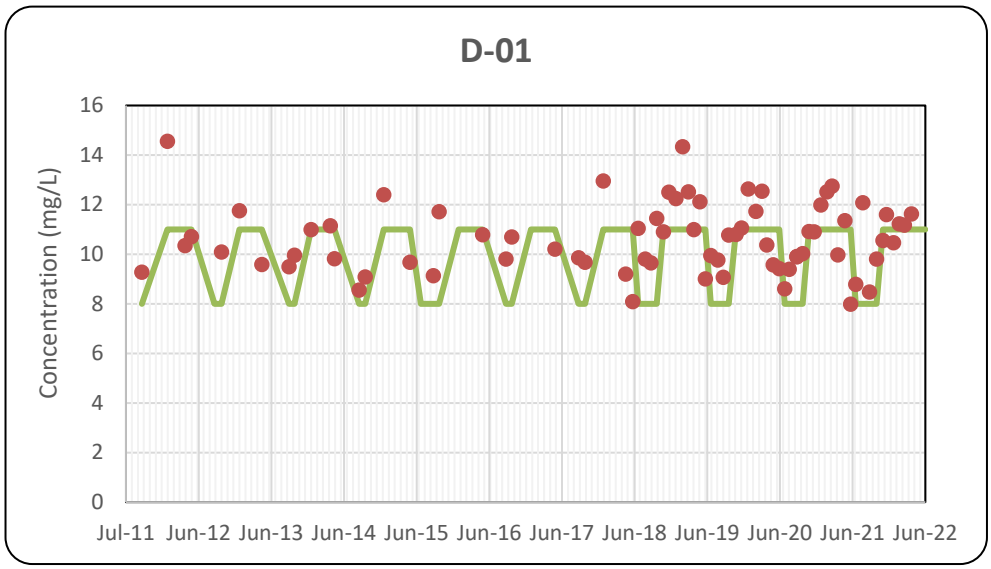




Dissolved Oxygen Concentrations, 2011-2022







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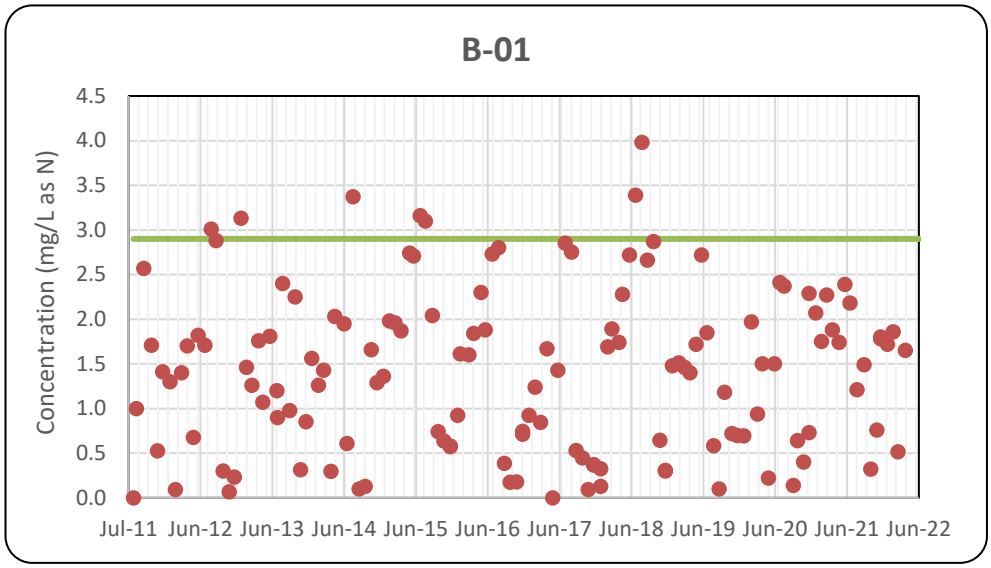

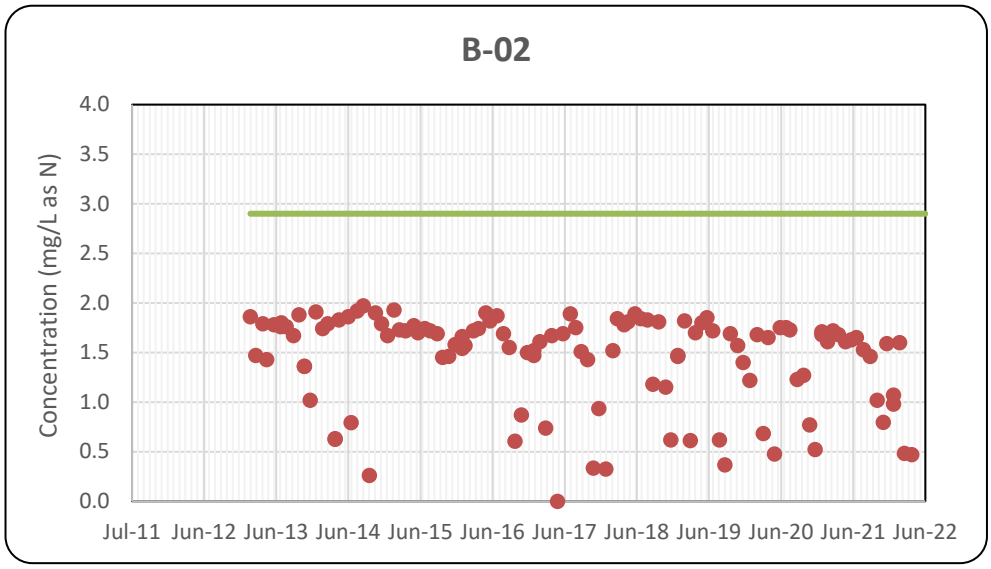

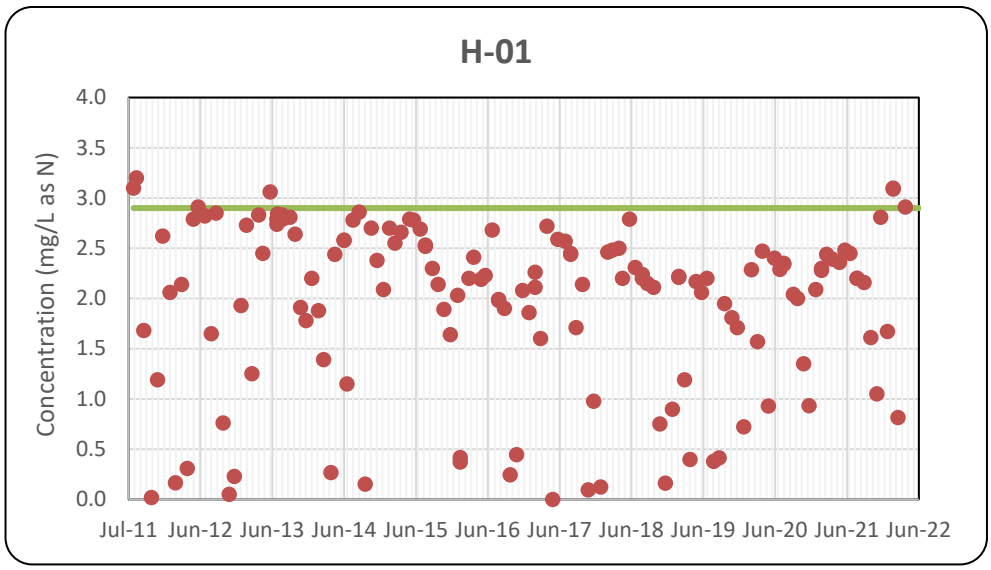

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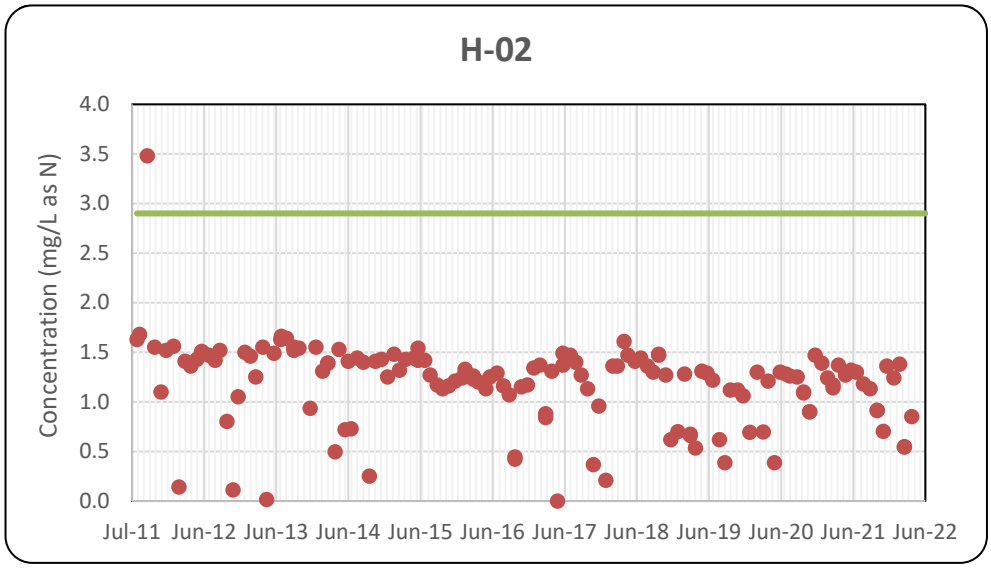

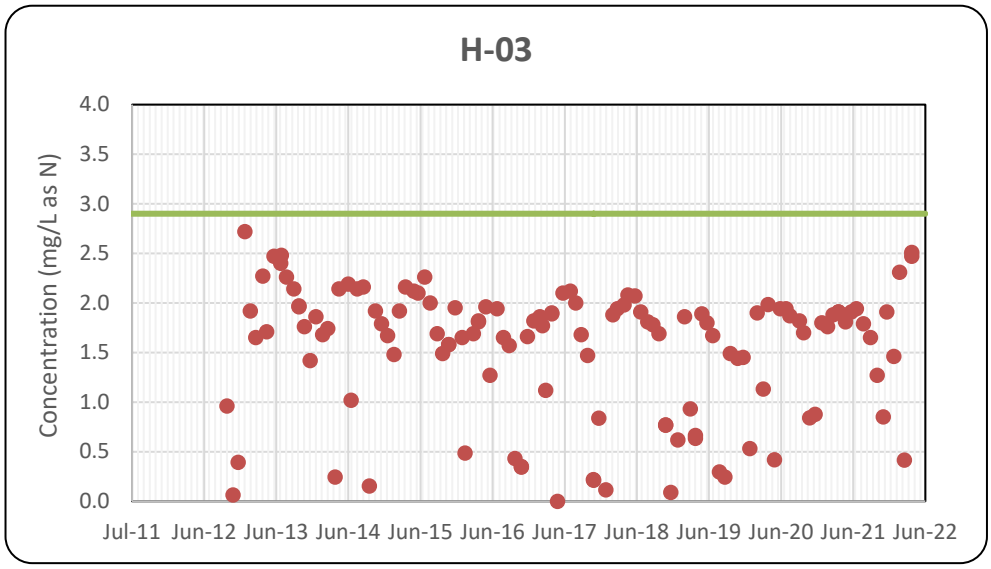

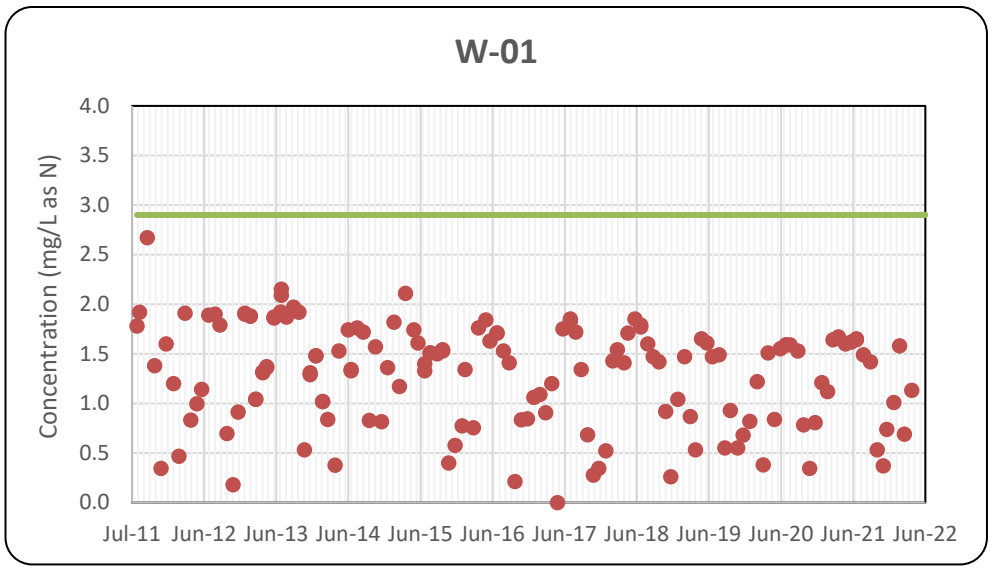

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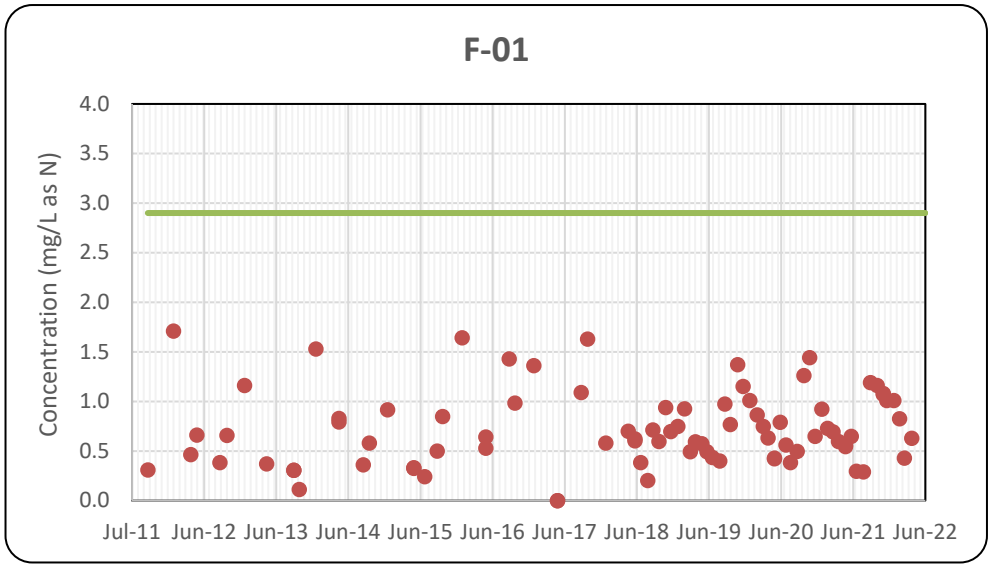

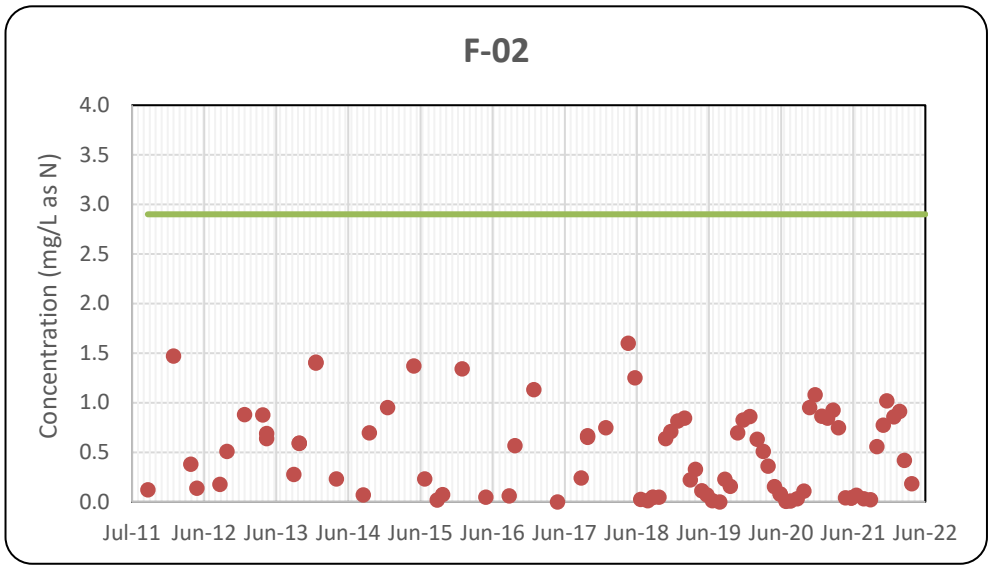

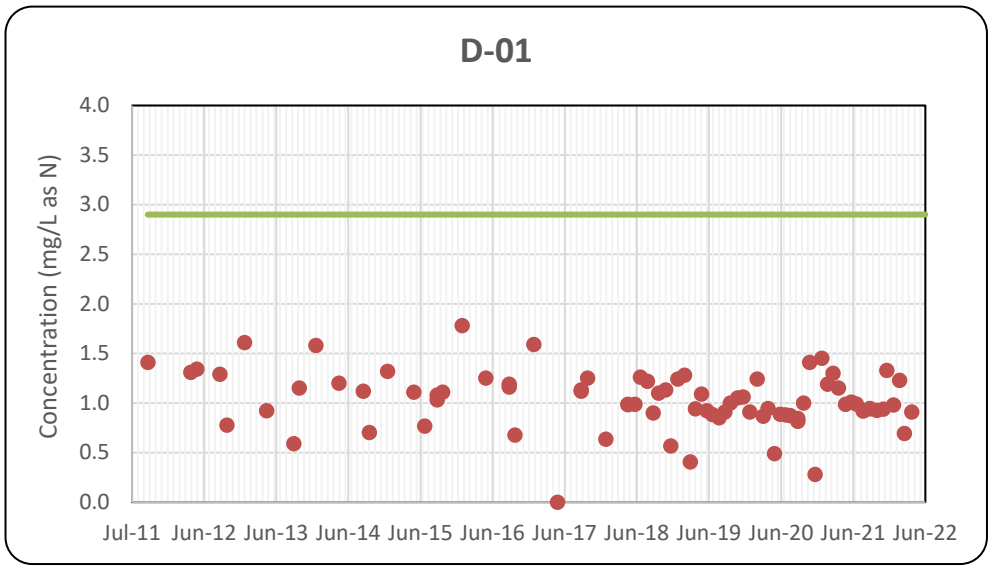

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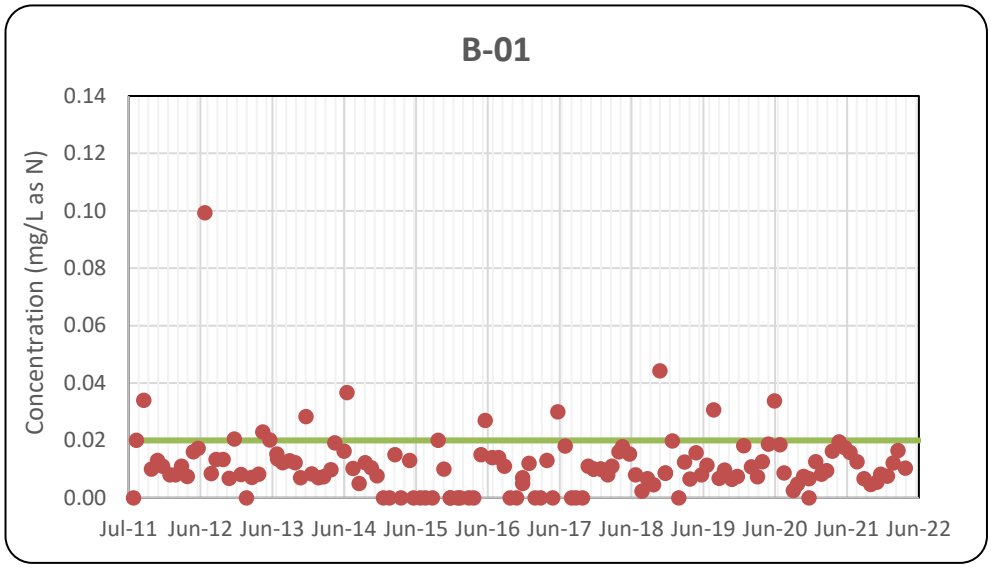

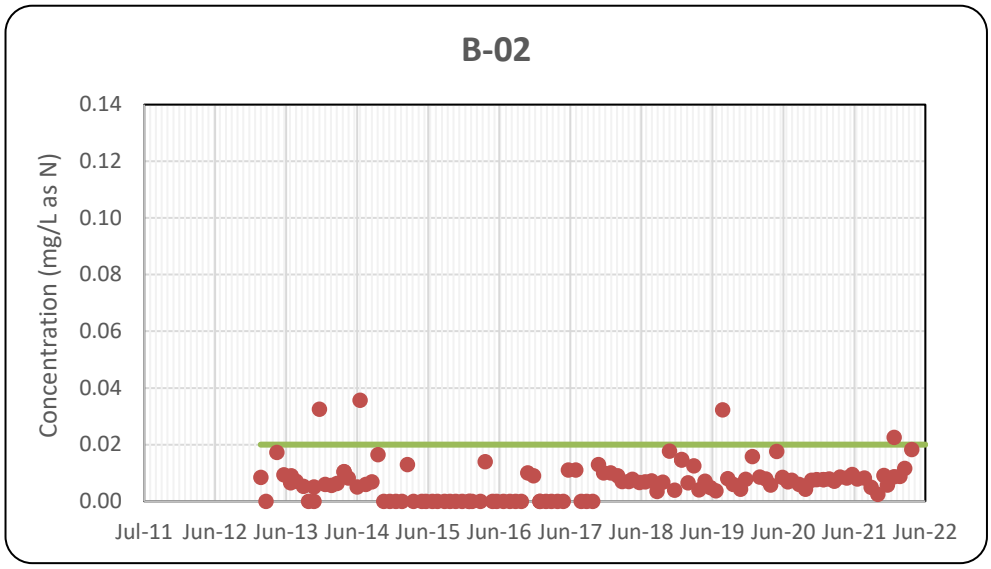

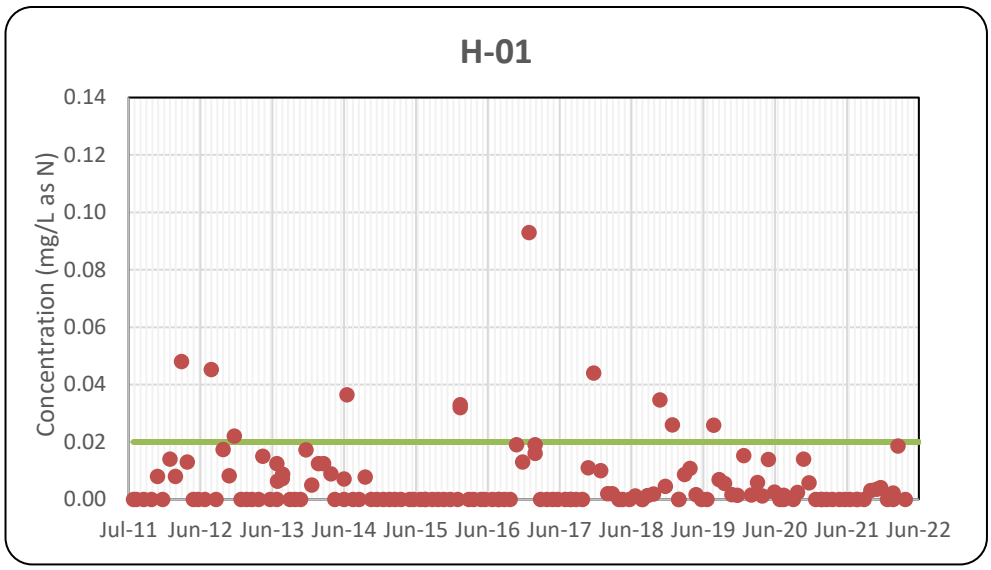

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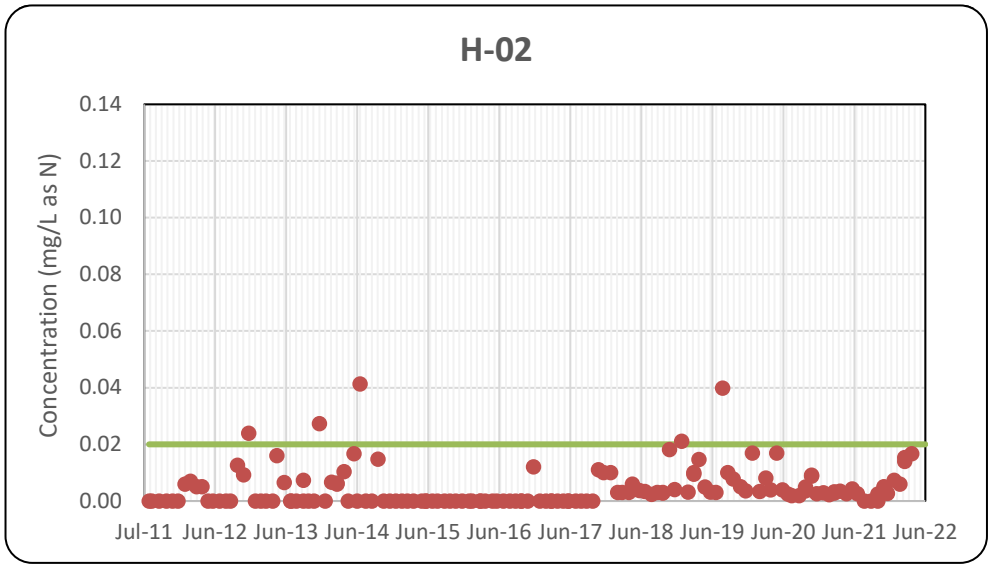
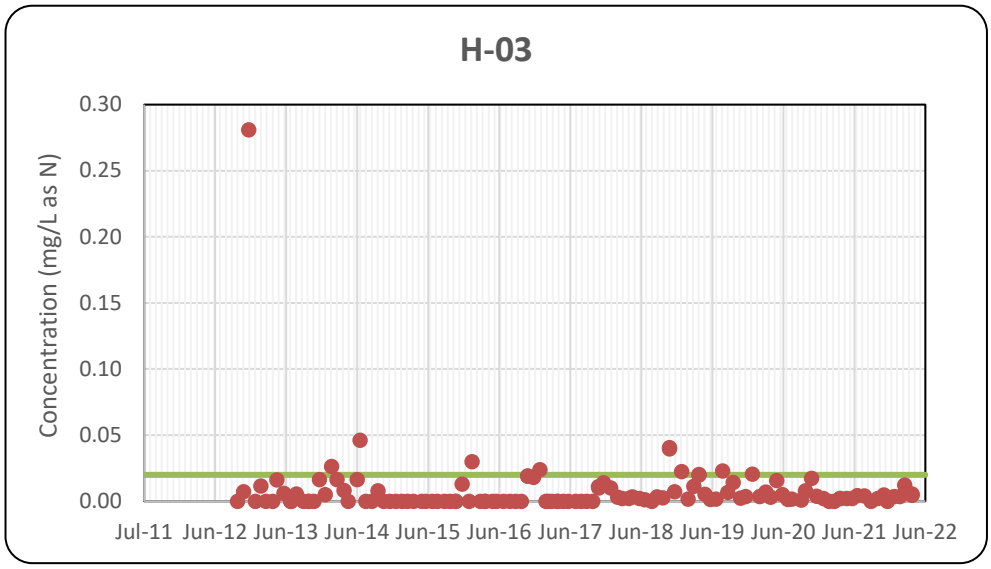
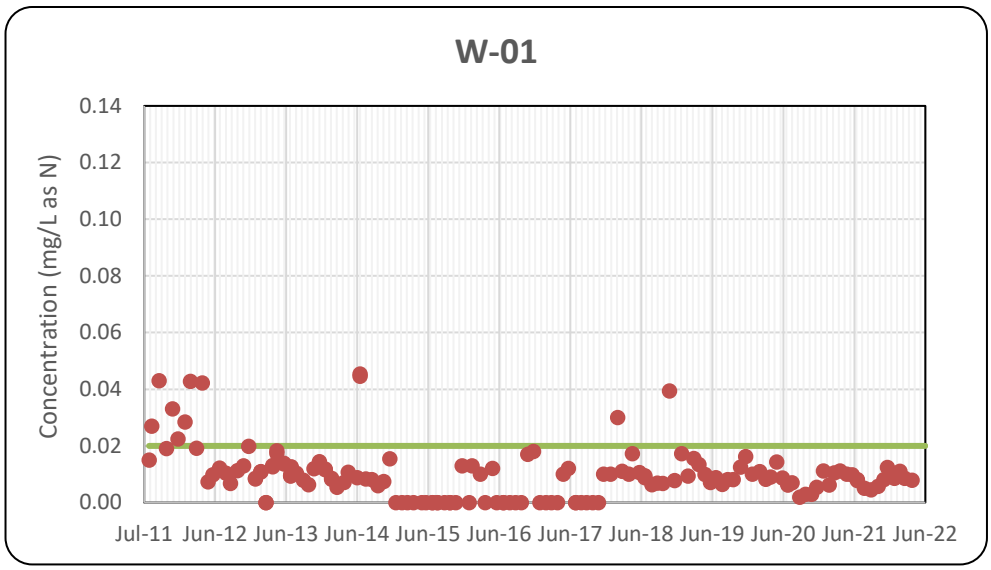
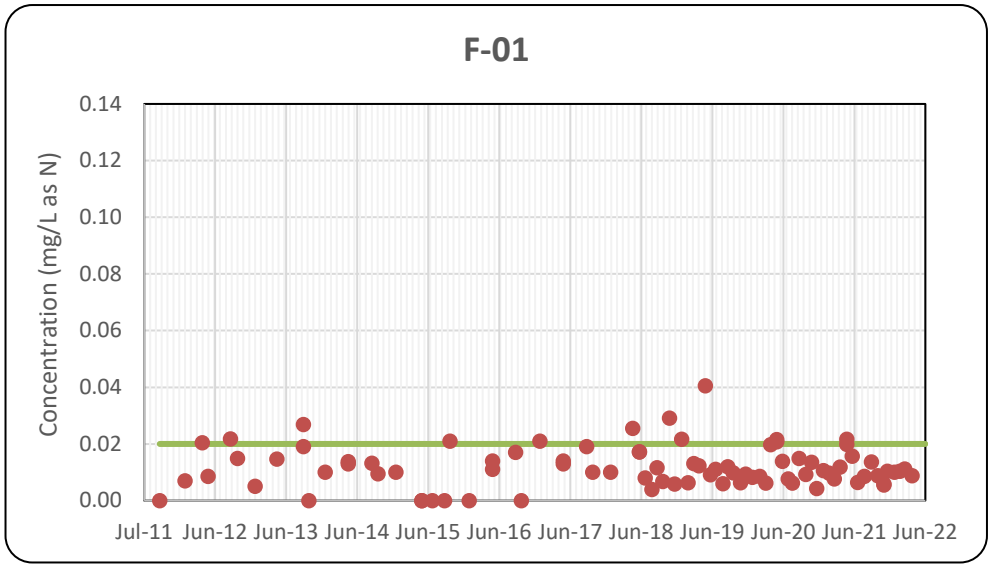
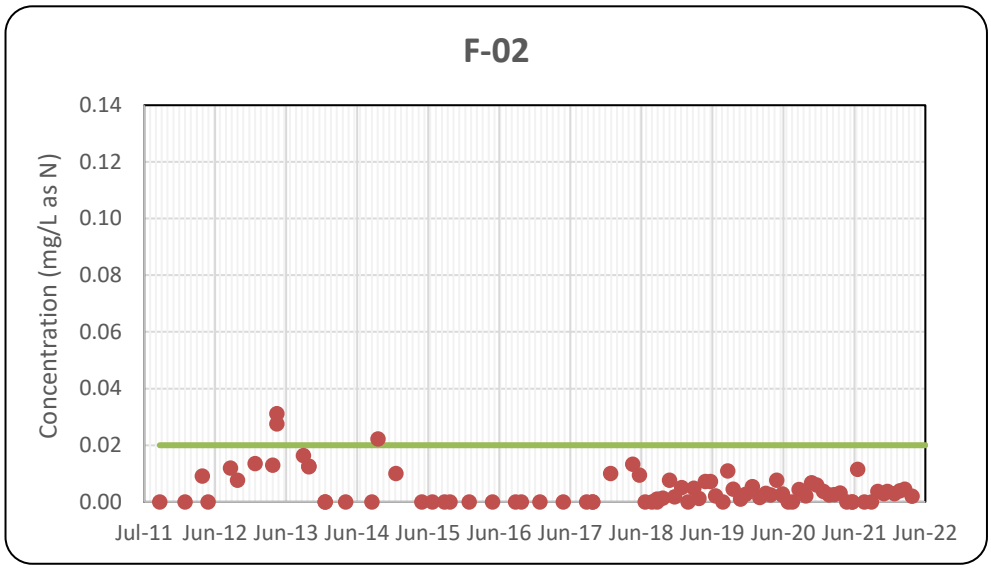


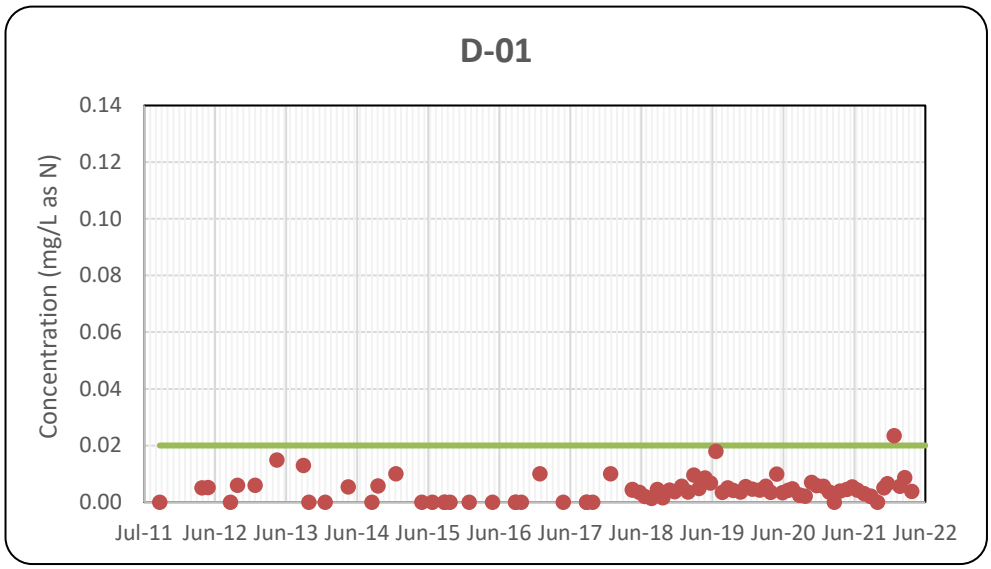




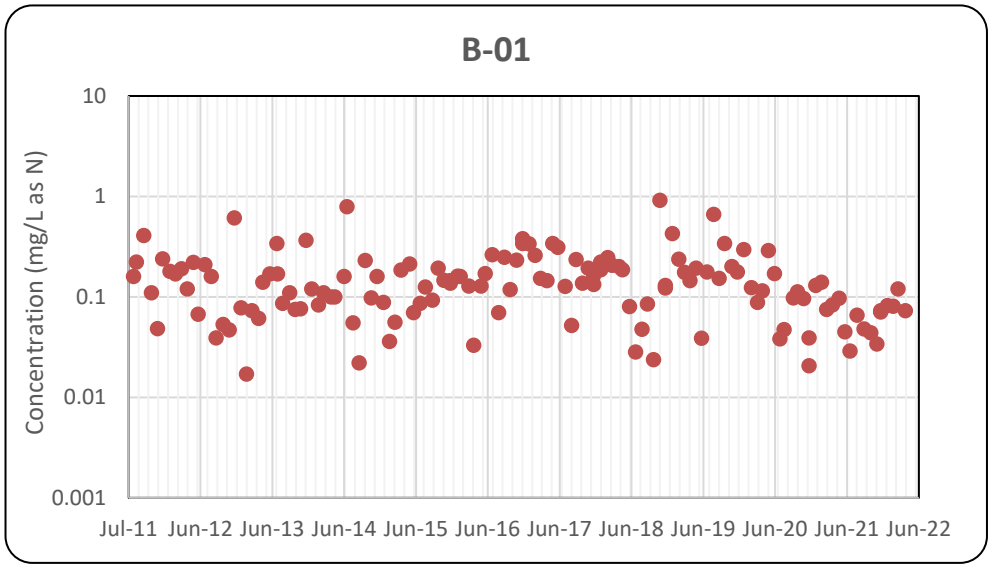
Nitrite Concentrations, 2011-2022

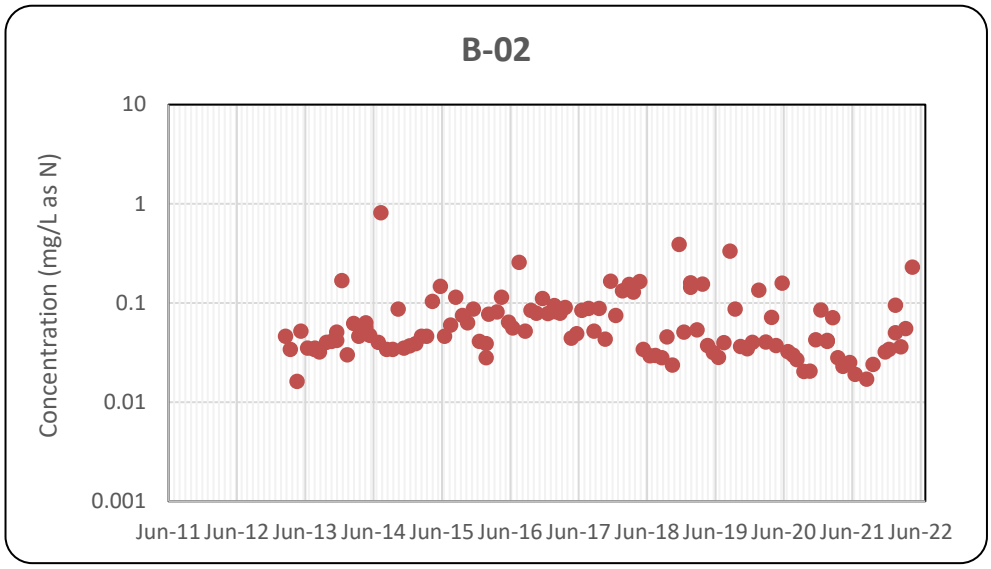


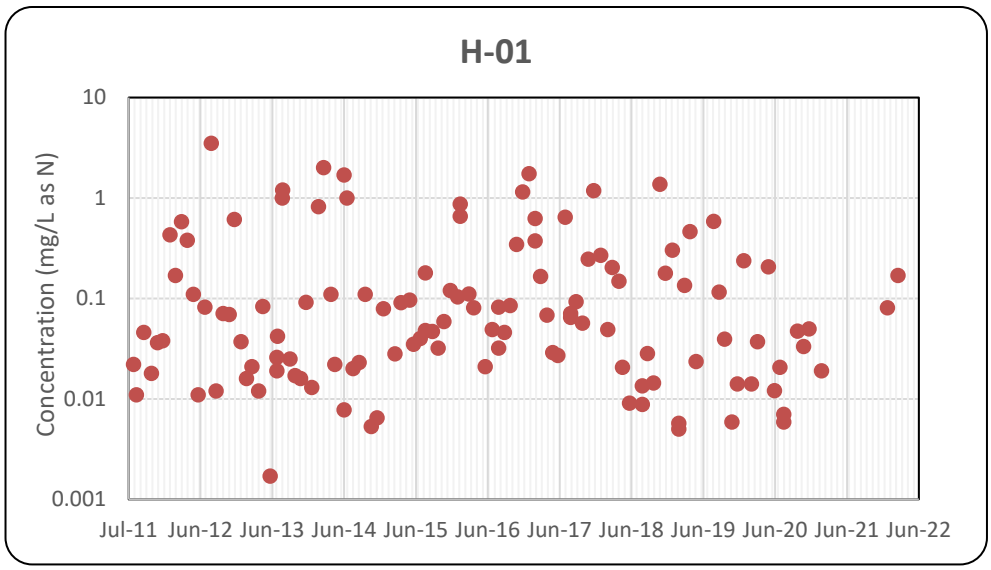




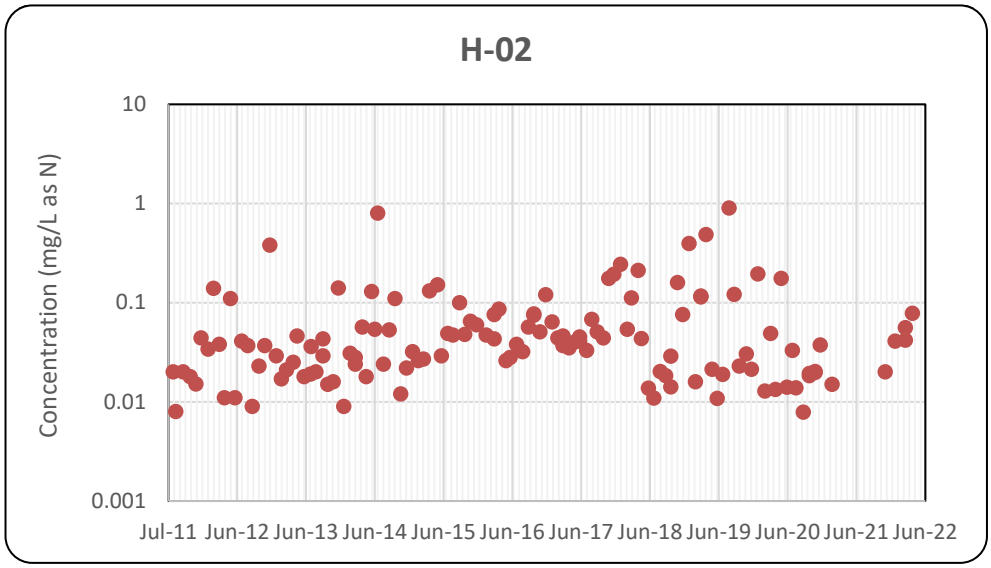
Ammonia Concentrations, 2011-2022

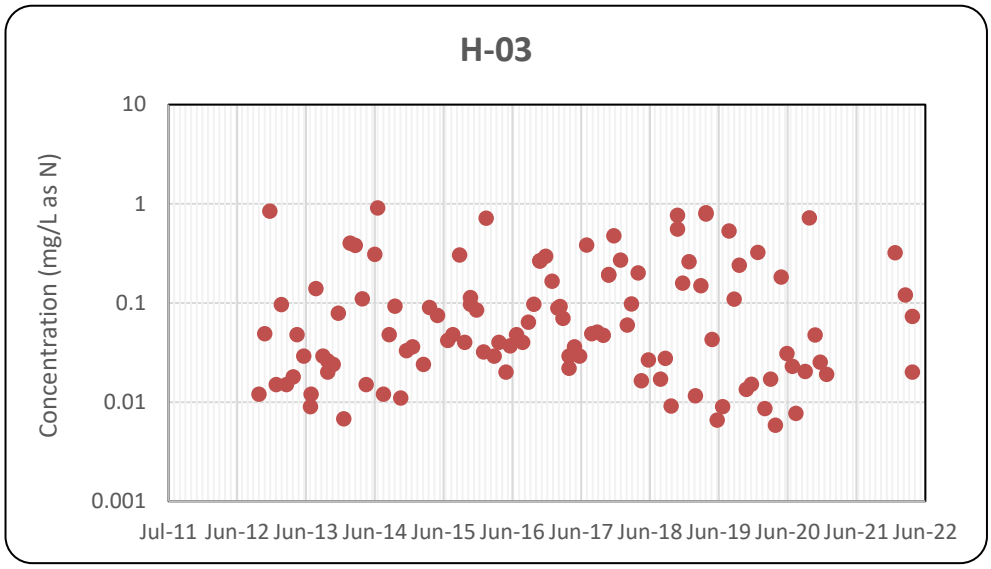


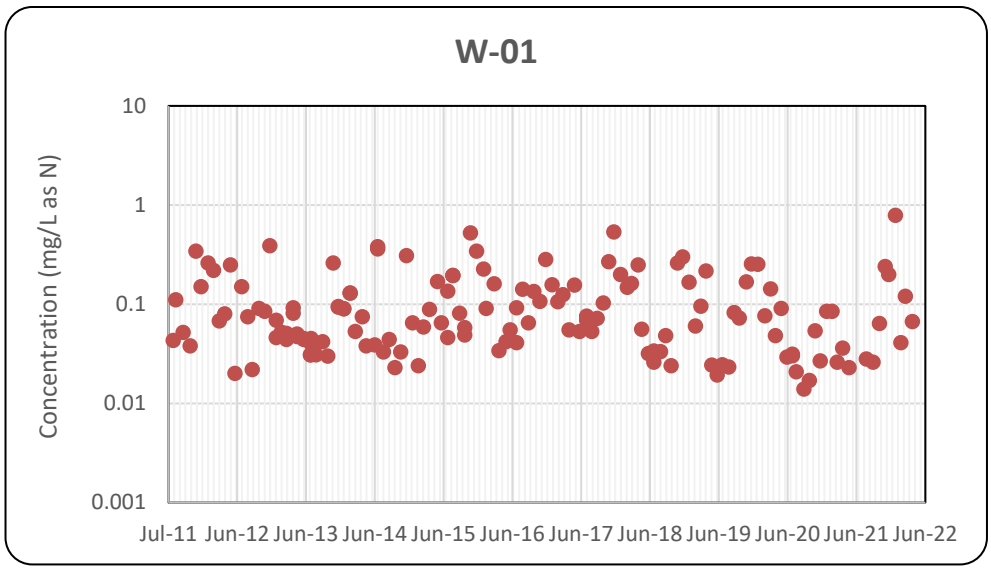




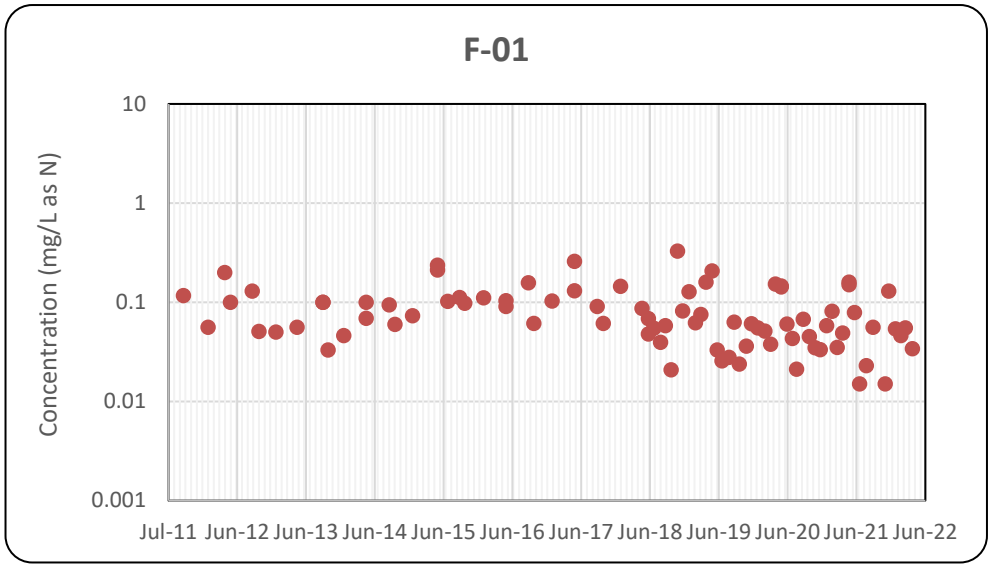
Ammonia Concentrations, 2011-2022

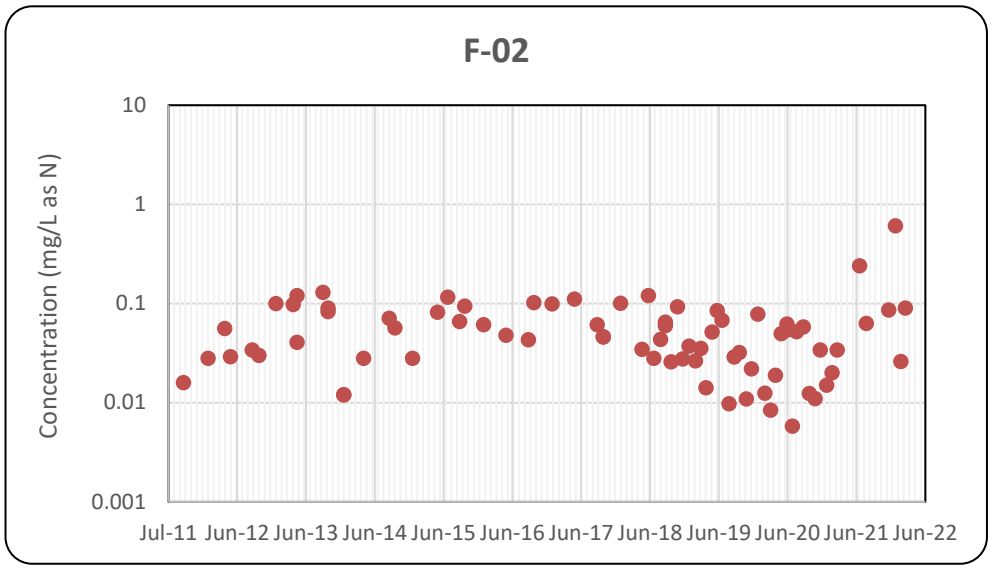


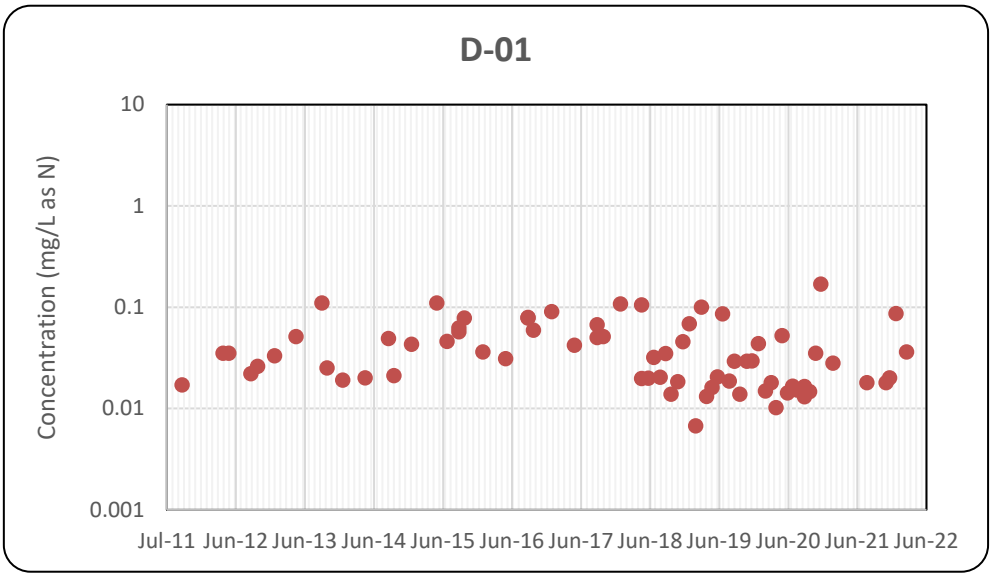




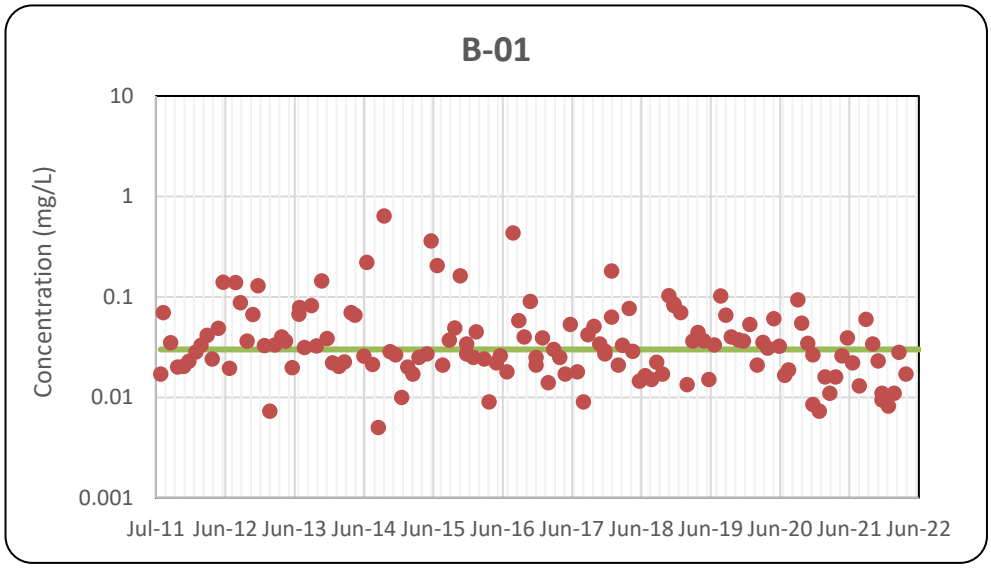
Ammonia Concentrations, 2011-2022

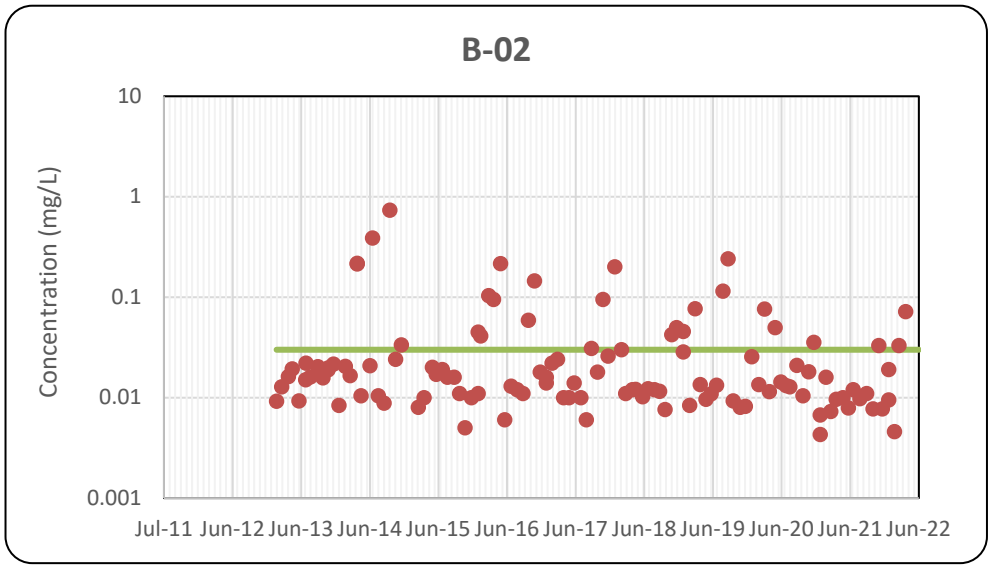


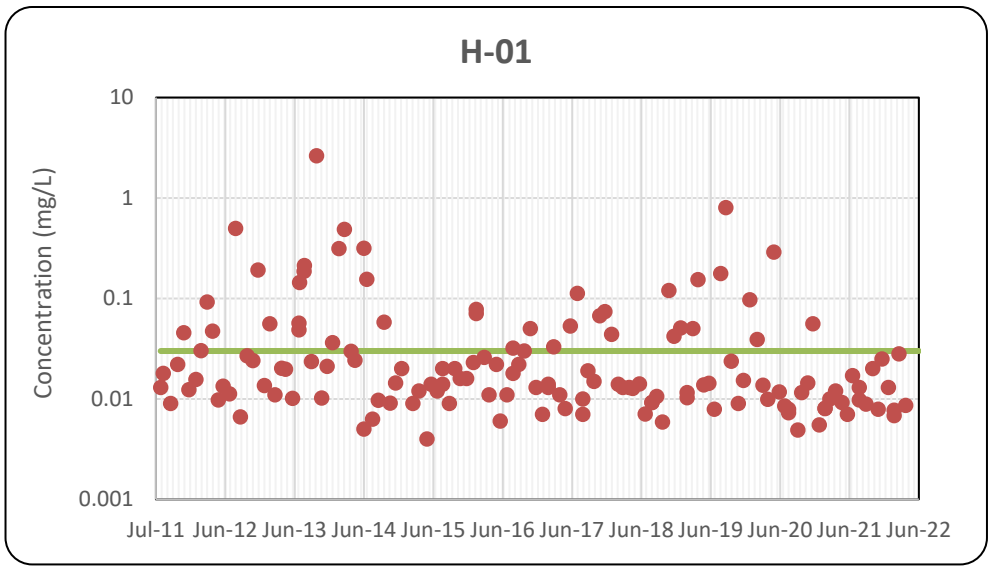




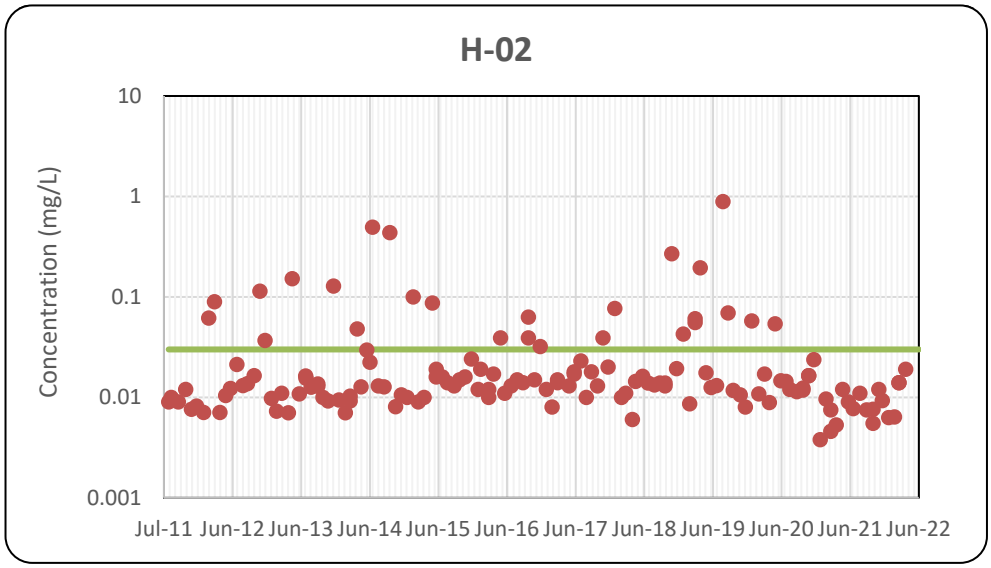
Total Phosphorus Concentrations, 2011-2022

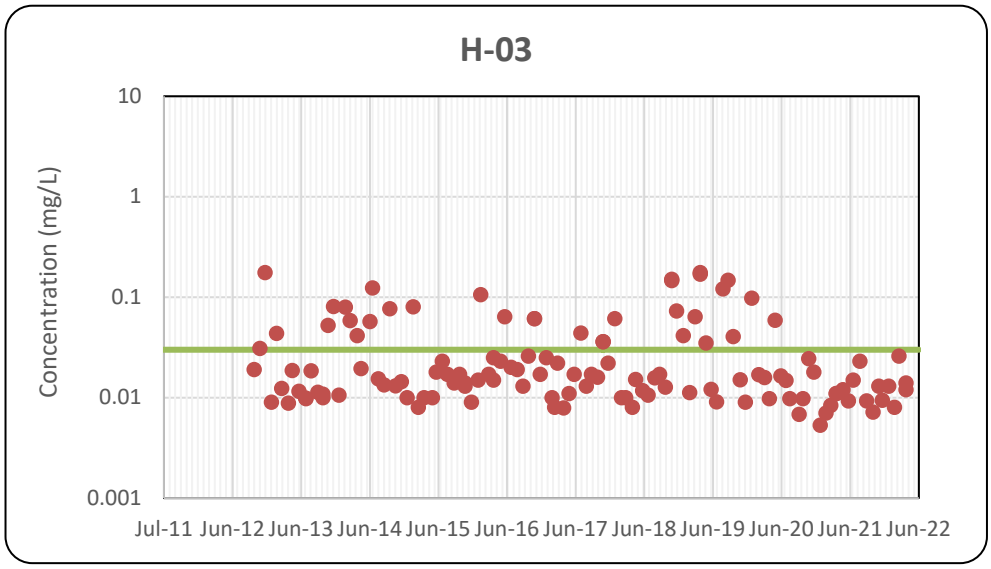


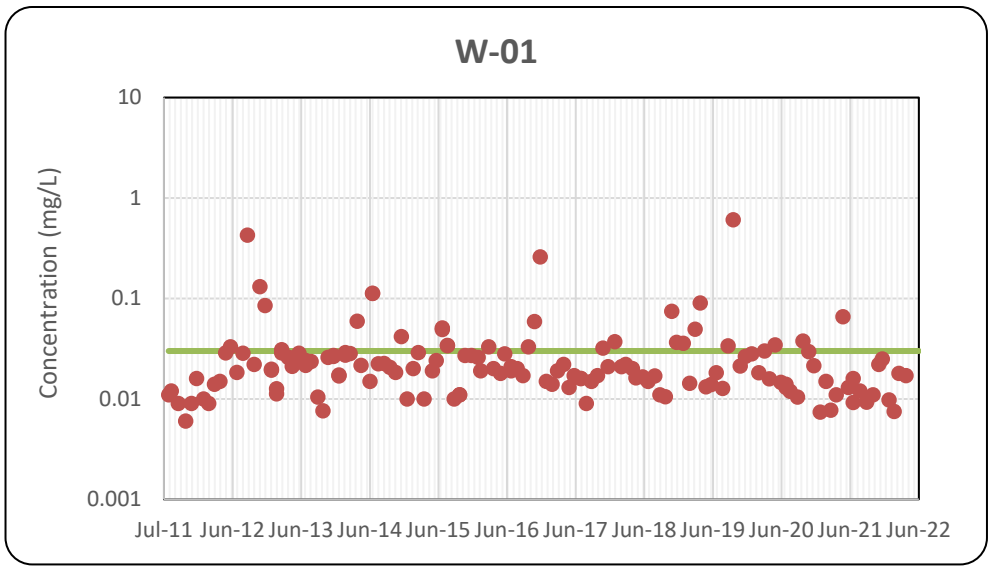




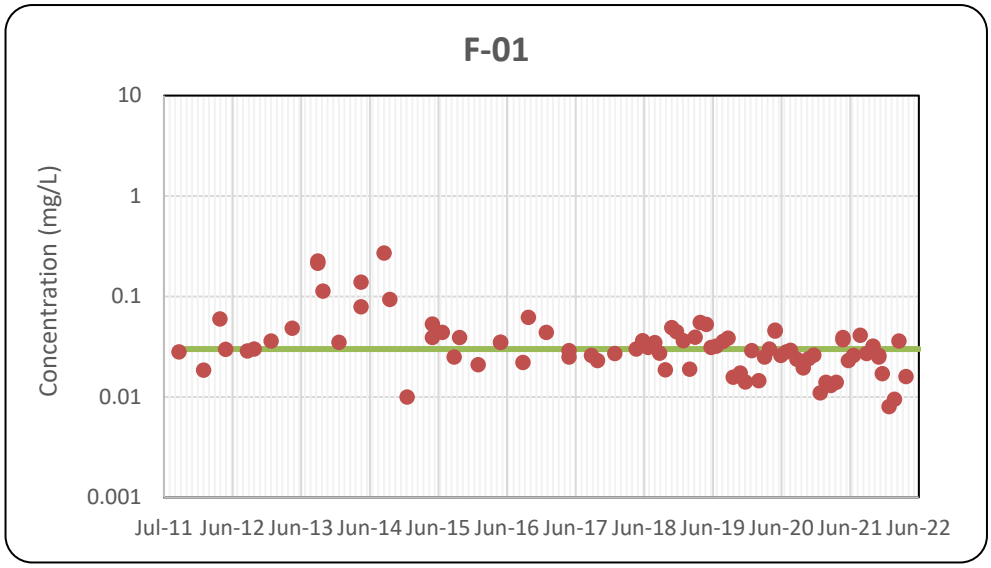
Total Phosphorus Concentrations, 2011-2022

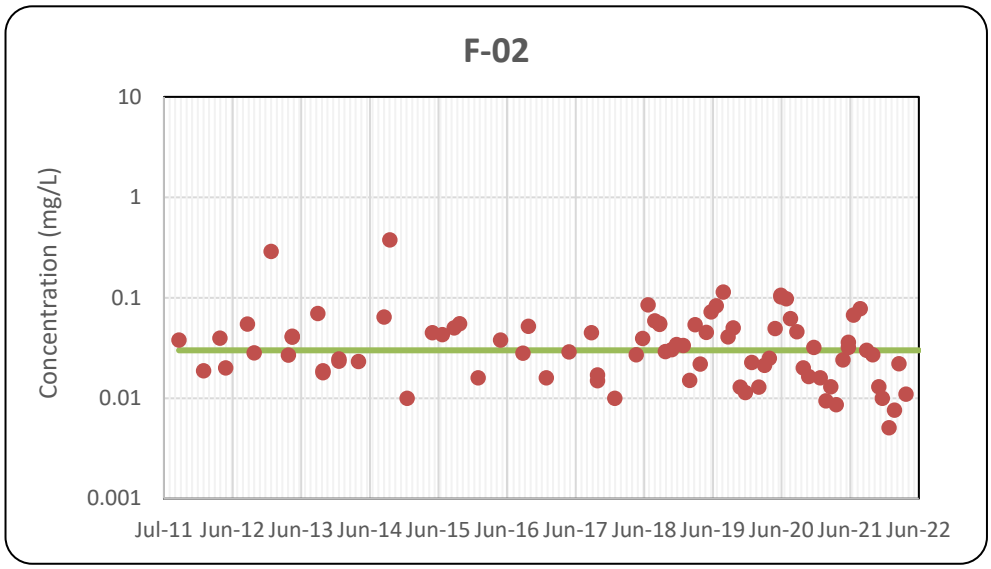


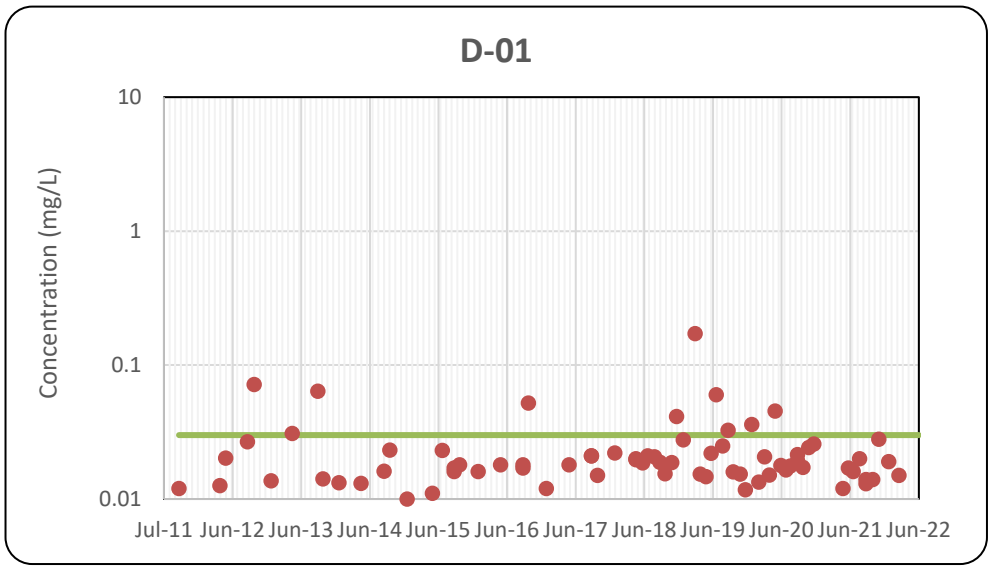




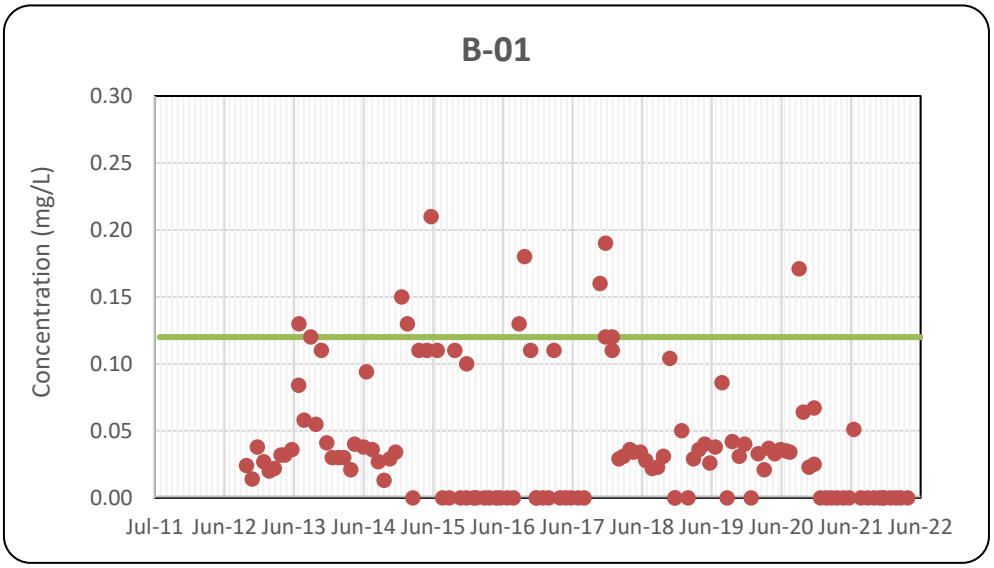
Total Phosphorus Concentrations, 2011-2022

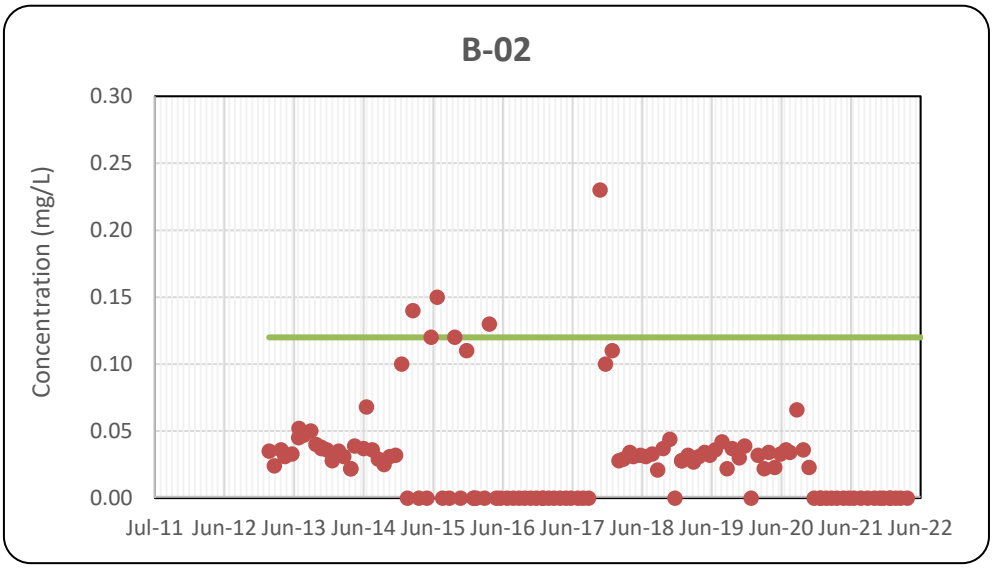


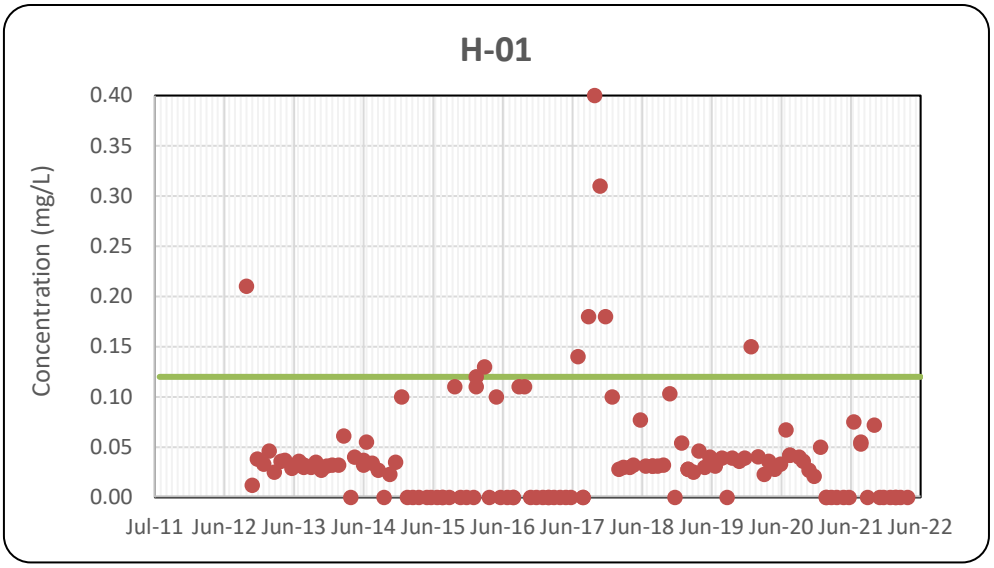




Fluoride Concentrations, 2011-2022







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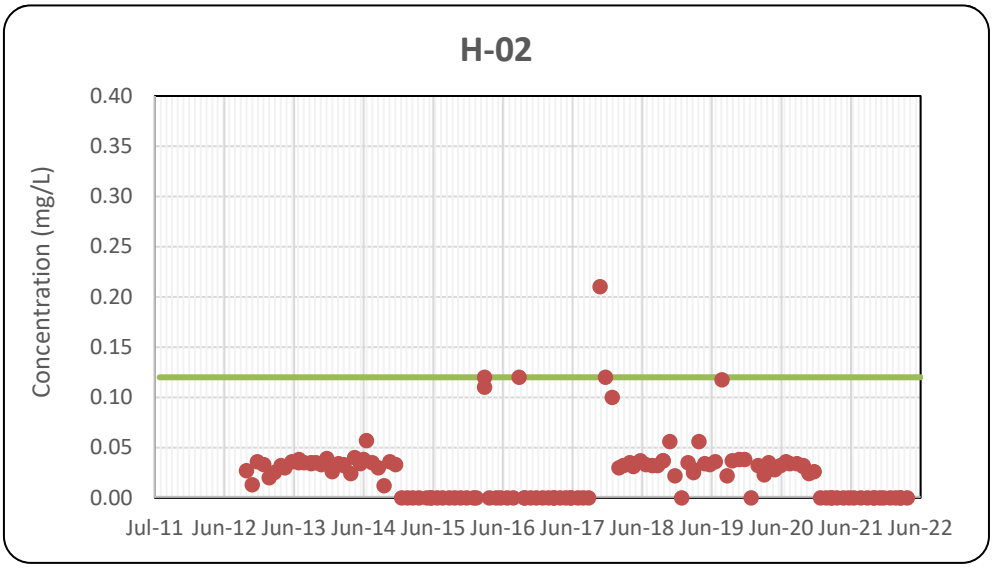

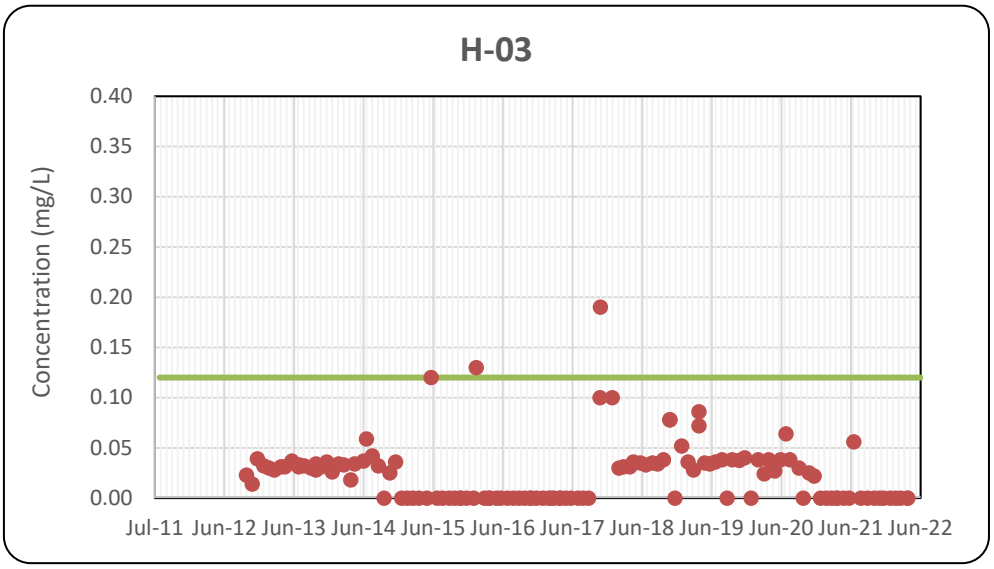

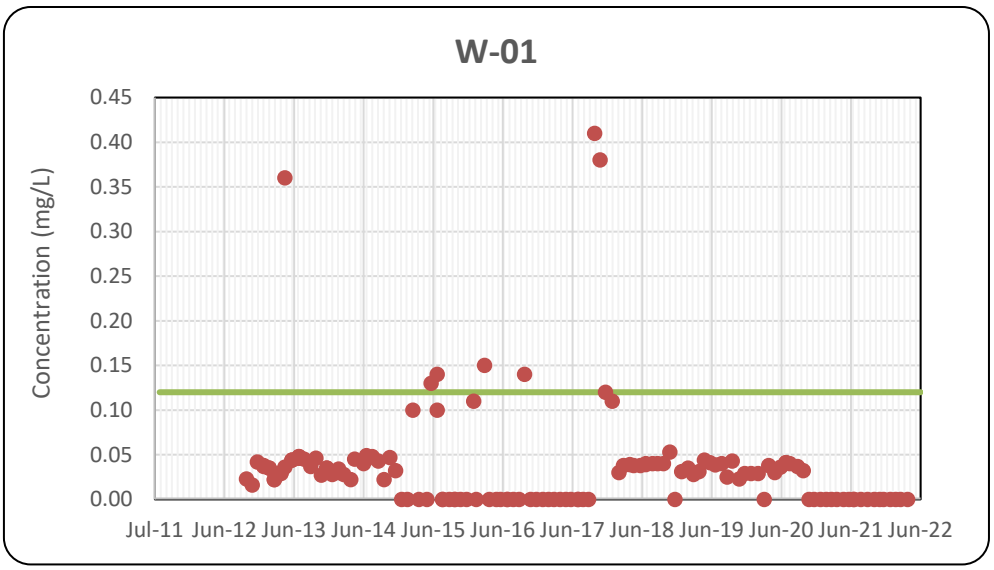

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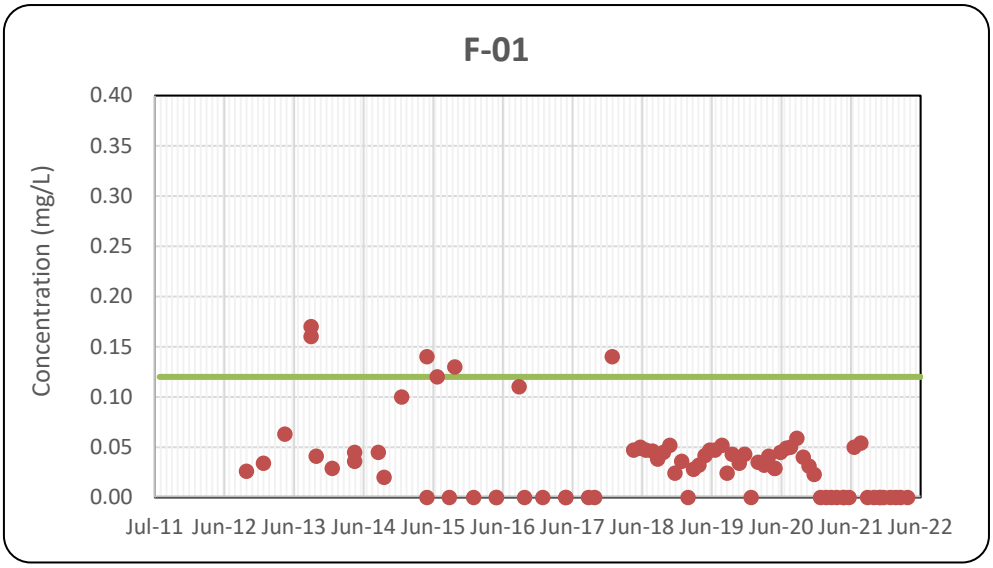
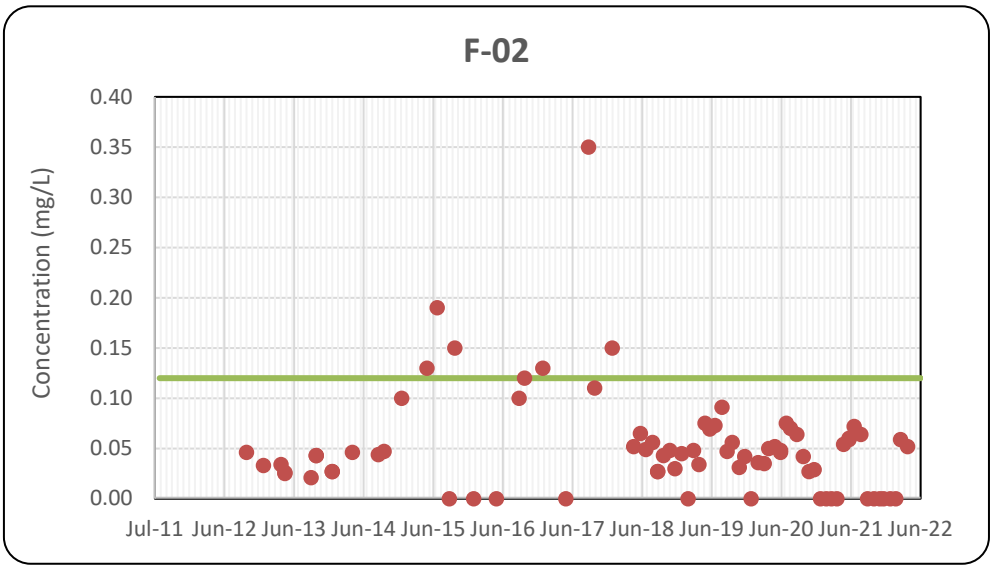
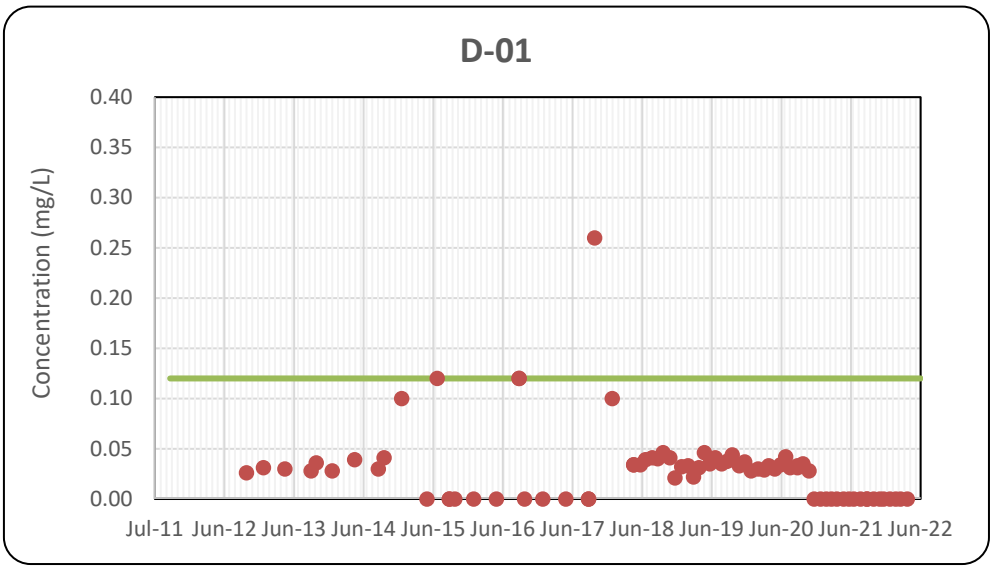
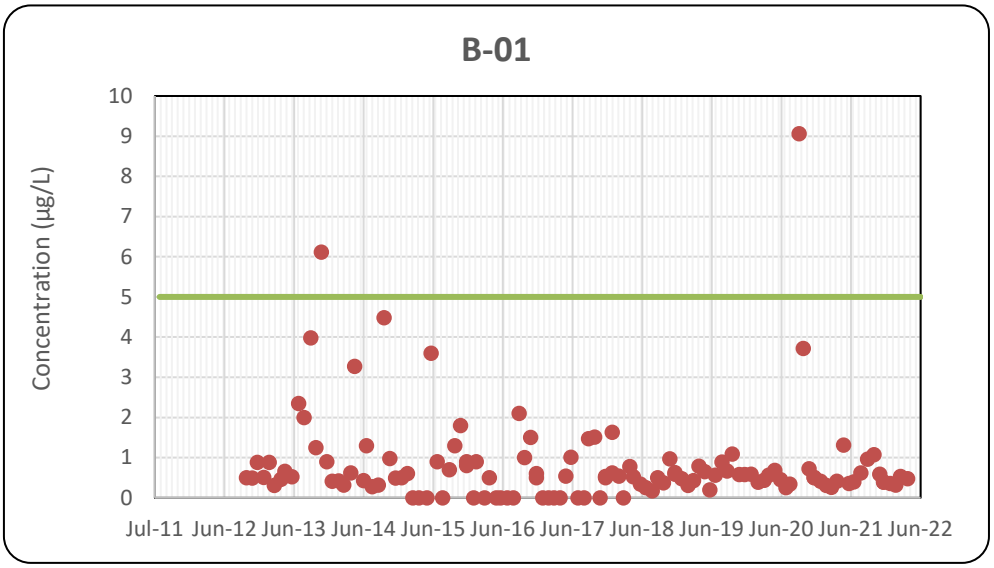
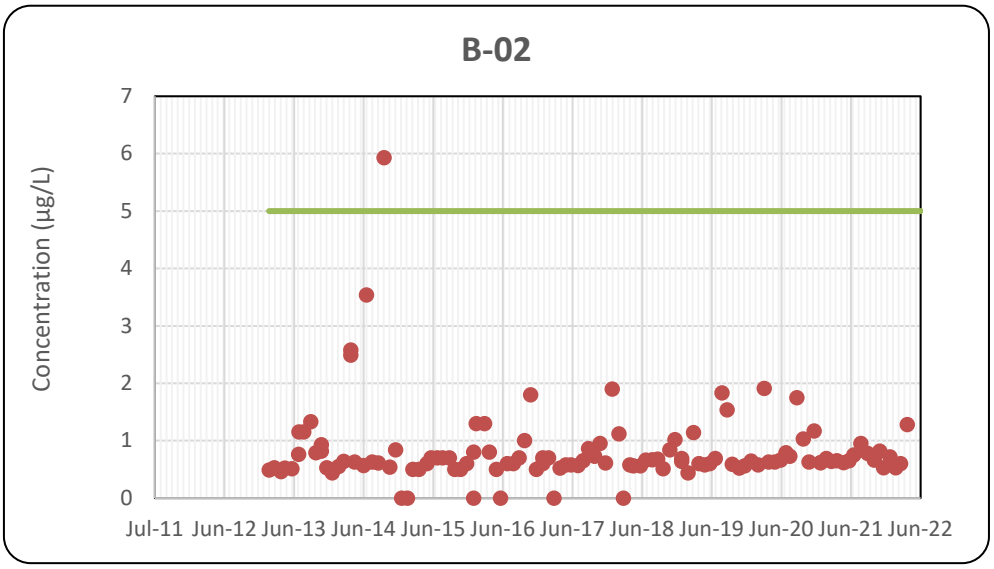


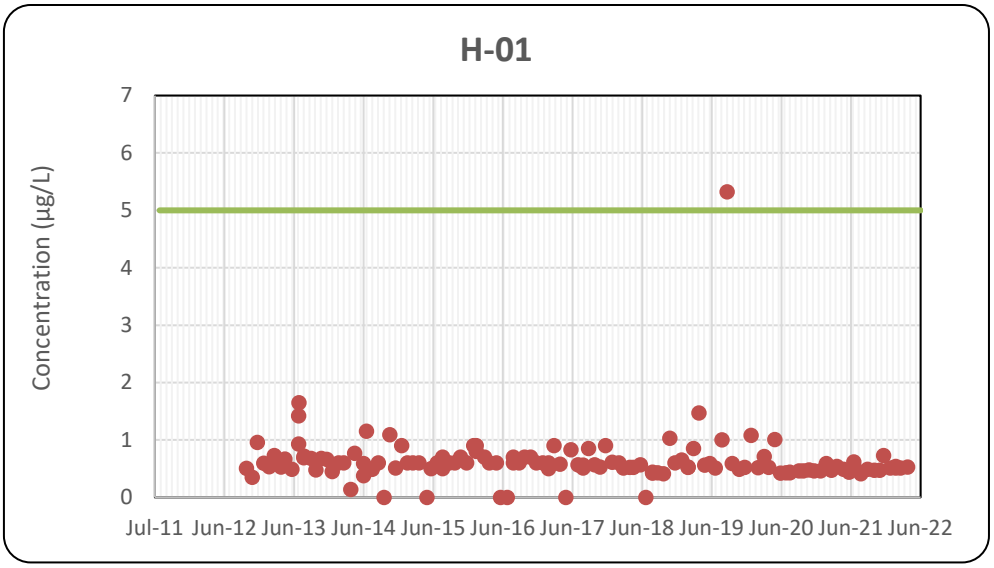




Total Arsenic Concentrations, 2011-2022







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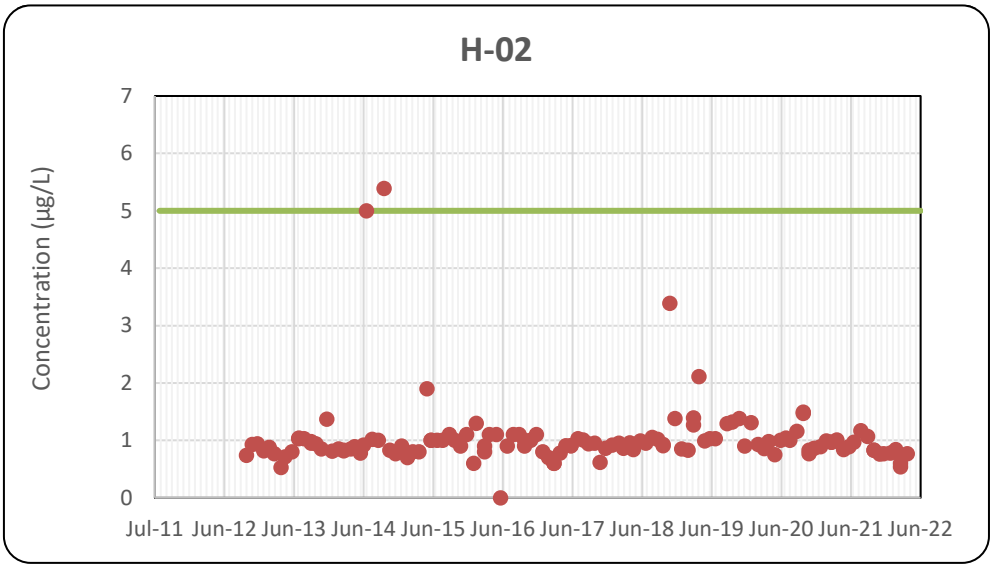

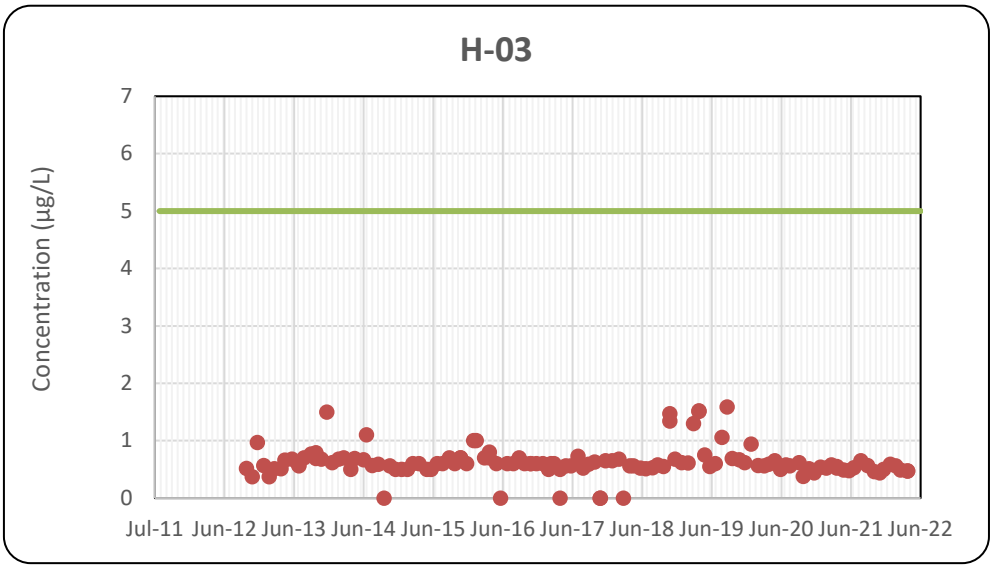

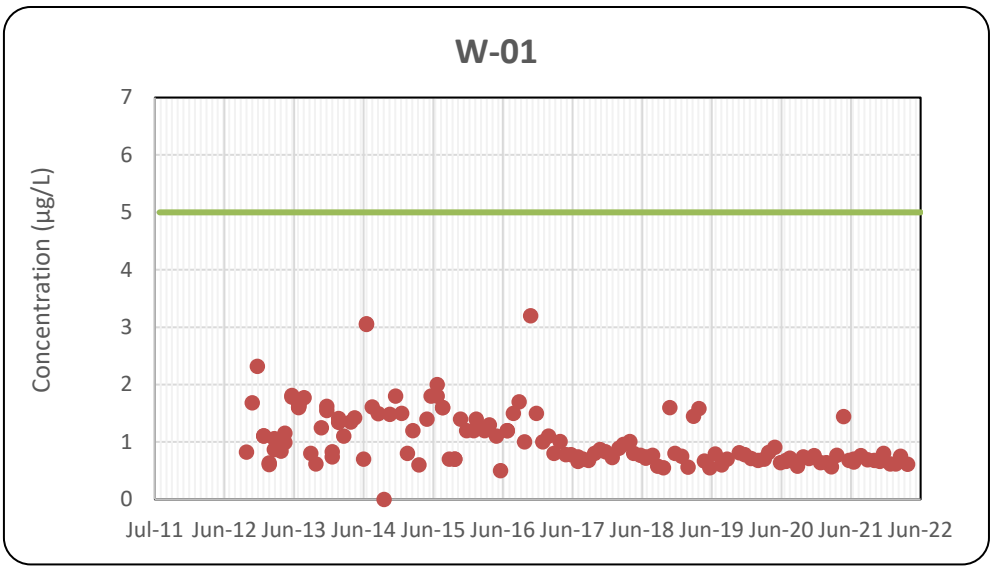

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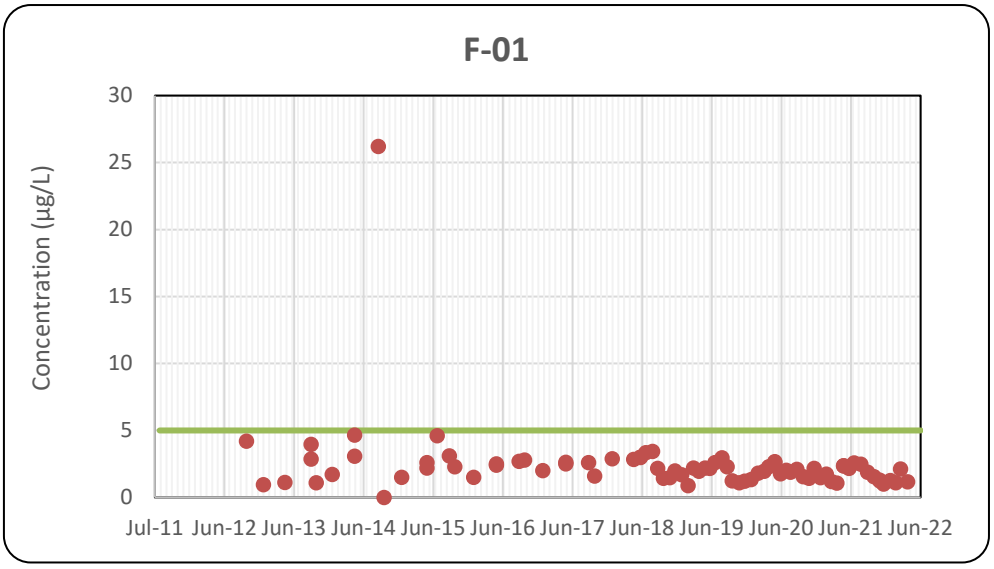

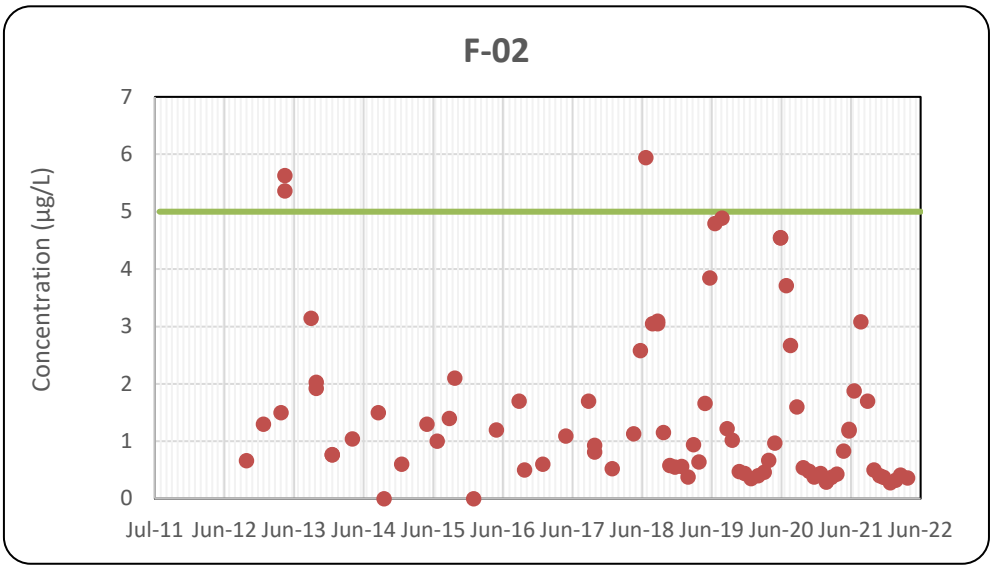

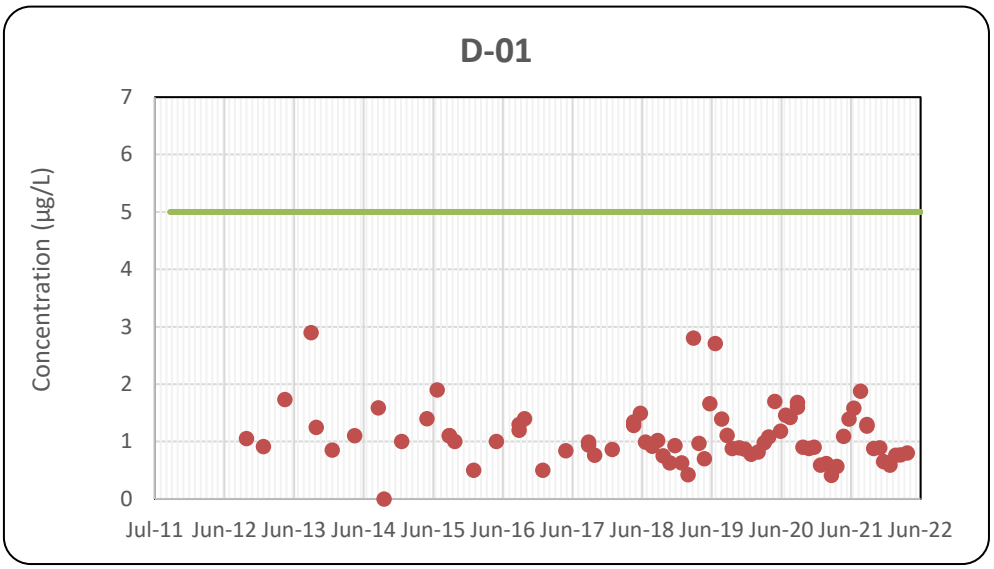

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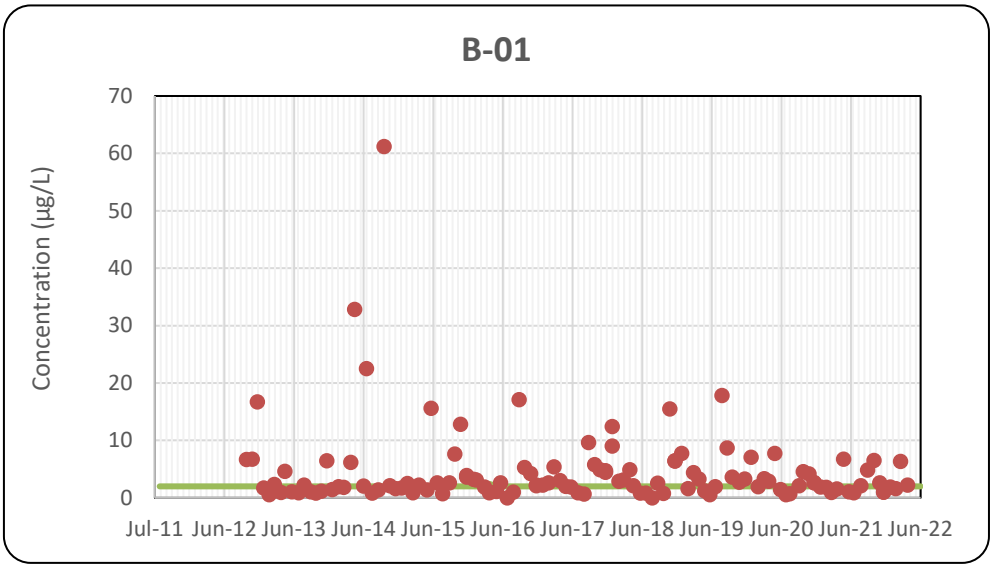

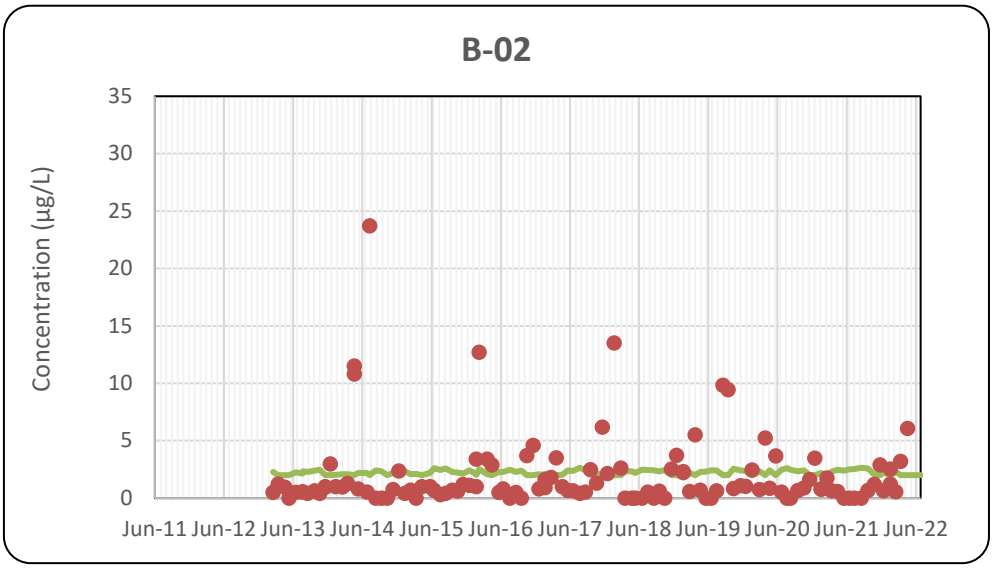

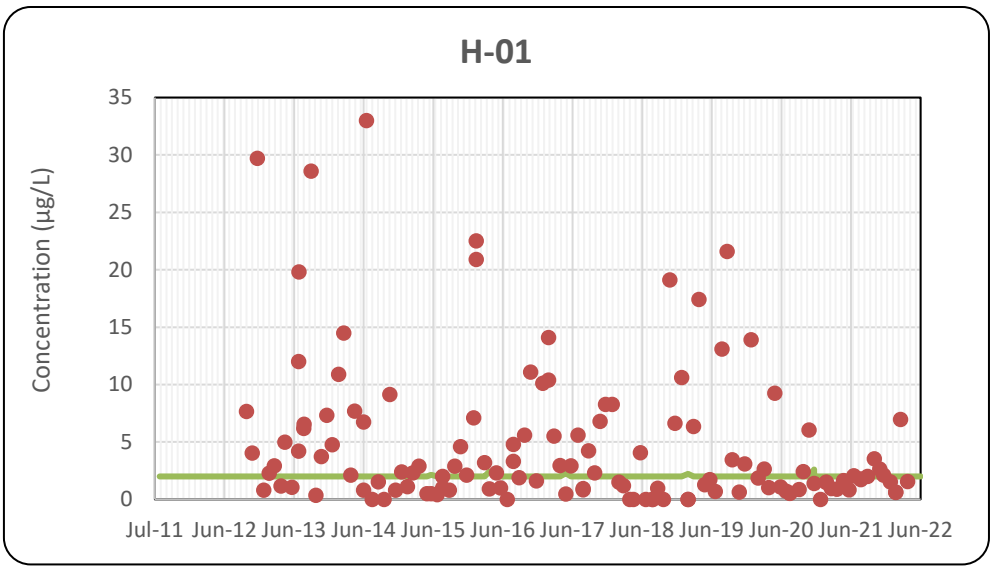

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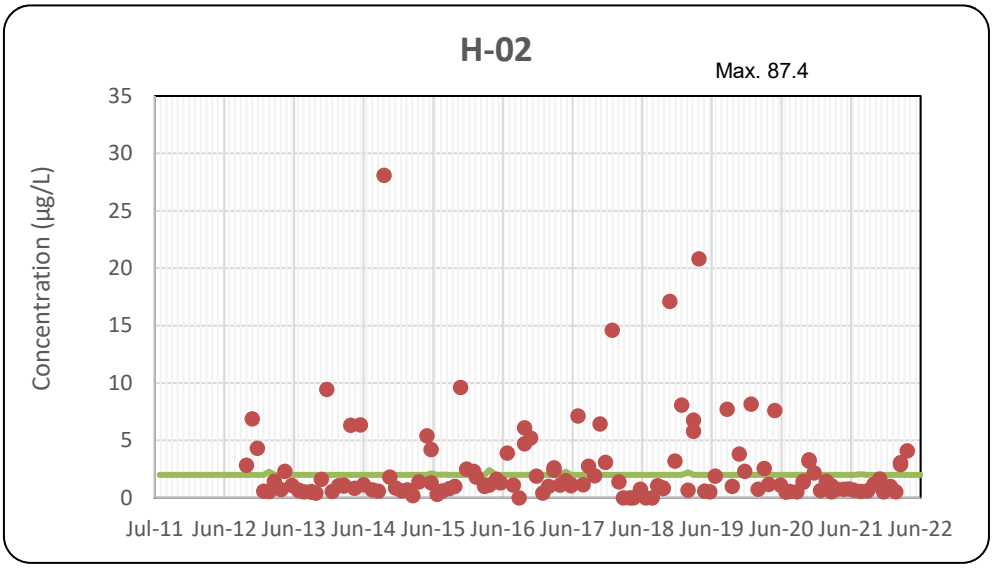

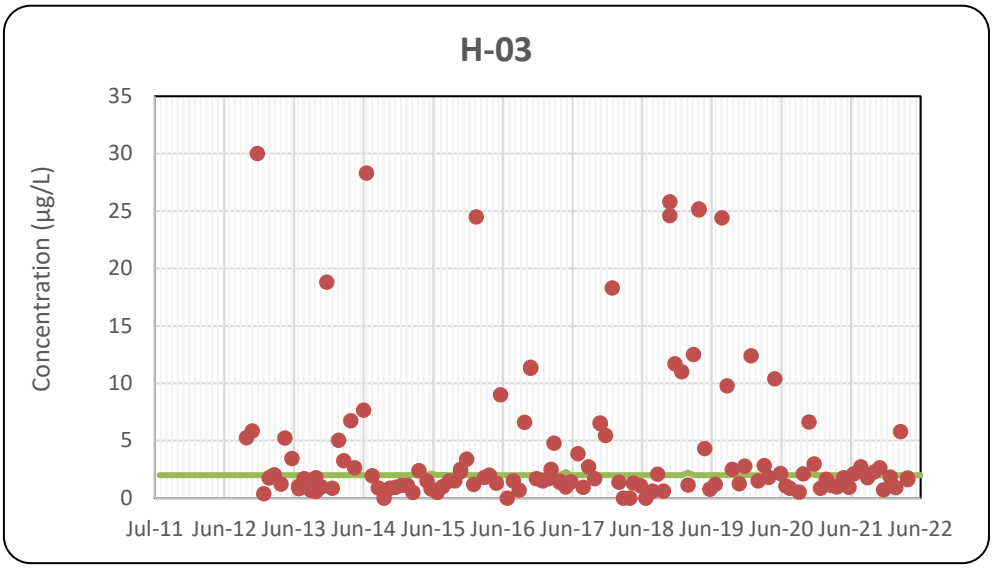

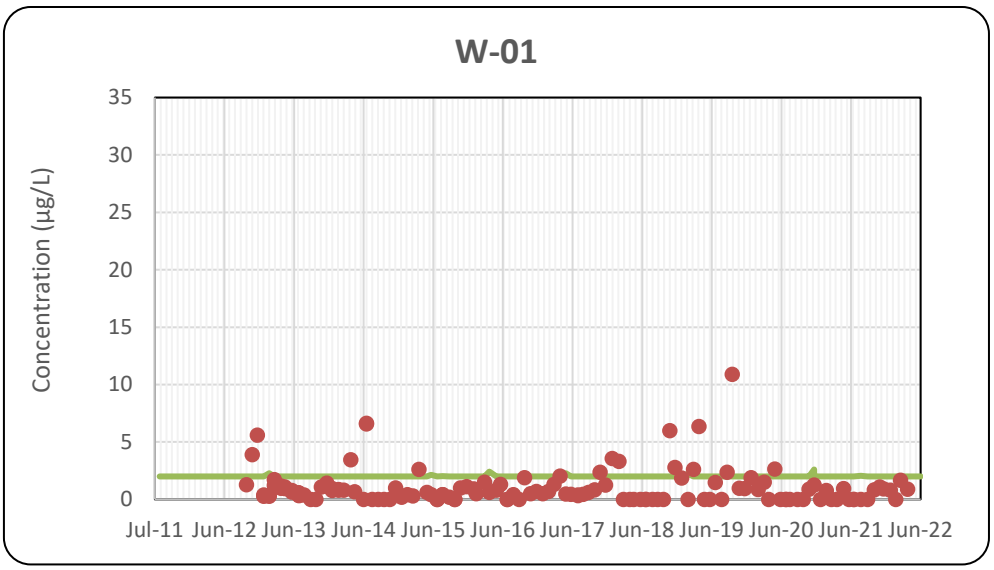

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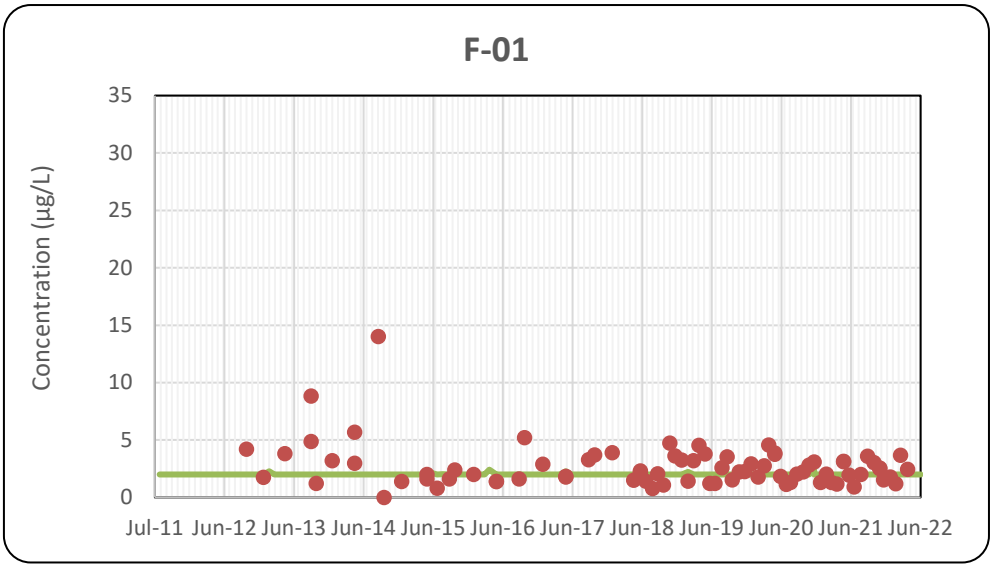

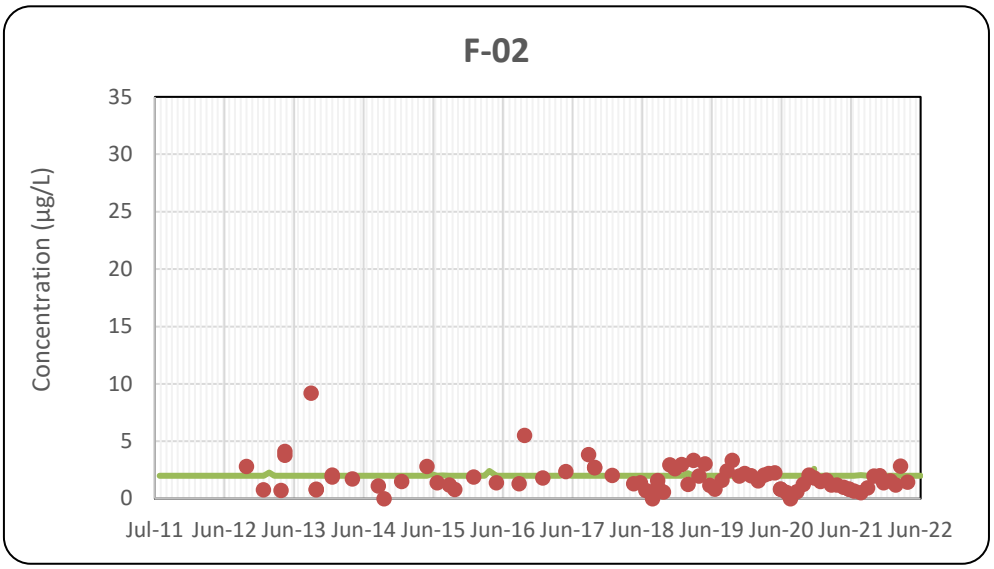

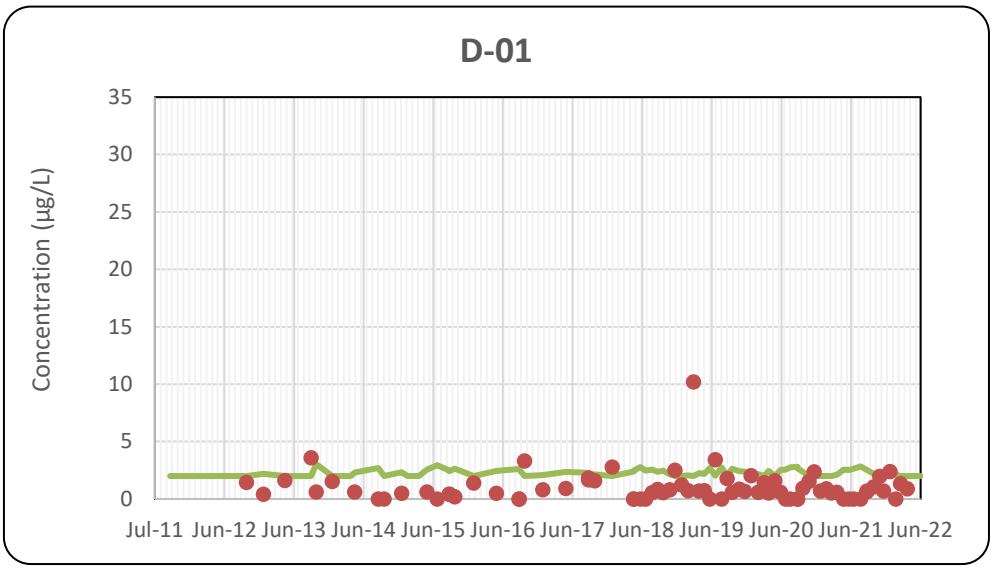

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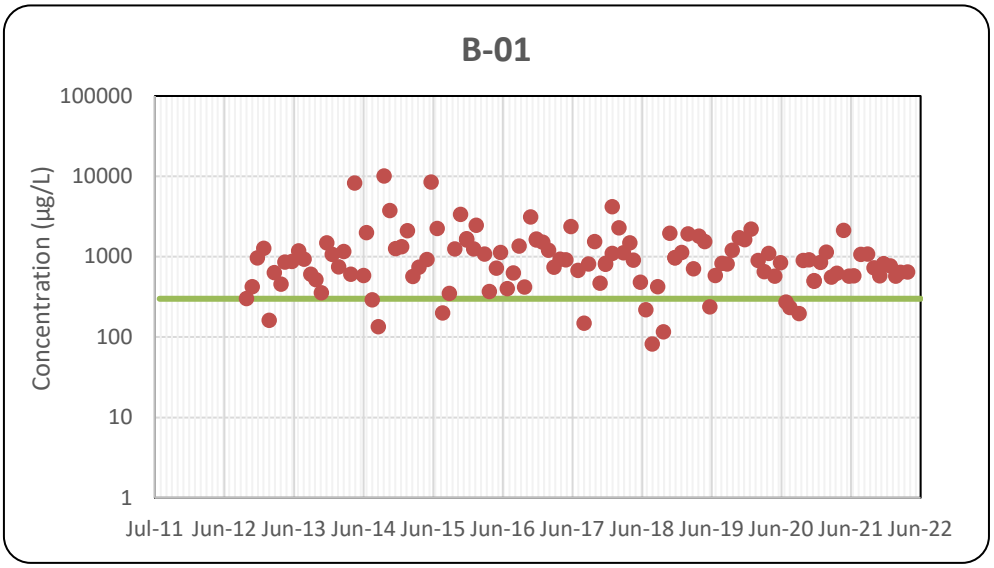

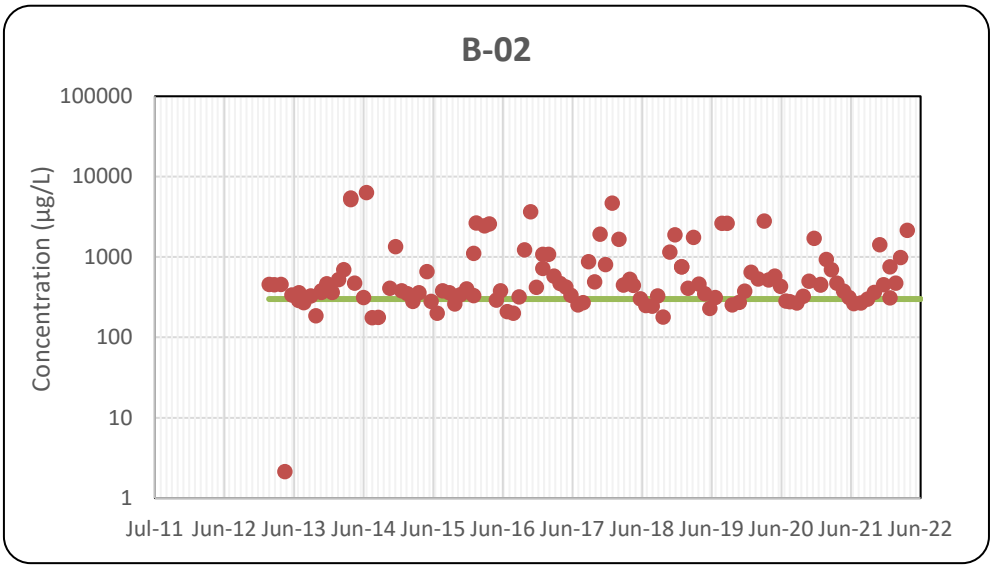

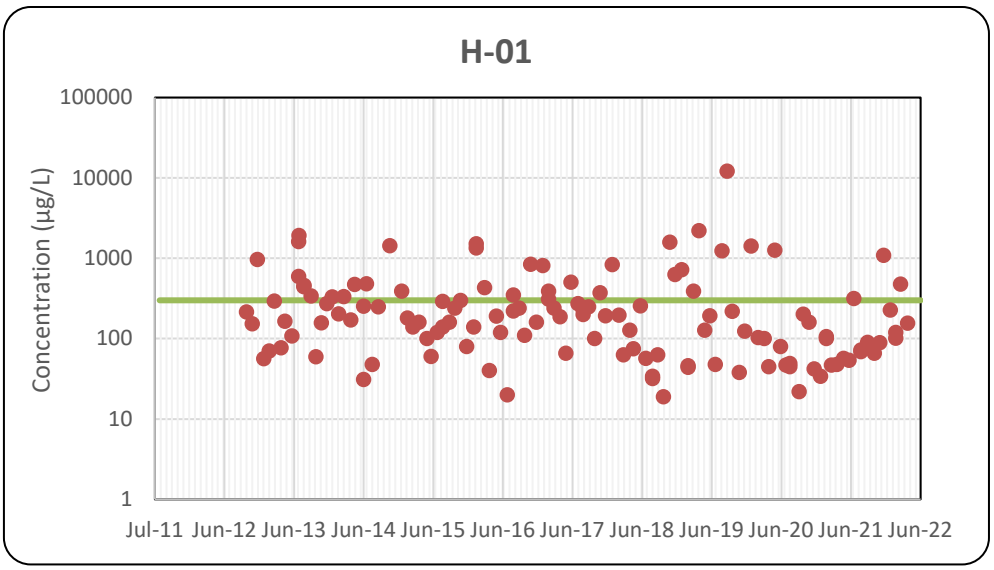

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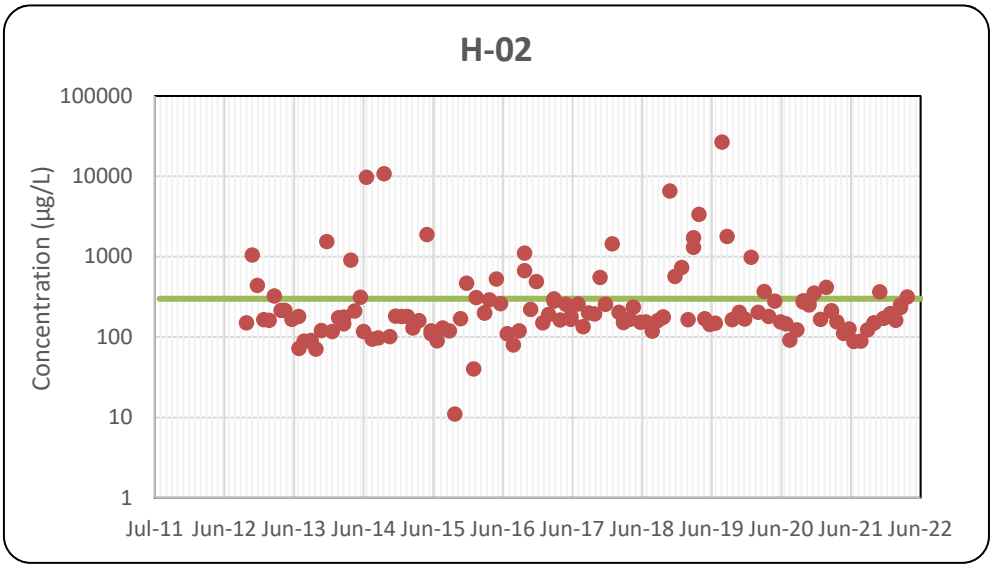

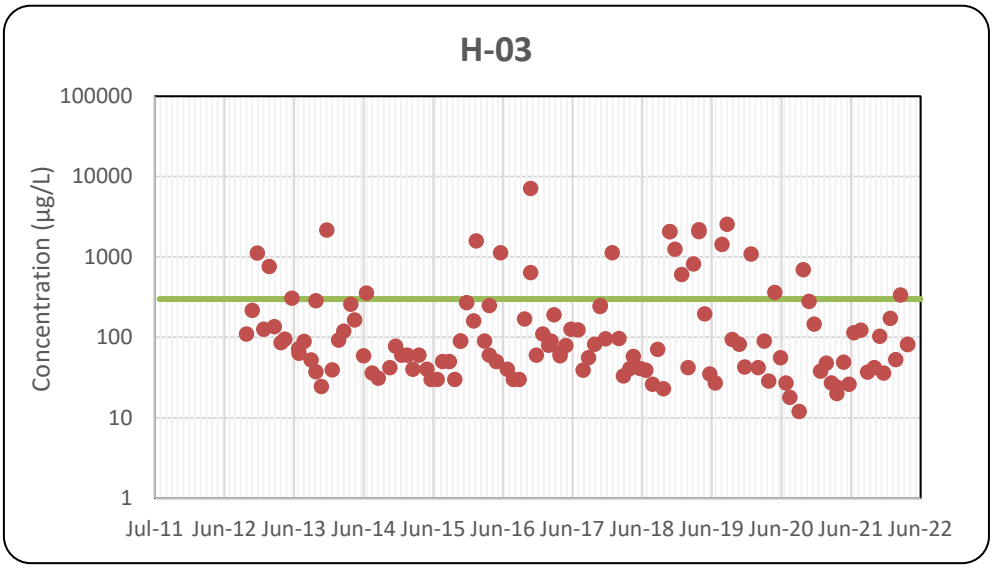

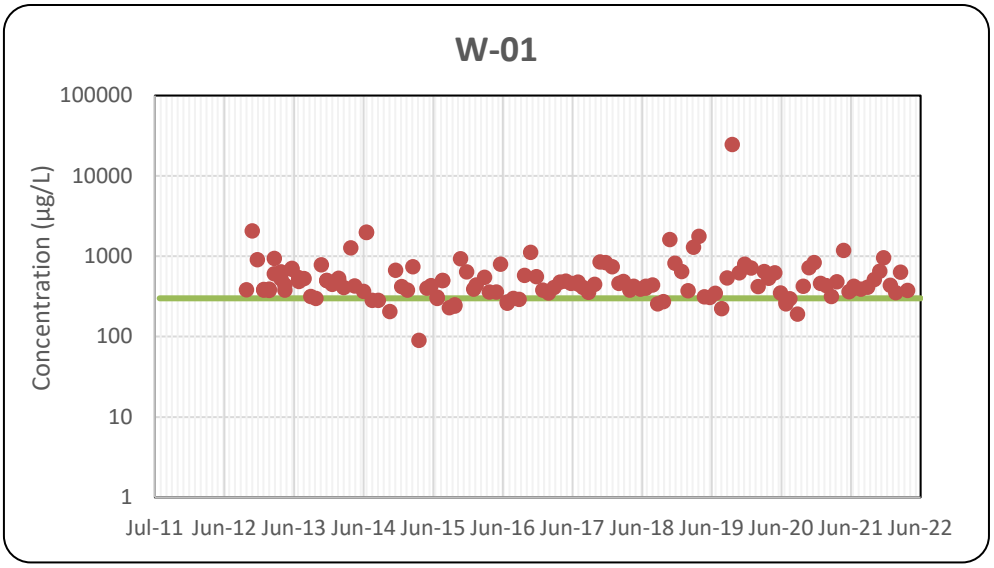

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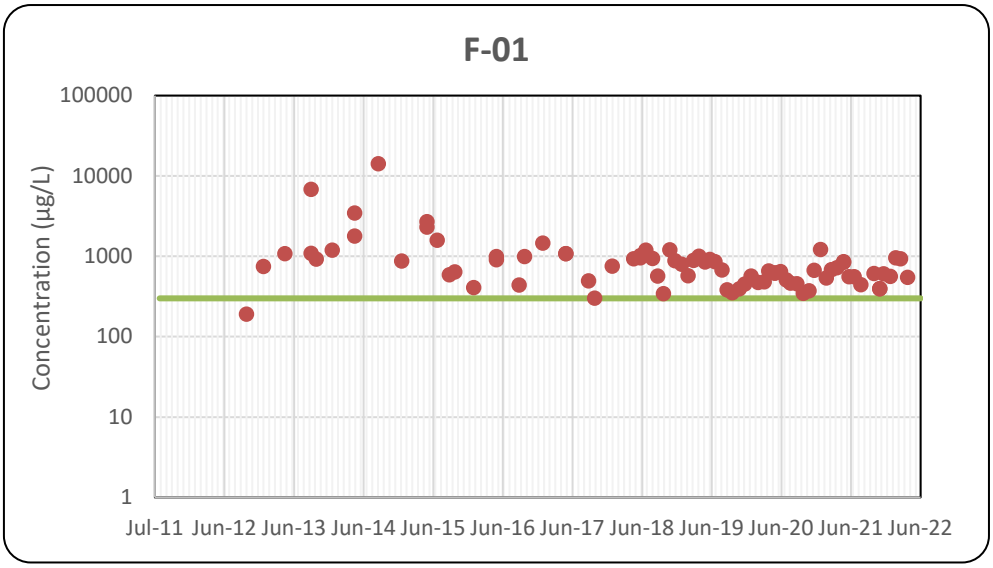

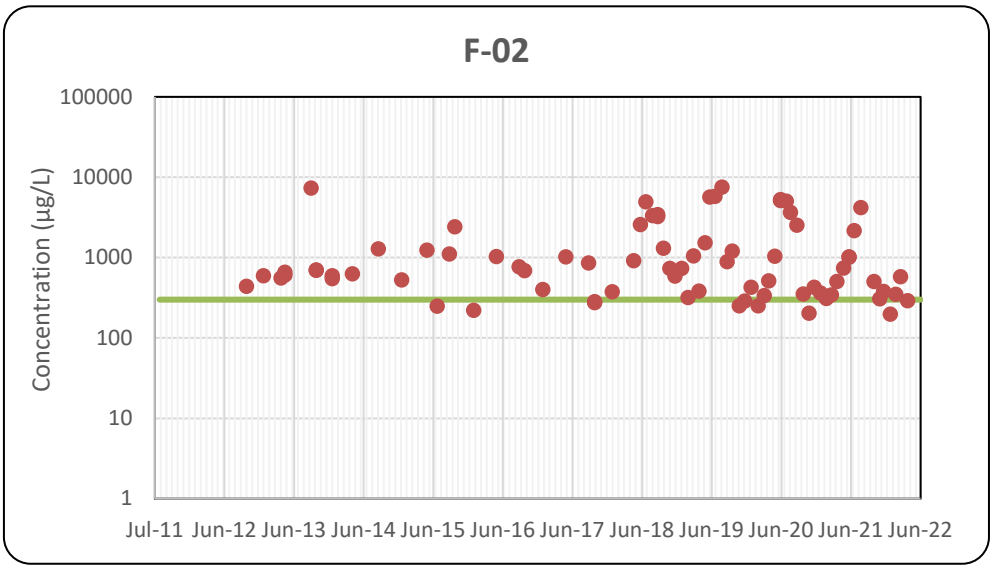

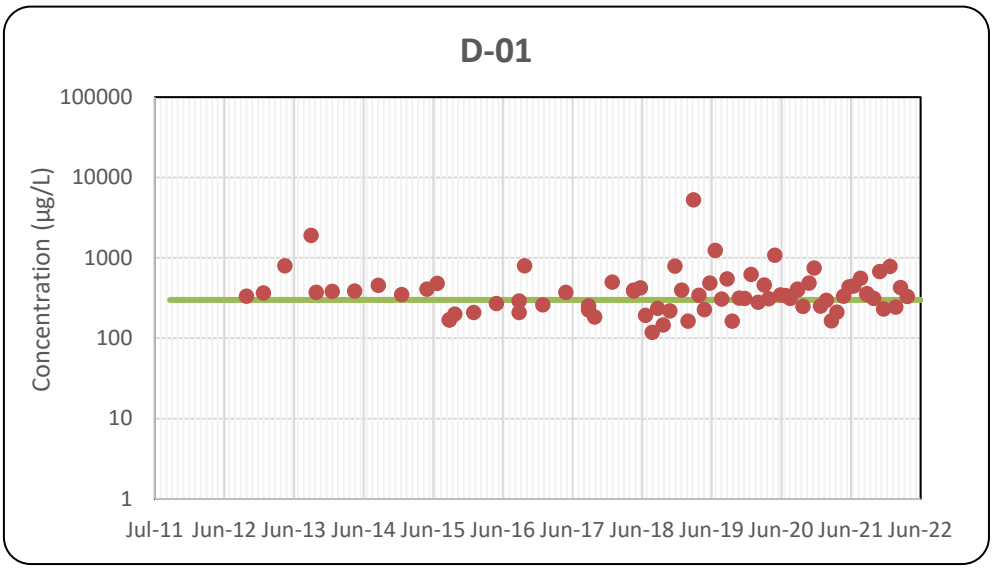

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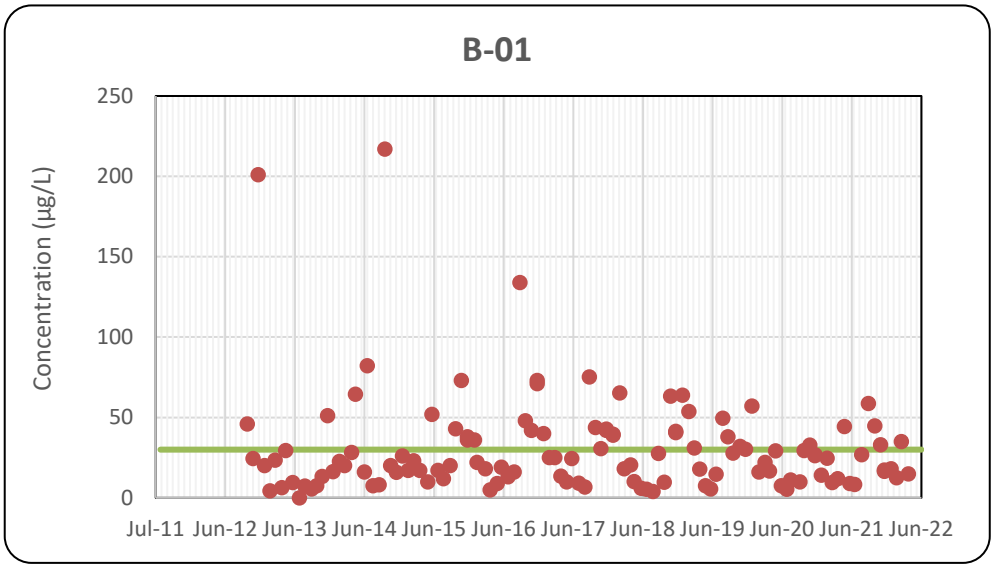

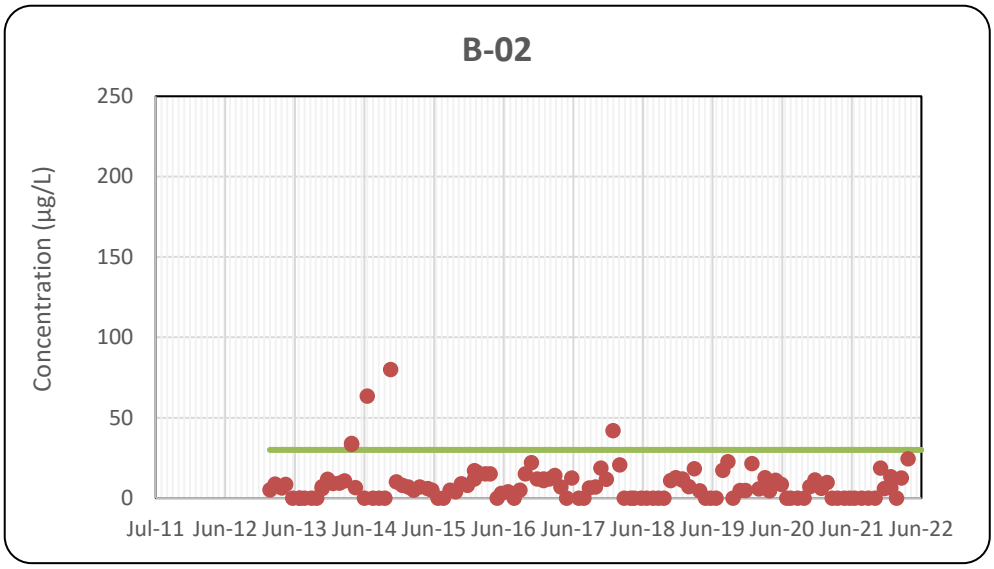

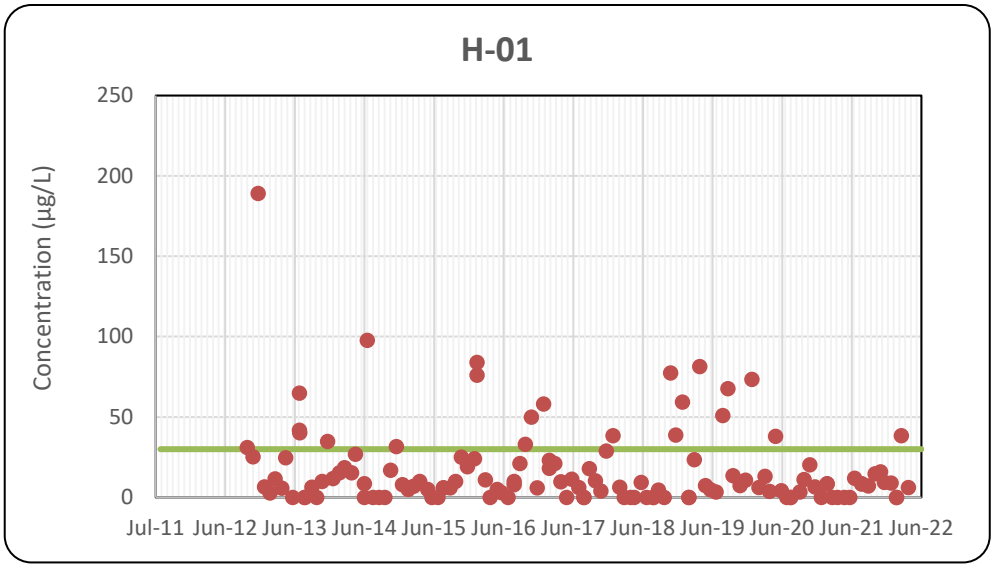

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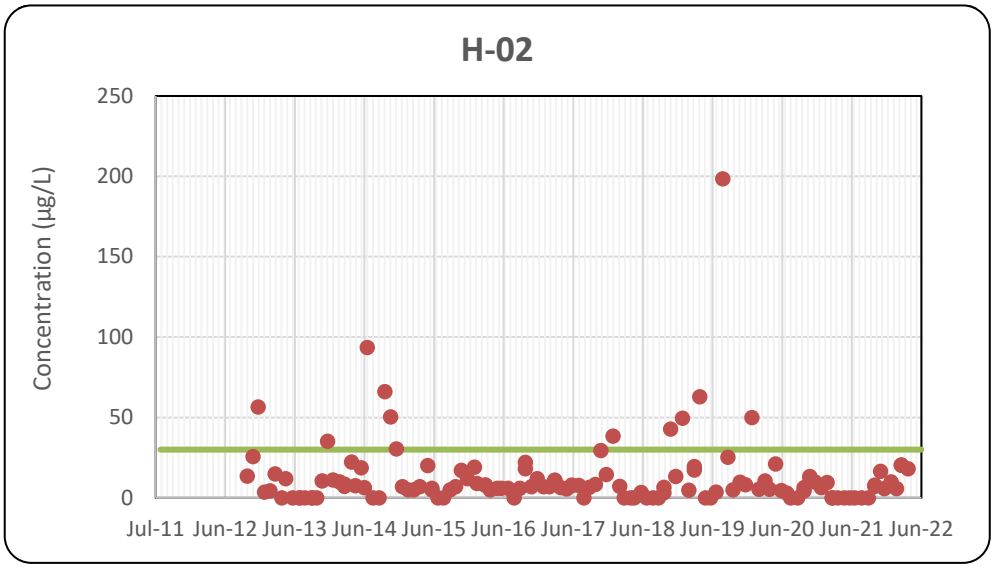

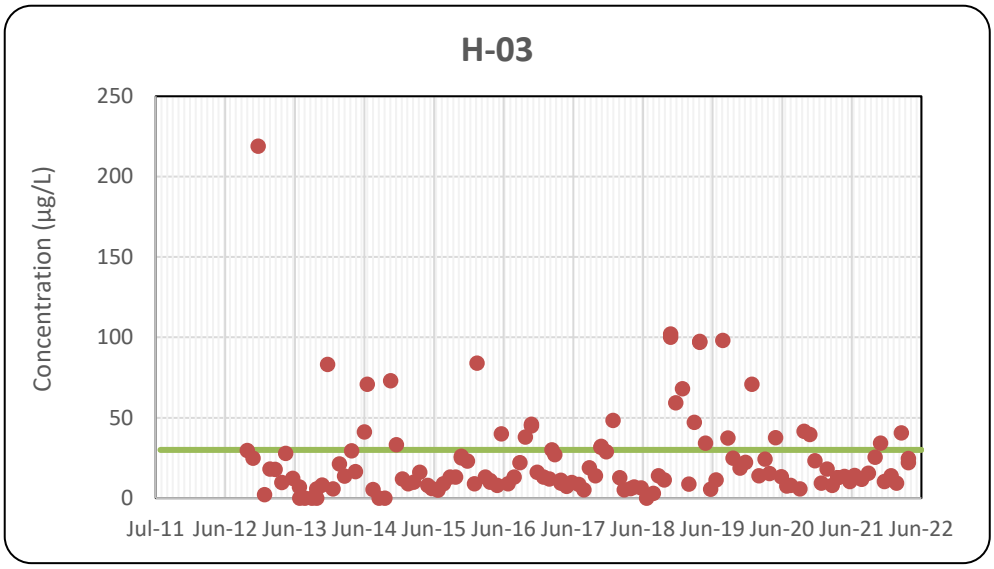

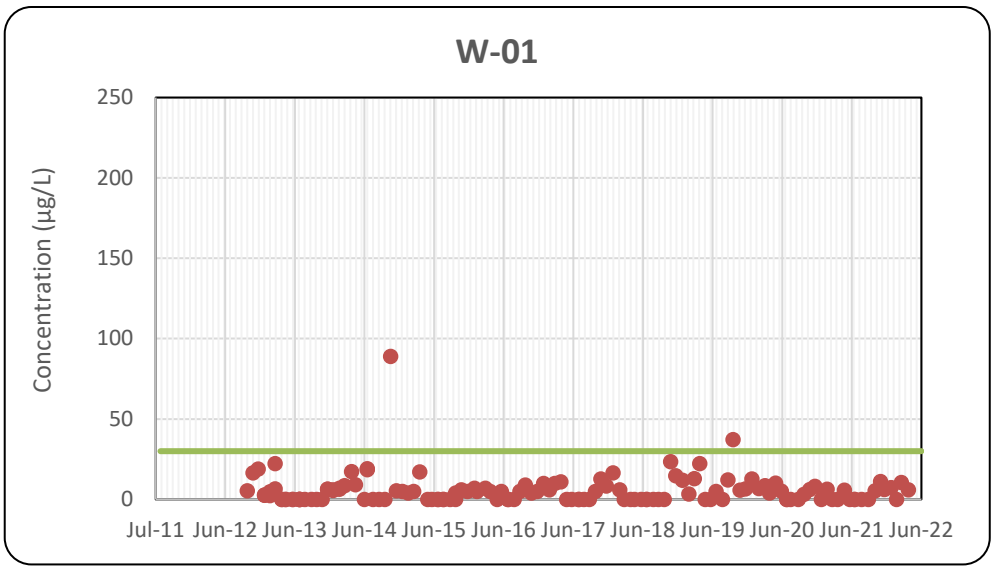

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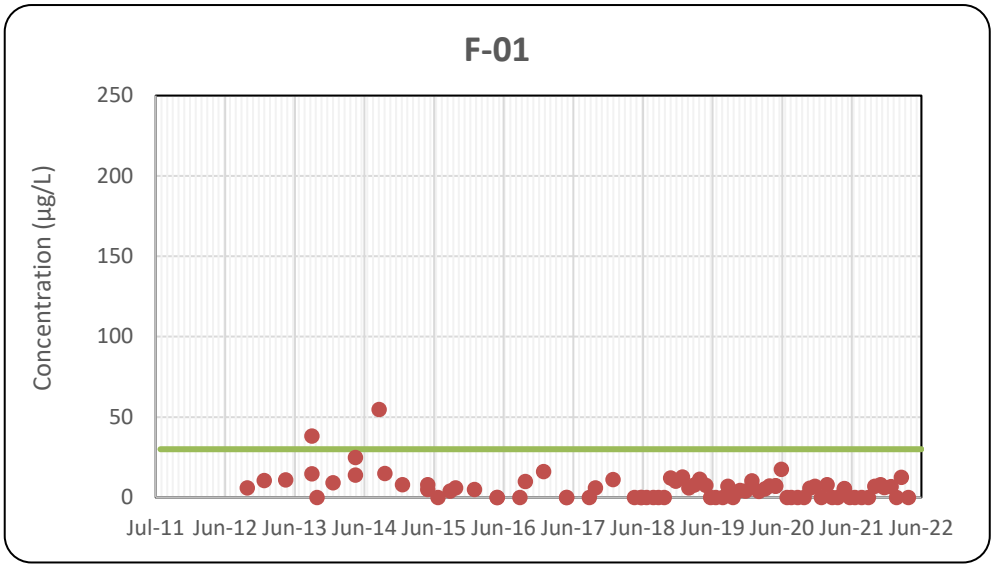

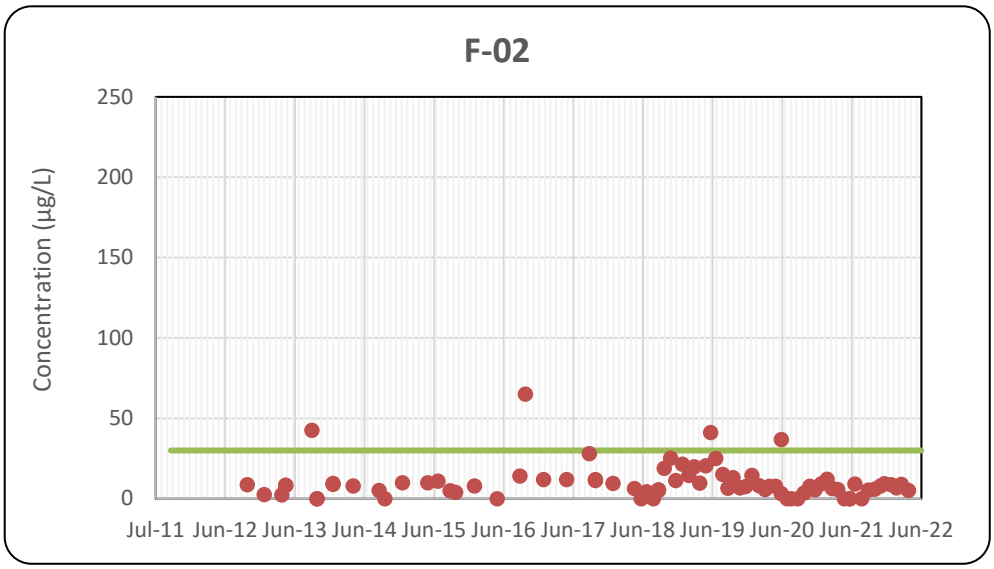

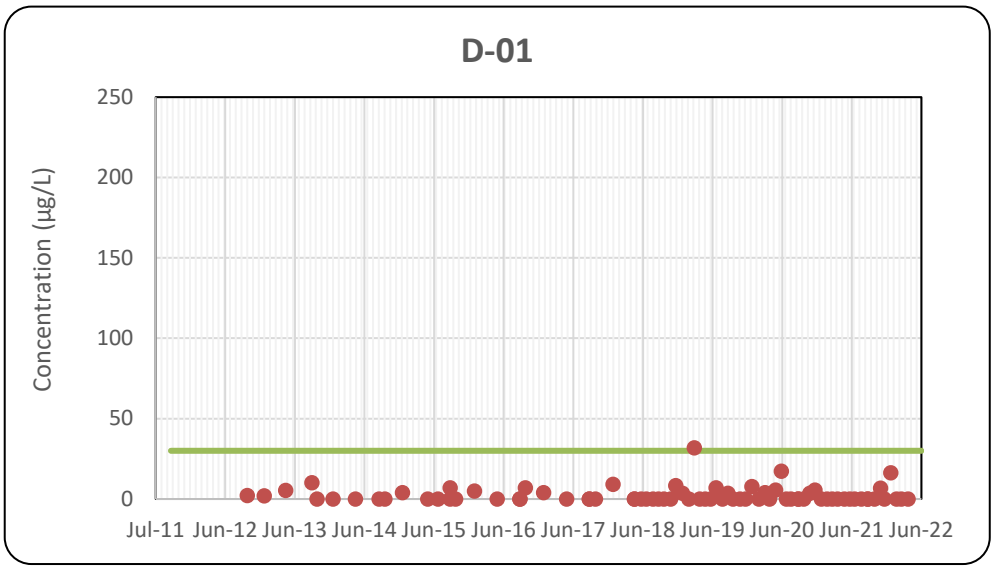

APPENDIX G

Water Quality Site Exceedances

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Dissolved Oxygen	Temperature	pH	Nitrate	Nitrite	Ammonia	Phosphorus
B-01	Year 2	83.3	8.3	0	25	8.3	0	87.5
B-01	Year 3	100	16.7	0	0	0	0	66.7
B-01	Year 4	83.3	33.3	0	8.3	0	0	25
B-01	Year 5	91.7	33.3	16.7	16.7	0	0	58.3
B-01	Year 6	91.7	8.3	25	0	0	0	41.7
B-01	Year 7	83.3	0	0	0	0	0	58.3
B-01	Year 8	100	16.7	16.7	16.7	0	0	41.7
B-01	Year 9	91.7	16.7	66.7	0	0	0	83.3
B-01	Year 10	100	16.7	75	0	0	0	41.7
B-01	Year 11	100	33.3	75	0	0	0	25
B-02	Year 2	0	0	0	0	33.3	0	0
B-02	Year 3	25	16.7	0	0	0	0	8.3
B-02	Year 4	25	16.7	0	0	0	0	25
B-02	Year 5	33.3	16.7	0	0	0	0	25
B-02	Year 6	16.7	8.3	0	0	0	0	25
B-02	Year 7	50	0	0	0	0	0	25
B-02	Year 8	33.3	25	0	0	0	0	33.3
B-02	Year 9	25	25	0	0	0	0	25
B-02	Year 10	33.3	16.7	0	0	0	0	16.7
B-02	Year 11	41.7	16.7	8.3	0	0	0	25
D-01	Year 2	33.3	0	0	0	0	0	33.3
D-01	Year 3	50	25	0	0	0	0	50
D-01	Year 4	25	0	0	0	0	0	0
D-01	Year 5	25	20	0	0	0	0	0
D-01	Year 6	25	0	0	0	0	0	25
D-01	Year 7	25	0	0	0	0	0	0
D-01	Year 8	33.3	16.7	0	0	0	0	16.7
D-01	Year 9	25	0	0	0	0	0	25
D-01	Year 10	41.7	16.7	0	0	0	0	8.3
D-01	Year 11	33.3	33.3	0	0	0	0	0
F-01	Year 2	40	20	0	0	0	0	33.3

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Dissolved Oxygen	Temperature	pH	Nitrate	Nitrite	Ammonia	Phosphorus
F-01	Year 3	50	25	0	0	0	0	100
F-01	Year 4	50	25	0	0	0	0	75
F-01	Year 5	75	20	0	0	0	0	60
F-01	Year 6	50	25	0	0	0	0	75
F-01	Year 7	50	0	0	0	0	0	0
F-01	Year 8	58.3	33.3	0	0	0	0	66.7
F-01	Year 9	66.7	41.7	0	0	0	0	41.7
F-01	Year 10	58.3	50	0	0	0	0	8.3
F-01	Year 11	66.7	41.7	8.3	0	0	0	33.3
F-02	Year 2	75	25	0	0	0	0	33.3

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Dissolved Oxygen	Temperature	pH	Nitrate	Nitrite	Ammonia	Phosphorus
F-02	Year 3	75	25	0	0	0	0	50
F-02	Year 4	75	25	0	0	0	0	50
F-02	Year 5	75	20	0	0	0	0	80
F-02	Year 6	50	25	0	0	0	0	50
F-02	Year 7	100	25	0	0	0	0	25
F-02	Year 8	91.7	33.3	0	0	0	0	66.7
F-02	Year 9	91.7	41.7	16.7	0	0	0	50
F-02	Year 10	100	41.7	8.3	0	0	0	50
F-02	Year 11	75	41.7	16.7	0	0	0	25
H-01	Year 2	80	0	8.3	8.3	0	0	25
H-01	Year 3	91.7	16.7	8.3	8.3	0	8.3	50
H-01	Year 4	91.7	25	8.3	0	0	0	16.7
H-01	Year 5	91.7	16.7	8.3	0	0	0	8.3
H-01	Year 6	100	16.7	8.3	0	8.3	0	16.7
H-01	Year 7	83.3	33.3	16.7	0	0	0	41.7
H-01	Year 8	91.7	16.7	0	0	0	0	41.7
H-01	Year 9	100	41.7	83.3	0	0	0	33.3
H-01	Year 10	100	16.7	91.7	0	0	0	16.7
H-01	Year 11	83.3	41.7	91.7	16.7	0	0	0
H-02	Year 2	18.2	18.2	0	8.3	0	0	25
H-02	Year 3	16.7	8.3	0	8.3	0	0	25
H-02	Year 4	38.5	30.8	0	0	0	0	23.1
H-02	Year 5	50	16.7	0	0	0	0	8.3
H-02	Year 6	8.3	8.3	0	0	0	0	25
H-02	Year 7	33.3	0	8.3	0	0	0	16.7
H-02	Year 8	33.3	16.7	0	0	0	0	33.3
H-02	Year 9	33.3	16.7	0	0	0	0	25
H-02	Year 10	50	25	0	0	0	0	8.3
H-02	Year 11	58.3	16.7	0	0	0	0	0
H-03	Year 2	71.4	0	0	0	0	0	66.7
H-03	Year 3	66.7	0	0	0	0	0	41.7

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Dissolved Oxygen	Temperature	pH	Nitrate	Nitrite	Ammonia	Phosphorus
H-03	Year 4	75	16.7	0	0	0	0	33.3
H-03	Year 5	58.3	16.7	0	0	0	0	8.3
H-03	Year 6	58.3	16.7	0	0	0	0	16.7
H-03	Year 7	66.7	16.7	0	0	0	0	25
H-03	Year 8	75	16.7	0	0	0	0	41.7
H-03	Year 9	66.7	33.3	16.7	0	0	0	41.7
H-03	Year 10	66.7	25	0	0	0	0	8.3
H-03	Year 11	58.3	33.3	16.7	0	0	0	0
W-01	Year 2	72.7	18.2	0	0	0	0	50
W-01	Year 3	54.5	8.3	0	0	0	0	8.3
W-01	Year 4	7	1	0	0	0	0	1
W-01	Year 5	41.7	16.7	0	0	0	0	25
W-01	Year 6	41.7	8.3	0	0	0	0	25
W-01	Year 7	50	8.3	0	0	0	0	16.7
W-01	Year 8	66.7	16.7	0	0	0	0	41.7
W-01	Year 9	58.3	8.3	8.3	0	0	0	16.7
W-01	Year 10	66.7	16.7	0	0	0	0	16.7
W-01	Year 11	58.3	25	8.3	0	0	0	8.3

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Fluoride	Arsenic	Cadmium	Chromium	Copper	Mercury	Iron
B-01	Year 2	0	0	28.6	71.4	57.1	0	85.7
B-01	Year 3	0	8.3	0	83.3	33.3	0	100
B-01	Year 4	16.7	0	25	100	58.3	0	83.3
B-01	Year 5	8.3	0	16.7	91.7	66.7	0	91.7
B-01	Year 6	16.7	0	25	91.7	75	0	100
B-01	Year 7	33.3	0	16.7	100	66.7	0	91.7
B-01	Year 8	0	0	8.3	83.3	58.3	0	75
B-01	Year 9	0	0	8.3	100	66.7	0	91.7
B-01	Year 10	8.3	8.3	0	66.7	41.7	0	75
B-01	Year 11	0	0	0	91.7	58.3	0	100
B-02	Year 2	0	0	0	0	0	0	100
B-02	Year 3	0	0	8.3	33.3	16.7	0	63.6
B-02	Year 4	8.3	8.3	16.7	25	25	0	75
B-02	Year 5	16.7	0	0	58.3	33.3	0	75
B-02	Year 6	0	0	0	58.3	25	0	75
B-02	Year 7	16.7	0	8.3	58.3	41.7	0	83.3
B-02	Year 8	0	0	0	50	33.3	0	75
B-02	Year 9	0	0	8.3	25	33.3	0	75
B-02	Year 10	0	0	0	25	16.7	0	75
B-02	Year 11	0	0	0	33.3	25	0	75
D-01	Year 2	0	0	0	0	0	0	100
D-01	Year 3	0	0	0	75	25	0	100
D-01	Year 4	0	0	0	25	0	0	100
D-01	Year 5	0	0	0	0	0	0	40
D-01	Year 6	0	0	0	50	25	0	25
D-01	Year 7	25	0	0	25	25	0	50
D-01	Year 8	0	0	0	16.7	16.7	0	50
D-01	Year 9	0	0	0	8.3	16.7	0	75
D-01	Year 10	0	0	0	8.3	8.3	0	58.3
D-01	Year 11	0	0	0	8.3	8.3	0	83.3
F-01	Year 2	0	0	0	50	50	0	50

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Fluoride	Arsenic	Cadmium	Chromium	Copper	Mercury	Iron
F-01	Year 3	25	0	0	75	75	0	100
F-01	Year 4	0	25	0	75	75	0	100
F-01	Year 5	20	0	0	20	0	0	100
F-01	Year 6	0	0	0	75	25	0	100
F-01	Year 7	25	0	0	50	75	0	100
F-01	Year 8	0	0	0	41.7	41.7	0	100
F-01	Year 9	0	0	0	50	50	0	100
F-01	Year 10	0	0	0	16.7	33.3	0	100
F-01	Year 11	0	0	0	25	50	0	100
F-02	Year 2	0	0	0	0	50	0	100

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Fluoride	Arsenic	Cadmium	Chromium	Copper	Mercury	Iron
F-02	Year 3	25	25	0	50	75	0	100
F-02	Year 4	0	0	25	75	25	0	100
F-02	Year 5	60	0	0	0	20	0	60
F-02	Year 6	25	0	25	25	25	0	100
F-02	Year 7	75	0	0	25	100	0	75
F-02	Year 8	0	8.3	0	25	33.3	0	100
F-02	Year 9	0	0	0	0	41.7	0	75
F-02	Year 10	0	0	0	0	16.7	0	91.7
F-02	Year 11	0	0	0	0	8.3	0	83.3
H-01	Year 2	0	0	14.3	14.3	71.4	0	14.3
H-01	Year 3	0	0	0	0	83.3	8.3	41.7
H-01	Year 4	0	0	8.3	33.3	50	8.3	41.7
H-01	Year 5	8.3	0	8.3	16.7	41.7	16.7	16.7
H-01	Year 6	0	0	8.3	33.3	58.3	0	25
H-01	Year 7	41.7	0	0	33.3	58.3	0	25
H-01	Year 8	0	0	16.7	41.7	50	8.3	41.7
H-01	Year 9	8.3	8.3	16.7	25	50	0	25
H-01	Year 10	0	0	8.3	8.3	16.7	0	8.3
H-01	Year 11	0	0	0	16.7	25	0	25
H-02	Year 2	0	0	14.3	28.6	42.9	0	42.9
H-02	Year 3	0	0	0	16.7	25	0	16.7
H-02	Year 4	0	7.7	15.4	23.1	23.1	7.7	23.1
H-02	Year 5	0	0	0	8.3	41.7	0	25
H-02	Year 6	0	0	0	25	33.3	0	25
H-02	Year 7	16.7	0	0	25	41.7	0	16.7
H-02	Year 8	0	0	0	41.7	41.7	0	41.7
H-02	Year 9	0	8.3	8.3	25	41.7	8.3	33.3
H-02	Year 10	0	0	0	0	25	0	16.7
H-02	Year 11	0	0	0	0	16.7	0	16.7
H-03	Year 2	0	0	14.3	42.9	57.1	0	28.6
H-03	Year 3	0	0	0	16.7	50	0	9.1

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Fluoride	Arsenic	Cadmium	Chromium	Copper	Mercury	Iron
H-03	Year 4	0	0	16.7	16.7	41.7	0	16.7
H-03	Year 5	8.3	0	8.3	16.7	25	0	8.3
H-03	Year 6	0	0	0	16.7	33.3	0	16.7
H-03	Year 7	25	0	0	16.7	41.7	0	8.3
H-03	Year 8	0	0	16.7	50	41.7	8.3	41.7
H-03	Year 9	0	0	8.3	25	58.3	0	25
H-03	Year 10	0	0	0	8.3	25	0	16.7
H-03	Year 11	0	0	0	16.7	33.3	0	8.3
W-01	Year 2	0	0	14.3	42.9	28.6	0	100
W-01	Year 3	0	0	0	41.7	8.3	0	91.7
W-01	Year 4	0	0	0	0	1	0	0
W-01	Year 5	16.7	0	0	8.3	0	0	83.3
W-01	Year 6	8.3	0	0	25	8.3	0	75
W-01	Year 7	16.7	0	0	41.7	25	0	100
W-01	Year 8	0	0	0	50	33.3	0	83.3
W-01	Year 9	0	8.3	0	8.3	16.7	0	91.7
W-01	Year 10	0	0	0	0	8.3	0	75
W-01	Year 11	0	0	0	8.3	0	0	100

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Lead	Nickel	Selenium	Silver	Zinc
B-01	Year 2	57.1	0	0	0	28.6
B-01	Year 3	33.3	0	0	0	8.3
B-01	Year 4	41.7	0	0	0	25
B-01	Year 5	58.3	0	0	0	41.7
B-01	Year 6	50	0	0	0	41.7
B-01	Year 7	58.3	0	0	0	50
B-01	Year 8	33.3	0	0	0	41.7
B-01	Year 9	50	0	0	0	41.7
B-01	Year 10	25	0	0	0	8.3
B-01	Year 11	33.3	0	0	0	41.7
B-02	Year 2	0	0	0	0	0
B-02	Year 3	9.1	0	0	0	8.3
B-02	Year 4	16.7	0	0	0	25
B-02	Year 5	8.3	0	0	0	0
B-02	Year 6	25	0	0	0	0
B-02	Year 7	16.7	0	0	0	8.3
B-02	Year 8	8.3	0	0	0	0
B-02	Year 9	16.7	0	0	0	0
B-02	Year 10	8.3	0	0	0	0
B-02	Year 11	8.3	0	0	0	0
D-01	Year 2	0	0	0	0	0
D-01	Year 3	0	0	0	0	0
D-01	Year 4	0	0	0	0	0
D-01	Year 5	0	0	0	0	0
D-01	Year 6	0	0	0	0	0
D-01	Year 7	0	0	0	0	0
D-01	Year 8	8.3	0	0	0	8.3
D-01	Year 9	0	0	0	0	0
D-01	Year 10	0	0	0	0	0
D-01	Year 11	0	0	0	0	0
F-01	Year 2	0	0	0	0	0

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Lead	Nickel	Selenium	Silver	Zinc
F-01	Year 3	0	0	0	0	0
F-01	Year 4	0	0	0	0	25
F-01	Year 5	0	0	0	0	0
F-01	Year 6	0	0	0	0	0
F-01	Year 7	0	0	0	0	0
F-01	Year 8	0	0	0	0	0
F-01	Year 9	0	0	0	0	0
F-01	Year 10	0	0	0	0	0
F-01	Year 11	0	0	0	0	0
F-02	Year 2	0	0	0	0	0

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Lead	Nickel	Selenium	Silver	Zinc
F-02	Year 3	25	0	0	0	25
F-02	Year 4	25	0	0	0	25
F-02	Year 5	0	0	0	0	0
F-02	Year 6	25	0	0	0	25
F-02	Year 7	0	0	0	0	0
F-02	Year 8	0	0	0	0	0
F-02	Year 9	0	0	0	0	8.3
F-02	Year 10	0	0	0	0	0
F-02	Year 11	0	0	0	0	0
H-01	Year 2	42.9	0	0	0	28.6
H-01	Year 3	0	0	0	0	16.7
H-01	Year 4	25	0	0	0	25
H-01	Year 5	8.3	0	0	0	8.3
H-01	Year 6	16.7	0	0	0	25
H-01	Year 7	16.7	0	0	0	8.3
H-01	Year 8	41.7	0	0	0	33.3
H-01	Year 9	25	0	0	0	25
H-01	Year 10	8.3	0	0	0	8.3
H-01	Year 11	8.3	0	0	0	8.3
H-02	Year 2	14.3	0	0	0	14.3
H-02	Year 3	16.7	0	0	0	8.3
H-02	Year 4	15.4	0	0	0	30.8
H-02	Year 5	0	0	0	0	0
H-02	Year 6	0	0	0	0	0
H-02	Year 7	16.7	0	0	0	8.3
H-02	Year 8	25	0	0	0	25
H-02	Year 9	25	0	0	8.3	16.7
H-02	Year 10	0	0	0	0	0
H-02	Year 11	0	0	0	0	0
H-03	Year 2	42.9	0	0	0	14.3
H-03	Year 3	16.7	0	0	0	8.3

Values are percentages.

Frequencies of Parameters Not Meeting Water Quality Guidelines

Station	Date	Lead	Nickel	Selenium	Silver	Zinc
H-03	Year 4	16.7	0	0	0	41.7
H-03	Year 5	8.3	0	0	0	8.3
H-03	Year 6	16.7	0	0	0	25
H-03	Year 7	8.3	0	0	0	16.7
H-03	Year 8	41.7	0	0	0	41.7
H-03	Year 9	25	0	0	0	33.3
H-03	Year 10	0	0	0	0	25
H-03	Year 11	0	0	0	0	16.7
W-01	Year 2	28.6	0	0	0	14.3
W-01	Year 3	8.3	0	0	8.3	0
W-01	Year 4	0	0	0	0	1
W-01	Year 5	0	0	0	0	0
W-01	Year 6	0	0	0	0	0
W-01	Year 7	0	0	0	0	0
W-01	Year 8	16.7	0	0	0	0
W-01	Year 9	8.3	0	0	0	8.3
W-01	Year 10	0	0	0	0	0
W-01	Year 11	0	0	0	0	0

Values are percentages.

Station	Date	Dissolved Oxygen	Temperature	pH	Nitrate	Nitrite	Ammonia	Phosphorus	Fluoride	Arsenic	Cadmium
D-02	Year 8	83.3	33.3	0	0	0	0	16.7	0	0	0
D-02	Year 9	75	8.3	0	0	0	0	8.3	0	0	0
D-02	Year 10	75	33.3	8.3	0	0	0	25	0	8.3	0
D-02	Year 11	66.7	33.3	0	0	0	0	0	0	0	0
F-03	Year 8	80	40	0	0	0	0	60	0	0	0
F-03	Year 9	100	75	75	0	0	0	75	0	0	0
F-03	Year 10	100	25	0	0	0	0	0	0	0	0
F-03	Year 11	100	66.7	0	0	0	0	33.3	0	0	0
F-04	Year 8	100	0	0	0	0	0	25	0	0	0
F-04	Year 9	100	25	50	0	0	0	50	0	0	0
F-04	Year 10	100	0	0	0	0	0	0	0	0	0
F-04	Year 11	100	0	66.7	0	0	0	33.3	0	0	0
FOF	Year 9	91.7	50	16.7	0	0	0	41.7	0	0	0
FOF	Year 10	100	50	8.3	0	0	0	33.3	0	8.3	0
FOF	Year 11	91.7	41.7	0	0	0	0	33.3	0	0	8.3

Values are percentages.

Station	Date	Chromium	Copper	Mercury	Iron	Lead	Nickel	Selenium	Silver	Zinc
D-02	Year 8	0	0	0	100	0	0	0	0	0
D-02	Year 9	0	0	0	100	0	0	0	0	0
D-02	Year 10	8.3	0	0	91.7	0	0	0	0	0
D-02	Year 11	8.3	0	0	100	0	0	0	0	0
F-03	Year 8	0	20	0	100	0	0	0	0	0
F-03	Year 9	0	50	0	100	0	0	0	0	0
F-03	Year 10	0	0	0	100	0	0	0	0	0
F-03	Year 11	0	33.3	0	100	0	0	0	0	0
F-04	Year 8	0	25	0	100	0	0	0	0	0
F-04	Year 9	0	50	0	100	0	0	0	0	0
F-04	Year 10	0	0	0	50	0	0	0	0	0
F-04	Year 11	33.3	33.3	0	66.7	0	0	0	0	0
FOF	Year 9	8.3	75	0	100	0	0	0	0	8.3
FOF	Year 10	16.7	41.7	0	100	8.3	0	0	0	0
FOF	Year 11	8.3	58.3	0	100	8.3	0	0	0	8.3

Values are percentages.

APPENDIX H

Fish Habitat Site Data

Notes: D = Dominant S = Subdominant T = Trace, N = None
ST = Straight SI = Sinuous IM = Intermediate Meandering
UN = Unconfined CO = Confined FC = Frequently Confined

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	D95 (cm)	SWD	LWD	B	U	DP	OV	IV	Gradient (%)	Pattern
Horn	1A	13-Jul-2021	11	T	N	N	D	S	S	T	2	ST
Horn	1A	20-Aug-2021	15	T	T	N	D	S	T	T	2	ST
Horn	1A	22-Sep-2021	18	T	N	N	D	S	T	T	2	ST
Horn	1A	27-Oct-2021	15	T	T	N	S	D	T	T	1	ST
Horn	1B	13-Jul-2021	12	T	N	N	S	N	D	T	2	ST
Horn	1B	20-Aug-2021	17	T	T	N	S	N	D	T	2	ST
Horn	1B	22-Sep-2021	18	T	N	N	T	N	D	S	2	ST
Horn	1B	27-Oct-2021	10	N	N	N	S	N	D	T	1	ST
Horn	2A	15-Jul-2021	15	T	N	S	N	D	T	N	2	ST
Horn	2A	20-Aug-2021	11	T	N	S	N	D	T	N	1	ST
Horn	2A	24-Sep-2021	16	T	N	S	N	D	T	T	1	ST
Horn	2A	29-Oct-2021	13	T	N	S	N	D	T	N	1	ST
Horn	2B	15-Jul-2021	12	S	S	D	N	N	T	N	2	ST
Horn	2B	20-Aug-2021	15	S	S	D	N	N	T	N	2	ST
Horn	2B	24-Sep-2021	21	T	S	D	T	T	T	T	2	ST
Horn	2B	29-Oct-2021	18	T	S	D	T	T	T	T	2	ST
Horn	2C	15-Jul-2021	14.5	T	T	S	D	N	T	N	2	ST
Horn	2C	20-Aug-2021	11	T	T	S	D	N	T	N	2	ST
Horn	2C	24-Sep-2021	18	T	T	S	D	N	T	T	2	ST
Horn	2C	29-Oct-2021	13	T	T	S	D	N	S	T	1	ST
Horn	3A	13-Jul-2021	14	T	T	T	D	S	S	T	1	ST
Horn	3A	18-Aug-2021	12	T	T	T	D	N	S	N	2	SI
Horn	3A	22-Sep-2021	20	T	S	T	D	T	S	T	2	SI
Horn	3A	29-Oct-2021	16	T	S	T	D	T	S	T	2	SI
Horn	3B	13-Jul-2021	10	T	N	N	D	N	S	T	1	ST

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	D95 (cm)	SWD	LWD	B	U	DP	OV	IV	Gradient (%)	Pattern
Horn	3B	18-Aug-2021	11	T	N	N	D	N	S	N	2	SI
Horn	3B	22-Sep-2021	13	T	T	N	D	N	S	T	2	SI
Horn	3B	29-Oct-2021	18	T	N	N	D	N	S	T	2	SI
Horn	3C	13-Jul-2021	12	T	N	N	S	D	S	T	1	ST
Horn	3C	18-Aug-2021	12	T	N	N	S	D	T	N	2	SI
Horn	3C	22-Sep-2021	10	T	T	T	S	D	T	T	1	SI
Horn	3C	29-Oct-2021	10	T	N	T	S	D	S	T	1	SI
Boa	4A	15-Jul-2021	NA	D	S	N	N	N	N	N	2	SI
Boa	4A	20-Aug-2021	NA	S	D	N	N	N	N	N	2	SI
Boa	4A	22-Sep-2021	NA	D	S	N	N	N	T	N	1	SI
Boa	4A	27-Oct-2021	NA	D	S	N	N	N	T	N	1	SI
Boa	4B	15-Jul-2021	NA	S	S	N	S	D	N	N	1	SI
Boa	4B	20-Aug-2021	NA	S	T	N	S	D	N	N	1	ME
Boa	4B	22-Sep-2021	NA	S	T	N	S	D	N	N	1	ME
Boa	4B	27-Oct-2021	NA	S	T	N	D	D	T	N	1	SI
Boa	5A	15-Jul-2021	10	T	T	N	D	N	S	T	2	ME
Boa	5A	20-Aug-2021	7.5	T	T	N	S	D	T	N	1	ME
Boa	5A	24-Sep-2021	5	T	S	N	S	D	T	N	1	ME
Boa	5A	29-Oct-2021	7	T	N	N	S	D	T	T	1	ME
Boa	5B	15-Jul-2021	7	T	N	N	D	N	S	T	2	ME
Boa	5B	20-Aug-2021	7	T	N	T	S	N	D	T	2	ME
Boa	5B	24-Sep-2021	12	T	N	T	D	N	S	N	1	ME
Boa	5B	29-Oct-2021	9	T	N	N	D	N	S	T	1	ME
Boa	5C	15-Jul-2021	11	T	N	N	D	N	S	T	2	ME
Boa	5C	20-Aug-2021	12	T	N	N	D	N	S	T	2	ME
Boa	5C	24-Sep-2021	10	T	N	N	D	N	S	N	1	ME
Boa	5C	29-Oct-2021	10	T	N	N	D	T	S	T	1	ME
Boa	5D	15-Jul-2021	10	T	N	T	D	N	S	N	2	ME
Boa	5D	20-Aug-2021	8	T	T	T	D	N	S	T	2	ME

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	D95 (cm)	SWD	LWD	B	U	DP	OV	IV	Gradient (%)	Pattern
Boa	5D	24-Sep-2021	12	T	N	T	D	N	S	N	1	ME
Boa	5D	29-Oct-2021	11	T	T	T	D	N	S	N	1	ME
Horn	6A	15-Jul-2021	16	T	S	N	T	D	S	T	1	ST
Horn	6A	18-Aug-2021	11	T	S	T	N	D	T	N	2	ST
Horn	6A	22-Sep-2021	17	T	S	N	T	D	S	T	2	ST
Horn	6A	27-Oct-2021	17	T	T	T	T	D	S	T	1	ST
Horn	6B	15-Jul-2021	15	T	N	D	T	N	S	T	2	ST
Horn	6B	18-Aug-2021	13	T	N	D	N	N	S	T	3	ST
Horn	6B	22-Sep-2021	23	T	N	S	N	N	D	T	3	ST
Horn	6B	27-Oct-2021	17	N	N	D	N	S	S	T	1	ST
Downes	D-02 pool	12-Jul-2021	2.8	T	N	N	T	D	S	S	2	ST
Downes	D-02 pool	17-Aug-2021	NA	S	T	N	T	D	S	S	2	ST
Downes	D-02 pool	20-Sep-2021	NA	T	N	N	T	D	S	S	1	ST
Downes	D-02 pool	25-Oct-2021	NA	T	T	N	T	D	S	S	1	ST
Downes	D-02 riffle	12-Jul-2021	4	S	T	N	T	N	D	T	1	ST
Downes	D-02 riffle	17-Aug-2021	4.5	T	S	N	T	N	D	S	1	ST
Downes	D-02 riffle	20-Sep-2021	7.5	N	N	N	N	N	D	S	1	ST
Downes	D-02 riffle	25-Oct-2021	6	N	T	N	N	N	D	S	1	ST
Downes	D-03 pool	12-Jul-2021	13	N	T	N	N	D	S	T	2	SI
Downes	D-03 pool	17-Aug-2021	12	T	T	N	T	D	S	T	2	SI
Downes	D-03 pool	20-Sep-2021	11	T	N	N	T	D	S	T	2	ST
Downes	D-03 pool	25-Oct-2021	14	T	S	N	S	D	S	T	1	SI
Downes	D-03 riffle	12-Jul-2021	12	S	T	T	N	N	D	T	2	SI
Downes	D-03 riffle	17-Aug-2021	14	S	T	N	T	N	D	T	2	SI
Downes	D-03 riffle	20-Sep-2021	10	T	N	N	N	N	D	S	1	ST
Downes	D-03 riffle	25-Oct-2021	12	T	N	N	T	N	D	S	1	SI
Downes	D-04 pool	12-Jul-2021	10	S	T	T	S	D	S	T	10	SI
Downes	D-04 pool	17-Aug-2021	9	T	T	T	T	D	S	T	3	SI

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	D95 (cm)	SWD	LWD	B	U	DP	OV	IV	Gradient (%)	Pattern
Downes	D-04 pool	20-Sep-2021	9.5	T	S	N	N	D	T	T	1	SI
Downes	D-04 pool	25-Oct-2021	0.14	T	T	T	T	D	S	T	0	ST
Downes	D-04 riffle	12-Jul-2021	13	T	T	T	S	N	D	N	4	ST
Downes	D-04 riffle	17-Aug-2021	11	T	N	N	D	N	S	T	1	SI
Downes	D-04 riffle	20-Sep-2021	15	T	N	T	D	N	S	T	2	ST
Downes	D-04 riffle	25-Oct-2021	10	T	T	N	D	N	S	T	1	ST
Fishtrap	F-01 pool	14-Jul-2021	N/A	S	T	N	T	D	S	S	1	ST
Fishtrap	F-01 pool	19-Aug-2021	NA	S	S	N	N	D	T	T	1	ST
Fishtrap	F-01 pool	23-Sep-2021	NA	S	S	N	N	D	S	T	0	ST
Fishtrap	F-01 pool	26-Oct-2021	14	T	T	T	S	D	S	S	1	ST
Fishtrap	F-01 riffle	14-Jul-2021	12	T	N	S	T	N	D	T	2	ST
Fishtrap	F-01 riffle	19-Aug-2021	13	T	N	S	T	N	D	T	2	ST
Fishtrap	F-01 riffle	23-Sep-2021	13	N	N	D	N	N	S	T	2	ST
Fishtrap	F-01 riffle	26-Oct-2021	NA	S	S	N	N	D	S	T	1	ST
Fishtrap	F-02 pool	14-Jul-2021	8	T	N	N	S	D	S	S	0	ST
Fishtrap	F-02 pool	19-Aug-2021	8	T	N	N	T	D	S	S	0	ST
Fishtrap	F-02 pool	23-Sep-2021	14	T	T	T	T	D	S	S	1	ST
Fishtrap	F-02 pool	26-Oct-2021	NA	S	S	N	N	D	S	T	0	ST
Fishtrap	F-02 riffle	14-Jul-2021	2	S	S	N	N	D	T	T	0	ST
Fishtrap	F-02 riffle	19-Aug-2021	NA	S	S	N	N	D	T	N	0	ST
Fishtrap	F-02 riffle	23-Sep-2021	NA	S	S	N	N	S	D	T	0	ST
Fishtrap	F-02 riffle	26-Oct-2021	12	T	N	D	N	N	S	T	1	ST
Fishtrap	F-03 pool	14-Jul-2021	5	N	N	N	S	D	T	T	0	ST
Fishtrap	F-03 pool	19-Aug-2021	5	N	N	N	S	D	T	T	0	ST

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	D95 (cm)	SWD	LWD	B	U	DP	OV	IV	Gradient (%)	Pattern
Fishtrap	F-03 pool	23-Sep-2021	NA	N	N	N	T	D	T	S	1	SI
Fishtrap	F-03 pool	26-Oct-2021	NA	N	N	N	T	D	T	S	1	SI
Fishtrap	F-04 pool	14-Jul-2021	N/A	N	N	T	T	D	S	T	0	SI
Fishtrap	F-04 pool	19-Aug-2021	NA	T	T	T	T	D	T	S	0	SI
Fishtrap	F-04 pool	23-Sep-2021	NA	N	N	T	T	D	S	S	0	ST
Fishtrap	F-04 pool	26-Oct-2021		N	N	T	T	D	S	S	0	ST
Fishtrap	F-04 riffle	14-Jul-2021	10	N	N	N	S	N	D	S	0	ST
Fishtrap	F-04 riffle	19-Aug-2021	5.5	N	N	N	T	N	S	D	2	ST
Fishtrap	F-04 riffle	23-Sep-2021	7	N	N	N	S	N	T	D	1	ST
Fishtrap	F-04 riffle	26-Oct-2021	7	N	N	N	S	N	T	D	1	ST

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	Islands	Bars	Confinement	Crown Closure (%)	Fines (%)	Gravel (%)	Cobble (%)	Boulder (%)	Embeddedness (%)	Channel Width (m)
Horn	1A	13-Jul-2021	N	N	UN	30	20	75	5	0	15	5.12
Horn	1A	20-Aug-2021	N	SIDE	UN	25	30	65	5	0	20	5.22
Horn	1A	22-Sep-2021	N	SIDE	UN	30	30	65	5	0	15	5.2
Horn	1A	27-Oct-2021	N	SIDE	UN	30	60	35	5	0	20	5.2
Horn	1B	13-Jul-2021	N	N	UN	40	80	15	5	0	30	5.5
Horn	1B	20-Aug-2021	N	N	UN	50	70	25	5	0	20	5.5
Horn	1B	22-Sep-2021	N	N	UN	50	25	70	5	0	15	5.5
Horn	1B	27-Oct-2021	N	SIDE	UN	75	55	40	5	0	25	5.45
Horn	2A	15-Jul-2021	N	SIDE	CO	75	10	65	15	10	10	5.9
Horn	2A	20-Aug-2021	N	SIDE	CO	40	15	70	5	10	10	6.32
Horn	2A	24-Sep-2021	N	SIDE	CO	80	20	55	10	15	15	6.25
Horn	2A	29-Oct-2021	N	SIDE	CO	40	20	50	10	20	10	6.25
Horn	2B	15-Jul-2021	N	SIDE	CO	0	20	40	25	15	10	5.9
Horn	2B	20-Aug-2021	N	SIDE	CO	5	10	40	30	20	10	5.4
Horn	2B	24-Sep-2021	N	SIDE	CO	10	15	45	20	20	15	5.5
Horn	2B	29-Oct-2021	N	SIDE	CO	5	10	40	30	20	10	5.6
Horn	2C	15-Jul-2021	N	SIDE	CO	0	15	50	20	15	10	5.35
Horn	2C	20-Aug-2021	N	SIDE	CO	10	25	50	10	15	5	5.4
Horn	2C	24-Sep-2021	N	SIDE	CO	10	15	60	10	15	15	5.4
Horn	2C	29-Oct-2021	N	SIDE	CO	15	25	50	10	15	10	5.35
Horn	3A	13-Jul-2021	N	SIDE	FC	45	20	60	15	5	25	5.25
Horn	3A	18-Aug-2021	N	SIDE	CO	70	30	55	10	5	30	5.55
Horn	3A	22-Sep-2021	N	N	FC	70	20	65	10	5	20	5.55
Horn	3A	29-Oct-2021	N	N	FC	70	20	60	15	5	15	5.65
Horn	3B	13-Jul-2021	N	SIDE	FC	35	20	75	5	0	15	5.7

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	Islands	Bars	Confinement	Crown Closure (%)	Fines (%)	Gravel (%)	Cobble (%)	Boulder (%)	Embeddedness (%)	Channel Width (m)
Horn	3B	18-Aug-2021	N	SIDE	CO	45	25	65	10	0	25	5.68
Horn	3B	22-Sep-2021	N	SIDE	FC	50	20	75	5	0	20	5.44
Horn	3B	29-Oct-2021	N	SIDE	FC	40	10	75	15	0	10	5.8
Horn	3C	13-Jul-2021	N	SIDE	FC	0	60	35	5	0	15	4.7
Horn	3C	18-Aug-2021	N	SIDE	CO	20	60	40	0	0	25	4.95
Horn	3C	22-Sep-2021	N	SIDE	FC	0	75	25	0	0	20	4.7
Horn	3C	29-Oct-2021	N	SIDE	FC	0	55	30	10	5	10	4.71
Boa	4A	15-Jul-2021	N	SIDE	CO	15	100	0	0	0	NA	5.8
Boa	4A	20-Aug-2021	N	SIDE	CO	20	100	0	0	0	NA	5.5
Boa	4A	22-Sep-2021	N	SIDE	CO	20	100	0	0	0	NA	5.6
Boa	4A	27-Oct-2021	N	SIDE	CO	95	100	0	0	0	Na	6.37
Boa	4B	15-Jul-2021	N	SIDE	CO	10	100	0	0	0	NA	7.4
Boa	4B	20-Aug-2021	N	N	CO	20	100	0	0	0	NA	7.4
Boa	4B	22-Sep-2021	N	SIDE	CO	20	100	0	0	0	0	7.3
Boa	4B	27-Oct-2021	N	SIDE	CO	95	100	0	0	0	NA	7.5
Boa	5A	15-Jul-2021	N	SIDE	FC	70	70	30	0	0	25	3.15
Boa	5A	20-Aug-2021	N	SIDE	FC	65	70	30	0	0	35	3.05
Boa	5A	24-Sep-2021	N	SIDE	FC	80	90	10	0	0	35	3.1
Boa	5A	29-Oct-2021	N	SIDE	FC	90	60	40	0	0	20	3.1
Boa	5B	15-Jul-2021	N	SIDE	FC	75	25	70	5	0	10	2.55
Boa	5B	20-Aug-2021	N	SIDE	FC	85	20	80	0	0	20	2.35
Boa	5B	24-Sep-2021	N	SIDE	FC	100	25	75	0	0	5	2.7
Boa	5B	29-Oct-2021	N	SIDE	FC	95	20	80	0	0	10	2.9
Boa	5C	15-Jul-2021	N	SIDE	FC	80	90	5	5	0	25	2.6
Boa	5C	20-Aug-2021	N	SIDE	FC	90	80	15	5	0	20	2.55
Boa	5C	24-Sep-2021	N	SIDE	FC	90	80	20	0	0	15	2.45
Boa	5C	29-Oct-2021	N	SIDE	FC	90	70	25	5	0	10	2.45
Boa	5D	15-Jul-2021	N	SIDE	FC	75	30	60	5	5	15	3.17
Boa	5D	20-Aug-2021	N	SIDE	FC	80	20	70	5	5	20	3.1

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	Islands	Bars	Confinement	Crown Closure (%)	Fines (%)	Gravel (%)	Cobble (%)	Boulder (%)	Embeddedness (%)	Channel Width (m)
Boa	5D	24-Sep-2021	N	SIDE	FC	80	30	70	0	0	10	2.6
Boa	5D	29-Oct-2021	N	SIDE	FC	80	30	60	5	5	10	2.8
Horn	6A	15-Jul-2021	N	SIDE	CO	80	20	60	20	0	5	4.76
Horn	6A	18-Aug-2021	N	SIDE	CO	80	15	75	10	0	15	4.2
Horn	6A	22-Sep-2021	N	SIDE	CO	80	30	60	10	0	15	4.4
Horn	6A	27-Oct-2021	N	SIDE	CO	90	25	55	15	5	10	4.8
Horn	6B	15-Jul-2021	N	SIDE	CO	5	10	65	25	0	5	4.68
Horn	6B	18-Aug-2021	N	SIDE	CO	10	10	70	10	10	10	4.1
Horn	6B	22-Sep-2021	N	SIDE	CO	10	10	60	20	10	10	4.3
Horn	6B	27-Oct-2021	N	SIDE	CO	10	15	45	30	10	10	4.55
Downes	D-02 pool	12-Jul-2021	N	SIDE	CO	40	90	10	0	0	5	2.44
Downes	D-02 pool	17-Aug-2021	N	N	CO	50	100	0	0	0	NA	2.5
Downes	D-02 pool	20-Sep-2021	N	N	CO	50	100	0	0	0	NA	2.7
Downes	D-02 pool	25-Oct-2021	N	N	CO	60	100	0	0	0	NA	2.85
Downes	D-02 riffle	12-Jul-2021	N	N	CO	95	40	60	0	0	20	3.08
Downes	D-02 riffle	17-Aug-2021	N	N	CO	95	40	60	0	0	20	3.05
Downes	D-02 riffle	20-Sep-2021	N	N	CO	95	60	40	0	0	25	2.05
Downes	D-02 riffle	25-Oct-2021	N	N	CO	90	70	30	0	0	20	2.9
Downes	D-03 pool	12-Jul-2021	N	N	CO	80	15	80	5	0	5	3.9
Downes	D-03 pool	17-Aug-2021	N	SIDE	CO	85	30	65	5	0	5	3.9
Downes	D-03 pool	20-Sep-2021	N	SIDE	CO	30	40	55	5	0	15	3.5
Downes	D-03 pool	25-Oct-2021	N	SIDE	CO	50	30	60	10	0	5	3.75
Downes	D-03 riffle	12-Jul-2021	N	SIDE	CO	20	30	60	10	0	20	1.93
Downes	D-03 riffle	17-Aug-2021	N	SIDE	EN	50	60	30	10	0	25	1.93
Downes	D-03 riffle	20-Sep-2021	N	N	CO	40	10	85	5	0	10	1.54
Downes	D-03 riffle	25-Oct-2021	N	SIDE	EN	40	60	35	5	0	15	1.7
Downes	D-04 pool	12-Jul-2021	N	SIDE	FC	85	20	70	10	0	20	2.9
Downes	D-04 pool	17-Aug-2021	N	SIDE	CO	85	30	65	5	0	5	3.08

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	Islands	Bars	Confinement	Crown Closure (%)	Fines (%)	Gravel (%)	Cobble (%)	Boulder (%)	Embeddedness (%)	Channel Width (m)
Downes	D-04 pool	20-Sep-2021	N	SIDE	CO	90	10	80	5	5	20	2.75
Downes	D-04 pool	25-Oct-2021	N	SIDE	CO	70	35	65	0	0	0	2.9
Downes	D-04 riffle	12-Jul-2021	N	N	CO	20	30	60	10	0	20	2.02
Downes	D-04 riffle	17-Aug-2021	N	N	CO	20	30	65	5	0	25	2.02
Downes	D-04 riffle	20-Sep-2021	N	SIDE	CO	10	20	65	10	5	10	2.25
Downes	D-04 riffle	25-Oct-2021	N	N	CO	90	30	60	10	5	15	1.92
Fishtrap	F-01 pool	14-Jul-2021	N	N	CO	35	100	0	0	0	N/A	6.15
Fishtrap	F-01 pool	19-Aug-2021	N	N	CO	75	100	0	0	0	0	6.15
Fishtrap	F-01 pool	23-Sep-2021	N	N	CO	80	100	0	0	0	NA	6.2
Fishtrap	F-01 pool	26-Oct-2021	N	N	CO	80	60	35	0	5	10	4.65
Fishtrap	F-01 riffle	14-Jul-2021	N	N	CO	20	50	40	5	5	10	3.28
Fishtrap	F-01 riffle	19-Aug-2021	N	N	CO	30	50	30	15	5	10	3.3
Fishtrap	F-01 riffle	23-Sep-2021	N	N	CO	75	20	60	10	10	15	3.64
Fishtrap	F-01 riffle	26-Oct-2021	N	N	CO	90	100	0	0	0	NA	10
Fishtrap	F-02 pool	14-Jul-2021	N	N	FC	40	40	40	20	0	10	4.7
Fishtrap	F-02 pool	19-Aug-2021	N	N	FC	80	40	50	10	0	15	4.5
Fishtrap	F-02 pool	23-Sep-2021	N	N	CO	60	60	20	15	5	25	4.5
Fishtrap	F-02 pool	26-Oct-2021	N	N	CO	80	100	0	0	0	NA	6.2
Fishtrap	F-02 riffle	14-Jul-2021	N	N	CO	75	90	10	0	0	0	6.95
Fishtrap	F-02 riffle	19-Aug-2021	N	N	CO	65	100	0	0	0	NA	6.95
Fishtrap	F-02 riffle	23-Sep-2021	N	N	CO	100	100	0	0	5	NA	9.5
Fishtrap	F-02 riffle	26-Oct-2021	N	N	CO	40	20	55	10	15	10	3.3
Fishtrap	F-03 pool	14-Jul-2021	N	N	FC	0	75	20	5	0	5	7.2
Fishtrap	F-03 pool	19-Aug-2021	N	N	FC	0	75	20	5	0	5	7.2

Sampling Details			Mesohabitat									
Stream	Site	Sample Date (d/mmm/yy)	Islands	Bars	Confinement	Crown Closure (%)	Fines (%)	Gravel (%)	Cobble (%)	Boulder (%)	Embeddedness (%)	Channel Width (m)
Fishtrap	F-03 pool	23-Sep-2021	N	N	FC	0	100	0	0	0	NA	7.3
Fishtrap	F-03 pool	26-Oct-2021	N	N	FC	0	100	0	0	0	NA	7.3
Fishtrap	F-04 pool	14-Jul-2021	N	N	CO	0	90	5	0	5	5	8.35
Fishtrap	F-04 pool	19-Aug-2021	N	N	FC	0	90	5	0	5	NA	8.35
Fishtrap	F-04 pool	23-Sep-2021	N	N	CO	30	80	15	5	5	15	8.53
Fishtrap	F-04 pool	26-Oct-2021	N	N	CO	30	80	15	5	5	15	8.53
Fishtrap	F-04 riffle	14-Jul-2021	N	N	CO	0	60	40	0	0	20	3.35
Fishtrap	F-04 riffle	19-Aug-2021	N	N	CO	0	60	40	0	0	5	3.35
Fishtrap	F-04 riffle	23-Sep-2021	N	N	CO	0	35	60	5	0	10	3.35
Fishtrap	F-04 riffle	26-Oct-2021	N	N	CO	0	35	60	5	0	10	3.35

Sampling Details						Comments
Stream	Site	Sample Date (d/mmm/yy)	Wetted Width (m)	Bankful Depth (m)	Res. Pool. Depth	
Horn	1A	13-Jul-2021	4.1	0.7	0.31	
Horn	1A	20-Aug-2021	4.55	0.8	0.3	
Horn	1A	22-Sep-2021	4.4	0.7	0.2	pool infilled with fines
Horn	1A	27-Oct-2021	4.3	0.6	0.23	
Horn	1B	13-Jul-2021	5.35	0.45	N/A	
Horn	1B	20-Aug-2021	5.32	0.45	NA	
Horn	1B	22-Sep-2021	5.32	0.45	NA	
Horn	1B	27-Oct-2021	4.95	0.5	NA	
Horn	2A	15-Jul-2021	3.2	0.75	0.35	
Horn	2A	20-Aug-2021	3.4	0.7	0.31	
Horn	2A	24-Sep-2021	2.8	0.65	0.22	
Horn	2A	29-Oct-2021	3	0.4	0.28	
Horn	2B	15-Jul-2021	3.3	0.65	N/A	
Horn	2B	20-Aug-2021	3.3	0.65	NA	
Horn	2B	24-Sep-2021	3.2	0.8	0.12	
Horn	2B	29-Oct-2021	3	0.75	0.15	
Horn	2C	15-Jul-2021	3.8	0.65	N/A	
Horn	2C	20-Aug-2021	3.65	0.65	NA	
Horn	2C	24-Sep-2021	3.86	0.6	NA	
Horn	2C	29-Oct-2021	3.65	0.6	NA	
Horn	3A	13-Jul-2021	4.7	0.72	0.2	
Horn	3A	18-Aug-2021	4.85	0.8	NA	
Horn	3A	22-Sep-2021	5	0.75	0.15	
Horn	3A	29-Oct-2021	5	0.85	0.1	
Horn	3B	13-Jul-2021	4.3	0.65	N/A	

Sampling Details						Comments
Stream	Site	Sample Date (d/mmm/yy)	Wetted Width (m)	Bankful Depth (m)	Res. Pool. Depth	
Horn	3B	18-Aug-2021	4.38	0.65	NA	
Horn	3B	22-Sep-2021	4.2	0.5	NA	
Horn	3B	29-Oct-2021	4.8	1	NA	
Horn	3C	13-Jul-2021	2.35	0.7	0.25	
Horn	3C	18-Aug-2021	2.35	0.7	0.27	
Horn	3C	22-Sep-2021	2.35	1.05	0.4	
Horn	3C	29-Oct-2021	2.55	0.8	0.36	
Boa	4A	15-Jul-2021	1.3	0.55	N/A	
Boa	4A	20-Aug-2021	1.3	0.65	NA	
Boa	4A	22-Sep-2021	1.3	0.6	NA	
Boa	4A	27-Oct-2021	1.3	0.45	NA	
Boa	4B	15-Jul-2021	2.4	0.95	0.26	
Boa	4B	20-Aug-2021	2.3	0.75	0.25	
Boa	4B	22-Sep-2021	2.2	0.5	0.2	
Boa	4B	27-Oct-2021	1.6	0.7	0.22	
Boa	5A	15-Jul-2021	1.41	0.85	0.13	
Boa	5A	20-Aug-2021	1.85	0.9	0.19	
Boa	5A	24-Sep-2021	2.1	0.85	0.25	
Boa	5A	29-Oct-2021	1.8	0.8	0.26	
Boa	5B	15-Jul-2021	1.95	0.7	N/A	Wetted width = 1.4 + 0.55
Boa	5B	20-Aug-2021	1.05	0.75	NA	
Boa	5B	24-Sep-2021	1.8	0.65	NA	
Boa	5B	29-Oct-2021	1.45	0.75	NA	
Boa	5C	15-Jul-2021	1.6	0.7	NA	
Boa	5C	20-Aug-2021	1.45	0.75	NA	
Boa	5C	24-Sep-2021	1.35	0.8	NA	
Boa	5C	29-Oct-2021	1.45	0.7	0.13	
Boa	5D	15-Jul-2021	2.4	0.85	N/A	
Boa	5D	20-Aug-2021	2.4	0.75	NA	

Sampling Details						Comments
Stream	Site	Sample Date (d/mmm/yy)	Wetted Width (m)	Bankful Depth (m)	Res. Pool. Depth	
Boa	5D	24-Sep-2021	2.05	0.8	NA	
Boa	5D	29-Oct-2021	1.9	0.75	NA	
Horn	6A	15-Jul-2021	2.45	0.65	0.25	
Horn	6A	18-Aug-2021	2.3	0.8	0.27	
Horn	6A	22-Sep-2021	2.65	0.8	0.3	
Horn	6A	27-Oct-2021	2.9	0.8	0.25	
Horn	6B	15-Jul-2021	3.3	0.65	0.22	new scour pool
Horn	6B	18-Aug-2021	3.2	0.65	NA	
Horn	6B	22-Sep-2021	3.8	0.8	NA	
Horn	6B	27-Oct-2021	4.3	0.75	0.25	
Downes	D-02 pool	12-Jul-2021	1.8	0.6	0.19	
Downes	D-02 pool	17-Aug-2021	1.8	0.65	0.15	
Downes	D-02 pool	20-Sep-2021	1.8	0.65	0.25	
Downes	D-02 pool	25-Oct-2021	2.1	0.75	0.15	
Downes	D-02 riffle	12-Jul-2021	1.9	0.54	N/a	No beaver dam
Downes	D-02 riffle	17-Aug-2021	1.9	0.5	NA	
Downes	D-02 riffle	20-Sep-2021	1.9	0.3	N/A	
Downes	D-02 riffle	25-Oct-2021	2.1	0.55	NA	
Downes	D-03 pool	12-Jul-2021	2.6	0.65	0.25	
Downes	D-03 pool	17-Aug-2021	3.3	0.65	0.25	
Downes	D-03 pool	20-Sep-2021	3.1	0.5	0.26	
Downes	D-03 pool	25-Oct-2021	3.35	0.65	0.25	
Downes	D-03 riffle	12-Jul-2021	1.1	0.5	NA	
Downes	D-03 riffle	17-Aug-2021	1.05	0.5	NA	
Downes	D-03 riffle	20-Sep-2021	0.85	0.5	N/A	
Downes	D-03 riffle	25-Oct-2021	0.8	0.55	NA	
Downes	D-04 pool	12-Jul-2021	1.5	0.5	0.35	
Downes	D-04 pool	17-Aug-2021	2.7	0.5	34	

Sampling Details						Comments
Stream	Site	Sample Date (d/mmm/yy)	Wetted Width (m)	Bankful Depth (m)	Res. Pool. Depth	
Downes	D-04 pool	20-Sep-2021	1.3	0.4	0.3	
Downes	D-04 pool	25-Oct-2021	1.6	0.5	0.36	
Downes	D-04 riffle	12-Jul-2021	1.4	0.35	NA	
Downes	D-04 riffle	17-Aug-2021	1.5	0.7	NA	
Downes	D-04 riffle	20-Sep-2021	1.3	0.5	NA	
Downes	D-04 riffle	25-Oct-2021	1.2	0.6	NA	Markers gone
Fishtrap	F-01 pool	14-Jul-2021	4.9	0.95	0.72	
Fishtrap	F-01 pool	19-Aug-2021	4.8	0.95	0.72	
Fishtrap	F-01 pool	23-Sep-2021	5.3	1	0.75	Water levels very high
Fishtrap	F-01 pool	26-Oct-2021	4.35	1.2	0.64	Water levels high, fast flowing, no beaver dams
Fishtrap	F-01 riffle	14-Jul-2021	2.2	0.55	N/A	
Fishtrap	F-01 riffle	19-Aug-2021	2.5	0.55	NA	
Fishtrap	F-01 riffle	23-Sep-2021	2.67	0.6	NA	
Fishtrap	F-01 riffle	26-Oct-2021	9.5	1.75	0.55	Water too deep to take depth/velocity, not safe to cross channel, channel measurements extrapolated from last months data
Fishtrap	F-02 pool	14-Jul-2021	4.2	0.9	0.45	
Fishtrap	F-02 pool	19-Aug-2021	4.25	1	0.58	beaver dams 10m US and 5m DS
Fishtrap	F-02 pool	23-Sep-2021	4.25	0.9	0.42	
Fishtrap	F-02 pool	26-Oct-2021	5.3	1	0.75	Water too deep to take depth/velocity, too deep to wade into site, channel measurements extrapolated from last months data
Fishtrap	F-02 riffle	14-Jul-2021	3.7	0.8	0.27	
Fishtrap	F-02 riffle	19-Aug-2021	5.96	0.8	0.97	
Fishtrap	F-02 riffle	23-Sep-2021	9.1	1.45	0.5	Water levels extremely high, beaver dams DS, lots of beaver activity on RB in planted area
Fishtrap	F-02 riffle	26-Oct-2021	3	0.55	NA	
Fishtrap	F-03 pool	14-Jul-2021	5.2	1.65	1.3	Depth too high, no depth velocity, estimated measurements
Fishtrap	F-03 pool	19-Aug-2021	5.2	1.65	1.3	Depth too high, no depth velocity, estimated measurements

Sampling Details						Comments
Stream	Site	Sample Date (d/mmm/yy)	Wetted Width (m)	Bankful Depth (m)	Res. Pool. Depth	
Fishtrap	F-03 pool	23-Sep-2021	6.05	1.5	1.2	Water levels too high to take depth/velocity measurments, widths estimated with laser
Fishtrap	F-03 pool	26-Oct-2021	6.05	1.5	1.2	Water too deep to take depth/velocity, not safe to cross channel, channel measurements extrapolated from last months data
Fishtrap	F-04 pool	14-Jul-2021	5.9	1.5	0.75	
Fishtrap	F-04 pool	19-Aug-2021	6.9	1.5	0.75	US depth too high for full picture, could not wade upstream site without overtopping waders
Fishtrap	F-04 pool	23-Sep-2021	8.35	1.5	0.75	water levels too high to take depth/velocity measurments, widths estimated with laser
Fishtrap	F-04 pool	26-Oct-2021	8.35	1.5	0.75	Water too deep to take depth/velocity, not safe to cross channel, channel measurements extrapolated from last months data
Fishtrap	F-04 riffle	14-Jul-2021	3.3	0.7	N/A	
Fishtrap	F-04 riffle	19-Aug-2021	3.15	0.7	NA	
Fishtrap	F-04 riffle	23-Sep-2021	3.15	0.8	NA	
Fishtrap	F-04 riffle	26-Oct-2021	3.15	0.8	NA	Water too deep to take depth/velocity, not safe to cross channel, channel measurements extrapolated from last months data

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
1A	13-Jul-21	4.10	LB	0.0	0	N/A	N/A	N/A	
1A	13-Jul-21	4.10	1	0-1	0.02	N/A	N/A	N/A	too shallow
1A	13-Jul-21	4.10	2	1.0	0.04	0.04	0.04	0.05	
1A	13-Jul-21	4.10	3	1.30	0.06	0.01	0.06	0.01	
1A	13-Jul-21	4.10	4	1.6	0.05	0.09	0.05	0.09	
1A	13-Jul-21	4.10	5	1.9	0.06	0.08	0.07	0.07	
1A	13-Jul-21	4.10	6	2.20	0.06	0.13	0.06	0.12	
1A	13-Jul-21	4.10	7	2.5	0.08	0.10	0.08	0.11	
1A	13-Jul-21	4.10	8	2.8	0.12	0.12	0.13	0.12	
1A	13-Jul-21	4.10	9	3.10	0.12	0.10	0.12	0.11	
1A	13-Jul-21	4.10	10	3.4	0.14	0.11	0.14	0.109	
1A	13-Jul-21	4.10	11	3.7	0.20	0.08	0.21	0.067	
1A	13-Jul-21	4.10	12	3.9-4.1	0.15	N/A	N/A	N/A	undercut
1A	13-Jul-21	4.10	RB	4.1	0	N/A	N/A	N/A	
1A	20-Aug-21	4.55	RB	0.0	0	N/A	N/A	N/A	
1A	20-Aug-21	4.55	1	0-0.40	0.02	N/A	N/A	N/A	too shallow
1A	20-Aug-21	4.55	2	0.4	0.30	0.00	0.30	-0.01	
1A	20-Aug-21	4.55	3	0.70	0.28	0.03	0.28	0.03	
1A	20-Aug-21	4.55	4	1.0	0.28	0.03	0.28	0.04	
1A	20-Aug-21	4.55	5	1.30	0.21	0.09	0.21	0.09	
1A	20-Aug-21	4.55	6	1.6	0.18	0.08	0.18	0.09	
1A	20-Aug-21	4.55	7	1.90	0.16	0.09	0.16	0.08	
1A	20-Aug-21	4.55	8	2.2	0.12	0.12	0.12	0.12	
1A	20-Aug-21	4.55	9	2.50	0.10	0.09	0.10	0.10	
1A	20-Aug-21	4.55	10	2.8	0.10	0.08	0.1	0.08	
1A	20-Aug-21	4.55	11	3.10	0.06	0.05	0.06	0.059	
1A	20-Aug-21	4.55	12	3.50-4.55	0	N/A	N/A	N/A	Too shallow
1A	20-Aug-21	4.55	LB	4.55	0	N/A	N/A	N/A	
1A	22/Sept/2021	4.40	RB	0.0	0	N/A	N/A	N/A	
1A	22/Sept/2021	4.40	1	0-0.2	0.20	N/A	N/A	N/A	Undercut
1A	22/Sept/2021	4.40	2	0.2	0.30	-0.01	0.31	-0.01	
1A	22/Sept/2021	4.40	3	0.61	0.29	0.03	0.29	0.04	
1A	22/Sept/2021	4.40	4	1.0	0.21	0.07	0.20	0.08	
1A	22/Sept/2021	4.40	5	1.43	0.20	0.08	0.20	0.08	
1A	22/Sept/2021	4.40	6	1.8	0.20	0.06	0.20	0.08	
1A	22/Sept/2021	4.40	7	2.25	0.14	0.70	0.14	0.05	
1A	22/Sept/2021	4.40	8	2.7	0.12	0.03	0.12	0.04	
1A	22/Sept/2021	4.40	9	3.07	0.12	0.04	0.12	0.04	
1A	22/Sept/2021	4.40	10	3.5	0.08	-0.01	0.08	0	
1A	22/Sept/2021	4.40	11	3.89	0.06	0.01	0.06	0	
1A	22/Sept/2021	4.40	12	3.9-4.4	0.02	N/A	N/A	N/A	Too shallow
1A	22/Sept/2021	4.40	LB	4.4	0	N/A	N/A	N/A	
1A	27-Oct-2021	4.30	RB	0.0	0	N/A	N/A	N/A	
1A	27-Oct-2021	4.30	1	0-0.2		N/A	N/A	N/A	Undercut
1A	27-Oct-2021	4.30	2	0.2	0.36	0.00	0.36	0.00	
1A	27-Oct-2021	4.30	3	0.63	0.30	0.01	0.32	0.01	
1A	27-Oct-2021	4.30	4	1.1	0.22	0.08	0.18	0.09	
1A	27-Oct-2021	4.30	5	1.49	0.18	0.09	0.14	0.11	
1A	27-Oct-2021	4.30	6	1.9	0.14	0.11	0.14	0.10	
1A	27-Oct-2021	4.30	7	2.35	0.14	0.10	0.12	0.11	
1A	27-Oct-2021	4.30	8	2.8	0.12	0.11	0.10	0.05	
1A	27-Oct-2021	4.30	9	3.21	0.10	0.05	0.08	0.02	
1A	27-Oct-2021	4.30	10	3.6	0.06	0.01	0.08	0	
1A	27-Oct-2021	4.30	11	4.07	0.06	0.00	0.06	--.01	
1A	27-Oct-2021	4.30	12	4.1-4.3	0.02	N/A	N/A	N/A	Too shallow
1A	27-Oct-2021	4.30	LB	4.3	0	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
2A	15 Jul 2021	3.2	RB	0	0	N/A	N/A	N/A	start at rightbank
2A	15 Jul 2021	3.2	1	0-0.2	0.01	N/A	N/A	N/A	ovehanging boulder
2A	15 Jul 2021	3.2	2	0.2	0.06	0.053	0.06	0.16	
2A	15 Jul 2021	3.2	3	0.47	0.05	0.13	0.05	0.15	
2A	15 Jul 2021	3.2	4	0.74	0.04	0.2	0.04	0.19	
2A	15 Jul 2021	3.2	5	1.01	0.04	0.085	0.04	0.07	
2A	15 Jul 2021	3.2	6	1.28	0.04	0.009	0.04	0.03	
2A	15 Jul 2021	3.2	7	1.55	0.06	0.14	0.06	0.31	
2A	15 Jul 2021	3.2	8	1.82	0.05	0.15	0.05	0.19	
2A	15 Jul 2021	3.2	9	2.09	0.05	0.13	0.05	0.14	
2A	15 Jul 2021	3.2	10	2.36	0.04	0.03	0.04	0.027	
2A	15 Jul 2021	3.2	11	2.63	0.04	0.032	0.04	0.043	
2A	15 Jul 2021	3.2	12	2.9-3.2	0.02	N/A	NA	N/A	Too shallow to sample
2A	15 Jul 2021	3.2	LB	3.2	0	N/A	NA	N/A	
2A	20 Aug 2021	3.4	RB	0	0	N/A	N/A	N/A	start at rightbank
2A	20 Aug 2021	3.4	1	0-0.45	0.01	N/A	N/A	N/A	ovehanging boulder
2A	20 Aug 2021	3.4	2	0.45	0.08	0.199	0.08	0.197	
2A	20 Aug 2021	3.4	3	0.75	0.06	0.112	0.06	0.125	
2A	20 Aug 2021	3.4	4	1.05	0.05	0.074	0.05	0.082	
2A	20 Aug 2021	3.4	5	1.35	0.05	0.061	0.05	0.086	
2A	20 Aug 2021	3.4	6	1.65	0.06	-0.017	0.06	-0.012	behind embedded boulder
2A	20 Aug 2021	3.4	7	1.95	0.07	0.108	0.07	0.121	
2A	20 Aug 2021	3.4	8	2.25	0.08	0.114	0.08	0.114	
2A	20 Aug 2021	3.4	9	2.55	0.08	0.102	0.08	0.106	
2A	20 Aug 2021	3.4	10	2.85	0.06	0.040	0.06	0.024	
2A	20 Aug 2021	3.4	11	3.15	0.08	-0.016	0.08	-0.012	behind embedded boulder
2A	20 Aug 2021	3.4	12	3.2-3.4	0.02	N/A	NA	N/A	Too shallow to sample
2A	20 Aug 2021	3.4	LB	3.4	0	N/A	NA	N/A	
2A	24/Sept/2021	2.8	RB	0	0	N/A	N/A	N/A	start at rightbank
2A	24/Sept/2021	2.8	1	0-0.1	0.03	N/A	N/A	N/A	ovehanging boulder
2A	24/Sept/2021	2.8	2	0.1	0.05	0.110	0.05	0.150	
2A	24/Sept/2021	2.8	3	0.37	0.05	0.170	0.05	0.190	
2A	24/Sept/2021	2.8	4	0.64	0.06	0.010	0.06	0.030	behind embedded boulder
2A	24/Sept/2021	2.8	5	0.91	0.05	0.000	0.05	0.000	behind embedded boulder
2A	24/Sept/2021	2.8	6	1.18	0.08	-0.010	0.08	-0.020	behind embedded boulder
2A	24/Sept/2021	2.8	7	1.45	0.08	0.140	0.08	0.110	
2A	24/Sept/2021	2.8	8	1.72	0.16	0.100	0.16	0.110	
2A	24/Sept/2021	2.8	9	1.99	0.11	0.070	0.12	0.060	
2A	24/Sept/2021	2.8	10	2.26	0.08	0.040	0.08	0.040	
2A	24/Sept/2021	2.8	11	2.53	0.06	0.000	0.06	0.000	behind embedded boulder
2A	24/Sept/2021	2.8	12	2.6-2.8	0.02	N/A	NA	N/A	Too shallow to sample
2A	24/Sept/2021	2.8	LB	2.8	0	N/A	NA	N/A	
2A	29-Oct-2021	3	RB	0	0	N/A	N/A	N/A	start at rightbank
2A	29-Oct-2021	3	1	0-0.1	0.03	N/A	N/A	N/A	ovehanging boulder
2A	29-Oct-2021	3	2	0.1	0.1	0.040	0.10	0.030	
2A	29-Oct-2021	3	3	0.40	0.09	-0.030	0.08	-0.030	Behind embedded cobble
2A	29-Oct-2021	3	4	0.7	0.08	0.010	0.08	0.010	
2A	29-Oct-2021	3	5	1.00	0.08	0.070	0.08	0.120	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
2A	29-Oct-2021	3	6	1.3	0.08	0.100	0.08	0.120	
2A	29-Oct-2021	3	7	1.60	0.06	0.140	0.06	0.150	
2A	29-Oct-2021	3	8	1.9	0.07	0.220	0.06	0.170	
2A	29-Oct-2021	3	9	2.20	0.1	0.130	0.12	0.160	
2A	29-Oct-2021	3	10	2.5	0.14	0.130	0.14	0.150	
2A	29-Oct-2021	3	11	2.80	0.1	0.050	0.1	0.060	behind embedded boulder
2A	29-Oct-2021	3	12	2.8-3	0.03	N/A	NA	N/A	Too shallow to sample
2A	29-Oct-2021	3	LB	3	0	N/A	NA	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
1B	13-Jul-2021	5.35	RB	0	0	N/A	N/A	N/A	
1B	13-Jul-2021	5.35	1	0.22	0.1	0.03	0.10	0.03	
1B	13-Jul-2021	5.35	2	0.66	0.1	0.098	0.10	0.10	
1B	13-Jul-2021	5.35	3	1.10	0.1	0.096	0.10	0.09	
1B	13-Jul-2021	5.35	4	1.54	0.09	0.087	0.09	0.09	
1B	13-Jul-2021	5.35	5	1.98	0.08	0.09	0.08	0.09	
1B	13-Jul-2021	5.35	6	2.42	0.06	0.098	0.06	0.09	
1B	13-Jul-2021	5.35	7	2.86	0.06	0.06	0.06	0.06	
1B	13-Jul-2021	5.35	8	3.3	0.05	0.08	0.06	0.07	
1B	13-Jul-2021	5.35	9	3.74	0.04	0.05	0.04	0.05	
1B	13-Jul-2021	5.35	10	4.18	0.04	0.037	0.04	0.048	
1B	13-Jul-2021	5.35	11	4.18-5.35	0.01	N/A	N/A	N/A	too shallow
1B	13-Jul-2021	5.35	LB	5.35	0	N/A	N/A	N/A	
1B	20-Aug-2021	5.32	RB	0	0	N/A	N/A	N/A	
1B	20-Aug-2021	5.32	1	0-0.2	0.14	N/A	N/A	N/A	Undercut
1B	20-Aug-2021	5.32	2	0.2	0.16	0.032	0.16	0.026	
1B	20-Aug-2021	5.32	3	0.65	0.15	0.062	0.15	0.071	
1B	20-Aug-2021	5.32	4	1.10	0.15	0.078	0.16	0.076	
1B	20-Aug-2021	5.32	5	1.55	0.13	0.075	0.14	0.082	
1B	20-Aug-2021	5.32	6	2.00	0.12	0.055	0.12	0.065	
1B	20-Aug-2021	5.32	7	2.45	0.1	0.078	0.10	0.079	
1B	20-Aug-2021	5.32	8	2.90	0.1	0.065	0.10	0.072	
1B	20-Aug-2021	5.32	9	3.35	0.09	0.048	0.09	0.056	
1B	20-Aug-2021	5.32	10	3.80	0.06	0.032	0.07	0.029	
1B	20-Aug-2021	5.32	11	4.25	0.06	0.013	0.06	0.013	
1B	20-Aug-2021	5.32	12	4.32-5.32	0.02	N/A	N/A	N/A	too shallow
1B	20-Aug-2021	5.32	LB	5.32	0	N/A	N/A	N/A	
1B	22/Sept/2021	5.32	RB	0	0	N/A	N/A	N/A	
1B	22/Sept/2021	5.32	1	0-0.1	0.1	N/A	N/A	N/A	Undercut
1B	22/Sept/2021	5.32	2	0.1	0.15	0.020	0.16	0.020	
1B	22/Sept/2021	5.32	3	0.51	0.16	0.060	0.16	0.060	
1B	22/Sept/2021	5.32	4	0.92	0.18	0.060	0.18	0.060	
1B	22/Sept/2021	5.32	5	1.33	0.17	0.070	0.17	0.070	
1B	22/Sept/2021	5.32	6	1.74	0.16	0.060	0.16	0.060	
1B	22/Sept/2021	5.32	7	2.15	0.13	0.070	0.13	0.080	
1B	22/Sept/2021	5.32	8	2.56	0.13	0.060	0.13	0.070	
1B	22/Sept/2021	5.32	9	2.97	0.09	0.060	0.09	0.070	
1B	22/Sept/2021	5.32	10	3.38	0.06	0.050	0.06	0.000	
1B	22/Sept/2021	5.32	11	3.79	0.06	0.040	0.06	0.050	
1B	22/Sept/2021	5.32	12	3.82-5.32	0.02	N/A	N/A	N/A	too shallow
1B	22/Sept/2021	5.32	LB	5.32	0	N/A	N/A	N/A	
1B	27 Oct 2021	4.8	RB	0	0	N/A	N/A	N/A	
1B	27 Oct 2021	4.8	1	0-0.1	0.1	N/A	N/A	N/A	Undercut
1B	27 Oct 2021	4.8	2	0.3	0.2	0.010	0.20	0.000	
1B	27 Oct 2021	4.8	3	0.6	0.22	0.060	0.21	0.060	
1B	27 Oct 2021	4.8	4	0.90	0.22	0.080	0.22	0.070	
1B	27 Oct 2021	4.8	5	1.2	0.2	0.090	0.20	0.070	
1B	27 Oct 2021	4.8	6	1.50	0.2	0.080	0.20	0.080	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
1B	27 Oct 2021	4.8	7	1.8	0.21	0.050	0.21	0.060	
1B	27 Oct 2021	4.8	8	2.10	0.18	0.080	0.18	0.070	
1B	27 Oct 2021	4.8	9	2.4	0.16	0.060	0.16	0.070	
1B	27 Oct 2021	4.8	10	2.70	0.14	0.060	0.15	0.060	
1B	27 Oct 2021	4.8	11	3	0.13	0.050	0.12	0.051	
1B	27 Oct 2021	4.8	12	3.4–4.8	0.02	N/A	N/A	N/A	too shallow
1B	27 Oct 2021	4.8	LB	4.8	0	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
2B	15-July-0201	3.3	RB	0	0.00	N/A	N/A	N/A	
2B	15-July-0201	3.3	1	0-1.4	0.08	N/A	N/A	N/A	no flow. directly behind large boulder. dead zone
2B	15-July-0201	3.3	2	1.4	0.10	0.03	0.10	0.02	
2B	15-July-0201	3.3	3	1.61	0.08	0.12	0.08	0.10	
2B	15-July-0201	3.3	4	1.82	0.08	0.07	0.08	0.06	
2B	15-July-0201	3.3	5	2.03	0.14	0.05	0.14	0.06	
2B	15-July-0201	3.3	6	2.24	0.16	0.20	0.16	0.20	
2B	15-July-0201	3.3	7	2.45	0.12	0.05	0.12	0.03	
2B	15-July-0201	3.3	8	2.66	0.10	-0.41	0.10	-0.03	
2B	15-July-0201	3.3	9	2.76	0.07	-0.03	0.07	-0.01	
2B	15-July-0201	3.3	10	2.86	0.06	0.05	0.06	0.03	
2B	15-July-0201	3.3	11	2.96	0.04	0.20	0.04	0.16	
2B	15-July-0201	3.3	LB	3.3	0.00	N/A	N/A	N/A	
2B	20-August-2021	3.3	RB	0	0.00	N/A	N/A	N/A	
2B	20-August-2021	3.3	1	0-1.1	0.08	N/A	N/A	N/A	no flow. directly behind large boulder. dead zone
2B	20-August-2021	3.3	2	1.1	0.12	0.002	0.12	0.001	
2B	20-August-2021	3.3	3	1.31	0.16	0.071	0.16	0.060	
2B	20-August-2021	3.3	4	1.52	0.17	0.092	0.18	0.091	
2B	20-August-2021	3.3	5	1.73	0.15	0.005	0.16	0.023	
2B	20-August-2021	3.3	6	1.94	0.15	0.017	0.15	0.020	
2B	20-August-2021	3.3	7	2.15	0.22	0.063	0.22	0.084	
2B	20-August-2021	3.3	8	2.36	0.24	0.242	0.24	0.233	
2B	20-August-2021	3.3	9	2.57	0.18	-0.025	0.18	-0.011	behind embedded boulder
2B	20-August-2021	3.3	10	2.78	0.12	-0.033	0.12	-0.024	behind embedded boulder
2B	20-August-2021	3.3	11	2.99	0.08	0.123	0.08	0.146	
2B	20-August-2021	3.3	12	3-3.3	0.02	N/A	N/A	N/A	too shallow
2B	20-August-2021	3.3	LB	3.3	0.00	N/A	N/A	N/A	
2B	24/Sept/2021	3.2	RB	0	0.00	N/A	N/A	N/A	
2B	24/Sept/2021	3.2	1	0-1.5	0.08	N/A	N/A	N/A	no flow. directly behind large boulder. dead zone/back eddie
2B	24/Sept/2021	3.2	2	1.5	0.11	-0.020	0.11	-0.020	
2B	24/Sept/2021	3.2	3	1.66	0.12	-0.020	0.12	-0.010	
2B	24/Sept/2021	3.2	4	1.82	0.13	0.020	0.13	0.010	
2B	24/Sept/2021	3.2	5	1.98	0.16	0.050	0.16	0.050	
2B	24/Sept/2021	3.2	6	2.14	0.18	0.130	0.18	0.080	
2B	24/Sept/2021	3.2	7	2.3	0.20	0.200	0.20	0.200	
2B	24/Sept/2021	3.2	8	2.46	0.20	0.130	0.20	0.160	
2B	24/Sept/2021	3.2	9	2.62	0.14	0.000	0.14	0.010	behind embedded boulder
2B	24/Sept/2021	3.2	10	2.78	0.12	-0.010	0.12	-0.020	behind embedded boulder
2B	24/Sept/2021	3.2	11	2.94	0.06	0.030	0.06	0.010	behind embedded boulder
2B	24/Sept/2021	3.2	12	3-3.2	0.02	N/A	N/A	N/A	too shallow
2B	24/Sept/2021	3.2	LB	3.2	0.00	N/A	N/A	N/A	
2B	29-Oct-2021	3	RB	0	0.00	N/A	N/A	N/A	
2B	29-Oct-2021	3	1	0-1.5	0.08	N/A	N/A	N/A	no flow. directly behind large boulder. dead zone/back eddie
2B	29-Oct-2021	3	2	1.5	0.20	0.090	0.20	0.100	
2B	29-Oct-2021	3	3	1.64	0.18	0.170	0.18	0.190	
2B	29-Oct-2021	3	4	1.78	0.14	0.200	0.15	0.210	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
2B	29-Oct-2021	3	5	1.92	0.18	0.200	0.17	0.200	
2B	29-Oct-2021	3	6	2.06	0.16	0.260	0.18	0.210	
2B	29-Oct-2021	3	7	2.2	0.18	0.330	0.18	0.330	
2B	29-Oct-2021	3	8	2.34	0.14	0.190	0.14	0.160	
2B	29-Oct-2021	3	9	2.48	0.16	0.040	0.16	0.030	
2B	29-Oct-2021	3	10	2.62	0.14	0.110	0.14	0.120	
2B	29-Oct-2021	3	11	2.76	0.08	0.050	0.08	0.020	behind embedded boulder
2B	29-Oct-2021	3	12	2.8-3	0.02	N/A	N/A	N/A	too shallow
2B	29-Oct-2021	3	LB	3	0.00	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
2C	15 Jul 2021	3.8	RB	0	0.00	NA	NA	NA	
2C	15 Jul 2021	3.8	1	0-1.5	0.02	NA	NA	NA	Undercut, boulder
2C	15 Jul 2021	3.8	2	1.5	0.04	0.04	0.04	0.015	
2C	15 Jul 2021	3.8	3	1.64	0.04	0.15	0.04	0.16	
2C	15 Jul 2021	3.8	4	1.78	0.04	0.12	0.04	0.11	
2C	15 Jul 2021	3.8	5	1.92	0.04	0.19	0.04	0.179	
2C	15 Jul 2021	3.8	6	2.06	0.06	0.12	0.06	0.114	
2C	15 Jul 2021	3.8	7	2.2	0.06	0.17	0.06	0.166	
2C	15 Jul 2021	3.8	8	2.34	0.05	0.17	0.05	0.176	
2C	15 Jul 2021	3.8	9	2.48	0.06	0.13	0.06	0.11	
2C	15 Jul 2021	3.8	10	2.62	0.06	0.22	0.06	0.23	
2C	15 Jul 2021	3.8	11	2.76	0.06	0.24	0.06	0.24	
2C	15 Jul 2021	3.8	13	2.8-3.8	0.02	NA	NA	NA	Too shallow to sample
2C	15 Jul 2021	3.8	LB	3.8	0.00	NA	NA	NA	
2C	20 Aug 2021	3.65	RB	0	0.00	NA	NA	NA	
2C	20 Aug 2021	3.65	1	0-1.5	0.00	NA	NA	NA	Undercut, boulder
2C	20 Aug 2021	3.65	2	1.5	0.05	0.12	0.05	0.095	
2C	20 Aug 2021	3.65	3	1.64	0.05	0.12	0.05	0.11	
2C	20 Aug 2021	3.65	4	1.78	0.08	0.12	0.07	0.141	
2C	20 Aug 2021	3.65	5	1.92	0.08	0.11	0.08	0.117	
2C	20 Aug 2021	3.65	6	2.06	0.04	0.21	0.06	0.076	
2C	20 Aug 2021	3.65	7	2.2	0.06	0.16	0.06	0.151	
2C	20 Aug 2021	3.65	8	2.34	0.08	0.21	0.06	0.23	
2C	20 Aug 2021	3.65	9	2.48	0.07	0.29	0.07	0.31	
2C	20 Aug 2021	3.65	10	2.62	0.05	0.21	0.05	0.20	
2C	20 Aug 2021	3.65	11	2.76	0.06	0.13	0.06	0.13	
2C	20 Aug 2021	3.65	13	2.8-3.65	0.02	NA	NA	NA	Too shallow to sample
2C	20 Aug 2021	3.65	LB	3.65	0.00	NA	NA	NA	
2C	24/Sept/2021	3.86	RB	0	0.00	NA	NA	NA	
2C	24/Sept/2021	3.86	1	0-1.5	0.05	NA	NA	NA	Undercut, boulder
2C	24/Sept/2021	3.86	2	1.5	0.08	0.17	0.08	0.18	
2C	24/Sept/2021	3.86	3	1.72	0.09	0.10	0.09	0.12	
2C	24/Sept/2021	3.86	4	1.94	0.07	0.19	0.07	0.18	
2C	24/Sept/2021	3.86	5	2.16	0.06	-0.04	0.06	-0.03	behind embedded boulder
2C	24/Sept/2021	3.86	6	2.38	0.06	0.13	0.06	0.12	
2C	24/Sept/2021	3.86	7	2.6	0.06	0.21	0.06	0.26	
2C	24/Sept/2021	3.86	8	2.82	0.06	0.18	0.06	0.26	
2C	24/Sept/2021	3.86	9	3.04	0.05	0.20	0.05	0.18	
2C	24/Sept/2021	3.86	10	3.26	0.04	0.09	0.04	0.10	
2C	24/Sept/2021	3.86	11	3.48	0.04	0.02	0.04	0.00	
2C	24/Sept/2021	3.86	13	3.56-3.86	0.02	NA	NA	NA	Too shallow to sample
2C	24/Sept/2021	3.86	LB	3.86	0.00	NA	NA	NA	
2C	29-Oct-2021	3.65	RB	0	0.00	NA	NA	NA	
2C	29-Oct-2021	3.65	1	0-1.5	0.05	NA	NA	NA	Undercut, boulder
2C	29-Oct-2021	3.65	2	1.5	0.08	0.20	0.08	0.22	
2C	29-Oct-2021	3.65	3	1.6	0.08	0.26	0.08	0.25	
2C	29-Oct-2021	3.65	4	1.7	0.10	0.32	0.1	0.33	
2C	29-Oct-2021	3.65	5	1.8	0.12	0.21	0.12	0.19	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
2C	29-Oct-2021	3.65	6	1.9	0.12	0.26	0.12	0.25	
2C	29-Oct-2021	3.65	7	2	0.11	0.23	0.1	0.26	
2C	29-Oct-2021	3.65	8	2.1	0.10	0.16	0.1	0.2	
2C	29-Oct-2021	3.65	9	2.2	0.08	0.11	0.08	0.14	
2C	29-Oct-2021	3.65	10	2.3	0.08	0.18	0.09	0.18	
2C	29-Oct-2021	3.65	11	2.4	0.08	0.22	0.08	0.24	
2C	29-Oct-2021	3.65	13	2.5-3.65	0.02	NA	NA	NA	Too shallow to sample
2C	29-Oct-2021	3.65	LB	3.65	0.00	NA	NA	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
3A	13-Jul-2021	4.7	RB	0.00	0.00	N/A	N/A	N/A	
3A	13-Jul-2021	4.7	1	0-0.10	0.05	N/A	N/A	N/A	Undercut
3A	13-Jul-2021	4.7	2	0.10	0.10	0.02	0.10	0.01	
3A	13-Jul-2021	4.7	3	0.55	0.11	0.097	0.11	0.09	
3A	13-Jul-2021	4.7	4	1.00	0.07	0.11	0.07	0.101	
3A	13-Jul-2021	4.7	5	1.45	0.06	0.17	0.06	0.176	
3A	13-Jul-2021	4.7	6	1.90	0.06	0.036	0.06	0.045	
3A	13-Jul-2021	4.7	7	2.35	0.05	0.263	0.05	0.259	
3A	13-Jul-2021	4.7	8	2.80	0.05	0.173	0.05	0.162	
3A	13-Jul-2021	4.7	9	3.25	0.06	0.182	0.06	0.185	
3A	13-Jul-2021	4.7	10	3.70	0.05	0.212	0.05	0.216	
3A	13-Jul-2021	4.7	11	4.15	0.06	0.09	0.06	0.101	
3A	13-Jul-2021	4.7	12	4.15-4.7	0.09	N/A	N/A	N/A	Too shallow, Undercut ban, rooted vegetation, unable to sample
3A	13-Jul-2021	4.7	LB	4.7	0	N/A	N/A	N/A	
3A	18-Aug-2021	4.85	RB	0.00	0.00	N/A	N/A	N/A	
3A	18-Aug-2021	4.85	1	0-0.10	0.05	N/A	N/A	N/A	Undercut
3A	18-Aug-2021	4.85	2	0.10	0.12	-0.01	0.12	0.00	
3A	18-Aug-2021	4.85	3	0.50	0.15	0.078	0.15	0.07	
3A	18-Aug-2021	4.85	4	0.90	0.15	0.087	0.15	0.086	
3A	18-Aug-2021	4.85	5	1.30	0.10	0.059	0.10	0.062	
3A	18-Aug-2021	4.85	6	1.70	0.09	0.094	0.10	0.102	
3A	18-Aug-2021	4.85	7	2.10	0.08	0.004	0.08	0.017	
3A	18-Aug-2021	4.85	8	2.50	0.07	0.096	0.07	0.176	
3A	18-Aug-2021	4.85	9	2.90	0.08	0.045	0.08	0.033	
3A	18-Aug-2021	4.85	10	3.30	0.08	-0.004	0.08	-0.021	
3A	18-Aug-2021	4.85	11	3.70	0.06	0.03	0.06	0.036	
3A	18-Aug-2021	4.85	12	4.15-4.7	0.09	N/A	N/A	N/A	Too shallow, Undercut ban, rooted vegetation, unable to sample
3A	18-Aug-2021	4.85	LB	4.7	0	N/A	N/A	N/A	
3A	22/Sept/2021	5	RB	0.00	0.00	N/A	N/A	N/A	
3A	22/Sept/2021	5	1	0-0.20	0.07	N/A	N/A	N/A	Undercut
3A	22/Sept/2021	5	2	0.20	0.11	0.00	0.11	0.00	DS embedded LWD
3A	22/Sept/2021	5	3	0.66	0.16	0.05	0.16	0.04	DS embedded LWD
3A	22/Sept/2021	5	4	1.12	0.10	0.01	0.10	0.01	DS embedded LWD
3A	22/Sept/2021	5	5	1.58	0.07	0.11	0.07	0.12	
3A	22/Sept/2021	5	6	2.04	0.12	0.09	0.12	0.09	
3A	22/Sept/2021	5	7	2.50	0.06	0.1	0.06	0.13	
3A	22/Sept/2021	5	8	2.96	0.05	0.18	0.06	0.16	
3A	22/Sept/2021	5	9	3.42	0.06	0.08	0.06	0.08	
3A	22/Sept/2021	5	10	3.88	0.04	0.2	0.04	0.19	
3A	22/Sept/2021	5	11	4.34	0.1	-0.01	0.1	0	
3A	22/Sept/2021	5	12	4.4-5	0.12	N/A	N/A	N/A	Undercut bank, rooted vegetation, unable to sample
3A	22/Sept/2021	5	LB	5	0	N/A	N/A	N/A	
3A	29- Oct-2021	4.7	RB	0.00	0.00	N/A	N/A	N/A	
3A	29-Oct-2021	4.7	1	0-0.20	0.07	N/A	N/A	N/A	Undercut
3A	29- Oct-2021	4.7	2	0.20	0.16	0.00	0.16	0.00	
3A	29-Oct-2021	4.7	3	0.47	0.14	0	0.14	-0.01	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
3A	29- Oct-2021	4.7	4	0.74	0.10	0	0.10	0	
3A	29-Oct-2021	4.7	5	1.01	0.14	0.04	0.14	0.03	
3A	29- Oct-2021	4.7	6	1.28	0.14	0.2	0.14	0.19	
3A	29-Oct-2021	4.7	7	1.55	0.08	0.25	0.08	0.25	
3A	29- Oct-2021	4.7	8	1.82	0.10	0.18	0.10	0.16	
3A	29-Oct-2021	4.7	9	2.09	0.12	0.16	0.12	0.15	
3A	29- Oct-2021	4.7	10	2.36	0.1	0.04	0.1	0.07	
3A	29-Oct-2021	4.7	11	2.63	0.1	0.13	0.1	0.09	
3A	29- Oct-2021	4.7	12	2.9-4.7	0.08	N/A	N/A	N/A	Undercut bank, too shallow
3A	29-Oct-2021	4.7	LB	5	0	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
3B	13-Jul-2021	4.3	RB	0	0.00	N/A	N/A	N/A	
3B	13-Jul-2021	4.3	1	0-3.2	0.02	N/A	N/A	N/A	too shallow to sample
3B	13-Jul-2021	4.3	2	3.2	0.05	0.06	0.05	0.71	
3B	13-Jul-2021	4.3	3	3.28	0.06	0.07	0.06	0.06	
3B	13-Jul-2021	4.3	4	3.36	0.05	0.24	0.05	0.19	
3B	13-Jul-2021	4.3	5	3.44	0.06	0.37	0.06	0.39	
3B	13-Jul-2021	4.3	6	3.52	0.05	0.29	0.05	0.28	
3B	13-Jul-2021	4.3	7	3.6	0.06	0.21	0.06	0.22	
3B	13-Jul-2021	4.3	8	3.68	0.07	0.34	0.07	0.31	
3B	13-Jul-2021	4.3	9	3.76	0.08	0.06	0.08	0.02	
3B	13-Jul-2021	4.3	10	3.84	0.1	0.005	0.1	0.004	
3B	13-Jul-2021	4.3	11	3.92	0.12	0.05	0.11	0.04	
3B	13-Jul-2021	4.3	12	4-4.3	0.2	N/A	N/A	N/A	undercut bank
3B	13-Jul-2021	4.3	LB	2.13	0.00	N/A	N/A	N/A	
3B	18-Aug-2021	4.38	RB	0	0.00	N/A	N/A	N/A	
3B	18-Aug-2021	4.38	1	0-2.7	0.02	N/A	N/A	N/A	too shallow to sample
3B	18-Aug-2021	4.38	2	2.7	0.04	-0.07	0.04	0.01	
3B	18-Aug-2021	4.38	3	2.79	0.04	0.01	0.04	0.02	
3B	18-Aug-2021	4.38	4	2.88	0.05	0.03	0.05	-0.01	
3B	18-Aug-2021	4.38	5	2.97	0.06	-0.01	0.06	0.00	
3B	18-Aug-2021	4.38	6	3.06	0.07	-0.02	0.07	-0.01	
3B	18-Aug-2021	4.38	7	3.15	0.07	0.00	0.07	0.02	
3B	18-Aug-2021	4.38	8	3.24	0.10	0.07	0.10	0.08	
3B	18-Aug-2021	4.38	9	3.33	0.12	0.15	0.12	0.14	
3B	18-Aug-2021	4.38	10	3.42	0.14	0.21	0.14	0.211	
3B	18-Aug-2021	4.38	11	3.51	0.17	0.14	0.17	0.16	
3B	18-Aug-2021	4.38	12	3.6-4.38	0.2	N/A	N/A	N/A	undercut bank
3B	18-Aug-2021	4.38	LB	4.38	0.00	N/A	N/A	N/A	
3B	22/Sept/2021	4.2	RB	0	0.00	N/A	N/A	N/A	
3B	22/Sept/2021	4.2	1	0-2.7	0.02	N/A	N/A	N/A	too shallow to sample
3B	22/Sept/2021	4.2	2	2.7	0.04	0.03	0.04	0.02	
3B	22/Sept/2021	4.2	3	2.81	0.05	0.02	0.05	0.02	
3B	22/Sept/2021	4.2	4	2.92	0.06	0.04	0.06	0.05	
3B	22/Sept/2021	4.2	5	3.03	0.09	0.05	0.09	0.07	
3B	22/Sept/2021	4.2	6	3.14	0.12	0.08	0.12	0.08	
3B	22/Sept/2021	4.2	7	3.25	0.12	0.08	0.12	0.06	
3B	22/Sept/2021	4.2	8	3.36	0.14	0.06	0.14	0.06	
3B	22/Sept/2021	4.2	9	3.47	0.16	0.03	0.16	0.04	
3B	22/Sept/2021	4.2	10	3.58	0.16	0.09	0.16	0.09	
3B	22/Sept/2021	4.2	11	3.69	0.19	0.20	0.19	0.20	
3B	22/Sept/2021	4.2	12	3.7-4.2	0.2	N/A	N/A	N/A	undercut bank
3B	22/Sept/2021	4.2	LB	4.2	0.00	N/A	N/A	N/A	
3B	29-Oct-2021	5.8	RB	0	0.00	N/A	N/A	N/A	
3B	29-Oct-2021	5.8	1	0-3	0.01	N/A	N/A	N/A	too shallow to sample
3B	29-Oct-2021	5.8	2	3	0.06	-0.05	0.08	-0.06	
3B	29-Oct-2021	5.8	3	3.14	0.10	-0.07	0.10	-0.06	
3B	29-Oct-2021	5.8	4	3.28	0.14	-0.06	0.14	-0.04	
3B	29-Oct-2021	5.8	5	3.42	0.20	0.21	0.18	0.17	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
3B	29-Oct-2021	5.8	6	3.56	0.22	0.23	0.22	0.26	
3B	29-Oct-2021	5.8	7	3.7	0.24	0.33	0.24	0.33	
3B	29-Oct-2021	5.8	8	3.84	0.26	0.17	0.26	0.19	
3B	29-Oct-2021	5.8	9	3.98	0.24	0.30	0.24	0.25	
3B	29-Oct-2021	5.8	10	4.12	0.19	0.2	0.19	0.18	
3B	29-Oct-2021	5.8	11	4.26	0.18	-0.02	0.18	-0.03	
3B	29-Oct-2021	5.8	12	4.3-4.8	0.2	N/A	N/A	N/A	undercut bank, rooted veg
3B	29-Oct-2021	5.8	LB	4.8	0.00	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
3C	13-Jul-2021	2.35	RB	0.00	0.00	N/A	0.00	N/A	
3C	13-Jul-2021	2.35	1	0-0.3	0.03	N/A	0.00	N/A	too shallow to sample
3C	13-Jul-2021	2.35	2	0.30	0.10	0.00	0.10	0.00	
3C	13-Jul-2021	2.35	3	0.50	0.10	0.00	0.11	0.00	
3C	13-Jul-2021	2.35	4	0.70	0.12	0.00	0.12	0.00	
3C	13-Jul-2021	2.35	5	0.90	0.16	-0.02	0.17	-0.02	
3C	13-Jul-2021	2.35	6	1.10	0.20	0.01	0.20	0.19	
3C	13-Jul-2021	2.35	7	1.30	0.20	0.05	0.20	0.06	
3C	13-Jul-2021	2.35	8	1.50	0.23	0.06	0.22	0.09	
3C	13-Jul-2021	2.35	9	1.70	0.28	0.16	0.27	0.15	
3C	13-Jul-2021	2.35	10	1.90	0.26	0.177	0.26	0.155	
3C	13-Jul-2021	2.35	11	1.9-2.35	0.2	N/A	N/A	N/A	Undercut, could not sample
3C	13-Jul-2021	2.35	LB	2.35	0.00	N/A	0.00	N/A	
3C	18-Aug-2021	2.35	RB	0.00	0.00	N/A	0.00	N/A	
3C	18-Aug-2021	2.35	1	0-0.3	0.03	N/A	0.00	N/A	too shallow to sample
3C	18-Aug-2021	2.35	2	0.30	0.10	-0.01	0.10	-0.02	
3C	18-Aug-2021	2.35	3	0.50	0.14	-0.01	0.14	-0.01	
3C	18-Aug-2021	2.35	4	0.70	0.20	-0.03	0.20	-0.03	
3C	18-Aug-2021	2.35	5	0.90	0.23	-0.02	0.24	-0.02	
3C	18-Aug-2021	2.35	6	1.10	0.30	0.01	0.30	0.00	
3C	18-Aug-2021	2.35	7	1.30	0.36	0.04	0.36	0.07	
3C	18-Aug-2021	2.35	8	1.50	0.40	0.10	0.42	0.12	
3C	18-Aug-2021	2.35	9	1.70	0.44	0.14	0.44	0.14	
3C	18-Aug-2021	2.35	10	1.90	0.4	0.096	0.4	0.074	
3C	18-Aug-2021	2.35	11	1.9-2.35	0.2	N/A	N/A	N/A	Undercut, could not sample
3C	18-Aug-2021	2.35	LB	2.35	0.00	N/A	0.00	N/A	
3C	22/Sept/2021	2.3	RB	0.00	0.00	N/A	0.00	N/A	
3C	22/Sept/2021	2.3	1	0-0.1	0.03	N/A	0.00	N/A	too shallow to sample
3C	22/Sept/2021	2.3	2	0.10	0.06	0.00	0.06	0.01	
3C	22/Sept/2021	2.3	3	0.30	0.12	-0.03	0.12	-0.02	
3C	22/Sept/2021	2.3	4	0.50	0.21	-0.02	0.22	-0.02	
3C	22/Sept/2021	2.3	5	0.70	0.32	-0.01	0.32	-0.02	
3C	22/Sept/2021	2.3	6	0.90	0.39	-0.01	0.39	-0.02	
3C	22/Sept/2021	2.3	7	1.10	0.41	0.03	0.41	0.00	
3C	22/Sept/2021	2.3	8	1.30	0.47	0.05	0.47	0.07	
3C	22/Sept/2021	2.3	9	1.50	0.48	0.10	0.48	0.10	
3C	22/Sept/2021	2.3	10	1.70	0.47	0.07	0.47	0.11	
3C	22/Sept/2021	2.3	11	1.90	0.45	0.09	0.45	0.11	
3C	22/Sept/2021	2.3	12	1.9-2.3	0.2	N/A	N/A	N/A	Undercut, could not sample
3C	22/Sept/2021	2.3	LB	2.3	0.00	N/A	0.00	N/A	
3C	29-Oct-2021	2.55	RB	0.00	0.00	N/A	0.00	N/A	
3C	29-Oct-2021	2.55	1	0-0.2	0.03	N/A	0.00	N/A	too shallow to sample
3C	29-Oct-2021	2.55	2	0.20	0.12	-0.01	0.12	0.00	
3C	29-Oct-2021	2.55	3	0.38	0.14	-0.02	0.14	-0.02	
3C	29-Oct-2021	2.55	4	0.56	0.20	0.01	0.20	0.03	
3C	29-Oct-2021	2.55	5	0.74	0.24	0.07	0.24	0.06	
3C	29-Oct-2021	2.55	6	0.92	0.27	0.11	0.27	0.09	
3C	29-Oct-2021	2.55	7	1.10	0.28	0.07	0.28	0.11	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
3C	29-Oct-2021	2.55	8	1.28	0.32	0.08	0.33	0.10	
3C	29-Oct-2021	2.55	9	1.46	0.36	0.08	0.36	0.07	
3C	29-Oct-2021	2.55	10	1.64	0.3	0.12	0.3	0.07	
3C	29-Oct-2021	2.55	11	1.90	0.45	0.09	0.45	0.11	
3C	29-Oct-2021	2.55	12	1.9-2.3	0.2	N/A	N/A	N/A	Undercut, could not sample
3C	29-Oct-2021	2.55	LB	2.3	0.00	N/A	0.00	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
4A	15-July-2021	1.30	RB	0.00	0.00	NA	NA	NA	
4A	15-July-2021	1.30	1	0-0.2	0.02	NA	NA	NA	Too shallow
4A	15-July-2021	1.30	2	0.20	0.04	0.06	0.05	0.06	
4A	15-July-2021	1.30	3	0.28	0.07	0.04	0.07	0.05	
4A	15-July-2021	1.30	4	0.36	0.06	0.12	0.06	0.13	
4A	15-July-2021	1.30	5	0.44	0.06	0.11	0.06	0.11	
4A	15-July-2021	1.30	6	0.52	0.06	0.07	0.06	0.08	
4A	15-July-2021	1.30	7	0.60	0.06	0.07	0.06	0.08	
4A	15-July-2021	1.30	8	0.68	0.05	0.05	0.05	0.05	
4A	15-July-2021	1.30	9	0.76	0.06	0.03	0.06	0.03	
4A	15-July-2021	1.30	10	0.84	0.06	0.017	0.06	0.011	
4A	15-July-2021	1.30	11	0.92	0.06	0.03	0.06	0.03	
4A	15-July-2021	1.30	12	0.95-1.3	0.02	NA	NA	NA	too shallow
4A	15-July-2021	1.30	LB	1.3	0	NA	NA	NA	
4A	20-August-2021	1.30	RB	0.00	0.00	NA	NA	NA	
4A	20-August-2021	1.30	1	0-0.2	0.02	NA	NA	NA	Too shallow
4A	20-August-2021	1.30	2	0.20	0.12	0.011	0.12	0.014	
4A	20-August-2021	1.30	3	0.28	0.10	0.032	0.11	0.057	
4A	20-August-2021	1.30	4	0.36	0.10	0.017	0.11	0.024	
4A	20-August-2021	1.30	5	0.44	0.07	0.170	0.07	0.033	
4A	20-August-2021	1.30	6	0.52	0.08	0.009	0.08	0.014	
4A	20-August-2021	1.30	7	0.60	0.08	0.002	0.08	0.001	
4A	20-August-2021	1.30	8	0.68	0.08	0.005	0.08	-0.004	
4A	20-August-2021	1.30	9	0.76	0.07	-0.001	0.08	-0.001	
4A	20-August-2021	1.30	10	0.84	0.09	-0.001	0.1	-0.011	
4A	20-August-2021	1.30	11	0.92	0.12	0.000	0.12	-0.003	
4A	20-August-2021	1.30	12	0.95-1.3	0.02	NA	NA	NA	too shallow
4A	20-August-2021	1.30	LB	1.3	0	NA	NA	NA	
4A	22/Sept/2021	1.30	RB	0.00	0.00	NA	NA	NA	
4A	22/Sept/2021	1.30	1	0-0.1	0.02	NA	NA	NA	Too shallow
4A	22/Sept/2021	1.30	2	0.10	0.06	0.00	0.06	0.01	
4A	22/Sept/2021	1.30	3	0.22	0.10	0.11	0.10	0.10	
4A	22/Sept/2021	1.30	4	0.34	0.09	0.09	0.09	0.08	
4A	22/Sept/2021	1.30	5	0.46	0.08	0.04	0.08	0.05	
4A	22/Sept/2021	1.30	6	0.58	0.08	0.03	0.08	0.04	
4A	22/Sept/2021	1.30	7	0.70	0.08	0.03	0.08	0.03	
4A	22/Sept/2021	1.30	8	0.82	0.08	0.00	0.08	0.00	
4A	22/Sept/2021	1.30	9	0.94	0.06	0.00	0.06	0.00	
4A	22/Sept/2021	1.30	10	1.06	0.05	0.00	0.05	0.00	
4A	22/Sept/2021	1.30	11	1.18	0.05	0.00	0.05	0.01	
4A	22/Sept/2021	1.30	12	1.2-1.3	0.02	NA	NA	NA	too shallow
4A	22/Sept/2021	1.30	LB	1.3	0	NA	NA	NA	
4A	27-Oct-2021	1.30	RB	0.00	0.00	NA	NA	NA	
4A	27-Oct-2021	1.30	1	0-0.1	0.02	NA	NA	NA	Too shallow
4A	27-Oct-2021	1.30	2	0.10	0.10	0.00	0.10	0.00	
4A	27-Oct-2021	1.30	3	0.20	0.10	0.00	0.10	0.00	
4A	27-Oct-2021	1.30	4	0.30	0.08	0.02	0.10	0.05	
4A	27-Oct-2021	1.30	5	0.40	0.10	0.05	0.06	0.03	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
4A	27-Oct-2021	1.30	6	0.50	0.07	0.04	0.10	0.04	
4A	27-Oct-2021	1.30	7	0.60	0.10	0.04	0.08	0.07	
4A	27-Oct-2021	1.30	8	0.70	0.08	0.07	0.10	0.04	
4A	27-Oct-2021	1.30	9	0.80	0.10	0.04	0.07	0.02	
4A	27-Oct-2021	1.30	10	0.90	0.08	0.01	0.06	0.05	
4A	27-Oct-2021	1.30	11	1.00	0.06	0.05	0.06	0.06	
4A	27-Oct-2021	1.30	12	1.-1.3	0.02	NA	NA	NA	too shallow
4A	27-Oct-2021	1.30	LB	1.3	0	NA	NA	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
4B	15-July-2021	2.4	RB	0.00	0.00	N/A	N/A	N/A	
4B	15-July-2021	2.4	1	0-0.7	0.03	N/A	N/A	N/A	Too shallow to sample
4B	15-July-2021	2.4	2	0.70	0.08	0.02	0.08	0.02	
4B	15-July-2021	2.4	3	0.79	0.09	0.02	0.10	0.04	
4B	15-July-2021	2.4	4	0.88	0.11	0.02	0.11	0.03	
4B	15-July-2021	2.4	5	0.97	0.12	0.02	0.13	0.02	
4B	15-July-2021	2.4	6	1.06	0.14	0.03	0.14	0.03	
4B	15-July-2021	2.4	7	1.15	0.16	0.02	0.16	0.02	
4B	15-July-2021	2.4	8	1.24	0.17	0.03	0.17	0.02	
4B	15-July-2021	2.4	9	1.33	0.17	0.23	0.17	0.04	
4B	15-July-2021	2.4	10	1.42	0.18	0.017	0.18	0.024	
4B	15-July-2021	2.4	11	1.51	0.16	0.02	0.17	0.02	
4B	15-July-2021	2.4	12	1.6-2.4	0.12	N/A	N/A	N/A	Undercut, could not sample. Estimated average depth.
4B	15-July-2021	2.4	LB	2.4	0.00	N/A	N/A	N/A	
4B	20-August-2021	2.4	RB	0.00	0.00	N/A	N/A	N/A	
4B	20-August-2021	2.4	1	0-0.5	0.03	N/A	N/A	N/A	Too shallow to sample
4B	20-August-2021	2.4	2	0.50	0.08	0.015	0.07	0.007	
4B	20-August-2021	2.4	3	0.63	0.08	0.012	0.08	0.010	
4B	20-August-2021	2.4	4	0.76	0.10	-0.003	0.10	-0.008	
4B	20-August-2021	2.4	5	0.89	0.16	0.008	0.16	0.003	
4B	20-August-2021	2.4	6	1.02	0.22	0.010	0.18	0.028	
4B	20-August-2021	2.4	7	1.15	0.20	0.014	0.20	0.019	
4B	20-August-2021	2.4	8	1.28	0.22	0.006	0.22	0.006	
4B	20-August-2021	2.4	9	1.41	0.24	-0.005	0.24	0.003	
4B	20-August-2021	2.4	10	1.54	0.24	0.002	0.24	-0.001	
4B	20-August-2021	2.4	11	1.67	0.26	0.000	0.26	-0.001	
4B	20-August-2021	2.4	12	1.7-2.4	0.12	N/A	N/A	N/A	Undercut, could not sample. Estimated average depth.
4B	20-August-2021	2.4	LB	2.4	0.00	N/A	N/A	N/A	
4B	22/Sept/2021	2.2	RB	0.00	0.00	N/A	N/A	N/A	
4B	22/Sept/2021	2.2	1	0-0.1	0.02	N/A	N/A	N/A	Too shallow to sample
4B	22/Sept/2021	2.2	2	0.10	0.05	0.000	0.05	0.010	
4B	22/Sept/2021	2.2	3	0.25	0.05	0.000	0.05	0.000	
4B	22/Sept/2021	2.2	4	0.40	0.10	0.000	0.10	0.000	
4B	22/Sept/2021	2.2	5	0.55	0.08	-0.020	0.08	0.000	
4B	22/Sept/2021	2.2	6	0.70	0.08	0.000	0.08	0.000	
4B	22/Sept/2021	2.2	7	0.85	0.12	-0.010	0.12	0.000	
4B	22/Sept/2021	2.2	8	1.00	0.14	-0.010	0.14	0.000	
4B	22/Sept/2021	2.2	9	1.15	0.20	0.000	0.20	0.010	
4B	22/Sept/2021	2.2	10	1.30	0.22	0.020	0.22	0.030	
4B	22/Sept/2021	2.2	11	1.45	0.24	0.040	0.024	0.040	
4B	22/Sept/2021	2.2	12	1.5-2.2	0.12	N/A	N/A	N/A	Undercut, could not sample. Estimated average depth.
4B	22/Sept/2021	2.2	LB	2.2	0.00	N/A	N/A	N/A	
4B	27 Oct 2021	1.6	RB	0.00	0.00	N/A	N/A	N/A	
4B	27 Oct 2021	1.6	1	0-0.1	0.02	N/A	N/A	N/A	Too shallow to sample
4B	27 Oct 2021	1.6	2	0.10	0.10	0.020	0.10	0.000	
4B	27 Oct 2021	1.6	3	0.20	0.08	0.000	0.08	0.000	
4B	27 Oct 2021	1.6	4	0.30	0.08	0.000	0.08	-0.010	
4B	27 Oct 2021	1.6	5	0.40	0.15	0.020	0.16	0.020	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
4B	27 Oct 2021	1.6	6	0.50	0.18	0.000	0.19	0.000	
4B	27 Oct 2021	1.6	7	0.60	0.16	0.000	0.17	0.000	
4B	27 Oct 2021	1.6	8	0.70	0.17	0.000	0.16	0.000	
4B	27 Oct 2021	1.6	9	0.80	0.20	0.000	0.20	0.000	
4B	27 Oct 2021	1.6	10	0.90	0.2	0.000	0.2	0.000	
4B	27 Oct 2021	1.6	11	1.00	0.21	0.000	0.22	0.000	
4B	27 Oct 2021	1.6	12	1.6	0.12	N/A	N/A	N/A	Undercut, could not sample. Estimated average depth.
4B	27 Oct 2021	1.6	LB	1.6	0.00	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5A	15 Jul 2021	1.41	RB	0.00	0.00	N/A	N/A	N/A	
5A	15 Jul 2021	1.41	1	0-0.5	0.05	N/A	N/A	N/A	deep undercut. Could not sample
5A	15 Jul 2021	1.41	2	0.55	0.05	0.08	0.05	0.09	
5A	15 Jul 2021	1.41	3	0.60	0.05	0.08	0.05	0.09	
5A	15 Jul 2021	1.41	4	0.65	0.06	0.08	0.06	0.08	
5A	15 Jul 2021	1.41	5	0.70	0.06	0.08	0.06	0.08	
5A	15 Jul 2021	1.41	6	0.75	0.07	0.06	0.07	0.07	
5A	15 Jul 2021	1.41	7	0.80	0.07	0.06	0.07	0.08	
5A	15 Jul 2021	1.41	8	0.85	0.06	0.07	0.06	0.53	
5A	15 Jul 2021	1.41	9	0.90	0.06	0.05	0.06	0.05	
5A	15 Jul 2021	1.41	10	0.95	0.06	0.042	0.06	0.018	
5A	15 Jul 2021	1.41	11	1.00	0.04	0.006	0.05	0.03	
5A	15 Jul 2021	1.41	LB	1.1-1.41	0.00	N/A	N/A	N/A	too shallow to sample
5A	20 Aug 2021	1.7	RB	0.00	0.00	N/A	N/A	N/A	
5A	20 Aug 2021	1.7	1	0-0.7	0.05	N/A	N/A	N/A	deep undercut. Could not sample
5A	20 Aug 2021	1.7	2	0.79	0.10	0.056	0.10	0.056	
5A	20 Aug 2021	1.7	3	0.88	0.10	0.056	0.10	0.066	
5A	20 Aug 2021	1.7	4	0.97	0.10	0.061	0.10	0.070	
5A	20 Aug 2021	1.7	5	1.06	0.10	0.063	0.10	0.069	
5A	20 Aug 2021	1.7	6	1.15	0.10	0.068	0.12	0.068	
5A	20 Aug 2021	1.7	7	1.24	0.11	0.064	0.11	0.068	
5A	20 Aug 2021	1.7	8	1.33	0.10	0.061	0.10	0.069	
5A	20 Aug 2021	1.7	9	1.42	0.10	0.042	0.10	0.035	
5A	20 Aug 2021	1.7	10	1.51	0.06	0.006	0.06	0.013	
5A	20 Aug 2021	1.7	11	1.60	0.05	0.014	0.06	0.012	
5A	20 Aug 2021	1.7	12	1.6-1.7	0.01	N/A	N/A	N/A	too shallow to sample
5A	20 Aug 2021	1.7	LB	1.7	0.00	N/A	N/A	N/A	
5A	24/Sept/2021	1.8	RB	0.00	0.00	N/A	N/A	N/A	
5A	24/Sept/2021	1.8	1	0-0.7	0.04	N/A	N/A	N/A	deep undercut. Could not sample
5A	24/Sept/2021	1.8	2	0.70	0.05	0.060	0.05	0.060	
5A	24/Sept/2021	1.8	3	0.81	0.05	0.080	0.05	0.070	
5A	24/Sept/2021	1.8	4	0.92	0.06	0.050	0.06	0.050	
5A	24/Sept/2021	1.8	5	1.03	0.08	0.110	0.08	0.110	
5A	24/Sept/2021	1.8	6	1.14	0.08	0.120	0.08	0.120	
5A	24/Sept/2021	1.8	7	1.25	0.07	0.110	0.08	0.110	
5A	24/Sept/2021	1.8	8	1.36	0.07	0.100	0.08	0.100	
5A	24/Sept/2021	1.8	9	1.47	0.07	0.110	0.07	0.110	
5A	24/Sept/2021	1.8	10	1.58	0.08	0.050	0.07	0.030	
5A	24/Sept/2021	1.8	11	1.69	0.07	0.040	0.07	0.040	
5A	24/Sept/2021	1.8	12	1.7-1.8	0.01	N/A	N/A	N/A	too shallow to sample
5A	24/Sept/2021	1.8	LB	1.8	0.00	N/A	N/A	N/A	
5A	29-Oct-2021	1.8	RB	0.00	0.00	N/A	N/A	N/A	
5A	29-Oct-2021	1.8	1	0-0.7	0.04	N/A	N/A	N/A	deep undercut. Could not sample
5A	29-Oct-2021	1.8	2	0.70	0.10	0.060	0.12	0.060	
5A	29-Oct-2021	1.8	3	0.81	0.11	0.120	0.11	0.120	
5A	29-Oct-2021	1.8	4	0.92	0.10	0.120	0.10	0.130	
5A	29-Oct-2021	1.8	5	1.03	0.10	0.130	0.08	0.140	
5A	29-Oct-2021	1.8	6	1.14	0.08	0.140	0.10	0.110	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5A	29-Oct-2021	1.8	7	1.25	0.10	0.110	0.10	0.100	
5A	29-Oct-2021	1.8	8	1.36	0.10	0.110	0.08	0.090	
5A	29-Oct-2021	1.8	9	1.47	0.09	0.080	0.09	0.050	
5A	29-Oct-2021	1.8	10	1.58	0.1	0.050	0.1	0.050	
5A	29-Oct-2021	1.8	11	1.69	0.05	0.030	0.05	0.020	
5A	29-Oct-2021	1.8	12	1.7-1.8	0.01	N/A	N/A	N/A	too shallow to sample
5A	29-Oct-2021	1.8	LB	1.8	0.00	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5B	15 July 2021	1.95	RB	0.00	0	N/A	N/A	N/A	
5B	15 July 2021	1.95	1	0-0.35	0.02	N/A	N/A	N/A	Undercut bank/too shallow
5B	15 July 2021	1.95	2	0.35	0.04	0.29	0.04	0.273	
5B	15 July 2021	1.95	3	0.40	0.03	0.23	0.03	0.239	
5B	15 July 2021	1.95	4	0.45	0.04	0.271	0.04	0.291	
5B	15 July 2021	1.95	5	0.50	0.04	0.25	0.04	0.223	
5B	15 July 2021	1.95	6	0.55	0.04	0.294	0.04	0.269	
5B	15 July 2021	1.95	7	0.60	0.04	0.182	0.04	0.172	
5B	15 July 2021	1.95	8	0.65	0.03	0.186	0.03	0.145	
5B	15 July 2021	1.95	9	0.70	0.03	0.22	0.03	0.25	
5B	15 July 2021	1.95	10	0.75	0.03	0.253	0.03	0.237	
5B	15 July 2021	1.95	11	0.80	0.03	0.236	0.03	0.329	
5B	15 July 2021	1.95	12	0.95-1.4	0.01	N/A	N/A	N/A	Too shallow to sample
5B	15 July 2021	1.95	13	1.4-1.95	0.01	N/A	0	N/A	gravel bar between, too shallow
5B	15 July 2021	1.95	LB	1.95	0	N/A	0	N/A	
5B	20 August 2021	1.1	RB	0.00	0	N/A	N/A	N/A	
5B	20 August 2021	1.1	1	0-0.20	0.02	N/A	N/A	N/A	Undercut bank/too shallow
5B	20 August 2021	1.1	2	0.20	0.05	0.185	0.05	0.173	
5B	20 August 2021	1.1	3	0.28	0.05	0.241	0.05	0.239	
5B	20 August 2021	1.1	4	0.36	0.06	0.304	0.06	0.3	
5B	20 August 2021	1.1	5	0.44	0.05	0.309	0.05	0.348	
5B	20 August 2021	1.1	6	0.52	0.06	0.208	0.06	0.19	
5B	20 August 2021	1.1	7	0.60	0.06	0.262	0.06	0.251	
5B	20 August 2021	1.1	8	0.68	0.06	0.209	0.06	0.192	
5B	20 August 2021	1.1	9	0.76	0.06	0.152	0.06	0.199	
5B	20 August 2021	1.1	10	0.84	0.04	0.126	0.04	0.185	
5B	20 August 2021	1.1	11	0.92	0.03	0.156	0.03	0.14	
5B	20 August 2021	1.1	12	1-1.10	0.01	N/A	N/A	N/A	Too shallow to sample
5B	20 August 2021	1.1	13	1.1	0.01	N/A	0	N/A	gravel bar between, too shallow
5B	24/Sept/2021	1.8	RB	0.00	0	N/A	N/A	N/A	
5B	24/Sept/2021	1.8	1	0-0.40	0.02	N/A	N/A	N/A	Undercut bank/too shallow
5B	24/Sept/2021	1.8	2	0.40	0.04	0.07	0.04	0.08	
5B	24/Sept/2021	1.8	3	0.50	0.04	0.27	0.04	0.3	
5B	24/Sept/2021	1.8	4	0.60	0.04	0.27	0.04	0.28	
5B	24/Sept/2021	1.8	5	0.70	0.04	0.11	0.04	0.1	
5B	24/Sept/2021	1.8	6	0.80	0.04	0.13	0.04	0.08	
5B	24/Sept/2021	1.8	7	0.90	0.04	0.29	0.04	0.29	
5B	24/Sept/2021	1.8	8	1.00	0.05	0.27	0.05	0.27	
5B	24/Sept/2021	1.8	9	1.10	0.04	0.27	0.04	0.26	
5B	24/Sept/2021	1.8	10	1.20	0.04	0.17	0.04	0.22	
5B	24/Sept/2021	1.8	11	1.30	0.04	0.18	0.04	0.21	
5B	24/Sept/2021	1.8	12	1.3-1.8	0.01	N/A	N/A	N/A	Too shallow to sample
5B	24/Sept/2021	1.8	13	1.8	0	N/A	0	N/A	
5B	29-Oct-2021	1.45	RB	0.00	0	N/A	N/A	N/A	
5B	29-Oct-2021	1.45	1	0-0.40	0.02	N/A	N/A	N/A	Undercut bank/too shallow
5B	29-Oct-2021	1.45	2	0.40	0.04	0.11	0.04	0.22	
5B	29-Oct-2021	1.45	3	0.48	0.04	0.37	0.04	0.37	
5B	29-Oct-2021	1.45	4	0.56	0.04	0.31	0.04	0.4	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5B	29-Oct-2021	1.45	5	0.64	0.04	0.14	0.05	0.23	
5B	29-Oct-2021	1.45	6	0.72	0.06	0.23	0.06	0.3	
5B	29-Oct-2021	1.45	7	0.80	0.04	0.38	0.04	0.37	
5B	29-Oct-2021	1.45	8	0.88	0.04	0.38	0.04	0.38	
5B	29-Oct-2021	1.45	9	0.96	0.04	0.2	0.04	0.23	
5B	29-Oct-2021	1.45	10	1.04	0.04	0.1	0.04	0.11	
5B	29-Oct-2021	1.45	11	1.12	0.04	0.16	0.06	0.34	
5B	29-Oct-2021	1.45	12	1.20-1.45	0.01	N/A	N/A	N/A	Too shallow to sample
5B	29-Oct-2021	1.45	13	1.45	0	N/A	0	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5C	15 Jul 2021	1.6	RB	0.00	0.00	N/A	N/A	N/A	undercut, cannot sample
5C	15 Jul 2021	1.6	1	0-0.6	0.07	N/A	0.07	N/A	
5C	15 Jul 2021	1.6	2	0.65	0.07	0.55	0.07	0.05	
5C	15 Jul 2021	1.6	3	0.70	0.07	0.07	0.08	0.06	
5C	15 Jul 2021	1.6	4	0.75	0.08	0.07	0.08	0.07	
5C	15 Jul 2021	1.6	5	0.80	0.09	0.05	0.09	0.06	
5C	15 Jul 2021	1.6	6	0.85	0.09	0.06	0.09	0.05	
5C	15 Jul 2021	1.6	7	0.90	0.09	0.06	0.09	0.06	
5C	15 Jul 2021	1.6	8	0.95	0.09	0.05	0.09	0.06	
5C	15 Jul 2021	1.6	9	1.00	0.09	0.05	0.09	0.05	
5C	15 Jul 2021	1.6	10	1.05	0.08	0.04	0.08	0.05	
5C	15 Jul 2021	1.6	11	1.10	0.06	0.017	0.06	0.042	
5C	15 Jul 2021	1.6	LB	1.15-1.60	0	N/A	N/A	N/A	too shallow to sample
5C	20 Aug 2021	1.45	RB	0.00	0.00	N/A	N/A	N/A	
5C	20 Aug 2021	1.45	1	0-0.6	0.07	N/A	0.07	N/A	undercut, cannot sample
5C	20 Aug 2021	1.45	2	0.60	0.11	0.060	0.12	0.059	
5C	20 Aug 2021	1.45	3	0.67	0.12	0.056	0.12	0.061	
5C	20 Aug 2021	1.45	4	0.74	0.14	0.062	0.14	0.065	
5C	20 Aug 2021	1.45	5	0.81	0.14	0.059	0.14	0.067	
5C	20 Aug 2021	1.45	6	0.88	0.14	0.081	0.14	0.078	
5C	20 Aug 2021	1.45	7	0.95	0.14	0.072	0.14	0.073	
5C	20 Aug 2021	1.45	8	1.02	0.14	0.084	0.14	0.078	
5C	20 Aug 2021	1.45	9	1.09	0.11	0.065	0.11	0.059	
5C	20 Aug 2021	1.45	10	1.16	0.08	0.036	0.08	0.043	
5C	20 Aug 2021	1.45	11	1.23	0.06	0.044	0.06	0.045	
5C	20 Aug 2021	1.45	12	1.25-1.45	0.02	N/A	N/A	N/A	too shallow to sample
5C	20 Aug 2021	1.45	LB	1.45	0	N/A	N/A	N/A	
5C	24/Sept/2021	1.35	RB	0.00	0.00	N/A	N/A	N/A	
5C	24/Sept/2021	1.35	1	0-0.55	0.07	N/A	0.07	N/A	undercut, cannot sample
5C	24/Sept/2021	1.35	2	0.55	0.12	0.080	0.12	0.070	
5C	24/Sept/2021	1.35	3	0.62	0.13	0.050	0.13	0.030	
5C	24/Sept/2021	1.35	4	0.69	0.13	0.100	0.13	0.100	
5C	24/Sept/2021	1.35	5	0.76	0.14	0.100	0.14	0.100	
5C	24/Sept/2021	1.35	6	0.83	0.12	0.080	0.12	0.070	
5C	24/Sept/2021	1.35	7	0.90	0.10	0.080	0.10	0.080	
5C	24/Sept/2021	1.35	8	0.97	0.10	0.050	0.10	0.040	
5C	24/Sept/2021	1.35	9	1.04	0.08	0.060	0.08	0.050	
5C	24/Sept/2021	1.35	10	1.11	0.07	0.020	0.07	0.030	
5C	24/Sept/2021	1.35	11	1.18	0.04	0.010	0.04	0.020	
5C	24/Sept/2021	1.35	12	1.25-1.35	0.02	N/A	N/A	N/A	too shallow to sample
5C	24/Sept/2021	1.35	LB	1.35	0	N/A	N/A	N/A	
5C	29-Oct-2021	1.45	RB	0.00	0.00	N/A	N/A	N/A	
5C	29-Oct-2021	1.45	1	0-0.55	0.09	N/A	0.07	N/A	undercut, cannot sample
5C	29-Oct-2021	1.45	2	0.55	0.15	0.080	0.15	0.080	
5C	29-Oct-2021	1.45	3	0.62	0.17	0.110	0.15	0.110	
5C	29-Oct-2021	1.45	4	0.69	0.18	0.100	0.18	0.090	
5C	29-Oct-2021	1.45	5	0.76	0.18	0.090	0.18	0.090	
5C	29-Oct-2021	1.45	6	0.83	0.17	0.100	0.16	0.090	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5C	29-Oct-2021	1.45	7	0.90	0.14	0.100	0.12	0.100	
5C	29-Oct-2021	1.45	8	0.97	0.10	0.100	0.10	0.110	
5C	29-Oct-2021	1.45	9	1.04	0.08	0.060	0.08	0.070	
5C	29-Oct-2021	1.45	10	1.11	0.06	0.060	0.06	0.060	
5C	29-Oct-2021	1.45	11	1.18	0.04	0.010	0.04	0.000	
5C	29-Oct-2021	1.45	12	1.25-1.35	0.02	N/A	N/A	N/A	too shallow to sample
5C	29-Oct-2021	1.45	LB	1.45	0	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5D	14-July-2021	2.4	RB	0.00	N/A	N/A	N/A	N/A	
5D	14-July-2021	2.4	1	0-0.3	0.03	N/A	N/A	N/A	Undercut, too shallow
5D	14-July-2021	2.4	2	0.30	0.03	0.23	0.03	0.22	
5D	14-July-2021	2.4	3	0.37	0.03	0.23	0.03	0.17	
5D	14-July-2021	2.4	4	0.44	0.03	0.28	0.03	0.23	
5D	14-July-2021	2.4	5	0.51	0.03	0.25	0.03	0.24	
5D	14-July-2021	2.4	6	0.58	0.03	0.28	0.03	0.27	
5D	14-July-2021	2.4	7	0.65	0.03	0.16	0.03	0.19	
5D	14-July-2021	2.4	8	0.72	0.03	0.13	0.03	0.15	
5D	14-July-2021	2.4	9	0.79	0.03	0.05	0.03	0.11	
5D	14-July-2021	2.4	10	0.86	0.03	0.246	0.04	0.188	
5D	14-July-2021	2.4	11	0.93	0.03	0.22	0.03	0.183	
5D	14-July-2021	2.4	12	1-2.4	0.02	N/A	N/A	N/A	Too shallow to sample
5D	14-July-2021	2.4	LB	2.4	0	N/A	N/A	N/A	
5D	20-August-2021	2.4	RB	0.00	N/A	N/A	N/A	N/A	
5D	20-August-2021	2.4	1	0-0.5	0.03	N/A	N/A	N/A	Undercut, too shallow
5D	20-August-2021	2.4	2	0.50	0.06	0.287	0.06	0.193	
5D	20-August-2021	2.4	3	0.69	0.06	0.179	0.06	0.210	
5D	20-August-2021	2.4	4	0.88	0.06	0.221	0.06	0.241	
5D	20-August-2021	2.4	5	1.07	0.06	0.232	0.06	0.261	
5D	20-August-2021	2.4	6	1.26	0.06	0.234	0.06	0.238	
5D	20-August-2021	2.4	7	1.45	0.06	0.191	0.06	0.247	
5D	20-August-2021	2.4	8	1.64	0.06	0.071	0.06	0.087	
5D	20-August-2021	2.4	9	1.83	0.06	0.001	0.06	0.001	
5D	20-August-2021	2.4	10	2.02	0.07	-0.003	0.07	-0.006	
5D	20-August-2021	2.4	11	2.21	0.06	-0.012	0.06	-0.006	
5D	20-August-2021	2.4	12	2.2-2.4	0.02	N/A	N/A	N/A	Too shallow to sample
5D	20-August-2021	2.4	LB	2.4	0	N/A	N/A	N/A	
5D	24/Sept/2021	2.05	RB	0.00	N/A	N/A	N/A	N/A	
5D	24/Sept/2021	2.05	1	0-0.4	0.03	N/A	N/A	N/A	Undercut, too shallow
5D	24/Sept/2021	2.05	2	0.40	0.04	0.320	0.04	0.240	
5D	24/Sept/2021	2.05	3	0.53	0.04	0.230	0.04	0.210	
5D	24/Sept/2021	2.05	4	0.66	0.06	0.280	0.06	0.270	
5D	24/Sept/2021	2.05	5	0.79	0.06	0.040	0.06	0.040	
5D	24/Sept/2021	2.05	6	0.92	0.06	0.020	0.06	0.010	
5D	24/Sept/2021	2.05	7	1.05	0.06	0.190	0.06	0.200	
5D	24/Sept/2021	2.05	8	1.18	0.05	0.210	0.05	0.210	
5D	24/Sept/2021	2.05	9	1.31	0.05	-0.010	0.05	-0.020	back eddie
5D	24/Sept/2021	2.05	10	1.44	0.04	0.010	0.04	-0.010	
5D	24/Sept/2021	2.05	11	1.57	0.06	0.010	0.06	0.010	
5D	24/Sept/2021	2.05	12	1.7-2.05	0.02	N/A	N/A	N/A	Too shallow to sample
5D	24/Sept/2021	2.05	LB	2.05	0	N/A	N/A	N/A	
5D	29-Oct-2021	1.9	RB	0.00	N/A	N/A	N/A	N/A	
5D	29-Oct-2021	1.9	1	0-0.1	0.02	N/A	N/A	N/A	Undercut, too shallow
5D	29-Oct-2021	1.9	2	0.10	0.04	0.060	0.04	0.070	
5D	29-Oct-2021	1.9	3	0.29	0.03	0.280	0.03	0.270	
5D	29-Oct-2021	1.9	4	0.48	0.03	0.260	0.42	0.050	
5D	29-Oct-2021	1.9	5	0.67	0.15	0.500	0.22	0.040	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
5D	29-Oct-2021	1.9	6	0.86	0.30	0.040	0.33	0.040	
5D	29-Oct-2021	1.9	7	1.05	0.43	0.040	0.34	0.050	
5D	29-Oct-2021	1.9	8	1.24	0.05	0.050	0.09	0.080	
5D	29-Oct-2021	1.9	9	1.43	0.02	0.080	0.02	0.070	
5D	29-Oct-2021	1.9	10	1.62	0.01	0.080	0	0.080	
5D	29-Oct-2021	1.9	11	1.81	0.08	-0.010	0.08	-0.010	
5D	29-Oct-2021	1.9	LB	1.9	0	N/A	N/A	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
6A	15 Jul 2021	2.45	RB	0.00	0.00	N/A	0.00	N/A	
6A	15 Jul 2021	2.45	1	0-0.5	0.02	N/A	NA	N/A	too shallow to sample.
6A	15 Jul 2021	2.45	2	0.65	0.11	0.02	0.11	0.03	
6A	15 Jul 2021	2.45	3	0.80	0.11	0.04	0.11	0.04	
6A	15 Jul 2021	2.45	4	0.95	0.11	0.04	0.14	0.02	
6A	15 Jul 2021	2.45	5	1.10	0.14	0.04	0.13	0.02	
6A	15 Jul 2021	2.45	6	1.25	0.13	0.04	0.14	0.03	
6A	15 Jul 2021	2.45	7	1.40	0.15	0.03	0.15	0.03	
6A	15 Jul 2021	2.45	8	1.55	0.19	0.01	0.19	0.01	
6A	15 Jul 2021	2.45	9	1.70	0.19	0.03	0.19	0.03	
6A	15 Jul 2021	2.45	10	1.85	0.18	0.036	0.19	0.02	
6A	15 Jul 2021	2.45	11	2.00	0.18	0.0002	0.17	0.0001	
6A	15 Jul 2021	2.45	12	2.1-2.45	0.02	N/A	NA	N/A	too shallow to sample
6A	15 Jul 2021	2.45	LB	2.45	0.00	N/A	0.00	N/A	
6A	18 Aug 2021	2.3	RB	0.00	0.00	N/A	0.000	N/A	
6A	18 Aug 2021	2.3	1	0-0.1	0.02	N/A	NA	N/A	too shallow to sample.
6A	18 Aug 2021	2.3	2	0.10	0.04	-0.096	0.040	0.01	
6A	18 Aug 2021	2.3	3	0.30	0.04	-0.004	0.040	0.00	
6A	18 Aug 2021	2.3	4	0.50	0.08	0.009	0.080	0.01	
6A	18 Aug 2021	2.3	5	0.70	0.12	0.023	0.120	0.02	
6A	18 Aug 2021	2.3	6	0.90	0.14	0.021	0.140	0.04	
6A	18 Aug 2021	2.3	7	1.10	0.14	0.018	0.140	0.02	
6A	18 Aug 2021	2.3	8	1.30	0.17	0.020	0.170	0.02	
6A	18 Aug 2021	2.3	9	1.50	0.18	0.032	0.180	0.42	
6A	18 Aug 2021	2.3	10	1.70	0.1	0.013	0.100	0.015	
6A	18 Aug 2021	2.3	11	1.90	0.06	0.006	0.060	0.002	
6A	18 Aug 2021	2.3	12	1.9-2.3	0.02	N/A	NA	N/A	too shallow to sample
6A	18 Aug 2021	2.3	LB	2.3	0.00	N/A	0.000	N/A	
6A	22/Sept/2021	2.65	RB	0.00	0.00	N/A	0.000	N/A	
6A	22/Sept/2021	2.65	1	0-0.25	0.02	N/A	NA	N/A	too shallow to sample.
6A	22/Sept/2021	2.65	2	0.25	0.04	0.000	0.040	0.00	
6A	22/Sept/2021	2.65	3	0.48	0.06	0.010	0.060	0.01	
6A	22/Sept/2021	2.65	4	0.71	0.10	0.010	0.100	0.01	
6A	22/Sept/2021	2.65	5	0.94	0.12	0.020	0.120	0.03	
6A	22/Sept/2021	2.65	6	1.17	0.16	0.010	0.160	0.03	
6A	22/Sept/2021	2.65	7	1.40	0.18	0.020	0.180	0.02	
6A	22/Sept/2021	2.65	8	1.63	0.14	0.020	0.140	0.02	
6A	22/Sept/2021	2.65	9	1.86	0.13	0.020	0.130	0.02	
6A	22/Sept/2021	2.65	10	2.09	0.1	0.010	0.100	0	
6A	22/Sept/2021	2.65	11	2.32	0.05	0.000	0.050	-0.01	
6A	22/Sept/2021	2.65	12	2.35-2.65	0.02	N/A	NA	N/A	too shallow to sample
6A	22/Sept/2021	2.65	LB	2.65	0.00	N/A	0.000	N/A	
6A	27-Oct-2021	2.9	RB	0.00	0.00	N/A	0.000	N/A	
6A	27-Oct-2021	2.9	1	0-0.4	0.02	N/A	NA	N/A	too shallow to sample.
6A	27-Oct-2021	2.9	2	0.40	0.06	0.000	0.060	0.01	
6A	27-Oct-2021	2.9	3	0.64	0.12	0.010	0.130	0.01	
6A	27-Oct-2021	2.9	4	0.88	0.16	0.010	0.060	0.01	
6A	27-Oct-2021	2.9	5	1.12	0.18	0.020	0.180	0.02	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
6A	27-Oct-2021	2.9	6	1.36	0.20	0.020	0.020	0.02	
6A	27-Oct-2021	2.9	7	1.60	0.21	0.020	0.220	0.01	
6A	27-Oct-2021	2.9	8	1.84	0.18	0.040	0.180	0.05	
6A	27-Oct-2021	2.9	9	2.08	0.18	0.030	0.180	0.02	
6A	27-Oct-2021	2.9	10	2.32	0.15	-0.020	0.150	0	
6A	27-Oct-2021	2.9	11	2.56	0.1	0.000	0.100	0	
6A	27-Oct-2021	2.9	12	2.6-2.9	0.03	N/A	NA	N/A	too shallow to sample
6A	27-Oct-2021	2.9	LB	2.9	0.00	N/A	0.000	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
6B	15 Jul 2021	3.3	RB	0.00	0.00	N/A	0.00	N/A	
6B	15 Jul 2021	3.3	1	0-2	0.02	N/A	NA	N/A	too shallow to sample.
6B	15 Jul 2021	3.3	2	2.05	0.06	0.02	0.06	0.02	
6B	15 Jul 2021	3.3	3	2.10	0.06	0.02	0.06	0.04	
6B	15 Jul 2021	3.3	4	2.15	0.06	0.05	0.06	0.06	
6B	15 Jul 2021	3.3	5	2.20	0.06	0.05	0.06	0.06	
6B	15 Jul 2021	3.3	6	2.25	0.09	0.06	0.09	0.06	
6B	15 Jul 2021	3.3	7	2.30	0.10	0.02	0.10	0.03	
6B	15 Jul 2021	3.3	8	2.35	0.09	0.05	0.09	0.04	
6B	15 Jul 2021	3.3	9	2.40	0.09	0.06	0.10	0.07	
6B	15 Jul 2021	3.3	10	2.45	0.11	0.098	0.11	0.12	
6B	15 Jul 2021	3.3	11	2.50	0.11	-0.001	0.11	0.001	
6B	15 Jul 2021	3.3	12	2.8-3.3	0.02	N/A	NA	N/A	too shallow to sample
6B	15 Jul 2021	3.3	LB	2.45	0.00	N/A	0.00	N/A	
6B	18 Aug 2021	3.2	RB	0.00	0.00	N/A	0.00	N/A	
6B	18 Aug 2021	3.2	1	0-2	0.02	N/A	NA	N/A	too shallow to sample.
6B	18 Aug 2021	3.2	2	2.00	0.06	0.01	0.06	0.01	
6B	18 Aug 2021	3.2	3	2.09	0.06	0.00	0.60	0.00	
6B	18 Aug 2021	3.2	4	2.18	0.08	-0.01	0.08	-0.01	
6B	18 Aug 2021	3.2	5	2.27	0.08	-0.01	0.08	-0.02	
6B	18 Aug 2021	3.2	6	2.36	0.10	0.04	0.10	0.06	
6B	18 Aug 2021	3.2	7	2.45	0.10	0.05	0.10	0.05	
6B	18 Aug 2021	3.2	8	2.54	0.10	0.07	0.10	0.08	
6B	18 Aug 2021	3.2	9	2.63	0.09	0.11	0.09	0.10	
6B	18 Aug 2021	3.2	10	2.72	0.06	0.19	0.06	0.19	
6B	18 Aug 2021	3.2	11	2.81	0.10	0.08	0.10	0.07	
6B	18 Aug 2021	3.2	12	2.9-3.2	0.10	0.17	0.10	0.20	too shallow to sample
6B	18 Aug 2021	3.2	LB	3.2	0.04	0.09	0.04	0.04	
6B	22/Sept/2021	3.8	RB	0.00	0.00	N/A	0.00	N/A	
6B	22/Sept/2021	3.8	1	0-2.4	0.01	N/A	NA	N/A	
6B	22/Sept/2021	3.8	2	2.40	0.08	0.00	0.08	0.00	
6B	22/Sept/2021	3.8	3	2.53	0.08	0.00	0.08	0.01	
6B	22/Sept/2021	3.8	4	2.66	0.05	0.00	0.06	0.00	
6B	22/Sept/2021	3.8	5	2.79	0.06	0.00	0.06	-0.01	
6B	22/Sept/2021	3.8	6	2.92	0.06	0.01	0.06	0.01	
6B	22/Sept/2021	3.8	7	3.05	0.08	0.05	0.08	0.05	
6B	22/Sept/2021	3.8	8	3.18	0.10	0.07	0.10	0.07	
6B	22/Sept/2021	3.8	9	3.31	0.11	0.11	0.11	0.12	
6B	22/Sept/2021	3.8	10	3.44	0.10	0.15	0.10	0.13	
6B	22/Sept/2021	3.8	11	3.57	0.06	-0.02	0.06	-0.02	
6B	22/Sept/2021	3.8	12	3.6-3.8	0.30	N/A	NA	N/A	
6B	22/Sept/2021	3.8	LB	3.80	0.04	0.09	0.04	0.04	
6B	27-Oct-2021	3.9	RB	0.00	0.00	N/A	0.00	N/A	
6B	27-Oct-2021	3.9	1	0-2.4	0.01	N/A	NA	N/A	too shallow to sample.
6B	27-Oct-2021	3.9	2	2.40	0.06	-0.01	0.06	0.00	
6B	27-Oct-2021	3.9	3	2.53	0.05	0.00	0.05	0.00	
6B	27-Oct-2021	3.9	4	2.66	0.05	0	0.05	0.01	
6B	27-Oct-2021	3.9	5	2.79	0.07	0.00	0.07	0.00	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
6B	27-Oct-2021	3.9	6	2.92	0.11	0.01	0.13	0.04	
6B	27-Oct-2021	3.9	7	3.05	0.14	0.08	0.14	0.06	
6B	27-Oct-2021	3.9	8	3.18	0.19	0.09	0.2	0.08	
6B	27-Oct-2021	3.9	9	3.31	0.19	0.09	0.18	0.09	
6B	27-Oct-2021	3.9	10	3.44	0.06	0.1	0.06	0.1	
6B	27-Oct-2021	3.9	11	3.57	0.06	0.01	0.06	0.01	
6B	27-Oct-2021	3.9	12	3.6-3.9	0.03	N/A	NA	N/A	too shallow to sample
6B	27-Oct-2021	3.9	LB	3.9	0.04	0.09	0.04	0.04	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-02 Pool	2021-07-12	1.8	RB	0	0.00	N/A	0.00	N/A	
D-02 Pool	2021-07-12	1.8	1	0.09	0.46	-0.01	0.46	-0.01	
D-02 Pool	2021-07-12	1.8	2	0.27	0.52	0.00	0.52	-0.01	
D-02 Pool	2021-07-12	1.8	3	0.39	0.53	-0.02	0.52	-0.01	
D-02 Pool	2021-07-12	1.8	4	0.525	0.56	0.02	0.56	0.00	
D-02 Pool	2021-07-12	1.8	5	0.66	0.55	0.09	0.56	0.13	
D-02 Pool	2021-07-12	1.8	6	0.795	0.51	0.29	0.52	0.30	
D-02 Pool	2021-07-12	1.8	7	0.93	0.50	0.23	0.50	0.25	
D-02 Pool	2021-07-12	1.8	8	1.065	0.51	0.08	0.51	0.10	
D-02 Pool	2021-07-12	1.8	9	1.2	0.52	0.06	0.52	0.04	
D-02 Pool	2021-07-12	1.8	10	1.335	0.48	0.00	0.52	0.01	
D-02 Pool	2021-07-12	1.8	11	1.47	0.50	0.00	0.52	0.00	
D-02 Pool	2021-07-12	1.8	LB	1.8	0.00	N/A	0.00	N/A	
D-02 Pool	2021-08-17	1.8	RB	0	0.00	N/A	0.00	N/A	
D-02 Pool	2021-08-17	1.8	1	0-0.1	0.03	NA	NA	NA	Too shallow/too much vegetation
D-02 Pool	2021-08-17	1.8	2	0.1	0.12	0.00	0.12	0.00	back eddie
D-02 Pool	2021-08-17	1.8	3	0.28	0.15	-0.01	0.15	-0.01	back eddie
D-02 Pool	2021-08-17	1.8	4	0.46	0.46	-0.01	0.45	-0.01	back eddie
D-02 Pool	2021-08-17	1.8	5	0.64	0.47	0.05	0.50	0.07	
D-02 Pool	2021-08-17	1.8	6	0.82	0.36	0.12	0.36	0.14	
D-02 Pool	2021-08-17	1.8	7	1	0.36	0.05	0.36	0.03	
D-02 Pool	2021-08-17	1.8	8	1.18	0.32	0.17	0.32	0.18	
D-02 Pool	2021-08-17	1.8	9	1.36	0.32	0.11	0.32	0.09	
D-02 Pool	2021-08-17	1.8	10	1.54	0.25	0.05	0.25	0.06	
D-02 Pool	2021-08-17	1.8	11	1.72	0.12	0.06	0.12	0.05	
D-02 Pool	2021-08-17	1.8	LB	1.8	0.00	N/A	0.00	N/A	
D-02 Pool	2021-09-20	1.8	RB	0	0.00	N/A	0.00	N/A	
D-02 Pool	2021-09-20	1.8	1	0-0.1	0.03	NA	NA	NA	Too shallow/too much vegetation
D-02 Pool	2021-09-20	1.8	2	0.1	0.22	-0.05	0.22	-0.01	
D-02 Pool	2021-09-20	1.8	3	0.28	0.30	-0.02	0.30	-0.02	
D-02 Pool	2021-09-20	1.8	4	0.46	0.36	0.00	0.36	-0.36	
D-02 Pool	2021-09-20	1.8	5	0.64	0.36	0.09	0.38	0.08	
D-02 Pool	2021-09-20	1.8	6	0.82	0.35	0.16	0.35	0.16	
D-02 Pool	2021-09-20	1.8	7	1	0.38	0.04	0.38	0.04	
D-02 Pool	2021-09-20	1.8	8	1.18	0.36	0.06	0.36	0.07	
D-02 Pool	2021-09-20	1.8	9	1.36	0.36	0.04	0.40	0.01	
D-02 Pool	2021-09-20	1.8	10	1.54	0.35	0.00	0.35	0.01	
D-02 Pool	2021-09-20	1.8	11	1.72	0.24	-0.01	0.24	0.24	
D-02 Pool	2021-09-20	1.8	LB	1.8	0.00	N/A	0.00	N/A	
D-02 Pool	2021-10-25	2.1	RB	0	0.00	N/A	0.00	N/A	
D-02 Pool	2021-10-25	2.1	1	0-0.1	0.03	NA	NA	NA	Too shallow/too much vegetation
D-02 Pool	2021-10-25	2.1	2	0.10	0.18	0.00	0.18	0.00	back eddie
D-02 Pool	2021-10-25	2.1	3	0.31	0.28	-0.01	0.28	-0.01	back eddie
D-02 Pool	2021-10-25	2.1	4	0.52	0.32	0.01	0.32	-0.01	back eddie
D-02 Pool	2021-10-25	2.1	5	0.73	0.35	0.11	0.36	0.12	
D-02 Pool	2021-10-25	2.1	6	0.94	0.36	0.27	0.36	0.24	
D-02 Pool	2021-10-25	2.1	7	1.15	0.36	0.07	0.36	0.08	
D-02 Pool	2021-10-25	2.1	8	1.36	0.32	0.02	0.34	0.03	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-02 Pool	2021-10-25	2.1	9	1.57	0.33	0.04	0.33	0.04	
D-02 Pool	2021-10-25	2.1	10	1.78	0.25	0.01	0.25	0.01	
D-02 Pool	2021-10-25	2.1	11	1.99	0.22	0.00	0.2	0	
D-02 Pool	2021-10-25	2.1	12	2-2.1	0.08	NA	NA	NA	undercut
D-02 Pool	2021-10-25	2.1	LB	2.1	0.00	N/A	0.00	N/A	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-02 Riffle	2021-07-12	1.9	RB	0	0.00	0.00	0.00	0.00	
D-02 Riffle	2021-07-12	1.9	1	0.18	0.10	0.00	0.01	0.01	
D-02 Riffle	2021-07-12	1.9	2	0.36	0.01	0.00	0.01	0.00	
D-02 Riffle	2021-07-12	1.9	3	0.54	0.09	0.04	0.09	0.08	
D-02 Riffle	2021-07-12	1.9	4	0.72	0.08	0.26	0.08	0.37	
D-02 Riffle	2021-07-12	1.9	5	0.9	0.08	0.27	0.08	0.27	
D-02 Riffle	2021-07-12	1.9	6	1.08	0.07	0.26	0.08	0.24	
D-02 Riffle	2021-07-12	1.9	7	1.26	0.09	0.09	0.09	0.10	
D-02 Riffle	2021-07-12	1.9	8	1.44	0.09	0.01	0.09	0.01	
D-02 Riffle	2021-07-12	1.9	9	1.62	0.08	-0.02	0.08	0.04	
D-02 Riffle	2021-07-12	1.9	10	1.8	0.04	-0.01	0.04	-0.01	
D-02 Riffle	2021-07-12	1.9	LB	1.9	NA	NA	NA	NA	
D-02 Riffle	2021-08-17	1.9	RB	0	0.00	0.00	0.00	0.00	
D-02 Riffle	2021-08-17	1.9	1	0-0.1	0.02	NA	NA	NA	Too shallow
D-02 Riffle	2021-08-17	1.9	2	0.1	0.07	0.00	0.07	0.00	back eddie
D-02 Riffle	2021-08-17	1.9	3	0.28	0.08	0.00	0.08	0.00	back eddie
D-02 Riffle	2021-08-17	1.9	4	0.46	0.08	0.02	0.08	0.03	
D-02 Riffle	2021-08-17	1.9	5	0.64	0.07	0.19	0.07	0.19	
D-02 Riffle	2021-08-17	1.9	6	0.82	0.06	0.50	0.06	0.51	
D-02 Riffle	2021-08-17	1.9	7	1	0.06	0.37	0.06	0.39	
D-02 Riffle	2021-08-17	1.9	8	1.18	0.07	0.17	0.07	0.19	
D-02 Riffle	2021-08-17	1.9	9	1.36	0.07	0.08	0.07	0.11	
D-02 Riffle	2021-08-17	1.9	10	1.54	0.07	0.00	0.07	0.00	
D-02 Riffle	2021-08-17	1.9	11	1.72	0.04	-0.01	0.05	-0.05	back eddie
D-02 Riffle	2021-08-17	1.9	12	1.8-1.9	0.02	NA	NA	NA	Too shallow
D-02 Riffle	2021-08-17	1.9	LB	1.9	NA	NA	NA	NA	
D-02 Riffle	2021-09-20	1.9	RB	0	0.00	0.00	0.00	0.00	
D-02 Riffle	2021-09-20	1.9	1	0-0.1	0.02	NA	NA	NA	Too shallow
D-02 Riffle	2021-09-20	1.9	2	0.1	0.12	-0.01	0.12	0.00	back eddie
D-02 Riffle	2021-09-20	1.9	3	0.28	0.14	-0.01	0.14	-0.01	
D-02 Riffle	2021-09-20	1.9	4	0.46	0.14	0.10	0.14	0.13	
D-02 Riffle	2021-09-20	1.9	5	0.64	0.10	0.36	0.10	0.35	
D-02 Riffle	2021-09-20	1.9	6	0.82	0.10	0.63	0.10	0.58	
D-02 Riffle	2021-09-20	1.9	7	1	0.10	0.31	0.10	0.34	
D-02 Riffle	2021-09-20	1.9	8	1.18	0.12	0.29	0.12	0.28	
D-02 Riffle	2021-09-20	1.9	9	1.36	0.11	0.11	0.12	0.11	
D-02 Riffle	2021-09-20	1.9	10	1.54	0.10	0.01	0.10	0.00	
D-02 Riffle	2021-09-20	1.9	11	1.72	0.06	0.00	0.06	-0.03	
D-02 Riffle	2021-09-20	1.9	12	1.8-1.9	0.02	NA	NA	NA	Too shallow
D-02 Riffle	2021-09-20	1.9	LB	1.9	NA	NA	NA	NA	
D-02 Riffle	2021-10-25	2.1	RB	0	0.00	0.00	0.00	0.00	
D-02 Riffle	2021-10-25	2.1	1	0-0.1	0.04	NA	NA	NA	Too shallow
D-02 Riffle	2021-10-25	2.1	2	0.1	0.18	-0.01	0.18	-0.01	back eddie
D-02 Riffle	2021-10-25	2.1	3	0.30	0.19	-0.01	0.19	-0.02	back eddie
D-02 Riffle	2021-10-25	2.1	4	0.5	0.19	0.21	0.19	0.19	
D-02 Riffle	2021-10-25	2.1	5	0.70	0.17	0.32	0.16	0.34	
D-02 Riffle	2021-10-25	2.1	6	0.9	0.16	0.38	0.16	0.39	
D-02 Riffle	2021-10-25	2.1	7	1.10	0.15	0.26	0.14	0.28	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-02 Riffle	2021-10-25	2.1	8	1.3	0.17	0.14	0.18	0.13	
D-02 Riffle	2021-10-25	2.1	9	1.50	0.17	0.02	0.17	0.02	
D-02 Riffle	2021-10-25	2.1	10	1.7	0.16	-0.01	0.16	0	back eddie
D-02 Riffle	2021-10-25	2.1	11	1.90	0.12	-0.01	0.12	-0.01	back eddie
D-02 Riffle	2021-10-25	2.1	12	1.9-2.1	0.03	NA	NA	NA	Too shallow
D-02 Riffle	2021-10-25	2.1	LB	2.1	NA	NA	NA	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-03 Pool	12 Jul 2021	2.6	RB	0	0.00	NA	NA	NA	
D-03 Pool	12 Jul 2021	2.6	1	0-1.0	0.01	NA	0.01	NA	Too shallow to sample
D-03 Pool	12 Jul 2021	2.6	2	1.07	0.04	0.00	0.04	0.02	
D-03 Pool	12 Jul 2021	2.6	3	1.22	0.08	-0.01	0.08	0.00	
D-03 Pool	12 Jul 2021	2.6	4	1.37	0.10	-0.01	0.10	0.00	
D-03 Pool	12 Jul 2021	2.6	5	1.52	0.46	0.02	0.46	0.00	
D-03 Pool	12 Jul 2021	2.6	6	1.67	0.50	0.00	0.50	0.01	
D-03 Pool	12 Jul 2021	2.6	7	1.82	0.50	0.00	0.50	0.00	
D-03 Pool	12 Jul 2021	2.6	8	1.97	0.47	0.09	0.47	0.10	
D-03 Pool	12 Jul 2021	2.6	9	2.12	0.46	-0.02	0.46	-0.01	
D-03 Pool	12 Jul 2021	2.6	10	2.27	0.45	0.005	0.45	-0.017	
D-03 Pool	12 Jul 2021	2.6	11	2.42	0.45	-0.001	0.45	-0.001	
D-03 Pool	12 Jul 2021	2.6	12	2.57	0.40	NA	NA	NA	undercutbank
D-03 Pool	12 Jul 2021	2.6	LB	2.6	0.00	NA	NA	NA	
D-03 Pool	17 Aug 2021	3.3	RB	0	0.00	NA	NA	NA	
D-03 Pool	17 Aug 2021	3.3	1	0-1.0	0.01	NA	NA	NA	Too shallow to sample
D-03 Pool	17 Aug 2021	3.3	2	1	0.04	0.127	0.040	0.14	flow parallel to measuring tape
D-03 Pool	17 Aug 2021	3.3	3	1.22	0.04	0.161	0.040	0.18	flow parallel to measuring tape
D-03 Pool	17 Aug 2021	3.3	4	1.44	0.04	0.135	0.040	0.12	flow parallel to measuring tape
D-03 Pool	17 Aug 2021	3.3	5	1.66	0.05	0.036	0.050	0.04	flow parallel to measuring tape
D-03 Pool	17 Aug 2021	3.3	6	1.88	0.10	0.020	0.110	0.02	flow parallel to measuring tape
D-03 Pool	17 Aug 2021	3.3	7	2.1	0.16	0.016	0.160	0.01	flow parallel to measuring tape
D-03 Pool	17 Aug 2021	3.3	8	2.32	0.22	0.001	0.220	0.00	
D-03 Pool	17 Aug 2021	3.3	9	2.54	0.22	0.001	0.220	0.00	
D-03 Pool	17 Aug 2021	3.3	10	2.76	0.25	-0.013	0.250	-0.004	
D-03 Pool	17 Aug 2021	3.3	11	2.98	0.24	0.002	0.240	0.005	
D-03 Pool	17 Aug 2021	3.3	12	3-3.3	0.18	NA	NA	NA	under cut bank
D-03 Pool	17 Aug 2021	3.3	LB	3.3	0.00	NA	NA	NA	
D-03 Pool	21 Sep 2021	2.8	RB	0	0.00	NA	NA	NA	
D-03 Pool	21 Sep 2021	2.8	1	0-1.3	0.01	NA	NA	NA	Too shallow to sample
D-03 Pool	21 Sep 2021	2.8	2	1.3	0.06	-0.010	0.060	-0.03	
D-03 Pool	21 Sep 2021	2.8	3	1.45	0.08	-0.010	0.080	-0.01	
D-03 Pool	21 Sep 2021	2.8	4	1.6	0.14	-0.010	0.140	0.00	
D-03 Pool	21 Sep 2021	2.8	5	1.75	0.18	0.000	0.180	0.00	
D-03 Pool	21 Sep 2021	2.8	6	1.9	0.21	0.000	0.220	-0.01	
D-03 Pool	21 Sep 2021	2.8	7	2.05	0.22	-0.010	0.220	-0.01	
D-03 Pool	21 Sep 2021	2.8	8	2.2	0.22	-0.010	0.220	-0.010	
D-03 Pool	21 Sep 2021	2.8	9	2.35	0.24	0.010	0.240	0.01	
D-03 Pool	21 Sep 2021	2.8	10	2.5	0.24	0.000	0.240	0	
D-03 Pool	21 Sep 2021	2.8	11	2.65	0.2	0.010	0.200	0.01	
D-03 Pool	21 Sep 2021	2.8	12	2.8-3.10		NA	NA	NA	undercut
D-03 Pool	21 Sep 2021	2.8	LB	3	0.00	NA	NA	NA	
D-03 Pool	25 Oct 2021	3.35	RB	0	0.00	NA	NA	NA	
D-03 Pool	25 Oct 2021	3.35	1	0-0.9	0.01	NA	NA	NA	Too shallow to sample
D-03 Pool	25 Oct 2021	3.35	2	0.9	0.06	0.10	0.06	0.10	flow perpendicular to channel
D-03 Pool	25 Oct 2021	3.35	3	1.14	0.06	0.22	0.06	0.20	flow perpendicular to channel
D-03 Pool	25 Oct 2021	3.35	4	1.38	0.06	0.24	0.06	0.23	flow perpendicular to channel
D-03 Pool	25 Oct 2021	3.35	5	1.62	0.06	0.10	0.06	0.09	flow perpendicular to channel

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-03 Pool	25 Oct 2021	3.35	6	1.86	0.08	0.02	0.08	0.02	
D-03 Pool	25 Oct 2021	3.35	7	2.1	0.12	0.02	0.12	0.03	
D-03 Pool	25 Oct 2021	3.35	8	2.34	0.22	0.08	0.20	0.040	
D-03 Pool	25 Oct 2021	3.35	9	2.58	0.22	-0.01	0.22	-0.01	waterfall immediately upstream
D-03 Pool	25 Oct 2021	3.35	10	2.82	0.21	0.00	0.21	0.01	waterfall immediately upstream
D-03 Pool	25 Oct 2021	3.35	11	3.06	0.21	0.01	0.21	0.01	waterfall immediately upstream
D-03 Pool	25 Oct 2021	3.35	12	3.1-3.35	0.15	NA	NA	NA	undercut
D-03 Pool	25 Oct 2021	3.35	LB	3	0.00	NA	NA	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-03 Riffle	12 Jul 21	1.1	LB	0	0	NA	0	NA	
D-03 Riffle	12 Jul 21	1.1	1	0.05	0	NA	0	NA	Too shallow
D-03 Riffle	12 Jul 21	1.1	2	0.15	0.02	0.009	0.02	0.003	
D-03 Riffle	12 Jul 21	1.1	3	0.25	0.03	0.025	0.03	-0.187	Behind boulder
D-03 Riffle	12 Jul 21	1.1	4	0.35	0.04	-0.016	0.04	-0.004	
D-03 Riffle	12 Jul 21	1.1	5	0.45	0.04	0	0.04	0	
D-03 Riffle	12 Jul 21	1.1	6	0.55	0.04	0.088	0.04	0.098	
D-03 Riffle	12 Jul 21	1.1	7	0.65	0.04	0.108	0.04	0.095	
D-03 Riffle	12 Jul 21	1.1	8	0.75	0.04	0.055	0.04	0.057	
D-03 Riffle	12 Jul 21	1.1	9	0.85	0.02	-0.008	0.02	0.027	
D-03 Riffle	12 Jul 21	1.1	10	0.95	0.01	-0.017	0.01	0.026	
D-03 Riffle	12 Jul 21	1.1	RB	1.1	0	NA	0	NA	
D-03 Riffle	17 Aug 21	1.05	LB	0	0	NA	0	NA	
D-03 Riffle	17 Aug 21	1.05	1	0-0.15	0.01	NA	NA	NA	too shallow
D-03 Riffle	17 Aug 21	1.05	2	0.15	0.06	-0.023	0.06	-0.16	Back eddie
D-03 Riffle	17 Aug 21	1.05	3	0.22	0.05	-0.029	0.05	-0.015	Back eddie
D-03 Riffle	17 Aug 21	1.05	4	0.29	0.06	-0.011	0.06	-0.016	Back eddie
D-03 Riffle	17 Aug 21	1.05	5	0.36	0.06	-0.008	0.06	-0.007	
D-03 Riffle	17 Aug 21	1.05	6	0.43	0.06	0.008	0.06	0.011	
D-03 Riffle	17 Aug 21	1.05	7	0.5	0.06	0.089	0.06	0.077	
D-03 Riffle	17 Aug 21	1.05	8	0.57	0.06	0.104	0.06	0.104	
D-03 Riffle	17 Aug 21	1.05	9	0.64	0.06	0.127	0.06	0.094	
D-03 Riffle	17 Aug 21	1.05	10	0.71	0.06	0.151	0.06	0.155	
D-03 Riffle	17 Aug 21	1.05	11	0.78	0.06	0.037	0.06	0.046	
D-03 Riffle	17 Aug 21	1.05	12	0.85-1.05	0.02	NA	NA	NA	too shallow/undercut
D-03 Riffle	17 Aug 21	1.05	RB	1.05	0	NA	0	NA	
D-03 Riffle	20 Sep 21	0.85	LB	0	0	NA	0	NA	
D-03 Riffle	20 Sep 21	0.85	1	0-0.20	0.01	NA	NA	NA	too shallow
D-03 Riffle	20 Sep 21	0.85	2	0.25	0.06	0	0.06	-0.01	
D-03 Riffle	20 Sep 21	0.85	3	0.3	0.08	0	0.08	0	
D-03 Riffle	20 Sep 21	0.85	4	0.35	0.08	0	0.08	0.02	
D-03 Riffle	20 Sep 21	0.85	5	0.4	0.08	0.06	0.08	0.04	
D-03 Riffle	20 Sep 21	0.85	6	0.45	0.08	0.06	0.08	0.05	
D-03 Riffle	20 Sep 21	0.85	7	0.5	0.08	0.07	0.08	0.1	
D-03 Riffle	20 Sep 21	0.85	8	0.55	0.08	0.08	0.08	0.08	
D-03 Riffle	20 Sep 21	0.85	9	0.6	0.08	0.08	0.08	0.09	
D-03 Riffle	20 Sep 21	0.85	10	0.65	0.06	0.07	0.06	0.06	
D-03 Riffle	20 Sep 21	0.85	11	0.7	0.06	0.04	0.06	0.04	
D-03 Riffle	20 Sep 21	0.85	RB	0.85	0	NA	0	NA	
D-03 Riffle	25 Oct 21	0.8	LB	0	0	NA	0	NA	
D-03 Riffle	25 Oct 21	0.8	1	0-0.1	0.01	NA	NA	NA	too shallow
D-03 Riffle	25 Oct 21	0.8	2	0.1	0.04	0	0.04	-0.01	
D-03 Riffle	25 Oct 21	0.8	3	0.16	0.06	-0.01	0.06	-0.02	
D-03 Riffle	25 Oct 21	0.8	4	0.22	0.06	0.01	0.06	0	
D-03 Riffle	25 Oct 21	0.8	5	0.28	0.07	0	0.07	0.01	
D-03 Riffle	25 Oct 21	0.8	6	0.34	0.08	0.01	0.08	0.02	
D-03 Riffle	25 Oct 21	0.8	7	0.4	0.09	0.06	0.08	0.04	
D-03 Riffle	25 Oct 21	0.8	8	0.46	0.08	0.08	0.08	0.09	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-03 Riffle	25 Oct 21	0.8	9	0.52	0.06	0.06	0.06	0.07	
D-03 Riffle	25 Oct 21	0.8	10	0.58	0.06	-0.01	0.06	0	
D-03 Riffle	25 Oct 21	0.8	11	0.64	0.05	-0.02	0.05	-0.01	
D-03 Riffle	25 Oct 21	0.8	12	0.7-0.8	0.02	NA	NA	NA	too shallow
D-03 Riffle	25 Oct 21	0.8	RB	0.8	0	NA	0	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-04 Riffle	12-Jul-21	1.4	RB	0.00	0.00	0.00	0.00	0.00	
D-04 Riffle	12-Jul-21	1.4	1	0-0.35	0.02	n/a	n/a	n/a	too shallow
D-04 Riffle	12-Jul-21	1.4	2	0.35	0.06	0.04	0.06	0.04	
D-04 Riffle	12-Jul-21	1.4	3	0.45	0.08	0.05	0.08	0.03	
D-04 Riffle	12-Jul-21	1.4	4	0.55	0.08	0.04	0.08	0.04	
D-04 Riffle	12-Jul-21	1.4	5	0.65	0.09	0.03	0.09	0.03	
D-04 Riffle	12-Jul-21	1.4	6	0.75	0.08	0.03	0.08	0.04	
D-04 Riffle	12-Jul-21	1.4	7	0.85	0.07	0.04	0.07	0.03	
D-04 Riffle	12-Jul-21	1.4	8	0.95	0.07	0.04	0.07	0.03	
D-04 Riffle	12-Jul-21	1.4	9	1.05	0.06	0.02	0.06	0.03	
D-04 Riffle	12-Jul-21	1.4	10	1.15	0.05	0.01	0.05	0.01	
D-04 Riffle	12-Jul-21	1.4	11	1.20-1.4	0.02	n/a	n/a	n/a	too shallow
D-04 Riffle	12-Jul-21	1.4	LB	1.40	0.00	n/a	n/a	n/a	
D-04 Riffle	17-Aug-21	1.5	RB	0.00	0.000	0.000	0.000	0.000	
D-04 Riffle	17-Aug-21	1.5	1	0-0.3	0.030	NA	NA	NA	too shallow
D-04 Riffle	17-Aug-21	1.5	2	0.30	0.040	0.017	0.040	0.024	
D-04 Riffle	17-Aug-21	1.5	3	0.41	0.060	0.023	0.060	0.029	
D-04 Riffle	17-Aug-21	1.5	4	0.52	0.080	0.025	0.080	0.320	
D-04 Riffle	17-Aug-21	1.5	5	0.63	0.100	0.027	0.100	0.220	
D-04 Riffle	17-Aug-21	1.5	6	0.74	0.080	0.220	0.080	0.020	
D-04 Riffle	17-Aug-21	1.5	7	0.85	0.080	0.026	0.080	0.020	
D-04 Riffle	17-Aug-21	1.5	8	0.96	0.080	0.022	0.080	0.026	
D-04 Riffle	17-Aug-21	1.5	9	1.07	0.060	0.016	0.060	0.013	
D-04 Riffle	17-Aug-21	1.5	10	1.18	0.060	0.008	0.060	0.010	
D-04 Riffle	17-Aug-21	1.5	11	1.29	0.050	-0.001	0.050	-0.005	
D-04 Riffle	17-Aug-21	1.5	12	1.3-1.5	0.020	NA	NA	NA	too shallow
D-04 Riffle	17-Aug-21	1.5	LB	1.50	0.000	n/a	n/a	n/a	
D-04 Riffle	20-Sep-21	1.3	RB	0.00	0.000	0.000	0.000	0.000	
D-04 Riffle	20-Sep-21	1.3	1	0-0.1	0.020	NA	NA	NA	too shallow
D-04 Riffle	20-Sep-21	1.3	2	0.10	0.040	0.040	0.040	0.010	
D-04 Riffle	20-Sep-21	1.3	3	0.20	0.070	0.010	0.080	0.010	
D-04 Riffle	20-Sep-21	1.3	4	0.30	0.080	0.010	0.080	0.010	
D-04 Riffle	20-Sep-21	1.3	5	0.40	0.080	0.010	0.080	0.020	
D-04 Riffle	20-Sep-21	1.3	6	0.50	0.080	0.020	0.080	0.020	
D-04 Riffle	20-Sep-21	1.3	7	0.60	0.060	0.030	0.060	0.000	
D-04 Riffle	20-Sep-21	1.3	8	0.70	0.060	0.020	0.060	0.010	
D-04 Riffle	20-Sep-21	1.3	9	0.80	0.060	0.020	0.060	0.020	
D-04 Riffle	20-Sep-21	1.3	10	0.90	0.060	0.020	0.060	0.030	
D-04 Riffle	20-Sep-21	1.3	11	1.00	0.060	0.020	0.060	0.010	
D-04 Riffle	20-Sep-21	1.3	12	1.10	0.040	0.030	0.030	0.030	
D-04 Riffle	20-Sep-21	1.3	13	1.1-1.3	0.020	NA	NA	NA	too shallow
D-04 Riffle	20-Sep-21	1.3	LB	1.50	0.000	n/a	n/a	n/a	
D-04 Riffle	25-Oct-21	1.2	RB	0.00	0.000	0.000	0.000	0.000	
D-04 Riffle	25-Oct-21	1.2	1	0-0.09	0.020	NA	NA	NA	too shallow
D-04 Riffle	25-Oct-21	1.2	2	0.09	0.060	0.020	0.080	0.020	
D-04 Riffle	25-Oct-21	1.2	3	0.18	0.080	0.010	0.080	0.010	
D-04 Riffle	25-Oct-21	1.2	4	0.27	0.120	0.010	0.120	0.000	
D-04 Riffle	25-Oct-21	1.2	5	0.36	0.120	0.020	0.120	0.020	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-04 Riffle	25-Oct-21	1.2	6	0.45	0.120	0.010	0.120	0.010	
D-04 Riffle	25-Oct-21	1.2	7	0.54	0.140	0.000	0.140	0.000	
D-04 Riffle	25-Oct-21	1.2	8	0.63	0.120	0.020	0.120	0.020	
D-04 Riffle	25-Oct-21	1.2	9	0.72	0.080	0.030	0.080	0.030	
D-04 Riffle	25-Oct-21	1.2	10	0.81	0.060	0.030	0.060	0.050	
D-04 Riffle	25-Oct-21	1.2	11	0.90	0.060	0.030	0.060	0.020	
D-04 Riffle	25-Oct-21	1.2	12	0.99	0.050	-0.010	0.050	0.000	
D-04 Riffle	25-Oct-21	1.2	13	1.0-1.2	0.020	NA	NA	NA	too shallow
D-04 Riffle	25-Oct-21	1.2	LB	1.20	0.000	n/a	n/a	n/a	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-04 Pool	2021-07-12	1.5	RB	0	NA	NA	NA	NA	
D-04 Pool	2021-07-12	1.5	2	0-0.9	0.01	NA	0.01	NA	too shallow to sample
D-04 Pool	2021-07-12	1.5	3	0.95	0.03	-0.03	0.03	-0.029	
D-04 Pool	2021-07-12	1.5	4	1	0.03	-0.01	0.03	-0.018	
D-04 Pool	2021-07-12	1.5	5	1.05	0.03	0.024	0.03	0.069	
D-04 Pool	2021-07-12	1.5	6	1.1	0.03	0.147	0.03	0.169	
D-04 Pool	2021-07-12	1.5	7	1.15	0.02	0.155	0.02	0.163	
D-04 Pool	2021-07-12	1.5	8	1.2	0.02	0.214	0.02	0.216	
D-04 Pool	2021-07-12	1.5	9	1.25	0.04	0.224	0.04	0.234	
D-04 Pool	2021-07-12	1.5	10	1.3	0.04	0.277	0.04	0.206	
D-04 Pool	2021-07-12	1.5	11	1.35	0.03	0.197	0.02	0.069	
D-04 Pool	2021-07-12	1.5	12	1.40-1.50	0.01	NA	0.01	NA	too shallow to sample
D-04 Pool	2021-07-12	1.5	LB	1.5	NA	NA	NA	NA	
D-04 Pool	2021-08-17	2.7	RB	0	NA	NA	NA	NA	
D-04 Pool	2021-08-17	2.7	2	0-0.6	0.02	NA	NA	NA	too shallow to sample
D-04 Pool	2021-08-17	2.7	3	0.6	0.04	0.035	0.04	0.047	
D-04 Pool	2021-08-17	2.7	4	0.7	0.04	0.033	0.04	0.041	
D-04 Pool	2021-08-17	2.7	5	0.8	0.04	0.036	0.04	0.04	
D-04 Pool	2021-08-17	2.7	6	0.9	0.04	0.042	0.04	0.044	
D-04 Pool	2021-08-17	2.7	7	1	0.04	0.036	0.04	0.036	
D-04 Pool	2021-08-17	2.7	8	1.1	0.04	0.032	0.04	0.033	
D-04 Pool	2021-08-17	2.7	9	1.2	0.04	0.024	0.04	0.039	
D-04 Pool	2021-08-17	2.7	10	1.3	0.04	0.018	0.04	0.032	
D-04 Pool	2021-08-17	2.7	11	1.4	0.04	0.021	0.04	0.014	
D-04 Pool	2021-08-17	2.7	12	1.5	0.04	0.048	0.04	0.038	
D-04 Pool	2021-08-17	2.7	13	1.5-2.7	0.005	NA	NA	NA	too shallow to sample
D-04 Pool	2021-08-17	2.7	LB	2.7	NA	NA	NA	NA	
D-04 Pool	2021-09-20	1.3	RB	0	NA	NA	NA	NA	
D-04 Pool	2021-09-20	1.3	2	0-0.3	0.02	NA	NA	NA	too shallow to sample
D-04 Pool	2021-09-20	1.3	3	0.3	0.04	0.08	0.04	0.06	
D-04 Pool	2021-09-20	1.3	4	0.4	0.04	-0.02	0.04	0.01	
D-04 Pool	2021-09-20	1.3	5	0.5	0.04	0.02	0.04	0.02	
D-04 Pool	2021-09-20	1.3	6	0.6	0.04	0.02	0.04	0.03	
D-04 Pool	2021-09-20	1.3	7	0.7	0.04	0.01	0.04	0	
D-04 Pool	2021-09-20	1.3	8	0.8	0.05	0.03	0.05	0.02	
D-04 Pool	2021-09-20	1.3	9	0.9	0.04	0.08	0.04	0.07	
D-04 Pool	2021-09-20	1.3	10	1	0.04	0.12	0.04	0.12	
D-04 Pool	2021-09-20	1.3	11	1.1	0.04	0.09	0.04	0.1	
D-04 Pool	2021-09-20	1.3	12	1.2	0.04	0	0.04	0.02	
D-04 Pool	2021-09-20	1.3	LB	1.3	NA	NA	NA	NA	
D-04 Pool	2021-10-25	1.6	RB	0	NA	NA	NA	NA	
D-04 Pool	2021-10-25	1.6	2	0-0.2	0.02	NA	NA	NA	too shallow to sample
D-04 Pool	2021-10-25	1.6	3	0.2	0.06	0.02	0.06	0.02	
D-04 Pool	2021-10-25	1.6	4	0.31	0.06	0.06	0.06	0.09	
D-04 Pool	2021-10-25	1.6	5	0.42	0.05	0.01	0.05	0.01	
D-04 Pool	2021-10-25	1.6	6	0.53	0.05	-0.01	0.05	-0.01	
D-04 Pool	2021-10-25	1.6	7	0.64	0.05	-0.01	0.05	0	
D-04 Pool	2021-10-25	1.6	8	0.75	0.06	0.02	0.06	0.03	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
D-04 Pool	2021-10-25	1.6	9	0.86	0.05	0.02	0.05	0.03	
D-04 Pool	2021-10-25	1.6	10	0.97	0.04	0.06	0.06	0.04	
D-04 Pool	2021-10-25	1.6	11	1.08	0.06	0.05	0.06	0.04	
D-04 Pool	2021-10-25	1.6	12	1.19	0.06	0.06	0.06	0.02	
D-04 Pool	2021-10-25	1.6	13	1.2-1.3	0.01	NA	0.01	NA	Too shallow
D-04 Pool	2021-10-25	1.6	NA	0.5 m not wetted					
D-04 Pool	2021-10-25	1.6	14	1.3-1.6	0.01	NA	0.01	NA	too shallow
D-04 Pool	2021-10-25	1.6	LB	1.6	NA	NA	NA	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-01 Pool	14-July-2021	4.9	RB	0.00	0.00	n/a	0.00	n/a	no flow, likely due to upstream beaver activity
F-01 Pool	14-July-2021	4.9	1	0.25	0.22	0.00	0.24	0.00	
F-01 Pool	14-July-2021	4.9	2	0.75	0.30	0.00	0.29	0.00	
F-01 Pool	14-July-2021	4.9	3	1.25	0.35	0.00	0.35	0.00	
F-01 Pool	14-July-2021	4.9	4	1.75	0.47	0.00	0.50	0.00	
F-01 Pool	14-July-2021	4.9	5	2.25	0.53	0.00	0.56	0.00	
F-01 Pool	14-July-2021	4.9	6	2.75	0.50	0.00	0.50	0.00	
F-01 Pool	14-July-2021	4.9	7	3.25	0.49	0.00	0.47	0.00	
F-01 Pool	14-July-2021	4.9	8	3.75	0.45	0.00	0.48	0.00	
F-01 Pool	14-July-2021	4.9	9	4.25	0.29	0.00	0.26	0.00	
F-01 Pool	14-July-2021	4.9	10	4.75	0.09	0.00	0.10	0.00	
F-01 Pool	14-July-2021	4.9	LB	4.90	0.00	n/a	0.00	n/a	
F-01 Pool	19-August-2021	4.8	RB	0.00	0.00	n/a	0.00	n/a	no flow, likely due to upstream beaver activity
F-01 Pool	19-August-2021	4.8	1	0.25	0.16	0.00	0.18	0.00	
F-01 Pool	19-August-2021	4.8	2	0.75	0.22	-0.01	0.22	0.00	
F-01 Pool	19-August-2021	4.8	3	1.25	0.46	0.00	0.46	0.00	
F-01 Pool	19-August-2021	4.8	4	1.75	0.52	0.01	0.52	0.00	
F-01 Pool	19-August-2021	4.8	5	2.25	0.26	0.00	0.26	-0.001	.WDon bottom of stream
F-01 Pool	19-August-2021	4.8	6	2.75	0.32	0.00	0.32	0.00	.WDon bottom of stream
F-01 Pool	19-August-2021	4.8	7	3.25	0.28	0.00	0.28	-0.01	.WDon bottom of stream
F-01 Pool	19-August-2021	4.8	8	3.75	0.27	-0.01	0.27	-0.01	.WDon bottom of stream
F-01 Pool	19-August-2021	4.8	9	4.25	0.26	0.00	0.26	0.00	
F-01 Pool	19-August-2021	4.8	10	4.75	0.12	0.00	0.12	0.00	
F-01 Pool	19-August-2021	4.8	LB	4.80	0.00	n/a	0.00	n/a	
F-01 Pool	22/Sept/2021	5.3	RB	0.00	0.00	n/a	0.00	n/a	no flow, likely due to upstream beaver activity
F-01 Pool	22/Sept/2021	5.3	1	0.50	0.41	0.00	0.41	0.00	
F-01 Pool	22/Sept/2021	5.3	2	1.00	0.60	0.00	0.62	0.00	
F-01 Pool	22/Sept/2021	5.3	3	1.50	0.58	0.00	0.58	0.00	
F-01 Pool	22/Sept/2021	5.3	4	2.00	0.52	0.01	0.50	0.01	
F-01 Pool	22/Sept/2021	5.3	5	2.50	0.52	0.00	0.54	0.00	
F-01 Pool	22/Sept/2021	5.3	6	3.00	0.54	0.00	0.56	0.00	
F-01 Pool	22/Sept/2021	5.3	7	3.50	0.60	0.00	0.61	0.00	
F-01 Pool	22/Sept/2021	5.3	8	4.00	0.54	0.00	0.54	0.00	
F-01 Pool	22/Sept/2021	5.3	9	4.50	0.42	0.00	0.42	0.00	
F-01 Pool	22/Sept/2021	5.3	10	5.00	0.24	-0.01	0.24	0.00	
F-01 Pool	22/Sept/2021	5.3	LB	5.30	0.00	n/a	0.00	n/a	
F-01 Pool	26 Oct 2021	NA	RB	0.00	0.00	n/a	0.00	n/a	Too deep to sample

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-01 Riffle	14-July-2021	2.2	LB	0.00	0.00	n/a	n/a	n/a	
F-01 Riffle	14-July-2021	2.2	1	0-0.2	0.02	n/a	n/a	n/a	Too shallow
F-01 Riffle	14-July-2021	2.2	2	0.20	0.07	0.03	0.07	0.03	
F-01 Riffle	14-July-2021	2.2	3	0.38	0.09	0.04	0.09	0.03	
F-01 Riffle	14-July-2021	2.2	4	0.56	0.10	0.02	0.10	0.02	
F-01 Riffle	14-July-2021	2.2	5	0.74	0.09	0.02	0.09	0.01	
F-01 Riffle	14-July-2021	2.2	6	0.92	0.08	0.00	0.08	-0.01	
F-01 Riffle	14-July-2021	2.2	7	1.10	0.07	-0.01	0.07	0.00	behind embedded boulder
F-01 Riffle	14-July-2021	2.2	8	1.28	0.07	0.03	0.07	0.01	
F-01 Riffle	14-July-2021	2.2	9	1.46	0.06	0.02	0.06	0.02	
F-01 Riffle	14-July-2021	2.2	10	1.64	0.05	0.008	0.05	0.016	
F-01 Riffle	14-July-2021	2.2	11	1.82	0.04	0.00	0.04	-0.01	
F-01 Riffle	14-July-2021	2.2	12	1.9-2.2	0.04	n/a	n/a	n/a	behind boulder
F-01 Riffle	14-July-2021	2.2	RB	2.2	0	n/a	n/a	n/a	
F-01 Riffle	19-August-2021	2.5	LB	0.00	0.00	n/a	n/a	n/a	
F-01 Riffle	19-August-2021	2.5	1	0-0.3	0.03	n/a	n/a	n/a	Too shallow
F-01 Riffle	19-August-2021	2.5	2	0.30	0.06	0.008	0.06	-0.005	behind boulder
F-01 Riffle	19-August-2021	2.5	3	0.50	0.07	0.002	0.07	-0.003	behind boulder
F-01 Riffle	19-August-2021	2.5	4	0.70	0.08	-0.003	0.08	0.001	
F-01 Riffle	19-August-2021	2.5	5	0.90	0.10	0.020	0.10	0.020	
F-01 Riffle	19-August-2021	2.5	6	1.10	0.12	0.038	0.12	0.035	
F-01 Riffle	19-August-2021	2.5	7	1.30	0.12	0.004	0.12	-0.006	in front of embedded boulder
F-01 Riffle	19-August-2021	2.5	8	1.50	0.12	0.000	0.12	-0.004	
F-01 Riffle	19-August-2021	2.5	9	1.70	0.14	0.036	0.14	0.028	
F-01 Riffle	19-August-2021	2.5	10	1.90	0.14	0.034	0.14	0.038	
F-01 Riffle	19-August-2021	2.5	11	2.10	0.14	0.017	0.14	0.018	
F-01 Riffle	19-August-2021	2.5	12	2.2-2.5	0.04	n/a	n/a	n/a	Too shallowbehind boulder
F-01 Riffle	19-August-2021	2.5	RB	2.5	0	n/a	n/a	n/a	
F-01 Riffle	23/Sept/2021	2.94	LB	0.00	0.00	n/a	n/a	n/a	
F-01 Riffle	23/Sept/2021	2.94	1	0-0.4	0.05	n/a	n/a	n/a	Embedded boulder
F-01 Riffle	23/Sept/2021	2.94	2	0.40	0.09	-0.030	0.09	-0.040	behind embedded cobble/boulder
F-01 Riffle	23/Sept/2021	2.94	3	0.63	0.10	-0.010	0.10	0.000	behind embedded cobble/boulder
F-01 Riffle	23/Sept/2021	2.94	4	0.86	0.11	0.050	0.11	0.020	
F-01 Riffle	23/Sept/2021	2.94	5	1.09	0.13	0.170	0.13	0.160	
F-01 Riffle	23/Sept/2021	2.94	6	1.32	0.14	0.170	0.14	0.170	
F-01 Riffle	23/Sept/2021	2.94	7	1.55	0.18	0.050	0.18	0.070	
F-01 Riffle	23/Sept/2021	2.94	8	1.78	0.16	0.130	0.17	0.140	
F-01 Riffle	23/Sept/2021	2.94	9	2.01	0.17	0.070	0.16	0.050	
F-01 Riffle	23/Sept/2021	2.94	10	2.24	0.16	0.000	0.16	0.000	
F-01 Riffle	23/Sept/2021	2.94	11	2.47	0.06	-0.020	0.06	-0.010	
F-01 Riffle	23/Sept/2021	2.94	12	2.5-2.67	0.04	n/a	n/a	n/a	Too shallow, rooted veg
F-01 Riffle	23/Sept/2021	2.94	RB	2.67	0	n/a	n/a	n/a	
F-01 Riffle	26 Oct 2021	3	LB	0.00	0.00	n/a	n/a	n/a	
F-01 Riffle	26 Oct 2021	3	1	0-0.2	0.05	n/a	n/a	n/a	Embedded boulder
F-01 Riffle	26 Oct 2021	3	2	0.25	0.14	-0.03	0.14	0.00	behind embedded cobble/boulder
F-01 Riffle	26 Oct 2021	3	3	0.50	0.30	0.11	0.30	0.17	behind embedded cobble/boulder
F-01 Riffle	26 Oct 2021	3	4	0.75	0.32	0.24	0.32	0.26	
F-01 Riffle	26 Oct 2021	3	5	1.00	0.34	0.26	0.34	0.24	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-01 Riffle	26 Oct 2021	3	6	1.25	0.34	0.26	0.34	0.28	
F-01 Riffle	26 Oct 2021	3	7	1.50	0.34	0.32	0.34	0.32	
F-01 Riffle	26 Oct 2021	3	8	1.75	0.36	0.15	0.36	0.14	
F-01 Riffle	26 Oct 2021	3	9	2.00	0.38	0.14	0.38	0.18	
F-01 Riffle	26 Oct 2021	3	10	2.25	0.36	0.17	0.36	0.18	
F-01 Riffle	26 Oct 2021	3	11	2.50	0.28	0.12	0.28	0.14	
F-01 Riffle	26 Oct 2021	3	12	2.75	0.14	0.03	0.14	0.04	
F-01 Riffle	26 Oct 2021	3	RB	3	0	n/a	n/a	n/a	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-02 Riffle	14-July-2021	3.7	RB	0.00	0.00	N/A	N/A	N/A	
F-02 Riffle	14-July-2021	3.7	1	0-2.1	0.04	N/A	N/A	N/A	too shallow to sample
F-02 Riffle	14-July-2021	3.7	2	2.10	0.16	0.00	0.17	0.00	
F-02 Riffle	14-July-2021	3.7	3	2.24	0.17	0.00	0.18	0.00	
F-02 Riffle	14-July-2021	3.7	4	2.38	0.18	0.00	0.18	0.01	
F-02 Riffle	14-July-2021	3.7	5	2.52	0.16	0.00	0.16	0.00	
F-02 Riffle	14-July-2021	3.7	6	2.66	0.17	0.00	0.18	0.01	
F-02 Riffle	14-July-2021	3.7	7	2.80	0.18	0.00	0.18	0.00	
F-02 Riffle	14-July-2021	3.7	8	2.94	0.16	0.00	0.16	0.00	
F-02 Riffle	14-July-2021	3.7	9	3.08	0.16	0.00	0.16	0.00	
F-02 Riffle	14-July-2021	3.7	10	3.22	0.14	0.001	0.14	0	
F-02 Riffle	14-July-2021	3.7	11	3.4-3.7	0	N/A	N/A	N/A	too shallow to sample
F-02 Riffle	14-July-2021	3.7	LB	3.7	0	N/A	N/A	N/A	
F-02 Riffle	19-August-2021	5.96	RB	0.00	0.00	N/A	N/A	N/A	
F-02 Riffle	19-August-2021	5.96	1	0-0.1	0.04	N/A	N/A	N/A	too shallow to sample
F-02 Riffle	19-August-2021	5.96	2	0.65	0.20	0.00	0.20	0.00	
F-02 Riffle	19-August-2021	5.96	3	1.15	0.32	0.00	0.32	0.00	
F-02 Riffle	19-August-2021	5.96	4	1.65	0.37	0.00	0.37	0.00	
F-02 Riffle	19-August-2021	5.96	5	2.15	0.37	0.00	0.37	0.00	
F-02 Riffle	19-August-2021	5.96	6	2.65	0.44	0.00	0.44	0.00	
F-02 Riffle	19-August-2021	5.96	7	3.15	0.50	0.00	0.50	0.00	
F-02 Riffle	19-August-2021	5.96	8	3.65	0.50	0.15	0.50	0.00	
F-02 Riffle	19-August-2021	5.96	9	4.15	0.44	0.00	0.44	0.00	
F-02 Riffle	19-August-2021	5.96	10	4.65	0.30	-0.002	0.3	-0.006	
F-02 Riffle	19-August-2021	5.96	11	5.15	0.28	0.00	0.28	0.00	
F-02 Riffle	19-August-2021	5.96	LB	5.97	0	N/A	N/A	N/A	
F-02 Riffle	23/Sept/2021	9.1	RB	0.00	0.00	N/A	N/A	N/A	
F-02 Riffle	23/Sept/2021	9.1	1	0.90	0.38	0.03	0.40	0.04	
F-02 Riffle	23/Sept/2021	9.1	2	1.80	0.69	0.02	0.69	0.02	
F-02 Riffle	23/Sept/2021	9.1	3	2.70	0.72	0.01	0.72	0.03	
F-02 Riffle	23/Sept/2021	9.1	4	3.60	0.99	0.03	0.98	0.04	
F-02 Riffle	23/Sept/2021	9.1	5	4.50	1.04	0.04	1.04	0.05	
F-02 Riffle	23/Sept/2021	9.1	6	5.40	0.87	0.03	0.87	0.04	
F-02 Riffle	23/Sept/2021	9.1	7	6.30	0.67	0.03	0.67	0.02	
F-02 Riffle	23/Sept/2021	9.1	8	7.20	0.36	0.01	0.36	0.00	
F-02 Riffle	23/Sept/2021	9.1	9	8.10	0.24	0.01	0.24	0.01	
F-02 Riffle	23/Sept/2021	9.1	10	9.00	0.06	0.01	0.06	0.01	
F-02 Riffle	23/Sept/2021	9.1	LB	9.1	0	N/A	N/A	N/A	
F-02 Riffle	26-Oct-2021	9.5	5	TOO DEEP TO SAMPLE!					

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-02 Pool	14-July-2021	4.2	RB	0.00	0.00	NA	NA	NA	
F-02 Pool	14-July-2021	4.2	1	0-0.9	0.04	NA	NA	NA	Dense aquatic veg. Could not sample
F-02 Pool	14-July-2021	4.2	2	0.90	0.11	0.00	0.11	0.05	
F-02 Pool	14-July-2021	4.2	3	1.17	0.14	0.00	0.14	0.00	
F-02 Pool	14-July-2021	4.2	4	1.44	0.14	0.00	0.14	0.00	
F-02 Pool	14-July-2021	4.2	5	1.71	0.21	0.07	0.22	0.08	
F-02 Pool	14-July-2021	4.2	6	1.98	0.23	0.01	0.23	0.12	
F-02 Pool	14-July-2021	4.2	7	2.25	0.24	0.01	0.24	0.12	
F-02 Pool	14-July-2021	4.2	8	2.52	0.23	0.00	0.23	0.00	
F-02 Pool	14-July-2021	4.2	9	2.79	0.22	0.00	0.22	0.00	
F-02 Pool	14-July-2021	4.2	10	3.06	0.2	0.004	0.21	0.00	
F-02 Pool	14-July-2021	4.2	11	3.33	0.18	-0.007	0.18	-0.002	
F-02 Pool	14-July-2021	4.2	12	3.4-4.2	0.1	NA	NA	NA	dense veg and undercut
F-02 Pool	14-July-2021	4.2	LB	4.2	0	NA	NA	NA	
F-02 Pool	19-August-2021	4.25	RB	0.00	0.00	NA	NA	NA	
F-02 Pool	19-August-2021	4.25	1	0-1	0.04	NA	NA	NA	Dense aquatic veg. Could not sample
F-02 Pool	19-August-2021	4.25	2	1.00	0.22	0.00	0.22	0.00	
F-02 Pool	19-August-2021	4.25	3	1.33	0.28	0.00	0.28	0.00	
F-02 Pool	19-August-2021	4.25	4	1.66	0.35	0.01	0.35	0.00	
F-02 Pool	19-August-2021	4.25	5	1.99	0.40	0.01	0.40	0.02	
F-02 Pool	19-August-2021	4.25	6	2.32	0.40	0.02	0.40	0.01	
F-02 Pool	19-August-2021	4.25	7	2.65	0.49	0.00	0.49	0.01	
F-02 Pool	19-August-2021	4.25	8	2.98	0.45	0.00	0.45	0.00	
F-02 Pool	19-August-2021	4.25	9	3.31	0.46	0.00	0.46	0.00	
F-02 Pool	19-August-2021	4.25	10	3.64	0.41	-0.009	0.42	-0.01	
F-02 Pool	19-August-2021	4.25	11	3.97	0.38	-0.007	0.38	-0.004	
F-02 Pool	19-August-2021	4.25	12	4-4.25	0.1	NA	NA	NA	dense veg and undercut
F-02 Pool	19-August-2021	4.25	LB	4.25	0	NA	NA	NA	
F-02 Pool	23/Sept/2021	4.25	RB	0.00	0.00	NA	NA	NA	
F-02 Pool	23/Sept/2021	4.25	1	0-1	0.15	NA	NA	NA	Dense aquatic veg. Could not sample
F-02 Pool	23/Sept/2021	4.25	2	1.00	0.32	0.05	0.32	0.06	
F-02 Pool	23/Sept/2021	4.25	3	1.33	0.48	0.15	0.48	0.17	
F-02 Pool	23/Sept/2021	4.25	4	1.66	0.49	0.19	0.49	0.16	
F-02 Pool	23/Sept/2021	4.25	5	1.99	0.50	0.21	0.50	0.20	
F-02 Pool	23/Sept/2021	4.25	6	2.32	0.54	0.12	0.54	0.13	
F-02 Pool	23/Sept/2021	4.25	7	2.65	0.56	0.12	0.56	0.10	
F-02 Pool	23/Sept/2021	4.25	8	2.98	0.56	0.14	0.56	0.14	
F-02 Pool	23/Sept/2021	4.25	9	3.31	0.55	0.03	0.55	0.02	
F-02 Pool	23/Sept/2021	4.25	10	3.64	0.5	0	0.5	0.00	
F-02 Pool	23/Sept/2021	4.25	11	3.97	0.4	0	0.4	0	
F-02 Pool	23/Sept/2021	4.25	12	4-4.25	0.1	NA	NA	NA	dense veg and undercut
F-02 Pool	23/Sept/2021	4.25	LB	4.25	0	NA	NA	NA	
F-02 Pool	10-26-2021	4.35	RB	0.00	0.00	NA	NA	NA	
F-02 Pool	10-26-2021	4.35	1	0-1	0.26	NA	NA	NA	Dense aquatic veg. Could not sample
F-02 Pool	10-26-2021	4.35	2	1.00	0.52	0.03	0.50	0.04	
F-02 Pool	10-26-2021	4.35	3	1.34	0.56	0.19	0.56	0.25	
F-02 Pool	10-26-2021	4.35	4	1.68	0.64	0.34	0.64	0.36	
F-02 Pool	10-26-2021	4.35	5	2.02	0.72	0.47	0.72	0.51	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-02 Pool	10-26-2021	4.35	6	2.36	0.76	0.55	0.78	0.51	
F-02 Pool	10-26-2021	4.35	7	2.70	0.78	0.55	0.78	0.54	
F-02 Pool	10-26-2021	4.35	8	3.04	0.74	0.49	0.78	0.53	
F-02 Pool	10-26-2021	4.35	9	3.38	0.74	0.31	0.74	0.32	
F-02 Pool	10-26-2021	4.35	10	3.72	0.72	0	0.72	0.01	
F-02 Pool	10-26-2021	4.35	11	4.06	0.6	-0.02	0.6	-0.01	
F-02 Pool	10-26-2021	4.35	12	4.1-4.35	0.1	NA	NA	NA	dense veg and undercut
F-02 Pool	10-26-2021	4.35	LB	4.35	0	NA	NA	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-03 Pool	14-Jul-21	5.20	NA	NA	NA	NA	NA	NA	too deep to wade
F-03 Pool	14-Jul-21	5.20	NA	NA	NA	NA	NA	NA	too deep to wade
F-03 Pool	14-Jul-21	5.20	NA	NA	NA	NA	NA	NA	too deep to wade
F-03 Pool	14-Jul-21	5.20	NA	NA	NA	NA	NA	NA	too deep to wade

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-04 Pool	14 Jul 2021	5.90	RB	0.00	0.00	NA	0.00	NA	
F-04 Pool	14 Jul 2021	5.90	1	0.53	0.21	0.01	0.20	0.01	
F-04 Pool	14 Jul 2021	5.90	2	1.06	0.35	0.02	0.35	0.01	
F-04 Pool	14 Jul 2021	5.90	3	1.59	0.41	0.02	0.43	0.01	
F-04 Pool	14 Jul 2021	5.90	4	2.12	0.56	0.02	0.56	0.02	
F-04 Pool	14 Jul 2021	5.90	5	2.65	0.76	0.03	0.76	0.02	
F-04 Pool	14 Jul 2021	5.90	6	3.18	0.70	0.05	0.70	0.044	
F-04 Pool	14 Jul 2021	5.90	7	3.71	0.57	0.03	0.57	0.03	
F-04 Pool	14 Jul 2021	5.90	8	4.24	0.54	0.00	0.54	0.01	
F-04 Pool	14 Jul 2021	5.90	9	4.77	0.45	0.01	0.45	0.01	
F-04 Pool	14 Jul 2021	5.90	10	5.30	0.41	0.004	0.4	0.008	
F-04 Pool	14 Jul 2021	5.90	11	5.83	0.35	-0.001	0.35	0.001	
F-04 Pool	14 Jul 2021	5.90	LB	5.9	0.00	NA	0.00	NA	
F-04 Pool	19 Aug 2021	6.90	RB	0.00	0.00	NA	0.00	NA	
F-04 Pool	19 Aug 2021	6.90	1	0-2	0.45	NA	NA	NA	undercut, high density veg
F-04 Pool	19 Aug 2021	6.90	2	2.00	0.66	0.001	0.66	0.01	
F-04 Pool	19 Aug 2021	6.90	3	2.47	0.71	0.006	0.71	0.01	
F-04 Pool	19 Aug 2021	6.90	4	2.94	0.76	0.005	0.75	0.01	
F-04 Pool	19 Aug 2021	6.90	5	3.41	0.80	-0.006	0.80	0.00	
F-04 Pool	19 Aug 2021	6.90	6	3.88	0.61	0.000	0.60	0.003	
F-04 Pool	19 Aug 2021	6.90	7	4.35	0.60	0.003	0.60	0.00	
F-04 Pool	19 Aug 2021	6.90	8	4.82	0.57	-0.002	0.56	-0.01	
F-04 Pool	19 Aug 2021	6.90	9	5.29	0.50	-0.001	0.54	0.00	
F-04 Pool	19 Aug 2021	6.90	10	5.76	0.46	0.000	0.5	-0.002	
F-04 Pool	19 Aug 2021	6.90	11	6.23	0.28	-0.002	0.28	-0.002	
F-04 Pool	19 Aug 2021	6.90	12	6.70	0.14	-0.003	0.14	0.002	
F-04 Pool	19 Aug 2021	6.90	13	6.7-6.9	0.03	NA	NA	NA	too shallow
F-04 Pool	19 Aug 2021	6.90	LB	6.9	0.00	NA	0.00	NA	
F-04 Pool	23/Sept/2021	8.53	RB	0.00	0.00	NA	0.00	NA	
F-04 Pool	23/Sept/2021	8.53	1	0-2	0.45	NA	NA	NA	Too deep to sample
F-04 Pool	23/Sept/2021	8.53	2	2.00	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	3	2.47	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	4	2.94	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	5	3.41	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	6	3.88	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	7	4.35	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	8	4.82	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	9	5.29	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	10	5.76	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	11	6.23	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	12	6.70	NA	NA	NA	NA	
F-04 Pool	23/Sept/2021	8.53	13	6.7-6.9	0.03	NA	NA	NA	too shallow
F-04 Pool	23/Sept/2021	8.53	LB	6.9	0.00	NA	0.00	NA	
F-04 Pool	26 Oct 2021		RB	0.00	0.00	NA	0.00	NA	
F-04 Pool			1	0-2	0.45	NA	NA	NA	Too deep to sample
F-04 Pool			13	6.7-6.9	0.03	NA	NA	NA	too shallow
F-04 Pool			LB	6.9	0.00	NA	0.00	NA	

Site	Date	Wetted Width (m)	Station	Distance (m)	Depth 1 (m)	Velocity 1 (m/s)	Depth 2 (m)	Velocity 2 (m/s)	Comment
F-04 Riffle	14 Jul 2021	3.3	RB	0.00	0.00	N/A	N/A	N/A	
F-04 Riffle	14 Jul 2021	3.3	1	0-0.2	0.1	NA	NA	NA	undercut bank
F-04 Riffle	14 Jul 2021	3.3	2	0.20	0.02	0.02	0.02	0.02	
F-04 Riffle	14 Jul 2021	3.3	3	0.45	0.08	0.02	0.08	0.03	
F-04 Riffle	14 Jul 2021	3.3	4	0.70	0.08	0.01	0.08	0.01	
F-04 Riffle	14 Jul 2021	3.3	5	0.95	0.08	0.055	0.08	0.073	
F-04 Riffle	14 Jul 2021	3.3	6	1.20	0.08	-0.004	0.08	0.008	
F-04 Riffle	14 Jul 2021	3.3	7	1.45	0.08	0.01	0.08	0.02	
F-04 Riffle	14 Jul 2021	3.3	8	1.70	0.10	0.18	0.10	0.15	
F-04 Riffle	14 Jul 2021	3.3	9	1.95	0.10	0.34	0.10	0.28	
F-04 Riffle	14 Jul 2021	3.3	10	2.20	0.1	-0.01	0.10	-0.02	
F-04 Riffle	14 Jul 2021	3.3	11	2.45	0.08	0.02	0.08	0.02	
F-04 Riffle	14 Jul 2021	3.3	12	2.7-3.3	0.2	NA	NA	NA	dense veg and endercut
F-04 Riffle	14 Jul 2021	3.3	LB	3.3	0	NA	NA	NA	
F-04 Riffle	19 Aug 2021	3.15	RB	0.00	0.00	N/A	N/A	N/A	
F-04 Riffle	19 Aug 2021	3.15	1	0-0.05	0.18	NA	NA	NA	undercut bank
F-04 Riffle	19 Aug 2021	3.15	2	0.05	0.18	0.024	0.18	0.016	
F-04 Riffle	19 Aug 2021	3.15	3	0.34	0.24	0.018	0.24	0.019	
F-04 Riffle	19 Aug 2021	3.15	4	0.63	0.24	0.010	0.24	0.005	
F-04 Riffle	19 Aug 2021	3.15	5	0.92	0.23	0.009	0.24	0.008	
F-04 Riffle	19 Aug 2021	3.15	6	1.21	0.22	0.031	0.22	0.014	
F-04 Riffle	19 Aug 2021	3.15	7	1.50	0.26	0.027	0.26	0.023	
F-04 Riffle	19 Aug 2021	3.15	8	1.79	0.26	0.051	0.26	0.036	
F-04 Riffle	19 Aug 2021	3.15	9	2.08	0.26	0.025	0.26	0.031	
F-04 Riffle	19 Aug 2021	3.15	10	2.37	0.22	0.010	0.22	0.010	
F-04 Riffle	19 Aug 2021	3.15	11	2.66	0.23	0.008	0.23	0.010	
F-04 Riffle	19 Aug 2021	3.15	12	2.7-3.15	0.2	NA	NA	NA	dense veg and endercut
F-04 Riffle	19 Aug 2021	3.15	LB	3.15	0	NA	NA	NA	
F-04 Riffle	23/Sept/2021	3.15	RB	0.00	0.00	N/A	N/A	N/A	
F-04 Riffle	23/Sept/2021	3.15	1	0-0.7	0.18	NA	NA	NA	Dense veg
F-04 Riffle	23/Sept/2021	3.15	2	0.70	0.54	0.030	0.54	0.030	
F-04 Riffle	23/Sept/2021	3.15	3	0.89	0.54	0.020	0.54	0.020	
F-04 Riffle	23/Sept/2021	3.15	4	1.08	0.55	0.040	0.55	0.040	
F-04 Riffle	23/Sept/2021	3.15	5	1.27	0.56	0.040	0.56	0.030	
F-04 Riffle	23/Sept/2021	3.15	6	1.46	0.58	0.080	0.58	0.090	
F-04 Riffle	23/Sept/2021	3.15	7	1.65	0.60	0.090	0.06	0.090	
F-04 Riffle	23/Sept/2021	3.15	8	1.84	0.60	0.120	0.60	0.120	
F-04 Riffle	23/Sept/2021	3.15	9	2.03	0.60	0.120	0.60	0.130	
F-04 Riffle	23/Sept/2021	3.15	10	2.22	0.6	0.190	0.60	0.200	
F-04 Riffle	23/Sept/2021	3.15	11	2.41	0.6	0.100	0.60	0.080	
F-04 Riffle	23/Sept/2021	3.15	12	2.6-3.15	0.2	NA	NA	NA	dense veg and undercut
F-04 Riffle	23/Sept/2021	3.15	LB	3.15	0	NA	NA	NA	
F-04 Riffle	26 Oct 2021	NA	RB	0.00	0.00	N/A	N/A	N/A	Too deep to sample

APPENDIX I

Pressure (Level) and Temperature in Monitoring Wells

Exhibition Park

Date	Level (m)	Temperature (ºC)
01-Jan-22	13.499	11.505
10-Jan-22	13.525	11.497
11-Jan-22	13.514	11.494
12-Jan-22	13.525	11.492
13-Jan-22	13.468	11.491
14-Jan-22	13.409	11.490
15-Jan-22	13.495	11.489
16-Jan-22	13.540	11.488
17-Jan-22	13.517	11.487
18-Jan-22	13.444	11.526
19-Jan-22	13.185	11.603
02-Jan-22	13.239	11.550
20-Jan-22	13.392	11.587
21-Jan-22	13.174	11.614
22-Jan-22	13.170	11.634
23-Jan-22	13.294	11.729
24-Jan-22	13.065	11.648
25-Jan-22	13.107	11.637
26-Jan-22	13.085	11.625
27-Jan-22	13.163	11.663
28-Jan-22	13.319	11.735
29-Jan-22	13.192	11.683
03-Jan-22	13.268	11.742
30-Jan-22	13.166	11.683
31-Jan-22	13.258	11.740
04-Jan-22	13.062	11.660
05-Jan-22	13.034	11.663
06-Jan-22	13.194	11.673
07-Jan-22	13.306	11.739
08-Jan-22	13.298	11.752
09-Jan-22	13.255	11.750
01-Oct-21	13.053	11.678
10-Oct-21	12.999	11.668
11-Oct-21	13.010	11.641
12-Oct-21	12.972	11.648
13-Oct-21	13.029	11.661
14-Oct-21	13.114	11.721
15-Oct-21	12.963	11.647
16-Oct-21	12.975	11.655
17-Oct-21	13.016	11.660
18-Oct-21	13.004	11.659
19-Oct-21	12.940	11.660
02-Oct-21	12.978	11.662
20-Oct-21	13.032	11.721
21-Oct-21	12.936	11.665
22-Oct-21	12.965	11.658
23-Oct-21	13.003	11.658
24-Oct-21	12.972	11.656
25-Oct-21	12.884	11.620
26-Oct-21	12.860	11.633
27-Oct-21	12.835	11.634
28-Oct-21	12.769	11.638
29-Oct-21	12.737	11.639
03-Oct-21	12.657	11.669

Exhibition Park

Date	Level (m)	Temperature (ºC)
30-Oct-21	12.802	11.670
31-Oct-21	12.743	11.632
04-Oct-21	12.653	11.698
05-Oct-21	12.553	11.681
06-Oct-21	12.445	11.676
07-Oct-21	12.477	11.666
08-Oct-21	12.554	11.936
09-Oct-21	12.748	11.828
01-Nov-21	12.754	11.721
10-Nov-21	12.637	11.718
11-Nov-21	12.653	11.705
12-Nov-21	12.636	11.695
13-Nov-21	12.532	11.675
14-Nov-21	12.481	11.669
15-Nov-21	12.544	11.687
16-Nov-21	12.561	11.695
17-Nov-21	12.602	11.712
18-Nov-21	12.572	11.709
19-Nov-21	12.497	11.682
02-Nov-21	12.410	11.683
20-Nov-21	12.474	11.670
21-Nov-21	12.412	11.656
22-Nov-21	12.372	11.640
23-Nov-21	12.526	11.617
24-Nov-21	12.529	11.611
25-Nov-21	12.422	11.622
26-Nov-21	12.506	11.603
27-Nov-21	12.462	11.607
28-Nov-21	12.476	11.606
29-Nov-21	12.565	11.568
03-Nov-21	12.228	11.425
30-Nov-21	12.165	11.407
04-Nov-21	11.935	11.390
05-Nov-21	12.073	11.396
06-Nov-21	11.995	11.391
07-Nov-21	11.733	11.378
08-Nov-21	12.019	11.385
09-Nov-21	12.147	11.399
01-Dec-21	12.153	11.402
10-Dec-21	12.165	11.402
11-Dec-21	12.110	11.396
12-Dec-21	12.047	11.399
13-Dec-21	12.019	11.399
14-Dec-21	12.030	11.399
15-Dec-21	11.987	11.399
16-Dec-21	12.014	11.399
17-Dec-21	12.039	11.399
18-Dec-21	12.018	11.395
19-Dec-21	11.983	11.395
02-Dec-21	11.836	11.388
20-Dec-21	11.937	11.394
21-Dec-21	11.934	11.396
22-Dec-21	11.908	11.397
23-Dec-21	11.850	11.397

Exhibition Park

Date	Level (m)	Temperature (ºC)
24-Dec-21	11.906	11.395
25-Dec-21	12.187	11.455
26-Dec-21	12.124	11.462
27-Dec-21	11.846	11.403
28-Dec-21	11.910	11.402
29-Dec-21	12.213	11.430
03-Dec-21	12.075	11.434
30-Dec-21	11.819	11.392
31-Dec-21	11.795	11.391
04-Dec-21	11.937	11.396
05-Dec-21	12.059	11.423
06-Dec-21	11.935	11.400
07-Dec-21	11.977	11.419
08-Dec-21	11.850	11.400
09-Dec-21	11.965	11.423
01-Feb-22	11.839	11.393
10-Feb-22	11.978	11.419
11-Feb-22	11.613	11.386
12-Feb-22	11.803	11.393
13-Feb-22	11.920	11.419
14-Feb-22	11.829	11.397
15-Feb-22	11.912	11.420
16-Feb-22	11.760	11.397
17-Feb-22	11.839	11.418
18-Feb-22	11.600	11.391
19-Feb-22	11.784	11.393
02-Feb-22	11.872	11.418
20-Feb-22	11.770	11.395
21-Feb-22	11.840	11.419
22-Feb-22	11.706	11.396
23-Feb-22	11.871	11.419
24-Feb-22	11.871	11.418
25-Feb-22	11.878	11.429
26-Feb-22	11.966	11.433
27-Feb-22	12.079	11.427
28-Feb-22	11.986	11.417
03-Feb-22	11.999	11.416
04-Feb-22	12.047	11.426
05-Feb-22	11.971	11.432
06-Feb-22	11.886	11.435
07-Feb-22	11.856	11.436
08-Feb-22	11.827	11.434
09-Feb-22	11.891	11.436
01-Mar-22	11.927	11.435
10-Mar-22	11.931	11.433
11-Mar-22	12.004	11.435
12-Mar-22	11.956	11.436
13-Mar-22	11.924	11.434
14-Mar-22	11.857	11.435
15-Mar-22	11.805	11.436
16-Mar-22	11.883	11.434
17-Mar-22	11.904	11.434
18-Mar-22	11.827	11.422
19-Mar-22	11.883	11.420

Exhibition Park

Date	Level (m)	Temperature (ºC)
02-Mar-22	11.863	11.425
20-Mar-22	11.914	11.431
21-Mar-22	11.867	11.433
22-Mar-22	11.835	11.528
23-Mar-22	11.862	11.469
24-Mar-22	11.839	11.445
25-Mar-22	11.771	11.442
26-Mar-22	11.702	11.438
27-Mar-22	11.777	11.436
28-Mar-22	11.737	11.434
29-Mar-22	11.706	11.434
03-Mar-22	11.720	11.433
30-Mar-22	11.683	11.432
31-Mar-22	11.653	11.432
04-Mar-22	11.494	11.432
05-Mar-22	11.539	11.431
06-Mar-22	11.641	11.431
07-Mar-22	11.790	11.430
08-Mar-22	11.759	11.429
09-Mar-22	11.805	11.429
01-Apr-22	11.838	11.429
10-Apr-22	11.783	11.429
11-Apr-22	11.748	11.428
12-Apr-22	11.814	11.427
13-Apr-22	11.770	11.426
14-Apr-22	11.667	11.425
15-Apr-22	11.757	11.423
16-Apr-22	11.748	11.422
17-Apr-22	11.796	11.420
18-Apr-22	11.797	11.420
19-Apr-22	11.714	11.419
02-Apr-22	11.903	11.417
20-Apr-22	11.872	11.414
21-Apr-22	11.870	11.412
22-Apr-22	11.933	11.411
23-Apr-22	11.824	11.410
24-Apr-22	11.879	11.410
25-Apr-22	12.137	11.410
26-Apr-22	12.181	11.412
27-Apr-22	12.091	11.413
28-Apr-22	12.177	11.411
29-Apr-22	12.320	11.409
03-Apr-22	12.318	11.407
30-Apr-22	12.223	11.406
04-Apr-22	12.229	11.406
05-Apr-22	12.380	11.405
06-Apr-22	12.342	11.405
07-Apr-22	12.359	11.405
08-Apr-22	12.344	11.406
09-Apr-22	12.408	11.406
01-May-21	12.520	11.406
10-May-21	12.533	11.407
11-May-21	12.576	11.407
12-May-21	12.679	11.407

Exhibition Park

Date	Level (m)	Temperature (ºC)
13-May-21	12.741	11.408
14-May-21	12.724	11.408
15-May-21	12.880	11.409
16-May-21	12.805	11.410
17-May-21	12.796	11.411
18-May-21	12.784	11.412
19-May-21	12.838	11.414
02-May-21	12.884	11.417
20-May-21	12.752	11.420
21-May-21	12.814	11.424
22-May-21	12.816	11.428
23-May-21	12.926	11.433
24-May-21	12.967	11.438
25-May-21	13.052	11.444
26-May-21	13.182	11.450
27-May-21	13.055	11.456
28-May-21	13.132	11.463
29-May-21	13.193	11.470
03-May-21	13.196	11.477
30-May-21	13.043	11.484
31-May-21	13.005	11.491
04-May-21	13.002	11.498
05-May-21	13.069	11.504
06-May-21	13.130	11.511
07-May-21	13.239	11.518
08-May-21	13.249	11.525
09-May-21	13.290	11.531
01-Jun-21	13.231	11.537
10-Jun-21	13.359	11.543
11-Jun-21	13.412	11.548
12-Jun-21	13.273	11.553
13-Jun-21	13.202	11.558
14-Jun-21	13.359	11.563
15-Jun-21	13.451	11.567
16-Jun-21	13.293	11.571
17-Jun-21	13.252	11.574
18-Jun-21	13.484	11.578
19-Jun-21	13.545	11.581
02-Jun-21	13.546	11.583
20-Jun-21	13.507	11.586
21-Jun-21	13.528	11.587
22-Jun-21	13.607	11.588
23-Jun-21	13.705	11.589
24-Jun-21	13.695	11.590
25-Jun-21	13.673	11.592
26-Jun-21	13.627	11.593
27-Jun-21	13.671	11.594
28-Jun-21	13.749	11.595
29-Jun-21	13.749	11.595
03-Jun-21	13.907	11.596
30-Jun-21	13.915	11.596
04-Jun-21	13.885	11.596
05-Jun-21	13.879	11.596
06-Jun-21	13.902	11.597

Exhibition Park

Date	Level (m)	Temperature (ºC)
07-Jun-21	13.916	11.597
08-Jun-21	13.959	11.596
09-Jun-21	13.956	11.596
01-Jul-21	13.945	11.596
10-Jul-21	13.876	11.596
11-Jul-21	13.957	11.596
12-Jul-21	14.022	11.596
13-Jul-21	14.049	11.596
14-Jul-21	14.073	11.596
15-Jul-21	14.061	11.596
16-Jul-21	14.148	11.596
17-Jul-21	14.113	11.596
18-Jul-21	14.105	11.596
19-Jul-21	14.192	11.597
02-Jul-21	14.205	11.597
20-Jul-21	14.181	11.597
21-Jul-21	14.184	11.598
22-Jul-21	14.148	11.598
23-Jul-21	14.092	11.599
24-Jul-21	14.023	11.599
25-Jul-21	14.106	11.599
26-Jul-21	14.159	11.600
27-Jul-21	14.204	11.600
28-Jul-21	14.206	11.600
29-Jul-21	14.091	11.600
03-Jul-21	14.047	11.599
30-Jul-21	14.079	11.599
31-Jul-21	14.196	11.599
04-Jul-21	14.221	11.598
05-Jul-21	14.229	11.598
06-Jul-21	14.232	11.597
07-Jul-21	14.148	11.596
08-Jul-21	14.111	11.595
09-Jul-21	14.071	11.594
01-Aug-21	14.112	11.593
10-Aug-21	14.128	11.592
11-Aug-21	14.147	11.591
12-Aug-21	14.162	11.590
13-Aug-21	14.209	11.590
14-Aug-21	14.268	11.589
15-Aug-21	14.285	11.587
16-Aug-21	14.222	11.586
17-Aug-21	14.235	11.585
18-Aug-21	14.258	11.584
19-Aug-21	14.245	11.583
02-Aug-21	14.131	11.581
20-Aug-21	14.107	11.580
21-Aug-21	14.169	11.579
22-Aug-21	14.179	11.578
23-Aug-21	14.266	11.577
24-Aug-21	14.230	11.576
25-Aug-21	14.198	11.574
26-Aug-21	14.164	11.574
27-Aug-21	14.271	11.573

Exhibition Park

Date	Level (m)	Temperature (ºC)
28-Aug-21	14.312	11.572
29-Aug-21	14.326	11.571
03-Aug-21	14.272	11.570
30-Aug-21	14.308	11.569
31-Aug-21	14.260	11.568
04-Aug-21	14.232	11.567
05-Aug-21	14.165	11.566
06-Aug-21	14.197	11.565
07-Aug-21	14.276	11.564
08-Aug-21	14.318	11.564
09-Aug-21	14.344	11.563
01-Sep-21	14.327	11.562
10-Sep-21	14.351	11.561
11-Sep-21	14.260	11.561
12-Sep-21	14.150	11.560
13-Sep-21	14.355	11.560
14-Sep-21	14.460	11.559
15-Sep-21	14.392	11.559
16-Sep-21	14.371	11.559
17-Sep-21	14.403	11.558
18-Sep-21	14.330	11.558
19-Sep-21	14.237	11.558
02-Sep-21	14.312	11.558
20-Sep-21	14.347	11.558
21-Sep-21	14.328	11.558
22-Sep-21	14.370	11.558
23-Sep-21	14.343	11.558
24-Sep-21	14.408	11.558
25-Sep-21	14.278	11.558
26-Sep-21	14.294	11.558
27-Sep-21	14.270	11.558
28-Sep-21	14.277	11.559
29-Sep-21	14.372	11.559
03-Sep-21	14.435	11.559
30-Sep-21	14.390	11.559
04-Sep-21	14.269	11.526
05-Sep-21	14.354	11.543
06-Sep-21	14.310	11.517
07-Sep-21	14.352	11.541
08-Sep-21	14.373	11.546
09-Sep-21	14.330	11.557

Bible College

Date	Level (m)	Temperature (ºC)
01-May-21	14.692	12.293
02-May-21	14.711	12.291
03-May-21	14.690	12.288
04-May-21	14.696	12.286
05-May-21	14.623	12.283
06-May-21	14.560	12.281
07-May-21	14.646	12.278
08-May-21	14.684	12.276
09-May-21	14.652	12.273
10-May-21	14.632	12.271
11-May-21	14.600	12.268
12-May-21	14.575	12.266
13-May-21	14.569	12.263
14-May-21	14.534	12.261
15-May-21	14.508	12.259
16-May-21	14.453	12.256
17-May-21	14.416	12.254
18-May-21	14.467	12.251
19-May-21	14.464	12.249
20-May-21	14.450	12.246
21-May-21	14.463	12.244
22-May-21	14.427	12.242
23-May-21	14.394	12.239
24-May-21	14.384	12.237
25-May-21	14.388	12.235
26-May-21	14.380	12.232
27-May-21	14.298	12.230
28-May-21	14.400	12.228
29-May-21	14.367	12.225
30-May-21	14.355	12.223
31-May-21	14.353	12.221
01-Jun-21	14.287	12.219
02-Jun-21	14.234	12.216
03-Jun-21	14.236	12.214
04-Jun-21	14.248	12.212
05-Jun-21	14.216	12.210
06-Jun-21	14.202	12.208
07-Jun-21	14.189	12.206
08-Jun-21	14.194	12.204
09-Jun-21	14.224	12.201
10-Jun-21	14.219	12.199
11-Jun-21	14.150	12.197
12-Jun-21	14.140	12.195
13-Jun-21	14.109	12.193
14-Jun-21	14.137	12.191
15-Jun-21	14.178	12.189
16-Jun-21	14.220	12.188
17-Jun-21	14.161	12.186
18-Jun-21	14.124	12.184
19-Jun-21	14.109	12.182
20-Jun-21	14.075	12.180
21-Jun-21	14.020	12.178
22-Jun-21	13.992	12.177
23-Jun-21	14.014	12.175

Bible College

Date	Level (m)	Temperature (ºC)
24-Jun-21	14.041	12.173
25-Jun-21	14.023	12.172
26-Jun-21	14.000	12.170
27-Jun-21	13.957	12.168
28-Jun-21	13.901	12.167
29-Jun-21	13.877	12.165
30-Jun-21	13.911	12.164
01-Jul-21	13.937	12.162
02-Jul-21	13.933	12.161
03-Jul-21	13.911	12.160
04-Jul-21	13.898	12.158
05-Jul-21	13.907	12.157
06-Jul-21	13.884	12.155
07-Jul-21	13.864	12.154
08-Jul-21	13.869	12.153
09-Jul-21	13.877	12.151
10-Jul-21	13.879	12.150
11-Jul-21	13.863	12.149
12-Jul-21	13.829	12.148
13-Jul-21	13.814	12.147
14-Jul-21	13.789	12.145
15-Jul-21	13.783	12.144
16-Jul-21	13.778	12.143
17-Jul-21	13.782	12.142
18-Jul-21	13.787	12.141
19-Jul-21	13.763	12.140
20-Jul-21	13.760	12.139
21-Jul-21	13.747	12.138
22-Jul-21	13.751	12.138
23-Jul-21	13.763	12.137
24-Jul-21	13.723	12.136
25-Jul-21	13.676	12.135
26-Jul-21	13.645	12.134
27-Jul-21	13.649	12.133
28-Jul-21	13.660	12.133
29-Jul-21	13.630	12.132
30-Jul-21	13.598	12.131
31-Jul-21	13.597	12.130
01-Aug-21	13.599	12.130
02-Aug-21	13.608	12.129
03-Aug-21	13.573	12.129
04-Aug-21	13.539	12.128
05-Aug-21	13.503	12.128
06-Aug-21	13.524	12.127
07-Aug-21	13.482	12.127
08-Aug-21	13.506	12.126
09-Aug-21	13.531	12.126
10-Aug-21	13.515	12.125
11-Aug-21	13.480	12.125
12-Aug-21	13.454	12.125
13-Aug-21	13.446	12.124
14-Aug-21	13.457	12.124
15-Aug-21	13.430	12.124
16-Aug-21	13.373	12.124

Bible College

Date	Level (m)	Temperature (ºC)
17-Aug-21	13.392	12.123
18-Aug-21	13.428	12.123
19-Aug-21	13.400	12.123
20-Aug-21	13.357	12.123
21-Aug-21	13.309	12.123
22-Aug-21	13.300	12.123
23-Aug-21	13.346	12.123
24-Aug-21	13.342	12.123
25-Aug-21	13.321	12.123
26-Aug-21	13.332	12.123
27-Aug-21	13.346	12.123
28-Aug-21	13.338	12.124
29-Aug-21	13.276	12.124
30-Aug-21	13.249	12.124
31-Aug-21	13.259	12.124
01-Sep-21	13.274	12.125
02-Sep-21	13.273	12.125
03-Sep-21	13.258	12.125
04-Sep-21	13.229	12.126
05-Sep-21	13.231	12.126
06-Sep-21	13.257	12.127
07-Sep-21	13.223	12.127
08-Sep-21	13.194	12.128
09-Sep-21	13.159	12.129
10-Sep-21	13.174	12.129
11-Sep-21	13.233	12.130
12-Sep-21	13.207	12.131
13-Sep-21	13.226	12.131
14-Sep-21	13.180	12.132
15-Sep-21	13.166	12.133
16-Sep-21	13.178	12.134
17-Sep-21	13.031	12.135
18-Sep-21	13.041	12.136
19-Sep-21	13.166	12.137
20-Sep-21	13.296	12.138
21-Sep-21	13.236	12.139
22-Sep-21	13.211	12.140
23-Sep-21	13.255	12.142
24-Sep-21	13.172	12.143
25-Sep-21	13.087	12.144
26-Sep-21	13.056	12.146
27-Sep-21	13.033	12.147
28-Sep-21	13.104	12.148
29-Sep-21	13.142	12.150
30-Sep-21	13.154	12.151
01-Oct-21	13.234	12.153
02-Oct-21	13.193	12.154
03-Oct-21	13.167	12.156
04-Oct-21	13.102	12.158
05-Oct-21	13.057	12.160
06-Oct-21	13.143	12.161
07-Oct-21	13.167	12.163
08-Oct-21	13.134	12.165
09-Oct-21	13.158	12.167

Bible College

Date	Level (m)	Temperature (ºC)
10-Oct-21	13.145	12.169
11-Oct-21	13.204	12.172
12-Oct-21	13.159	12.174
13-Oct-21	13.135	12.176
14-Oct-21	13.168	12.178
15-Oct-21	13.150	12.180
16-Oct-21	13.089	12.183
17-Oct-21	13.041	12.185
18-Oct-21	13.133	12.188
19-Oct-21	13.102	12.191
20-Oct-21	13.086	12.193
21-Oct-21	13.106	12.196
22-Oct-21	13.079	12.199
23-Oct-21	13.058	12.202
24-Oct-21	12.907	12.205
25-Oct-21	12.973	12.208
26-Oct-21	13.089	12.211
27-Oct-21	13.255	12.214
28-Oct-21	13.228	12.217
29-Oct-21	13.282	12.220
30-Oct-21	13.335	12.223
31-Oct-21	13.300	12.227
01-Nov-21	13.283	12.230
02-Nov-21	13.365	12.234
03-Nov-21	13.326	12.237
04-Nov-21	13.234	12.241
05-Nov-21	13.337	12.245
06-Nov-21	13.346	12.248
07-Nov-21	13.412	12.252
08-Nov-21	13.424	12.256
09-Nov-21	13.363	12.261
10-Nov-21	13.565	12.265
11-Nov-21	13.542	12.269
12-Nov-21	13.556	12.273
13-Nov-21	13.627	12.277
14-Nov-21	13.517	12.281
15-Nov-21	13.567	12.284
16-Nov-21	14.083	12.289
17-Nov-21	14.221	12.294
18-Nov-21	14.198	12.298
19-Nov-21	14.341	12.303
20-Nov-21	14.520	12.308
21-Nov-21	14.542	12.313
22-Nov-21	14.469	12.317
23-Nov-21	14.496	12.322
24-Nov-21	14.652	12.327
25-Nov-21	14.617	12.332
26-Nov-21	14.648	12.337
27-Nov-21	14.644	12.342
28-Nov-21	14.735	12.346
29-Nov-21	14.960	12.351
30-Nov-21	15.060	12.356
01-Dec-21	15.185	12.361
02-Dec-21	15.375	12.365

Bible College

Date	Level (m)	Temperature (ºC)
03-Dec-21	15.479	12.370
04-Dec-21	15.486	12.374
05-Dec-21	15.641	12.379
06-Dec-21	15.552	12.383
07-Dec-21	15.526	12.387
08-Dec-21	15.496	12.391
09-Dec-21	15.520	12.395
10-Dec-21	15.531	12.398
11-Dec-21	15.376	12.402
12-Dec-21	15.408	12.405
13-Dec-21	15.379	12.408
14-Dec-21	15.450	12.411
15-Dec-21	15.457	12.415
16-Dec-21	15.510	12.418
17-Dec-21	15.600	12.421
18-Dec-21	15.455	12.424
19-Dec-21	15.513	12.426
20-Dec-21	15.548	12.429
21-Dec-21	15.527	12.432
22-Dec-21	15.372	12.435
23-Dec-21	15.325	12.437
24-Dec-21	15.307	12.440
25-Dec-21	15.354	12.442
26-Dec-21	15.394	12.445
27-Dec-21	15.476	12.447
28-Dec-21	15.464	12.449
29-Dec-21	15.481	12.452
30-Dec-21	15.402	12.454
31-Dec-21	15.503	12.456
01-Jan-22	15.529	12.458
02-Jan-22	15.369	12.460
03-Jan-22	15.280	12.462
04-Jan-22	15.409	12.464
05-Jan-22	15.471	12.466
06-Jan-22	15.288	12.468
07-Jan-22	15.240	12.470
08-Jan-22	15.455	12.472
09-Jan-22	15.495	12.474
10-Jan-22	15.482	12.475
11-Jan-22	15.441	12.477
12-Jan-22	15.486	12.478
13-Jan-22	15.643	12.479
14-Jan-22	15.794	12.481
15-Jan-22	15.822	12.482
16-Jan-22	15.823	12.483
17-Jan-22	15.789	12.485
18-Jan-22	15.837	12.486
19-Jan-22	15.904	12.487
20-Jan-22	15.896	12.488
21-Jan-22	16.047	12.489
22-Jan-22	16.041	12.490
23-Jan-22	16.001	12.491
24-Jan-22	15.982	12.493
25-Jan-22	15.977	12.494

Bible College

Date	Level (m)	Temperature (ºC)
26-Jan-22	15.963	12.494
27-Jan-22	15.971	12.495
28-Jan-22	15.937	12.496
29-Jan-22	15.895	12.497
30-Jan-22	15.799	12.498
31-Jan-22	15.858	12.499
01-Feb-22	15.891	12.499
02-Feb-22	15.888	12.500
03-Feb-22	15.886	12.500
04-Feb-22	15.848	12.501
05-Feb-22	15.913	12.501
06-Feb-22	15.848	12.501
07-Feb-22	15.821	12.502
08-Feb-22	15.881	12.502
09-Feb-22	15.869	12.502
10-Feb-22	15.821	12.502
11-Feb-22	15.802	12.502
12-Feb-22	15.741	12.502
13-Feb-22	15.662	12.502
14-Feb-22	15.575	12.502
15-Feb-22	15.640	12.502
16-Feb-22	15.674	12.502
17-Feb-22	15.695	12.502
18-Feb-22	15.673	12.501
19-Feb-22	15.535	12.501
20-Feb-22	15.477	12.500
21-Feb-22	15.495	12.500
22-Feb-22	15.601	12.499
23-Feb-22	15.600	12.499
24-Feb-22	15.590	12.498
25-Feb-22	15.571	12.497
26-Feb-22	15.465	12.497
27-Feb-22	15.416	12.496
28-Feb-22	15.374	12.495
01-Mar-22	15.414	12.494
02-Mar-22	15.426	12.493
03-Mar-22	15.449	12.492
04-Mar-22	15.468	12.491
05-Mar-22	15.516	12.490
06-Mar-22	15.572	12.489
07-Mar-22	15.580	12.488
08-Mar-22	15.513	12.486
09-Mar-22	15.517	12.485
10-Mar-22	15.525	12.484
11-Mar-22	15.499	12.482
12-Mar-22	15.374	12.481
13-Mar-22	15.347	12.480
14-Mar-22	15.401	12.478
15-Mar-22	15.418	12.477
16-Mar-22	15.507	12.475
17-Mar-22	15.468	12.474
18-Mar-22	15.439	12.472
19-Mar-22	15.414	12.470
20-Mar-22	15.527	12.469

Bible College

Date	Level (m)	Temperature (ºC)
21-Mar-22	15.571	12.467
22-Mar-22	15.589	12.465
23-Mar-22	15.540	12.463
24-Mar-22	15.576	12.461
25-Mar-22	15.528	12.459
26-Mar-22	15.496	12.457
27-Mar-22	15.424	12.455
28-Mar-22	15.451	12.453
29-Mar-22	15.516	12.451
30-Mar-22	15.544	12.448
31-Mar-22	15.557	12.446
01-Apr-22	15.527	12.444
02-Apr-22	15.537	12.442
03-Apr-22	15.428	12.439
04-Apr-22	15.317	12.437
05-Apr-22	15.520	12.435
06-Apr-22	15.600	12.432
07-Apr-22	15.502	12.430
08-Apr-22	15.472	12.427
09-Apr-22	15.487	12.425
10-Apr-22	15.395	12.423
11-Apr-22	15.291	12.420
12-Apr-22	15.362	12.418
13-Apr-22	15.378	12.415
14-Apr-22	15.340	12.412
15-Apr-22	15.373	12.410
16-Apr-22	15.328	12.407
17-Apr-22	15.386	12.404
18-Apr-22	15.228	12.402
19-Apr-22	15.248	12.399
20-Apr-22	15.202	12.396
21-Apr-22	15.204	12.394
22-Apr-22	15.299	12.391
23-Apr-22	15.353	12.388
24-Apr-22	15.282	12.386
25-Apr-22	15.246	12.383
26-Apr-22	15.231	12.380
27-Apr-22	15.239	12.378
28-Apr-22	15.208	12.375
29-Apr-22	15.222	12.372
30-Apr-22	15.162	12.370

DND Well

Date	Level (m)	Temperature (ºC)
01-Jan-22	16.730	11.110
10-Jan-22	16.765	11.198
11-Jan-22	16.735	11.207
12-Jan-22	16.819	11.214
13-Jan-22	17.094	11.222
14-Jan-22	17.310	11.232
15-Jan-22	17.333	11.241
16-Jan-22	17.309	11.250
17-Jan-22	17.249	11.259
18-Jan-22	17.268	11.269
19-Jan-22	17.308	11.278
02-Jan-22	16.579	11.120
20-Jan-22	17.300	11.287
21-Jan-22	17.446	11.296
22-Jan-22	17.446	11.304
23-Jan-22	17.409	11.313
24-Jan-22	17.380	11.321
25-Jan-22	17.372	11.329
26-Jan-22	17.357	11.337
27-Jan-22	17.365	11.343
28-Jan-22	17.328	11.349
29-Jan-22	17.285	11.355
03-Jan-22	16.498	11.131
30-Jan-22	17.188	11.360
31-Jan-22	17.241	11.365
04-Jan-22	16.630	11.141
05-Jan-22	16.697	11.151
06-Jan-22	16.526	11.160
07-Jan-22	16.483	11.170
08-Jan-22	16.704	11.180
09-Jan-22	16.763	11.189
01-Oct-21	13.331	10.862
10-Oct-21	13.229	10.861
11-Oct-21	13.291	10.861
12-Oct-21	13.250	10.861
13-Oct-21	13.230	10.861
14-Oct-21	13.267	10.862
15-Oct-21	13.255	10.862
16-Oct-21	13.188	10.863
17-Oct-21	13.130	10.863
18-Oct-21	13.232	10.864
19-Oct-21	13.211	10.865
02-Oct-21	13.274	10.862
20-Oct-21	13.207	10.865
21-Oct-21	13.237	10.866
22-Oct-21	13.221	10.867
23-Oct-21	13.209	10.867
24-Oct-21	13.068	10.868
25-Oct-21	13.138	10.869
26-Oct-21	13.244	10.870
27-Oct-21	13.405	10.871
28-Oct-21	13.380	10.872
29-Oct-21	13.449	10.873
03-Oct-21	13.238	10.862

DND Well

Date	Level (m)	Temperature (ºC)
30-Oct-21	13.518	10.874
31-Oct-21	13.509	10.875
04-Oct-21	13.170	10.862
05-Oct-21	13.116	10.862
06-Oct-21	13.201	10.862
07-Oct-21	13.235	10.862
08-Oct-21	13.208	10.862
09-Oct-21	13.236	10.861
01-Nov-21	13.524	10.876
10-Nov-21	14.008	10.887
11-Nov-21	14.006	10.888
12-Nov-21	14.040	10.890
13-Nov-21	14.121	10.891
14-Nov-21	14.043	10.892
15-Nov-21	14.295	10.889
16-Nov-21	15.003	10.893
17-Nov-21	15.249	10.897
18-Nov-21	15.240	10.900
19-Nov-21	15.351	10.903
02-Nov-21	13.634	10.876
20-Nov-21	15.483	10.906
21-Nov-21	15.462	10.909
22-Nov-21	15.348	10.912
23-Nov-21	15.332	10.915
24-Nov-21	15.440	10.917
25-Nov-21	15.385	10.919
26-Nov-21	15.422	10.920
27-Nov-21	15.410	10.922
28-Nov-21	15.576	10.921
29-Nov-21	15.998	10.922
03-Nov-21	13.624	10.877
30-Nov-21	16.203	10.926
04-Nov-21	13.558	10.877
05-Nov-21	13.683	10.878
06-Nov-21	13.710	10.879
07-Nov-21	13.794	10.881
08-Nov-21	13.826	10.883
09-Nov-21	13.788	10.885
01-Dec-21	16.378	10.927
10-Dec-21	16.603	10.956
11-Dec-21	16.452	10.959
12-Dec-21	16.477	10.962
13-Dec-21	16.448	10.966
14-Dec-21	16.518	10.971
15-Dec-21	16.525	10.975
16-Dec-21	16.578	10.980
17-Dec-21	16.669	10.985
18-Dec-21	16.532	10.990
19-Dec-21	16.607	10.996
02-Dec-21	16.608	10.932
20-Dec-21	16.655	11.003
21-Dec-21	16.645	11.011
22-Dec-21	16.501	11.018
23-Dec-21	16.468	11.025

DND Well

Date	Level (m)	Temperature (ºC)
24-Dec-21	16.467	11.033
25-Dec-21	16.534	11.042
26-Dec-21	16.594	11.051
27-Dec-21	16.696	11.060
28-Dec-21	16.692	11.069
29-Dec-21	16.704	11.079
03-Dec-21	16.705	10.938
30-Dec-21	16.623	11.089
31-Dec-21	16.711	11.100
04-Dec-21	16.682	10.943
05-Dec-21	16.800	10.946
06-Dec-21	16.688	10.949
07-Dec-21	16.638	10.951
08-Dec-21	16.591	10.954
09-Dec-21	16.602	10.954
01-Feb-22	17.269	11.369
10-Feb-22	17.183	11.372
11-Feb-22	17.164	11.372
12-Feb-22	17.103	11.371
13-Feb-22	17.025	11.370
14-Feb-22	16.938	11.369
15-Feb-22	17.008	11.367
16-Feb-22	17.043	11.366
17-Feb-22	17.061	11.365
18-Feb-22	17.038	11.363
19-Feb-22	16.902	11.363
02-Feb-22	17.267	11.372
20-Feb-22	16.842	11.361
21-Feb-22	16.853	11.360
22-Feb-22	16.951	11.359
23-Feb-22	16.947	11.357
24-Feb-22	16.930	11.357
25-Feb-22	16.909	11.356
26-Feb-22	16.805	11.355
27-Feb-22	16.762	11.353
28-Feb-22	16.727	11.350
03-Feb-22	17.259	11.374
04-Feb-22	17.220	11.374
05-Feb-22	17.278	11.374
06-Feb-22	17.213	11.375
07-Feb-22	17.178	11.375
08-Feb-22	17.233	11.374
09-Feb-22	17.232	11.374
01-Mar-22	16.767	11.348
10-Mar-22	16.983	11.309
11-Mar-22	16.947	11.306
12-Mar-22	16.819	11.302
13-Mar-22	16.786	11.299
14-Mar-22	16.835	11.295
15-Mar-22	16.863	11.292
16-Mar-22	16.955	11.286
17-Mar-22	16.929	11.281
18-Mar-22	16.922	11.275
19-Mar-22	16.916	11.269

DND Well

Date	Level (m)	Temperature (ºC)
02-Mar-22	16.789	11.344
20-Mar-22	17.040	11.263
21-Mar-22	17.103	11.257
22-Mar-22	17.147	11.250
23-Mar-22	17.119	11.241
24-Mar-22	17.163	11.234
25-Mar-22	17.122	11.230
26-Mar-22	17.098	11.224
27-Mar-22	17.030	11.218
28-Mar-22	17.044	11.214
29-Mar-22	17.100	11.208
03-Mar-22	16.830	11.339
30-Mar-22	17.116	11.204
31-Mar-22	17.118	11.200
04-Mar-22	16.872	11.335
05-Mar-22	16.950	11.329
06-Mar-22	17.030	11.324
07-Mar-22	17.047	11.319
08-Mar-22	16.980	11.315
09-Mar-22	16.979	11.311
01-Apr-22	17.083	11.195
10-Apr-22	16.892	11.154
11-Apr-22	16.772	11.147
12-Apr-22	16.824	11.143
13-Apr-22	16.825	11.139
14-Apr-22	16.778	11.135
15-Apr-22	16.798	11.132
16-Apr-22	16.741	11.128
17-Apr-22	16.785	11.124
18-Apr-22	16.622	11.118
19-Apr-22	16.631	11.114
02-Apr-22	17.085	11.190
20-Apr-22	16.575	11.110
21-Apr-22	16.568	11.104
22-Apr-22	16.653	11.100
23-Apr-22	16.710	11.094
24-Apr-22	16.647	11.091
25-Apr-22	16.613	11.086
26-Apr-22	16.598	11.082
27-Apr-22	16.605	11.075
28-Apr-22	16.575	11.066
29-Apr-22	16.589	11.061
03-Apr-22	16.977	11.186
30-Apr-22	16.528	11.057
04-Apr-22	16.857	11.182
05-Apr-22	17.055	11.174
06-Apr-22	17.125	11.172
07-Apr-22	17.019	11.168
08-Apr-22	16.982	11.163
09-Apr-22	16.989	11.157
01-May-21	15.847	11.067
10-May-21	15.753	11.029
11-May-21	15.708	11.028
12-May-21	15.668	11.023

DND Well

Date	Level (m)	Temperature (ºC)
13-May-21	15.652	11.020
14-May-21	15.602	11.018
15-May-21	15.561	11.013
16-May-21	15.498	11.009
17-May-21	15.450	11.002
18-May-21	15.495	11.000
19-May-21	15.497	10.995
02-May-21	15.864	11.063
20-May-21	15.486	10.992
21-May-21	15.498	10.990
22-May-21	15.452	10.984
23-May-21	15.408	10.977
24-May-21	15.398	10.977
25-May-21	15.398	10.969
26-May-21	15.388	10.966
27-May-21	15.302	10.963
28-May-21	15.395	10.960
29-May-21	15.353	10.957
03-May-21	15.841	11.062
30-May-21	15.330	10.954
31-May-21	15.317	10.948
04-May-21	15.843	11.057
05-May-21	15.769	11.049
06-May-21	15.703	11.049
07-May-21	15.781	11.043
08-May-21	15.815	11.039
09-May-21	15.781	11.036
01-Jun-21	15.236	10.947
10-Jun-21	15.103	10.925
11-Jun-21	15.028	10.921
12-Jun-21	15.013	10.919
13-Jun-21	14.975	10.915
14-Jun-21	15.000	10.913
15-Jun-21	15.037	10.912
16-Jun-21	15.072	10.908
17-Jun-21	15.007	10.904
18-Jun-21	14.960	10.906
19-Jun-21	14.932	10.904
02-Jun-21	15.170	10.942
20-Jun-21	14.888	10.902
21-Jun-21	14.820	10.903
22-Jun-21	14.768	10.902
23-Jun-21	14.774	10.900
24-Jun-21	14.754	10.896
25-Jun-21	14.701	10.896
26-Jun-21	14.663	10.896
27-Jun-21	14.607	10.894
28-Jun-21	14.533	10.895
29-Jun-21	14.496	10.893
03-Jun-21	15.158	10.940
30-Jun-21	14.517	10.894
04-Jun-21	15.158	10.938
05-Jun-21	15.122	10.934
06-Jun-21	15.106	10.934

DND Well

Date	Level (m)	Temperature (ºC)
07-Jun-21	15.092	10.929
08-Jun-21	15.092	10.929
09-Jun-21	15.115	10.924
01-Jul-21	14.534	10.894
10-Jul-21	14.394	10.895
11-Jul-21	14.365	10.896
12-Jul-21	14.320	10.897
13-Jul-21	14.287	10.897
14-Jul-21	14.242	10.896
15-Jul-21	14.206	10.896
16-Jul-21	14.186	10.894
17-Jul-21	14.172	10.899
18-Jul-21	14.161	10.900
19-Jul-21	14.116	10.901
02-Jul-21	14.526	10.892
20-Jul-21	14.006	10.901
21-Jul-21	13.910	10.897
22-Jul-21	14.069	10.901
23-Jul-21	14.060	10.909
24-Jul-21	14.007	10.914
25-Jul-21	13.948	10.916
26-Jul-21	13.902	10.918
27-Jul-21	13.888	10.917
28-Jul-21	13.883	10.916
29-Jul-21	13.833	10.914
03-Jul-21	14.494	10.895
30-Jul-21	13.782	10.913
31-Jul-21	13.768	10.913
04-Jul-21	14.466	10.894
05-Jul-21	14.461	10.894
06-Jul-21	14.423	10.895
07-Jul-21	14.398	10.893
08-Jul-21	14.402	10.895
09-Jul-21	14.404	10.896
01-Aug-21	13.761	10.911
10-Aug-21	13.648	10.908
11-Aug-21	13.612	10.908
12-Aug-21	13.570	10.906
13-Aug-21	13.544	10.906
14-Aug-21	13.536	10.906
15-Aug-21	13.500	10.904
16-Aug-21	13.444	10.904
17-Aug-21	13.464	10.903
18-Aug-21	13.500	10.903
19-Aug-21	13.471	10.904
02-Aug-21	13.767	10.908
20-Aug-21	13.426	10.904
21-Aug-21	13.377	10.902
22-Aug-21	13.364	10.901
23-Aug-21	13.407	10.900
24-Aug-21	13.402	10.899
25-Aug-21	13.380	10.899
26-Aug-21	13.387	10.897
27-Aug-21	13.399	10.897

DND Well

Date	Level (m)	Temperature (ºC)
28-Aug-21	13.383	10.896
29-Aug-21	13.309	10.895
03-Aug-21	13.721	10.909
30-Aug-21	13.267	10.894
31-Aug-21	13.264	10.893
04-Aug-21	13.673	10.906
05-Aug-21	13.627	10.908
06-Aug-21	13.642	10.908
07-Aug-21	13.595	10.907
08-Aug-21	13.626	10.908
09-Aug-21	13.661	10.908
01-Sep-21	13.270	10.893
10-Sep-21	13.165	10.881
11-Sep-21	13.217	10.880
12-Sep-21	13.195	10.879
13-Sep-21	13.218	10.877
14-Sep-21	13.170	10.876
15-Sep-21	13.155	10.875
16-Sep-21	13.160	10.874
17-Sep-21	13.025	10.872
18-Sep-21	13.061	10.870
19-Sep-21	13.196	10.869
02-Sep-21	13.275	10.891
20-Sep-21	13.338	10.868
21-Sep-21	13.296	10.867
22-Sep-21	13.280	10.866
23-Sep-21	13.333	10.865
24-Sep-21	13.257	10.865
25-Sep-21	13.174	10.865
26-Sep-21	13.142	10.864
27-Sep-21	13.123	10.864
28-Sep-21	13.196	10.863
29-Sep-21	13.234	10.863
03-Sep-21	13.262	10.890
30-Sep-21	13.247	10.863
04-Sep-21	13.221	10.889
05-Sep-21	13.218	10.887
06-Sep-21	13.252	10.886
07-Sep-21	13.215	10.885
08-Sep-21	13.180	10.884
09-Sep-21	13.147	10.882

H02

Date	Level (m)	Temperature (ºC)
01-Jan-22	12.150	9.017
10-Jan-22	12.358	8.292
11-Jan-22	12.463	8.108
12-Jan-22	12.499	7.966
13-Jan-22	12.491	7.980
14-Jan-22	12.540	7.903
15-Jan-22	12.475	7.833
16-Jan-22	12.386	7.809
17-Jan-22	12.275	7.797
18-Jan-22	12.339	7.732
19-Jan-22	12.378	7.712
02-Jan-22	11.983	8.974
20-Jan-22	12.478	7.603
21-Jan-22	12.548	7.656
22-Jan-22	12.450	7.715
23-Jan-22	12.349	7.760
24-Jan-22	12.290	7.786
25-Jan-22	12.268	7.795
26-Jan-22	12.241	7.781
27-Jan-22	12.243	7.779
28-Jan-22	12.202	7.780
29-Jan-22	12.157	7.752
03-Jan-22	11.912	8.929
30-Jan-22	12.131	7.685
31-Jan-22	12.337	7.550
04-Jan-22	12.076	8.876
05-Jan-22	12.151	8.834
06-Jan-22	11.984	8.789
07-Jan-22	12.344	8.429
08-Jan-22	12.462	8.361
09-Jan-22	12.419	8.323
01-Oct-21	12.153	11.958
10-Oct-21	12.177	12.097
11-Oct-21	12.173	12.097
12-Oct-21	12.097	12.094
13-Oct-21	12.085	12.099
14-Oct-21	12.101	12.097
15-Oct-21	12.163	12.112
16-Oct-21	12.229	12.147
17-Oct-21	12.146	12.145
18-Oct-21	12.213	12.139
19-Oct-21	12.113	12.121
02-Oct-21	12.074	11.968
20-Oct-21	12.046	12.105
21-Oct-21	12.025	12.091
22-Oct-21	12.029	12.086
23-Oct-21	12.059	12.090
24-Oct-21	11.879	12.077
25-Oct-21	11.908	12.060
26-Oct-21	12.061	12.051
27-Oct-21	12.257	12.043
28-Oct-21	12.351	12.038
29-Oct-21	12.407	11.988
03-Oct-21	12.017	11.975

H02

Date	Level (m)	Temperature (ºC)
30-Oct-21	12.323	11.933
31-Oct-21	12.179	11.901
04-Oct-21	11.927	11.985
05-Oct-21	11.991	12.016
06-Oct-21	12.328	12.103
07-Oct-21	12.245	12.091
08-Oct-21	12.143	12.082
09-Oct-21	12.128	12.079
01-Nov-21	12.089	11.881
10-Nov-21	12.288	11.405
11-Nov-21	12.207	11.382
12-Nov-21	12.377	11.282
13-Nov-21	12.418	11.214
14-Nov-21	12.459	11.161
15-Nov-21	12.370	11.191
16-Nov-21	12.488	11.127
17-Nov-21	12.402	11.100
18-Nov-21	12.237	11.076
19-Nov-21	12.290	11.030
02-Nov-21	12.154	11.856
20-Nov-21	12.357	11.005
21-Nov-21	12.288	10.971
22-Nov-21	12.142	10.940
23-Nov-21	12.140	10.896
24-Nov-21	12.244	10.857
25-Nov-21	12.325	10.744
26-Nov-21	12.455	10.534
27-Nov-21	12.381	10.494
28-Nov-21	12.497	10.416
29-Nov-21	12.492	10.396
03-Nov-21	12.220	11.787
30-Nov-21	12.491	10.366
04-Nov-21	12.272	11.677
05-Nov-21	12.331	11.591
06-Nov-21	12.270	11.539
07-Nov-21	12.277	11.503
08-Nov-21	12.193	11.489
09-Nov-21	12.101	11.457
01-Dec-21	12.445	10.378
10-Dec-21	12.164	10.327
11-Dec-21	12.018	10.268
12-Dec-21	12.064	10.221
13-Dec-21	12.001	10.190
14-Dec-21	12.069	10.159
15-Dec-21	12.064	10.123
16-Dec-21	12.116	10.091
17-Dec-21	12.210	10.055
18-Dec-21	12.207	9.954
19-Dec-21	12.366	9.798
02-Dec-21	12.473	10.408
20-Dec-21	12.318	9.784
21-Dec-21	12.237	9.765
22-Dec-21	12.212	9.602
23-Dec-21	12.195	9.443

H02

Date	Level (m)	Temperature (ºC)
24-Dec-21	12.123	9.368
25-Dec-21	12.110	9.309
26-Dec-21	12.098	9.271
27-Dec-21	12.146	9.228
28-Dec-21	12.107	9.186
29-Dec-21	12.110	9.146
03-Dec-21	12.397	10.463
30-Dec-21	12.015	9.107
31-Dec-21	12.124	9.062
04-Dec-21	12.308	10.468
05-Dec-21	12.399	10.461
06-Dec-21	12.252	10.454
07-Dec-21	12.252	10.416
08-Dec-21	12.224	10.376
09-Dec-21	12.193	10.353
01-Feb-22	12.323	7.581
10-Feb-22	12.264	7.544
11-Feb-22	12.246	7.538
12-Feb-22	12.186	7.542
13-Feb-22	12.110	7.544
14-Feb-22	12.046	7.533
15-Feb-22	12.130	7.518
16-Feb-22	12.169	7.505
17-Feb-22	12.198	7.508
18-Feb-22	12.186	7.509
19-Feb-22	12.089	7.497
02-Feb-22	12.290	7.606
20-Feb-22	12.113	7.459
21-Feb-22	12.130	7.466
22-Feb-22	12.217	7.488
23-Feb-22	12.197	7.517
24-Feb-22	12.188	7.521
25-Feb-22	12.172	7.516
26-Feb-22	12.076	7.511
27-Feb-22	12.108	7.466
28-Feb-22	12.361	7.341
03-Feb-22	12.318	7.611
04-Feb-22	12.315	7.574
05-Feb-22	12.378	7.565
06-Feb-22	12.289	7.577
07-Feb-22	12.260	7.577
08-Feb-22	12.323	7.560
09-Feb-22	12.314	7.543
01-Mar-22	12.399	7.304
10-Mar-22	12.177	7.448
11-Mar-22	12.142	7.488
12-Mar-22	12.045	7.483
13-Mar-22	12.052	7.463
14-Mar-22	12.215	7.424
15-Mar-22	12.410	7.337
16-Mar-22	12.401	7.375
17-Mar-22	12.341	7.402
18-Mar-22	12.355	7.385
19-Mar-22	12.368	7.391

H02

Date	Level (m)	Temperature (ºC)
02-Mar-22	12.398	7.303
20-Mar-22	12.381	7.447
21-Mar-22	12.431	7.466
22-Mar-22	12.380	7.500
23-Mar-22	12.269	7.531
24-Mar-22	12.265	7.548
25-Mar-22	12.170	7.569
26-Mar-22	12.111	7.585
27-Mar-22	12.010	7.603
28-Mar-22	12.032	7.621
29-Mar-22	12.089	7.642
03-Mar-22	12.430	7.270
30-Mar-22	12.141	7.657
31-Mar-22	12.158	7.673
04-Mar-22	12.337	7.332
05-Mar-22	12.313	7.382
06-Mar-22	12.322	7.408
07-Mar-22	12.293	7.421
08-Mar-22	12.192	7.424
09-Mar-22	12.181	7.427
01-Apr-22	12.114	7.695
10-Apr-22	12.020	7.839
11-Apr-22	11.909	7.856
12-Apr-22	11.984	7.872
13-Apr-22	12.004	7.887
14-Apr-22	11.966	7.902
15-Apr-22	12.002	7.917
16-Apr-22	11.959	7.931
17-Apr-22	12.022	7.945
18-Apr-22	11.887	7.955
19-Apr-22	11.999	7.956
02-Apr-22	12.119	7.716
20-Apr-22	11.960	7.967
21-Apr-22	11.967	7.982
22-Apr-22	12.097	7.991
23-Apr-22	12.133	8.006
24-Apr-22	12.043	8.021
25-Apr-22	12.028	8.034
26-Apr-22	12.016	8.046
27-Apr-22	12.016	8.060
28-Apr-22	11.987	8.074
29-Apr-22	12.009	8.078
03-Apr-22	12.009	7.734
30-Apr-22	11.948	8.089
04-Apr-22	11.971	7.736
05-Apr-22	12.183	7.753
06-Apr-22	12.240	7.774
07-Apr-22	12.116	7.794
08-Apr-22	12.110	7.807
09-Apr-22	12.122	7.822
01-May-21	11.842	8.036
10-May-21	11.850	8.208
11-May-21	11.821	8.225
12-May-21	11.799	8.241

H02

Date	Level (m)	Temperature (ºC)
13-May-21	11.797	8.258
14-May-21	11.763	8.275
15-May-21	11.738	8.291
16-May-21	11.685	8.309
17-May-21	11.654	8.327
18-May-21	11.783	8.354
19-May-21	11.783	8.375
02-May-21	11.858	8.056
20-May-21	11.773	8.398
21-May-21	11.780	8.416
22-May-21	11.742	8.433
23-May-21	11.714	8.447
24-May-21	11.735	8.458
25-May-21	11.766	8.474
26-May-21	11.753	8.491
27-May-21	11.686	8.507
28-May-21	11.806	8.519
29-May-21	11.772	8.536
03-May-21	11.841	8.074
30-May-21	11.752	8.552
31-May-21	11.750	8.567
04-May-21	11.870	8.090
05-May-21	11.805	8.112
06-May-21	11.738	8.137
07-May-21	11.854	8.153
08-May-21	11.899	8.170
09-May-21	11.873	8.189
01-Jun-21	11.679	8.584
10-Jun-21	11.670	8.722
11-Jun-21	11.598	8.738
12-Jun-21	11.594	8.753
13-Jun-21	11.589	8.769
14-Jun-21	11.669	8.785
15-Jun-21	11.734	8.801
16-Jun-21	11.768	8.817
17-Jun-21	11.697	8.834
18-Jun-21	11.645	8.852
19-Jun-21	11.625	8.869
02-Jun-21	11.619	8.600
20-Jun-21	11.584	8.886
21-Jun-21	11.521	8.904
22-Jun-21	11.487	8.921
23-Jun-21	11.508	8.939
24-Jun-21	11.538	8.995
25-Jun-21	11.519	8.983
26-Jun-21	11.490	9.000
27-Jun-21	11.445	9.018
28-Jun-21	11.387	9.036
29-Jun-21	11.363	9.053
03-Jun-21	11.615	8.616
30-Jun-21	11.399	9.073
04-Jun-21	11.623	8.631
05-Jun-21	11.638	8.645
06-Jun-21	11.642	8.659

H02

Date	Level (m)	Temperature (ºC)
07-Jun-21	11.655	8.674
08-Jun-21	11.660	8.689
09-Jun-21	11.679	8.706
01-Jul-21	11.439	9.092
10-Jul-21	11.445	9.278
11-Jul-21	11.439	9.301
12-Jul-21	11.412	9.323
13-Jul-21	11.402	9.342
14-Jul-21	11.387	9.370
15-Jul-21	11.396	9.397
16-Jul-21	11.405	9.424
17-Jul-21	11.417	9.448
18-Jul-21	11.426	9.475
19-Jul-21	11.412	9.501
02-Jul-21	11.442	9.113
20-Jul-21	11.396	9.528
21-Jul-21	11.388	9.558
22-Jul-21	11.398	9.587
23-Jul-21	11.423	9.615
24-Jul-21	11.396	9.641
25-Jul-21	11.361	9.672
26-Jul-21	11.343	9.700
27-Jul-21	11.353	9.730
28-Jul-21	11.370	9.756
29-Jul-21	11.344	9.794
03-Jul-21	11.425	9.132
30-Jul-21	11.321	9.825
31-Jul-21	11.323	9.855
04-Jul-21	11.413	9.151
05-Jul-21	11.428	9.171
06-Jul-21	11.416	9.191
07-Jul-21	11.413	9.212
08-Jul-21	11.440	9.234
09-Jul-21	11.440	9.255
01-Aug-21	11.349	9.886
10-Aug-21	11.356	10.168
11-Aug-21	11.323	10.200
12-Aug-21	11.295	10.232
13-Aug-21	11.287	10.262
14-Aug-21	11.303	10.293
15-Aug-21	11.284	10.327
16-Aug-21	11.234	10.360
17-Aug-21	11.262	10.394
18-Aug-21	11.307	10.423
19-Aug-21	11.289	10.452
02-Aug-21	11.368	9.916
20-Aug-21	11.254	10.490
21-Aug-21	11.232	10.528
22-Aug-21	11.232	10.564
23-Aug-21	11.281	10.596
24-Aug-21	11.285	10.630
25-Aug-21	11.266	10.662
26-Aug-21	11.275	10.693
27-Aug-21	11.305	10.725

H02

Date	Level (m)	Temperature (ºC)
28-Aug-21	11.319	10.760
29-Aug-21	11.267	10.795
03-Aug-21	11.344	9.946
30-Aug-21	11.245	10.828
31-Aug-21	11.255	10.859
04-Aug-21	11.316	9.979
05-Aug-21	11.293	10.010
06-Aug-21	11.312	10.042
07-Aug-21	11.289	10.072
08-Aug-21	11.334	10.105
09-Aug-21	11.368	10.136
01-Sep-21	11.281	10.889
10-Sep-21	11.218	11.166
11-Sep-21	11.271	11.192
12-Sep-21	11.267	11.226
13-Sep-21	11.305	11.257
14-Sep-21	11.271	11.286
15-Sep-21	11.285	11.314
16-Sep-21	11.296	11.358
17-Sep-21	11.275	11.347
18-Sep-21	11.993	11.579
19-Sep-21	12.161	11.665
02-Sep-21	11.283	10.919
20-Sep-21	12.215	11.681
21-Sep-21	12.101	11.700
22-Sep-21	12.039	11.722
23-Sep-21	12.057	11.748
24-Sep-21	11.948	11.767
25-Sep-21	11.839	11.786
26-Sep-21	11.799	11.803
27-Sep-21	11.849	11.836
28-Sep-21	11.914	11.865
29-Sep-21	11.931	11.882
03-Sep-21	11.266	10.953
30-Sep-21	12.021	11.916
04-Sep-21	11.234	10.986
05-Sep-21	11.248	11.017
06-Sep-21	11.289	11.046
07-Sep-21	11.261	11.077
08-Sep-21	11.235	11.107
09-Sep-21	11.204	11.138

H03

Date	Level (m)	Temperature (ºC)
01-Jan-22	10.845	9.682
10-Jan-22	10.914	8.969
11-Jan-22	10.938	8.887
12-Jan-22	11.027	8.773
13-Jan-22	10.977	8.574
14-Jan-22	11.015	8.473
15-Jan-22	10.975	8.413
16-Jan-22	10.916	8.363
17-Jan-22	10.850	8.291
18-Jan-22	10.886	8.243
19-Jan-22	10.933	8.195
02-Jan-22	10.684	9.607
20-Jan-22	10.973	8.127
21-Jan-22	11.064	7.994
22-Jan-22	11.030	7.921
23-Jan-22	10.967	7.801
24-Jan-22	10.936	7.743
25-Jan-22	10.935	7.692
26-Jan-22	10.928	7.633
27-Jan-22	10.950	7.550
28-Jan-22	10.924	7.478
29-Jan-22	10.892	7.425
03-Jan-22	10.618	9.535
30-Jan-22	10.851	7.378
31-Jan-22	10.893	7.345
04-Jan-22	10.761	9.450
05-Jan-22	10.833	9.367
06-Jan-22	10.658	9.284
07-Jan-22	10.705	9.203
08-Jan-22	10.885	9.124
09-Jan-22	10.918	9.047
01-Oct-21	10.816	14.518
10-Oct-21	10.765	14.367
11-Oct-21	10.785	14.350
12-Oct-21	10.757	14.331
13-Oct-21	10.733	14.308
14-Oct-21	10.772	14.281
15-Oct-21	10.813	14.251
16-Oct-21	10.727	14.221
17-Oct-21	10.658	14.187
18-Oct-21	10.711	14.149
19-Oct-21	10.658	14.103
02-Oct-21	10.761	14.508
20-Oct-21	10.647	14.049
21-Oct-21	10.651	13.989
22-Oct-21	10.688	13.925
23-Oct-21	10.618	13.862
24-Oct-21	10.459	13.795
25-Oct-21	10.509	13.726
26-Oct-21	10.655	13.658
27-Oct-21	10.765	13.597
28-Oct-21	10.831	13.534
29-Oct-21	10.824	13.506
03-Oct-21	10.734	14.492

H03

Date	Level (m)	Temperature (ºC)
30-Oct-21	10.819	13.465
31-Oct-21	10.749	13.401
04-Oct-21	10.673	14.473
05-Oct-21	10.687	14.452
06-Oct-21	10.748	14.434
07-Oct-21	10.747	14.415
08-Oct-21	10.710	14.399
09-Oct-21	10.767	14.383
01-Nov-21	10.716	13.336
10-Nov-21	10.819	12.903
11-Nov-21	10.792	12.843
12-Nov-21	10.836	12.785
13-Nov-21	10.873	12.733
14-Nov-21	10.982	12.686
15-Nov-21	10.988	12.569
16-Nov-21	10.966	12.487
17-Nov-21	10.924	12.449
18-Nov-21	10.801	12.392
19-Nov-21	10.828	12.324
02-Nov-21	10.808	13.275
20-Nov-21	10.929	12.251
21-Nov-21	10.892	12.175
22-Nov-21	10.764	12.098
23-Nov-21	10.765	12.021
24-Nov-21	10.870	11.945
25-Nov-21	10.920	11.868
26-Nov-21	10.883	11.810
27-Nov-21	10.870	11.750
28-Nov-21	11.096	11.673
29-Nov-21	10.990	11.565
03-Nov-21	10.769	13.222
30-Nov-21	11.025	11.502
04-Nov-21	10.709	13.181
05-Nov-21	10.751	13.158
06-Nov-21	10.730	13.116
07-Nov-21	10.749	13.069
08-Nov-21	10.724	13.017
09-Nov-21	10.678	12.959
01-Dec-21	10.949	11.423
10-Dec-21	10.774	10.819
11-Dec-21	10.623	10.760
12-Dec-21	10.642	10.708
13-Dec-21	10.605	10.659
14-Dec-21	10.691	10.615
15-Dec-21	10.702	10.571
16-Dec-21	10.770	10.528
17-Dec-21	10.880	10.481
18-Dec-21	10.804	10.435
19-Dec-21	10.827	10.389
02-Dec-21	10.949	11.369
20-Dec-21	10.842	10.342
21-Dec-21	10.832	10.297
22-Dec-21	10.701	10.241
23-Dec-21	10.629	10.195

H03

Date	Level (m)	Temperature (ºC)
24-Dec-21	10.589	10.147
25-Dec-21	10.619	10.085
26-Dec-21	10.660	10.042
27-Dec-21	10.753	9.988
28-Dec-21	10.743	9.937
29-Dec-21	10.766	9.879
03-Dec-21	10.935	11.299
30-Dec-21	10.686	9.808
31-Dec-21	10.807	9.750
04-Dec-21	10.883	11.229
05-Dec-21	10.970	11.160
06-Dec-21	10.856	11.089
07-Dec-21	10.818	11.017
08-Dec-21	10.748	10.948
09-Dec-21	10.762	10.882
01-Feb-22	10.932	7.296
10-Feb-22	10.982	7.320
11-Feb-22	10.974	7.330
12-Feb-22	10.926	7.337
13-Feb-22	10.859	7.341
14-Feb-22	10.799	7.338
15-Feb-22	10.868	7.347
16-Feb-22	10.918	7.350
17-Feb-22	10.957	7.355
18-Feb-22	10.951	7.363
19-Feb-22	10.857	7.360
02-Feb-22	10.944	7.299
20-Feb-22	10.784	7.380
21-Feb-22	10.812	7.402
22-Feb-22	10.939	7.429
23-Feb-22	10.956	7.461
24-Feb-22	10.961	7.498
25-Feb-22	10.956	7.541
26-Feb-22	10.873	7.583
27-Feb-22	10.863	7.618
28-Feb-22	10.881	7.623
03-Feb-22	10.980	7.313
04-Feb-22	10.944	7.279
05-Feb-22	11.011	7.284
06-Feb-22	10.955	7.290
07-Feb-22	10.944	7.295
08-Feb-22	11.023	7.303
09-Feb-22	11.021	7.311
01-Mar-22	10.879	7.643
10-Mar-22	10.944	7.866
11-Mar-22	10.924	7.887
12-Mar-22	10.822	7.889
13-Mar-22	10.789	7.904
14-Mar-22	10.911	7.883
15-Mar-22	10.910	7.862
16-Mar-22	10.958	7.845
17-Mar-22	10.941	7.826
18-Mar-22	10.886	7.840
19-Mar-22	10.884	7.834

H03

Date	Level (m)	Temperature (ºC)
02-Mar-22	10.915	7.626
20-Mar-22	10.957	7.844
21-Mar-22	11.006	7.843
22-Mar-22	10.988	7.879
23-Mar-22	10.923	7.908
24-Mar-22	10.935	7.948
25-Mar-22	10.871	7.985
26-Mar-22	10.841	8.016
27-Mar-22	10.748	8.057
28-Mar-22	10.788	8.085
29-Mar-22	10.850	8.122
03-Mar-22	10.916	7.640
30-Mar-22	10.904	8.143
31-Mar-22	10.918	8.172
04-Mar-22	10.894	7.658
05-Mar-22	10.933	7.682
06-Mar-22	10.988	7.728
07-Mar-22	10.992	7.769
08-Mar-22	10.915	7.808
09-Mar-22	10.925	7.841
01-Apr-22	10.879	8.202
10-Apr-22	10.822	8.605
11-Apr-22	10.721	8.671
12-Apr-22	10.812	8.735
13-Apr-22	10.838	8.802
14-Apr-22	10.809	8.866
15-Apr-22	10.857	8.927
16-Apr-22	10.821	8.986
17-Apr-22	10.896	9.044
18-Apr-22	10.778	9.083
19-Apr-22	10.793	9.138
02-Apr-22	10.899	8.230
20-Apr-22	10.743	9.193
21-Apr-22	10.766	9.237
22-Apr-22	10.869	9.287
23-Apr-22	10.935	9.331
24-Apr-22	10.874	9.371
25-Apr-22	10.872	9.398
26-Apr-22	10.846	9.444
27-Apr-22	10.866	9.480
28-Apr-22	10.848	9.520
29-Apr-22	10.877	9.546
03-Apr-22	10.807	8.255
30-Apr-22	10.832	9.573
04-Apr-22	10.693	8.285
05-Apr-22	10.910	8.329
06-Apr-22	11.004	8.375
07-Apr-22	10.906	8.425
08-Apr-22	10.905	8.473
09-Apr-22	10.913	8.539
01-May-21	10.852	9.966
10-May-21	10.890	10.604
11-May-21	10.870	10.667
12-May-21	10.856	10.727

H03

Date	Level (m)	Temperature (ºC)
13-May-21	10.863	10.787
14-May-21	10.840	10.846
15-May-21	10.825	10.901
16-May-21	10.784	10.953
17-May-21	10.774	10.995
18-May-21	10.838	11.038
19-May-21	10.837	11.086
02-May-21	10.881	10.049
20-May-21	10.828	11.130
21-May-21	10.851	11.172
22-May-21	10.828	11.214
23-May-21	10.807	11.256
24-May-21	10.828	11.294
25-May-21	10.823	11.345
26-May-21	10.827	11.394
27-May-21	10.792	11.429
28-May-21	10.883	11.482
29-May-21	10.848	11.533
03-May-21	10.875	10.129
30-May-21	10.844	11.576
31-May-21	10.853	11.616
04-May-21	10.913	10.193
05-May-21	10.833	10.277
06-May-21	10.804	10.332
07-May-21	10.879	10.408
08-May-21	10.933	10.471
09-May-21	10.900	10.540
01-Jun-21	10.800	11.653
10-Jun-21	10.828	11.967
11-Jun-21	10.771	12.003
12-Jun-21	10.769	12.042
13-Jun-21	10.799	12.070
14-Jun-21	10.815	12.116
15-Jun-21	10.842	12.163
16-Jun-21	10.891	12.206
17-Jun-21	10.840	12.245
18-Jun-21	10.812	12.281
19-Jun-21	10.806	12.313
02-Jun-21	10.756	11.690
20-Jun-21	10.782	12.343
21-Jun-21	10.747	12.372
22-Jun-21	10.727	12.407
23-Jun-21	10.759	12.446
24-Jun-21	10.773	12.545
25-Jun-21	10.790	12.534
26-Jun-21	10.777	12.580
27-Jun-21	10.745	12.625
28-Jun-21	10.700	12.668
29-Jun-21	10.687	12.710
03-Jun-21	10.772	11.726
30-Jun-21	10.732	12.751
04-Jun-21	10.796	11.761
05-Jun-21	10.819	11.782
06-Jun-21	10.783	11.827

H03

Date	Level (m)	Temperature (ºC)
07-Jun-21	10.782	11.858
08-Jun-21	10.784	11.895
09-Jun-21	10.824	11.931
01-Jul-21	10.770	12.792
10-Jul-21	10.814	13.235
11-Jul-21	10.809	13.293
12-Jul-21	10.786	13.351
13-Jul-21	10.781	13.407
14-Jul-21	10.768	13.460
15-Jul-21	10.772	13.512
16-Jul-21	10.779	13.561
17-Jul-21	10.794	13.607
18-Jul-21	10.810	13.650
19-Jul-21	10.796	13.695
02-Jul-21	10.777	12.833
20-Jul-21	10.804	13.734
21-Jul-21	10.801	13.768
22-Jul-21	10.816	13.800
23-Jul-21	10.843	13.830
24-Jul-21	10.811	13.859
25-Jul-21	10.773	13.885
26-Jul-21	10.751	13.909
27-Jul-21	10.764	13.931
28-Jul-21	10.786	13.951
29-Jul-21	10.766	13.969
03-Jul-21	10.765	12.875
30-Jul-21	10.745	13.986
31-Jul-21	10.755	14.001
04-Jul-21	10.759	12.919
05-Jul-21	10.780	12.964
06-Jul-21	10.771	13.013
07-Jul-21	10.762	13.064
08-Jul-21	10.782	13.119
09-Jul-21	10.801	13.176
01-Aug-21	10.769	14.015
10-Aug-21	10.765	14.158
11-Aug-21	10.741	14.178
12-Aug-21	10.723	14.199
13-Aug-21	10.726	14.221
14-Aug-21	10.747	14.245
15-Aug-21	10.731	14.271
16-Aug-21	10.684	14.301
17-Aug-21	10.712	14.334
18-Aug-21	10.759	14.369
19-Aug-21	10.740	14.403
02-Aug-21	10.788	14.028
20-Aug-21	10.708	14.435
21-Aug-21	10.669	14.466
22-Aug-21	10.667	14.495
23-Aug-21	10.721	14.523
24-Aug-21	10.726	14.547
25-Aug-21	10.713	14.569
26-Aug-21	10.747	14.587
27-Aug-21	10.756	14.602

H03

Date	Level (m)	Temperature (ºC)
28-Aug-21	10.750	14.613
29-Aug-21	10.697	14.621
03-Aug-21	10.762	14.041
30-Aug-21	10.678	14.625
31-Aug-21	10.712	14.626
04-Aug-21	10.739	14.054
05-Aug-21	10.713	14.068
06-Aug-21	10.743	14.084
07-Aug-21	10.739	14.100
08-Aug-21	10.748	14.118
09-Aug-21	10.773	14.138
01-Sep-21	10.719	14.625
10-Sep-21	10.686	14.570
11-Sep-21	10.756	14.558
12-Sep-21	10.802	14.543
13-Sep-21	10.767	14.531
14-Sep-21	10.747	14.517
15-Sep-21	10.720	14.505
16-Sep-21	10.727	14.500
17-Sep-21	10.719	14.486
18-Sep-21	10.723	14.486
19-Sep-21	10.738	14.492
02-Sep-21	10.725	14.620
20-Sep-21	10.827	14.493
21-Sep-21	10.767	14.493
22-Sep-21	10.744	14.496
23-Sep-21	10.798	14.502
24-Sep-21	10.726	14.509
25-Sep-21	10.646	14.515
26-Sep-21	10.676	14.519
27-Sep-21	10.641	14.523
28-Sep-21	10.688	14.525
29-Sep-21	10.726	14.525
03-Sep-21	10.720	14.614
30-Sep-21	10.800	14.523
04-Sep-21	10.712	14.608
05-Sep-21	10.721	14.603
06-Sep-21	10.739	14.599
07-Sep-21	10.713	14.593
08-Sep-21	10.695	14.588
09-Sep-21	10.664	14.581

Heritage Well

Date	Level (m)	Temperature (ºC)
01-May-21	18.105	10.880
02-May-21	18.117	10.880
03-May-21	18.092	10.880
04-May-21	18.092	10.881
05-May-21	18.026	10.881
06-May-21	17.956	10.881
07-May-21	18.031	10.882
08-May-21	18.065	10.882
09-May-21	18.033	10.883
10-May-21	18.006	10.883
11-May-21	17.957	10.884
12-May-21	17.923	10.884
13-May-21	17.911	10.885
14-May-21	17.861	10.885
15-May-21	17.813	10.886
16-May-21	17.742	10.887
17-May-21	17.687	10.888
18-May-21	17.738	10.888
19-May-21	17.739	10.889
20-May-21	17.721	10.890
21-May-21	17.728	10.890
22-May-21	17.684	10.891
23-May-21	17.639	10.892
24-May-21	17.627	10.892
25-May-21	17.627	10.893
26-May-21	17.618	10.894
27-May-21	17.534	10.895
28-May-21	17.621	10.896
29-May-21	17.585	10.896
30-May-21	17.556	10.898
31-May-21	17.543	10.899
01-Jun-21	17.466	10.899
02-Jun-21	17.379	10.901
03-Jun-21	17.362	10.902
04-Jun-21	17.365	10.903
05-Jun-21	17.335	10.904
06-Jun-21	17.320	10.905
07-Jun-21	17.301	10.906
08-Jun-21	17.299	10.907
09-Jun-21	17.321	10.908
10-Jun-21	17.307	10.909
11-Jun-21	17.228	10.910
12-Jun-21	17.207	10.911
13-Jun-21	17.163	10.912
14-Jun-21	17.189	10.913
15-Jun-21	17.224	10.914
16-Jun-21	17.259	10.915
17-Jun-21	17.193	10.916
18-Jun-21	17.139	10.918
19-Jun-21	17.102	10.919
20-Jun-21	17.050	10.920
21-Jun-21	16.955	10.922
22-Jun-21	16.894	10.923
23-Jun-21	16.896	10.925

Heritage Well

Date	Level (m)	Temperature (ºC)
24-Jun-21	16.898	10.926
25-Jun-21	16.862	10.927
26-Jun-21	16.808	10.929
27-Jun-21	16.739	10.930
28-Jun-21	16.651	10.932
29-Jun-21	16.588	10.933
30-Jun-21	16.599	10.934
01-Jul-21	16.599	10.936
02-Jul-21	16.579	10.937
03-Jul-21	16.536	10.938
04-Jul-21	16.500	10.939
05-Jul-21	16.484	10.940
06-Jul-21	16.438	10.941
07-Jul-21	16.388	10.942
08-Jul-21	16.379	10.943
09-Jul-21	16.378	10.943
10-Jul-21	16.364	10.944
11-Jul-21	16.319	10.945
12-Jul-21	16.265	10.946
13-Jul-21	16.231	10.946
14-Jul-21	16.186	10.947
15-Jul-21	16.160	10.948
16-Jul-21	16.145	10.949
17-Jul-21	16.140	10.949
18-Jul-21	16.132	10.950
19-Jul-21	16.077	10.950
20-Jul-21	16.047	10.951
21-Jul-21	16.020	10.952
22-Jul-21	16.009	10.952
23-Jul-21	16.001	10.953
24-Jul-21	15.941	10.954
25-Jul-21	15.868	10.954
26-Jul-21	15.823	10.955
27-Jul-21	15.814	10.955
28-Jul-21	15.803	10.956
29-Jul-21	15.754	10.956
30-Jul-21	15.704	10.957
31-Jul-21	15.676	10.957
01-Aug-21	15.665	10.958
02-Aug-21	15.665	10.958
03-Aug-21	15.625	10.958
04-Aug-21	15.573	10.958
05-Aug-21	15.518	10.959
06-Aug-21	15.524	10.959
07-Aug-21	15.478	10.959
08-Aug-21	15.499	10.959
09-Aug-21	15.530	10.959
10-Aug-21	15.513	10.959
11-Aug-21	15.463	10.960
12-Aug-21	15.405	10.960
13-Aug-21	15.370	10.961
14-Aug-21	15.358	10.961
15-Aug-21	15.325	10.961
16-Aug-21	15.267	10.961

Heritage Well

Date	Level (m)	Temperature (ºC)
17-Aug-21	15.290	10.962
18-Aug-21	15.313	10.962
19-Aug-21	15.276	10.962
20-Aug-21	15.229	10.962
21-Aug-21	15.190	10.962
22-Aug-21	15.183	10.962
23-Aug-21	15.223	10.962
24-Aug-21	15.216	10.962
25-Aug-21	15.182	10.962
26-Aug-21	15.189	10.962
27-Aug-21	15.205	10.962
28-Aug-21	15.202	10.962
29-Aug-21	15.141	10.962
30-Aug-21	15.107	10.963
31-Aug-21	15.116	10.963
01-Sep-21	15.132	10.963
02-Sep-21	15.129	10.963
03-Sep-21	15.113	10.963
04-Sep-21	15.072	10.963
05-Sep-21	15.076	10.963
06-Sep-21	15.103	10.963
07-Sep-21	15.069	10.963
08-Sep-21	15.038	10.963
09-Sep-21	15.002	10.963
10-Sep-21	15.009	10.963
11-Sep-21	15.064	10.963
12-Sep-21	15.038	10.963
13-Sep-21	15.055	10.963
14-Sep-21	15.007	10.964
15-Sep-21	14.991	10.964
16-Sep-21	15.001	10.964
17-Sep-21	14.853	10.964
18-Sep-21	14.833	10.964
19-Sep-21	14.926	10.964
20-Sep-21	15.045	10.964
21-Sep-21	14.992	10.964
22-Sep-21	14.969	10.964
23-Sep-21	15.016	10.964
24-Sep-21	14.936	10.965
25-Sep-21	14.850	10.965
26-Sep-21	14.817	10.965
27-Sep-21	14.787	10.965
28-Sep-21	14.852	10.965
29-Sep-21	14.886	10.965
30-Sep-21	14.889	10.965
01-Oct-21	14.959	10.965
02-Oct-21	14.910	10.965
03-Oct-21	14.880	10.966
04-Oct-21	14.815	10.966
05-Oct-21	14.764	10.966
06-Oct-21	14.844	10.966
07-Oct-21	14.862	10.966
08-Oct-21	14.823	10.966
09-Oct-21	14.842	10.967

Heritage Well

Date	Level (m)	Temperature (ºC)
10-Oct-21	14.823	10.967
11-Oct-21	14.872	10.967
12-Oct-21	14.822	10.967
13-Oct-21	14.792	10.967
14-Oct-21	14.819	10.968
15-Oct-21	14.794	10.968
16-Oct-21	14.720	10.968
17-Oct-21	14.652	10.968
18-Oct-21	14.729	10.968
19-Oct-21	14.687	10.968
20-Oct-21	14.659	10.969
21-Oct-21	14.674	10.969
22-Oct-21	14.637	10.969
23-Oct-21	14.604	10.969
24-Oct-21	14.442	10.969
25-Oct-21	14.489	10.969
26-Oct-21	14.589	10.969
27-Oct-21	14.737	10.970
28-Oct-21	14.697	10.970
29-Oct-21	14.732	10.970
30-Oct-21	14.771	10.970
31-Oct-21	14.725	10.970
01-Nov-21	14.690	10.970
02-Nov-21	14.752	10.970
03-Nov-21	14.699	10.971
04-Nov-21	14.586	10.971
05-Nov-21	14.667	10.971
06-Nov-21	14.660	10.971
07-Nov-21	14.714	10.971
08-Nov-21	14.715	10.971
09-Nov-21	14.633	10.971
10-Nov-21	14.818	10.971
11-Nov-21	14.782	10.971
12-Nov-21	14.778	10.971
13-Nov-21	14.834	10.972
14-Nov-21	14.706	10.972
15-Nov-21	14.671	10.972
16-Nov-21	14.991	10.972
17-Nov-21	15.093	10.972
18-Nov-21	15.038	10.973
19-Nov-21	15.152	10.974
20-Nov-21	15.320	10.975
21-Nov-21	15.346	10.975
22-Nov-21	15.279	10.977
23-Nov-21	15.316	10.978
24-Nov-21	15.492	10.979
25-Nov-21	15.481	10.981
26-Nov-21	15.519	10.982
27-Nov-21	15.531	10.983
28-Nov-21	15.582	10.984
29-Nov-21	15.752	10.984
30-Nov-21	15.852	10.985
01-Dec-21	15.938	10.986
02-Dec-21	16.112	10.987

Heritage Well

Date	Level (m)	Temperature (ºC)
03-Dec-21	16.235	10.989
04-Dec-21	16.277	10.990
05-Dec-21	16.488	10.991
06-Dec-21	16.475	10.992
07-Dec-21	16.527	10.993
08-Dec-21	16.579	10.993
09-Dec-21	16.693	10.993
10-Dec-21	16.798	10.993
11-Dec-21	16.734	10.993
12-Dec-21	16.853	10.992
13-Dec-21	16.916	10.992
14-Dec-21	17.080	10.991
15-Dec-21	17.179	10.990
16-Dec-21	17.316	10.989
17-Dec-21	17.496	10.989
18-Dec-21	17.430	10.989
19-Dec-21	17.547	10.988
20-Dec-21	17.651	10.987
21-Dec-21	17.699	10.986
22-Dec-21	17.593	10.986
23-Dec-21	17.591	10.986
24-Dec-21	17.624	10.985
25-Dec-21	17.721	10.985
26-Dec-21	17.808	10.985
27-Dec-21	17.943	10.985
28-Dec-21	17.979	10.985
29-Dec-21	18.042	10.985
30-Dec-21	18.008	10.985
31-Dec-21	18.149	10.985
01-Jan-22	18.224	10.985
02-Jan-22	18.112	10.986
03-Jan-22	18.059	10.986
04-Jan-22	18.222	10.986
05-Jan-22	18.328	10.986
06-Jan-22	18.196	10.987
07-Jan-22	18.161	10.988
08-Jan-22	18.383	10.987
09-Jan-22	18.458	10.988
10-Jan-22	18.469	10.988
11-Jan-22	18.440	10.988
12-Jan-22	18.442	10.988
13-Jan-22	18.506	10.989
14-Jan-22	18.626	10.989
15-Jan-22	18.641	10.990
16-Jan-22	18.640	10.990
17-Jan-22	18.609	10.991
18-Jan-22	18.660	10.992
19-Jan-22	18.744	10.992
20-Jan-22	18.752	10.993
21-Jan-22	18.910	10.993
22-Jan-22	18.935	10.993
23-Jan-22	18.921	10.994
24-Jan-22	18.928	10.994
25-Jan-22	18.964	10.994

Heritage Well

Date	Level (m)	Temperature (ºC)
26-Jan-22	18.990	10.994
27-Jan-22	19.043	10.994
28-Jan-22	19.055	10.995
29-Jan-22	19.058	10.995
30-Jan-22	19.007	10.995
31-Jan-22	19.090	10.994
01-Feb-22	19.165	10.994
02-Feb-22	19.202	10.994
03-Feb-22	19.234	10.994
04-Feb-22	19.234	10.994
05-Feb-22	19.321	10.994
06-Feb-22	19.301	10.993
07-Feb-22	19.295	10.993
08-Feb-22	19.384	10.993
09-Feb-22	19.403	10.993
10-Feb-22	19.384	10.992
11-Feb-22	19.389	10.992
12-Feb-22	19.356	10.992
13-Feb-22	19.305	10.991
14-Feb-22	19.234	10.991
15-Feb-22	19.305	10.991
16-Feb-22	19.348	10.990
17-Feb-22	19.387	10.990
18-Feb-22	19.387	10.989
19-Feb-22	19.285	10.989
20-Feb-22	19.232	10.989
21-Feb-22	19.247	10.988
22-Feb-22	19.343	10.988
23-Feb-22	19.362	10.987
24-Feb-22	19.356	10.987
25-Feb-22	19.352	10.986
26-Feb-22	19.270	10.986
27-Feb-22	19.222	10.985
28-Feb-22	19.172	10.985
01-Mar-22	19.193	10.984
02-Mar-22	19.200	10.984
03-Mar-22	19.205	10.984
04-Mar-22	19.211	10.983
05-Mar-22	19.246	10.983
06-Mar-22	19.291	10.982
07-Mar-22	19.297	10.981
08-Mar-22	19.228	10.981
09-Mar-22	19.222	10.980
10-Mar-22	19.233	10.979
11-Mar-22	19.212	10.979
12-Mar-22	19.102	10.978
13-Mar-22	19.061	10.977
14-Mar-22	19.107	10.977
15-Mar-22	19.098	10.976
16-Mar-22	19.173	10.976
17-Mar-22	19.136	10.975
18-Mar-22	19.098	10.974
19-Mar-22	19.056	10.974
20-Mar-22	19.142	10.973

Heritage Well

Date	Level (m)	Temperature (ºC)
21-Mar-22	19.172	10.972
22-Mar-22	19.184	10.971
23-Mar-22	19.134	10.971
24-Mar-22	19.159	10.970
25-Mar-22	19.113	10.969
26-Mar-22	19.084	10.968
27-Mar-22	19.020	10.967
28-Mar-22	19.039	10.967
29-Mar-22	19.106	10.965
30-Mar-22	19.143	10.965
31-Mar-22	19.170	10.964
01-Apr-22	19.157	10.963
02-Apr-22	19.177	10.962
03-Apr-22	19.098	10.961
04-Apr-22	18.990	10.960
05-Apr-22	19.177	10.960
06-Apr-22	19.278	10.958
07-Apr-22	19.216	10.958
08-Apr-22	19.195	10.957
09-Apr-22	19.227	10.956
10-Apr-22	19.161	10.955
11-Apr-22	19.069	10.954
12-Apr-22	19.133	10.953
13-Apr-22	19.163	10.952
14-Apr-22	19.144	10.951
15-Apr-22	19.179	10.950
16-Apr-22	19.151	10.949
17-Apr-22	19.209	10.948
18-Apr-22	19.087	10.947
19-Apr-22	19.093	10.946
20-Apr-22	19.065	10.945
21-Apr-22	19.061	10.944
22-Apr-22	19.149	10.943
23-Apr-22	19.207	10.942
24-Apr-22	19.158	10.941
25-Apr-22	19.124	10.940
26-Apr-22	19.111	10.939
27-Apr-22	19.123	10.938
28-Apr-22	19.098	10.937
29-Apr-22	19.116	10.936
30-Apr-22	19.062	10.935

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Date	Level (m)	Temperature (ºC)
01-May-21	21.938	11.919
02-May-21	21.794	11.919
03-May-21	21.797	11.920
04-May-21	21.855	11.918
05-May-21	21.752	11.919
06-May-21	21.614	11.919
07-May-21	21.852	11.920
08-May-21	21.814	11.918
09-May-21	21.812	11.919
10-May-21	21.719	11.917
11-May-21	21.700	11.919
12-May-21	21.567	11.916
13-May-21	21.621	11.917
14-May-21	21.386	11.918
15-May-21	20.340	11.909
16-May-21	20.539	11.920
17-May-21	20.900	11.919
18-May-21	21.294	11.916
19-May-21	21.342	11.914
20-May-21	21.536	11.914
21-May-21	21.382	11.910
22-May-21	21.220	11.912
23-May-21	21.225	11.913
24-May-21	21.335	11.914
25-May-21	21.252	11.912
26-May-21	20.816	11.911
27-May-21	21.194	11.914
28-May-21	20.985	11.911
29-May-21	20.904	11.911
30-May-21	20.620	11.912
31-May-21	20.691	11.914
01-Jun-21	19.657	11.907
02-Jun-21	19.650	11.914
03-Jun-21	20.204	11.915
04-Jun-21	20.636	11.911
05-Jun-21	20.838	11.909
06-Jun-21	20.924	11.909
07-Jun-21	20.957	11.908
08-Jun-21	20.898	11.909
09-Jun-21	20.897	11.909
10-Jun-21	20.821	11.908
11-Jun-21	20.861	11.907
12-Jun-21	20.826	11.907
13-Jun-21	20.814	11.907
14-Jun-21	20.899	11.908
15-Jun-21	20.854	11.907
16-Jun-21	20.897	11.908
17-Jun-21	20.748	11.907
18-Jun-21	20.585	11.909
19-Jun-21	20.592	11.908
20-Jun-21	19.502	11.901
21-Jun-21	18.362	11.904
22-Jun-21	17.963	11.907
23-Jun-21	17.887	11.909

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Date	Level (m)	Temperature (ºC)
24-Jun-21	17.586	11.909
25-Jun-21	17.629	11.910
26-Jun-21	16.723	11.910
27-Jun-21	15.949	11.913
28-Jun-21	15.818	11.916
29-Jun-21	15.747	11.919
30-Jun-21	15.890	11.921
01-Jul-21	16.468	11.923
02-Jul-21	17.338	11.924
03-Jul-21	15.887	11.922
04-Jul-21	15.802	11.925
05-Jul-21	16.404	11.931
06-Jul-21	17.050	11.928
07-Jul-21	16.662	11.929
08-Jul-21	17.427	11.929
09-Jul-21	17.068	11.923
10-Jul-21	16.799	11.926
11-Jul-21	16.612	11.927
12-Jul-21	16.157	11.926
13-Jul-21	16.729	11.928
14-Jul-21	16.800	11.927
15-Jul-21	16.969	11.926
16-Jul-21	17.418	11.931
17-Jul-21	17.757	11.926
18-Jul-21	17.469	11.924
19-Jul-21	17.364	11.925
20-Jul-21	17.070	11.924
21-Jul-21	15.606	11.927
22-Jul-21	15.493	11.934
23-Jul-21	15.823	11.936
24-Jul-21	15.913	11.936
25-Jul-21	15.531	11.935
26-Jul-21	15.435	11.938
27-Jul-21	15.393	11.940
28-Jul-21	15.364	11.942
29-Jul-21	15.240	11.942
30-Jul-21	15.217	11.942
31-Jul-21	15.273	11.944
01-Aug-21	15.441	11.943
02-Aug-21	15.363	11.945
03-Aug-21	15.267	11.944
04-Aug-21	15.192	11.943
05-Aug-21	15.088	11.943
06-Aug-21	15.311	11.942
07-Aug-21	15.492	11.941
08-Aug-21	15.791	11.944
09-Aug-21	15.608	11.941
10-Aug-21	15.439	11.943
11-Aug-21	15.138	11.942
12-Aug-21	15.042	11.943
13-Aug-21	15.031	11.942
14-Aug-21	15.167	11.940
15-Aug-21	15.203	11.940
16-Aug-21	15.388	11.940

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Date	Level (m)	Temperature (ºC)
17-Aug-21	16.205	11.939
18-Aug-21	15.695	11.937
19-Aug-21	15.905	11.939
20-Aug-21	15.763	11.940
21-Aug-21	16.386	11.938
22-Aug-21	16.272	11.936
23-Aug-21	16.359	11.935
24-Aug-21	16.161	11.935
25-Aug-21	15.656	11.932
26-Aug-21	15.842	11.935
27-Aug-21	17.449	11.936
28-Aug-21	17.290	11.928
29-Aug-21	17.509	11.926
30-Aug-21	17.924	11.930
31-Aug-21	18.299	11.928
01-Sep-21	17.517	11.920
02-Sep-21	17.428	11.924
03-Sep-21	17.989	11.928
04-Sep-21	18.255	11.924
05-Sep-21	18.443	11.924
06-Sep-21	17.873	11.916
07-Sep-21	18.167	11.919
08-Sep-21	17.986	11.918
09-Sep-21	17.115	11.918
10-Sep-21	17.588	11.925
11-Sep-21	18.059	11.922
12-Sep-21	18.207	11.921
13-Sep-21	17.578	11.915
14-Sep-21	17.072	11.918
15-Sep-21	16.666	11.920
16-Sep-21	16.663	11.920
17-Sep-21	17.572	11.924
18-Sep-21	15.713	11.917
19-Sep-21	15.172	11.925
20-Sep-21	17.776	11.929
21-Sep-21	17.169	11.919
22-Sep-21	17.609	11.925
23-Sep-21	17.869	11.919
24-Sep-21	17.782	11.919
25-Sep-21	17.588	11.918
26-Sep-21	18.207	11.919
27-Sep-21	18.319	11.916
28-Sep-21	18.253	11.916
29-Sep-21	18.061	11.913
30-Sep-21	18.244	11.915
01-Oct-21	18.189	11.914
02-Oct-21	18.180	11.915
03-Oct-21	18.212	11.914
04-Oct-21	18.027	11.913
05-Oct-21	18.238	11.914
06-Oct-21	18.415	11.912
07-Oct-21	18.345	11.912
08-Oct-21	18.438	11.912
09-Oct-21	18.595	11.913

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Date	Level (m)	Temperature (ºC)
10-Oct-21	18.493	11.912
11-Oct-21	18.558	11.912
12-Oct-21	18.542	11.913
13-Oct-21	18.493	11.911
14-Oct-21	18.575	11.912
15-Oct-21	18.492	11.911
16-Oct-21	17.675	11.909
17-Oct-21	16.984	11.915
18-Oct-21	18.302	11.917
19-Oct-21	18.457	11.914
20-Oct-21	18.460	11.914
21-Oct-21	18.362	11.913
22-Oct-21	18.355	11.912
23-Oct-21	18.381	11.913
24-Oct-21	18.225	11.912
25-Oct-21	18.103	11.913
26-Oct-21	18.009	11.912
27-Oct-21	17.566	11.911
28-Oct-21	16.529	11.914
29-Oct-21	17.480	11.921
30-Oct-21	18.465	11.916
31-Oct-21	18.478	11.914
01-Nov-21	17.934	11.910
02-Nov-21	17.553	11.916
03-Nov-21	17.565	11.918
04-Nov-21	17.801	11.921
05-Nov-21	18.509	11.917
06-Nov-21	18.504	11.916
07-Nov-21	18.664	11.916
08-Nov-21	18.637	11.917
09-Nov-21	18.569	11.917
10-Nov-21	18.681	11.917
11-Nov-21	18.689	11.916
12-Nov-21	18.683	11.917
13-Nov-21	18.470	11.917
14-Nov-21	18.184	11.916
15-Nov-21	16.241	11.913
16-Nov-21	17.344	11.920
17-Nov-21	16.518	11.918
18-Nov-21	17.229	11.922
19-Nov-21	17.248	11.919
20-Nov-21	17.427	11.922
21-Nov-21	17.622	11.921
22-Nov-21	17.386	11.920
23-Nov-21	17.225	11.922
24-Nov-21	16.674	11.919
25-Nov-21	17.560	11.923
26-Nov-21	17.269	11.922
27-Nov-21	17.913	11.924
28-Nov-21	17.907	11.921
29-Nov-21	18.085	11.923
30-Nov-21	17.042	11.920
01-Dec-21	18.466	11.929
02-Dec-21	18.612	11.920

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Date	Level (m)	Temperature (ºC)
03-Dec-21	18.369	11.927
04-Dec-21	19.082	11.923
05-Dec-21	18.893	11.919
06-Dec-21	18.506	11.922
07-Dec-21	18.670	11.926
08-Dec-21	18.743	11.920
09-Dec-21	18.576	11.925
10-Dec-21	18.691	11.920
11-Dec-21	18.287	11.923
12-Dec-21	18.196	11.925
13-Dec-21	18.806	11.930
14-Dec-21	18.363	11.923
15-Dec-21	18.608	11.927
16-Dec-21	18.660	11.927
17-Dec-21	18.676	11.926
18-Dec-21	18.865	11.926
19-Dec-21	18.777	11.927
20-Dec-21	19.039	11.928
21-Dec-21	19.194	11.929
22-Dec-21	18.647	11.922
23-Dec-21	18.713	11.928
24-Dec-21	19.104	11.932
25-Dec-21	19.558	11.928
26-Dec-21	19.299	11.922
27-Dec-21	18.989	11.927
28-Dec-21	18.865	11.929
29-Dec-21	19.003	11.930
30-Dec-21	19.405	11.930
31-Dec-21	19.870	11.927
01-Jan-22	19.971	11.927
02-Jan-22	19.672	11.928
03-Jan-22	18.671	11.928
04-Jan-22	18.744	11.928
05-Jan-22	18.793	11.929
06-Jan-22	19.480	11.932
07-Jan-22	19.743	11.929
08-Jan-22	19.662	11.924
09-Jan-22	18.085	11.926
10-Jan-22	18.522	11.935
11-Jan-22	19.321	11.928
12-Jan-22	19.065	11.930
13-Jan-22	19.334	11.931
14-Jan-22	20.364	11.931
15-Jan-22	20.646	11.930
16-Jan-22	20.846	11.928
17-Jan-22	20.969	11.928
18-Jan-22	21.124	11.926
19-Jan-22	21.233	11.926
20-Jan-22	20.284	11.920
21-Jan-22	21.128	11.933
22-Jan-22	21.573	11.926
23-Jan-22	21.580	11.925
24-Jan-22	21.591	11.924
25-Jan-22	21.708	11.925

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Date	Level (m)	Temperature (ºC)
26-Jan-22	21.805	11.923
27-Jan-22	21.878	11.923
28-Jan-22	21.952	11.924
29-Jan-22	21.943	11.922
30-Jan-22	21.952	11.924
31-Jan-22	22.050	11.925
01-Feb-22	22.100	11.922
02-Feb-22	22.130	11.923
03-Feb-22	22.289	11.922
04-Feb-22	22.291	11.922
05-Feb-22	22.425	11.920
06-Feb-22	22.425	11.921
07-Feb-22	22.408	11.923
08-Feb-22	22.571	11.923
09-Feb-22	22.550	11.921
10-Feb-22	22.549	11.920
11-Feb-22	22.598	11.921
12-Feb-22	22.555	11.922
13-Feb-22	22.565	11.922
14-Feb-22	22.476	11.921
15-Feb-22	22.590	11.920
16-Feb-22	22.663	11.921
17-Feb-22	22.682	11.920
18-Feb-22	22.723	11.921
19-Feb-22	22.628	11.920
20-Feb-22	22.618	11.919
21-Feb-22	22.640	11.920
22-Feb-22	22.784	11.920
23-Feb-22	22.818	11.919
24-Feb-22	22.804	11.922
25-Feb-22	22.847	11.921
26-Feb-22	22.773	11.923
27-Feb-22	22.730	11.923
28-Feb-22	22.670	11.922
01-Mar-22	22.599	11.924
02-Mar-22	22.599	11.924
03-Mar-22	22.590	11.925
04-Mar-22	22.682	11.925
05-Mar-22	22.769	11.925
06-Mar-22	22.805	11.924
07-Mar-22	22.597	11.922
08-Mar-22	22.085	11.923
09-Mar-22	22.343	11.925
10-Mar-22	22.788	11.922
11-Mar-22	22.799	11.923
12-Mar-22	22.701	11.923
13-Mar-22	22.731	11.922
14-Mar-22	22.778	11.924
15-Mar-22	22.809	11.922
16-Mar-22	22.929	11.923
17-Mar-22	22.870	11.921
18-Mar-22	22.841	11.922
19-Mar-22	22.848	11.922
20-Mar-22	22.934	11.923

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Date	Level (m)	Temperature (ºC)
21-Mar-22	23.072	11.922
22-Mar-22	23.121	11.922
23-Mar-22	23.042	11.921
24-Mar-22	23.123	11.922
25-Mar-22	23.087	11.922
26-Mar-22	23.076	11.921
27-Mar-22	23.051	11.921
28-Mar-22	23.053	11.921
29-Mar-22	23.117	11.918
30-Mar-22	23.161	11.920
31-Mar-22	23.220	11.920
01-Apr-22	23.211	11.919
02-Apr-22	23.218	11.920
03-Apr-22	23.180	11.919
04-Apr-22	23.068	11.918
05-Apr-22	23.265	11.918
06-Apr-22	23.337	11.919
07-Apr-22	23.138	11.918
08-Apr-22	23.260	11.920
09-Apr-22	23.251	11.918
10-Apr-22	21.693	11.908
11-Apr-22	19.081	11.913
12-Apr-22	20.678	11.922
13-Apr-22	21.145	11.923
14-Apr-22	22.678	11.919
15-Apr-22	20.059	11.907
16-Apr-22	20.111	11.920
17-Apr-22	20.369	11.918
18-Apr-22	20.213	11.919
19-Apr-22	20.191	11.920
20-Apr-22	20.750	11.922
21-Apr-22	22.547	11.924
22-Apr-22	22.849	11.917
23-Apr-22	22.900	11.914
24-Apr-22	22.954	11.915
25-Apr-22	22.429	11.910
26-Apr-22	21.811	11.912
27-Apr-22	22.346	11.917
28-Apr-22	22.710	11.916
29-Apr-22	22.805	11.915
30-Apr-22	22.760	11.913

Laxton Lake

Date	Level (m)	Temperature (ºC)
01-May-21	12.255	16.031
02-May-21	12.282	16.144
03-May-21	12.268	16.336
04-May-21	12.286	16.399
05-May-21	12.217	16.365
06-May-21	12.163	16.237
07-May-21	12.266	15.698
08-May-21	12.316	15.530
09-May-21	12.291	15.632
10-May-21	12.278	15.980
11-May-21	12.253	16.253
12-May-21	12.235	16.392
13-May-21	12.239	16.994
14-May-21	12.210	17.522
15-May-21	12.191	18.168
16-May-21	12.142	18.970
17-May-21	12.113	19.360
18-May-21	12.179	18.438
19-May-21	12.180	17.958
20-May-21	12.176	17.765
21-May-21	12.197	18.010
22-May-21	12.167	18.519
23-May-21	12.140	18.709
24-May-21	12.141	17.791
25-May-21	12.156	17.766
26-May-21	12.155	17.766
27-May-21	12.085	17.196
28-May-21	12.199	16.738
29-May-21	12.170	16.917
30-May-21	12.164	17.179
31-May-21	12.171	17.531
01-Jun-21	12.111	18.096
02-Jun-21	12.064	18.770
03-Jun-21	12.070	19.969
04-Jun-21	12.087	20.599
05-Jun-21	12.073	20.445
06-Jun-21	12.064	19.315
07-Jun-21	12.062	18.711
08-Jun-21	12.073	18.825
09-Jun-21	12.110	19.293
10-Jun-21	12.109	19.558
11-Jun-21	12.043	19.413
12-Jun-21	12.040	19.023
13-Jun-21	12.023	19.087
14-Jun-21	12.068	19.225
15-Jun-21	12.120	19.596
16-Jun-21	12.167	20.017
17-Jun-21	12.112	20.474
18-Jun-21	12.080	21.275
19-Jun-21	12.068	21.703
20-Jun-21	12.037	21.757
21-Jun-21	11.984	22.296
22-Jun-21	11.958	23.347
23-Jun-21	11.985	23.923
24-Jun-21	12.017	24.234

Laxton Lake

Date	Level (m)	Temperature (ºC)
25-Jun-21	12.000	24.534
26-Jun-21	11.980	25.181
27-Jun-21	11.939	25.893
28-Jun-21	11.885	26.577
29-Jun-21	11.864	28.101
30-Jun-21	11.897	28.081
01-Jul-21	11.924	26.805
02-Jul-21	11.922	26.199
03-Jul-21	11.903	26.196
04-Jul-21	11.890	26.222
05-Jul-21	11.901	26.167
06-Jul-21	11.879	26.078
07-Jul-21	11.859	25.775
08-Jul-21	11.865	25.051
09-Jul-21	11.874	25.016
10-Jul-21	11.878	25.232
11-Jul-21	11.860	25.274
12-Jul-21	11.827	25.423
13-Jul-21	11.810	25.500
14-Jul-21	11.786	25.358
15-Jul-21	11.784	24.978
16-Jul-21	11.785	24.350
17-Jul-21	11.795	24.044
18-Jul-21	11.810	24.229
19-Jul-21	11.794	24.633
20-Jul-21	11.798	24.667
21-Jul-21	11.788	24.136
22-Jul-21	11.797	23.785
23-Jul-21	11.816	23.963
24-Jul-21	11.782	24.220
25-Jul-21	11.737	24.582
26-Jul-21	11.710	24.826
27-Jul-21	11.718	25.065
28-Jul-21	11.728	25.221
29-Jul-21	11.696	25.357
30-Jul-21	11.665	25.615
31-Jul-21	11.668	25.570
01-Aug-21	11.673	24.886
02-Aug-21	11.684	24.950
03-Aug-21	11.648	25.266
04-Aug-21	11.616	25.502
05-Aug-21	11.583	25.553
06-Aug-21	11.607	25.389
07-Aug-21	11.575	24.369
08-Aug-21	11.608	23.197
09-Aug-21	11.636	22.932
10-Aug-21	11.623	23.150
11-Aug-21	11.591	23.663
12-Aug-21	11.562	24.042
13-Aug-21	11.555	24.147
14-Aug-21	11.569	24.361
15-Aug-21	11.544	24.692
16-Aug-21	11.488	24.190
17-Aug-21	11.508	23.029
18-Aug-21	11.547	23.069

Laxton Lake

Date	Level (m)	Temperature (ºC)
19-Aug-21	11.522	22.979
20-Aug-21	11.481	22.403
21-Aug-21	11.436	21.740
22-Aug-21	11.430	21.189
23-Aug-21	11.478	20.987
24-Aug-21	11.478	21.121
25-Aug-21	11.463	21.472
26-Aug-21	11.483	21.492
27-Aug-21	11.506	20.793
28-Aug-21	11.503	20.485
29-Aug-21	11.445	21.184
30-Aug-21	11.421	20.963
31-Aug-21	11.434	19.654
01-Sep-21	11.452	19.503
02-Sep-21	11.453	19.944
03-Sep-21	11.441	20.152
04-Sep-21	11.415	19.941
05-Sep-21	11.427	19.514
06-Sep-21	11.457	19.751
07-Sep-21	11.426	20.174
08-Sep-21	11.401	20.624
09-Sep-21	11.370	21.102
10-Sep-21	11.389	21.328
11-Sep-21	11.450	20.686
12-Sep-21	11.442	20.219
13-Sep-21	11.466	19.980
14-Sep-21	11.423	19.814
15-Sep-21	11.416	19.088
16-Sep-21	11.452	18.372

APPENDIX J

Mitigation Well Levels and Flows

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
	L/s	m	L/s	m	ML	m
01-May-21 00:00:00	0.00	23.71	0.00	29.45	0.00	15.48
02-May-21 00:00:00	0.00	23.73	0.00	29.44	0.00	15.47
03-May-21 00:00:00	0.00	23.71	0.00	29.44	0.00	15.46
04-May-21 00:00:00	0.00	23.71	0.00	29.43	0.00	15.45
05-May-21 00:00:00	0.00	23.71	0.00	29.43	0.00	15.45
06-May-21 00:00:00	3.73	10.62	12.06	19.29	0.00	11.64
07-May-21 00:00:00	0.00	21.28	0.00	29.39	0.04	15.35
08-May-21 00:00:00	0.00	22.08	0.00	29.40	0.04	15.43
09-May-21 00:00:00	0.00	22.47	0.00	29.40	0.00	15.45
10-May-21 00:00:00	0.00	22.72	0.00	29.42	0.00	15.45
11-May-21 00:00:00	0.00	22.86	0.00	29.40	0.00	15.44
12-May-21 00:00:00	0.00	23.00	0.00	29.40	0.00	15.43
13-May-21 00:00:00	0.00	23.10	0.00	29.38	0.00	15.41
14-May-21 00:00:00	0.00	23.19	0.00	29.37	0.00	15.40
15-May-21 00:00:00	0.00	23.25	0.00	29.37	0.00	15.40
16-May-21 00:00:00	0.00	23.31	0.00	29.35	0.00	15.38
17-May-21 00:00:00	0.00	23.35	0.00	29.33	0.00	15.37
18-May-21 00:00:00	0.00	23.38	0.00	29.32	0.00	15.38
19-May-21 00:00:00	0.00	23.39	0.00	29.29	0.00	15.38
20-May-21 00:00:00	0.00	23.42	0.00	29.30	0.00	15.39
21-May-21 00:00:00	0.00	23.42	0.00	29.29	0.00	15.39
22-May-21 00:00:00	0.00	23.44	0.00	29.28	0.00	15.37
23-May-21 00:00:00	0.00	23.46	0.00	29.28	0.00	15.36
24-May-21 00:00:00	0.00	23.47	0.00	29.27	0.00	15.35
25-May-21 00:00:00	0.00	23.48	0.00	29.26	0.00	15.36
26-May-21 00:00:00	0.00	23.48	0.00	29.25	0.00	15.36
27-May-21 00:00:00	0.00	23.50	0.00	29.24	0.00	15.36
28-May-21 00:00:00	0.00	23.49	0.00	29.23	0.00	15.39
29-May-21 00:00:00	0.00	23.49	0.00	29.21	0.00	15.40
30-May-21 00:00:00	0.00	23.50	0.00	29.21	0.00	15.40
31-May-21 00:00:00	0.00	23.49	0.00	29.18	0.00	15.39
01-Jun-21 00:00:00	0.00	23.48	0.00	29.17	0.00	15.38
02-Jun-21 00:00:00	0.00	23.50	0.00	29.16	0.00	15.38
03-Jun-21 00:00:00	0.00	23.49	0.00	29.12	0.00	15.36
04-Jun-21 00:00:00	0.00	23.47	0.00	29.10	0.00	15.35
05-Jun-21 00:00:00	0.00	23.47	0.00	29.09	0.00	15.35
06-Jun-21 00:00:00	0.00	23.47	0.00	29.08	0.00	15.38
07-Jun-21 00:00:00	0.00	23.47	0.00	29.09	0.00	15.40
08-Jun-21 00:00:00	0.00	23.47	0.00	29.09	0.00	15.40
09-Jun-21 00:00:00	0.00	23.44	0.00	29.07	0.00	15.39

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
10-Jun-21 00:00:00	0.00	23.45	0.00	29.06	0.00	15.38
11-Jun-21 00:00:00	0.00	23.36	0.00	29.02	0.00	15.35
12-Jun-21 00:00:00	0.00	23.40	0.00	29.03	0.00	15.34
13-Jun-21 00:00:00	0.00	23.40	0.00	29.02	0.00	15.33
14-Jun-21 00:00:00	0.00	23.40	0.00	29.02	0.00	15.34
15-Jun-21 00:00:00	0.00	23.40	0.00	29.01	0.00	15.36
16-Jun-21 00:00:00	0.00	23.39	0.00	29.00	0.00	15.35
17-Jun-21 00:00:00	0.00	23.39	0.00	29.00	0.00	15.35
18-Jun-21 00:00:00	0.00	23.40	0.00	28.98	0.00	15.33
19-Jun-21 00:00:00	0.00	23.39	0.00	28.97	0.00	15.32
20-Jun-21 00:00:00	0.00	23.38	0.00	28.96	0.00	15.31
21-Jun-21 00:00:00	0.00	23.39	0.00	28.93	0.00	15.30
22-Jun-21 00:00:00	0.00	23.39	0.00	28.88	0.00	15.29
23-Jun-21 00:00:00	0.00	23.37	0.00	28.84	0.00	15.28
24-Jun-21 00:00:00	0.00	23.34	0.00	28.79	0.00	15.27
25-Jun-21 00:00:00	0.00	23.32	0.00	28.73	0.00	15.26
26-Jun-21 00:00:00	0.00	23.30	0.00	28.69	0.00	15.24
27-Jun-21 00:00:00	0.00	23.27	0.00	28.64	0.00	15.23
28-Jun-21 00:00:00	0.00	23.24	0.00	28.59	0.00	15.22
29-Jun-21 00:00:00	0.00	23.22	0.00	28.54	0.00	15.21
30-Jun-21 00:00:00	0.00	23.19	0.00	28.44	0.00	15.21
01-Jul-21 00:00:00	0.00	23.15	0.00	28.43	0.00	15.20
02-Jul-21 00:00:00	0.00	23.13	0.00	28.41	0.00	15.19
03-Jul-21 00:00:00	0.00	23.09	0.00	28.40	0.00	15.18
04-Jul-21 00:00:00	0.00	23.08	0.00	28.35	0.00	15.17
05-Jul-21 00:00:00	0.00	23.05	0.00	28.31	0.00	15.16
06-Jul-21 00:00:00	0.00	23.03	0.00	28.28	0.00	15.15
07-Jul-21 00:00:00	0.00	23.01	0.00	28.26	0.00	15.15
08-Jul-21 00:00:00	0.00	22.98	0.00	28.23	0.00	15.14
09-Jul-21 00:00:00	0.00	22.87	0.00	28.18	0.00	15.12
10-Jul-21 00:00:00	0.00	22.88	0.00	28.18	0.00	15.12
11-Jul-21 00:00:00	0.00	22.87	0.00	28.12	0.00	15.11
12-Jul-21 00:00:00	0.00	22.87	0.00	28.10	0.00	15.10
13-Jul-21 00:00:00	0.00	22.85	0.00	28.08	0.00	15.10
14-Jul-21 00:00:00	0.00	22.85	0.00	28.06	0.00	15.09
15-Jul-21 00:00:00	0.00	22.84	0.00	28.04	0.00	15.08
16-Jul-21 00:00:00	0.00	22.81	0.00	28.01	0.00	11.34
17-Jul-21 00:00:00	0.00	22.80	0.00	27.99	0.11	11.24
18-Jul-21 00:00:00	0.00	22.79	0.00	28.00	0.10	11.19
19-Jul-21 00:00:00	0.00	22.79	0.00	27.98	0.10	11.17
20-Jul-21 00:00:00	0.00	22.77	0.00	27.95	0.10	11.13

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
21-Jul-21 00:00:00	0.00	22.77	0.00	27.93	0.10	11.12
22-Jul-21 00:00:00	0.00	22.75	0.00	27.88	0.10	11.11
23-Jul-21 00:00:00	0.00	22.75	0.00	27.83	0.10	11.09
24-Jul-21 00:00:00	0.00	22.73	0.00	27.80	0.10	11.09
25-Jul-21 00:00:00	0.00	22.72	0.00	27.77	0.10	11.08
26-Jul-21 00:00:00	0.00	22.70	0.00	27.75	0.10	11.08
27-Jul-21 00:00:00	0.00	22.69	0.00	27.71	0.10	11.07
28-Jul-21 00:00:00	0.00	22.66	0.00	27.68	0.10	11.06
29-Jul-21 00:00:00	0.00	22.64	0.00	27.63	0.10	11.05
30-Jul-21 00:00:00	0.00	22.64	0.00	27.59	0.10	11.03
31-Jul-21 00:00:00	0.00	22.62	0.00	27.56	0.10	11.03
01-Aug-21 00:00:00	0.00	22.59	0.00	27.54	0.10	11.03
02-Aug-21 00:00:00	0.00	22.58	0.00	27.51	0.10	11.01
03-Aug-21 00:00:00	0.00	22.56	0.00	27.49	0.10	11.01
04-Aug-21 00:00:00	0.00	22.55	0.00	27.45	0.10	11.01
05-Aug-21 00:00:00	0.00	22.54	0.00	27.41	0.10	11.00
06-Aug-21 00:00:00	0.00	22.52	0.00	27.39	0.10	10.97
07-Aug-21 00:00:00	0.00	22.49	0.00	27.37	0.10	10.97
08-Aug-21 00:00:00	0.00	22.50	0.00	27.35	0.10	11.01
09-Aug-21 00:00:00	0.00	22.48	0.00	27.35	0.10	11.02
10-Aug-21 00:00:00	0.00	22.46	0.00	27.32	0.10	11.03
11-Aug-21 00:00:00	0.00	22.45	0.00	27.30	0.10	11.01
12-Aug-21 00:00:00	0.00	22.44	0.00	27.27	0.10	10.99
13-Aug-21 00:00:00	0.00	22.37	0.00	27.20	0.10	10.99
14-Aug-21 00:00:00	0.00	22.38	0.00	27.19	0.10	10.99
15-Aug-21 00:00:00	0.00	22.35	0.00	27.18	0.10	10.98
16-Aug-21 00:00:00	0.00	22.36	0.00	27.17	0.10	10.97
17-Aug-21 00:00:00	0.00	22.35	0.00	27.14	0.10	10.97
18-Aug-21 00:00:00	0.00	22.33	0.00	27.13	0.10	10.96
19-Aug-21 00:00:00	0.00	22.33	0.00	27.13	0.10	10.95
20-Aug-21 00:00:00	0.00	22.32	0.00	27.12	0.10	10.94
21-Aug-21 00:00:00	0.00	22.32	0.00	27.10	0.10	10.95
22-Aug-21 00:00:00	0.00	22.32	0.00	27.10	0.10	10.95
23-Aug-21 00:00:00	0.00	22.32	0.00	27.09	0.10	10.94
24-Aug-21 00:00:00	0.00	22.30	0.00	27.09	0.10	10.93
25-Aug-21 00:00:00	0.00	22.29	0.00	27.07	0.10	10.93
26-Aug-21 00:00:00	0.00	22.30	0.00	27.06	0.10	10.93
27-Aug-21 00:00:00	0.00	22.29	0.00	27.04	0.10	10.92
28-Aug-21 00:00:00	0.00	22.29	0.00	27.06	0.10	10.92
29-Aug-21 00:00:00	0.00	22.30	0.00	27.06	0.10	10.92
30-Aug-21 00:00:00	0.00	22.29	0.00	27.06	0.10	10.92

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
31-Aug-21 00:00:00	0.00	22.30	0.00	27.07	0.10	10.92
01-Sep-21 00:00:00	0.00	22.30	0.00	27.08	0.10	10.92
02-Sep-21 00:00:00	0.00	22.30	0.00	27.08	0.10	10.92
03-Sep-21 00:00:00	0.00	22.30	0.00	27.07	0.10	10.92
04-Sep-21 00:00:00	0.00	22.32	0.00	27.08	0.10	10.90
05-Sep-21 00:00:00	0.00	22.32	0.00	27.08	0.10	10.90
06-Sep-21 00:00:00	0.00	22.32	0.00	27.09	0.10	10.90
07-Sep-21 00:00:00	0.00	22.33	0.00	27.09	0.10	10.91
08-Sep-21 00:00:00	0.00	22.34	0.00	27.09	0.10	10.91
09-Sep-21 00:00:00	0.00	22.34	0.00	27.08	0.10	10.89
10-Sep-21 00:00:00	0.00	22.30	0.00	27.04	0.10	10.90
11-Sep-21 00:00:00	0.00	22.30	0.00	27.03	0.10	10.89
12-Sep-21 00:00:00	0.00	22.30	0.00	27.04	0.10	10.89
13-Sep-21 00:00:00	0.00	22.32	0.00	27.04	0.10	10.91
14-Sep-21 00:00:00	0.00	22.31	0.00	27.04	0.10	10.93
15-Sep-21 00:00:00	0.00	22.33	0.00	27.02	0.10	10.94
16-Sep-21 00:00:00	0.00	22.30	0.00	27.00	0.10	10.94
17-Sep-21 00:00:00	0.00	22.24	0.00	26.96	0.10	10.95
18-Sep-21 00:00:00	0.00	22.31	0.00	26.99	0.10	11.05
19-Sep-21 00:00:00	0.00	22.30	0.00	26.99	0.10	11.15
20-Sep-21 00:00:00	0.00	22.27	0.00	26.95	0.10	11.18
21-Sep-21 00:00:00	0.00	22.25	0.00	26.98	0.10	11.20
22-Sep-21 00:00:00	0.00	22.26	0.00	26.98	0.10	11.19
23-Sep-21 00:00:00	0.00	22.24	0.00	26.97	0.10	11.19
24-Sep-21 00:00:00	0.00	22.24	0.00	26.98	0.10	11.17
25-Sep-21 00:00:00	0.00	22.27	0.00	26.99	0.10	11.16
26-Sep-21 00:00:00	0.00	22.27	0.00	26.98	0.10	11.15
27-Sep-21 00:00:00	0.00	22.28	0.00	27.00	0.10	11.18
28-Sep-21 00:00:00	0.00	22.28	0.00	27.00	0.10	11.20
29-Sep-21 00:00:00	0.00	22.27	0.00	27.02	0.10	11.20
30-Sep-21 00:00:00	0.00	22.27	0.00	27.02	0.10	11.21
01-Oct-21 00:00:00	0.00	22.25	0.00	27.01	0.10	11.25
02-Oct-21 00:00:00	0.00	22.25	0.00	27.02	0.10	11.26
03-Oct-21 00:00:00	0.00	22.27	0.00	27.02	0.10	11.26
04-Oct-21 00:00:00	0.00	22.28	0.00	27.01	0.10	11.25
05-Oct-21 00:00:00	0.00	22.29	0.00	27.02	0.10	11.25
06-Oct-21 00:00:00	0.00	22.29	0.00	27.00	0.10	11.26
07-Oct-21 00:00:00	0.00	22.27	0.00	27.02	0.10	11.25
08-Oct-21 00:00:00	0.00	22.19	0.00	27.00	0.04	15.14
09-Oct-21 00:00:00	0.00	22.22	0.00	27.01	0.00	15.26
10-Oct-21 00:00:00	0.00	22.24	0.00	27.04	0.00	15.34

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
11-Oct-21 00:00:00	0.00	22.23	0.00	27.03	0.00	15.39
12-Oct-21 00:00:00	0.00	22.24	0.00	27.03	0.00	15.40
13-Oct-21 00:00:00	0.00	22.27	0.00	27.00	0.00	15.43
14-Oct-21 00:00:00	0.00	22.25	0.00	27.03	0.00	15.45
15-Oct-21 00:00:00	0.00	22.26	0.00	27.05	0.00	15.46
16-Oct-21 00:00:00	0.00	22.29	0.00	27.05	0.00	15.56
17-Oct-21 00:00:00	0.00	22.30	0.00	27.05	0.00	15.63
18-Oct-21 00:00:00	0.00	22.29	0.00	27.01	0.00	15.67
19-Oct-21 00:00:00	0.00	22.29	0.00	27.03	0.00	15.67
20-Oct-21 00:00:00	0.00	22.29	0.00	27.05	0.00	15.66
21-Oct-21 00:00:00	0.00	22.28	0.00	27.05	0.00	15.64
22-Oct-21 00:00:00	0.00	22.29	0.00	27.05	0.00	15.64
23-Oct-21 00:00:00	0.00	22.29	0.00	27.05	0.00	15.70
24-Oct-21 00:00:00	0.00	22.29	0.00	27.06	0.00	15.71
25-Oct-21 00:00:00	0.00	22.32	0.00	27.07	0.00	15.73
26-Oct-21 00:00:00	0.00	22.29	0.00	27.07	0.00	15.73
27-Oct-21 00:00:00	0.00	22.29	0.00	27.05	0.00	15.78
28-Oct-21 00:00:00	0.00	22.25	0.00	27.04	0.00	15.77
29-Oct-21 00:00:00	0.00	22.28	0.00	27.03	0.00	15.90
30-Oct-21 00:00:00	0.00	22.26	0.00	27.02	0.00	15.92
31-Oct-21 00:00:00	0.00	22.26	0.00	27.05	0.00	15.90
01-Nov-21 00:00:00	0.00	22.25	0.00	27.07	0.00	15.86
02-Nov-21 00:00:00	0.00	22.25	0.00	27.08	0.00	15.83
03-Nov-21 00:00:00	0.00	22.25	0.00	27.07	0.00	15.85
04-Nov-21 00:00:00	0.00	22.29	0.00	27.10	0.00	15.91
05-Nov-21 00:00:00	0.00	22.21	0.00	27.06	0.00	15.99
06-Nov-21 00:00:00	0.00	22.23	0.00	27.09	0.00	16.03
07-Nov-21 00:00:00	0.00	22.23	0.00	27.10	0.00	16.04
08-Nov-21 00:00:00	0.00	22.24	0.00	27.12	0.00	16.01
09-Nov-21 00:00:00	0.00	22.27	0.00	27.15	0.00	15.99
10-Nov-21 00:00:00	0.00	22.24	0.00	27.15	0.00	16.01
11-Nov-21 00:00:00	0.00	22.24	0.00	27.18	0.00	16.00
12-Nov-21 00:00:00	0.00	22.28	0.00	27.19	0.00	16.02
13-Nov-21 00:00:00	0.00	22.27	0.00	27.19	0.00	16.07
14-Nov-21 00:00:00	0.00	22.30	0.00	27.23	0.00	16.15
15-Nov-21 00:00:00	0.00	22.35	0.00	27.25	0.00	16.58
16-Nov-21 00:00:00	0.00	22.36	0.00	27.29	0.00	16.82
17-Nov-21 00:00:00	0.00	22.33	0.00	27.34	0.00	16.66
18-Nov-21 00:00:00	0.00	22.34	0.00	27.36	0.00	16.50
19-Nov-21 00:00:00	0.00	22.35	0.00	27.39	0.00	16.41
20-Nov-21 00:00:00	0.00	22.31	0.00	27.39	0.00	16.31

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
21-Nov-21 00:00:00	0.00	22.31	0.00	27.41	0.00	16.23
22-Nov-21 00:00:00	0.00	22.33	0.00	27.43	0.00	16.18
23-Nov-21 00:00:00	0.00	22.35	0.00	27.45	0.00	16.14
24-Nov-21 00:00:00	0.00	22.34	0.00	27.44	0.00	16.10
25-Nov-21 00:00:00	0.00	22.33	0.00	27.45	0.00	16.06
26-Nov-21 00:00:00	0.00	22.36	0.00	27.46	0.00	16.23
27-Nov-21 00:00:00	0.00	22.36	0.00	27.48	0.00	16.26
28-Nov-21 00:00:00	0.00	22.40	0.00	27.54	0.00	16.39
29-Nov-21 00:00:00	0.00	22.43	0.00	27.58	0.00	16.71
30-Nov-21 00:00:00	0.00	22.44	0.00	27.65	0.00	16.65
01-Dec-21 00:00:00	0.00	22.46	0.00	27.71	0.00	16.73
02-Dec-21 00:00:00	0.00	22.48	0.00	27.72	0.00	16.66
03-Dec-21 00:00:00	0.00	22.47	0.00	27.80	0.00	16.51
04-Dec-21 00:00:00	0.00	22.49	0.00	27.86	0.00	16.41
05-Dec-21 00:00:00	0.00	22.50	0.00	27.89	0.00	16.34
06-Dec-21 00:00:00	0.00	22.52	0.00	27.94	0.00	16.28
07-Dec-21 00:00:00	0.00	22.56	0.00	27.97	0.00	16.25
08-Dec-21 00:00:00	0.00	22.62	0.00	28.01	0.00	16.25
09-Dec-21 00:00:00	0.00	22.62	0.00	28.03	0.00	16.21
10-Dec-21 00:00:00	0.00	22.55	0.00	28.02	0.00	16.17
11-Dec-21 00:00:00	0.00	22.63	0.00	28.09	0.00	16.16
12-Dec-21 00:00:00	0.00	22.65	0.00	28.10	0.00	16.17
13-Dec-21 00:00:00	0.00	22.67	0.00	28.13	0.00	16.14
14-Dec-21 00:00:00	0.00	22.69	0.00	28.14	0.00	16.12
15-Dec-21 00:00:00	0.00	22.70	0.00	28.15	0.00	16.08
16-Dec-21 00:00:00	0.00	22.71	0.00	28.16	0.00	16.05
17-Dec-21 00:00:00	0.00	22.71	0.00	28.15	0.00	16.02
18-Dec-21 00:00:00	0.00	22.73	0.00	28.18	0.00	16.00
19-Dec-21 00:00:00	0.00	22.77	0.00	28.20	0.00	16.12
20-Dec-21 00:00:00	0.00	22.78	0.00	28.23	0.00	16.14
21-Dec-21 00:00:00	0.00	22.77	0.00	28.23	0.00	16.10
22-Dec-21 00:00:00	0.00	22.84	0.00	28.28	0.00	16.11
23-Dec-21 00:00:00	0.00	22.87	0.00	28.28	0.00	16.17
24-Dec-21 00:00:00	0.00	22.89	0.00	28.30	0.00	16.17
25-Dec-21 00:00:00	0.00	22.90	0.00	28.33	0.00	16.14
26-Dec-21 00:00:00	0.00	22.91	0.00	28.35	0.00	16.11
27-Dec-21 00:00:00	0.00	22.90	0.00	28.35	0.00	16.07
28-Dec-21 00:00:00	0.00	22.91	0.00	28.38	0.00	16.03
29-Dec-21 00:00:00	0.00	22.92	0.00	28.38	0.00	16.00
30-Dec-21 00:00:00	0.00	22.94	0.00	28.40	0.00	15.98
31-Dec-21 00:00:00	0.00	22.95	0.00	28.40	0.00	15.95

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
01-Jan-22 00:00:00	0.00	22.93	0.00	28.41	0.00	15.92
02-Jan-22 00:00:00	0.00	22.97	0.00	28.45	0.00	15.91
03-Jan-22 00:00:00	0.00	23.01	0.00	28.48	0.00	15.90
04-Jan-22 00:00:00	0.00	23.01	0.00	28.43	0.00	15.90
05-Jan-22 00:00:00	0.00	23.00	0.00	28.42	0.00	15.89
06-Jan-22 00:00:00	0.00	23.02	0.00	28.45	0.00	15.87
07-Jan-22 00:00:00	0.00	23.09	0.00	28.48	0.00	15.87
08-Jan-22 00:00:00	0.00	23.05	0.00	28.47	0.00	15.87
09-Jan-22 00:00:00	0.00	23.03	0.00	28.48	0.00	15.87
10-Jan-22 00:00:00	0.00	23.05	0.00	28.48	0.00	15.87
11-Jan-22 00:00:00	0.00	23.06	0.00	28.48	0.00	15.87
12-Jan-22 00:00:00	0.00	23.08	0.00	28.51	0.00	15.87
13-Jan-22 00:00:00	0.00	23.11	0.00	28.55	0.00	15.87
14-Jan-22 00:00:00	0.00	22.99	0.00	28.54	0.00	15.87
15-Jan-22 00:00:00	0.00	23.04	0.00	28.61	0.00	15.87
16-Jan-22 00:00:00	0.00	23.06	0.00	28.68	0.00	15.87
17-Jan-22 00:00:00	0.00	23.10	0.00	28.72	0.00	15.87
18-Jan-22 00:00:00	0.00	23.13	0.00	28.77	0.00	15.87
19-Jan-22 00:00:00	0.00	23.13	0.00	28.81	0.00	15.87
20-Jan-22 00:00:00	0.00	23.17	0.00	28.86	0.00	15.87
21-Jan-22 00:00:00	0.00	23.18	0.00	28.88	0.00	15.87
22-Jan-22 00:00:00	0.00	23.20	0.00	28.93	0.00	15.87
23-Jan-22 00:00:00	0.00	23.24	0.00	28.97	0.00	15.87
24-Jan-22 00:00:00	0.00	23.28	0.00	29.01	0.00	15.87
25-Jan-22 00:00:00	0.00	23.29	0.00	29.04	0.00	15.87
26-Jan-22 00:00:00	0.00	23.33	0.00	29.08	0.00	15.87
27-Jan-22 00:00:00	0.00	23.35	0.00	29.11	0.00	15.87
28-Jan-22 00:00:00	0.00	23.38	0.00	29.14	0.00	15.87
29-Jan-22 00:00:00	0.00	23.41	0.00	29.17	0.00	15.87
30-Jan-22 00:00:00	0.00	23.44	0.00	29.20	0.00	15.87
31-Jan-22 00:00:00	0.00	23.49	0.00	29.24	0.00	15.87
01-Feb-22 00:00:00	0.00	23.49	0.00	29.26	0.00	15.99
02-Feb-22 00:00:00	0.00	23.50	0.00	29.28	0.00	15.96
03-Feb-22 00:00:00	0.00	23.53	0.00	29.31	0.00	15.94
04-Feb-22 00:00:00	0.00	23.55	0.00	29.34	0.00	15.95
05-Feb-22 00:00:00	0.00	23.57	0.00	29.37	0.00	15.96
06-Feb-22 00:00:00	0.00	23.59	0.00	29.38	0.00	15.94
07-Feb-22 00:00:00	0.00	23.63	0.00	29.43	0.00	15.93
08-Feb-22 00:00:00	0.00	23.63	0.00	29.42	0.00	15.91
09-Feb-22 00:00:00	0.00	23.65	0.00	29.45	0.00	15.90
10-Feb-22 00:00:00	0.00	23.66	0.00	29.48	0.00	15.89

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
11-Feb-22 00:00:00	0.00	23.60	0.00	29.47	0.00	15.87
12-Feb-22 00:00:00	0.00	23.65	0.00	29.52	0.00	15.86
13-Feb-22 00:00:00	0.00	23.69	0.00	29.55	0.00	15.84
14-Feb-22 00:00:00	0.00	23.74	0.00	29.59	0.00	15.83
15-Feb-22 00:00:00	0.00	23.74	0.00	29.59	0.00	15.84
16-Feb-22 00:00:00	0.00	23.75	0.00	29.60	0.00	15.83
17-Feb-22 00:00:00	0.00	23.75	0.00	29.62	0.00	15.81
18-Feb-22 00:00:00	0.00	23.77	0.00	29.62	0.00	15.80
19-Feb-22 00:00:00	0.00	23.79	0.00	29.66	0.00	15.79
20-Feb-22 00:00:00	0.00	23.84	0.00	29.68	0.00	15.82
21-Feb-22 00:00:00	0.00	23.85	0.00	29.70	0.00	15.83
22-Feb-22 00:00:00	0.00	23.85	0.00	29.70	0.00	15.81
23-Feb-22 00:00:00	0.00	23.84	0.00	29.70	0.00	15.78
24-Feb-22 00:00:00	0.00	23.85	0.00	29.73	0.00	15.77
25-Feb-22 00:00:00	0.00	23.87	0.00	29.73	0.00	15.76
26-Feb-22 00:00:00	0.00	23.89	0.00	29.75	0.00	15.75
27-Feb-22 00:00:00	0.00	23.92	0.00	29.77	0.00	15.75
28-Feb-22 00:00:00	0.00	23.94	0.00	29.79	0.00	15.80
01-Mar-22 00:00:00	0.00	23.96	0.00	29.80	0.00	15.95
02-Mar-22 00:00:00	0.00	23.95	0.00	29.81	0.00	15.97
03-Mar-22 00:00:00	0.00	23.97	0.00	29.84	0.00	16.00
04-Mar-22 00:00:00	0.00	23.97	0.00	29.85	0.00	16.01
05-Mar-22 00:00:00	0.00	23.99	0.00	29.85	0.00	15.98
06-Mar-22 00:00:00	0.00	23.97	0.00	29.86	0.00	15.95
07-Mar-22 00:00:00	0.00	23.97	0.00	29.87	0.00	15.92
08-Mar-22 00:00:00	0.00	23.99	0.00	29.89	0.00	15.90
09-Mar-22 00:00:00	0.00	24.00	0.00	29.89	0.00	15.88
10-Mar-22 00:00:00	0.00	24.00	0.00	29.89	0.00	15.86
11-Mar-22 00:00:00	0.00	23.96	0.00	29.88	0.00	15.83
12-Mar-22 00:00:00	0.00	23.99	0.00	29.94	0.00	15.83
13-Mar-22 00:00:00	0.00	24.04	0.00	29.96	0.00	15.85
14-Mar-22 00:00:00	0.00	24.01	0.00	29.95	0.00	15.84
15-Mar-22 00:00:00	0.00	24.05	0.00	30.00	0.00	15.93
16-Mar-22 00:00:00	0.00	24.04	0.00	29.98	0.00	16.00
17-Mar-22 00:00:00	0.00	24.04	0.00	30.01	0.00	15.99
18-Mar-22 00:00:00	0.00	24.07	0.00	30.04	0.00	16.02
19-Mar-22 00:00:00	0.00	24.10	0.00	30.05	0.00	16.03
20-Mar-22 00:00:00	0.00	24.10	0.00	30.06	0.00	16.06
21-Mar-22 00:00:00	0.00	24.09	0.00	30.06	0.00	16.05
22-Mar-22 00:00:00	0.00	24.10	0.00	30.08	0.00	16.07
23-Mar-22 00:00:00	0.00	24.12	0.00	30.12	0.00	16.06

Date	Allen Park Well Flow	Allen Park Well Level	Garibaldi Park Well Flow	Garibaldi Park Well Level	Fishtrap Creek Mitigation Well Flow Previous day's Total	Fishtrap Mitigation Well Level
24-Mar-22 00:00:00	0.00	24.12	0.00	30.12	0.00	16.05
25-Mar-22 00:00:00	0.00	24.15	0.00	30.15	0.00	16.03
26-Mar-22 00:00:00	0.00	24.15	0.00	30.16	0.00	16.00
27-Mar-22 00:00:00	0.00	24.17	0.00	30.18	0.00	15.99
28-Mar-22 00:00:00	0.00	24.20	0.00	30.19	0.00	15.96
29-Mar-22 00:00:00	0.00	24.18	0.00	30.19	0.00	15.94
30-Mar-22 00:00:00	0.00	24.18	0.00	30.19	0.00	15.92
31-Mar-22 00:00:00	0.00	24.18	0.00	30.20	0.00	15.91
01-Apr-22 00:00:00	0.00	24.21	0.00	30.22	0.00	15.91
02-Apr-22 00:00:00	0.00	24.22	0.00	30.24	0.00	15.89
03-Apr-22 00:00:00	0.00	24.22	0.00	30.24	0.00	15.87
04-Apr-22 00:00:00	0.00	24.28	0.00	30.29	0.00	15.90
05-Apr-22 00:00:00	0.00	24.26	0.00	30.26	0.00	15.90
06-Apr-22 00:00:00	0.00	24.22	0.00	30.24	0.00	15.86
07-Apr-22 00:00:00	0.00	24.24	0.00	30.27	0.00	15.85
08-Apr-22 00:00:00	0.00	24.23	0.00	30.27	0.00	15.84
09-Apr-22 00:00:00	0.00	24.23	0.00	30.29	0.00	15.83
10-Apr-22 00:00:00	0.00	24.25	0.00	30.31	0.00	15.83
11-Apr-22 00:00:00	0.00	24.28	0.00	30.31	0.00	15.82
12-Apr-22 00:00:00	0.00	24.27	0.00	30.24	0.00	15.80
13-Apr-22 00:00:00	0.00	24.26	0.00	30.20	0.00	15.78
14-Apr-22 00:00:00	0.00	24.26	0.00	30.20	0.00	15.77
15-Apr-22 00:00:00	0.00	24.25	0.00	30.22	0.00	15.75
16-Apr-22 00:00:00	0.00	24.23	0.00	30.18	0.00	15.74
17-Apr-22 00:00:00	0.00	24.23	0.00	30.16	0.00	15.72
18-Apr-22 00:00:00	0.00	24.23	0.00	30.17	0.00	15.71
19-Apr-22 00:00:00	0.00	24.24	0.00	30.17	0.00	15.75
20-Apr-22 00:00:00	0.00	24.22	0.00	30.15	0.00	15.76
21-Apr-22 00:00:00	0.00	24.22	0.00	30.15	0.00	15.75
22-Apr-22 00:00:00	0.00	24.20	0.00	30.15	0.00	15.74
23-Apr-22 00:00:00	0.00	24.17	0.00	30.16	0.00	15.72
24-Apr-22 00:00:00	0.00	24.18	0.00	30.16	0.00	15.71
25-Apr-22 00:00:00	0.00	24.21	0.00	30.20	0.00	15.71
26-Apr-22 00:00:00	0.00	24.21	0.00	30.18	0.00	15.72
27-Apr-22 00:00:00	0.00	24.21	0.00	30.18	0.00	15.70
28-Apr-22 00:00:00	0.00	24.22	0.00	30.19	0.00	15.69
29-Apr-22 00:00:00	0.00	24.22	0.00	30.17	0.00	15.68
30-Apr-22 00:00:00	0.00	24.21	0.00	30.20	0.00	15.68

APPENDIX K

Well Depth Data (Monitoring Wells)

TW06-1		DND		Bible College		Heritage	
Date	DTW (m)	Date	DTW (m)	Date	DTW (m)	Date	DTW (m)
24-Jun-21	20.913	24-Jun-21	7.605	24-Jun-21	4.582	24-Jun-21	14.702
16-Sep-21	20.911	16-Sep-21	9.211	16-Sep-21	dry	16-Sep-21	16.63
08-Dec-21	19.596	08-Dec-21	5.698	08-Dec-21	3.055	08-Dec-21	14.955
28-Apr-22	16.175	28-Apr-22	5.795	28-Apr-22	3.424	28-Apr-22	12.502
21-Sep-22	22.406	21-Sep-22	8.413	21-Sep-22	4.956	21-Sep-22	15.609

H02 MW		H03 MW		Exhibition Park	
Date	DTW (m)	Date	DTW (m)	Date	DTW (m)
24-Jun-21	1.516	24-Jun-21	2.945	24-Jun-21	11.815
16-Sep-21	1.785	16-Sep-21	3.038	16-Sep-21	12.875
08-Dec-21	0.771	08-Dec-21	2.932	08-Dec-21	12.023
28-Apr-22	1.073	28-Apr-22	2.906	28-Apr-22	10.546
21-Sep-22	1.828	21-Sep-22	2.991	21-Sep-22	11.883

APPENDIX L

Bevan Well Extraction Data

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
01-May-21 00:00:00	0.00	10.50	0.00	8.71	0.00	14.02	0.00	13.20
02-May-21 00:00:00	0.00	10.26	0.00	8.49	0.00	13.77	0.00	12.99
03-May-21 00:00:00	0.00	10.20	0.00	8.44	0.00	13.73	0.00	12.94
04-May-21 00:00:00	0.00	10.14	0.00	8.36	0.00	13.64	0.00	12.85
05-May-21 00:00:00	0.00	10.18	0.00	8.40	0.00	13.56	0.00	12.89
06-May-21 00:00:00	0.00	10.14	0.00	8.37	0.00	13.50	0.00	12.85
07-May-21 00:00:00	0.05	10.40	0.06	8.62	0.07	1.91	0.07	13.10
08-May-21 00:00:00	0.00	10.16	0.00	8.40	0.00	3.18	0.00	12.89
09-May-21 00:00:00	0.00	10.29	0.00	8.51	0.00	5.84	0.00	13.00
10-May-21 00:00:00	0.00	10.10	0.00	8.32	0.00	5.90	0.00	12.82
11-May-21 00:00:00	0.00	10.03	0.00	8.27	0.00	6.08	0.00	12.76
12-May-21 00:00:00	0.00	10.10	0.00	8.33	0.00	6.27	0.00	12.84
13-May-21 00:00:00	0.00	10.06	0.00	8.29	0.00	6.27	0.00	12.78
14-May-21 00:00:00	0.00	9.96	0.00	8.18	0.00	6.13	0.00	12.67
15-May-21 00:00:00	0.00	9.88	0.00	8.11	0.00	6.33	0.00	12.61
16-May-21 00:00:00	0.00	7.29	0.00	2.27	0.00	2.01	0.00	2.08
17-May-21 00:00:00	0.00	2.00	0.40	6.82	0.25	5.97	2.64	11.80
18-May-21 00:00:00	0.94	9.77	0.00	8.02	0.00	6.99	0.00	12.57
19-May-21 00:00:00	0.94	9.80	0.00	8.05	0.00	6.99	0.00	12.59
20-May-21 00:00:00	0.00	9.87	0.00	8.10	0.00	6.83	0.00	12.63
21-May-21 00:00:00	0.00	9.89	0.00	8.11	0.00	6.66	0.00	12.62
22-May-21 00:00:00	0.00	9.80	0.00	8.03	0.00	6.42	0.00	12.54
23-May-21 00:00:00	0.00	9.74	0.00	7.98	0.00	6.22	0.00	12.50
24-May-21 00:00:00	0.00	10.12	0.00	8.35	0.00	6.74	0.00	12.87
25-May-21 00:00:00	0.00	9.80	0.00	8.06	0.00	6.17	0.00	12.58
26-May-21 00:00:00	0.09	9.84	0.10	8.08	0.00	13.40	0.00	12.59
27-May-21 00:00:00	0.00	9.44	0.00	7.70	0.04	4.09	3.20	12.20
28-May-21 00:00:00	0.29	9.71	0.40	7.93	0.04	13.25	0.00	12.44
29-May-21 00:00:00	0.00	9.64	0.00	7.89	0.40	13.20	0.32	12.39
30-May-21 00:00:00	1.22	2.00	0.00	6.67	0.00	3.35	0.00	11.61
31-May-21 00:00:00	0.52	7.98	1.72	2.05	0.00	11.74	0.00	11.18
01-Jun-21 00:00:00	0.00	8.50	0.60	7.05	0.00	11.76	0.00	2.50
02-Jun-21 00:00:00	2.13	1.99	2.00	2.03	0.00	10.01	2.32	1.96
03-Jun-21 00:00:00	2.13	2.00	2.00	2.02	0.00	10.94	2.32	10.51
04-Jun-21 00:00:00	0.53	9.21	0.84	7.47	0.00	12.82	0.00	12.03
05-Jun-21 00:00:00	0.53	9.30	0.84	7.55	0.02	12.88	0.00	12.09
06-Jun-21 00:00:00	0.00	9.72	0.00	7.96	0.00	13.32	0.00	12.53
07-Jun-21 00:00:00	0.00	9.67	0.00	7.91	0.00	13.26	0.00	12.45
08-Jun-21 00:00:00	0.00	9.44	0.00	7.68	0.00	13.00	0.00	12.20

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
09-Jun-21 00:00:00	0.00	9.41	0.00	7.65	0.00	12.98	0.00	12.18
10-Jun-21 00:00:00	0.00	9.37	0.00	7.62	0.00	12.94	0.00	12.13
11-Jun-21 00:00:00	0.00	9.32	0.00	7.57	0.00	12.89	0.00	12.08
12-Jun-21 00:00:00	0.00	9.69	0.00	7.91	0.00	13.27	0.00	12.44
13-Jun-21 00:00:00	0.00	9.34	0.00	7.58	0.00	12.91	0.00	12.10
14-Jun-21 00:00:00	0.00	9.65	0.00	7.88	0.00	13.23	0.00	12.41
15-Jun-21 00:00:00	0.00	9.53	0.00	7.76	0.00	13.11	0.00	12.30
16-Jun-21 00:00:00	0.00	9.35	0.00	7.60	0.00	12.93	0.00	12.11
17-Jun-21 00:00:00	0.09	9.29	0.11	7.53	0.00	12.87	0.00	12.05
18-Jun-21 00:00:00	0.00	9.25	0.00	7.48	0.00	12.83	0.00	12.01
19-Jun-21 00:00:00	0.00	9.14	0.00	7.39	0.00	12.72	0.00	11.90
20-Jun-21 00:00:00	0.00	9.15	0.00	7.40	0.00	12.73	0.00	11.91
21-Jun-21 00:00:00	0.00	2.00	0.00	2.00	0.00	5.25	0.00	2.00
22-Jun-21 00:00:00	1.76	2.01	2.03	2.01	2.69	5.24	3.33	2.04
23-Jun-21 00:00:00	1.76	2.00	2.03	1.98	2.69	5.19	3.33	2.00
24-Jun-21 00:00:00	2.99	1.99	2.29	1.99	1.27	4.88	4.68	2.04
25-Jun-21 00:00:00	2.99	2.00	2.29	2.05	1.27	9.40	4.68	1.97
26-Jun-21 00:00:00	2.72	1.99	2.57	1.93	1.48	4.78	4.43	1.98
27-Jun-21 00:00:00	2.64	2.00	3.10	2.04	5.13	4.68	4.40	2.02
28-Jun-21 00:00:00	3.55	2.02	4.02	2.00	4.79	4.59	6.06	1.99
29-Jun-21 00:00:00	3.46	2.02	3.83	1.99	4.86	4.44	5.99	2.00
30-Jun-21 00:00:00	3.46	1.99	3.83	1.96	4.86	4.39	5.99	2.00
01-Jul-21 00:00:00	3.39	1.99	3.69	1.97	4.83	4.59	5.93	2.02
02-Jul-21 00:00:00	3.94	2.01	4.78	2.02	1.14	9.42	6.49	2.00
03-Jul-21 00:00:00	3.94	2.00	4.78	1.96	1.14	4.43	6.49	1.98
04-Jul-21 00:00:00	3.46	1.99	3.78	2.03	4.89	4.35	5.97	1.98
05-Jul-21 00:00:00	3.46	2.00	3.78	1.96	4.89	4.24	5.97	2.09
06-Jul-21 00:00:00	2.18	2.00	3.20	2.06	3.94	4.23	4.21	2.00
07-Jul-21 00:00:00	1.62	1.99	2.36	2.03	2.91	4.22	2.86	1.99
08-Jul-21 00:00:00	2.99	5.91	1.37	4.27	3.40	4.86	4.31	2.01
09-Jul-21 00:00:00	3.12	2.01	0.21	3.70	3.69	4.71	1.04	1.99
10-Jul-21 00:00:00	2.93	2.01	1.55	2.05	3.49	4.32	2.22	2.04
11-Jul-21 00:00:00	2.66	1.99	0.28	3.61	2.65	4.53	6.32	1.97
12-Jul-21 00:00:00	3.06	2.00	0.00	3.50	3.75	4.49	6.21	2.03
13-Jul-21 00:00:00	2.34	2.01	1.38	1.96	5.00	4.35	5.90	1.98
14-Jul-21 00:00:00	2.62	5.05	2.83	2.02	2.90	4.56	1.88	2.01
15-Jul-21 00:00:00	2.54	5.46	3.01	3.77	2.80	4.68	1.77	2.02
16-Jul-21 00:00:00	2.83	1.99	2.63	3.39	1.67	4.53	1.85	1.99
17-Jul-21 00:00:00	2.83	7.27	2.63	5.54	1.67	10.98	1.85	10.13

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
18-Jul-21 00:00:00	2.97	6.21	2.67	2.00	0.00	10.06	0.00	9.40
19-Jul-21 00:00:00	1.29	2.00	1.05	2.00	2.66	4.81	3.45	8.40
20-Jul-21 00:00:00	2.37	2.00	1.10	1.99	1.46	4.80	3.75	8.40
21-Jul-21 00:00:00	2.37	2.01	1.10	1.99	1.46	4.14	3.75	2.03
22-Jul-21 00:00:00	3.10	2.00	3.01	2.04	4.97	3.89	5.19	2.04
23-Jul-21 00:00:00	2.97	2.01	2.72	2.00	4.96	4.00	5.51	1.99
24-Jul-21 00:00:00	2.97	2.01	2.72	2.00	4.96	4.14	5.51	2.00
25-Jul-21 00:00:00	2.30	2.01	1.60	2.00	5.04	4.19	5.75	2.05
26-Jul-21 00:00:00	2.30	2.00	1.60	2.00	5.04	4.13	5.75	2.02
27-Jul-21 00:00:00	2.95	1.99	2.65	1.98	4.86	4.05	4.16	1.98
28-Jul-21 00:00:00	2.32	2.00	2.60	1.99	4.82	4.10	5.45	1.99
29-Jul-21 00:00:00	2.32	2.00	2.60	1.98	4.82	3.87	5.45	1.99
30-Jul-21 00:00:00	2.74	2.00	2.09	1.98	4.87	3.83	5.28	1.97
31-Jul-21 00:00:00	2.74	2.00	2.09	1.97	4.87	3.81	5.28	2.01
01-Aug-21 00:00:00	2.75	1.99	2.17	1.99	4.69	4.23	4.99	7.80
02-Aug-21 00:00:00	2.75	2.00	2.17	2.03	4.69	3.93	4.99	1.99
03-Aug-21 00:00:00	2.91	2.00	2.48	2.03	4.95	3.85	3.62	2.03
04-Aug-21 00:00:00	2.75	2.00	1.75	1.99	4.86	3.86	5.29	2.01
05-Aug-21 00:00:00	2.70	2.00	1.95	1.97	4.91	3.65	4.43	1.99
06-Aug-21 00:00:00	2.57	2.01	1.79	1.98	4.86	3.81	5.16	1.97
07-Aug-21 00:00:00	2.81	1.99	1.33	2.00	4.89	3.85	5.32	1.98
08-Aug-21 00:00:00	3.01	2.00	2.67	2.00	3.12	4.38	3.74	7.96
09-Aug-21 00:00:00	2.04	2.00	2.15	2.97	5.01	4.13	2.97	2.01
10-Aug-21 00:00:00	3.02	2.00	1.28	1.97	4.11	3.93	5.47	2.00
11-Aug-21 00:00:00	3.02	1.99	1.28	1.98	4.11	3.82	5.47	2.02
12-Aug-21 00:00:00	2.63	2.00	1.77	2.01	4.84	3.65	5.18	2.01
13-Aug-21 00:00:00	2.54	2.01	1.52	1.99	4.84	3.66	5.08	1.99
14-Aug-21 00:00:00	2.52	2.00	1.51	1.98	4.77	3.75	5.07	2.00
15-Aug-21 00:00:00	2.64	1.99	1.20	2.02	4.82	3.75	5.16	2.01
16-Aug-21 00:00:00	2.64	2.00	1.20	1.99	4.82	3.78	5.16	1.99
17-Aug-21 00:00:00	2.91	2.00	1.80	1.99	4.90	3.92	3.30	2.00
18-Aug-21 00:00:00	1.79	2.00	1.66	2.03	0.79	8.30	5.92	2.05
19-Aug-21 00:00:00	1.79	1.99	1.66	2.03	0.79	3.85	5.92	2.01
20-Aug-21 00:00:00	2.07	2.00	1.90	1.97	1.31	3.83	5.69	1.99
21-Aug-21 00:00:00	0.24	5.14	3.04	3.47	4.99	4.44	3.08	2.00
22-Aug-21 00:00:00	2.16	5.14	1.98	2.27	3.08	4.60	1.21	8.19
23-Aug-21 00:00:00	2.16	2.00	1.98	3.73	3.08	8.93	1.21	2.00
24-Aug-21 00:00:00	3.68	2.01	1.72	2.02	2.47	4.35	1.09	7.77
25-Aug-21 00:00:00	3.68	2.00	1.72	1.96	2.47	3.95	1.09	2.03

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
26-Aug-21 00:00:00	3.12	2.00	2.88	1.97	3.33	3.74	2.61	1.97
27-Aug-21 00:00:00	3.12	5.16	2.88	2.43	3.33	4.57	2.61	8.21
28-Aug-21 00:00:00	1.52	6.72	0.29	5.27	0.42	10.45	0.48	9.57
29-Aug-21 00:00:00	1.00	6.71	1.33	5.30	1.73	10.44	0.00	9.58
30-Aug-21 00:00:00	1.46	5.61	0.02	2.94	0.00	9.38	2.33	8.62
31-Aug-21 00:00:00	1.46	6.71	0.02	5.40	0.00	10.40	2.33	9.53
01-Sep-21 00:00:00	0.00	7.14	0.00	5.87	0.00	10.85	0.00	9.95
02-Sep-21 00:00:00	0.00	6.01	0.00	4.78	0.00	9.72	0.00	8.85
03-Sep-21 00:00:00	1.59	5.85	0.12	3.41	0.00	9.63	2.54	8.84
04-Sep-21 00:00:00	1.59	6.91	0.12	5.81	0.00	10.62	2.54	9.74
05-Sep-21 00:00:00	0.00	7.15	0.00	6.14	0.00	10.86	0.00	9.98
06-Sep-21 00:00:00	0.00	7.22	0.00	6.26	0.00	10.90	0.00	10.01
07-Sep-21 00:00:00	0.00	6.65	1.18	5.77	1.73	10.32	0.00	9.43
08-Sep-21 00:00:00	0.00	6.03	0.00	5.28	0.00	9.45	1.46	2.02
09-Sep-21 00:00:00	0.88	2.00	0.00	5.38	0.00	9.84	0.72	9.08
10-Sep-21 00:00:00	0.88	2.00	0.00	3.66	0.00	9.19	0.72	8.52
11-Sep-21 00:00:00	0.67	6.66	0.85	6.44	0.00	10.37	0.00	9.49
12-Sep-21 00:00:00	0.00	6.72	0.00	6.70	0.00	10.42	0.00	9.54
13-Sep-21 00:00:00	0.00	6.85	0.00	6.98	0.00	10.55	0.00	9.67
14-Sep-21 00:00:00	0.00	5.21	0.00	5.61	2.60	4.42	1.49	2.01
15-Sep-21 00:00:00	1.90	2.00	1.46	4.85	0.67	9.17	0.98	8.52
16-Sep-21 00:00:00	0.53	5.26	3.65	5.27	2.61	4.74	0.00	8.23
17-Sep-21 00:00:00	0.10	4.64	2.29	5.65	3.45	4.08	1.88	2.01
18-Sep-21 00:00:00	0.33	2.00	0.09	7.57	0.75	4.27	0.98	2.02
19-Sep-21 00:00:00	3.29	2.01	1.84	5.88	3.50	4.24	4.11	2.01
20-Sep-21 00:00:00	3.29	5.71	1.84	9.42	3.50	9.43	4.11	3.88
21-Sep-21 00:00:00	2.27	2.00	2.95	8.65	4.59	9.44	5.25	8.69
22-Sep-21 00:00:00	1.02	2.00	1.18	7.13	1.73	4.76	1.61	2.01
23-Sep-21 00:00:00	0.31	5.95	0.47	9.72	1.21	6.11	0.41	8.73
24-Sep-21 00:00:00	0.31	2.00	0.47	11.45	1.21	10.56	0.41	9.18
25-Sep-21 00:00:00	0.62	5.98	1.22	11.05	0.00	10.37	0.00	9.01
26-Sep-21 00:00:00	0.00	6.53	0.36	28.40	2.02	18.38	0.00	9.35
27-Sep-21 00:00:00	0.00	7.11	0.00	28.23	0.00	16.77	0.00	9.91
28-Sep-21 00:00:00	0.00	6.92	0.00	27.38	0.00	16.25	0.00	9.72
29-Sep-21 00:00:00	0.00	6.82	0.00	28.28	0.00	16.43	0.10	9.63
30-Sep-21 00:00:00	0.00	6.80	0.00	28.62	0.17	16.11	0.00	9.63
01-Oct-21 00:00:00	0.00	6.73	0.00	28.44	0.00	16.10	0.00	9.54
02-Oct-21 00:00:00	0.00	6.71	0.00	28.33	0.00	16.11	0.00	9.53
03-Oct-21 00:00:00	0.00	6.73	0.00	28.30	0.00	16.08	0.00	9.56

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
04-Oct-21 00:00:00	0.00	6.73	0.00	28.12	0.00	16.07	0.00	9.53
05-Oct-21 00:00:00	0.00	6.77	0.00	28.31	0.00	16.18	0.08	9.59
06-Oct-21 00:00:00	0.00	7.06	0.00	28.47	0.00	16.42	0.00	9.87
07-Oct-21 00:00:00	0.00	6.90	0.00	28.24	0.00	16.25	0.00	9.72
08-Oct-21 00:00:00	0.03	6.92	0.03	25.43	0.02	17.44	0.06	9.72
09-Oct-21 00:00:00	0.00	7.23	0.00	25.86	0.00	17.34	0.00	10.02
10-Oct-21 00:00:00	0.00	7.26	0.00	25.77	0.00	17.24	0.00	10.07
11-Oct-21 00:00:00	0.00	7.02	0.00	25.60	0.00	16.93	0.00	9.83
12-Oct-21 00:00:00	0.00	7.04	0.00	25.49	0.00	16.87	0.00	9.86
13-Oct-21 00:00:00	0.00	7.23	0.00	25.55	0.00	16.94	0.00	10.01
14-Oct-21 00:00:00	0.00	7.18	0.00	25.53	0.00	16.81	0.00	9.95
15-Oct-21 00:00:00	0.00	7.34	0.00	25.52	0.00	16.91	0.00	10.12
16-Oct-21 00:00:00	0.00	6.92	0.00	25.08	0.00	16.50	0.00	9.72
17-Oct-21 00:00:00	0.00	5.46	1.06	23.79	0.00	14.91	1.85	1.98
18-Oct-21 00:00:00	0.00	6.81	1.82	26.07	0.00	16.01	3.23	9.65
19-Oct-21 00:00:00	0.00	7.19	0.00	26.11	0.00	16.26	0.00	10.01
20-Oct-21 00:00:00	0.00	7.27	0.00	25.92	0.00	16.25	0.00	10.07
21-Oct-21 00:00:00	0.00	7.02	0.00	25.45	0.00	15.93	0.00	9.81
22-Oct-21 00:00:00	0.00	7.00	0.00	25.21	0.00	15.83	0.00	9.79
23-Oct-21 00:00:00	0.00	6.92	0.00	24.87	0.00	15.64	0.00	9.70
24-Oct-21 00:00:00	0.00	7.29	0.00	24.97	0.00	15.90	0.00	10.10
25-Oct-21 00:00:00	0.00	7.07	0.00	24.55	0.00	15.61	0.00	9.89
26-Oct-21 00:00:00	0.00	6.88	0.00	24.13	0.00	15.35	0.00	9.68
27-Oct-21 00:00:00	0.00	6.80	0.00	23.75	0.00	15.16	0.00	9.62
28-Oct-21 00:00:00	0.00	5.39	1.64	19.13	0.00	13.80	2.92	1.99
29-Oct-21 00:00:00	0.00	5.23	3.46	20.53	0.00	13.16	5.28	2.01
30-Oct-21 00:00:00	0.00	7.00	1.17	21.80	0.00	14.83	2.07	9.86
31-Oct-21 00:00:00	0.00	7.16	0.00	21.44	0.00	14.82	0.00	9.98
01-Nov-21 00:00:00	0.00	7.00	0.00	21.03	0.00	14.58	0.00	9.83
02-Nov-21 00:00:00	2.95	2.00	0.00	19.98	0.00	14.36	0.00	9.19
03-Nov-21 00:00:00	4.75	2.00	0.00	19.81	0.00	14.35	0.00	9.43
04-Nov-21 00:00:00	4.79	2.00	0.00	19.60	0.00	14.17	0.00	9.39
05-Nov-21 00:00:00	2.41	7.25	0.12	20.36	0.00	14.83	0.03	10.07
06-Nov-21 00:00:00	0.00	7.09	0.00	20.72	0.00	14.45	0.00	9.91
07-Nov-21 00:00:00	0.00	7.43	0.00	20.73	0.00	14.74	0.00	10.23
08-Nov-21 00:00:00	0.00	7.34	0.00	20.13	0.00	14.50	0.00	10.14
09-Nov-21 00:00:00	0.00	7.17	0.00	19.90	0.00	14.36	0.00	9.97
10-Nov-21 00:00:00	0.00	7.17	0.00	19.70	0.00	14.27	0.00	9.97
11-Nov-21 00:00:00	0.00	7.12	0.00	19.48	0.00	14.16	0.00	9.94

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
12-Nov-21 00:00:00	0.00	7.09	0.00	19.68	0.00	14.09	0.00	9.89
13-Nov-21 00:00:00	0.00	7.11	0.00	19.90	0.00	14.16	0.00	9.91
14-Nov-21 00:00:00	0.00	7.04	0.00	20.10	0.00	14.22	0.00	9.88
15-Nov-21 00:00:00	0.00	5.69	0.68	18.35	0.00	13.26	1.25	1.99
16-Nov-21 00:00:00	1.75	2.00	3.37	18.05	0.00	12.42	6.13	1.99
17-Nov-21 00:00:00	1.10	2.01	1.63	17.42	0.00	12.42	2.55	2.00
18-Nov-21 00:00:00	3.90	1.99	2.32	17.25	0.00	12.29	3.57	2.02
19-Nov-21 00:00:00	1.88	2.00	0.59	17.36	0.00	12.73	2.96	2.03
20-Nov-21 00:00:00	0.79	4.88	1.17	15.64	1.78	8.11	2.11	1.99
21-Nov-21 00:00:00	1.48	2.00	0.30	17.72	0.65	11.86	2.80	2.01
22-Nov-21 00:00:00	0.56	5.56	1.18	16.62	1.80	8.45	0.62	8.64
23-Nov-21 00:00:00	1.76	1.99	0.34	17.11	0.73	11.38	2.68	1.99
24-Nov-21 00:00:00	2.92	5.56	0.66	15.46	1.02	7.80	1.30	8.62
25-Nov-21 00:00:00	2.92	5.49	0.66	15.57	1.02	8.11	1.30	8.56
26-Nov-21 00:00:00	0.00	7.04	3.51	17.86	5.16	13.17	0.00	9.98
27-Nov-21 00:00:00	0.69	7.04	0.56	17.86	2.21	13.17	1.69	9.98
28-Nov-21 00:00:00	1.88	7.04	1.08	17.86	1.82	13.17	1.10	9.98
29-Nov-21 00:00:00	0.32	7.04	0.40	17.86	1.17	13.17	0.72	9.98
30-Nov-21 00:00:00	1.35	7.04	1.09	17.86	0.13	13.17	0.16	9.98
01-Dec-21 00:00:00	1.53	7.04	1.23	17.86	0.00	13.17	0.00	9.98
02-Dec-21 00:00:00	4.42	7.04	3.54	17.86	0.00	13.17	0.00	9.98
03-Dec-21 00:00:00	0.26	7.04	0.20	17.86	0.00	13.17	0.00	9.98
04-Dec-21 00:00:00	0.00	7.04	0.81	17.86	1.23	13.17	0.87	9.98
05-Dec-21 00:00:00	0.00	7.04	0.54	17.86	0.98	13.17	1.25	9.98
06-Dec-21 00:00:00	0.00	7.04	0.00	17.86	0.00	13.17	0.00	9.98
07-Dec-21 00:00:00	1.41	7.04	0.00	17.86	0.00	13.17	2.04	9.98
08-Dec-21 00:00:00	1.82	7.04	0.74	17.86	0.00	13.17	1.22	9.98
09-Dec-21 00:00:00	1.09	7.04	0.80	17.86	0.00	13.17	0.00	9.98
10-Dec-21 00:00:00	0.00	7.04	1.00	17.86	1.54	13.17	0.68	9.98
11-Dec-21 00:00:00	0.11	7.04	0.65	17.86	1.11	13.17	1.41	9.98
12-Dec-21 00:00:00	0.00	7.04	1.37	17.86	2.16	13.17	0.00	9.98
13-Dec-21 00:00:00	2.53	2.01	1.38	17.48	2.35	9.28	1.02	9.26
14-Dec-21 00:00:00	0.46	6.67	0.45	18.37	1.03	9.21	0.51	2.00
15-Dec-21 00:00:00	1.98	2.00	0.00	19.35	0.69	11.94	3.81	2.00
16-Dec-21 00:00:00	1.98	2.00	0.00	18.43	0.69	12.36	3.81	10.06
17-Dec-21 00:00:00	0.81	6.55	0.59	17.00	1.29	9.94	1.69	2.05
18-Dec-21 00:00:00	1.39	2.00	0.00	17.32	0.91	12.60	3.25	2.04
19-Dec-21 00:00:00	1.51	2.00	0.64	16.81	0.00	12.91	0.88	10.15
20-Dec-21 00:00:00	1.00	6.68	1.59	16.51	1.39	7.97	0.00	9.73

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
21-Dec-21 00:00:00	1.00	6.70	1.59	16.03	1.39	10.78	0.00	1.99
22-Dec-21 00:00:00	0.00	8.32	0.00	18.97	0.88	14.25	1.23	11.24
23-Dec-21 00:00:00	0.00	1.99	0.00	17.46	0.88	12.56	1.23	1.99
24-Dec-21 00:00:00	1.95	2.01	1.01	16.69	0.00	12.80	0.76	10.16
25-Dec-21 00:00:00	1.95	8.40	1.01	18.66	0.00	14.17	0.76	11.33
26-Dec-21 00:00:00	0.83	8.45	0.58	18.58	0.00	14.13	0.00	11.36
27-Dec-21 00:00:00	0.13	2.01	0.76	16.44	0.00	12.98	0.18	2.00
28-Dec-21 00:00:00	2.08	2.00	1.25	16.12	0.00	13.34	0.40	10.26
29-Dec-21 00:00:00	2.08	6.87	1.25	16.57	0.00	7.68	0.40	9.94
30-Dec-21 00:00:00	1.06	7.53	1.77	16.62	1.63	10.14	0.00	10.41
31-Dec-21 00:00:00	0.00	8.50	0.00	18.78	1.39	14.20	0.00	11.40
01-Jan-22 00:00:00	0.00	8.54	0.00	18.72	0.00	14.23	0.00	11.44
02-Jan-22 00:00:00	0.00	8.63	0.00	18.71	0.00	14.28	0.00	11.53
03-Jan-22 00:00:00	0.00	7.76	0.00	17.95	0.00	13.23	1.57	2.14
04-Jan-22 00:00:00	0.00	7.60	0.00	17.98	0.00	13.16	7.70	2.07
05-Jan-22 00:00:00	0.00	7.55	0.00	17.61	0.00	12.99	7.66	2.11
06-Jan-22 00:00:00	0.00	7.59	0.00	17.66	0.00	13.03	7.66	2.05
07-Jan-22 00:00:00	0.00	7.59	0.00	17.66	0.00	13.03	7.66	2.05
08-Jan-22 00:00:00	0.00	7.59	0.00	17.66	0.00	13.03	7.66	2.05
09-Jan-22 00:00:00	0.98	2.00	0.00	15.24	1.13	9.14	1.43	1.99
10-Jan-22 00:00:00	1.49	6.33	1.71	14.09	3.23	8.70	4.54	2.02
11-Jan-22 00:00:00	1.49	8.54	1.71	17.74	3.23	13.85	4.54	11.49
12-Jan-22 00:00:00	0.00	7.63	1.61	16.89	2.37	12.76	3.28	2.07
13-Jan-22 00:00:00	3.16	2.00	0.00	16.86	0.00	13.11	1.58	10.85
14-Jan-22 00:00:00	2.66	8.62	0.05	17.90	0.07	13.69	0.02	11.56
15-Jan-22 00:00:00	2.66	8.83	0.05	18.03	0.07	13.85	0.02	11.73
16-Jan-22 00:00:00	0.00	9.42	0.00	18.50	0.00	14.37	0.00	12.30
17-Jan-22 00:00:00	0.00	9.56	0.00	18.66	0.00	14.50	0.00	12.41
18-Jan-22 00:00:00	0.00	9.70	0.00	18.80	0.00	14.62	0.00	12.55
19-Jan-22 00:00:00	0.00	9.82	0.00	18.87	0.00	14.71	0.00	12.63
20-Jan-22 00:00:00	0.00	9.88	0.00	18.91	0.00	14.74	0.00	12.69
21-Jan-22 00:00:00	0.00	2.00	0.00	15.96	0.00	12.25	0.00	2.16
22-Jan-22 00:00:00	0.47	10.04	0.52	19.17	0.09	14.80	0.17	12.89
23-Jan-22 00:00:00	0.47	10.10	0.52	19.22	0.09	14.80	0.17	12.91
24-Jan-22 00:00:00	0.00	10.17	0.00	19.30	0.00	14.86	0.00	12.98
25-Jan-22 00:00:00	0.00	10.28	0.00	19.39	0.00	14.96	0.00	13.11
26-Jan-22 00:00:00	0.00	10.28	0.00	19.37	0.00	14.91	0.00	13.06
27-Jan-22 00:00:00	0.00	10.39	0.00	19.47	0.00	15.00	0.00	13.18
28-Jan-22 00:00:00	0.00	10.41	0.00	19.50	0.00	15.02	0.00	13.19

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
29-Jan-22 00:00:00	0.00	10.48	0.00	19.50	0.00	15.06	0.00	13.26
30-Jan-22 00:00:00	0.00	10.61	0.00	19.51	0.00	15.13	0.00	13.41
31-Jan-22 00:00:00	0.00	10.58	0.00	19.09	0.00	14.96	0.00	13.36
01-Feb-22 00:00:00	0.00	10.64	0.00	19.00	0.00	14.95	0.00	13.40
02-Feb-22 00:00:00	0.00	10.65	0.00	18.97	0.00	14.96	0.00	13.42
03-Feb-22 00:00:00	0.00	10.83	0.00	19.06	0.00	15.08	0.00	13.61
04-Feb-22 00:00:00	0.00	10.87	0.00	19.24	0.00	15.17	0.00	13.64
05-Feb-22 00:00:00	0.00	10.99	0.00	19.40	0.00	15.31	0.00	13.78
06-Feb-22 00:00:00	0.00	10.95	0.00	19.54	0.00	15.33	0.00	13.69
07-Feb-22 00:00:00	0.00	11.02	0.00	19.58	0.00	15.39	0.00	13.78
08-Feb-22 00:00:00	0.00	11.05	0.00	19.59	0.00	15.40	0.00	13.82
09-Feb-22 00:00:00	0.00	11.07	0.00	19.60	0.00	15.40	0.00	13.81
10-Feb-22 00:00:00	0.00	11.15	0.00	19.68	0.00	15.50	0.00	13.91
11-Feb-22 00:00:00	0.00	11.12	0.00	19.44	0.00	15.46	0.00	13.85
12-Feb-22 00:00:00	0.00	11.19	0.00	19.43	0.00	15.52	0.00	13.95
13-Feb-22 00:00:00	0.00	11.18	0.00	19.47	0.00	15.51	0.00	13.92
14-Feb-22 00:00:00	0.00	11.23	0.00	19.50	0.00	15.56	0.00	13.97
15-Feb-22 00:00:00	0.00	11.30	0.00	19.52	0.00	15.61	0.00	14.07
16-Feb-22 00:00:00	0.00	11.24	0.00	19.36	0.00	15.49	0.00	13.97
17-Feb-22 00:00:00	0.00	11.26	0.00	19.23	0.00	15.44	0.00	13.99
18-Feb-22 00:00:00	0.00	11.28	0.00	19.22	0.00	15.45	0.00	14.02
19-Feb-22 00:00:00	0.00	11.38	0.00	19.27	0.00	15.54	0.00	14.15
20-Feb-22 00:00:00	0.00	11.33	0.00	19.15	0.00	15.44	0.00	14.05
21-Feb-22 00:00:00	0.00	11.36	0.00	19.17	0.00	15.47	0.00	14.10
22-Feb-22 00:00:00	0.00	11.43	0.00	19.14	0.00	15.50	0.00	14.19
23-Feb-22 00:00:00	0.00	11.35	0.00	19.06	0.00	15.42	0.00	14.08
24-Feb-22 00:00:00	0.00	11.38	0.00	19.05	0.00	15.42	0.00	14.11
25-Feb-22 00:00:00	0.00	11.47	0.00	19.14	0.00	15.53	0.00	14.24
26-Feb-22 00:00:00	0.00	11.41	0.00	19.05	0.00	15.45	0.00	14.14
27-Feb-22 00:00:00	0.00	11.44	0.00	19.13	0.00	15.49	0.00	14.17
28-Feb-22 00:00:00	0.00	11.54	0.00	19.22	0.00	15.59	0.00	14.29
01-Mar-22 00:00:00	0.00	11.31	0.00	19.05	0.00	15.37	0.00	14.03
02-Mar-22 00:00:00	0.00	11.32	0.00	19.03	0.00	15.36	0.00	14.06
03-Mar-22 00:00:00	0.00	11.29	0.00	18.94	0.00	15.31	0.00	14.04
04-Mar-22 00:00:00	0.00	11.36	0.00	19.09	0.00	15.42	0.00	14.13
05-Mar-22 00:00:00	0.00	11.31	0.00	18.36	0.00	16.37	0.00	14.04
06-Mar-22 00:00:00	0.00	11.34	0.00	18.72	0.00	16.45	0.00	14.08
07-Mar-22 00:00:00	0.00	11.37	0.00	18.76	0.00	16.50	0.00	14.14
08-Mar-22 00:00:00	0.00	10.74	0.00	18.17	0.01	15.42	0.00	8.90

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
09-Mar-22 00:00:00	0.00	10.74	0.00	18.37	0.00	15.76	4.71	8.88
10-Mar-22 00:00:00	0.00	11.34	0.00	18.68	0.00	16.42	4.71	14.12
11-Mar-22 00:00:00	0.00	11.33	0.00	18.44	0.00	16.77	0.08	14.09
12-Mar-22 00:00:00	0.06	11.45	0.07	18.55	0.10	16.90	0.08	14.23
13-Mar-22 00:00:00	0.00	11.39	0.00	18.54	0.00	16.84	0.00	14.13
14-Mar-22 00:00:00	0.00	11.41	0.00	18.44	0.00	16.85	0.00	14.14
15-Mar-22 00:00:00	0.00	11.51	0.00	18.66	0.00	17.00	0.00	14.28
16-Mar-22 00:00:00	0.00	11.43	0.00	18.36	0.00	16.87	0.00	14.17
17-Mar-22 00:00:00	0.00	11.49	0.00	18.37	0.00	16.94	0.00	14.23
18-Mar-22 00:00:00	0.00	11.56	0.00	18.31	0.00	17.00	0.00	14.32
19-Mar-22 00:00:00	0.00	11.49	0.00	18.78	0.00	17.04	0.00	14.24
20-Mar-22 00:00:00	0.00	11.52	0.00	18.45	0.00	17.01	0.00	14.27
21-Mar-22 00:00:00	0.00	11.57	0.00	18.05	0.00	16.98	0.00	14.32
22-Mar-22 00:00:00	0.00	11.68	0.00	18.13	0.00	17.08	0.00	14.40
23-Mar-22 00:00:00	0.00	11.79	0.00	18.33	0.00	17.20	0.00	14.54
24-Mar-22 00:00:00	0.00	11.67	0.00	18.30	0.00	17.11	0.00	14.42
25-Mar-22 00:00:00	0.00	11.67	0.00	18.20	0.00	17.08	0.00	14.39
26-Mar-22 00:00:00	0.00	11.87	0.00	18.65	0.00	17.34	0.00	14.60
27-Mar-22 00:00:00	0.00	11.85	0.00	18.79	0.00	17.34	0.00	14.57
28-Mar-22 00:00:00	0.00	11.74	0.00	18.78	0.00	17.25	0.00	14.45
29-Mar-22 00:00:00	0.00	11.94	0.00	19.14	0.00	17.50	0.00	14.69
30-Mar-22 00:00:00	0.00	11.74	0.00	18.82	0.00	17.25	0.00	14.48
31-Mar-22 00:00:00	0.00	11.80	0.00	18.85	0.00	17.30	0.00	14.54
01-Apr-22 00:00:00	0.00	11.88	0.00	18.95	0.00	17.39	0.00	14.59
02-Apr-22 00:00:00	0.00	11.81	0.00	18.96	0.00	17.32	0.00	14.52
03-Apr-22 00:00:00	0.00	11.99	0.00	18.97	0.00	17.50	0.00	14.75
04-Apr-22 00:00:00	0.00	11.85	0.00	18.83	0.00	17.35	0.00	14.57
05-Apr-22 00:00:00	0.00	12.02	0.00	18.64	0.00	17.44	0.00	14.74
06-Apr-22 00:00:00	0.00	11.88	0.00	18.65	0.00	17.35	0.00	14.64
07-Apr-22 00:00:00	0.00	11.81	0.00	18.44	0.00	17.24	0.00	14.53
08-Apr-22 00:00:00	0.00	11.86	0.00	18.74	0.00	17.21	0.00	14.57
09-Apr-22 00:00:00	0.00	11.91	0.00	18.84	0.00	17.29	0.00	14.64
10-Apr-22 00:00:00	0.00	11.85	0.00	18.44	0.00	17.16	0.00	14.58
11-Apr-22 00:00:00	2.60	1.99	0.00	14.55	2.80	7.53	3.13	2.99
12-Apr-22 00:00:00	2.60	1.99	0.00	14.98	2.80	7.44	3.13	2.89
13-Apr-22 00:00:00	6.26	2.02	0.00	16.52	6.81	13.98	7.70	3.46
14-Apr-22 00:00:00	4.07	11.31	0.00	18.45	0.00	16.18	4.70	14.11
15-Apr-22 00:00:00	0.00	9.90	0.00	15.46	0.22	8.32	0.00	12.87
16-Apr-22 00:00:00	2.47	2.00	3.86	13.17	7.12	8.70	0.00	11.67

Date	Bevan Wells Well 1 Flow Previous Day's Total	Bevan Wells Well 1 Level	Bevan Wells Well 2 Flow Previous Day's Total	Bevan Wells Well 2 Level	Bevan Wells Well 3 Flow Previous Day's Total	Bevan Wells Well 3 Level	Bevan Wells Well 4 Flow Previous Day's Total	Bevan Wells Well 4 Level
	ML	m	ML	m	ML	m	ML	m
17-Apr-22 00:00:00	6.74	1.99	3.84	15.28	1.41	14.65	0.01	12.76
18-Apr-22 00:00:00	6.74	1.98	3.84	15.52	1.41	14.55	0.01	12.64
19-Apr-22 00:00:00	6.81	1.99	3.90	15.54	0.00	14.52	0.00	12.66
20-Apr-22 00:00:00	6.75	2.00	3.92	16.00	0.00	14.47	0.00	12.71
21-Apr-22 00:00:00	4.29	11.11	3.47	18.04	0.00	16.16	0.00	13.94
22-Apr-22 00:00:00	0.00	11.46	0.00	18.22	0.00	16.43	0.00	14.24
23-Apr-22 00:00:00	0.00	11.46	0.00	18.20	0.00	16.41	0.00	14.22
24-Apr-22 00:00:00	0.00	11.53	0.00	18.64	0.00	16.59	0.00	14.31
25-Apr-22 00:00:00	0.00	11.56	0.00	18.62	0.00	16.58	0.00	14.30
26-Apr-22 00:00:00	0.00	10.34	0.00	16.56	0.00	9.97	0.00	13.02
27-Apr-22 00:00:00	0.00	9.58	0.00	14.68	3.41	8.63	0.00	12.47
28-Apr-22 00:00:00	0.04	10.74	0.87	16.80	1.01	15.73	0.00	13.75
29-Apr-22 00:00:00	0.00	11.39	0.30	18.00	0.00	16.41	0.00	14.10
30-Apr-22 00:00:00	0.00	11.50	0.30	18.22	0.00	16.56	0.00	14.25

APPENDIX M

Shallow Groundwater and Vegetation Monitoring Plot Locations

Table 1 Plot Locations for Each Study Area

Study Area	Plot Name	Easting	Northing
Fishtrap Creek	FT01	545059	5430684
Fishtrap Creek	FT02	544256	5430301
Fishtrap Creek	FT03	544404	5430240
Fishtrap Creek	FT04	544376	5430214
Fishtrap Creek	FT06	545236	5430954
Fishtrap Creek	FT07 & BEV-FT-GW3	545254	5431073
Fishtrap Creek	BEV-FT-GW1	545061	5430535
Fishtrap Creek	BEV-FT-GW2	544826	5430328
Horn Creek	H01 & H01-LA1	550823	5434340
Horn Creek	H02	550763	5434395
Boa Brook	B01	551015	5433644
Boa Brook	B02 & B02-LA1	550934	5433658
Downes Creek	D01 & D01-LA1	549030	5435581
Downes Creek	D02	549051	5435556
Downes Creek	D03	549105	5435462
Downes Creek	D04	549248	5435380
Downes Creek	D05 & D05-LA1	549290	5435368
Downes Creek	D06 & D06-LA1	548914	5435540
Downes Creek	D07	549007	543547
Downes Creek	D08 & D08-LA1	549180	5435492
Downes Creek	D09-LA1	549027	5435518
Downes Creek	D10-LA1	548988	5435368
Downes Creek	D11-LA1	549097	5435304
Downes Creek	D12-LA1	549108	5435578
Downes Creek	D13	549063	5435643
Downes Creek	D14	549151	5435549
Downes Creek	D15	548885	5435552
Downes Creek	D16	549312	5435323
Downes Creek	D17	549038	5435269

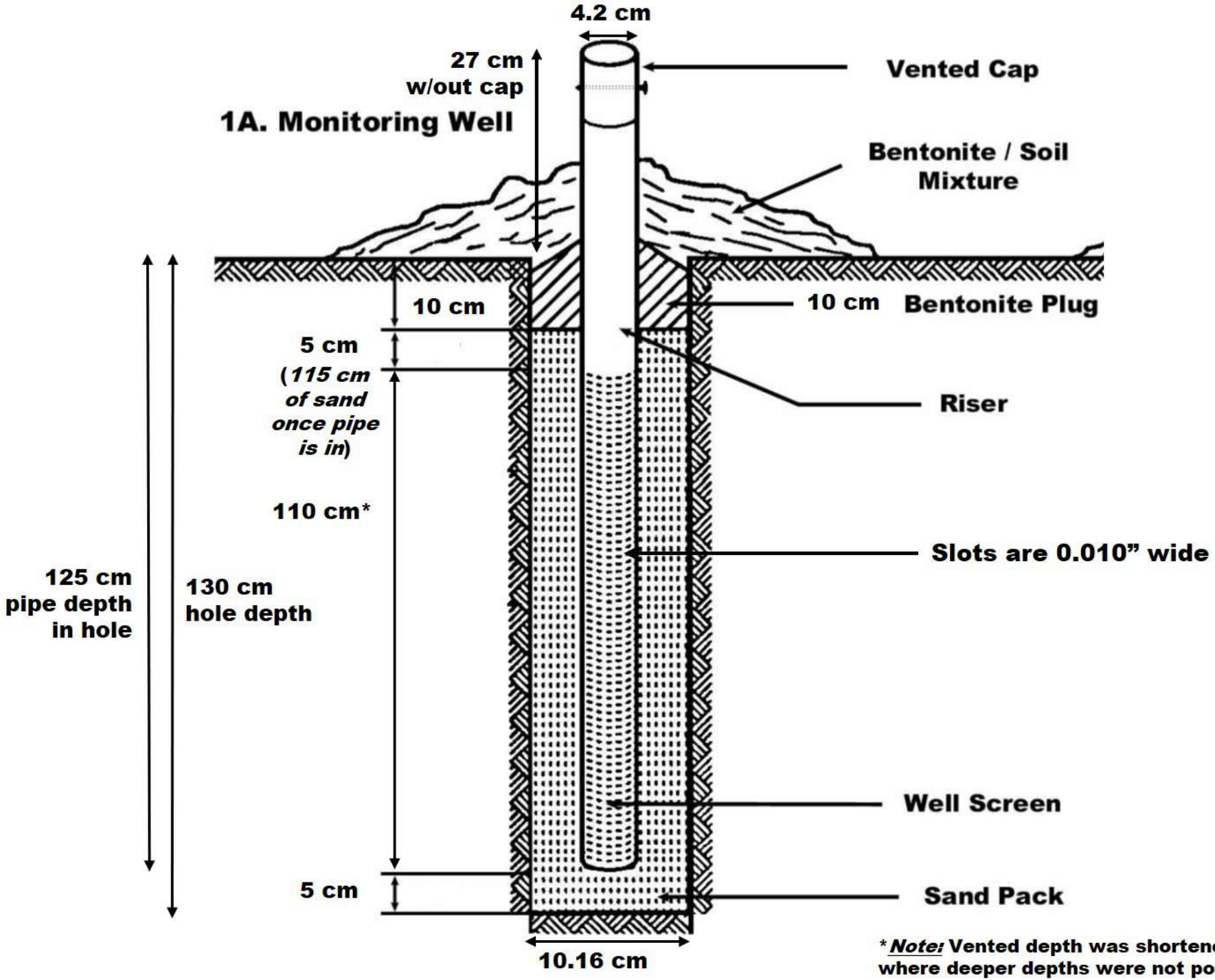
Study Area	Plot Name	Easting	Northing
Downes Creek	D18	549328	5435459
Control Wetland A	BEV-CWA-GW1	551136	5435541
Control Wetland A	BEV-CWA-GW2	551202	5435577
Control Wetland A	BEV-CWA-GW3	551052	5435558
Control Wetland B	BEV-CWB-GW1	540051	5429172
Control Wetland B	BEV-CWB-GW2	540066	5429153
Control Wetland B	BEV-CWB-GW3	540069	5429191
Control Wetland C	BEV-CWC-GW1	552837	5431799
Control Wetland C	BEV-CWC-GW2	552824	5431801
Control Wetland C	BEV-CWC-GW3	552831	5431776

**Skunk cabbage plot locations at Downes also have shallow groundwater wells.*

***Note that FT05 is missing as it was not a full TEM plot, but represented a visual inspection.*

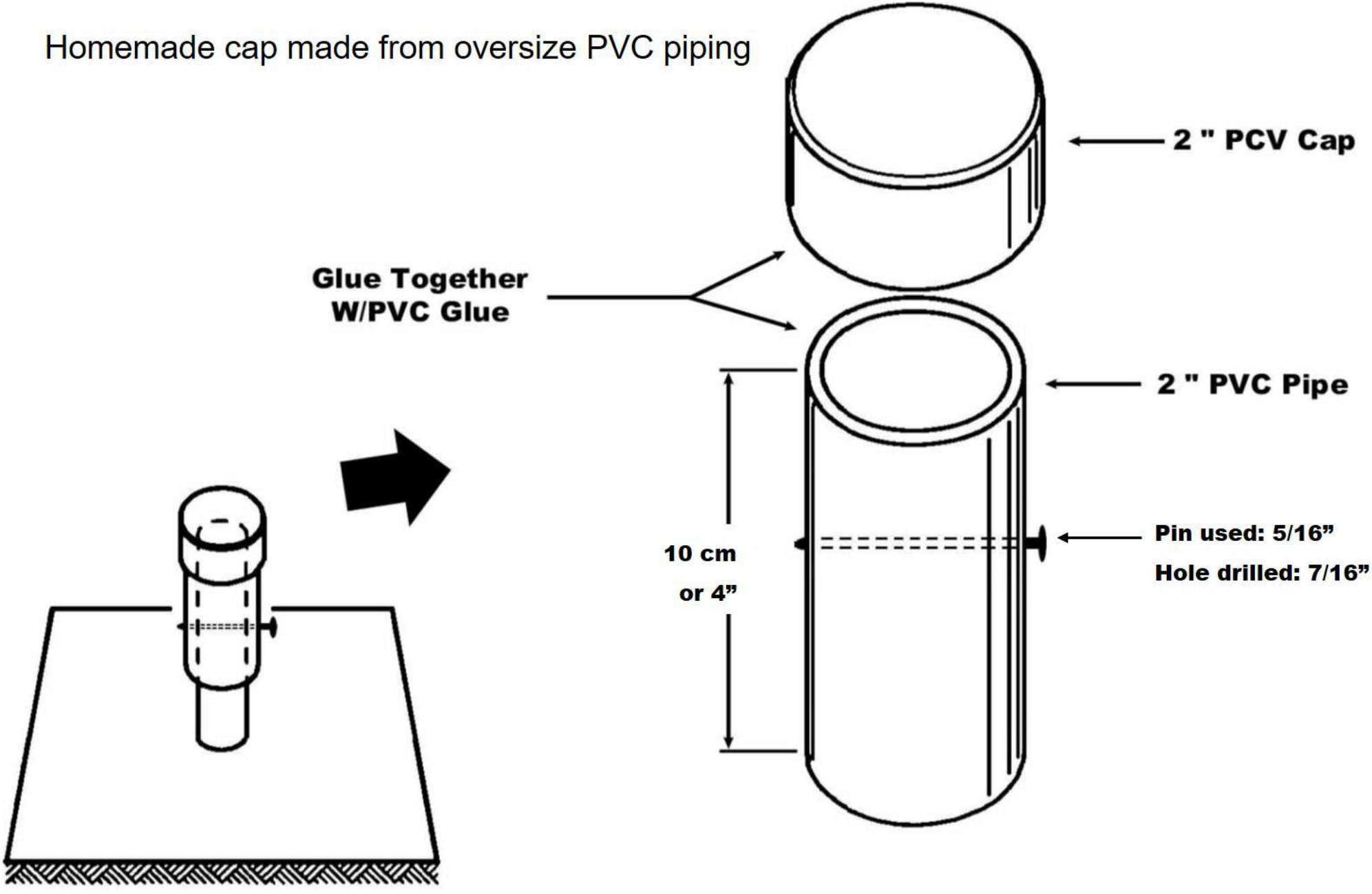
APPENDIX N

Shallow Groundwater Well Specifications



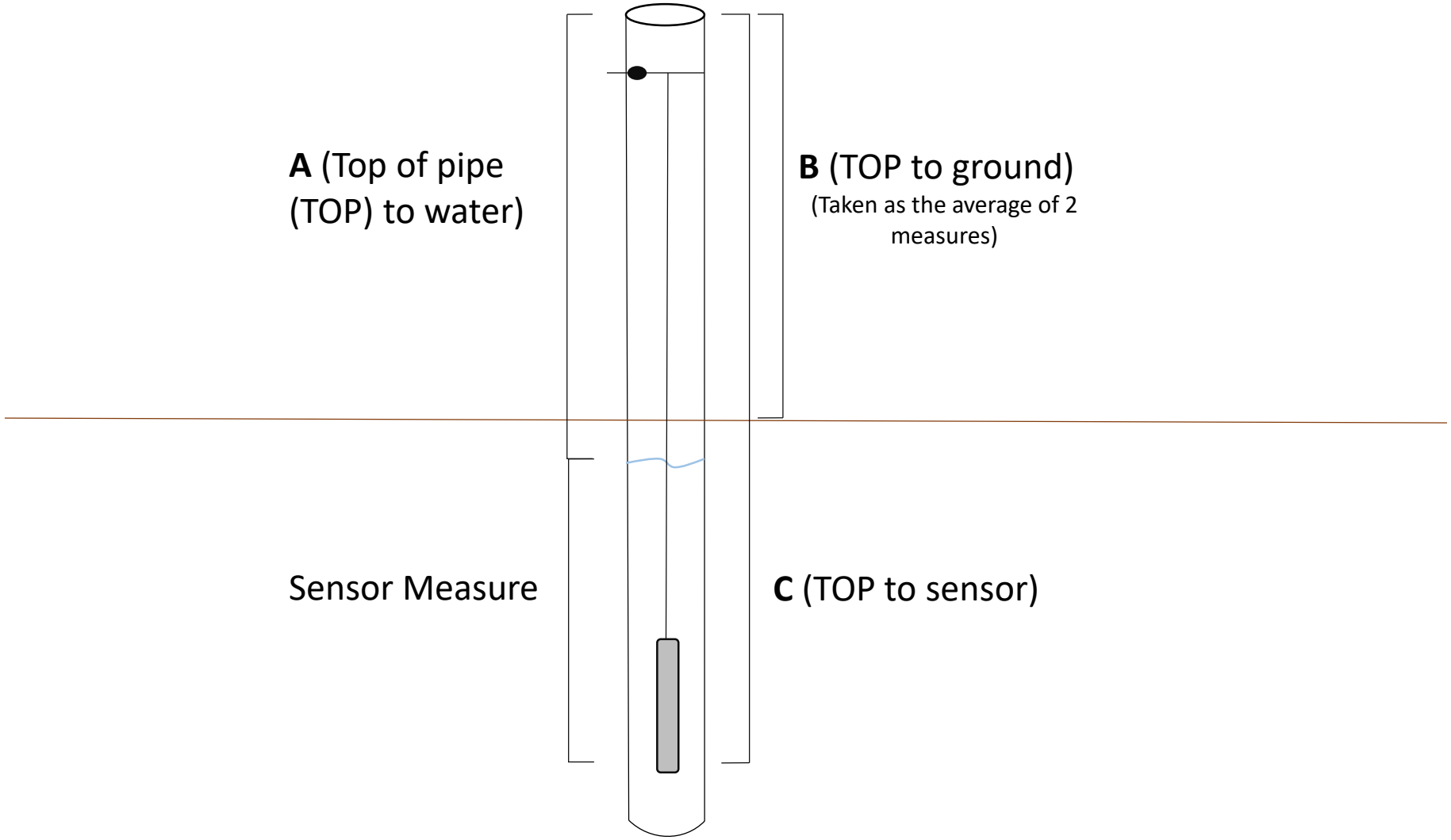
*_Note:_ Vented depth was shortened in some Control Wetlands, where deeper depths were not possible.

Homemade cap made from oversize PVC piping

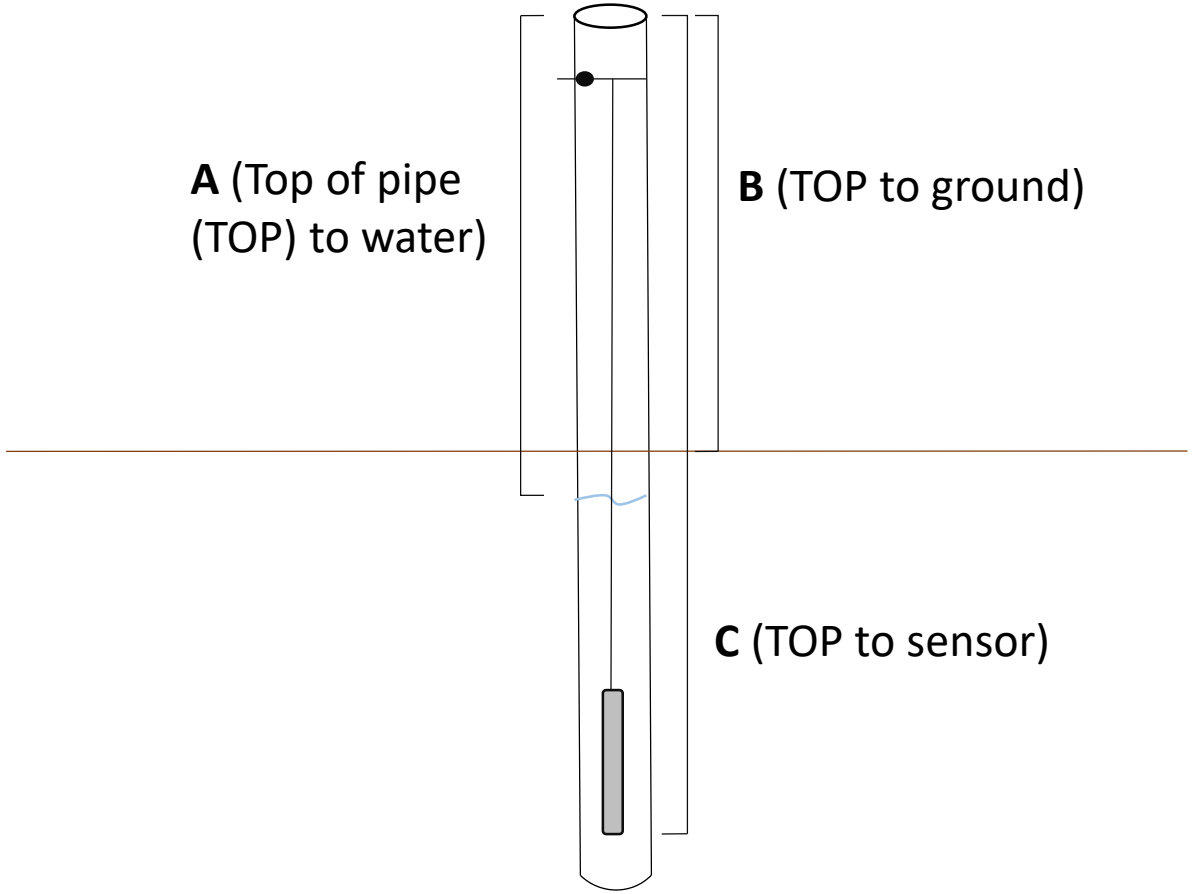


Sensor-measured water below ground formula (D1): (B+sensor measure)-C

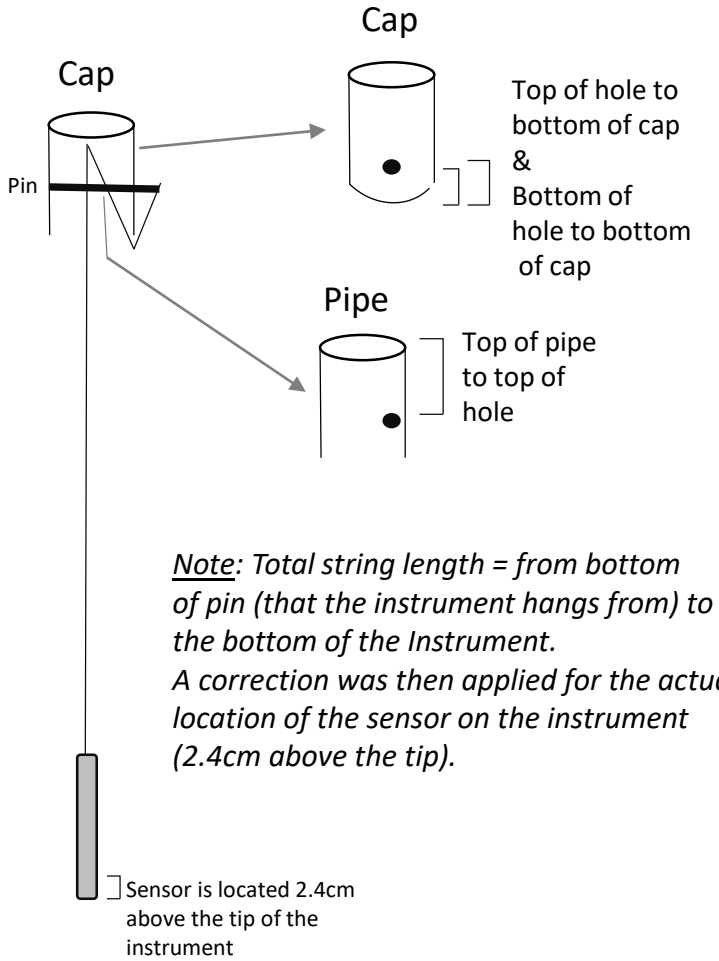
Actual water depth within pipe (D2) = B-A



Old way of getting the measures:

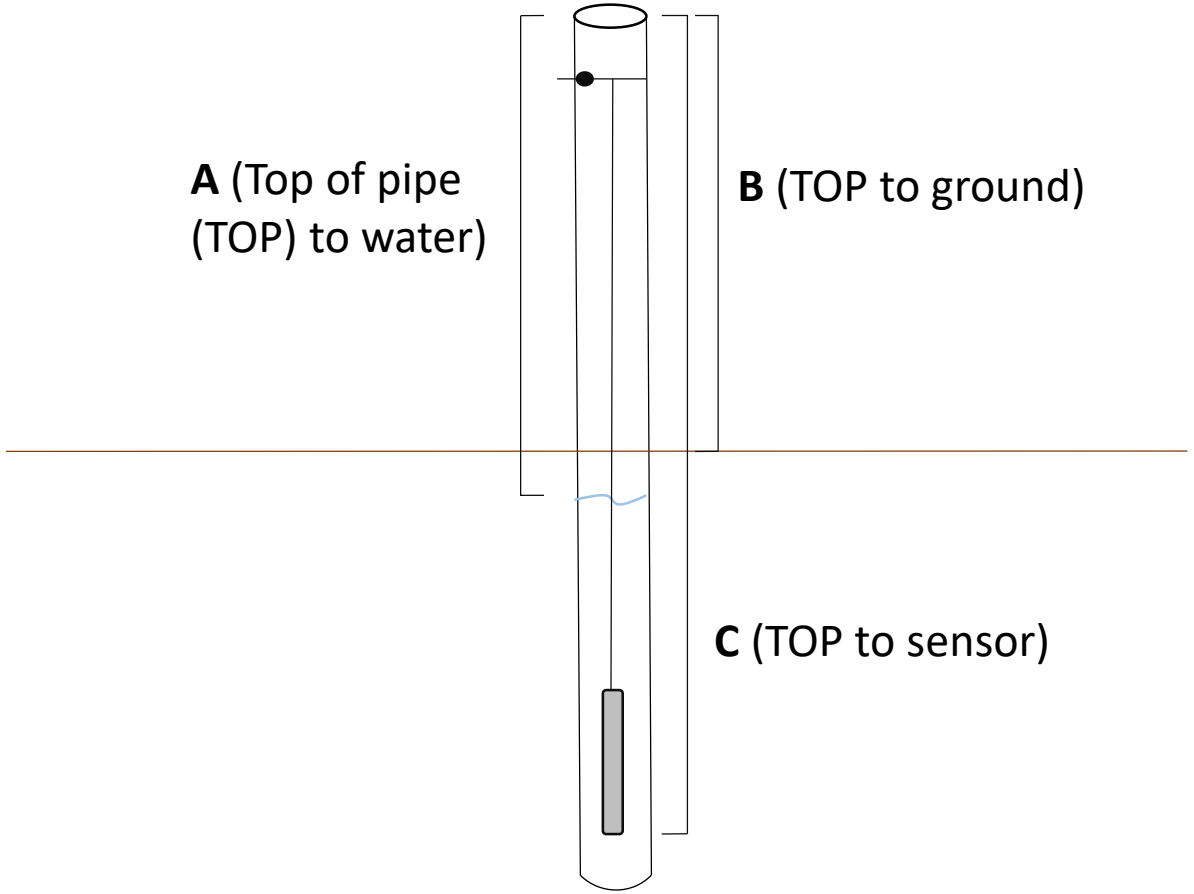


<u>Old Formula for TOP to sensor (C value)</u>: (Total string length-2.4cm) – ([TOP to top of hole on pipe] + [bottom of cap to top of hole] + [bottom of cap to bottom of hole])

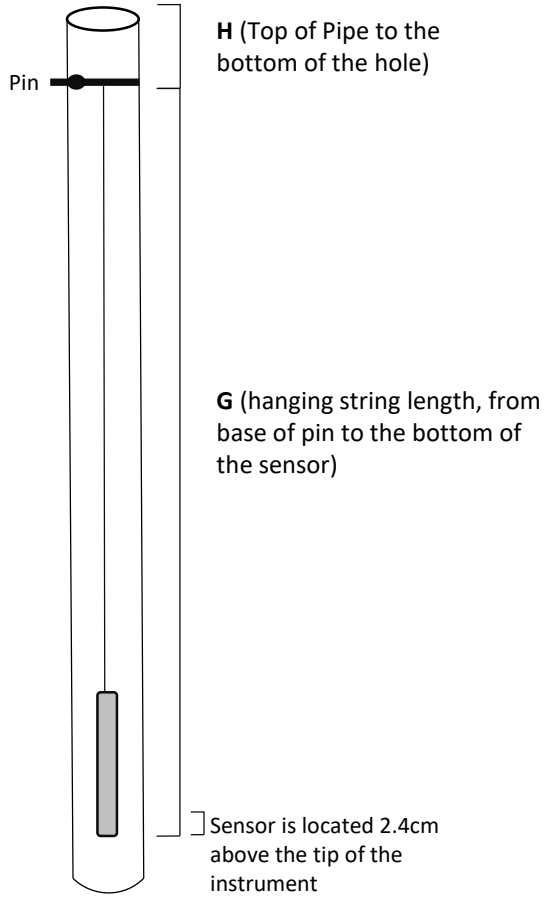


<u>Note</u>: Total string length = from bottom of pin (that the instrument hangs from) to the bottom of the Instrument.
A correction was then applied for the actual location of the sensor on the instrument (2.4cm above the tip).

New way of getting the measures:



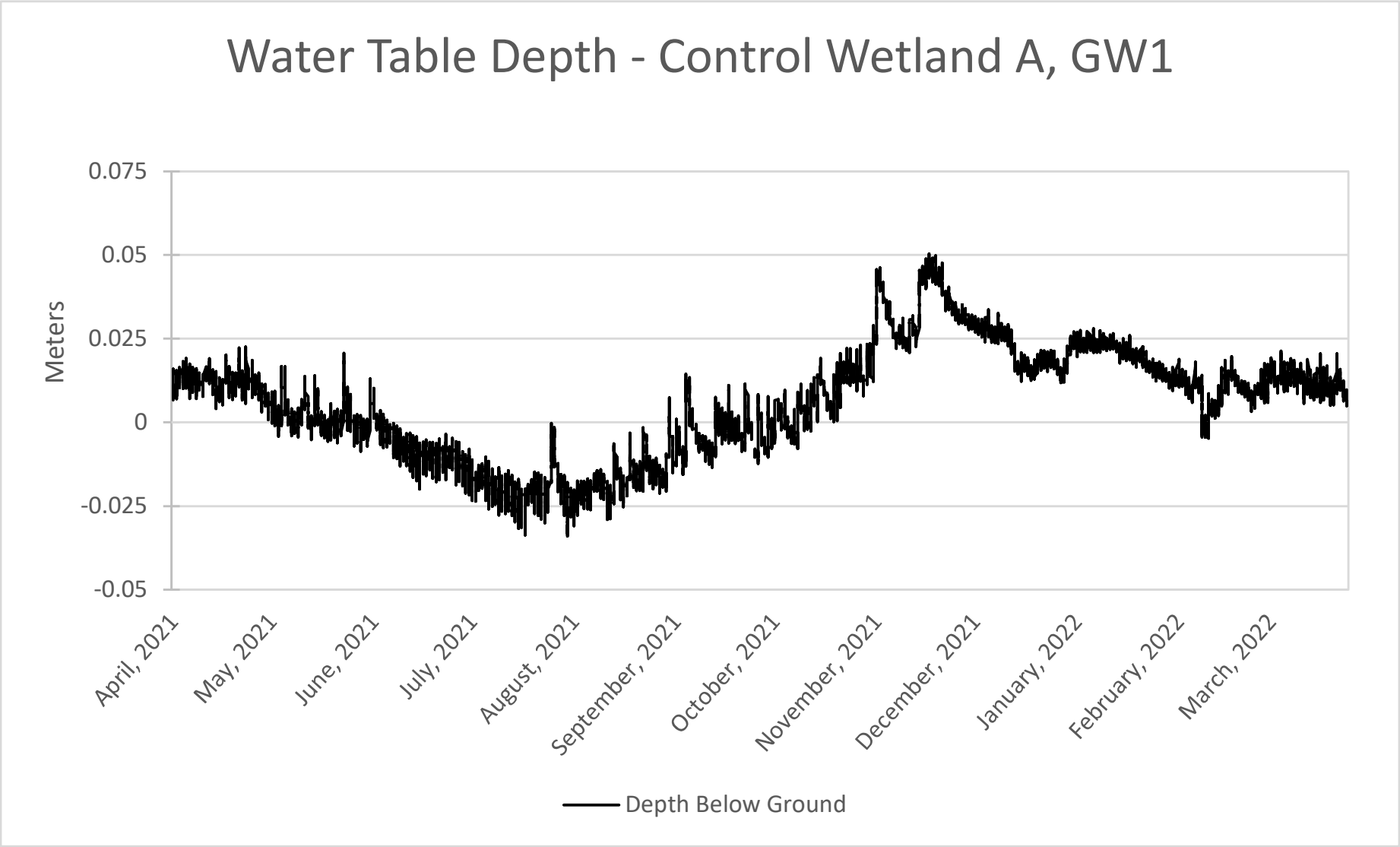
To get the **C** measure: G + H – 2.4cm

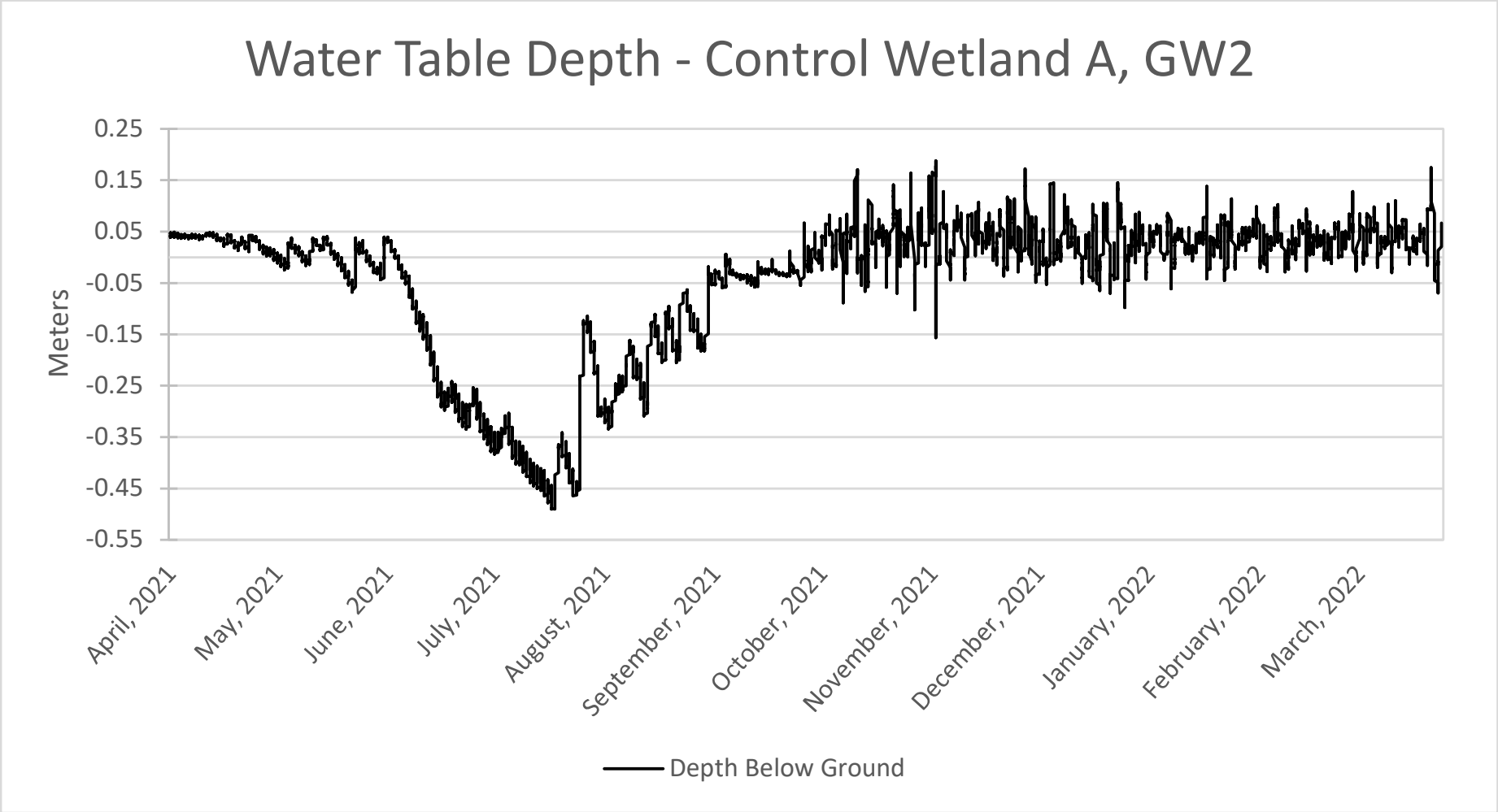


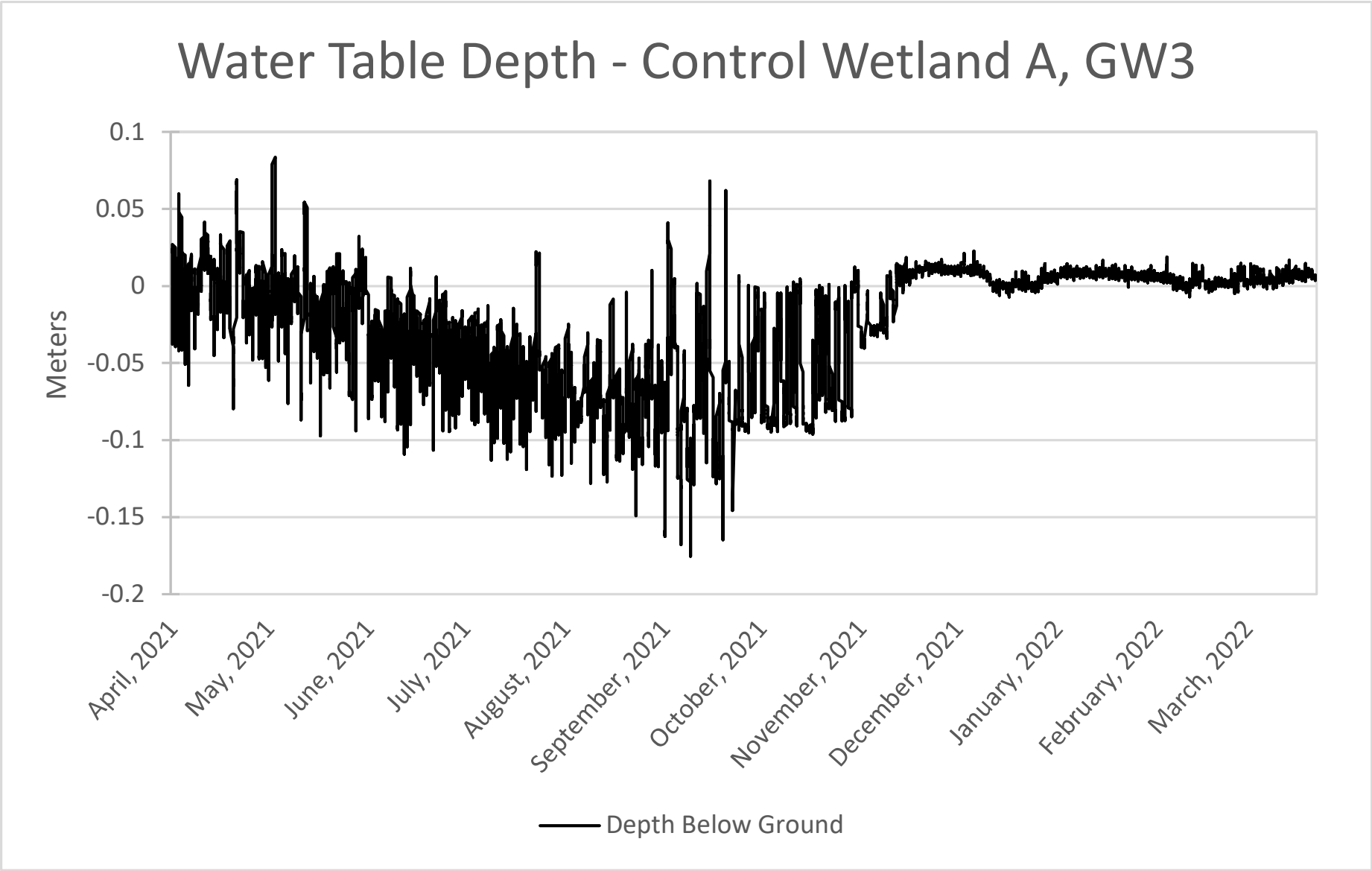
Note: Total string length = from bottom of pin (that the instrument hangs from) to the bottom of the Instrument.
A correction was then applied for the actual location of the sensor on the instrument (2.4cm above the tip).

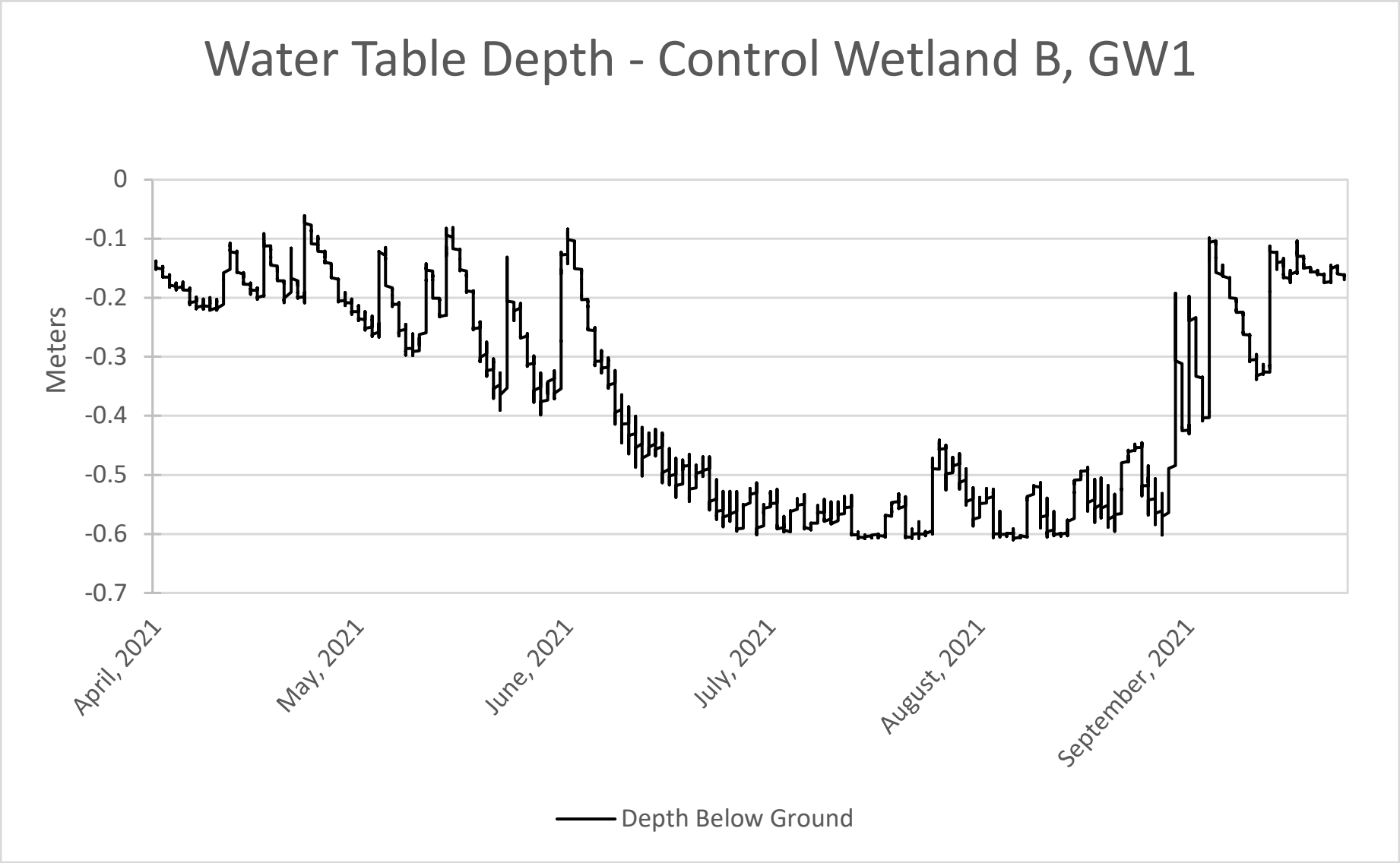
APPENDIX O

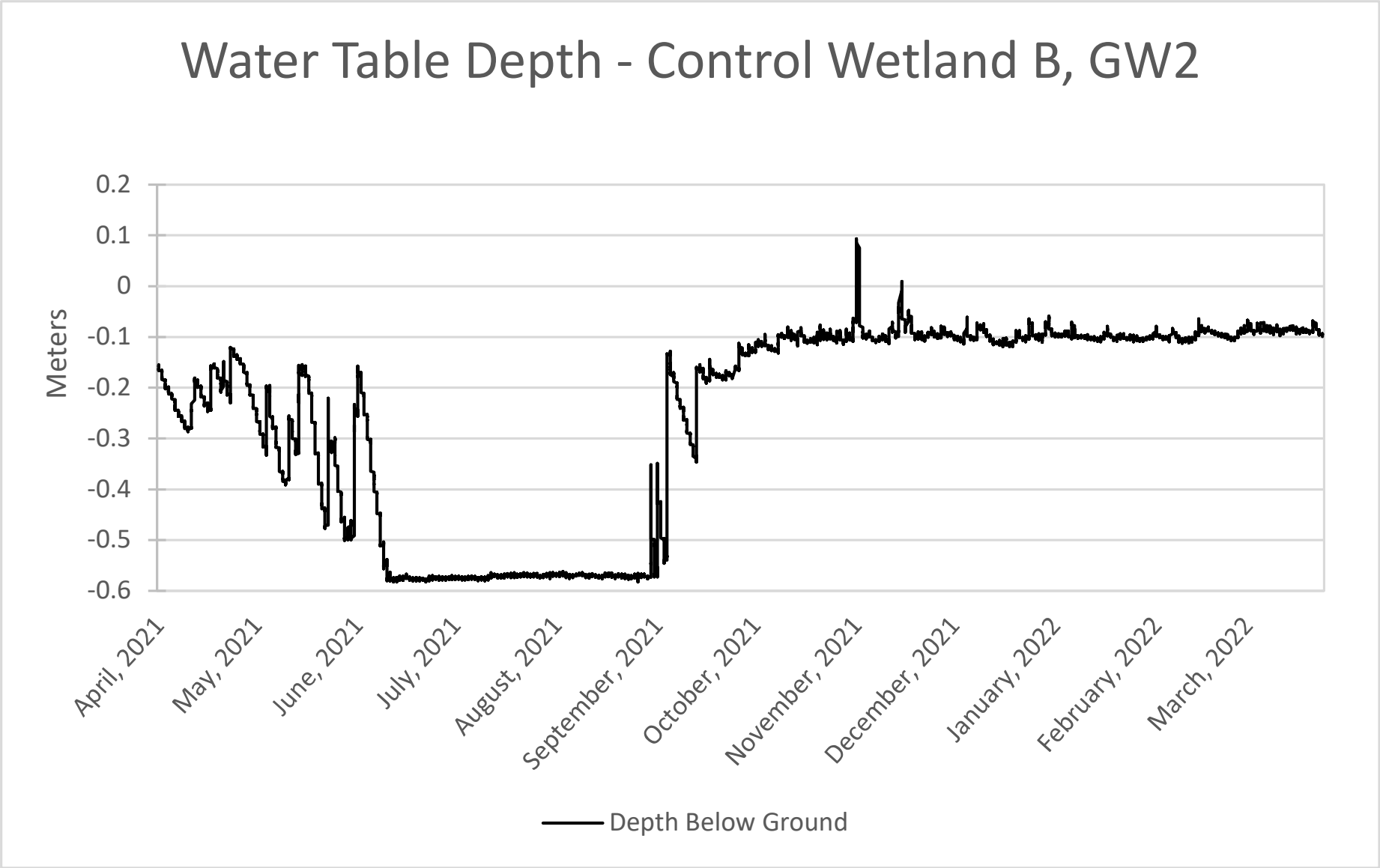
Year 11 Shallow Groundwater Level Charts

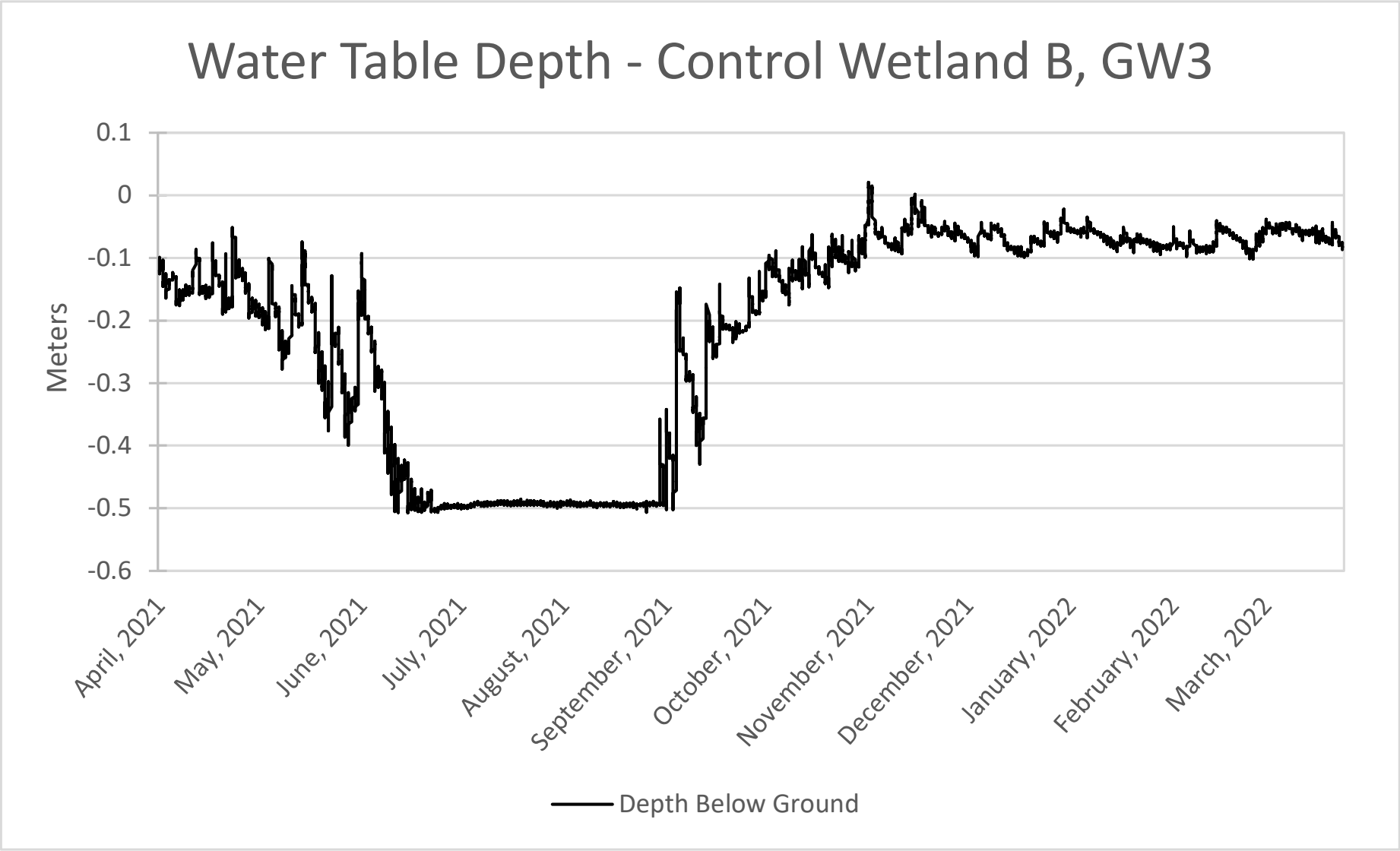

Water Table Depth - Control Wetland A, GW1
Meters
0.075
0.05
0.025
0
-0.025
-0.05
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

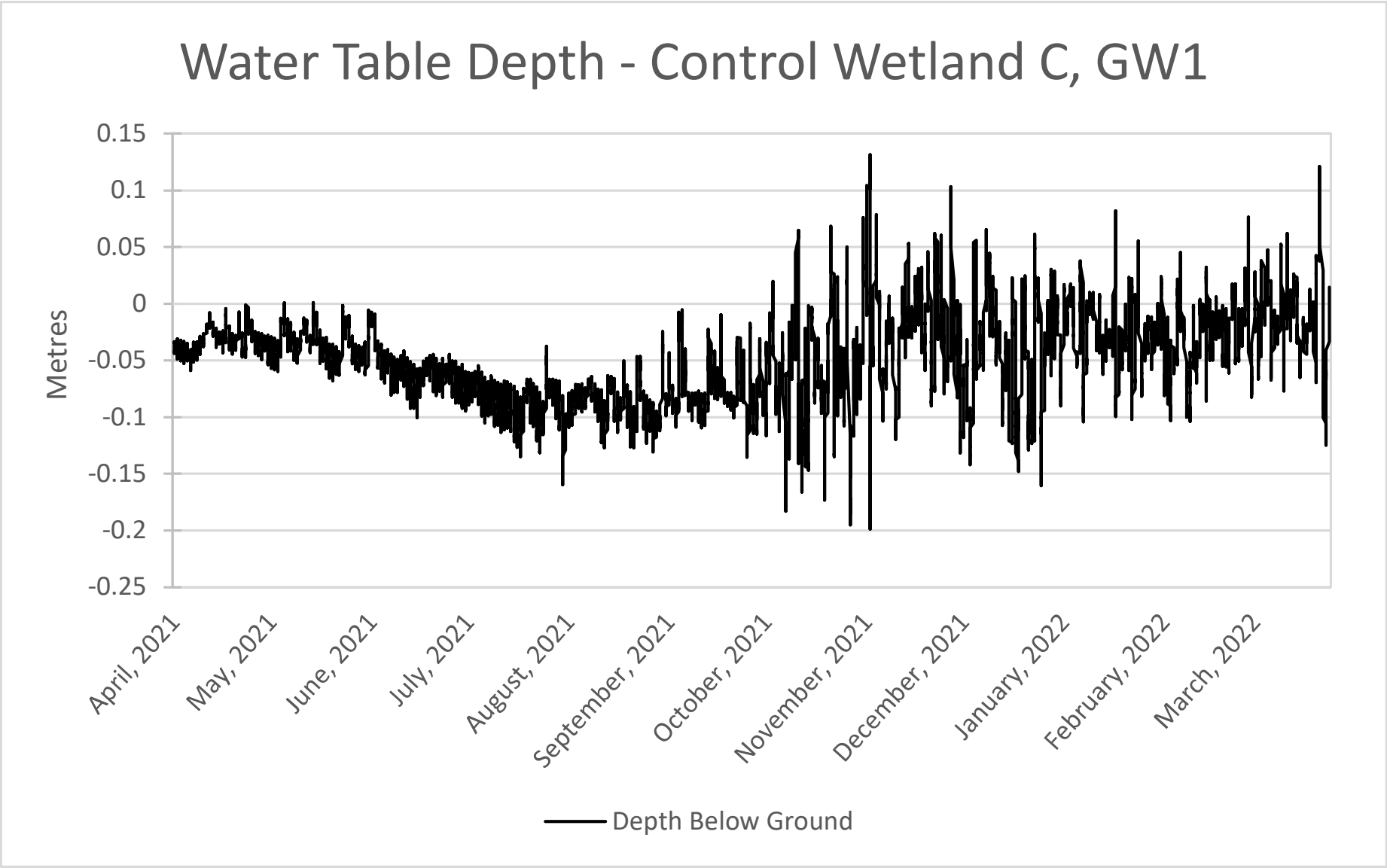

Water Table Depth - Control Wetland A, GW2
Meters
0.25
0.15
0.05
-0.05
-0.15
-0.25
-0.35
-0.45
-0.55
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

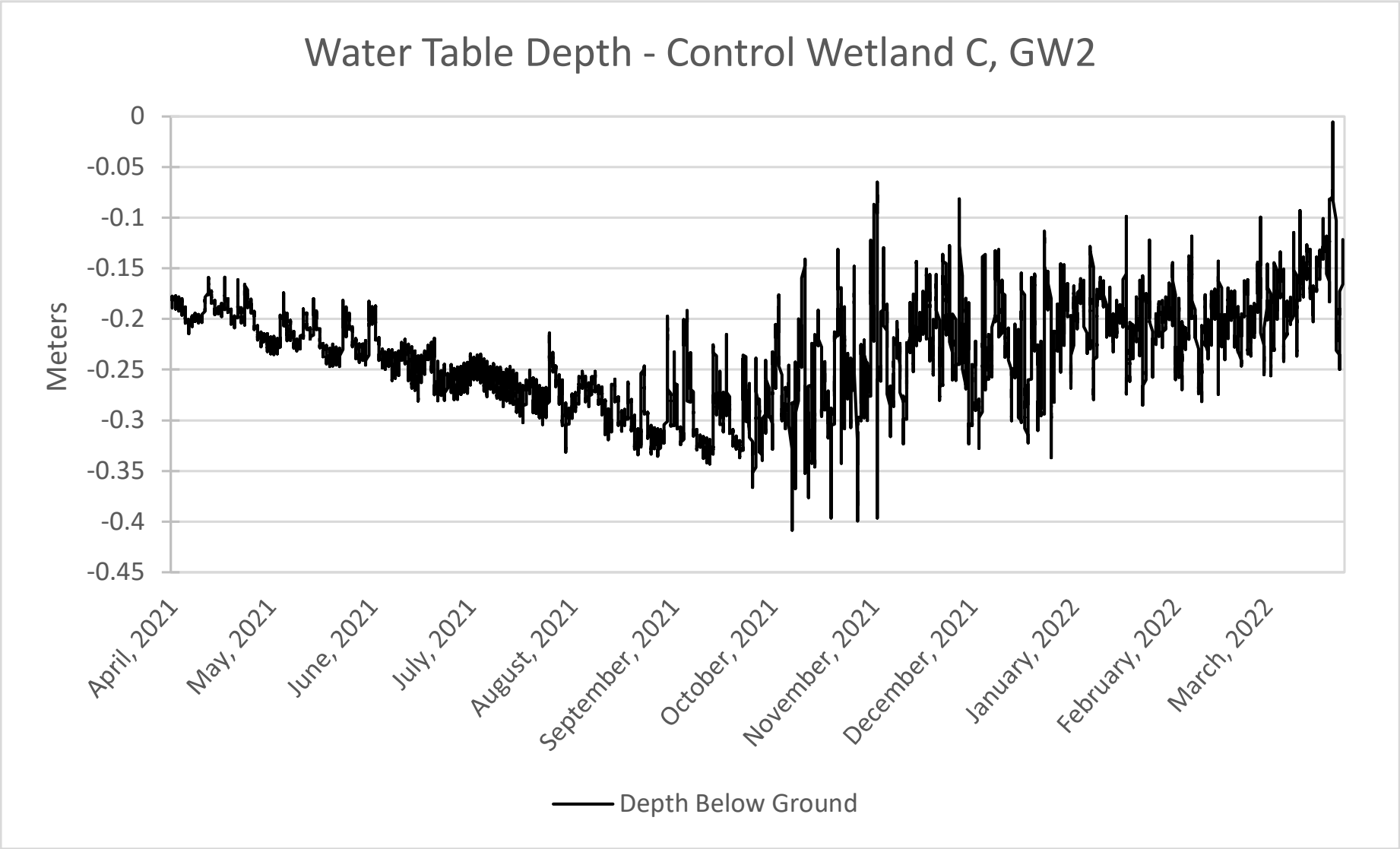

Water Table Depth - Control Wetland A, GW3
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
Meters
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

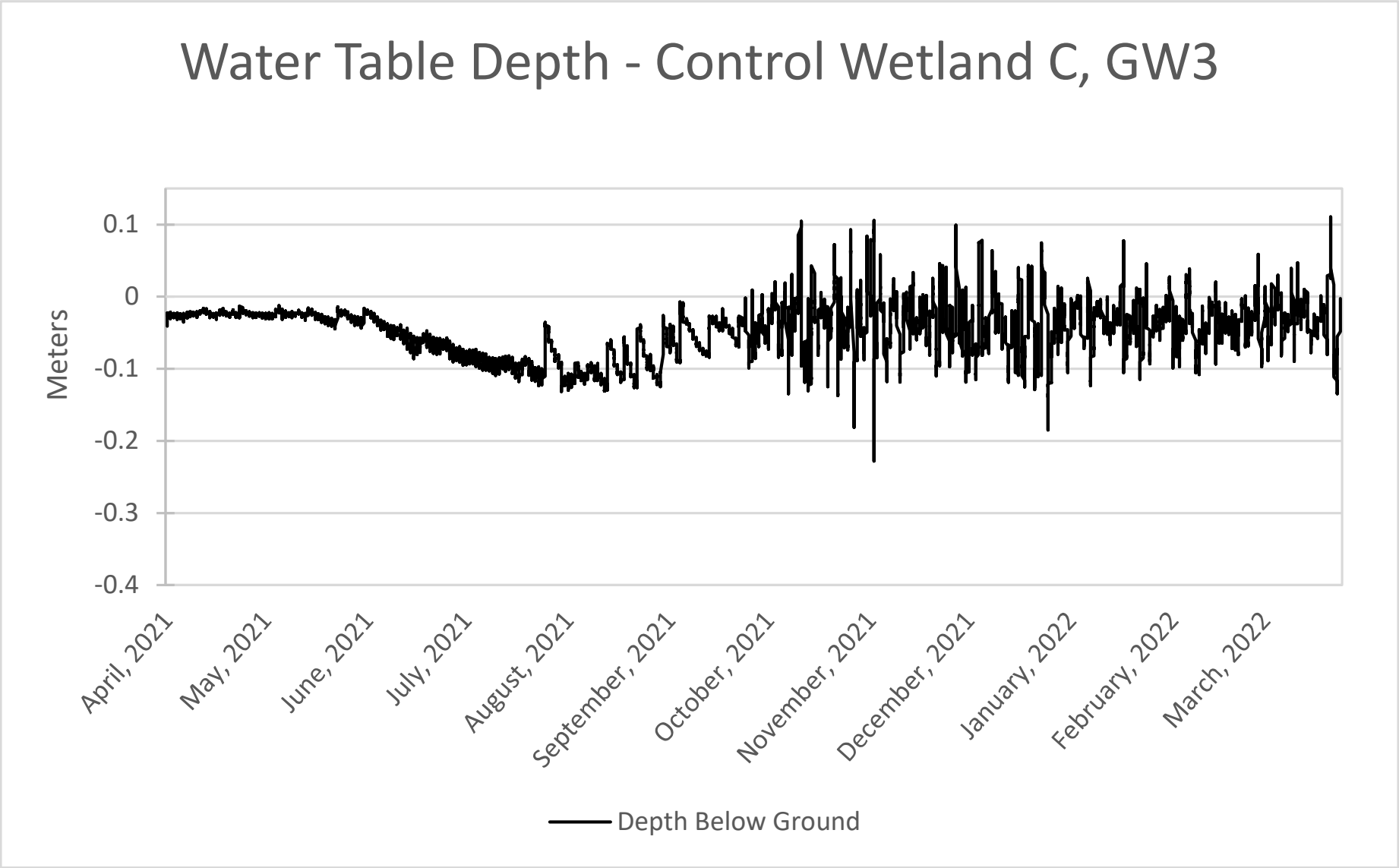

Water Table Depth - Control Wetland B, GW1
Meters
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
Depth Below Ground

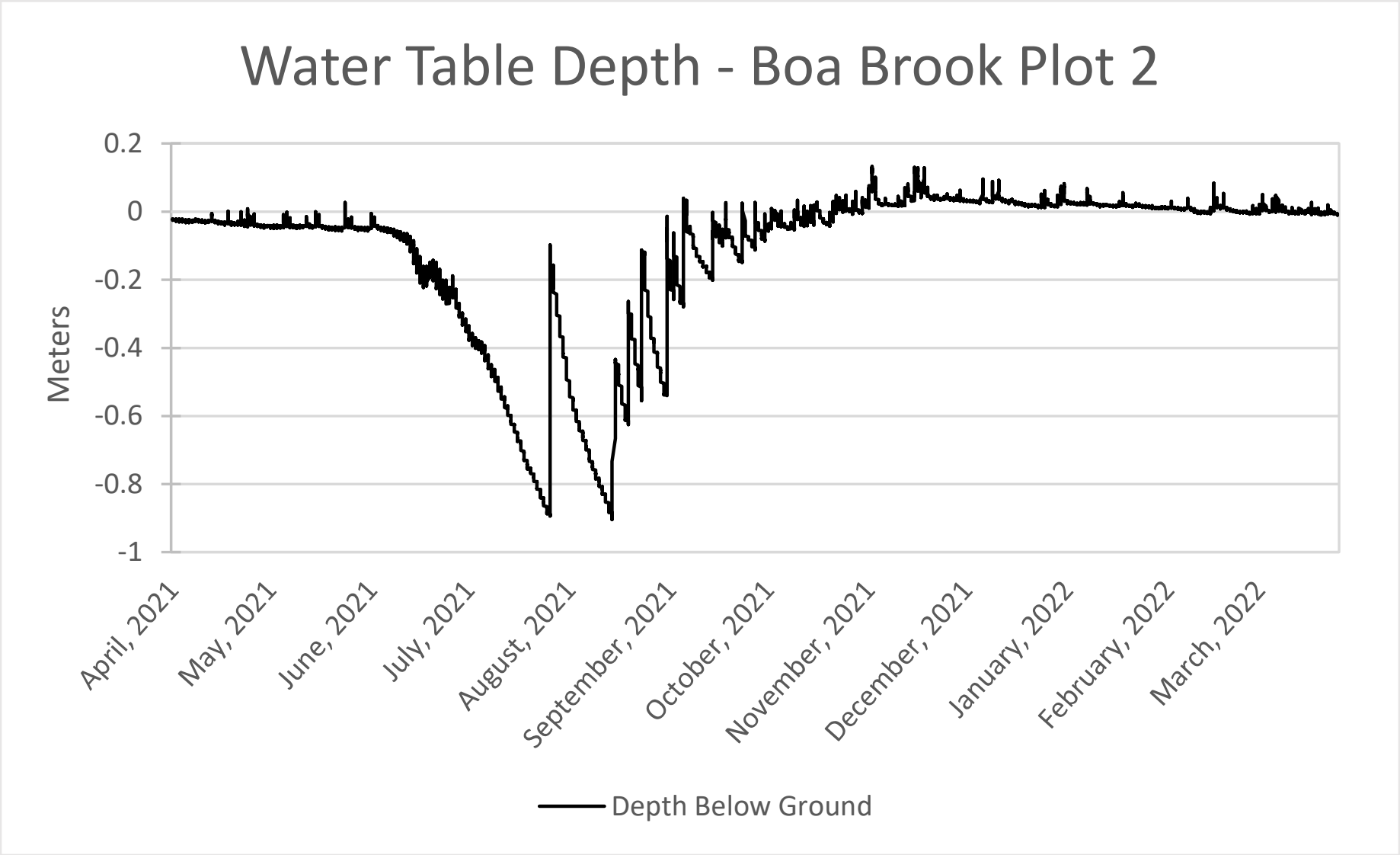

Water Table Depth - Control Wetland B, GW2
Meters
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

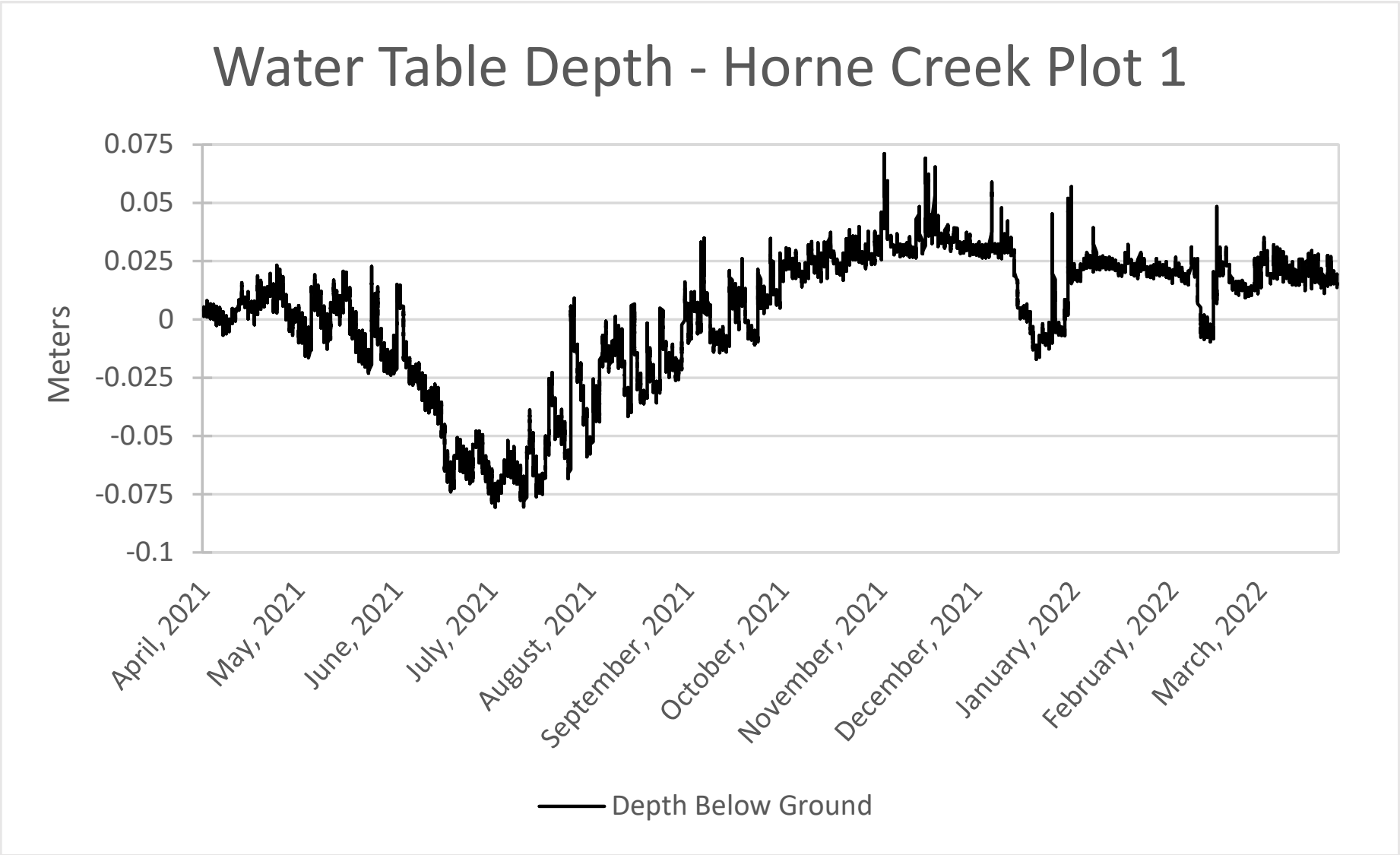

Water Table Depth - Control Wetland B, GW3
Meters
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

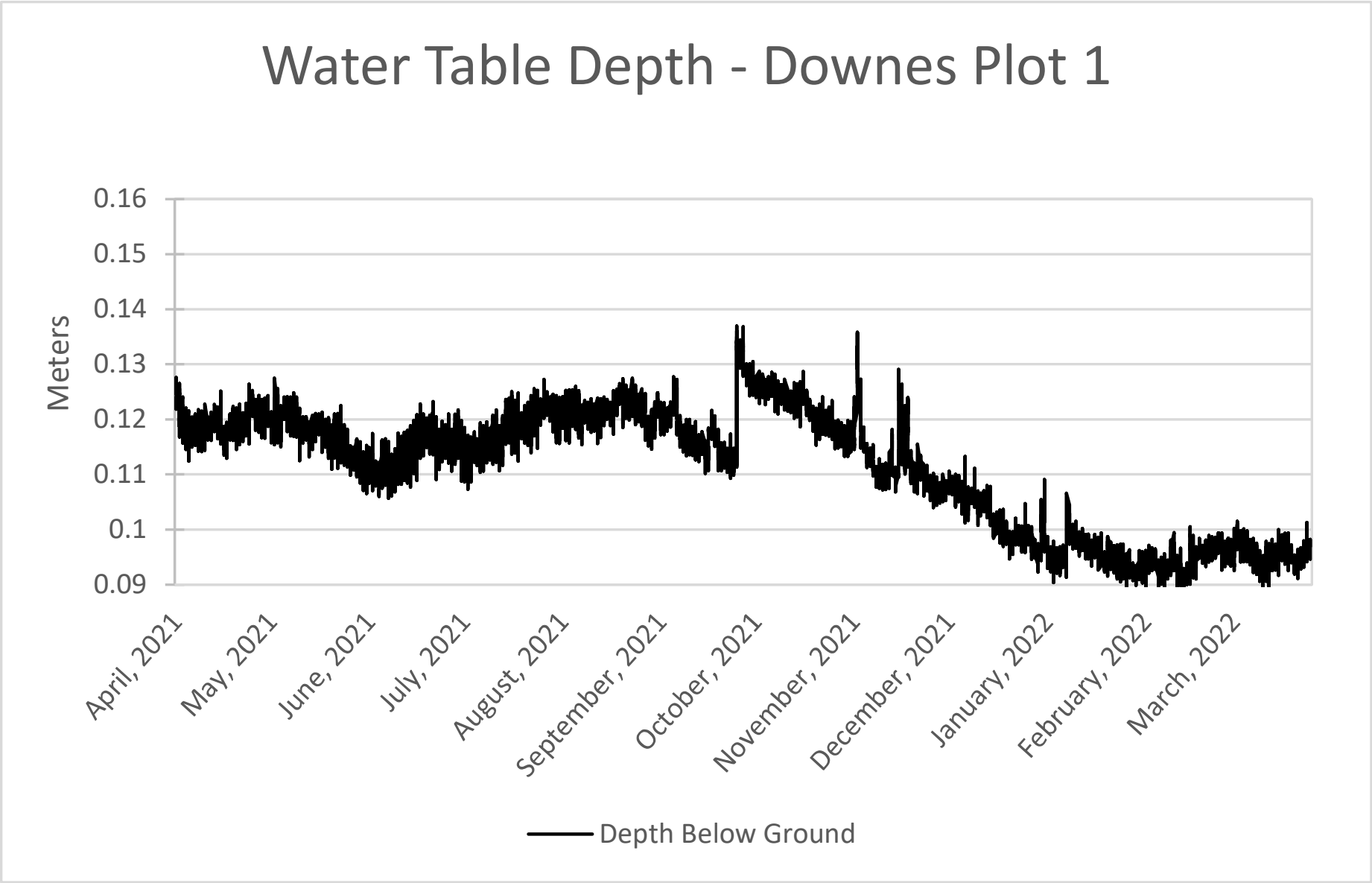

Water Table Depth - Control Wetland C, GW1
Metres
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

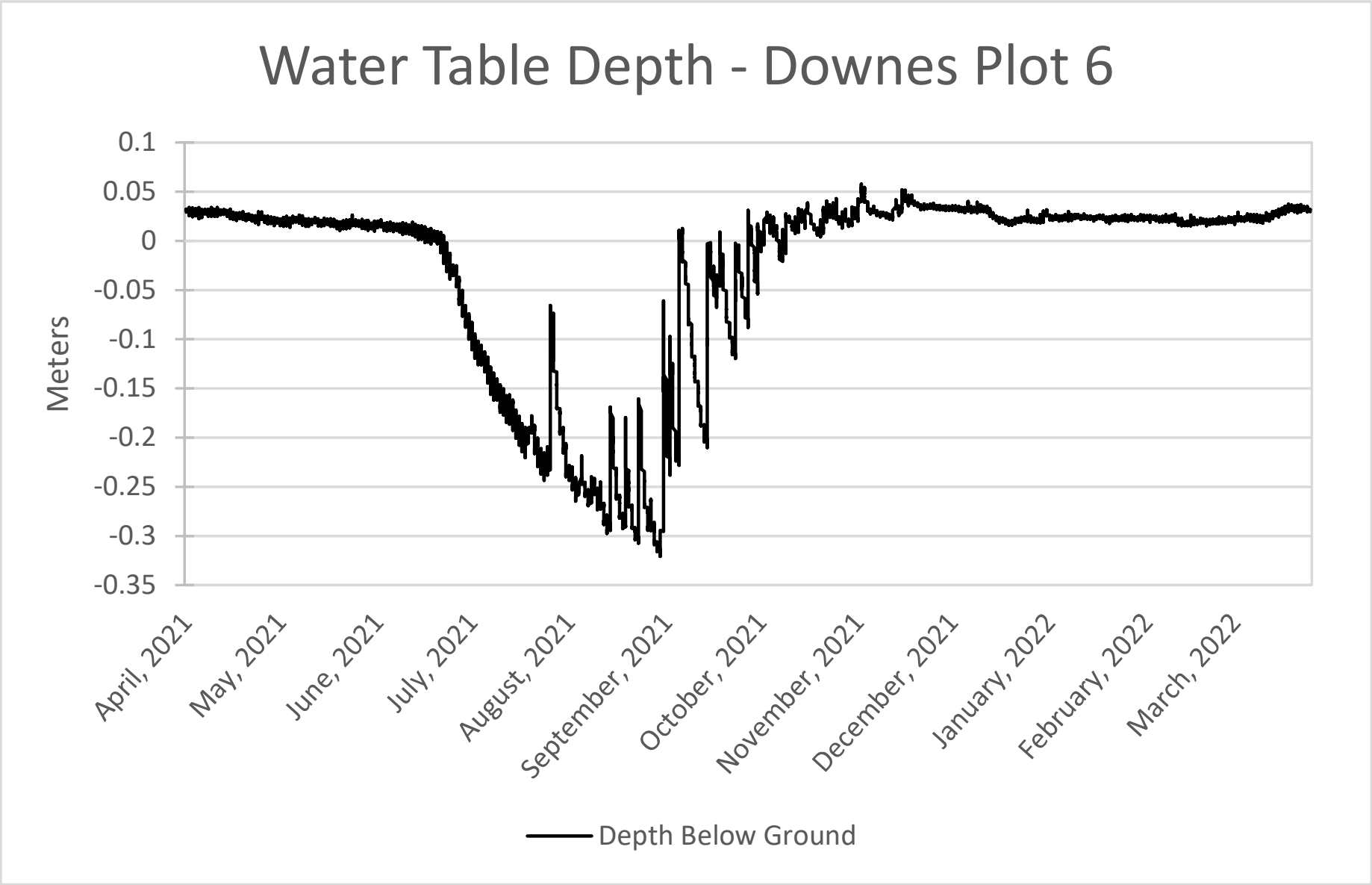

Water Table Depth - Control Wetland C, GW2
Meters
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
-0.4
-0.45
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

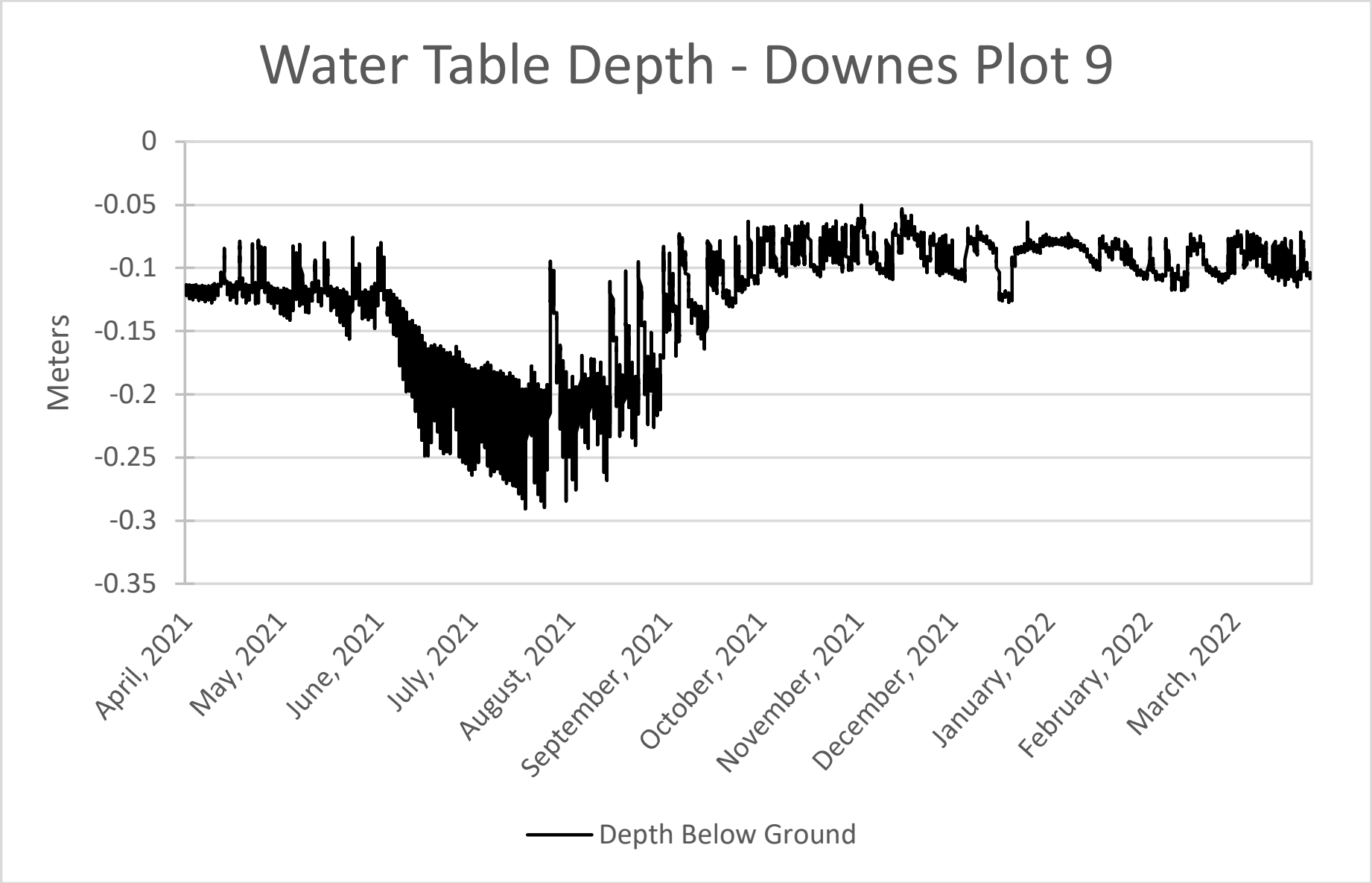

Water Table Depth - Control Wetland C, GW3
Meters
0.1
0
-0.1
-0.2
-0.3
-0.4
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

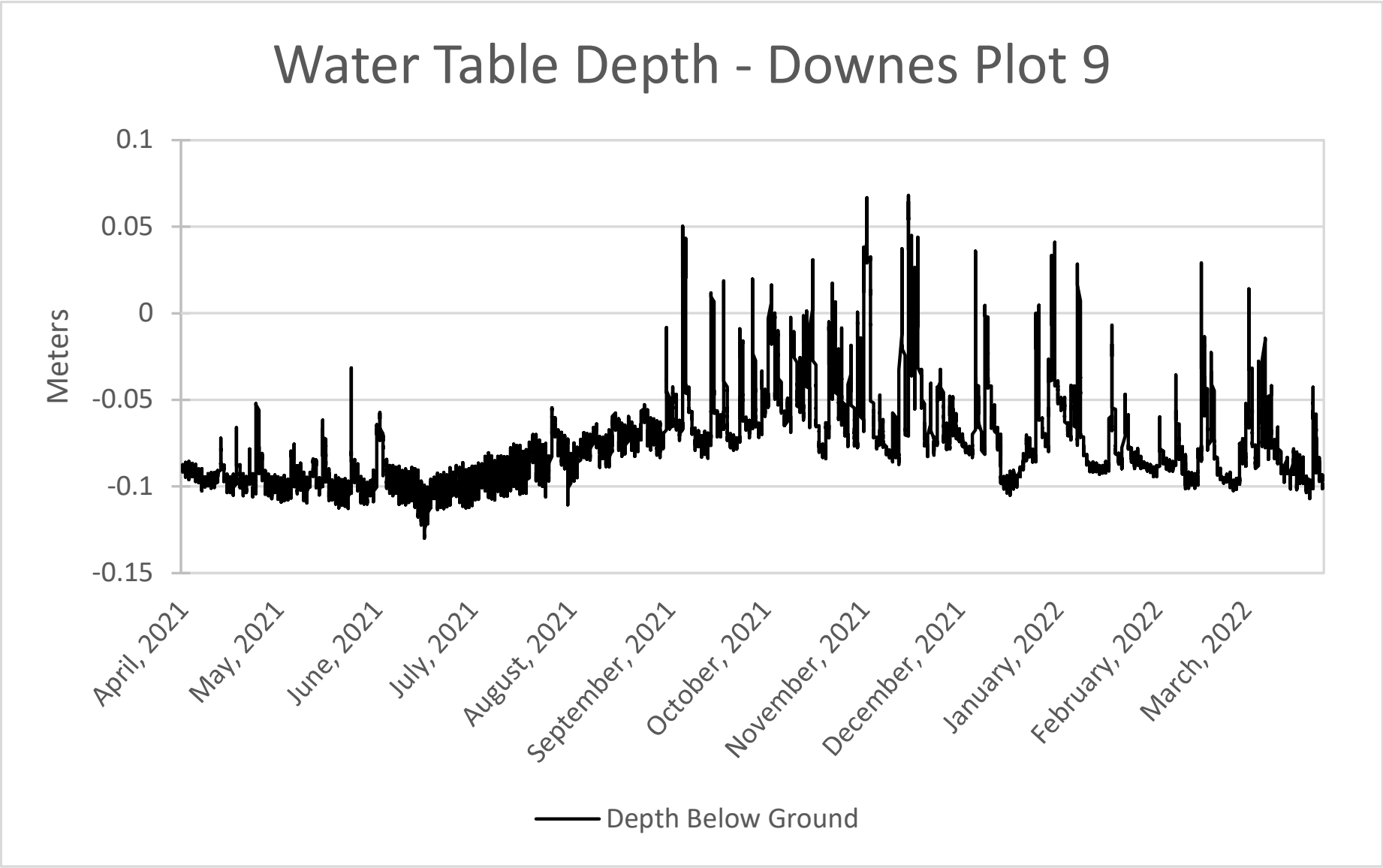

Water Table Depth - Boa Brook Plot 2
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Meters
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

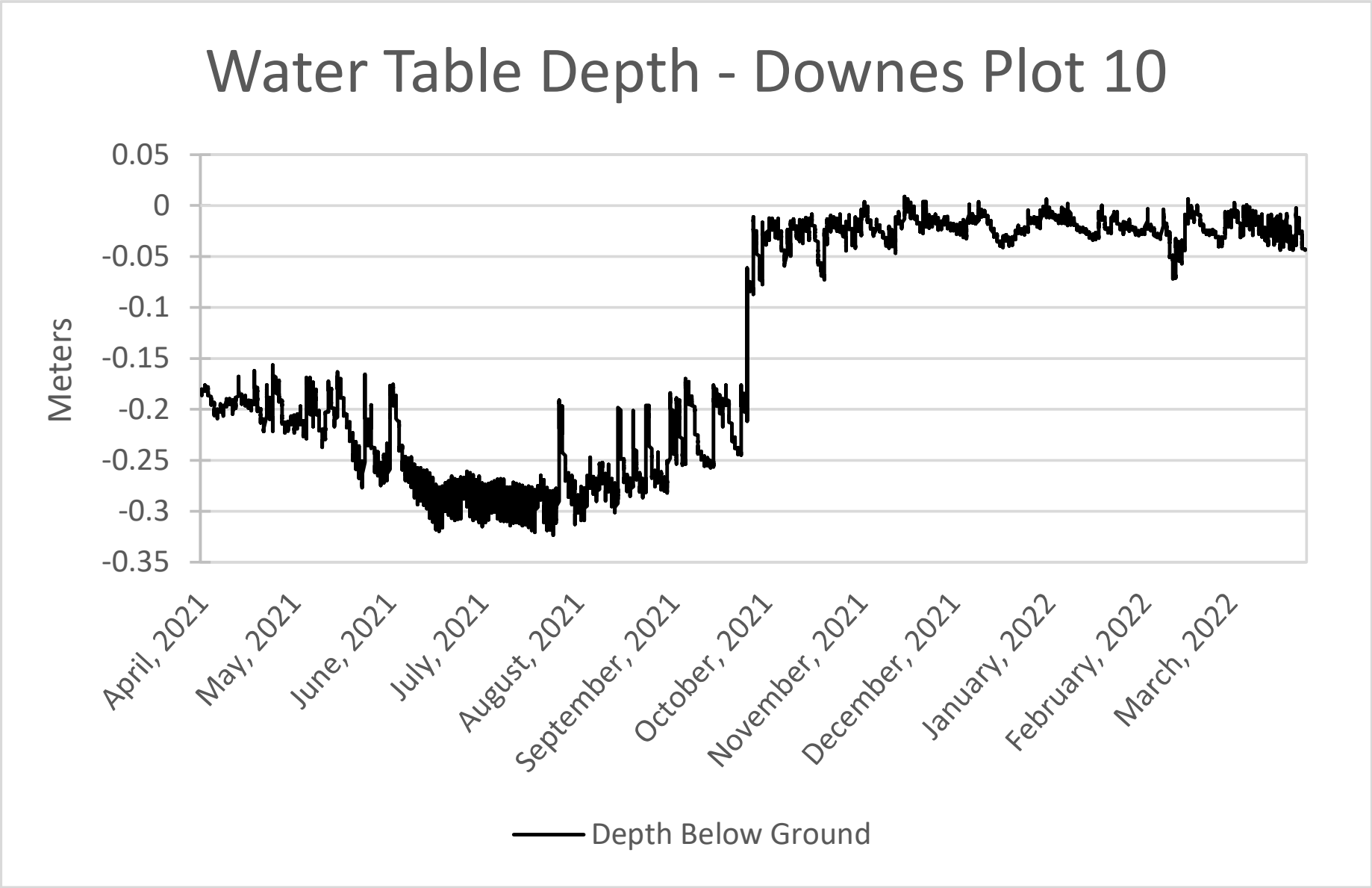

Water Table Depth - Horne Creek Plot 1
Meters
0.075
0.05
0.025
0
-0.025
-0.05
-0.075
-0.1
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

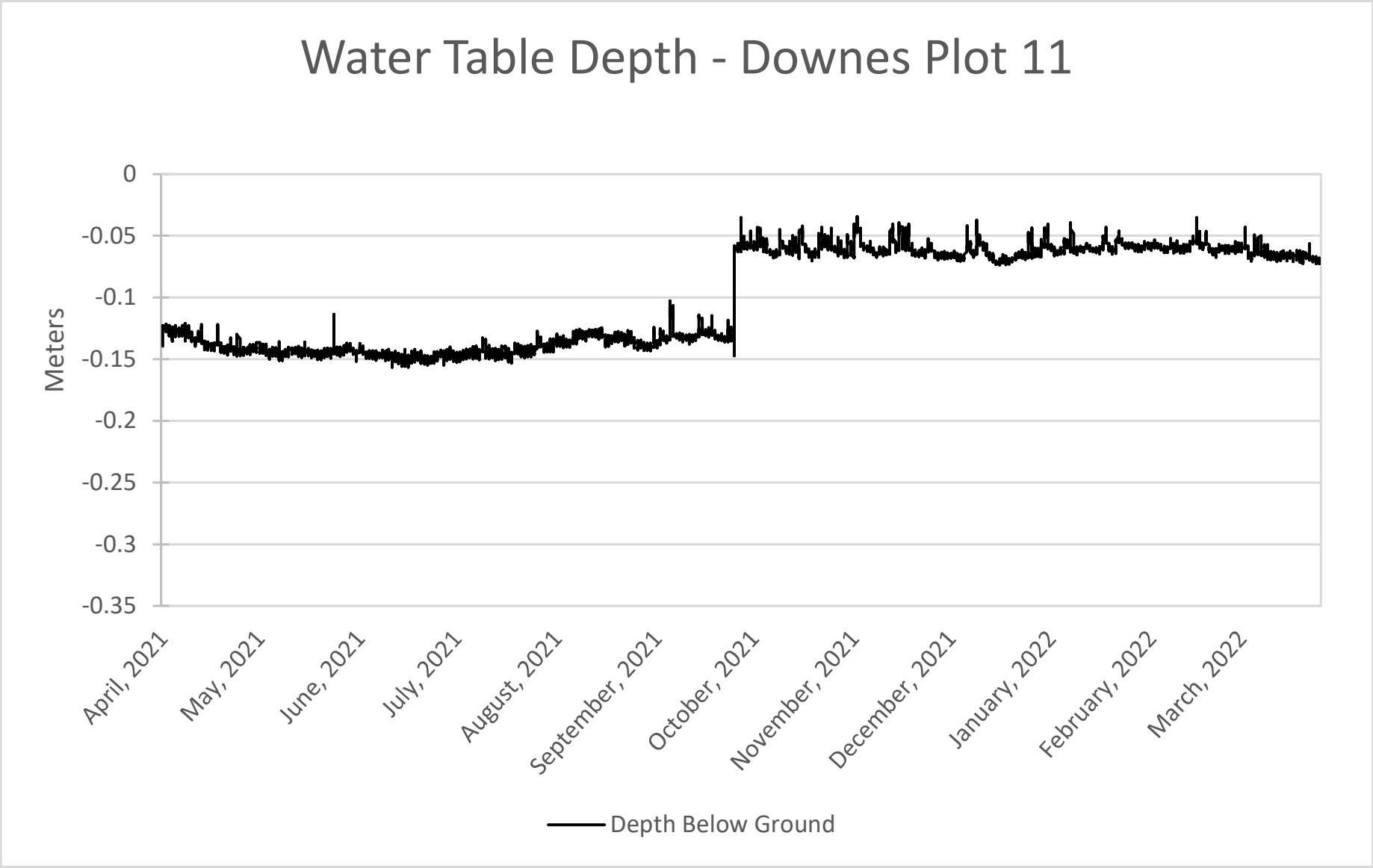

Water Table Depth - Downes Plot 1
Meters
0.16
0.15
0.14
0.13
0.12
0.11
0.1
0.09
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

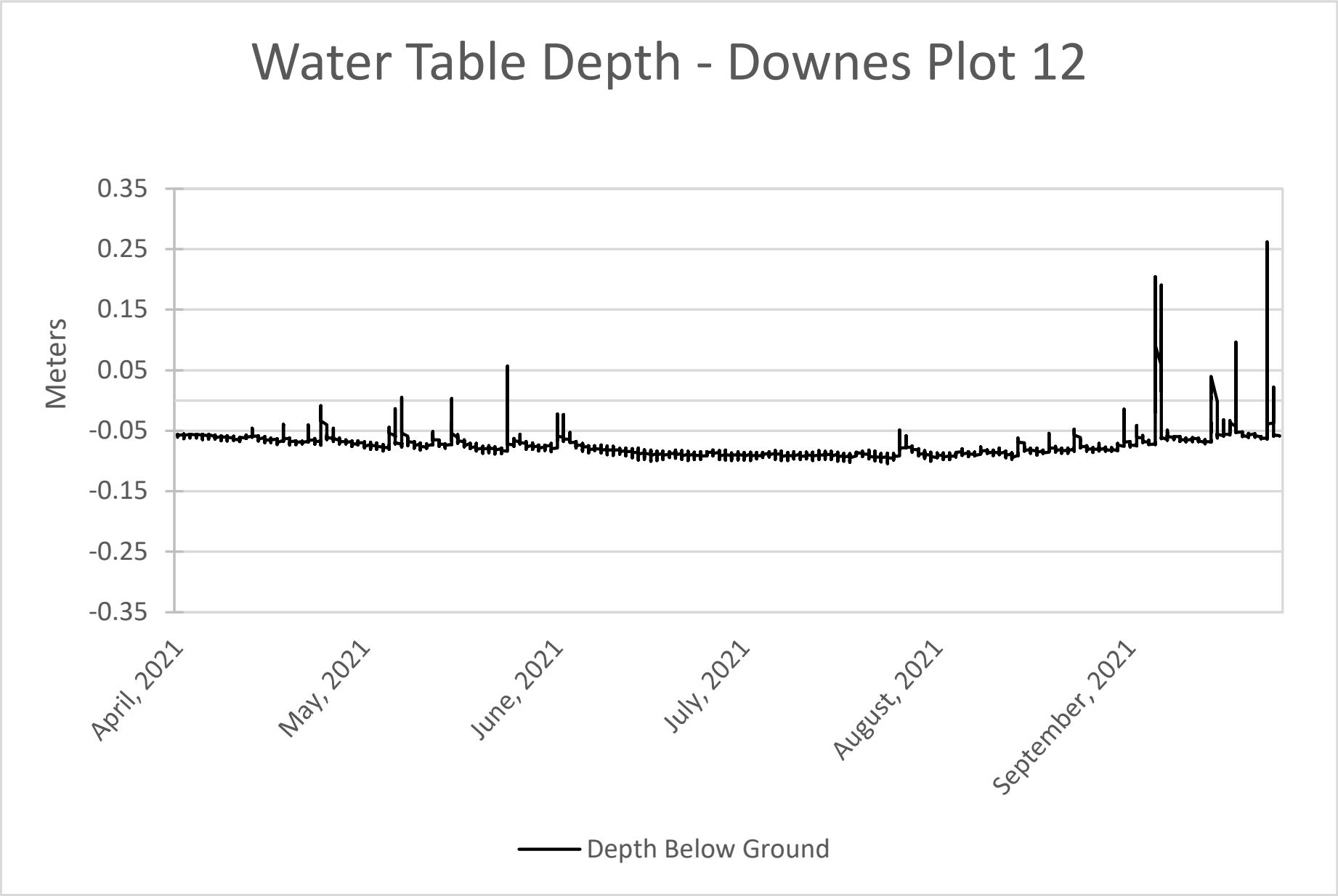

Water Table Depth - Downes Plot 6
Meters
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

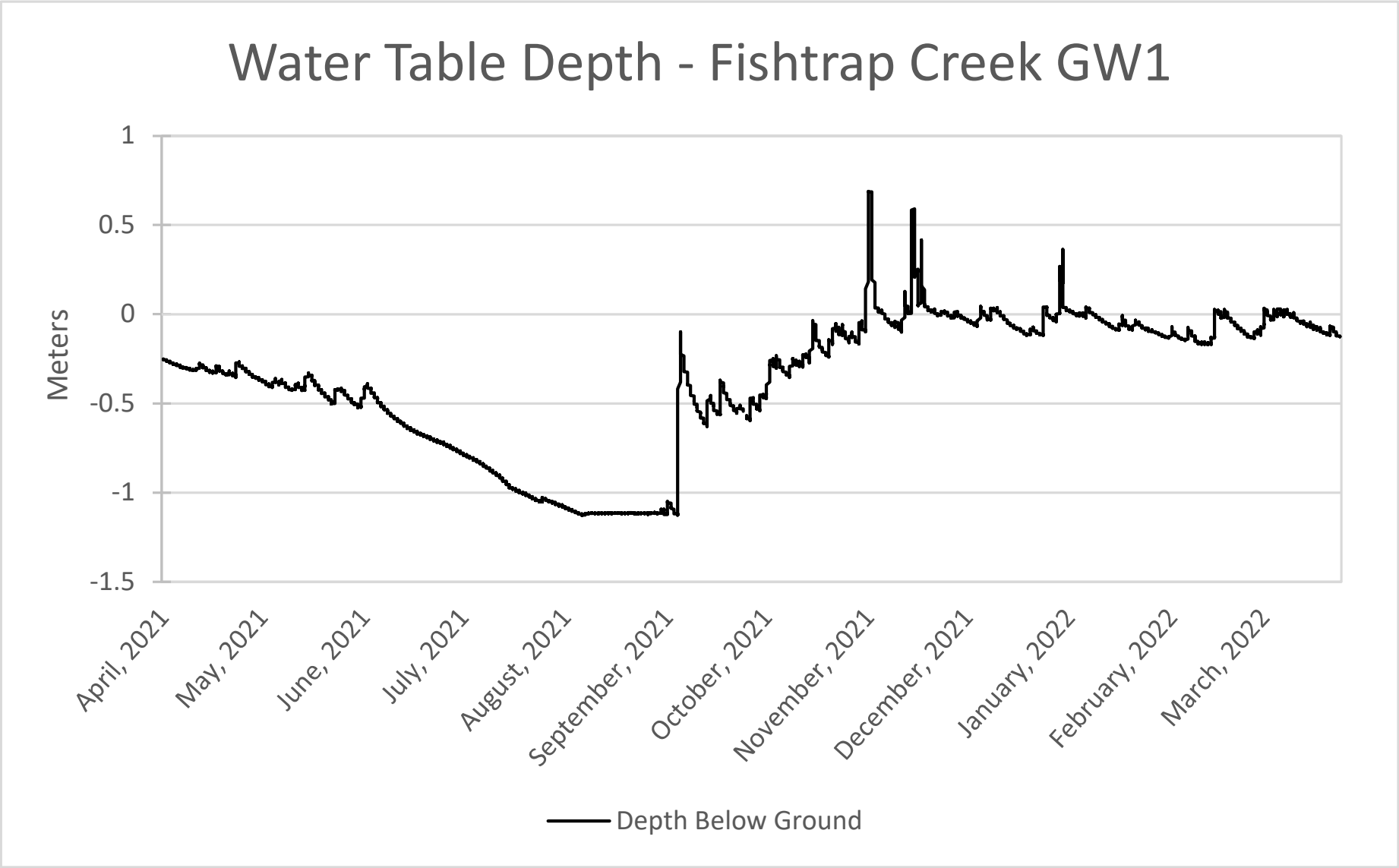

Water Table Depth - Downes Plot 9
Meters
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

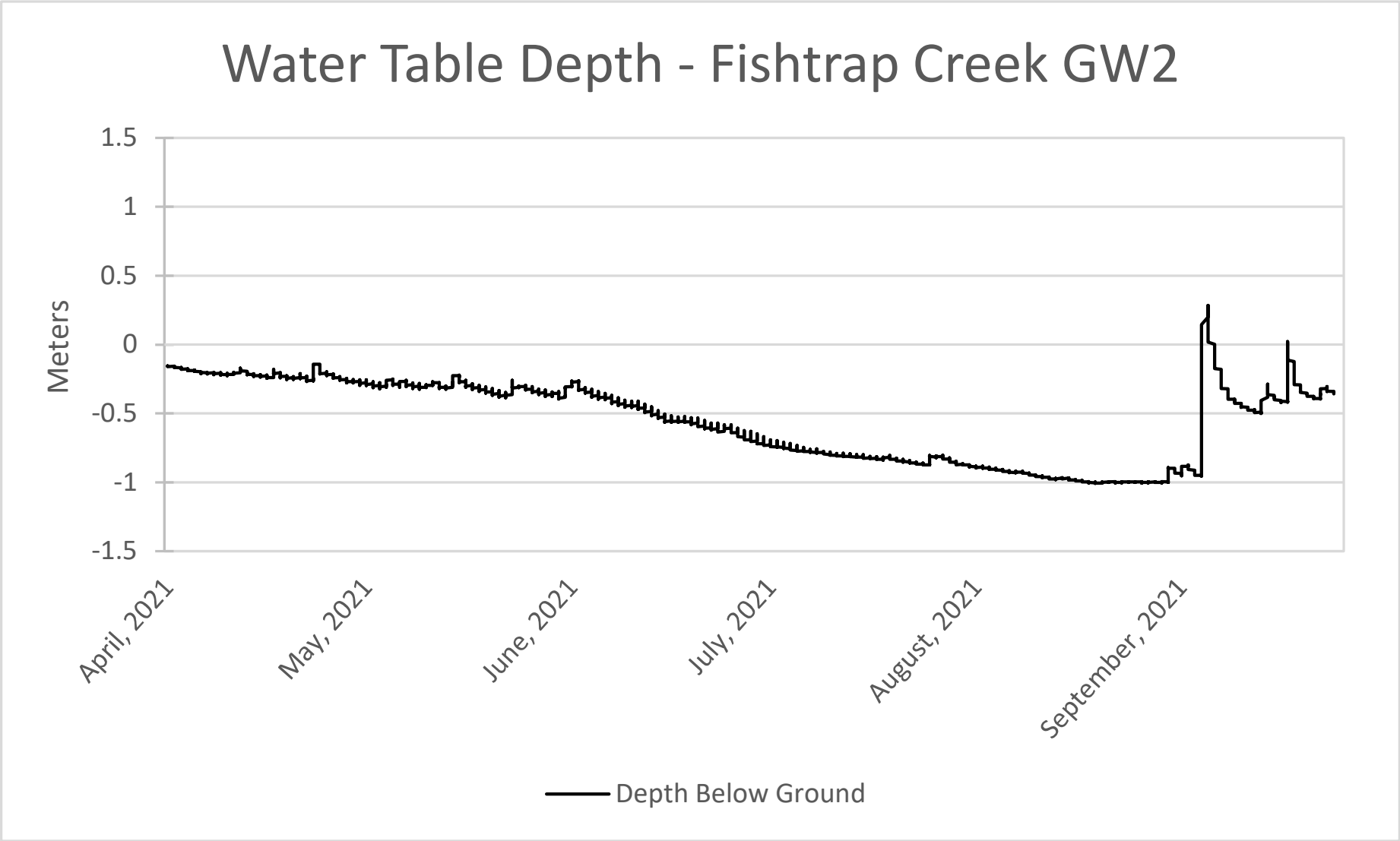

Water Table Depth - Downes Plot 9
0.1
0.05
0
-0.05
-0.1
-0.15
Meters
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground

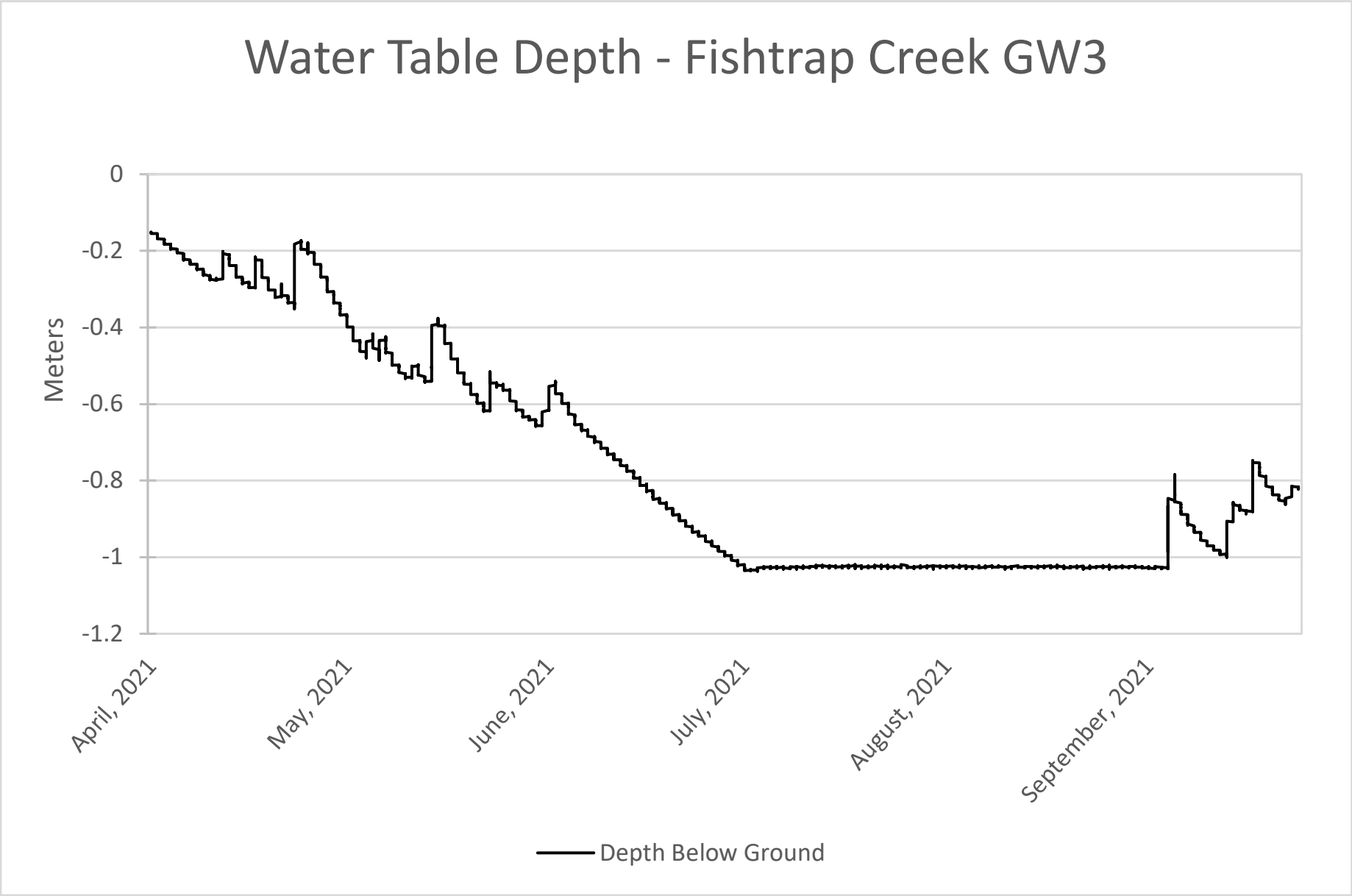

Water Table Depth - Downes Plot 10
Meters
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground


Water Table Depth - Downes Plot 11
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
Meters
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground


Water Table Depth - Downes Plot 12
Meters
0.35
0.25
0.15
0.05
-0.05
-0.15
-0.25
-0.35
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
Depth Below Ground


Water Table Depth - Fishtrap Creek GW1
Meters
1
0.5
0
-0.5
-1
-1.5
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
October, 2021
November, 2021
December, 2021
January, 2022
February, 2022
March, 2022
Depth Below Ground


Water Table Depth - Fishtrap Creek GW2
1.5
1
0.5
0
-0.5
-1
-1.5
Meters
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
Depth Below Ground


Water Table Depth - Fishtrap Creek GW3
Meters
0
-0.2
-0.4
-0.6
-0.8
-1
-1.2
April, 2021
May, 2021
June, 2021
July, 2021
August, 2021
September, 2021
Depth Below Ground

APPENDIX P

2021 Vegetation Data

Plot #	Common Name	Species Name	Layer	% Cover	Date
B01	paper birch	*Betula papyrifera*	A2	8	07-Oct-21
B01	salmonberry	*Rubus spectabilis*	B2	12	07-Oct-21
B01	Himalayan blackberry	*Rubus armeniacus*	B2	85	07-Oct-21
B01	yellow archangel	*Lamium galeobdolon*	C	1.5	07-Oct-21
B01	western skunk cabbage	*Lysichiton americanus*	C	0.5	07-Oct-21
B01	English ivy	*Hedera helix*	C	2.5	07-Oct-21
B01	false lily-of-the-valley	*Maianthemum dilatatum*	C	tr	07-Oct-21
B01	common horsetail	*Equisetum arvense*	C	tr	07-Oct-21
B02	black cottonwood	*Populus balsamifera*	A1	12	7-Oct-22
B02	black cottonwood	*Populus balsamifera*	A2	18	7-Oct-22
B02	Pacific willow	*Salix lucida subsp. Lasiandra*	A3	4	7-Oct-22
B02	Pacific willow	*Salix lucida subsp. Lasiandra*	B1	3	7-Oct-22
B02	hardhack	*Spiraea douglasii*	B1	8	7-Oct-22
B02	hardhack	*Spiraea douglasii*	B2	1.5	7-Oct-22
B02	Sitka willow	*Salix sitchensis*	B1	6.5	7-Oct-22
B02	sitka mountain-ash	*Sorbus sitchensis*	B1	0.5	7-Oct-22
B02	black twinberry	*Lonicera involucrata*	B1	2.5	7-Oct-22
B02	Himalayan blackberry	*Rubus armeniacus*	B1	0.5	7-Oct-22
B02	common horsetail	*Equisetum arvense*	C	2	7-Oct-22
B02	western skunk cabbage	*Lysichiton americanus*	C	2	7-Oct-22
B02	lady fern	*Athyrium filix-femina*	C	6	7-Oct-22
B02	European bittersweet	*Solanum dulcamara*	C	6	7-Oct-22
B02	broad-leaved willowherb	*Chamaenerion latifolium*	C	TR	7-Oct-22
B02	English holly	*Ilex aquifolium*	B1	TR	7-Oct-22
B02	cascara	*Rhamnus purshiana*	B1	0.5	7-Oct-22
B02	cherry-laurel	*Prunus laurocerasus*	B2	TR	7-Oct-22
B02	ricegrass		C	TR	7-Oct-22
B02	cherry-laurel	*Prunus laurocerasus*	B1	0.5	7-Oct-22
B02	bigleaf maple	*Acer macrophyllum*	B1	TR	7-Oct-22
B02	bitter cherry	*Prunus emarginata*	B2	TR	7-Oct-22
B02	salmonberry	*Rubus spectabilis*	B1	0.5	7-Oct-22
B02	beaked hazelnut	*Corylus cornuta*	B1	TR	7-Oct-22
D01	Western redcedar	*Thuja plicata*	A2	20	16-Sep-21
D01	red alder	*Alnus rubra*	A3	4	16-Sep-21
D01	red alder	*Alnus rubra*	B1	4.5	16-Sep-21
D01	vine maple	*Acer circinatum*	B1	39	16-Sep-21
D01	vine maple	*Acer circinatum*	B2	2.5	16-Sep-21
D01	salmonberry	*Rubus spectabilis*	B1	6	16-Sep-21
D01	salmonberry	*Rubus spectabilis*	B2	15	16-Sep-21
D01	red elderberry	*Sambucus racemosa*	B2	tr	16-Sep-21
D01	common horsetail	*Equisetum arvense*	C	38	16-Sep-21
D01	lady fern	*Athyrium filix-femina*	C	8.5	16-Sep-21
D01	spiny wood fern	*Dryopteris expansa*	C	4	16-Sep-21
D01	creeping buttercup	*Ranunculus repens*	C	tr	16-Sep-21
D01	piggy-back plant	*Tolmiea menziesii*	C	5.5	16-Sep-21
D01	western skunk cabbage	*Lysichiton americanus*	C	18	16-Sep-21

Plot #	Common Name	Species Name	Layer	% Cover	Date
D01	European bittersweet	*Solanum dulcamara*	C	1	16-Sep-21
D01	geranium	*Geranium* sp.	C	tr	16-Sep-21
D01	false lily-of-the-valley	*Maianthemum dilatatum*	C	2	16-Sep-21
D01	Western redcedar	*Thuja plicata*	B2	tr	16-Sep-21
D01	stink currant	*Ribes bracteosum*	B2	4	16-Sep-21
D01	sword fern	*Polystichum munitum*	C	tr	16-Sep-21
D01	devil's club	*Oplopanax horridus*	B1	tr	16-Sep-21
D01	Pacific willow	*Salix lucida subsp. Lasiandra*	B1	4	16-Sep-21
D01	Stinging nettle	*Urtica dioica*	C	0.5	16-Sep-21
D01	reed canarygrass	*Phalaris arundinacea*	C	1	16-Sep-21
D01	ricegrass		C	tr	16-Sep-21
D02	red alder	*Alnus rubra*	A3	5	16-Sep-21
D02	Pacific willow	*Salix lucida subsp. Lasiandra*	B1	11	16-Sep-21
D02	salmonberry	*Rubus spectabilis*	B1	1	16-Sep-21
D02	salmonberry	*Rubus spectabilis*	B2	12.5	16-Sep-21
D02	vine maple	*Acer circinatum*	B1	1	16-Sep-21
D02	vine maple	*Acer circinatum*	B2	17	16-Sep-21
D02	stink currant	*Ribes bracteosum*	B2	1	16-Sep-21
D02	red elderberry	*Sambucus racemosa*	B1	1.5	16-Sep-21
D02	lady fern	*Athyrium filix-femina*	C	15	16-Sep-21
D02	common horsetail	*Equisetum arvense*	C	18.5	16-Sep-21
D02	western skunk cabbage	*Lysichiton americanus*	C	6	16-Sep-21
D02	common cattail	*Typha latifolia*	C	3.5	16-Sep-21
D02	Stinging nettle	*Urtica dioica*	C	3	16-Sep-21
D02	European bittersweet	*Solanum dulcamara*	C	1	16-Sep-21
D02	spiny wood fern	*Dryopteris expansa*	C	1	16-Sep-21
D02	piggy-back plant	*Tolmiea menziesii*	C	1	16-Sep-21
D02	reed canarygrass	*Phalaris arundinacea*	C	3	16-Sep-21
D02	geranium	*Geranium* sp.	B2	tr	16-Sep-21
D02	red alder	*Alnus rubra*	**B1**	5	16-Sep-21
D02	beaked hazelnut	*Corylus cornuta*		0.5	16-Sep-21
D02	false lily-of-the-valley	*Maianthemum dilatatum*	C	tr	16-Sep-21
D03	Western redcedar	*Thuja plicata*	A1	8	7-Oct-22
D03	Western redcedar	*Thuja plicata*	A2	10	7-Oct-22
D03	Western redcedar	*Thuja plicata*	A3	12	7-Oct-22
D03	Western redcedar	*Thuja plicata*	B2	TR	7-Oct-22
D03	vine maple	*Acer circinatum*	B1	9	7-Oct-22
D03	vine maple	*Acer circinatum*	B2	TR	7-Oct-22
D03	salmonberry	*Rubus spectabilis*	B1	31	7-Oct-22
D03	salmonberry	*Rubus spectabilis*	B2	1	7-Oct-22
D03	English holly	*Ilex aquifolium*	B1	1.5	7-Oct-22
D03	cherry-laurel	*Prunus laurocerasus*	B2	TR	7-Oct-22
D03	cascara	*Rhamnus purshiana*	B1	1.5	7-Oct-22
D03	thimbleberry	*Rubus parviflorus*	B2	TR	7-Oct-22
D03	lady fern	*Athyrium filix-femina*	C	5	7-Oct-22
D03	spiny wood fern	*Dryopteris expansa*	C	12	7-Oct-22

Plot #	Common Name	Species Name	Layer	% Cover	Date
D03	common horsetail	*Equisetum arvense*	C	1	7-Oct-22
D03	false lily-of-the-valley	*Maianthemum dilatatum*	C	TR	7-Oct-22
D03	western skunk cabbage	*Lysichiton americanus*	C	3	7-Oct-22
D03	California blackberry	*Rubus ursinus*	C	TR	7-Oct-22
D03	sword fern	*Polystichum munitum*	C	2.5	7-Oct-22
D03	devil's club	*Oplopanax horridus*	B2	0.5	7-Oct-22
D03	mountain ash	*Sorbus* sp.	B1	TR	7-Oct-22
D03	Alpine enchanter's-nightshade	*Circaea alpina*	C	TR	7-Oct-22
D03	western hemlock	*Tsuga heterophylla*	A3	1.5	7-Oct-22
D03	Bittercress	*Cardamine* sp.	C	TR	7-Oct-22
D04	cascara	*Rhamnus purshiana*	B1	0.5	7-Oct-22
D04	salmonberry	*Rubus spectabilis*	B1	1	7-Oct-22
D04	red alder	*Alnus rubra*	B1	1	7-Oct-22
D04	mountain ash	*Sorbus* sp.	**B1**	0.5	7-Oct-22
D04	black twinberry	*Lonicera involucrata*	B1	0.5	7-Oct-22
D04	vine maple	*Acer circinatum*	B1	0.5	7-Oct-22
D04	western skunk cabbage	*Lysichiton americanus*	**C**	40	7-Oct-22
D04	European bittersweet	*Solanum dulcamara*	C	TR	7-Oct-22
D04	common horsetail	*Equisetum arvense*	C	55	7-Oct-22
D04	reed canarygrass	*Phalaris arundinacea*	C	20	7-Oct-22
D04	lady fern	*Athyrium filix-femina*	C	1	7-Oct-22
D04	Cooley's hedge-nettle	*Stachys chamissonis* var. *cooleyae*	C	4	7-Oct-22
D05	black cottonwood	*Populus balsamifera*	A1	18	13-Sep-21
D05	black cottonwood	*Populus balsamifera*	A3	22	13-Sep-21
D05	red alder	*Alnus rubra*	A4	2	13-Sep-21
D05	red alder	*Alnus rubra*	B1	5	13-Sep-21
D05	paper birch	*Betula papyrifera*	B1	2.5	13-Sep-21
D05	vine maple	*Acer circinatum*	B1	7.5	13-Sep-21
D05	black twinberry	*Lonicera involucrata*	B1	4.75	13-Sep-21
D05	salmonberry	*Rubus spectabilis*	B1	8.25	13-Sep-21
D05	salmonberry	*Rubus spectabilis*	B2	12	13-Sep-21
D05	stink currant	*Ribes bracteosum*	B2	tr	13-Sep-21
D05	devil's club	*Oplopanax horridus*	B2	1	13-Sep-21
D05	hardhack	*Spiraea douglasii*	B2	1.5	13-Sep-21
D05	thimbleberry	*Rubus parviflorus*	B2	0.5	13-Sep-21
D05	lady fern	*Athyrium filix-femina*	C	10.75	13-Sep-21
D05	western skunk cabbage	*Lysichiton americanus*	C	33.75	13-Sep-21
D05	common horsetail	*Equisetum arvense*	C	37.5	13-Sep-21
D05	ocean spray	*Holodiscus discolor*	B2	0.5	13-Sep-21
D06	vine maple	*Acer circinatum*	**B1**	28	16-Sep-21
D06	vine maple	*Acer circinatum*	B2	tr	16-Sep-21
D06	red elderberry	*Sambucus racemosa*	B1	9.5	16-Sep-21
D06	red elderberry	*Sambucus racemosa*	B2	tr	16-Sep-21
D06	salmonberry	*Rubus spectabilis*	B1	7.5	16-Sep-21
D06	salmonberry	*Rubus spectabilis*	B2	30.5	16-Sep-21
D06	lady fern	*Athyrium filix-femina*	C	6	16-Sep-21

Plot #	Common Name	Species Name	Layer	% Cover	Date
D06	common horsetail	*Equisetum arvense*	C	6.5	16-Sep-21
D06	Stinging nettle	*Urtica dioica*	C	16	16-Sep-21
D06	western skunk cabbage	*Lysichiton americanus*	C	8	16-Sep-21
D06	spiny wood fern	*Dryopteris expansa*	C	8	16-Sep-21
D06	stink currant	*Ribes bracteosum*	B1	2	16-Sep-21
D06	stink currant	*Ribes bracteosum*	B2	tr	16-Sep-21
D06	piggy-back plant	*Tolmiea menziesii*	C	24	16-Sep-21
D06	devil's club	*Oplopanax horridus*	B1	1	16-Sep-21
D06	devil's club	*Oplopanax horridus*	B2	tr	16-Sep-21
D06	Pacific bleeding heart	*Dicentra formosa*	C	tr	16-Sep-21
D06	sword fern	*Polystichum munitum*	C	tr	16-Sep-21
D06	geranium	*Geranium* sp.	C	tr	16-Sep-21
D06	slough sedge	*Carex obnupta*	C	tr	16-Sep-21
D07	Western redcedar	*Thuja plicata*	A2	7	07-Oct-21
D07	cascara	*Rhamnus purshiana*	A3	0.5	07-Oct-21
D07	vine maple	*Acer circinatum*	B1	6	07-Oct-21
D07	salmonberry	*Rubus spectabilis*	B2	12.5	07-Oct-21
D07	salmonberry	*Rubus spectabilis*	B1	11.25	07-Oct-21
D07	Himalayan blackberry	*Rubus armeniacus*	B2	3	07-Oct-21
D07	devil's club	*Oplopanax horridus*	B2	tr	07-Oct-21
D07	western skunk cabbage	*Lysichiton americanus*	C	14	07-Oct-21
D07	common horsetail	*Equisetum arvense*	C	35	07-Oct-21
D07	black gooseberry	*Ribes lacustre*	B2	1.5	07-Oct-21
D07	Bittercress	*Cardamine* sp.	C	2	07-Oct-21
D07	piggy-back plant	*Tolmiea menziesii*	C	9	07-Oct-21
D07	Stinging nettle	*Urtica dioica*	C	1	07-Oct-21
D07	spiny wood fern	*Dryopteris expansa*	C	4.5	07-Oct-21
D07	lady fern	*Athyrium filix-femina*	C	3	07-Oct-21
D07	Western redcedar	*Thuja plicata*	B1	tr	07-Oct-21
D07	western hemlock	*Tsuga heterophylla*	A3	2	07-Oct-21
D07	sitka mountain-ash	*Sorbus sitchensis*	B1	tr	07-Oct-21
D07	western hemlock	*Tsuga heterophylla*	B1	0.5	07-Oct-21
D08	Western redcedar	*Thuja plicata*	A2	5.5	13-Sep-21
D08	Western redcedar	*Thuja plicata*	B1	tr	13-Sep-21
D08	cascara	*Rhamnus purshiana*	A3	3	13-Sep-21
D08	vine maple	*Acer circinatum*	B1	36.25	13-Sep-21
D08	devil's club	*Oplopanax horridus*	B1	2	13-Sep-21
D08	salmonberry	*Rubus spectabilis*	B1	0.5	13-Sep-21
D08	salmonberry	*Rubus spectabilis*	B2	5.75	13-Sep-21
D08	stink currant	*Ribes bracteosum*	B2	0.5	13-Sep-21
D08	red alder	*Alnus rubra*	B1	6	13-Sep-21
D08	false lily-of-the-valley	*Maianthemum dilatatum*	C	1	13-Sep-21
D08	spiny wood fern	*Dryopteris expansa*	C	6.5	13-Sep-21
D08	common horsetail	*Equisetum arvense*	C	tr	13-Sep-21
D08	geranium	*Geranium* sp.	C	0.5	13-Sep-21
D08	speedwell	*Veronica* sp.	C	tr	13-Sep-21

Plot #	Common Name	Species Name	Layer	% Cover	Date
D08	lady fern	*Athyrium filix-femina*	C	4.75	13-Sep-21
D08	western skunk cabbage	*Lysichiton americanus*	C	7.25	13-Sep-21
D08	black cottonwood	*Populus balsamifera*	B2	tr	13-Sep-21
D08	sword fern	*Polystichum munitum*	C	tr	13-Sep-21
D08	black cottonwood	*Populus balsamifera*	A1		13-Sep-21
D08	vine maple	*Acer circinatum*	B2	tr	13-Sep-21
D08	stink currant	*Ribes bracteosum*	B1	0.5	13-Sep-21
D08	Himalayan blackberry	*Rubus armeniacus*	B2	tr	13-Sep-21
D13	red alder	*Alnus rubra*	A2	2	07-Oct-21
D13	red alder	*Alnus rubra*	A3	13	07-Oct-21
D13	red alder	*Alnus rubra*	B1	4.5	07-Oct-21
D13	Pacific willow	*Salix lucida subsp. Lasiandra*	A3	4	07-Oct-21
D13	Pacific willow	*Salix lucida subsp. Lasiandra*	B1	7.5	07-Oct-21
D13	vine maple	*Acer circinatum*	B1	tr	07-Oct-21
D13	black twinberry	*Lonicera involucrata*	B1	8	07-Oct-21
D13	black twinberry	*Lonicera involucrata*	B2	0.5	07-Oct-21
D13	stink currant	*Ribes bracteosum*	B2	2.5	07-Oct-21
D13	hardhack	*Spiraea douglasii*	B2	2.5	07-Oct-21
D13	salmonberry	*Rubus spectabilis*	B1	20	07-Oct-21
D13	salmonberry	*Rubus spectabilis*	B2	3	07-Oct-21
D13	Sitka willow	*Salix sitchensis*	B1	4	07-Oct-21
D13	western skunk cabbage	*Lysichiton americanus*	C	13	07-Oct-21
D13	common horsetail	*Equisetum arvense*	C	7.5	07-Oct-21
D13	spiny wood fern	*Dryopteris expansa*	C	1	07-Oct-21
D13	lady fern	*Athyrium filix-femina*	C	7	07-Oct-21
D13	piggy-back plant	*Tolmiea menziesii*	C	3	07-Oct-21
D13	ricegrass		C	0.5	07-Oct-21
D13	slough sedge	*Carex obnupta*	C	1	07-Oct-21
D13	Stinging nettle	*Urtica dioica*	C	0.5	07-Oct-21
D13	water-hemlock	*Cicuta* sp.	C	tr	07-Oct-21
D13	Himalayan blackberry	*Rubus armeniacus*	C	tr	07-Oct-21
D13	European bittersweet	*Solanum dulcamara*	C	tr	07-Oct-21
D13	broad-leaved willowherb	*Chamaenerion latifolium*	C	tr	07-Oct-21
D13	geranium	*Geranium* sp.	C	tr	07-Oct-21
D14	Western redcedar	*Thuja plicata*	B1	8	13-Sep-21
D14	red alder	*Alnus rubra*	A2	7	13-Sep-21
D14	cascara	*Rhamnus purshiana*	A3	17	13-Sep-21
D14	beaked hazelnut	*Corylus cornuta*	B1	8	13-Sep-21
D14	vine maple	*Acer circinatum*	B1	5	13-Sep-21
D14	salmonberry	*Rubus spectabilis*	B2	15	13-Sep-21
D14	salmonberry	*Rubus spectabilis*	B2	3	13-Sep-21
D14	thimbleberry	*Rubus parviflorus*	B2	22	13-Sep-21
D14	sword fern	*Polystichum munitum*	C	45	13-Sep-21
D14	California blackberry	*Rubus ursinus*	C	tr	13-Sep-21
D14	spiny wood fern	*Dryopteris expansa*	C	2	13-Sep-21

Plot #	Common Name	Species Name	Layer	% Cover	Date
D14	hawkweed	*Hieracium* sp.	C	tr	13-Sep-21
D14	common horsetail	*Equisetum arvense*	C	tr	13-Sep-21
D15	bigleaf maple	*Acer macrophyllum*	A1	65	16-Sep-21
D15	red alder	*Alnus rubra*	A2	5	16-Sep-21
D15	salmonberry	*Rubus spectabilis*	B2	8.33	16-Sep-21
D15	salmonberry	*Rubus spectabilis*	B2	40	16-Sep-21
D15	red elderberry	*Sambucus racemosa*	B1	23	16-Sep-21
D15	red elderberry	*Sambucus racemosa*	B2		16-Sep-21
D15	vine maple	*Acer circinatum*	B1	3.5	16-Sep-21
D15	thimbleberry	*Rubus parviflorus*	B2	3.75	16-Sep-21
D15	Pacific bleeding heart	*Dicentra formosa*	C	tr	16-Sep-21
D15	sword fern	*Polystichum munitum*	C	4	16-Sep-21
D15	false Solomon's-seal	*Maianthemum racemosum*	C	0.5	16-Sep-21
D15	spiny wood fern	*Dryopteris expansa*	C	11	16-Sep-21
D15	cascara	*Rhamnus purshiana*	C	tr	16-Sep-21
D15	vanilla leaf	*Achlys triphylla*	C	tr	16-Sep-21
D15	hawkweed	*Hieracium* sp.	C	tr	16-Sep-21
D15	Rose Twisted-stalk	*Streptopus lanceolatus*	C	tr	16-Sep-21
D15	cat-tail moss		D	1	16-Sep-21
D16	bigleaf maple	*Acer macrophyllum*	A1	20	7-Oct-22
D16	beaked hazelnut	*Corylus cornuta*	B1	15	7-Oct-22
D16	salmonberry	*Rubus spectabilis*	B1	20	7-Oct-22
D16	salmonberry	*Rubus spectabilis*	B2	10	7-Oct-22
D16	Indian-plum	*Oemleria cerasiformis*	B1	5	7-Oct-22
D16	thimbleberry	*Rubus parviflorus*	B2	5	7-Oct-22
D16	vine maple	*Acer circinatum*	B2	TR	7-Oct-22
D16	sword fern	*Polystichum munitum*	C	2	7-Oct-22
D16	Stinging nettle	*Urtica dioica*	C	7	7-Oct-22
D16	shinleaf wintergreen/	*Pyrola elliptica*	C	TR	7-Oct-22
D16	fringe cup	*Tellima grandiflora*	C	7	7-Oct-22
D16	Robert's geranium	*Geranium robertianum*	C	TR	7-Oct-22
D16	bigleaf maple	*Acer macrophyllum*	B2	TR	7-Oct-22
D16	lady fern	*Athyrium filix-femina*	C	TR	7-Oct-22
D17	bigleaf maple	*Acer macrophyllum*	A2	70	07-Oct-21
D17	salmonberry	*Rubus spectabilis*	B1	31	07-Oct-21
D17	salmonberry	*Rubus spectabilis*	B2	6	07-Oct-21
D17	Stinging nettle	*Urtica dioica*	C	8	07-Oct-21
D17	false Solomon's-seal	*Maianthemum racemosum*	C	tr	07-Oct-21
D17	fringe cup	*Tellima grandiflora*	C	tr	07-Oct-21
D17	sword fern	*Polystichum munitum*	C	3	07-Oct-21
D17	Western redcedar	*Thuja plicata*	B1	0.5	07-Oct-21
D17	Western redcedar	*Thuja plicata*	B2	tr	07-Oct-21
D17	vine maple	*Acer circinatum*	B1	5	07-Oct-21
D17	vine maple	*Acer circinatum*	B2	tr	07-Oct-21
D17	red elderberry	*Sambucus racemosa*	B2	tr	07-Oct-21

Plot #	Common Name	Species Name	Layer	% Cover	Date
D18	bigleaf maple	*Acer macrophyllum*	A1	45	07-Oct-21
D18	bigleaf maple	*Acer macrophyllum*	C	tr	07-Oct-21
D18	beaked hazelnut	*Corylus cornuta*	B1	30	07-Oct-21
D18	red elderberry	*Sambucus racemosa*	B1	1	07-Oct-21
D18	red elderberry	*Sambucus racemosa*	B2	2	07-Oct-21
D18	Indian-plum	*Oemleria cerasiformis*	B1	11	07-Oct-21
D18	red huckleberry	*Vaccinium parvifolium*	B2	1	07-Oct-21
D18	vine maple	*Acer circinatum*	B1	2	07-Oct-21
D18	vine maple	*Acer circinatum*	B2	1	07-Oct-21
D18	salmonberry	*Rubus spectabilis*	B1	2	07-Oct-21
D18	salmonberry	*Rubus spectabilis*	B2	20	07-Oct-21
D18	sword fern	*Polystichum munitum*	C	1.5	07-Oct-21
D18	Pacific bleeding heart	*Dicentra formosa*	C	tr	07-Oct-21
D18	fringe cup	*Tellima grandiflora*	C	2.5	07-Oct-21
D18	stink currant	*Ribes bracteosum*	B2	tr	07-Oct-21
D18	lady fern	*Athyrium filix-femina*	C	0.5	07-Oct-21
D18	Stinging nettle	*Urtica dioica*	C	tr	07-Oct-21
D18	spiny wood fern	*Dryopteris expansa*	C	2.5	07-Oct-21
D18	false Solomon's-seal	*Maianthemum racemosum*	C	tr	07-Oct-21
D18	thimbleberry	*Rubus parviflorus*	B2	2	07-Oct-21
D18	California blackberry	*Rubus ursinus*	C	tr	07-Oct-21
FT01	Willow	*Salix* sp.	B1	4	21-Oct-22
FT01	cascara	*Rhamnus purshiana*	B1	25	21-Oct-22
FT01	black twinberry	*Lonicera involucrata*	B1	12	21-Oct-22
FT01	salmonberry	*Rubus spectabilis*	B1	20	21-Oct-22
FT01	salmonberry	*Rubus spectabilis*	B2	5	21-Oct-22
FT01	red elderberry	*Sambucus racemosa*	B1	55	21-Oct-22
FT01	lady fern	*Athyrium filix-femina*	C	1	21-Oct-22
FT01	spiny wood fern	*Dryopteris expansa*	C	3.5	21-Oct-22
FT01	Stinging nettle	*Urtica dioica*	C	1	21-Oct-22
FT01	fringe cup	*Tellima grandiflora*	C	TR	21-Oct-22
FT01	sword fern	*Polystichum munitum*	C	TR	21-Oct-22
FT01	Western Bittercress	*Cardamine occidentalis*	C	0.5	21-Oct-22
FT01	vine maple	*Acer circinatum*	B1	3	21-Oct-22
FT01	red-osier dogwood	*Cornus sericea*	B1	3	21-Oct-22
FT02	black twinberry	*Lonicera involucrata*	B1	2	21-Oct-22
FT02	red-osier dogwood	*Cornus sericea*	B1	1	21-Oct-22
FT02	red alder	*Alnus rubra*	A3	45	21-Oct-22
FT02	reed canarygrass	*Phalaris arundinacea*	C	95	21-Oct-22
FT02	evergreen blackberry	*Rubus laciniatus*	B1	0.5	21-Oct-22
FT02	Stinging nettle	*Urtica dioica*	C	TR	21-Oct-22
FT02	Indian-plum	*Oemleria cerasiformis*	B1	TR	21-Oct-22
FT02	red elderberry	*Sambucus racemosa*	B1	1	21-Oct-22
FT03	reed canarygrass	*Phalaris arundinacea*	C	100	21-Oct-22
FT03	Sitka willow	*Salix sitchensis*	B1	1	21-Oct-22
FT03	salmonberry	*Rubus spectabilis*	B2	3	21-Oct-22

Plot #	Common Name	Species Name	Layer	% Cover	Date
FT04	red elderberry	*Sambucus racemosa*	B1	TR	21-Oct-22
FT04	red elderberry	*Sambucus racemosa*	B2	1	21-Oct-22
FT04	salmonberry	*Rubus spectabilis*	B1	2	21-Oct-22
FT04	salmonberry	*Rubus spectabilis*	B2	40	21-Oct-22
FT04	paper birch	*Betula papyrifera*	B1	2	21-Oct-22
FT04	oak	*Quercus* sp.	B1	TR	21-Oct-22
FT04	cascara	*Rhamnus purshiana*	B1	6	21-Oct-22
FT04	red alder	*Alnus rubra*	A3	7	21-Oct-22
FT04	red alder	*Alnus rubra*	B1	0.5	21-Oct-22
FT04	red alder	*Alnus rubra*	B2	TR	21-Oct-22
FT04	Douglas-fir	*Pseudotsuga menziesii*	A1	22	21-Oct-22
FT04	spiny wood fern	*Dryopteris expansa*	C	1	21-Oct-22
FT04	sword fern	*Polystichum munitum*	C	TR	21-Oct-22
FT04	Pacific Bleeding Heart	*Dicentra formosa*	C	TR	21-Oct-22
FT04	sitka mountain-ash	*Sorbus sitchensis*	B1	1	21-Oct-22
FT04	sitka mountain-ash	*Sorbus sitchensis*	B2	TR	21-Oct-22
FT04	California blackberry	*Rubus ursinus*	C	3	21-Oct-22
FT04	lady fern	*Athyrium filix-femina*	C	1.5	21-Oct-22
FT04	beaked hazelnut	*Corylus cornuta*	B1	5	21-Oct-22
FT04	creeping buttercup	*Ranunculus repens*	C	TR	21-Oct-22
FT04	fringe cup	*Tellima grandiflora*	C	TR	21-Oct-22
FT04	evergreen blackberry	*Rubus laciniatus*	B2	TR	21-Oct-22
FT04	hawkweed	*Hieracium* sp.	C	TR	21-Oct-22
FT04	Indian-plum	*Oemleria cerasiformis*	B1	1	21-Oct-22
FT04	vine maple	*Acer circinatum*	B1	1.5	21-Oct-22
FT04	thimbleberry	*Rubus parviflorus*	B2	TR	21-Oct-22
FT04	bitter cherry	*Prunus emarginata*	B2	TR	21-Oct-22
FT05	paper birch	*Betula papyrifera*	A3	17	21-Oct-22
FT05	beaked hazelnut	*Corylus cornuta*	B1	25	21-Oct-22
FT05	red alder	*Alnus rubra*	A2	22	21-Oct-22
FT05	red-osier dogwood	*Cornus sericea*	B1	2	21-Oct-22
FT05	Pacific ninebark	*Physocarpus capitatus*	B1	17	21-Oct-22
FT05	Himalayan blackberry	*Rubus armeniacus*	B2	TR	21-Oct-22
FT05	California blackberry	*Rubus ursinus*	C	TR	21-Oct-22
FT05	evergreen blackberry	*Rubus laciniatus*	B2	0.5	21-Oct-22
FT05	thimbleberry	*Rubus parviflorus*	B2	2.5	21-Oct-22
FT05	common snowberry	*Symphoricarpos albus*	B2	TR	21-Oct-22
FT05	sword fern	*Polystichum munitum*	C	TR	21-Oct-22
FT05	red elderberry	*Sambucus racemosa*	B1	TR	21-Oct-22
FT05	cascara	*Rhamnus purshiana*	A3	3	21-Oct-22
FT05	vine maple	*Acer circinatum*	B1	2.5	21-Oct-22
FT05	reed canarygrass	*Phalaris arundinacea*	C	1	21-Oct-22
FT05	Indian-plum	*Oemleria cerasiformis*	B1	TR	21-Oct-22
FT07	black twinberry	*Lonicera involucrata*	B1	10	26-Oct-21
FT07	hardhack	*Spiraea douglasii*	B2	15	26-Oct-21
FT07	Nootka rose	*Rosa nutkana*	B1	5	26-Oct-21

Plot #	Common Name	Species Name	Layer	% Cover	Date
FT07	reed canarygrass	*Phalaris arundinacea*	C	55	26-Oct-21
FT07	Stinging nettle	*Urtica dioica*	C	1	26-Oct-21
FT07	western skunk cabbage	*Lysichiton americanus*	C	2	26-Oct-21
H01	Western redcedar	*Thuja plicata*	A3	22	27-Oct-22
H01	western hemlock	*Tsuga heterophylla*	A2	5	27-Oct-22
H01	western hemlock	*Tsuga heterophylla*	A3	1	27-Oct-22
H01	Sitka spruce	*Picea sitchensis*	A1	20	27-Oct-22
H01	red alder	*Alnus rubra*	A3	5	27-Oct-22
H01	red alder	*Alnus rubra*	B1	2	27-Oct-22
H01	paper birch	*Betula papyrifera*	B1	2.5	27-Oct-22
H01	false azalea	Menziesia ferruginea	B2	TR	27-Oct-22
H01	vine maple	*Acer circinatum*	B1	4	27-Oct-22
H01	salmonberry	*Rubus spectabilis*	B1	1	27-Oct-22
H01	salmonberry	*Rubus spectabilis*	B2	2	27-Oct-22
H01	Himalayan blackberry	*Rubus armeniacus*	B2	TR	27-Oct-22
H01	red-osier dogwood	*Cornus sericea*	B1	1.5	27-Oct-22
H01	stink currant	*Ribes bracteosum*	B2	TR	27-Oct-22
H01	red huckleberry	*Vaccinium parvifolium*	B2	TR	27-Oct-22
H01	Western redcedar	*Thuja plicata*	B2	TR	27-Oct-22
H01	black twinberry	*Lonicera involucrata*	B1	4	27-Oct-22
H01	devil's club	*Oplopanax horridus*	B2	TR	27-Oct-22
H01	sitka mountain-ash	*Sorbus sitchensis*	B1	TR	27-Oct-22
H01	paper birch	*Betula papyrifera*	A3	2.5	27-Oct-22
H01	western hemlock	*Tsuga heterophylla*	B1	6	27-Oct-22
H01	devil's club	*Oplopanax horridus*	B1	TR	27-Oct-22
H01	Western redcedar	*Thuja plicata*	B1	9	27-Oct-22
H01	western hemlock	*Tsuga heterophylla*	A1	4	27-Oct-22
H01	spiny wood fern	*Dryopteris expansa*	C	2	27-Oct-22
H01	lady fern	*Athyrium filix-femina*	C	9	27-Oct-22
H01	western skunk cabbage	*Lysichiton americanus*	C	4	27-Oct-22
H01	false lily-of-the-valley	*Maianthemum dilatatum*	C	TR	27-Oct-22
H01	jewel weed		C	TR	27-Oct-22
H01	European Bitter Sweet	*Solanum dulcamara*	C	TR	27-Oct-22
H01	piggy-back plant	*Tolmiea menziesii*	C	TR	27-Oct-22
H01	Enchanters Nightshade	*Circaea lutetiana*	C	2	27-Oct-22
H02	red alder	*Alnus rubra*	A3	15	26-Oct-22
H02	red alder	*Alnus rubra*	B1	0.5	26-Oct-22
H02	Indian-plum	*Oemleria cerasiformis*	B1	2.5	26-Oct-22
H02	salmonberry	*Rubus spectabilis*	B1	50	26-Oct-22
H02	salmonberry	*Rubus spectabilis*	B2	3.5	26-Oct-22
H02	black cottonwood	*Populus balsamifera*	A1	13	26-Oct-22
H02	red elderberry	*Sambucus racemosa*	B1	1	26-Oct-22
H02	cascara	*Rhamnus purshiana*	A3	2	26-Oct-22
H02	spiny wood fern	*Dryopteris expansa*	C	2	26-Oct-22
H02	yellow archangel	*Lamium galeobdolon*	C	2.5	26-Oct-22
H02	false lily-of-the-valley	*Maianthemum dilatatum*	C	TR	26-Oct-22

Plot #	Common Name	Species Name	Layer	% Cover	Date
H02	western skunk cabbage	*Lysichiton americanus*	C	TR	26-Oct-22
H02	lady fern	*Athyrium filix-femina*	C	6.25	26-Oct-22
H02	Himalayan blackberry	*Rubus armeniacus*	C	TR	26-Oct-22
H02	paper birch	*Betula papyrifera*	A3	3	26-Oct-22
H02	sword fern	*Polystichum munitum*	C	0.375	26-Oct-22
H02	English holly	*Ilex aquifolium*	B2	TR	26-Oct-22
H02	vine maple	*Acer circinatum*	B1	4.5	26-Oct-22
H02	bigleaf maple	*Acer macrophyllum*	A3	3	26-Oct-22
H02	Western redcedar	*Thuja plicata*	B1	1	26-Oct-22
H02	cascara	*Rhamnus purshiana*	B1	0.5	26-Oct-22
H02	Indian-plum	*Oemleria cerasiformis*	B2	TR	26-Oct-22
H02	European Bitter Sweet	*Solanum dulcamara*	C	TR	26-Oct-22
H02	common horsetail	*Equisetum arvense*	C	TR	26-Oct-22
H02	creeping buttercup	*Ranunculus repens*	C	TR	26-Oct-22

APPENDIX Q

2021 Indicator Plant Plot Data

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D10-LA1	54	0.35	L	8	
2021	D10-LA1	48	1.1	L	63	Some leaf decay but would've intersected with transect
2021	D10-LA1	57	3.82	R	19	
2021	D10-LA1	49	5.15	R	57	
2021	D10-LA1	43	5.41	R	50	
2021	D10-LA1	49	7.76	R	22	Some decay observed
2021	D10-LA1	41	7.58	R	82	High decay observed
2021	D10-LA1	59	9.13	L	15	Double center
2021	D10-LA1	53	9.45	R	3	
2021	D10-LA1	58	10.32	R	3	Double center
2021	D10-LA1	68	10.12	L	60	
2021	D10-LA1	54	10.47	L	81	
2021	D10-LA1		11.18	L	37	Immature
2021	D10-LA1	54	13.27	R	51	
2021	D05-LA1	53	0.22	R	27	
2021	D05-LA1	58	0.61	R	10	
2021	D05-LA1	57	2.58	L	44	
2021	D05-LA1	51	3.1	R	50	
2021	D05-LA1	48	3.49	R	10	
2021	D05-LA1	62	3.86	L	58	
2021	D05-LA1	66	4.35	L	84	
2021	D05-LA1	55	4.33	R	36	
2021	D05-LA1	58	4.32	R	115	
2021	D05-LA1	65	5.49	R	78	
2021	D05-LA1	62	5.67	L	12	
2021	D05-LA1	55	6	R	3	
2021	D05-LA1	62	6.1	R	77	
2021	D05-LA1	64	6.82	L	4	Thick horsetail coverage and patchy skunk cabbage coverage
2021	D05-LA1	61	7.49	R	102	Thick horsetail coverage and patchy skunk cabbage coverage
2021	D05-LA1	33	8.62	R	17	Thick horsetail coverage and patchy skunk cabbage coverage

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D05-LA1	60	8.44	L	102	
2021	D05-LA1	49	12.62	R	59	
2021	D05-LA1	33	13.09	R	23	
2021	D05-LA1	42	13.18	R	3	
2021	D05-LA1	42	13.16	L	82	
2021	D05-LA1		13.4	R	1	Immature
2021	D05-LA1	64	14.06	L	23	Double center
2021	D05-LA1	44	14.82	R	25	
2021	D05-LA1	45	14.75	L	84	
2021	D08-LA1	29.5	0.75	R	20.6	Double center with immature plant
2021	D08-LA1	7.5	2.86	L	7.6	Wet
2021	D08-LA1	38.2	4.55	R	93.4	
2021	D08-LA1	27.2	7.68	R	32.7	High decay
2021	D08-LA1	43.8	8.25	L	85.2	
2021	D08-LA1	49.6	12.53	R	12.5	
2021	D08-LA1	29.8	14.71	L	20	
2021	H01-LA2	48	0	L	47	
2021	H01-LA2		1.97	L	12	Triple center, immature
2021	H01-LA2		2.44	L	22	Immature
2021	H01-LA2	20	2.42	R	31	Double center
2021	H01-LA2	35	4.51	L	43	
2021	H01-LA2		5.28	R	38	Immature
2021	H01-LA2	31	5.63	L	57	
2021	H01-LA2	29	5.61	R	34	
2021	H01-LA2		5.94	L	26	Immature
2021	H01-LA2		7.56	R	42	Immature
2021	H01-LA2	28	8.36	L	28	
2021	B02-LA1	40	14.22	L	55	Skunk cabbage has been dug up
2021	B02-LA1	31	11.46	L	4	Rotted
2021	B02-LA1	48	11.46	R	7	

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	B02-LA1	45	11.17	L	51	
2021	B02-LA1	40	9.94	R	68	Rotted
2021	B02-LA1	30	9.6	L	58	
2021	B02-LA1	32	9.21	R	17	
2021	B02-LA1	32	8.98	L	41	
2021	B02-LA1	33	8.61	L	32	
2021	B02-LA1	30	8.33	L	55	
2021	B02-LA1	33	7.84	R	42	
2021	B02-LA1	46	7.15	R	38	
2021	B02-LA1	36	7.22	L	11	
2021	B02-LA1	40	6.78	R	23	
2021	B02-LA1	18	6.52	L	2	
2021	B02-LA1	29	6.46	L	41	
2021	B02-LA1	42	5.28	U		Rotted
2021	B02-LA1	50	6.35	L	65	
2021	B02-LA1	34	4.65	L	74	
2021	B02-LA1	34	4.31	L	6	Rotted
2021	B02-LA1	43	4.3	L	57	
2021	B02-LA1	36	3.52	R	86	
2021	B02-LA1	39	2.98	L	3	
2021	B02-LA1	36	2.66	L	14	Rotted
2021	B02-LA1	44	2.66	L	30	Rotted
2021	B02-LA1	41	2.7	R	84	Rotted
2021	B02-LA1	60	1.74	L	62	Rotted
2021	B02-LA1	42	1.47	R	77	
2021	B02-LA1	44	1.51	R	108	
2021	B02-LA1	31	0.42	L	71	Very rotted, only 2 leaves remaining
2021	B02-LA1	35	0.12	L	12	
2021	B02-LA1	50	0	L	17	

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D09-LA1	52	0	L	97	
2021	D09-LA1	51	0	L	63	
2021	D09-LA1	42	0.24	R	33	
2021	D09-LA1	59	0.26	R	80	
2021	D09-LA1	63	0.2	R	44.7	
2021	D09-LA1	61	0.58	L	9.5	Double center
2021	D09-LA1	46	0.9	R	22	
2021	D09-LA1	42	0.76	L	29	
2021	D09-LA1	41	2.14	L	26	
2021	D09-LA1	59	2.52	R	12	
2021	D09-LA1	32	2.7	R	13	
2021	D09-LA1	43	3.32	R	6	
2021	D09-LA1	32	3.98	L	19	
2021	D09-LA1	29	4.28	R	11	
2021	D09-LA1	35	5.12	R	90	
2021	D09-LA1	35	5.78	L	17	
2021	D09-LA1	42	6.2	L	6	
2021	D09-LA1	47	10.7	R	34	
2021	D09-LA1	33	12.09	R	8	
2021	D09-LA1	62	12.43	R	125	Double center
2021	D09-LA1	64	13	R	40	Double center
2021	D09-LA1	43	13.24	R	10	
2021	D09-LA1	57	13.27	L	19	
2021	D09-LA1	41	13.11	L	32	
2021	D09-LA1	46	12.95	U	0	
2021	D09-LA1	46	12.77	L	9	
2021	D09-LA1	48	11.53	L	72	
2021	D09-LA1	43	14.52	L	120	
2021	D09-LA1	38	14.41	L	32	
2021	D09-LA1	54	16.73	L	17	Double center

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D01-LA1	37	0.29	L	24	
2021	D01-LA1	43	0.08	R	122	
2021	D01-LA1	44	1.21	U	0	
2021	D01-LA1	41	2.21	L	101	
2021	D01-LA1	41	2.23	R	86	
2021	D01-LA1	59	4.41	R	100	
2021	D01-LA1	29	5.56	L	28	
2021	D01-LA1	48	5.96	L	97	Double center
2021	D01-LA1	51	5.91	L	51	
2021	D01-LA1	62	6.5	R	52	
2021	D01-LA1	49	6.8	R	62	
2021	D01-LA1	69	6.76	R	109	
2021	D01-LA1	55	7	R	43	
2021	D01-LA1	59	7.1	R	32	
2021	D01-LA1	46	7.29	R	36	
2021	D01-LA1	43	7.74	R	84	
2021	D01-LA1	59	7.96	R	145	
2021	D01-LA1	45	7.92	R	24	
2021	D01-LA1	55	8.13	R	27	
2021	D01-LA1	69	8.26	R	77	Double center
2021	D01-LA1	66	7.98	R	119	
2021	D01-LA1		7.26	U	0	Immature
2021	D01-LA1		8.47	R	8	Immature
2021	D01-LA1	34	8.39	L	44	
2021	D01-LA1	59	8.51	L	99	
2021	D01-LA1	41	9.23	L	64	
2021	D01-LA1	49	9.33	L	73	
2021	D01-LA1	61	10.36	L	12	Double center
2021	D01-LA1	59	10.79	U	0	
2021	D01-LA1	55	10.6	R	10	

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D01-LA1	59	11.07	L	78	
2021	D01-LA1		11.2	U		Immature
2021	D01-LA1		11.4	L	12	Immature
2021	D01-LA1	71	11.71	L	22	Double center
2021	D01-LA1	59	11.25	L	90	Double center
2021	D01-LA1	53	8.86	R	29	
2021	D01-LA1	53	8.87	R	59	
2021	D01-LA1		9.22	R	82	Immature
2021	D01-LA1		9.19	R	40	Immature
2021	D01-LA1	51	9.98	R	101	
2021	D01-LA1	43	11.16	R	39	
2021	D01-LA1	66	11.17	U	0	
2021	D01-LA1	69	11.86	R	66	
2021	D01-LA1	45	11.85	R	39	
2021	D01-LA1		12.43	R	35	Immature
2021	D01-LA1	63	12.51	L	66	
2021	D01-LA1	63	12.61	L	72	
2021	D01-LA1	73	12.52	L	141	Double center
2021	D01-LA1	29	12.67	L	92	Double center
2021	D01-LA1	59	12.01	L	64	
2021	D01-LA1	51	13.8	L	81	
2021	D01-LA1	53	14.75	R	22	
2021	D12-LA1	54.0	14.83	L	7	
2021	D12-LA1	44.0	15	R	115	
2021	D12-LA1	52.0	14.28	R	36	
2021	D12-LA1	69.0	13.97	L	23	
2021	D12-LA1	52.0	13.89	L	39	
2021	D12-LA1	52.0	13.5	R	84	Double center
2021	D12-LA1	53.0	12.75	U		
2021	D12-LA1	58.0	12.66	R	39	

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D12-LA1	51.0	12.53	R	28	
2021	D12-LA1	58.0	11.34	R	27	
2021	D12-LA1	53.0	10.95	R	84	Stream
2021	D12-LA1	53.0	10.65	R	24	Stream
2021	D12-LA1	52.0	10.06	R	59	
2021	D12-LA1	63.0	9.71	R	60	
2021	D12-LA1	52.0	9.61	L	70	
2021	D12-LA1	54.0	9.28	L	62	
2021	D12-LA1	68.0	8.84	L	4	Vine maple growing on skunk cabbage
2021	D12-LA1	57.0	8.69	L	51	Vine maple growing on skunk cabbage
2021	D12-LA1	50.0	8.23	L	49	Vine maple growing on skunk cabbage
2021	D12-LA1	58.0	7.28	L	16	
2021	D12-LA1	52.0	6.09	R	88	
2021	D12-LA1	50.0	5.6	R	94	
2021	D12-LA1	48.0	4.47	R	112	Leaf decayed but would've reached transect
2021	D12-LA1	47.0	4.2	L	62	
2021	D12-LA1	53.0	2.85	R	146	
2021	D12-LA1	50.0	2.6	R	16	
2021	D12-LA1	63.0	2.75	U		
2021	D12-LA1		2.86	U		Immature
2021	D12-LA1	54.0	2.95	L	53	
2021	D12-LA1	69.0	0.89	R	88	
2021	D06-LA1	38.0	1.02	R	77	
2021	D06-LA1	29.0	2.54	L	31	Double center
2021	D06-LA1	47.0	2.64	L	36	
2021	D06-LA1	38.0	3.04	L	27	Double center with immature plant
2021	D06-LA1	41.0	3.25	L	25	
2021	D06-LA1	56.0	3.15	L	98	Double center
2021	D06-LA1	41.0	3.79	L	9	
2021	D06-LA1	57.0	3.86	L	39	

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D06-LA1	43.0	4.53	R	72	
2021	D06-LA1	48.0	4.69	R	65	
2021	D06-LA1	45.0	4.88	R	78	
2021	D06-LA1	36.0	5.25	R	18	
2021	D06-LA1	52.0	5.49	R	41	
2021	D06-LA1		6.34	L	6	Immature
2021	D06-LA1	39.0	6.45	R	21	
2021	D06-LA1	61.0	6.52	R	13	Double center
2021	D06-LA1	45.0	6.54	R	23	Double center with immature plant
2021	D06-LA1	36.0	6.6	R	25	Double center with immature plant
2021	D06-LA1	33.0	6.72	R	22	Double center with immature plant
2021	D06-LA1	58.0	6.63	R	14	
2021	D06-LA1	61.0	6.68	L	57	
2021	D06-LA1	53.0	6.48	L	108	Double center
2021	D06-LA1	38.0	7.12	L	33	Triple center
2021	D06-LA1	67.0	7.31	L	33	
2021	D06-LA1	45.0	8.68	L	3	Soil has pulled back from plant stalk
2021	D06-LA1	29.0	7.92	U	0	
2021	D06-LA1	52.0	7.93	L	14	Double center
2021	D06-LA1	31.0	8.03	U	0	Triple center
2021	D06-LA1	42.0	10.02	R	60	
2021	D06-LA1	49.0	10.41	R	59	
2021	D06-LA1	39.0	10.39	L	11	Rotted
2021	D06-LA1	38.0	10.93	L	41	
2021	D06-LA1	37.0	11.12	L	11	
2021	D06-LA1	32.0	11.74	L	20	
2021	D06-LA1	46.0	11.93	R	86	
2021	D06-LA1	39.0	12.12	R	25	
2021	D06-LA1	34.0	11.67	L	28	
2021	D06-LA1	46.0	12.63	R	33	Double center

Year	Plot #	Petiole Length (cm)	Distance to Start (m)	Location from Transect Line	Offset from Transect Line (m)	Notes
2021	D06-LA1	39.0	13.41	R	63	
2021	D06-LA1	37.0	13.91	R	22	Rotted
2021	D06-LA1	54.0	14.38	U	0	Rotted
2021	D06-LA1	42.0	14.39	L	9	Double center
2021	D06-LA1	39.0	14.14	R	114	
2021	D06-LA1	33.0	15.02	R	78	