

APPENDIX E.10
2018 FRESHET MONITORING REPORT
(PART 1 OF 2)



BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

Freshet 2018 Monitoring Report

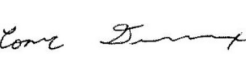
2019-02-19	0				
		K. Button	W. Bowden	C. Devereaux	C. Murray
Date	Rev.	Prepared By	Reviewed By		

Table of Contents

1.	INTRODUCTION AND OBJECTIVES	1
2.	WATER QUALITY MONITORING PROGRAMS	1
3.	WATER QUALITY MONITORING RESULTS AND DISCUSSION	2
4.	NATURAL SEDIMENTATION EVENTS	4
5.	CORRECTIVE ACTIONS TAKEN AND PLANNED BY SPILL REPORT	4
6.	CONCLUSION	7

Tables

Table 1 - Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project (Type "A" Water Licence – 2AM-MRY1325 – Table 11)

Table 2 - Summary of Exceedances for Mine Site and Tote Road Water Crossings During Freshet 2017/2018

Table 3 - Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Figures

Figure 1 - Total Suspended Solids (TSS) Concentrations for Sheardown Lake Tributaries

Figure 2 - Total Suspended Solids (TSS) Concentrations for Camp Lake Surface Water Drainage

Figure 3 - Number of TSS Exceedances for Tote Road and Mine Site in 2017/2018

Appendices

Appendix A - NT-NU Spill Reports

- A.1 - Spill Report 18-180 – Camp Lake Settling Ponds
- A.2 - Spill Report 18-182 – Sheardown Lake and Camp Lake Tributaries
- A.3 - Spill Report 18-209 – Tote Road Crossing BG27

Appendix B - Surface Water Quality and Acute Toxicity Results for Affected Areas

- B.1 - Sample IDs and Locations
- B.2 - Water Quality and Results
- B.3 - Acute Toxicity Results

Appendix C - Sequence of Events and Actions Taken by Spill Report (Including Photos)

- C.1 - Spill Report 18-180 – Camp Lake Settling Ponds
- C.2 - Spill Report 18-182 – Sheardown Lake and Camp Lake Tributaries
- C.3 - Spill Report 18-209 – Tote Road Crossing BG27
- C.4 - Natural Sedimentation Events

Appendix D – Tote Road Freshet Monitoring Program

1. INTRODUCTION AND OBJECTIVES

This report was prepared by Baffinland Iron Mines Corporation (Baffinland) to present the results of the 2018 freshet water quality monitoring programs and document the corrective actions taken in response to observed sediment releases that occurred during freshet 2018 at the Mary River Project (the Project). Surface water management during freshet continues to remain a challenge at the Project, however Baffinland is committed to implementing effective control measures that improve the water quality of surface water drainage around Project sites.

Unauthorized releases of sediment were reported to Environment and Climate Change Canada (ECCC), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Qikiqtani Inuit Association (QIA) and the NT-NU Spill Line during freshet 2018. The releases are documented in NT-NU Spill Reports 18-180, 18-182 and 18-209. Copies of the original and follow up Spill Reports are provided in Appendix A. Immediate and follow up corrective actions undertaken to address the sediment releases are discussed in detail in Section 5 and Appendix C.

2. WATER QUALITY MONITORING PROGRAMS

During freshet 2018, Baffinland conducted water quality monitoring programs at the Mary River Mine Site (Mine Site) and along the Milne Inlet Tote Road (Tote Road). The monitoring programs conducted during freshet 2018 are discussed in the subsections below. Results for the monitoring programs, with the exception of the Surveillance Network Program (SNP) which are reported in monthly water licence reports, are provided in Appendix B and further discussed in Section 3.

2.1. Mine Site Freshet Monitoring Program

The Mine Site Freshet Monitoring Program is conducted each year to characterize the water quality of several Mine Site tributaries and drainages during the high flow period of freshet. The monitoring program begins each year upon the start of flows at monitoring locations (approx. May 15th) each year. The four (4) monitoring locations included in the 2018 program are outlined in Appendix B.1 and are monitored daily during freshet (approx. May 15th to June 30th) for total suspended solids (TSS), total dissolved solids (TDS), pH and turbidity.

2.2. Tote Road Freshet Monitoring Program

The Tote Road Freshet Monitoring Program involves visual inspections and water quality sampling near Tote Road water crossings during freshet (approx. May 15th to June 30th) each year. The program focuses on monitoring water quality conditions upstream and downstream of fisheries crossings along the Tote Road as well as addressing other sedimentation concerns identified during visual inspections. Although the program focuses on monitoring fisheries crossings, the program allows for the opportunistic identification and monitoring of non-fisheries crossings experiencing potentially elevated TSS as a result of Project activities and/or natural sedimentation events. The scope of the program, monitoring locations and water quality parameters are outlined in Appendix D of this report.

2.3. Surveillance Network Program

Water quality monitoring under the SNP is conducted each year during periods of flow as outlined in Baffinland's Type 'A' Water Licence - 2AM-MRY1325 – Amend. 1 (Type A Water Licence). Results collected under the SNP are reported monthly to the Nunavut Water Board (NWB) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and summarized in the QIA & NWB Annual Report for Operations. Water quality results collected under the SNP are not discussed further within this report.

3. WATER QUALITY MONITORING RESULTS AND DISCUSSION

The following subsections discuss the water quality monitoring results as they relate to each NT-NU Spill Report. Monitoring data for water quality monitoring locations are provided in Appendix B. Mitigation measures and corrective actions taken, including photographs, in response to each reported sediment release are outlined in Appendix C. For additional discussion on next steps, planned corrective actions and future monitoring at areas of concern, the reader is referred to Section 5.

Unless otherwise specified, water quality monitoring results have been compared to "Table 11: Effluent Quality Discharge Limits for Contact Water during Operations Phase and the Early Revenue Phase of the Project", provided in Baffinland's Type A Water Licence and summarized in Table 1 of this report.

3.1. Spill Report 18-180 - Camp Lake Settling Ponds

As part of the Mine Site Freshet Monitoring program, water quality monitoring location CLSP-OUT was sampled throughout freshet 2018. CLSP-OUT is located down gradient of a series of sedimentation ponds and check dams located near the Camp Lake Water Jetty which are referred to as the Camp Lake Settling Ponds. Coordinates and figures showing the location of the monitoring location is provided in Appendix B.1. Water quality results collected during freshet 2018 for monitoring location CLSP-OUT are provided in Appendix B.2.

In comparing TSS results for CLSP-OUT to the water quality criteria in Table 1, TSS exceedances of the 30 mg/L limit for grab samples were observed first on May 16th and 17th, and then again from May 28th to June 10th, and ranged from 823 mg/L to 30 mg/L. A drop in ambient temperatures resulted in freeze up of the Camp Lake Settling Ponds monitoring location between May 17th, 2018 and May 28th, 2018, preventing the collection of water samples at CLSP-OUT during this period. Upon observing exceedances at monitoring location CLSP-OUT, mitigation measures were promptly implemented, including the installation of additional check dams, silt fences and improvements to the Camp Lake Settling Ponds. Sample analytes, such as TSS concentrations, on May 16th and 17th were impacted from installation of erosion and sediment control measures throughout those days, as shown in Appendix C.1. In addition, throughout the sampling program low water levels at sample locations and non-defined stream outflow channels situated on sandy beaches presented challenges for collection of samples, potentially resulting in biasing the results toward elevated TSS levels. This affected outflow sample results and potentially elevated TSS and other analytical results. As shown in Figure 2, TSS concentrations remained below the 30 mg/L TSS limit for grab samples following June 10th, 2018.

3.2. Spill Report 18-182 – Sheardown Lake and Camp Lake Tributaries

3.2.1. Sheardown Lake Tributaries

As part of the Mine Site Freshet Monitoring Program, water quality monitoring locations LDFG-OUT and SDLT-OUT, located near tributary outfalls into Sheardown Lake, were sampled throughout freshet 2018. Coordinates and figures showing the locations of LDFG-OUT and SDLT-OUT are provided in Appendix B.1. Water quality results collected during freshet 2018 for monitoring locations LDFG-OUT and SDLT-OUT are provided in Appendices B.2 and B.3.

In comparing TSS results for LDFG-OUT and SDLT-OUT to the water quality criteria in Table 1, TSS exceedances of the 30 mg/L limit for grab samples were observed at SDLT-OUT on May 17th and between May 28th to June 6th. However, as shown in Figure 1, TSS concentrations at SDLT-OUT quickly decreased and remained below the 30 mg/L TSS limit for grab samples following June 6th, 2018. No exceedances of the 30 mg/L TSS limit for grab samples were observed at LDFG-OUT during the 2018 freshet sampling program.

Based on the available data presented in Appendix B.2, LDFG-OUT had an average TSS concentration during May and June 2018 of 5.4 and 6.2 mg/L, respectively. Average TSS concentrations during May and June 2018 at SDLT-OUT were 83.7 mg/L and 10.7 mg/L, respectively.

On May 19th, 2018, additional water sampling for acute toxicity, metals, anions, nutrients and total oil & grease was conducted at SDLT-OUT. As shown in Appendix B.3, the acute toxicity sample collected at SDLT-OUT was analyzed by Aquatox and determined to be acutely non-toxic.

3.2.2. Camp Lake Tributary

As part of the Mine Site Freshet Monitoring Program, monitoring location CLT-OUT, located near the outfall of Camp Lake Tributary 1, was sampled throughout freshet 2018. Coordinates and figures showing the location of monitoring location CLT-OUT are provided in Appendix B.1. Water quality results collecting during freshet 2018 for monitoring location CLT-OUT are provided in Appendices B.2 and B.3.

In comparing TSS results for CLT-OUT to the water quality criteria in Table 1, TSS exceedances of the 30 mg/L limit for grab samples were observed at CLT-OUT on May 17th, 2018 and May 28th, 2018. However, as shown in Figure 2, TSS concentrations at CLT-OUT quickly decreased and remained below the 30 mg/L TSS limit for grab samples following each TSS exceedance. It should be noted that there were significantly fewer exceedances at this monitoring location in 2018 than during 2017. Armouring and culvert repairs completed in 2017 at Tote Road water crossing BG-01, located upstream of monitoring location CLT-OUT, are believed to be a contributing factor to the improved water quality results observed during freshet at CLT-OUT in 2018.

Based on the available data presented in Appendix B.2, CLT-OUT had an average TSS concentration during May and June 2018 of 26.3 mg/L and 5.3 mg/L, respectively.

On May 19th, 2018, additional water sampling for acute toxicity, metals, anions, nutrients and total oil & grease was conducted at CLT-OUT. As shown in Appendix B.3, the acute toxicity sample collected at CLT-OUT was analyzed by Aquatox and determined to be acutely non-toxic.

3.3. Spill Report 18-209 – Tote Road Crossing BG27

As part of the Tote Road Monitoring Program, water quality monitoring location BG-27, a water crossing located near km 86, was sampled throughout freshet 2018. Coordinates and figures showing the monitoring locations associated with BG-27 are provided in Appendix B.1. Water quality results collected during freshet 2018 for monitoring location BG-27 are provided in Appendix B.2.

In comparing TSS results for BG-27 to the water quality criteria in Table 1, a TSS exceedance for grab samples was observed downstream of the BG-27 crossing on May 30th, 2018. TSS concentrations upstream of the crossing indicate that natural sedimentation events contributed to the May 30th TSS exceedance of 131 mg/L. Following May 30th, mitigation measures resulted in TSS levels below grab sample limits and improved water quality conditions.

There were 8 crossings which exhibited TSS exceedances on the Milne Inlet Tote Road in 2018. This was a significant reduction in sediment impacted fishery culverts as compared to 2017 which exhibited 24 crossings identified above grab sample limits during freshet.

Based on the available data presented in Appendix B.2, BG-27 had an average TSS concentration downstream of the crossing during May and June 2018 of 131 mg/L and 15.8 mg/L, respectively. BG-27 had an average TSS concentration upstream of the crossing during May and June 2018 of 83 mg/L and 4 mg/L, respectively.

4. NATURAL SEDIMENTATION EVENTS

Data collected under the Tote Road Freshet Monitoring Program during freshet 2018 indicated naturally elevated TSS levels upstream of several water crossings, including known fish bearing water crossings BG-27, BG-30 and CV-114.

A natural sedimentation event was observed in the hills North of Milne Port on June 23rd, 2018 in a stream drainage system. The Sample location was named MP-NS-01. A figure and photographs are presented in Appendix C.4. TSS concentrations at MP-NS-01 were 2,800 mg/L.

Baffinland will continue to monitor the water quality of surface water flows upstream of Project infrastructure to characterize the natural sediment loading of water bodies within the Project area during freshet.

5. CORRECTIVE ACTIONS TAKEN AND PLANNED BY SPILL REPORT

A number of corrective actions were undertaken to address sediment releases documented in Spill Reports submitted to regulators during freshet 2018. Consistent with Baffinland's Surface Water and Aquatic Ecosystem Management Plan, corrective and mitigation actions taken during freshet 2018 in response to reported sediment releases included one or more of the following:

- Silt fence and spring berm installation;
- Check dam and settling pond repairs, construction and operation;
- Armouring of ditches, banks, and road embankments near water bodies;
- Clearing of excess snow at culvert inlets and outlets; and,

- Redirection of sediment / turbid waters away from fish habitat by means of ditches, swales, and active pumping.

Corrective measures taken in 2018 for each Spill Report and/or area of concern, including photographs, are presented in Appendix C.

The subsections below discuss the corrective actions and future monitoring planned for each Spill Report and/or area of concern.

5.1. Spill Report 18-180 - Camp Lake Settling Ponds

As shown in the water quality monitoring results reported in Appendix B.2 and discussed in Section 3, surface water drainage near the Camp Lake Settling Ponds demonstrated elevated TSS during freshet 2018.

Snow removal prior to freshet 2018 in the area around the Camp Lake Settling Ponds, including the removal of snow around the designed upstream check dams, was performed in efforts to reduce surface water runoff and the severity of potential TSS exceedances at the outfall of the Camp Lake Settling Ponds. In addition to snow removal, corrective and mitigation actions taken during freshet 2018 included re-directing flow to established check dams and the installation of silt fences and spring berms and the completion improvements and maintenance on the Camp Lake Settling Ponds and upstream check dams. As detailed in Appendix C.1, these efforts were completed to slow runoff flow rates and increase retention time of surface water management infrastructure to allow for the suspended sediments in the runoff to settle out prior to discharge into Camp Lake.

To assess the performance of the improvements to the Camp Lake Settling Ponds and upstream check dams completed in 2018 and document the water quality of surface water drainage, Baffinland plans to continue the Mine Site Freshet Monitoring Program in 2019.

5.2. Spill Report 18-182 - Sheardown Lake and Camp Lake Tributaries

As shown in the water quality monitoring results reported in Appendix B and discussed in Section 3, surface water drainage near Sheardown Lake and Camp Lake tributaries demonstrated elevated TSS during freshet 2018.

Upon discovery of the elevated instream TSS conditions at these drainages, personnel worked to install sedimentation mitigation measures, including silt fences and spring berms, in accordance with the Surface Water Management Plan. As detailed in Appendix C.2, these mitigation measures were implemented to slow flow and settle sediments prior to entering natural waterbodies. CV-186 and CV-187, culvert crossings of SDLT were rip rapped and built up to limit erosion and impacted water from entering the streams.

In the days leading up to freshet, snow pack around the inlets and outlets of select culvert locations was excavated, including the BG-01, CV-186 and CV-187 water crossings, to reduce the volume of snow melt and thus, the amount of overland flow present to mobilize soils and sediments. The excess snow was removed and transported to the approved snow stockpile areas, potentially contributing to a reduction in the severity and frequency of elevated instream TSS concentrations.

In addition, CV-186 and CV-187, water crossing associated with SDLT, were upgraded during the 2017/2018 winter period as part of original 2013 Hatch Designs and the Tote Road Earthworks Execution Plan (TREETP). The water crossings were extended, modified and rip rapped to improve their performance during freshet and mitigate Project impacts to instream TSS concentrations.

To further assess the performance of these surface water management upgrades and document the water quality of Sheardown Lake and Camp Lake drainage during freshet, Baffinland plans to continue the Mine Site Freshet Monitoring Program in 2019.

5.3. Spill Report 18-209 - Tote Road Crossing BG27

As shown in the water quality monitoring results reported in B. 2 and Table 3, and discussed in Section 3, surface water drainage through the Tote Road crossing BG27 demonstrated elevated TSS during freshet 2018.

Upon discovery of the elevated TSS conditions downstream of the culvert crossing, personnel installed sedimentation mitigation measures. As detailed in Appendix C.3, mitigation measures included riprap armoring of the ditches and silt fences to slow flow velocities and settle sediments prior to entering the culvert and stream, as outlined in the Surface Water Management Plan. Additional mitigation measures were also installed at other Tote Road water crossings, where ditches and road berms were installed as required.

Baffinland plans to continue to upgrade surface water management infrastructure along the Tote Road as outlined in the TREETP and original 2013 Hatch Designs in order to mitigate future sediment releases and improve the water quality of surface water drainage near the Tote Road. A complete list of repairs and upgrades completed at Tote Road water crossings during 2018 are presented in Baffinland's Annual Tote Road Monitoring Report for the Department of Fisheries and Oceans Canada (DFO)¹.

To assess the performance of the upgrades to water crossings and document the water quality of Tote Road surface water drainage during freshet, Baffinland plans to implement the revised Tote Road Monitoring Program in 2019 that was developed in consultation with QIA.

¹ Baffinland. 2018. Mary River Project – Fish Habitat Monitoring – 2018 Annual Report Early Revenue Phase Tote Road Upgrades. December 31, 2018.

6. CONCLUSION

Baffinland continues to assess the sedimentation control and mitigation measures used at the Project to improve the water quality of surface water drainage and mitigate Project related sediment releases to receiving water bodies. In addition to implementing sedimentation control measures, as outlined in Baffinland's Surface Water and Aquatic Ecosystems Management Plan, Baffinland continued to upgrade the surface water management infrastructure at the Project in 2018 and implement mitigation measures and corrective actions outlined in Baffinland's Sedimentation Mitigation Action Plan² and Tote Road Earthworks Execution Plan (TREETP). A complete list of repairs and upgrades completed at Tote Road water crossings during 2018 are presented in Baffinland's Annual Tote Road Monitoring Report for DFO³. There were 8 crossings which exhibited TSS exceedances on the Milne Inlet Tote Road in 2018. This was a significant reduction in sediment impacted fishery culverts as compared to 2017 which exhibited 24 crossings identified above grab sample limits during freshet.

² Baffinland. 2017. Mary River Project – Sedimentation Mitigation Action Plan (Rev. 1). September 29, 2016. (Developed by Golder Associates).

³ Baffinland. 2018. Mary River Project – Fish Habitat Monitoring – 2018 Annual Report Early Revenue Phase Tote Road Upgrades. December 31, 2018.

TABLES

Table 1 - Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project (Type "A" Water Licence – 2AM-MRY1325 – Table 11)

Parameter	Maximum Average Concentration (mg/L)	Maximum Concentration of any Grab Sample (mg/L)
Total Suspended Solids (TSS)	15	30
Oil and Grease	No Visible Sheen	No Visible Sheen
pH	Between 6.0 and 9.5	Between 6.0 and 9.5

Table 2 - Summary of Exceedances for Mine Site and Tote Road Water Crossings During Freshet 2017/2018

Tote Road	2017 Value	2018 Value
Number of TSS samples collected near water crossings during freshet 2018	472	467
Number of TSS exceedances observed downstream of water crossings	43	4
Maximum TSS concentration observed downstream of water crossings	660 mg/L	220 mg/L
Number of TSS exceedances observed upstream of water crossings	18	3
Maximum TSS concentration observed upstream of water crossings	690 mg/L	166 mg/L
Number of instances in which both upstream and downstream samples exceeded 100 mg/L TSS at a water crossing during a sampling event	15	1
Mine Site	2017 Value	2018 Value
Number of TSS exceedances observed at drainage outlets	33	23
Maximum TSS concentration observed at drainage outlets	787 mg/L	823 mg/L

Table 3 – Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Sample Date	TSS Criteria Limit (mg/L)	BG01-DS	BG01-US	BG04-DS	BG04-US	BG17-DS	BG17-US	BG24-DS	BG24-US	BG27-DS	BG27-US	BG29-DS	BG29-US	BG30-DS
17-May-18	30	138	NS	-	-	-	-	-	-	-	-	-	-	-
18-May-18	30	44	6	-	-	-	-	-	-	-	-	-	-	-
19-May-18	30	17.6	4.8	-	-	-	-	-	-	-	-	-	-	-
20-May-18	30	NS	<2.0	-	-	-	-	-	-	-	-	-	-	-
21-May-18	30	22.4	<2.0	-	-	-	-	-	-	-	-	-	-	-
22-May-18	30	10.4	4.8 / <2.0	-	-	-	-	-	-	-	-	-	-	-
23-May-18	30	18	3.6	-	-	-	-	-	-	-	-	-	-	-
24-May-18	30	2	<2.0	-	-	-	-	-	-	-	-	-	-	-
25-May-18	30	3.6	<2.0	-	-	-	-	-	-	-	-	-	-	-
26-May-18	30	3.2	2	-	-	-	-	-	-	-	-	-	-	-
27-May-18	30	23.2	4.4	-	-	-	-	-	-	-	-	-	-	-
28-May-18	30	120	7.2	-	-	-	-	-	-	-	-	-	-	-
29-May-18	30	47.2	9	-	-	-	-	-	-	-	-	-	-	-
30-May-18	30	6.4 / 16.4	8 / 2	-	-	-	-	24.4	NS	131	83	-	-	34.8
31-May-18	30	60.8	8	-	-	-	-	-	-	-	-	-	-	-
1-Jun-18	30	14	3	-	-	-	-	-	-	-	-	-	-	-
2-Jun-18	30	10.8	6	-	-	-	-	-	-	-	-	-	-	-
3-Jun-18	30	3.6	3	-	-	-	-	-	-	-	-	-	-	-
4-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
5-Jun-18	30	11.2	<2.0	<2.0	<2.0	14	9.6	9.2	3.2	-	-	-	-	17.2
6-Jun-18	30	9.2	3	-	-	-	-	-	-	-	-	-	-	-
7-Jun-18	30	6 / 7.2	3.6 / 2	-	-	-	-	-	-	35.2	<2.0	-	-	-
8-Jun-18	30	4	2	-	-	-	-	-	-	-	-	-	-	-
9-Jun-18	30	53 / 22.3	56.6 / 17.2	-	-	-	-	-	-	-	-	-	-	-
10-Jun-18	30	5.5	3	<2.0	<2.0	3.7	2.3	4.6	3.5	17.4	6.6	-	-	3.8
11-Jun-18	30	12.7	12	-	-	-	-	-	-	-	-	8.2	8	-
12-Jun-18	30	3.4	<2.0	-	-	-	-	-	-	-	-	-	-	-
13-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
14-Jun-18	30	2.4 / 2.1	<2.0 / <2.0	<2.0	<2.0	-	-	-	-	-	-	-	-	-
15-Jun-18	30	3.2	<2.0	-	-	3.5	3.1	7.3	2.9	8.6	5.5	4.5	4.4	<2.0
16-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
17-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
18-Jun-18	30	3.2	<2.0	-	-	-	-	-	-	-	-	-	-	-
19-Jun-18	30	30.2	<2.0	-	-	-	-	-	-	-	-	-	-	-
20-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
21-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
22-Jun-18	30	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	-	-	-	-	-	-	-
23-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
24-Jun-18	30	3.6	3.5	-	-	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.6	<2.0
25-Jun-18	30	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-	-
Mean May TSS Concentration ²	15	35.5	4.4	-	-	-	-	24.4	-	131	83	-	-	34.8
Mean June TSS Concentration ³	15	7.2	5.2	2.0	2.0	5.8	4.4	5.8	2.9	15.8	4.0	4.9	5.0	6.3
Number of Samples Collected	-	43	44	4	4	4	4	5	4	5	5	3	3	5
Number of Samples with a TSS Concentration Greater than 100 mg/L	-	2	0	0	0	0	0	0	0	1	0	0	0	0

Notes:

¹ Effluent Quality Discharge Limits for Surface Runoff During Construction Phase (Table 1) - Type A Water Licence 2AM-MRY1325 - Amend. 1

² Inclusive of TSS results collected from May 1, 2018 to May 31, 2018.

³ Inclusive of TSS results collected from June 1, 2018 to June 30, 2018.

⁴ No flow observed downstream of culvert crossing

A value equal to the MDL (2 mg/L) was used in calculating monthly means for samples with a TSS concentration below the MDL.

Values highlighted in red text exceeded applicable water quality criteria limits.

Values highlighted in bold and red text identify upstream samples that exceed 30 mg/L TSS.

'NS' indicates that no sample was taken due to frozen or no flow conditions

Samples collected determined to be not representative of conditions due to NTU comparisons. Results are not included in the calculations and discussion of the report.

Table 3 – Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Sample Date	TSS Criteria Limit (mg/L)	BG30-US	BG32-US	BG32-US	BG50-US	BG50-US	CV001-US	CV001-US	CV030-US	CV030-US	CV049-US	CV049-US	CV057-US	CV057-US
17-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
20-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
24-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
25-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
26-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
27-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
28-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
29-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
30-May-18	30	36	-	-	-	-	-	-	-	-	-	-	-	-
31-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Jun-18	30	-	-	-	-	-	-	-	-	-	9.2	11.2	-	-
5-Jun-18	30	16.4	7.6	2.8	-	-	-	-	7.2	2	-	-	-	-
6-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
7-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Jun-18	30	-	-	-	-	-	7.6	4.4	-	-	-	-	-	-
9-Jun-18	30	-	-	-	3.2	<2.0	-	-	<2.0	<2.0	14.6	14.7	-	-
10-Jun-18	30	2.4	4.4	2	-	-	3.9	<2.0	-	-	-	-	-	-
11-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
12-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
13-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Jun-18	30	-	-	-	-	-	2.5	2.1	-	-	-	-	-	-
15-Jun-18	30	<2.0	4.2	<2.0	5.2	2.4	-	-	<2.0	<2.0	3.1	2.1	<2.0	<2.0
16-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
17-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
20-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
24-Jun-18	30	3.3	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	-	-
25-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	<2.0	<2.0
Mean May TSS Concentration ²	15	36.0	-	-	-	-	-	-	-	-	-	-	-	-
Mean June TSS Concentration ³	15	6.0	4.6	2.2	3.5	2.1	4.7	2.8	3.3	2.0	7.2	7.5	2.0	2.0
Number of Samples Collected	-	5	4	4	3	3	3	3	4	4	4	4	2	2
Number of Samples with a TSS Concentration Greater than 100 mg/L	-	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

¹ Effluent Quality Discharge Limits for Surface Runoff During Construction Phase (Table 1) - Type A Water Licence 2AM-MRY1325 - Amend. 1

² Inclusive of TSS results collected from May 1, 2018 to May 31, 2018.

³ Inclusive of TSS results collected from June 1, 2018 to June 30, 2018.

⁴ No flow observed downstream of culvert crossing

A value equal to the MDL (2 mg/L) was used in calculating monthly means for samples with a TSS concentration below the MDL.

Values highlighted in red text exceeded applicable water quality criteria limits.

Values highlighted in bold and red text identify upstream samples that exceed 30 mg/L TSS.

'NS' indicates that no sample was taken due to frozen or no flow conditions

Samples collected determined to be not representative of conditions due to NTU comparisons. Results are not included in the calculations and discussion of the report.

Table 3 – Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Sample Date	TSS Criteria Limit (mg/L)	CV058-DS	CV058-US	CV059-DS	CV059-US	CV060-DS	CV060-US	CV071-DS ⁴	CV071-US ⁴	CV072-DS	CV072-US	CV076-DS	CV076-US	CV078-DS
17-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
20-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
24-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
25-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
26-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
27-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
28-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
29-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
30-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
31-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Jun-18	30	-	-	-	-	16.8	11.2	-	-	-	-	-	-	-
5-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
6-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
7-Jun-18	30	-	-	-	-	-	-	-	-	-	-	7.2	3.6	10.8
8-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
9-Jun-18	30	11.7	<2.0	11.8	<2.0	5.6	<2.0	-	-	-	-	-	-	-
10-Jun-18	30	-	-	-	-	-	-	-	-	5.1	<2.0	3.6	3.8	2.6
11-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
12-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
13-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
15-Jun-18	30	<2.0	<2.0	6.1	2.8	<2.0	<2.0	-	-	-	-	-	-	-
16-Jun-18	30	-	-	-	-	-	-	-	-	5.2	4.5	<2.0	<2.0	<2.0
17-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
20-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
24-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
25-Jun-18	30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	<2.0
Mean May TSS Concentration ²	15	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean June TSS Concentration ³	15	5.2	2.0	6.6	2.3	6.6	4.3	-	-	4.1	2.8	3.7	2.9	4.4
Number of Samples Collected	-	3	3	3	3	4	4	0	0	3	3	4	4	4
Number of Samples with a TSS Concentration Greater than 100 mg/L	-	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

¹ Effluent Quality Discharge Limits for Surface Runoff During Construction Phase (Table 1) - Type A Water Licence 2AM-MRY1325 - Amend. 1

² Inclusive of TSS results collected from May 1, 2018 to May 31, 2018.

³ Inclusive of TSS results collected from June 1, 2018 to June 30, 2018.

⁴ No flow observed downstream of culvert crossing

A value equal to the MDL (2 mg/L) was used in calculating monthly means for samples with a TSS concentration below the MDL.

Values highlighted in red text exceeded applicable water quality criteria limits.

Values highlighted in bold and red text identify upstream samples that exceed 30 mg/L TSS.

'NS' indicates that no sample was taken due to frozen or no flow conditions

Samples collected determined to be not representative of conditions due to NTU comparisons. Results are not included in the calculations and discussion of the report.

Table 3 – Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Sample Date	TSS Criteria Limit (mg/L)	CV078-US	CV079-DS	CV079-US	CV080-DS ¹	CV080-US ⁴	CV087-DS	CV087-US	CV099-DS	CV099-US	CV102-DS	CV102-US	CV104-DS	CV104-US
17-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
20-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
24-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
25-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
26-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
27-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
28-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
29-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
30-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
31-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Jun-18	30	-	-	-	-	-	-	-	4.4	8.4	-	-	-	-
2-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
5-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
6-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	39.2	14.7
7-Jun-18	30	4	2.8	11.5	-	-	-	-	14	6	7.2	4	-	-
8-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
9-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
10-Jun-18	30	<2.0	3.7	<2.0	-	-	-	-	-	-	-	-	-	-
11-Jun-18	30	-	-	-	-	-	15.1	<2.0	<2.0	<2.0	<2.0	<2.0	2.2	<2.0
12-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
13-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
15-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
16-Jun-18	30	<2.0	3.7	3.8	-	-	3.8	<2.0	3.2	2.7	-	-	-	-
17-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-Jun-18	30	-	-	-	-	-	-	-	-	-	<2.0	<2.0	<2.0	<2.0
20-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Jun-18	30	-	-	-	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.4	<2.0
24-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
25-Jun-18	30	<2.0	<2.0	<2.0	-	-	-	-	-	-	-	-	-	-
Mean May TSS Concentration ²	15	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean June TSS Concentration ³	15	2.5	3.1	4.8	-	-	7.0	2.0	5.1	4.2	3.3	2.5	11.5	5.2
Number of Samples Collected	-	4	4	4	0	0	3	3	5	5	4	4	4	4
Number of Samples with a TSS Concentration Greater than 100 mg/L	-	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

¹ Effluent Quality Discharge Limits for Surface Runoff During Construction Phase (Table 1) - Type A Water Licence 2AM-MRY1325 - Amend. 1

² Inclusive of TSS results collected from May 1, 2018 to May 31, 2018.

³ Inclusive of TSS results collected from June 1, 2018 to June 30, 2018.

⁴ No flow observed downstream of culvert crossing

A value equal to the MDL (2 mg/L) was used in calculating monthly means for samples with a TSS concentration below the MDL.

Values highlighted in red text exceeded applicable water quality criteria limits.

Values highlighted in bold and red text identify upstream samples that exceed 30 mg/L TSS.

'NS' indicates that no sample was taken due to frozen or no flow conditions

Samples collected determined to be not representative of conditions due to NTU comparisons. Results are not included in the calculations and discussion of the report.

Table 3 – Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Sample Date	TSS Criteria Limit (mg/L)	CV106-DS	CV106-US	CV111-DS	CV111-US	CV112-DS	CV112-US	CV114-DS	CV114-US	CV128-DS	CV128-US	CV129-DS	CV129-US	CV167-DS
17-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
20-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
24-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
25-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
26-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
27-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
28-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
29-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
30-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
31-May-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Jun-18	30	-	-	-	-	-	-	22.4	83.6	-	-	-	-	-
2-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
5-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
6-Jun-18	30	28	6.4	15.6	8.4	11.6	8.4	-	-	-	-	19.6	3.6	-
7-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
9-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
10-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
11-Jun-18	30	7.7	3	4.6	2.1	3.3	<2.0	2.4	<2.0	2.4	3.1	2.8	<2.0	-
12-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	7.4
13-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
15-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
16-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
17-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
19-Jun-18	30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2	2	<2.0	<2.0	<2.0
20-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
21-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
22-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Jun-18	30	3.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2	<2.0	5.2	<2.0	<2.0
24-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
25-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean May TSS Concentration ²	15	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean June TSS Concentration ³	15	10.2	3.4	6.1	3.6	4.7	3.6	7.2	22.4	2.1	2.4	7.4	2.4	3.8
Number of Samples Collected	-	4	4	4	4	4	4	4	4	3	3	4	4	3
Number of Samples with a TSS Concentration Greater than 100 mg/L	-	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

¹ Effluent Quality Discharge Limits for Surface Runoff During Construction Phase (Table 1) - Type A Water Licence 2AM-MRY1325 - Amend. 1

² Inclusive of TSS results collected from May 1, 2018 to May 31, 2018.

³ Inclusive of TSS results collected from June 1, 2018 to June 30, 2018.

⁴ No flow observed downstream of culvert crossing

A value equal to the MDL (2 mg/L) was used in calculating monthly means for samples with a TSS concentration below the MDL.

Values highlighted in red text exceeded applicable water quality criteria limits.

Values highlighted in bold and red text identify upstream samples that exceed 30 mg/L TSS.

'NS' indicates that no sample was taken due to frozen or no flow conditions

Samples collected determined to be not representative of conditions due to NTU comparisons. Results are not included in the calculations and discussion of the report.

Table 3 – Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Sample Date	TSS Criteria Limit (mg/L)	CV167-US	CV169-DS	CV169-US	CV186-DS	CV186-US	CV187-DS	CV187-US	CV216-DS	CV216-US	CV217-DS	CV217-US	CV223-DS	CV223-US
17-May-18	30	-	-	-	220	166	-	-	-	-	-	-	-	-
18-May-18	30	-	-	-	7.6	5.6	-	-	-	-	-	-	-	-
19-May-18	30	-	-	-	7.6	4.4	-	-	-	-	-	-	-	-
20-May-18	30	-	-	-	4.8	4.4	-	-	-	-	-	-	-	-
21-May-18	30	-	-	-	10.4 / 8	3.2 / 7.2	10.8	4.8	-	-	-	-	-	-
22-May-18	30	-	-	-	<2.0	<2.0	-	-	-	-	-	-	-	-
23-May-18	30	-	-	-	11.6	5.2	-	-	-	-	-	-	-	-
24-May-18	30	-	-	-	2.8	2	-	-	-	-	-	-	-	-
25-May-18	30	-	-	-	<2.0	3.6	-	-	-	-	-	-	-	-
26-May-18	30	-	-	-	4	2.4	-	-	-	-	-	-	-	-
27-May-18	30	-	-	-	14 / 8.4	8.4 / 11.6	<2.0	30.4	-	-	-	-	-	-
28-May-18	30	-	-	-	53.6	23.2	-	-	-	-	-	-	-	-
29-May-18	30	-	-	-	20	16.8	-	-	-	-	-	-	-	-
30-May-18	30	-	-	-	24 / 10.4	7.2 / 20.4	10.8	8.4	-	-	-	-	-	-
31-May-18	30	-	-	-	28.4	15.2	-	-	-	-	-	-	-	-
1-Jun-18	30	-	44.4	4	52	23.6	-	-	-	-	-	-	-	-
2-Jun-18	30	-	-	-	21.2	4.4	-	-	-	-	-	-	-	-
3-Jun-18	30	-	-	-	4.8	<2.0	-	-	-	-	-	-	-	-
4-Jun-18	30	-	-	-	<2.0 / 2.4	<2.0	4.4	4.8	-	-	-	-	-	-
5-Jun-18	30	-	-	-	3.2	<2.0	-	-	14.8	5.6	-	-	-	-
6-Jun-18	30	-	16.8	2.8	11.2	<2.0	-	-	-	-	-	-	-	-
7-Jun-18	30	-	-	-	6.4	<2.0	-	-	-	-	-	-	<2.0	<2.0
8-Jun-18	30	-	-	-	3.6	2.4	-	-	-	-	-	-	-	-
9-Jun-18	30	-	-	-	2.9	<2.0 / 3.4	<2.0	<2.0	-	-	-	-	-	-
10-Jun-18	30	-	-	-	5.3	<2.0	-	-	5.1	7.4	NS	<2.0	-	-
11-Jun-18	30	-	-	-	2.9	2.5	-	-	-	-	-	-	<2.0	<2.0
12-Jun-18	30	6.7	2.4	<2.0	2.1	<2.0	-	-	-	-	-	-	-	-
13-Jun-18	30	-	-	-	<2.0	<2.0	-	-	-	-	-	-	-	-
14-Jun-18	30	-	-	-	<2.0 / 20.2	2.6 / <2.0	2.7	2	-	-	-	-	2.4	<2.0
15-Jun-18	30	-	-	-	5.2	4	-	-	<2.0	6.5	<2.0	<2.0	-	-
16-Jun-18	30	-	-	-	2	2.8	-	-	-	-	-	-	-	-
17-Jun-18	30	-	-	-	<2.0	<2.0	-	-	-	-	-	-	-	-
18-Jun-18	30	-	-	-	4	2	-	-	-	-	-	-	-	-
19-Jun-18	30	<2.0	<2.0	2	<2.0	<2.0	-	-	-	-	-	-	-	-
20-Jun-18	30	-	-	-	<2.0	<2.0	-	-	-	-	-	-	-	-
21-Jun-18	30	-	-	-	<2.0	<2.0	<2.0	2.2	-	-	-	-	-	-
22-Jun-18	30	-	21.6	<2.0	<2.0	<2.0	-	-	-	-	-	-	<2.0	<2.0
23-Jun-18	30	14.8	-	-	<2.0	<2.0	-	-	-	-	-	-	-	-
24-Jun-18	30	-	-	-	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	-	-
25-Jun-18	30	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean May TSS Concentration ²	15	-	-	-	24.4	17.2	7.9	14.5	-	-	-	-	-	-
Mean June TSS Concentration ³	15	7.8	17.4	2.6	6.5	3.1	2.8	2.8	6.0	5.4	2.0	2.0	2.1	2.0
Number of Samples Collected	-	3	5	5	44	44	7	7	4	4	2	3	4	4
Number of Samples with a TSS Concentration Greater than 100 mg/L	-	0	0	0	1	1	0	0	0	0	0	0	0	0

Notes:

¹ Effluent Quality Discharge Limits for Surface Runoff During Construction Phase (Table 1) - Type A Water Licence 2AM-MRY1325 - Amend. 1

² Inclusive of TSS results collected from May 1, 2018 to May 31, 2018.

³ Inclusive of TSS results collected from June 1, 2018 to June 30, 2018.

⁴ No flow observed downstream of culvert crossing

A value equal to the MDL (2 mg/L) was used in calculating monthly means for samples with a TSS concentration below the MDL.

Values highlighted in red text exceeded applicable water quality criteria limits.

Values highlighted in bold and red text identify upstream samples that exceed 30 mg/L TSS.

'NS' indicates that no sample was taken due to frozen or no flow conditions

Samples collected determined to be not representative of conditions due to NTU comparisons. Results are not included in the calculations and discussion of the report.

Table 3 – Summary of TSS Concentrations at Tote Road Water Crossings during Freshet 2018

Sample Date	TSS Criteria Limit (mg/L)	CV224-DS	CV224-US	CV225-DS	CV225-US	CV176-DS	CV176-US
17-May-18	30	-	-	-	-	-	-
18-May-18	30	-	-	-	-	-	-
19-May-18	30	-	-	-	-	-	-
20-May-18	30	-	-	-	-	-	-
21-May-18	30	-	-	-	-	-	-
22-May-18	30	-	-	-	-	-	-
23-May-18	30	-	-	-	-	-	-
24-May-18	30	-	-	-	-	-	-
25-May-18	30	-	-	-	-	-	-
26-May-18	30	-	-	-	-	-	-
27-May-18	30	-	-	-	-	-	-
28-May-18	30	-	-	-	-	-	-
29-May-18	30	-	-	-	-	-	-
30-May-18	30	10.4	4.4	-	-	-	-
31-May-18	30	-	-	-	-	-	-
1-Jun-18	30	-	-	-	-	-	-
2-Jun-18	30	-	-	-	-	-	-
3-Jun-18	30	-	-	-	-	-	-
4-Jun-18	30	-	-	-	-	-	-
5-Jun-18	30	-	-	-	-	-	-
6-Jun-18	30	-	-	-	-	-	-
7-Jun-18	30	6.8	2.4	2.4	<2.0	-	-
8-Jun-18	30	-	-	-	-	-	-
9-Jun-18	30	-	-	-	-	-	-
10-Jun-18	30	2.1	<2.0	2	<2.0	-	-
11-Jun-18	30	-	-	-	-	-	-
12-Jun-18	30	-	-	-	-	-	-
13-Jun-18	30	-	-	-	-	-	-
14-Jun-18	30	2.8	<2.0	4	4.4	-	-
15-Jun-18	30	-	-	-	-	-	-
16-Jun-18	30	-	-	-	-	-	-
17-Jun-18	30	-	-	-	-	-	-
18-Jun-18	30	-	-	-	-	-	-
19-Jun-18	30	-	-	-	-	11.6	<2.0
20-Jun-18	30	-	-	-	-	-	-
21-Jun-18	30	2	<2.0	<2.0	<2.0	-	-
22-Jun-18	30	-	-	-	-	9.6	<2.0
23-Jun-18	30	-	-	-	-	-	-
24-Jun-18	30	-	-	-	-	-	-
25-Jun-18	30	-	-	-	-	-	-
Mean May TSS Concentration ²	15	10.4	4.4	-	-	-	-
Mean June TSS Concentration ³	15	3.4	2.1	2.6	2.6	10.6	2.0
Number of Samples Collected	-	5	5	4	4	2	2
Number of Samples with a TSS Concentration Greater than 100 mg/L	-	0	0	0	0	0	0

Notes:

¹ Effluent Quality Discharge Limits for Surface Runoff During Construction Phase (Table 1) - Type A Water Licence 2AM-MRY1325 - Amend. 1

² Inclusive of TSS results collected from May 1, 2018 to May 31, 2018.

³ Inclusive of TSS results collected from June 1, 2018 to June 30, 2018.

⁴ No flow observed downstream of culvert crossing

A value equal to the MDL (2 mg/L) was used in calculating monthly means for samples with a TSS concentration below the MDL.

Values highlighted in red text exceeded applicable water quality criteria limits.

Values highlighted in bold and red text identify upstream samples that exceed 30 mg/L TSS.

'NS' indicates that no sample was taken due to frozen or no flow conditions

Samples collected determined to be not representative of conditions due to NTU comparisons. Results are not included in the calculations and discussion of the report.

FIGURES

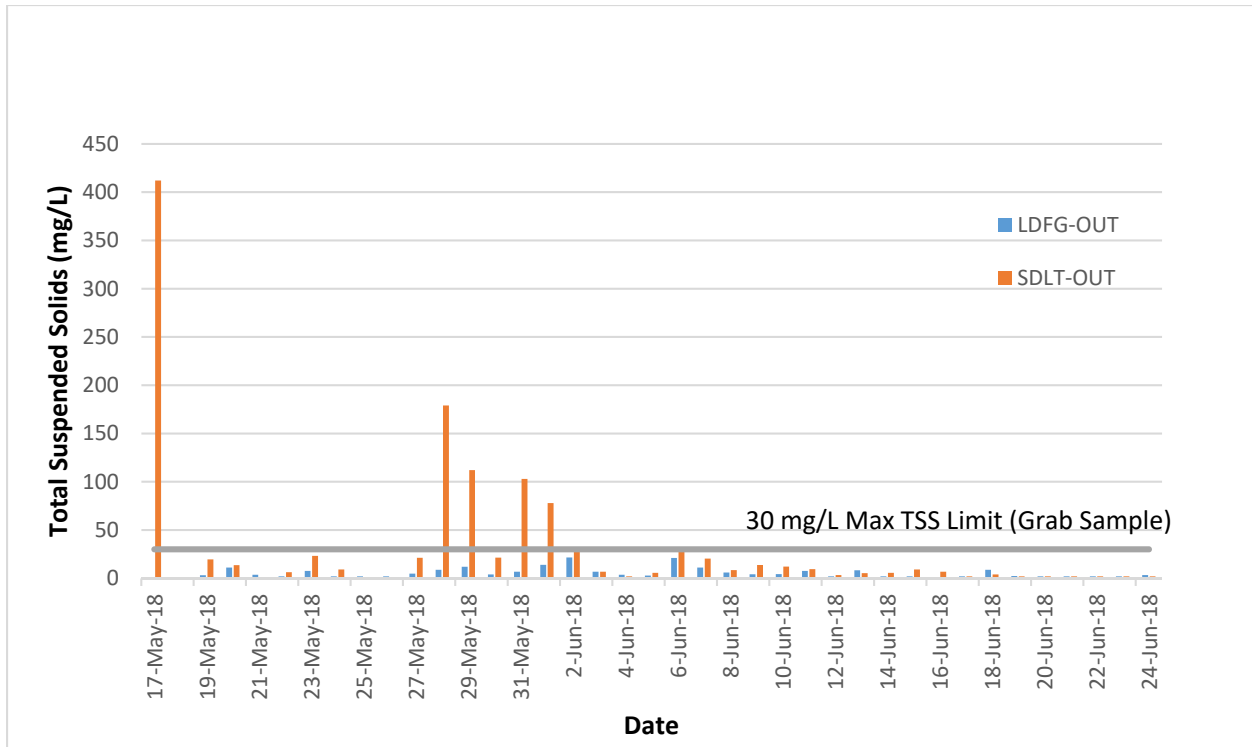


Figure 1 - Total Suspended Solids (TSS) Concentrations for Sheardown Lake Tributaries

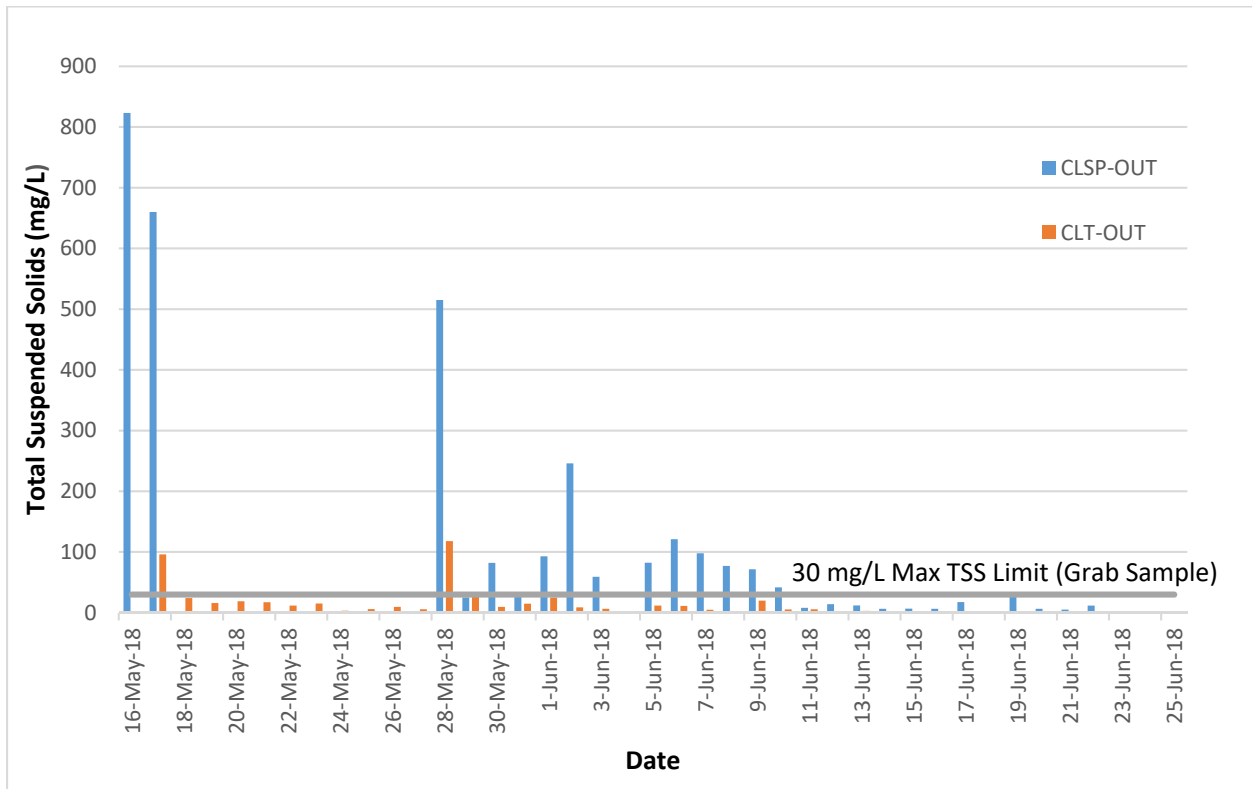


Figure 2 - Total Suspended Solids (TSS) Concentrations for Camp Lake Tributaries

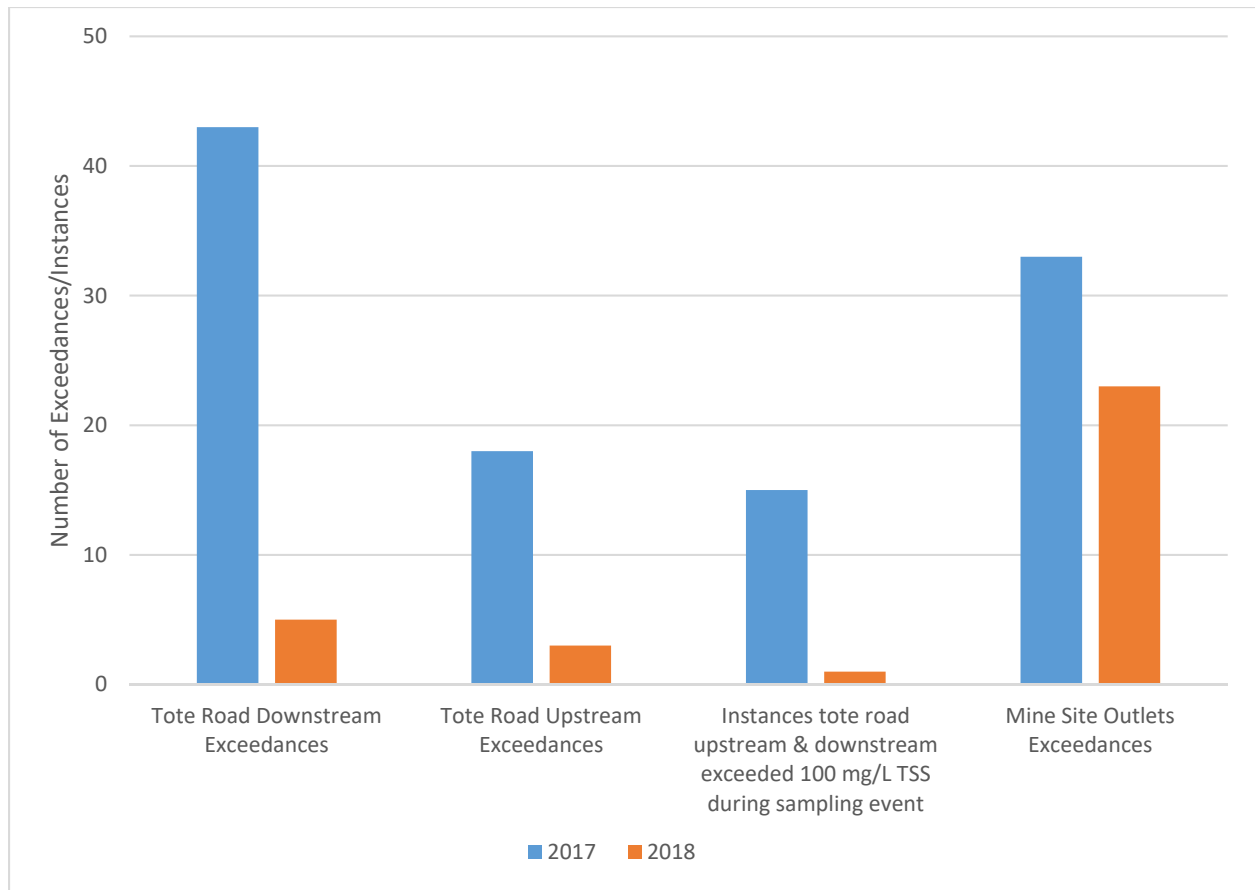


Figure 3 - Number of TSS Exceedances for Tote Road and Mine Site in 2017/2018

APPENDICES

APPENDIX A – NT-NU SPILL REPORTS

**APPENDIX A.1 – Spill Report 18-180 – Camp Lake Settling
Ponds**



June 15, 2018

Resource Management Officer
Nunavut Field Operations
Indigenous and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0
Jonathan.mesher@aandc-aadnc.gc.ca

Manager, Major Projects
Qikiqtani Inuit Association
P.O. Box 219
Iqaluit, NU X0A 0H0

Re: Follow-up to Spill #18-180, Reported on May 18, 2018, Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

At approximately 13:00 HRS on May 16th, 2018, during the execution of the daily freshet monitoring program at the Mary River Mine Site, environmental technicians observed sediment-laden water to be breaching the series of sediment ponds/check dams that have been constructed along the Camp Lake Jetty access road. Elevated levels of suspended solids were observed from sediment impacted snow melt which mobilized due to the overland flow. In addition to the implementation of erosion and sediment control measures, water quality sampling was conducted of water entering Camp Lake.

Immediate and Follow-Up Action:

Personnel worked to re-direct flow so that it travelled through the series of check dams, as well as installed silt fencing and spring berms at strategic locations to minimize flow, increase retention time in sediment ponds, and reduce further mobilization of sediment prior to water entering Camp Lake. Once short-term erosion and sediment control mitigation measures were implemented, controls for longer-term solutions to minimize similar occurrences at this location were constructed. The existing series of check dams down the Camp Lake Jetty access road drainage channel were excavated and reinforced, as well as reinforcing and increasing the capacity of the existing settling pond structures.

Recommendations:

Continued monitoring during freshet conditions and routine maintenance of check dams and settling ponds (i.e. excavation of material) on an as-needed basis.

Current Status:

Conditions at Camp Lake Jetty, as well as other freshet monitoring locations, are currently being sampled and assessed on a daily basis. A more comprehensive Freshet Report will be submitted to document the water quality of water bodies and surface water drainages near Project infrastructure and summarize the corrective actions implemented to address sediment releases and other areas of concern identified during freshet 2018.

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden or Connor Devereaux at (647) 253-0596 x6016.

Prepared by:

A handwritten signature in black ink, appearing to read "B. Lukeman".

Bryan Lukeman
Environmental Coordinator

Reviewed by:

A handwritten signature in black ink, appearing to read "Connor Devereaux".

Connor Devereaux
Environmental Superintendent

Attach: Photos, Map, NT-NU Spill Report

cc. Grant Goddard, Sylvain Proulx, Gerald Rogers, Francois Gaudreau, Tim Sewell, William Bowden (Baffinland), Stephen Bathory (QIA), Ian Parsons, Jeremy Fraser (INAC)



Photo 1. May 15, 2018: Sediment-laden water flowing into spring berm before entering Camp Lake



Photo 2. May 22, 2018: Camp Lake Jetty access road drainage channel check dam



Photo 3. May 22, 2018: Camp Lake Jetty access road drainage channel check dams and berm



Photo 4. May 22, 2018: Typical check dam/berm cross section



Photo 5: May 21, 2018: Reinforcement of berms/check dams at Camp Lake Jetty, during frozen conditions



Figure 1 – Overview map of sediment release location



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH - DAY - YEAR 05-18-2018	REPORT TIME 21:20	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER 18 - 180
B	OCCURRENCE DATE: MONTH - DAY - YEAR 05-16-2018	OCCURRENCE TIME 13:00		
C	LAND USE PERMIT NUMBER (IF APPLICABLE) IOL - Commercial Lease No.: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Mary River Project Mine Site, Baffin Island, NU		REGION ☐ NWT ☒ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE DEGREES MINUTES SECONDS		LONGITUDE DEGREES MINUTES SECONDS	
F	RESPONSIBLE PARTY OR VESSEL NAME Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION 2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3		
G	ANY CONTRACTOR INVOLVED N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
H	PRODUCT SPILLED Sediment-laden water	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES Unquantified at present time	U.N. NUMBER N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE) N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A	U.N. NUMBER N/A	
I	SPILL SOURCE Melting snow, overland flow	SPILL CAUSE Rapid melt	AREA OF CONTAMINATION IN SQUARE METRES N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY Snow covered area, high flow	DESCRIBE ANY ASSISTANCE REQUIRED N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT N/A	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS On May 16, 2018, warming temperatures resulting in snowmelt runoff containing sediment-laden water observed to be flowing down the Camp Lake ditching/check dams at 13:00; water samples were subsequently taken. The source of the drainage was snow melt from the Weatherhaven parking area and Camp Lake access road. The event resulted in sediment-laden water flowing onto and under the ice of Camp Lake. In accordance with the Surface Water Management Plan, sedimentation mitigation measures were implemented including silt fences and spring berms in an attempt to settle sediments prior to discharge. With freshet conditions present, daily monitoring of the water quality is ongoing; initial water quality sample results were submitted to ALS lab for analysis. This spill is being reported as required by the conditions of Water License no. 2AM-MRY1325, Part H, item 9 (b) pursuant to subsection 12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act and as required by subsection 38(4) of the Fisheries Act.			
L	REPORTED TO SPILL LINE BY Connor Devereaux	POSITION Env Superintendent	EMPLOYER Baffinland	LOCATION CALLING FROM 647.253.0596
M	ANY ALTERNATE CONTACT Tim Sewell	POSITION Head of HSE	EMPLOYER Baffinland	ALTERNATE CONTACT 647.253.0596
REPORT LINE USE ONLY				
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT
LEAD AGENCY ☐ EC ☐ DCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC			SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN	
AGENCY			CONTACT NAME	
CONTACT TIME			REMARKS	
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF 1

Figure 2 – NT-NU Spill report

**APPENDIX A.2 – Spill Report 18-182 – Sheardown Lake and
Camp Lake Tributaries**

June 16, 2018

Resource Management Officer
Nunavut Field Operations
Indigenous and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0
Jonathan.mesher@aandc-aadnc.gc.ca

Manager, Major Projects
Qikiqtani Inuit Association
P.O. Box 219
Iqaluit, NU X0A 0H0

Re: Follow-up to Spill #18-182, Reported on May 19, 2018, Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

At approximately 15:00 HRS on May 17th, 2018, during the execution of the daily freshet monitoring program at the Mary River Mine Site, environmental technicians observed sediment-laden water to be flowing at multiple locations at the Mary River Mine Site (SDLT and CLT). Elevated levels of suspended solids were observed from sediment impacted snow melt which mobilized as a result of increased overland flow. In addition to the implementation of erosion and sediment control measures in accordance with the Surface Water Management Plan, water quality sampling was conducted of water entering the receiving water bodies. SDLT reports to Sheardown Lake, while CLT reports to Camp Lake.

Immediate and Follow-Up Action:

Upon discovery of the elevated instream TSS conditions at these drainages, personnel worked to install sedimentation mitigation measures, including silt fences and spring berms, in accordance with the Surface Water Management Plan, in an attempt to slow flow and settle sediments prior to entering the streams.

In the days leading up to freshet, snow pack around the inlets and outlets of select culvert locations was excavated, including the SDLT and CLT crossings, to reduce the volume of snow melt and thus, the amount of overland flow present to mobilize sediment. The excess snow was removed and transported to the approved snow dump areas. By reducing the excess snow at these locations, the severity and frequency of elevated instream TSS events has been reduced.

Recommendations:

Continued monitoring during freshet conditions and routine maintenance of sediment fences and spring berms, where applicable.

Current Status:

Conditions at SDLT and CLT, as well as other freshet monitoring locations, are currently being sampled and assessed on a daily basis. A more comprehensive Freshet Report will be submitted to document the water quality of water bodies and surface water drainages near Project infrastructure and summarize the corrective actions implemented to address sediment releases and other areas of concern identified during freshet 2018.

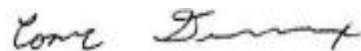
Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden or Connor Devereaux at (647) 253-0596 x6016.

Prepared by:



Bryan Lukeman
Environmental Coordinator

Reviewed by:



Connor Devereaux
Environmental Superintendent

Attach: Photos, Map, NT-NU Spill Report

cc. Grant Goddard, Sylvain Proulx, Gerald Rogers, Francois Gaudreau, Tim Sewell, William Bowden (Baffinland), Stephen Bathory (QIA), Ian Parsons, Jeremy Fraser (INAC)



Photo 1. May 17, 2018: Viewing downstream of sediment-laden water at CLT entering Camp Lake



Photo 2. May 17, 2018: Viewing downstream of SDLT of sediment-laden water entering Sheardown Lake



Photo 3. May 9, 2018: Removal of excess snowpack from road crossing above SDLT



Photo 4. May 9, 2018: Removal of excess snowpack from road crossing above SDLT



Photo 5. May 9, 2018: Removal of excess snowpack from road crossing above SDLT



Photo 6. May 13, 2018: Removal of excess snowpack from road crossing above CLT



Figure 1 – Overview map of sediment release location



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH - DAY - YEAR 05-19-2018	REPORT TIME 21:00	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER 18 182
B	OCCURRENCE DATE: MONTH - DAY - YEAR 05-17-2018	OCCURRENCE TIME 15:00		
C	LAND USE PERMIT NUMBER (IF APPLICABLE) IOL - Commercial Lease No.: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Mary River Project Mine Site, Baffin Island, NU		REGION ☐ NWT ☒ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE DEGREES MINUTES SECONDS		LONGITUDE DEGREES MINUTES SECONDS	
F	RESPONSIBLE PARTY OR VESSEL NAME Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION 2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3		
G	ANY CONTRACTOR INVOLVED N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
H	PRODUCT SPILLED Sediment-laden water	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES Unquantified	U.N. NUMBER N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE) N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A	U.N. NUMBER N/A	
I	SPIII. SOURCE Melting snow, overland flow	SPIII. CAUSE Rapid melt	AREA OF CONTAMINATION IN SQUARE METRES N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY Snow covered area, high flow	DESCRIBE ANY ASSISTANCE REQUIRED N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT N/A	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS On May 17, 2018, warming temperatures resulting in snowmelt runoff containing sediment-laden water observed to be flowing at multiple locations at the Mary River Mine Site (SDLT and CLT). The source of the sedimentation was snow melt from surrounding mine site infrastructure. The event resulted in sediment-laden water flowing onto and under the ice of Camp Lake and Sheardown Lake which are currently frozen. In accordance with the Surface Water Management Plan, sedimentation mitigation measures were implemented including silt fences and spring berms in an attempt to settle sediments prior to discharge. With freshet conditions present, daily monitoring of the water quality is ongoing; initial water quality sample results were submitted to ALS lab for analysis. This spill is being reported as required by the conditions of Water License no. 2AM-MRY1325, Part H, item 9 (b) pursuant to subsection 12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act and as required by subsection 38(4) of the Fisheries Act.			
L	REPORTED TO SPILL LINE BY Connor Devereaux	POSITION Env Superintendent	EMPLOYER Baffinland	LOCATION CALLING FROM 647.253.0596
				TELEPHONE Ext. 6016
M	ANY ALTERNATE CONTACT Tim Sewell	POSITION Head of HSE	EMPLOYER Baffinland	ALTERNATE CONTACT 647.253.0596
				ALTERNATE TELEPHONE Ext. 6054
REPORT LINE USE ONLY				
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT
				REPORT LINE NUMBER (867) 920-8130
LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ LA ☐ NAC ☐ NEB ☐ TC			SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN	
			FILE STATUS ☐ OPEN ☐ CLOSED	
AGENCY	CONTACT NAME		CONTACT TIME	REMARKS
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF 1

Figure 2 – NT-NU Spill report

APPENDIX A.3 – Spill Report 18-209 – Tote Road Crossing
BG27



July 05, 2018

Resource Management Officer
Nunavut Field Operations
Indigenous and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0
Jonathan.mesher@aandc-aadnc.gc.ca

Manager, Major Projects
Qikiqtani Inuit Association
P.O. Box 219
Iqaluit, NU X0A 0H0

Re: Follow-up to Spill #18-209, Reported on June 05, 2018, Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

As part of Baffinland's 2018 Tote Road monitoring program, on May 30th, a crossing located at Km 86 (BG27) was identified from received sample results to be flowing above applicable water licence criteria for total suspended solids (TSS). The sediment was generated by the melting snow pack adjacent to the road and other sample results indicate natural sedimentation upstream is also contributing to the elevated TSS in the stream.

Immediate and Follow-Up Action:

Upon discovery of the elevated TSS conditions downstream of the culvert crossing, personnel installed sedimentation mitigation measures. Mitigation measures included riprap armoring of the ditches and silt fences to slow flow velocities and settle sediments prior to entering the culvert and stream, as outlined in the Surface Water Management Plan.

Recommendations:

Continued monitoring during summer rain events and routine maintenance of sediment control measures will be completed on an as-needed basis.

Current Status:

Conditions at BG27 improved following the installation of sediment control measures, with TSS levels returning to below applicable water licence criteria. A more comprehensive Freshet Report will be submitted to document the water quality of surface water crossings along the Tote Road and summarize the areas of concern identified during freshet 2018.

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden or Connor Devereaux at (647) 253-0596 x6016.

Prepared by:

A handwritten signature in black ink, appearing to read "DR", written over a light blue grid background.

Dominic Ritgen
Environmental Coordinator

Reviewed by:

A handwritten signature in black ink, appearing to read "Connor Devereaux", written over a light blue grid background.

Connor Devereaux
Environmental Superintendent

Attach: Photos, Map, NT-NU Spill Report

cc. Grant Goddard, Sylvain Proulx, Gerald Rogers, Francois Gaudreau, Tim Sewell, William Bowden (Baffinland), Stephen Bathory (QIA), Ian Parsons, Jeremy Fraser (INAC)



Photo 1. May 30, 2018: Viewing downstream BG27 entering waterbody



Photo 2. May 30, 2018: Viewing Upstream of BG27



Photo 3. June 6, 2018: Bank armoring with riprap



Photo 4. June 6, 2018: Bank armoring with riprap



Photo 5. June 6, 2018: Silt fence being installed upstream of crossing



Photo 6. June 7, 2018: Water flowing clear following mitigation measures in place



Figure 1 – Overview map of sediment release location

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 973-6024

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH - DAY - YEAR 06-05-2018	REPORT TIME 19:00 HRS	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER 18 - 209
B	OCCURRENCE DATE: MONTH - DAY - YEAR Unknown	OCCURRENCE TIME Unknown		
C	LAND USE PERMIT NUMBER (IF APPLICABLE) IOL - Commercial Lease No.: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Mary River Project Tote Road, Baffin Island, NU		REGION ☐ NWT ☒ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE DEGREES - MINUTES - SECONDS -		LONGITUDE DEGREES - MINUTES - SECONDS -	
F	RESPONSIBLE PARTY OR VESSEL NAME Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION 2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3		
G	ANY CONTRACTOR INVOLVED N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
H	PRODUCT SPILLED Sediment / discoloured water	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES Unquantified	U.N. NUMBER N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE) N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A	U.N. NUMBER N/A	
I	SPILL SOURCE Freshet melting snowpack	SPILL CAUSE Sediment impacted water	AREA OF CONTAMINATION IN SQUARE METRES N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY Poor access	DESCRIBE ANY ASSISTANCE REQUIRED N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT N/A	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS As part of Baffinland's 2018 Tote Road monitoring program, crossings are being monitored for turbid water and sediment impacted drainage upon the start of flows. On May 30, 2018, one crossing- BG27 (Km 86) was identified from received sample results to be flowing above applicable water licence criteria for total suspended solids (TSS) downstream of the crossing . The sediment appears to be generated by the melting snow pack adjacent to the road, however sample results indicate natural sedimentation upstream is also contributing to the elevated TSS in the stream. Sedimentation mitigation measure such as silt fences, jute, spring berms and rip rap are planned and will be installed where possible based on safe access, snow, ice cover and frozen ground. The Tote Road monitoring program is ongoing. This spill is being reported as required by the conditions of Water License no. 2AM-MRY1325, Part H, item 9 (b) pursuant to subsection 12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act and as required by subsection 38(4) of the Fisheries Act.			
L	REPORTED TO SPILL LINE BY William Bowden	POSITION Env Superintendent	EMPLOYER Baffinland	LOCATION CALLING FROM 647.253.0596
M	ANY ALTERNATE CONTACT Tim Sewell	POSITION Head of HSE	EMPLOYER Baffinland	ALTERNATE CONTACT LOCATION 647.253.0596
TELEPHONE Ext. 6016				
ALTERNATE TELEPHONE Ext 6054				
REPORT LINE USE ONLY				
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT
LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC		SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN		FILE STATUS ☐ OPEN ☐ CLOSED
AGENCY	CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

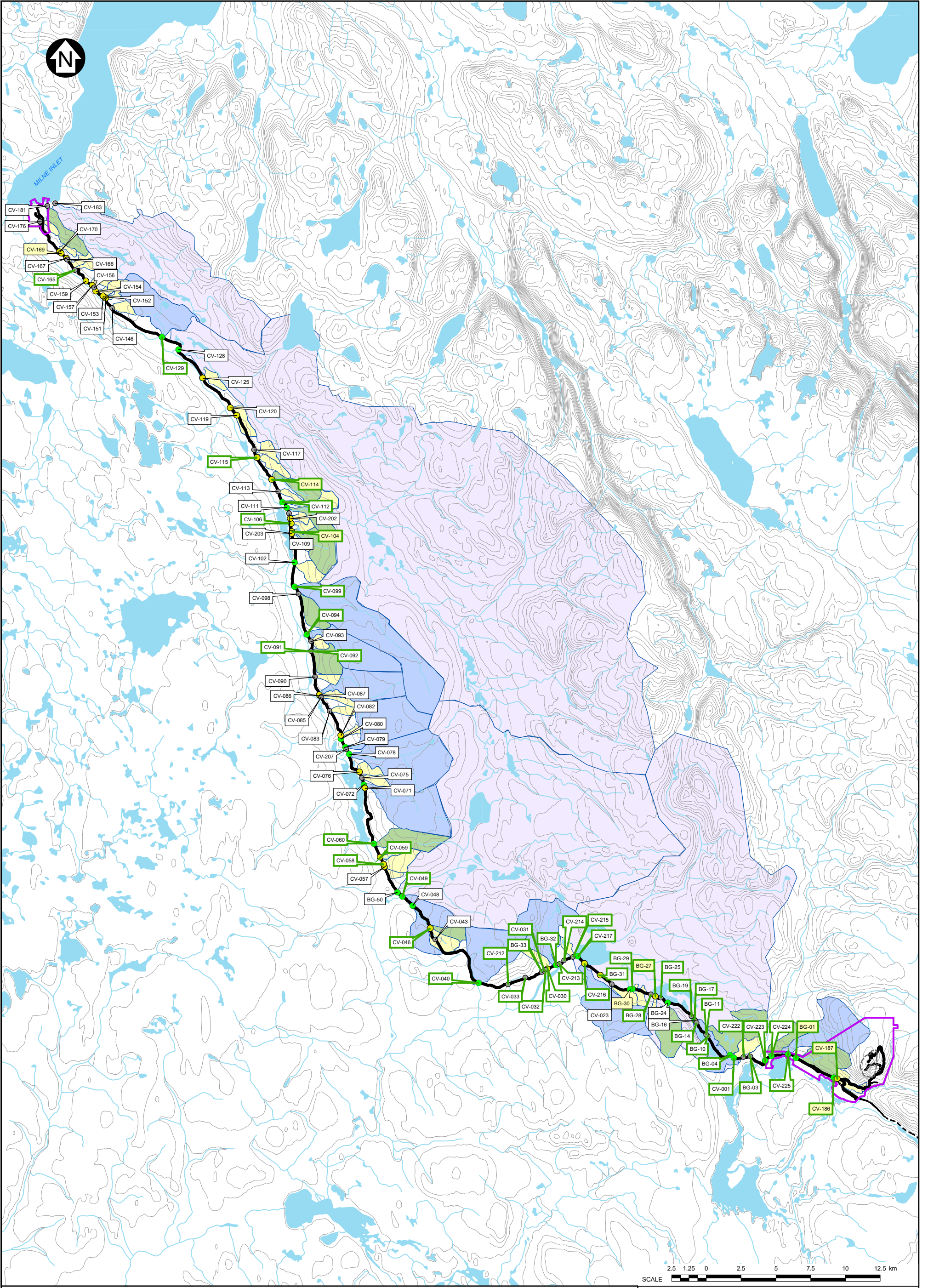
Figure 2 – NT-NU Spill report

**APPENDIX B – SURFACE WATER QUALITY AND ACUTE
TOXICITY RESULTS FOR AFFECTED AREAS**

APPENDIX B.1 – Sample IDs and Locations

Sample IDs and Locations

Sample Location	Description	Coordinates (Lat/Long)
CLSP-OUT	Camp Lake Sedimentation Ponds Outlet	N 71° 19' 42.2" W 79° 22' 55.4"
CLT-OUT	Camp Lake Tributary 1 (100 m upstream of Camp Lake Outfall)	N 71° 19' 46.8" W 79° 23' 08.6"
SDLT-OUT	Sheardown Lake Tributary 1 (100 m upstream of Sheardown Lake Outfall)	N 71° 18' 57.6" W 79° 18' 46.8"
LDFG-OUT	Sheardown Lake Landfill Gate Tributary (40 m upstream of Sheardown Lake Outfall)	N 71° 18' 41.0" W 79° 17' 40.6"



LEGEND:

WATER

SMALL CATCHMENT

MEDIUM CATCHMENT

LARGE CATCHMENT

EXTRA LARGE CATCHMENT

FISH BEARING STATUS

NO

MARGINAL

IMPORTANT

RIVER/STREAM/DRAINAGE

MILNE INLET TOTE ROAD

CV223

DENOTES STREAM CROSSINGS WITH DOCUMENTED TSS MEASUREMENT(S) THAT EXCEEDED 30 mg/L DURING FRESHET 2018 (COMPRISE US AND/OR DS) EXCEEDANCES

CV223

DENOTES STREAM CROSSINGS (CULVERTS) THAT HAVE BEEN SELECTED IN THE TOTE ROAD EARTHWORKS EXECUTION PLAN (TREP) FOR REPAIR OR UPGRADE

NOTES:

1. COORDINATE GRID IS IN METRES.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N.

2. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009). ALL RIGHTS RESERVED.

3. CONTOUR INTERVAL IS 40 METRES.

4. CATCHMENT BASED ON JULY 2006 INSPECTIONS.

5. FISH BEARING STATUS BASED ON:
BAFFINLAND IRON MINES CORP., FISH HABITAT MONITORING 2017 ANNUAL REPORT, TABLE 2, DECEMBER 2017.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER

MILNE INLET TOTE ROAD
WATER CROSSINGS

PIA NO.
NB102-181/48

REF NO.
NB19-00036

FIGURE B.1-2

REV
0

014JAN19ISSUED WITH TRANSMITTAL

WBASWB

DESIGNEDDRAWNREVIEWED

SAVED: 11/10/2001 01:14:48 A/GIS/Figs/B.26 RD.mxd; Jan 14, 2019 1:18 PM; asimpson

APPENDIX B.2 – Water Quality and Results

Analyte	Sample ID			SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2097213-1	L2097693-8	L2097719-3
	Sample Date & Time			5/17/2018 6:20:00 PM	5/19/2018 12:00:00 PM	5/20/2018 4:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Limits			
Hardness (as CaCO3)	mg/L	10	-	-	49	-
pH	pH units	0.1	-	7.54	7.72	7.56
Total Suspended Solids	mg/L	2	30	412	19.6	13.6
Total Dissolved Solids	mg/L	13	-	143	83	100
Turbidity	NTU	0.1	-	383	41.4	29.4
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	33	-
Ammonia, Total (as N)	mg/L	0.02	-	-	0.058	-
Chloride (Cl)	mg/L	0.5	-	-	3.1	-
Fluoride (F)	mg/L	0.02	-	-	0.027	-
Nitrate (as N)	mg/L	0.02	-	-	0.251	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	0.47	-
Phosphorus, Total	mg/L	0.003	-	-	0.0306	-
Sulfate (SO4)	mg/L	0.3	-	-	14.1	-
Dissolved Organic Carbon	mg/L	1	-	-	6.6	-
Total Organic Carbon	mg/L	1	-	-	7.4	-
Aluminum (Al)-Total	mg/L	0.01	-	-	1.21	-
Arsenic (As)-Total	mg/L	0.0001	-	-	0.00021	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	0.000041	-
Calcium (Ca)-Total	mg/L	0.5	-	-	9.26	-
Copper (Cu)-Total	mg/L	0.001	-	-	0.0043	-
Iron (Fe)-Total	mg/L	0.05	-	-	1.63	-
Lead (Pb)-Total	mg/L	0.0001	-	-	0.00135	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	7.53	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	0.0759	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	<0.000010	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	0.00164	-
Nickel (Ni)-Total	mg/L	0.0005	-	-	0.00327	-
Potassium (K)-Total	mg/L	0.05	-	-	3.19	-
Selenium (Se)-Total	mg/L	0.00005	-	-	0.000116	-
Sodium (Na)-Total	mg/L	0.5	-	-	1.1	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	0.000029	-
Uranium (U)-Total	mg/L	0.00001	-	-	0.00102	-
Zinc (Zn)-Total	mg/L	0.003	-	-	0.0079	-
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	0.0254	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	<0.00010	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	0.000026	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	8.54	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	0.00284	-
Iron (Fe)-Dissolved	mg/L	0.01	-	-	0.047	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	0.000086	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	6.8	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	0.0468	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	0.00001	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	0.00166	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	0.00159	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	2.5	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	0.000117	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	1.04	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	0.000011	-
Uranium (U)-Dissolved	mg/L	0.00001	-	-	0.000736	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	0.0027	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-
Animal/Veg Oil & Grease	mg/L	2	-	-	<2.0	-
Mineral Oil and Grease	mg/L	1	-	-	<1.0	-
Acute Toxicity	-	-	-	-	Non-lethal	-

Analyte	Sample ID			SDLT-OUT	SDLT-OUT	SDLT-OUT02	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2099142-7	L2099165-7	L2099165-11	L2100020-7	L2101070-11
	Sample Date & Time			5/22/2018 9:05:00 AM	5/23/2018 10:05:00 AM	5/23/2018 10:05:00 AM	5/24/2018 9:25:00 AM	5/27/2018 9:30:00 AM
	QA/QC Sample Type			N/A	N/A	Field Blank	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.5	7.46	5.76	7.63	7.56
Total Suspended Solids	mg/L	2	30	6.4	23.2	<2.0	9.2	21.2
Total Dissolved Solids	mg/L	13	-	90	62	<20	38	50
Turbidity	NTU	0.1	-	19.6	34	0.21	17.5	32.4

Analyte	Sample ID			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT02
	ALS Laboratory Sample ID			L2102155-11	L2102200-11	L2103176-6	L2103991-5	L2103991-6
	Sample Date & Time			5/28/2018 4:10:00 PM	5/29/2018 11:10:00 AM	5/30/2018 10:55:00 AM	5/31/2018 10:40:00 AM	5/31/2018 10:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Blank
	Units	LOR	Limits					
pH	pH units	0.1	-	7.65	7.59	7.51	7.65	5.77
Total Suspended Solids	mg/L	2	30	179	112	21.4	103	<2.0
Total Dissolved Solids	mg/L	13	-	60	55	54	62	<20
Turbidity	NTU	0.1	-	124	67	25.9	82.8	<0.10

Analyte	Sample ID			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2104835-6	L2105057-5	L2105075-5	L2105310-5	L2106198-5
	Sample Date & Time			6/1/2018 10:00:00 AM	6/2/2018 9:40:00 AM	6/3/2018 9:05:00 AM	6/4/2018 9:20:00 AM	6/5/2018 10:05:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.59	7.59	7.65	7.61	7.62
Total Suspended Solids	mg/L	2	30	78	30.8	6.8	<2.0	5.6
Total Dissolved Solids	mg/L	13	-	59	50	64	59	54
Turbidity	NTU	0.1	-	66.3	39.4	15.8	10.9	12.8

Analyte	Sample ID			SDLT-OUT	SDLT-OUT01	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2107439-5	L2107439-6	L2108491-11	L2109287-10	L2109434-10
	Sample Date & Time			6/6/2018 10:20:00 AM	6/6/2018 10:20:00 AM	6/7/2018 10:10:00 AM	6/8/2018 9:30:00 AM	6/9/2018 10:40:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.67	7.71	7.68	7.71	7.68
Total Suspended Solids	mg/L	2	30	31.5	32.3	20.4	8.4	13.8
Total Dissolved Solids	mg/L	13	-	64	65	65	52	53
Turbidity	NTU	0.1	-	35.4	32.1	22.5	15.2	22.8

Analyte	Sample ID			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2109450-11	L2112079-9	L2113849-11	L2113842-10	L2113831-11
	Sample Date & Time			6/10/2018 10:45:00 AM	6/11/2018 11:45:00 AM	6/12/2018 1:50:00 PM	6/13/2018 10:50:00 AM	6/14/2018 9:35:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.72	7.81	7.91	7.95	7.98
Total Suspended Solids	mg/L	2	30	12.1	9.4	3.3	5.4	5.6
Total Dissolved Solids	mg/L	13	-	67	89	66	78	83
Turbidity	NTU	0.1	-	19.1	24.6	13.8	18.8	11.7

Analyte	Sample ID			SDLT-OUT03	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2113831-10	L2114219-11	L2114585-3	L2115163-11	L2117760-8
	Sample Date & Time			6/14/2018 9:35:00 AM	6/15/2018 1:15:00 PM	6/16/2018 9:55:00 AM	6/17/2018 11:00:00 AM	6/18/2018 5:25:00 PM
	QA/QC Sample Type			Travel Blank	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	5.98	7.85	7.87	7.91	7.9
Total Suspended Solids	mg/L	2	30	<2.0	9.2	6.8	<2.0	4
Total Dissolved Solids	mg/L	13	-	<10	95	70	95	110
Turbidity	NTU	0.1	-	0.34	21.1	8.82	4.11	4.96

Analyte	Sample ID			SDLT-OUT01	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2117760-11	L2117168-8	L2117148-8	L2117997-8	L2120362-8
	Sample Date & Time			6/18/2018 5:25:00 PM	6/19/2018 10:30:00 AM	6/20/2018 10:30:00 AM	6/21/2018 9:20:00 AM	6/22/2018 10:15:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.92	7.93	7.99	8.08	7.98
Total Suspended Solids	mg/L	2	30	4	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	105	115	136	147	125
Turbidity	NTU	0.1	-	4.49	5.64	4.59	2.84	2.73

Analyte	Sample ID			SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2120514-9	L2120509-4
	Sample Date & Time			6/23/2018 9:40:00 AM	6/24/2018 11:55:00 AM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Limits		
pH	pH units	0.1	-	8.11	8.06
Total Suspended Solids	mg/L	2	30	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	144	147
Turbidity	NTU	0.1	-	2.97	2.45

Analyte	Sample ID			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2097693-6	L2097719-6	L2097916-5	L2099142-5	L2099165-5
	Sample Date & Time			5/19/2018 5:45:00 PM	5/20/2018 5:05:00 PM	5/21/2018 10:45:00 AM	5/22/2018 8:15:00 AM	5/23/2018 11:30:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1		6.84	6.84	6.9	6.9	7.18
Total Suspended Solids	mg/L	2	30	3.2	11.2	3.6	<2.0	7.6
Total Dissolved Solids	mg/L	20		160	170	152	118	65
Turbidity	NTU	0.1		4.97	4.77	6.01	6.01	5.77

Analyte	Sample ID			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT01
	ALS Laboratory Sample ID			L2100020-5	L2100928-5	L2101022-5	L2101070-5	L2101070-7
	Sample Date & Time			5/24/2018 10:25:00 AM	5/25/2018 10:40:00 AM	5/26/2018 10:00:00 AM	5/27/2018 10:35:00 AM	5/27/2018 10:35:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Duplicate
	Units	LOR	Limits					
pH	pH units	0.1		7.27	7.31	7.34	7.32	7.3
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	4.8	4
Total Dissolved Solids	mg/L	20		40	86	70	45	35
Turbidity	NTU	0.1		3.93	2.86	5.1	7.48	7.71

Analyte	Sample ID			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT01
	ALS Laboratory Sample ID			L2102155-5	L2102200-5	L2103176-11	L2103991-10	L2103991-11
	Sample Date & Time			5/28/2018 5:05:00 PM	5/29/2018 12:10:00 PM	5/30/2018 12:45:00 AM	5/31/2018 12:05:00 PM	5/31/2018 12:05:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Duplicate
	Units	LOR	Limits					
pH	pH units	0.1		7.23	7.3	7.32	7.32	7.31
Total Suspended Solids	mg/L	2	30	8.8	12	4	6.8	4.4
Total Dissolved Solids	mg/L	20		48	38	62	36	33
Turbidity	NTU	0.1		14.2	15.2	12.3	16	16.3

Analyte	Sample ID			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2104835-10	L2105057-10	L2105075-10	L2105310-10	L2106198-10
	Sample Date & Time			6/1/2018 11:15:00 AM	6/2/2018 11:00:00 AM	6/3/2018 10:10:00 AM	6/4/2018 10:20:00 AM	6/5/2018 11:05:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1		7.28	7.34	7.46	7.54	7.51
Total Suspended Solids	mg/L	2	30	14	21.6	6.8	3.6	2.8
Total Dissolved Solids	mg/L	20		32	35	43	59	39
Turbidity	NTU	0.1		29.4	44.8	24.4	11.9	14.8

Analyte	Sample ID			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2107439-10	L2108491-5	L2109287-4	L2109434-4	L2109450-5
	Sample Date & Time			6/6/2018 11:45:00 AM	6/7/2018 11:20:00 AM	6/8/2018 10:50:00 AM	6/9/2018 12:10:00 PM	6/10/2018 11:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1		7.6	7.65	7.79	7.73	7.76
Total Suspended Solids	mg/L	2	30	21	11.2	6	4.1	4.4
Total Dissolved Solids	mg/L	20		76	50	57	47	62
Turbidity	NTU	0.1		56.7	37.6	23.1	27.9	29.1

Analyte	Sample ID			LDFG-OUT03	LDFG-OUT	LDFG-OUT	LDFG-OUT03	LDFG-OUT
	ALS Laboratory Sample ID			L2109450-6	L2112079-3	L2113849-4	L2113849-3	L2113842-4
	Sample Date & Time			6/10/2018 11:40:00 AM	6/11/2018 3:15:00 PM	6/12/2018 3:35:00 PM	6/12/2018 3:35:00 PM	6/13/2018 4:30:00 PM
	QA/QC Sample Type			Travel Blank	N/A	N/A	Travel Blank	N/A
	Units	LOR	Limits					
pH	pH units	0.1		5.7	7.83	8.06	5.97	8.08
Total Suspended Solids	mg/L	2	30	<2.0	7.6	<2.0	<2.0	8.3
Total Dissolved Solids	mg/L	20		<10	86	79	<10	88
Turbidity	NTU	0.1		0.14	52.3	7.88	0.45	24.6

Analyte	Sample ID			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT03
	ALS Laboratory Sample ID			L2113831-4	L2114219-4	L2115163-4	L2117760-3	L2117760-12
	Sample Date & Time			6/14/2018 10:25:00 AM	6/15/2018 4:40:00 PM	6/17/2018 11:50:00 AM	6/18/2018 5:40:00 AM	6/18/2018 5:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Travel Blank
	Units	LOR	Limits					
pH	pH units	0.1		8.11	7.86	8.01	8	5.77
Total Suspended Solids	mg/L	2	30	<2.0	2	<2.0	8.8	<2.0
Total Dissolved Solids	mg/L	20		96	95	124	125	35
Turbidity	NTU	0.1		8.15	17.3	9.4	23.3	0.21

Analyte	Sample ID			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2117168-3	L2117148-3	L2117997-3	L2120362-3	L2120514-2
	Sample Date & Time			6/19/2018 8:50:00 AM	6/20/2018 11:25:00 AM	6/21/2018 10:15:00 AM	6/22/2018 11:10:00 AM	6/23/2018 10:45:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1		8.06	8.13	8.22	8.09	8.21
Total Suspended Solids	mg/L	2	30	2.4	<2.0	2	<2.0	<2.0
Total Dissolved Solids	mg/L	20		107	128	138	115	137
Turbidity	NTU	0.1		10.8	7.6	9.86	6.26	6.94

Analyte	Sample ID			LDFG-OUT02	LDFG-OUT
	ALS Laboratory Sample ID			L2120514-13	L2120509-8
	Sample Date & Time			6/23/2018 10:45:00 AM	6/24/2018 5:30:00 PM
	QA/QC Sample Type			Field Blank	N/A
	Units	LOR	Limits		
pH	pH units	0.1		5.88	8.18
Total Suspended Solids	mg/L	2	30	<2.0	3.3
Total Dissolved Solids	mg/L	20		<10	155
Turbidity	NTU	0.1		0.61	17

Analyte	Sample ID			CLSP-OUT	CLSP-OUT01	CLSP-OUT	CLSP-OUT	CLSP-OUT	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2096863-3	L2096863-4	L2097213-4	L2102155-12	L2101772-1	L2103176-1	L2103991-1
	Sample Date & Time			5/16/2018 4:30 PM	5/16/2018 4:30:00 PM	5/17/2018 7:30 PM	5/28/2018 2:55:00 PM	5/29/2018 9:20:00 AM	5/30/2018 8:05:00 AM	5/31/2018 8:55:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8.23	8.16	8.12	7.99	7.31	7.69	7.64
Total Suspended Solids	mg/L	2	30	823	765	660	515	25.2	82	30
Total Dissolved Solids	mg/L	13	-	110	104	127	104	52	119	75
Turbidity	NTU	0.1	-	1270	930	1230	601	48.8	166	55.3
Oil and Grease, Total	mg/L	2	No visible sheen	3.8	5.7	-	-	-	-	-
Animal/Veg Oil & Grease	mg/L	0.39	-	1.1	3.1	-	-	-	-	-
Mineral Oil and Grease	mg/L	1	-	2.7	2.6	-	-	-	-	-
F2 (C10-C16)	ug/L	100	-	140	160	-	-	-	-	-
F3 (C16-C34)	ug/L	250	-	1310	1370	-	-	-	-	-
F4 (C34-C50)	ug/L	250	-	<250	<250	-	-	-	-	-
hrom. to baseline at nC5	-	-	-	YES	YES	-	-	-	-	-
2-Bromobenzotrifluoride	%	-	-	91.4	88.3	-	-	-	-	-

Analyte	Sample ID			CLSP-OUT	CLSP-OUT	CLSP-OUT	CLSP-OUT03	CLSP-OUT	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2104835-1	L2105057-1	L2105075-1	L2105075-6	L2105310-1	L2106198-1	L2107439-1
	Sample Date & Time			6/1/2018 8:30:00 AM	6/2/2018 8:10:00 AM	6/3/2018 7:45:00 AM	6/3/2018 7:45:00 AM	6/4/2018 7:45:00 AM	6/5/2018 9:25:00 AM	6/6/2018 8:25:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	Travel Blank	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.66	7.83	7.72	5.99	7.7	7.89	7.98
Total Suspended Solids	mg/L	2	30	92.9	246	59.2	<2.0	46.5	82.4	121
Total Dissolved Solids	mg/L	13	-	109	167	135	<20	155	157	171
Turbidity	NTU	0.1	-	168	452	128	<0.10	108	163	222

Analyte	Sample ID			CLSP-OUT03	CLSP-OUT	CLSP-OUT	CLSP-OUT	CLSP-OUT02	CLSP-OUT
	ALS Laboratory Sample ID			L2107439-11	L2108491-10	L2109287-9	L2109434-9	L2109434-8	L2109450-10
	Sample Date & Time			6/6/2018 8:25:00 AM	6/7/2018 8:30:00 AM	6/8/2018 8:15:00 AM	6/9/2018 8:40:00 AM	6/9/2018 8:40:00 AM	6/10/2018 9:45:00 AM
	QA/QC Sample Type			Travel Blank	N/A	N/A	N/A	Field Blank	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	5.69	7.96	8.03	7.84	5.93	7.85
Total Suspended Solids	mg/L	2	30	<2.0	98	77	71.6	<2.0	41.8
Total Dissolved Solids	mg/L	13	-	24	155	136	145	<10	89
Turbidity	NTU	0.1	-	0.14	158	157	111	0.13	87.9

Analyte	Sample ID			CLSP-OUT	CLSP-OUT03	CLSP-OUT	CLSP-OUT	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2112079-7	L2112079-8	L2113849-9	L2113842-9	L2113831-9	L2114219-9
	Sample Date & Time			6/11/2018 9:25:00 AM	6/11/2018 9:25:00 AM	6/12/2018 8:45:00 AM	6/13/2018 9:45:00 AM	6/14/2018 8:15:00 AM	6/15/2018 12:20:00 PM
	QA/QC Sample Type			N/A	Travel Blank	N/A	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	7.95	6.13	8.15	8.1	8.13	7.77
Total Suspended Solids	mg/L	2	30	8.1	<2.0	14.2	12	6.4	6.8
Total Dissolved Solids	mg/L	13	-	145	<10	131	141	154	150
Turbidity	NTU	0.1	-	28.3	0.51	27.2	15.8	10.8	12.3

Analyte	Sample ID			CLSP-OUT	CLSP-OUT	CLSP-OUT03	CLSP-OUT	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2114585-4	L2115163-9	L2115163-10	L2117168-7	L2117148-7	L2117997-7
	Sample Date & Time			6/16/2018 8:50:00 AM	6/17/2018 12:45:00 AM	6/17/2018 12:45:00 AM	6/19/2018 3:25:00 PM	6/20/2018 10:00:00 AM	6/21/2018 8:15:00 AM
	QA/QC Sample Type			N/A	N/A	Travel Blank	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	7.74	7.75	5.69	8.17	8.15	8.26
Total Suspended Solids	mg/L	2	30	6.4	17.6	<2.0	27.3	6.5	5.2
Total Dissolved Solids	mg/L	13	-	124	147	25	234	245	220
Turbidity	NTU	0.1	-	8.37	9.21	0.26	157	40.2	11.1

Analyte	Sample ID			CLSP-OUT01	CLSP-OUT	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2117997-11	L2120362-7	L2120514-4	L2120509-1
	Sample Date & Time			6/21/2018 8:15:00 AM	6/22/2018 9:05:00 AM	6/23/2018 8:30:00 AM	6/24/2018 9:05:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	N/A
	Units	LOR	Limits				
pH	pH units	0.1	-	8.28	8.18	8.28	8.23
Total Suspended Solids	mg/L	2	30	2.5	11.8	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	230	216	212	220
Turbidity	NTU	0.1	-	10.4	12.9	3.84	3.58

Analyte	Sample ID			CLT-OUT	CLT-OUT01	CLT-OUT
	ALS Laboratory Sample ID			L2097213-5	L2097213-6	L2097597-3
	Sample Date & Time			5/17/2018 7:45:00 PM	5/17/2018 7:45:00 PM	5/18/2018 11:00:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A
	Units	LOR	Limits			
Hardness	mg/L	10	-	-	-	-
pH	pH units	0.1	-	7.32	7.47	7.46
Total Suspended Solids	mg/L	2	30	96	93.1	24
Total Dissolved Solids	mg/L	13	-	76	76	70
Turbidity	NTU	0.1	-	109	109	43.7
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-
Chloride (Cl)	mg/L	0.5	-	-	-	-
Fluoride (F)	mg/L	0.02	-	-	-	-
Nitrate (as N)	mg/L	0.02	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-
Phosphorus, Total	mg/L	0.003	-	-	-	-
Sulfate (SO4)	mg/L	0.3	-	-	-	-
Dissolved Organic Carbon	mg/L	1	-	-	-	-
Total Organic Carbon	mg/L	1	-	-	-	-
Aluminum (Al)-Total	mg/L	0.01	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	-	-
Lead (Pb)-Total	mg/L	0.0001	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	-	-	-	-
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	-	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	-	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	-	-
Uranium (U)-Dissolved	mg/L	0.00001	-	-	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	-	-
Oil and Grease, Total	mg/L	2	-	-	-	-
Animal/Veg Oil & Grease	mg/L	2	-	-	-	-
Mineral Oil and Grease	mg/L	1	-	-	-	-
Acute Toxicity	-	-	-	-	-	-

Analyte	Sample ID			CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2097693-3	L2097719-1	L2097916-1
	Sample Date & Time			5/19/2018 10:15:00 AM	5/20/2018 2:50:00 PM	5/21/2018 8:15:00 AM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Limits			
Hardness	mg/L	10	-	46	-	-
pH	pH units	0.1	-	7.8	7.5	7.62
Total Suspended Solids	mg/L	2	30	16	18.8	17.2
Total Dissolved Solids	mg/L	13	-	83	90	90
Turbidity	NTU	0.1	-	25.4	27.5	21
Alkalinity, Total (as CaCO3)	mg/L	10	-	35	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.145	-	-
Chloride (Cl)	mg/L	0.5	-	4.49	-	-
Fluoride (F)	mg/L	0.02	-	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	0.348	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.55	-	-
Phosphorus, Total	mg/L	0.003	-	0.0222	-	-
Sulfate (SO4)	mg/L	0.3	-	9.26	-	-
Dissolved Organic Carbon	mg/L	1	-	6.1	-	-
Total Organic Carbon	mg/L	1	-	7.3	-	-
Aluminum (Al)-Total	mg/L	0.01	-	0.941	-	-
Arsenic (As)-Total	mg/L	0.0001	-	0.00017	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000015	-	-
Calcium (Ca)-Total	mg/L	0.5	-	9.17	-	-
Copper (Cu)-Total	mg/L	0.001	-	0.0022	-	-
Iron (Fe)-Total	mg/L	0.05	-	1.19	-	-
Lead (Pb)-Total	mg/L	0.0001	-	0.00092	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	6.26	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.0825	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000671	-	-
Nickel (Ni)-Total	mg/L	0.0005	-	0.00227	-	-
Potassium (K)-Total	mg/L	0.05	-	2.91	-	-
Selenium (Se)-Total	mg/L	0.00005	-	0.000073	-	-
Sodium (Na)-Total	mg/L	0.5	-	1.7	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000021	-	-
Uranium (U)-Total	mg/L	0.00001	-	0.00111	-	-
Zinc (Zn)-Total	mg/L	0.003	-	0.0044	-	-
Aluminum (Al)-Dissolved	mg/L	0.005	-	0.0159	-	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	<0.00010	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	0.000012	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	8.62	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00108	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	0.039	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	0.00006	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	5.86	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.0641	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.000573	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00101	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	2.53	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000075	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	1.79	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	<0.000010	-	-
Uranium (U)-Dissolved	mg/L	0.00001	-	0.000874	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0012	-	-
Oil and Grease, Total	mg/L	2	-	3.4	-	-
Animal/Veg Oil & Grease	mg/L	2	-	3.4	-	-
Mineral Oil and Grease	mg/L	1	-	<1.0	-	-
Acute Toxicity	-	-	-	Non-lethal	-	-

Analyte	Sample ID			CLT-OUT	CLT-OUT01	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2097213-5	L2097213-6	L2097597-3	L2097693-3	L2097719-1
	Sample Date & Time			5/17/2018 7:45:00 PM	5/17/2018 7:45:00 PM	5/18/2018 11:00:00 AM	5/19/2018 10:15:00 AM	5/20/2018 2:50:00 PM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.32	7.47	7.46	7.8	7.5
Total Suspended Solids	mg/L	2	30	96	93.1	24	16	18.8
Total Dissolved Solids	mg/L	13	-	76	76	70	83	90
Turbidity	NTU	0.1	-	109	109	43.7	25.4	27.5

Analyte	Sample ID			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2097916-1	L2099142-1	L2099165-1	L2100020-1	L2100928-9
	Sample Date & Time			5/21/2018 8:15:00 AM	5/22/2018 11:25:00 AM	5/23/2018 8:45:00 AM	5/24/2018 8:10:00 AM	5/25/2018 8:25:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.62	7.47	7.49	7.69	7.69
Total Suspended Solids	mg/L	2	30	17.2	11.6	15.2	3.2	6
Total Dissolved Solids	mg/L	13	-	90	65	67	30	95
Turbidity	NTU	0.1	-	21	26	21.4	13.3	14.9

Analyte	Sample ID			CLT-OUT03	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2100928-7	L2101022-9	L2101070-9	L2102155-9	L2102200-9
	Sample Date & Time			5/25/2018 8:25:00 AM	5/26/2018 8:00:00 AM	5/27/2018 8:30:00 AM	5/28/2018 3:10:00 PM	5/29/2018 9:45:00 AM
	QA/QC Sample Type			Travel Blank	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	5.74	7.68	7.6	7.73	7.55
Total Suspended Solids	mg/L	2	30	<2.0	9.6	5.6	118	28.8
Total Dissolved Solids	mg/L	13	-	30	75	27	45	43
Turbidity	NTU	0.1	-	0.4	16.2	21.4	103	24.9

Analyte	Sample ID			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT02
	ALS Laboratory Sample ID			L2103176-2	L2103991-2	L2104835-2	L2105057-2	L2105057-6
	Sample Date & Time			5/30/2018 8:25:00 AM	5/31/2018 9:25:00 AM	6/1/2018 8:45:00 AM	6/2/2018 8:30:00 AM	6/2/2018 8:30:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Blank
	Units	LOR	Limits					
pH	pH units	0.1	-	7.57	7.62	7.63	7.51	5.71
Total Suspended Solids	mg/L	2	30	9.6	14.8	24.8	8.8	<2.0
Total Dissolved Solids	mg/L	13	-	61	52	57	50	<20
Turbidity	NTU	0.1	-	19.2	14	16	15.5	<0.10

Analyte	Sample ID			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT01	CLT-OUT
	ALS Laboratory Sample ID			L2105075-2	L2105310-2	L2106198-2	L2106198-6	L2107439-2
	Sample Date & Time			6/3/2018 8:05:00 AM	6/4/2018 8:00:00 AM	6/5/2018 9:10:00 AM	6/5/2018 9:10:00 AM	6/6/2018 8:50:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.51	7.56	7.6	7.59	7.52
Total Suspended Solids	mg/L	2	30	6.4	<2.0	11.6	11.2	11.1
Total Dissolved Solids	mg/L	13	-	40	55	42	33	60
Turbidity	NTU	0.1	-	9.1	5.5	6.5	6.07	7.88

Analyte	Sample ID			CLT-OUT	CLT-OUT	CLT-OUT01	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2108491-9	L2109287-7	L2109287-8	L2109434-7	L2109450-9
	Sample Date & Time			6/7/2018 8:50:00 AM	6/8/2018 8:30:00 AM	6/8/2018 8:30:00 AM	6/9/2018 9:20:00 AM	6/10/2018 9:55:00 AM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.53	7.57	7.6	7.8	7.64
Total Suspended Solids	mg/L	2	30	4.8	<2.0	2.4	19.9	5.3
Total Dissolved Solids	mg/L	13	-	40	32	48	126	79
Turbidity	NTU	0.1	-	6.04	4.24	4.46	23.1	7.63

Analyte	Sample ID			CLT-OUT	CLT-OUT	CLT-OUT02	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2112079-6	L2113849-7	L2113849-10	L2113842-7	L2113831-7
	Sample Date & Time			6/11/2018 9:35:00 AM	6/12/2018 8:55:00 AM	6/12/2018 8:55:00 AM	6/13/2018 9:55:00 AM	6/14/2018 8:25:00 AM
	QA/QC Sample Type			N/A	N/A	Field Blank	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.69	7.85	6	7.87	7.82
Total Suspended Solids	mg/L	2	30	5.6	<2.0	<2.0	2.9	2.6
Total Dissolved Solids	mg/L	13	-	59	39	<10	59	51
Turbidity	NTU	0.1	-	10.3	6.85	0.4	7.6	5.41

Analyte	Sample ID			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2114219-7	L2114585-7	L2115163-7	L2117760-6	L2117168-6
	Sample Date & Time			6/15/2018 11:55:00 AM	6/16/2018 9:00:00 AM	6/17/2018 10:05:00 AM	6/18/2018 4:25:00 PM	6/19/2018 11:45:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.71	7.6	7.77	7.8	7.88
Total Suspended Solids	mg/L	2	30	2	<2.0	2	2.8	<2.0
Total Dissolved Solids	mg/L	13	-	50	45	35	77	61
Turbidity	NTU	0.1	-	6.92	3.65	3.37	5.16	6.15

Analyte	Sample ID			CLT-OUT	CLT-OUT02	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2117148-6	L2117148-11	L2117997-6	L2120362-6	L2120514-3
	Sample Date & Time			6/20/2018 10:10:00 AM	6/20/2018 10:10:00 AM	6/21/2018 8:35:00 AM	6/22/2018 9:25:00 AM	6/23/2018 8:45:00 AM
	QA/QC Sample Type			N/A	Field Blank	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.92	6.1	7.93	7.85	7.97
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	79	<10	61	55	63
Turbidity	NTU	0.1	-	3.82	0.3	2.69	2.32	3.81

Analyte	Sample ID			CLT-OUT	CLT-OUT01
	ALS Laboratory Sample ID			L2120394-1	L2120394-2
	Sample Date & Time			6/25/2018 1:20:00 PM	6/25/2018 1:20:00 PM
	QA/QC Sample Type			N/A	Field Duplicate
	Units	LOR	Limits		
pH	pH units	0.1	-	7.89	7.97
Total Suspended Solids	mg/L	2	30	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	82	89
Turbidity	NTU	0.1	-	5.19	5.6



SURFACE WATER QUALITY RESULTS - BG01

Analyte	Sample ID			BG-01-US	BG-01-US	BG-01-US	BG-01-US01	BG-01-US	BG-01-US	BG-01-US
	ALS Laboratory Sample ID			L2098316-4	L2102627-6	L2109163-7	L2109163-8	L2109409-6	L2113862-6	L2117960-6
	Sample Date & Time			5/22/2018 12:30:00 AM	5/30/2018 1:45:00 AM	6/7/2018 10:30:00 PM	6/7/2018 10:30:00 PM	6/9/2018 4:30:00 AM	6/14/2018 4:40:00 AM	6/21/2018 4:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.55	7.32	7.53	7.53	7.67	7.79	7.91
Total Suspended Solids	mg/L	2	30	4.8	2	3.6	3.2	56.6	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	105	52	45	41	117	53	52
Turbidity	NTU	0.1	-	22	11.6	6.21	6.53	40.5	3.45	2.92



SURFACE WATER QUALITY RESULTS - BG01

Analyte	Sample ID			BG-01-DS	BG-01-DS	BG-01-DS	BG-01-DS01	BG-01-DS	BG-01-DS	BG-01-DS
	ALS Laboratory Sample ID			L2098316-5	L2102627-5	L2109163-5	L2109163-6	L2109409-5	L2113862-5	L2117960-5
	Sample Date & Time			5/21/2018 11:50:00 PM	5/30/2018 1:25:00 AM	6/7/2018 10:20:00 PM	6/7/2018 10:20:00 PM	6/9/2018 4:20:00 AM	6/14/2018 4:30:00 AM	6/21/2018 4:30:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.57	7.39	7.52	7.47	7.74	7.81	7.93
Total Suspended Solids	mg/L	2	30	22.4	6.4	7.2	8	53	2.4	<2.0
Total Dissolved Solids	mg/L	20	-	54	59	48	48	124	45	69
Turbidity	NTU	0.1	-	44.1	17.7	6.61	6.87	43.6	3.94	2.74



SURFACE WATER QUALITY RESULTS - BG04

Analyte	Sample ID			BG-04-US	BG-04-US	BG-04-US	BG-04-US	BG-04-DS	BG-04-DS	BG-04-DS
	ALS Laboratory Sample ID			L2106136-4	L2109451-30	L2113862-16	L2120374-2	L2106136-3	L2109451-29	L2113862-15
	Sample Date & Time			6/5/2018 5:00:00 AM	6/10/2018 3:40:00 AM	6/14/2018 1:10:00 AM	6/22/2018 4:00:00 AM	6/5/2018 4:50:00 AM	6/10/2018 3:30:00 AM	6/14/2018 1:05:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.55	7.41	7.73	7.75	7.55	7.43	7.69
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.4
Total Dissolved Solids	mg/L	20	-	73	44	25	40	59	46	28
Turbidity	NTU	0.1	-	3.24	3.07	1.46	2.14	3.76	3.17	1.92



SURFACE WATER QUALITY RESULTS - BG04

Analyte	Sample ID			BG-04-DS
	ALS Laboratory Sample ID			L2120374-1
	Sample Date & Time			6/22/2018 3:50:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.77
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	36
Turbidity	NTU	0.1	-	1.46



SURFACE WATER QUALITY RESULTS - BG17

Analyte	Sample ID			BG-17-US	BG-17-US	BG-17-US01	BG-17-US	BG-17-US	BG-17-DS	BG-17-DS
	ALS Laboratory Sample ID			L2106136-2	L2109451-27	L2109451-28	L2117957-22	L2120374-4	L2106136-1	L2109451-25
	Sample Date & Time			6/5/2018 4:30:00 AM	6/10/2018 3:10:00 AM	6/10/2018 3:10:00 AM	6/15/2018 12:20:00 AM	6/22/2018 4:30:00 AM	6/5/2018 4:20:00 AM	6/10/2018 3:00:00 AM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.62	7.53	7.53	7.93	7.86	7.6	7.54
Total Suspended Solids	mg/L	2	30	9.6	2.3	3.3	3.1	2.5	14	3.7
Total Dissolved Solids	mg/L	20	-	78	58	55	62	54	85	53
Turbidity	NTU	0.1	-	7.58	6.24	7.1	6.68	6.7	7.75	6.04

Analyte	Sample ID			BG-17-DS01	BG-17-DS	BG-17-DS
	ALS Laboratory Sample ID			L2109451-26	L2117957-21	L2120374-3
	Sample Date & Time			6/10/2018 3:00:00 AM	6/15/2018 12:10:00 AM	6/22/2018 4:20:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	N/A
	Units	LOR	Limits			
pH	pH units	0.1	-	7.52	7.87	7.83
Total Suspended Solids	mg/L	2	30	3.7	3.5	<2.0
Total Dissolved Solids	mg/L	20	-	56	57	47
Turbidity	NTU	0.1	-	6.3	8.02	7.32



SURFACE WATER QUALITY RESULTS - BG24

Analyte	Sample ID			BG-24-US	BG-24-US	BG-24-US01	BG-24-US	BG-24-US	BG-24-DS	BG-24-DS
	ALS Laboratory Sample ID			L2106136-6	L2109451-23	L2109451-24	L2117957-20	L2120403-23	L2102627-9	L2106136-5
	Sample Date & Time			6/5/2018 4:00:00 AM	6/10/2018 2:45:00 AM	6/10/2018 2:45:00 AM	6/15/2018 12:40:00 AM	6/24/2018 5:40:00 PM	5/30/2018 5:20:00 AM	6/5/2018 3:50:00 AM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.54	7.55	7.59	7.65	7.97	7.73	7.63
Total Suspended Solids	mg/L	2	30	3.2	3.5	3.2	2.9	<2.0	24.4	9.2
Total Dissolved Solids	mg/L	20	-	60	56	50	32	61	81	67
Turbidity	NTU	0.1	-	8.04	2.18	1.95	1.43	0.78	54.4	16.4



SURFACE WATER QUALITY RESULTS - BG24

Analyte	Sample ID			BG-24-DS	BG-24-DS01	BG-24-DS	BG-24-DS
	ALS Laboratory Sample ID			L2109451-21	L2109451-22	L2117957-19	L2120403-22
	Sample Date & Time			6/10/2018 2:35:00 AM	6/10/2018 2:35:00 AM	6/15/2018 12:35:00 AM	6/24/2018 5:35:00 PM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A
	Units	LOR	Limits				
pH	pH units	0.1	-	7.52	7.56	7.63	7.98
Total Suspended Solids	mg/L	2	30	4.6	4.9	7.3	<2.0
Total Dissolved Solids	mg/L	20	-	52	50	30	65
Turbidity	NTU	0.1	-	2.55	2.48	2.27	0.73



SURFACE WATER QUALITY RESULTS - BG27

Analyte	Sample ID			BG-27-US	BG-27-US	BG-27-US	BG-27-US	BG-27-US	BG-27-US01	BG-27-DS
	ALS Laboratory Sample ID			L2103933-2	L2107722-2	L2109451-20	L2117957-18	L2120403-20	L2120403-21	L2103933-1
	Sample Date & Time			5/30/2018 9:20:00 PM	6/7/2018 5:20:00 AM	6/10/2018 2:25:00 AM	6/15/2018 1:20:00 AM	6/24/2018 5:20:00 PM	6/24/2018 5:20:00 PM	5/30/2018 9:15:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.96	7.88	7.71	7.84	7.98	7.97	7.76
Total Suspended Solids	mg/L	2	30	83	<2.0	6.6	5.5	<2.0	<2.0	131
Total Dissolved Solids	mg/L	20	-	95	84	65	37	62	63	82
Turbidity	NTU	0.1	-	160	9.01	3.4	2.37	0.94	0.77	161



SURFACE WATER QUALITY RESULTS - BG27

Analyte	Sample ID			BG-27-DS	BG-27-DS	BG-27-DS	BG-27-DS
	ALS Laboratory Sample ID			L2107722-1	L2109451-19	L2117957-17	L2120403-19
	Sample Date & Time			6/7/2018 5:10:00 AM	6/10/2018 2:15:00 AM	6/15/2018 1:10:00 AM	6/24/2018 5:15:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Limits				
pH	pH units	0.1	-	7.89	7.71	7.84	7.98
Total Suspended Solids	mg/L	2	30	35.2	17.4	8.6	<2.0
Total Dissolved Solids	mg/L	20	-	85	65	50	68
Turbidity	NTU	0.1	-	28.1	4.19	3.92	1.04



SURFACE WATER QUALITY RESULTS - BG29

Analyte	Sample ID			BG-29-US	BG-29-US	BG-29-US	BG-29-DS	BG-29-DS	BG-29-DS
	ALS Laboratory Sample ID			L2112159-5	L2117957-16	L2120403-18	L2112159-4	L2117957-15	L2120403-17
	Sample Date & Time			6/11/2018 6:20:00 AM	6/15/2018 1:45:00 AM	6/24/2018 5:00:00 PM	6/11/2018 6:15:00 AM	6/15/2018 1:40:00 AM	6/24/2018 4:55:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	7.78	7.86	8.01	7.79	7.86	8.04
Total Suspended Solids	mg/L	2	30	8	4.4	2.6	8.2	4.5	<2.0
Total Dissolved Solids	mg/L	20	-	62	62	121	66	56	124
Turbidity	NTU	0.1	-	27.2	13.6	4.91	28.7	13.1	4.94



SURFACE WATER QUALITY RESULTS - BG30

Analyte	Sample ID			BG-30-US	BG-30-US	BG-30-US	BG-30-US	BG-30-US	BG-30-DS	BG-30-DS
	ALS Laboratory Sample ID			L2103933-4	L2106136-10	L2109451-18	L2117957-14	L2120403-16	L2103933-3	L2106136-9
	Sample Date & Time			5/30/2018 10:50:00 PM	6/5/2018 3:05:00 AM	6/10/2018 2:00:00 AM	6/15/2018 2:10:00 AM	6/24/2018 4:45:00 PM	5/30/2018 10:35:00 PM	6/5/2018 2:55:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.97	7.64	7.57	7.84	8.04	7.97	7.64
Total Suspended Solids	mg/L	2	30	36	16.4	2.4	<2.0	3.3	34.8	17.2
Total Dissolved Solids	mg/L	20	-	118	74	55	39	90	124	75
Turbidity	NTU	0.1	-	59.9	35.5	3.81	0.74	1.94	65.2	36.2

Analyte	Sample ID			BG-30-DS	BG-30-DS	BG-30-DS
	ALS Laboratory Sample ID			L2109451-17	L2117957-13	L2120403-15
	Sample Date & Time			6/10/2018 1:50:00 AM	6/15/2018 2:05:00 AM	6/24/2018 4:40:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Limits			
pH	pH units	0.1	-	7.54	7.85	8.03
Total Suspended Solids	mg/L	2	30	3.8	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	61	41	92
Turbidity	NTU	0.1	-	5.66	1.25	1.64



SURFACE WATER QUALITY RESULTS - BG32

Analyte	Sample ID			BG-32-US	BG-32-US	BG-32-US	BG-32-US	BG-32-DS	BG-32-DS	BG-32-DS
	ALS Laboratory Sample ID			L2106136-14	L2109451-14	L2117957-6	L2120403-10	L2106136-13	L2109451-13	L2117957-5
	Sample Date & Time			6/5/2018 1:25:00 AM	6/10/2018 12:20:00 AM	6/15/2018 4:55:00 AM	6/24/2018 4:00:00 PM	6/5/2018 1:15:00 AM	6/10/2018 12:10:00 AM	6/15/2018 4:50:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.33	7.55	7.92	8.07	7.38	7.58	7.94
Total Suspended Solids	mg/L	2	30	2.8	2	<2.0	<2.0	7.6	4.4	4.2
Total Dissolved Solids	mg/L	20	-	48	57	66	91	52	44	63
Turbidity	NTU	0.1	-	9.1	3.16	1.29	1.28	15.3	3.15	1.41

Analyte	Sample ID			BG-32-DS	BG-30-DS	BG-30-DS
	ALS Laboratory Sample ID			L2120403-9	L2117957-13	L2120403-15
	Sample Date & Time			6/24/2018 3:55:00 PM	6/15/2018 2:05:00 AM	6/24/2018 4:40:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Limits			
pH	pH units	0.1	-	8.05	7.85	8.03
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	91	41	92
Turbidity	NTU	0.1	-	1.83	1.25	1.64



SURFACE WATER QUALITY RESULTS - BG50

Analyte	Sample ID			BG-50-US	BG-50-US	BG-50-US	BG-50-US01	BG-50-DS	BG-50-DS	BG-50-DS
	ALS Laboratory Sample ID			L2109451-8	L2117957-12	L2120403-2	L2120403-3	L2109451-7	L2117957-11	L2120403-1
	Sample Date & Time			6/9/2018 10:45:00 PM	6/15/2018 3:40:00 AM	6/24/2018 2:35:00 PM	6/24/2018 2:35:00 PM	6/9/2018 10:35:00 PM	6/15/2018 3:35:00 AM	6/24/2018 2:30:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.67	8.03	7.91	7.94	7.72	8.02	7.9
Total Suspended Solids	mg/L	2	30	<2.0	2.4	<2.0	<2.0	3.2	5.2	<2.0
Total Dissolved Solids	mg/L	20	-	52	71	41	52	45	70	43
Turbidity	NTU	0.1	-	1.31	1.21	1.08	0.96	2.52	1.29	0.8



SURFACE WATER QUALITY RESULTS - CV001

Analyte	Sample ID			CV-001-US	CV-001-US03	CV-001-US	CV-001-US	CV-001-DS	CV-001-DS02	CV-001-DS
	ALS Laboratory Sample ID			L2109163-19	L2109163-20	L2109451-32	L2113862-14	L2109163-17	L2109163-18	L2109451-31
	Sample Date & Time			6/8/2018 12:15:00 AM	6/8/2018 12:15:00 AM	6/10/2018 4:00:00 AM	6/14/2018 1:40:00 AM	6/8/2018 12:05:00 AM	6/8/2018 12:05:00 AM	6/10/2018 3:50:00 AM
	QA/QC Sample Type			N/A	Travel Blank	N/A	N/A	N/A	Field Blank	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.35	5.86	7.37	7.87	7.36	5.7	7.35
Total Suspended Solids	mg/L	2	30	4.4	<2.0	<2.0	2.1	7.6	<2.0	3.9
Total Dissolved Solids	mg/L	20	-	46	29	27	36	50	<20	27
Turbidity	NTU	0.1	-	5.46	<0.10	3.21	2.64	10.2	0.15	4.58



SURFACE WATER QUALITY RESULTS - CV001

Analyte	Sample ID			CV-001-DS
	ALS Laboratory Sample ID			L2113862-13
	Sample Date & Time			6/14/2018 1:35:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.87
Total Suspended Solids	mg/L	2	30	2.5
Total Dissolved Solids	mg/L	20	-	46
Turbidity	NTU	0.1	-	3.13



SURFACE WATER QUALITY RESULTS - CV030

Analyte	Sample ID			CV-030-US	CV-030-US	CV-030-US	CV-030-US	CV-030-DS	CV-030-DS	CV-030-DS
	ALS Laboratory Sample ID			L2106136-12	L2109451-12	L2117957-10	L2120403-8	L2106136-11	L2109451-11	L2117957-9
	Sample Date & Time			6/5/2018 12:50:00 AM	6/9/2018 11:50:00 PM	6/15/2018 4:40:00 AM	6/24/2018 3:35:00 PM	6/5/2018 12:40:00 AM	6/9/2018 11:40:00 PM	6/15/2018 4:30:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.41	7.61	8.18	8.05	7.4	7.59	8.14
Total Suspended Solids	mg/L	2	30	2	<2.0	<2.0	<2.0	7.2	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	59	69	135	145	67	67	129
Turbidity	NTU	0.1	-	7.4	1.41	0.38	1.5	11	1.71	0.4



SURFACE WATER QUALITY RESULTS - CV030

Analyte	Sample ID			CV-030-DS	CV-030-DS01
	ALS Laboratory Sample ID			L2120403-6	L2120403-7
	Sample Date & Time			6/24/2018 3:40:00 PM	6/24/2018 3:40:00 PM
	QA/QC Sample Type			N/A	Field Duplicate
	Units	LOR	Limits		
pH	pH units	0.1	-	8.14	8.17
Total Suspended Solids	mg/L	2	30	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	140	151
Turbidity	NTU	0.1	-	2.12	1.3

Analyte	Sample ID			CV-049-US	CV-049-US	CV-049-US	CV-049-US	CV-049-DS	CV-049-DS	CV-049-DS
	ALS Laboratory Sample ID			L2106136-16	L2109451-10	L2117957-8	L2120403-5	L2106136-15	L2109451-9	L2117957-7
	Sample Date & Time			6/4/2018 11:40:00 PM	6/9/2018 11:10:00 PM	6/15/2018 3:55:00 AM	6/24/2018 3:05:00 PM	6/4/2018 11:20:00 PM	6/9/2018 11:00:00 PM	6/15/2018 3:50:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.96	7.9	7.94	8.11	7.94	7.87	7.95
Total Suspended Solids	mg/L	2	30	11.2	14.7	2.1	<2.0	9.2	14.6	3.1
Total Dissolved Solids	mg/L	20	-	95	52	51	86	91	52	64
Turbidity	NTU	0.1	-	31.3	18.5	3.22	0.8	29.2	18	2.93



SURFACE WATER QUALITY RESULTS - CV049

Analyte	Sample ID			CV-049-DS
	ALS Laboratory Sample ID			L2120403-4
	Sample Date & Time			6/24/2018 3:00:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	8.07
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	79
Turbidity	NTU	0.1	-	1.32



SURFACE WATER QUALITY RESULTS - CV057

Analyte	Sample ID			CV-057-US	CV-057-US	CV-057-US01	CV-057-DS	CV-057-DS
	ALS Laboratory Sample ID			L2117963-14	L2120606-18	L2120606-19	L2117963-13	L2120606-17
	Sample Date & Time			6/15/2018 10:35:00 PM	6/25/2018 3:30:00 PM	6/25/2018 3:30:00 PM	6/15/2018 10:25:00 PM	6/25/2018 3:25:00 PM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	8.15	8.16	8.16	8.15	8.19
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	102	107	104	109	120
Turbidity	NTU	0.1	-	0.91	1.48	1.37	1.07	1.72



SURFACE WATER QUALITY RESULTS - CV058

Analyte	Sample ID			CV-058-US	CV-058-US	CV-058-US	CV-058-DS	CV-058-DS	CV-058-DS
	ALS Laboratory Sample ID			L2109451-6	L2117963-11	L2120606-16	L2109451-5	L2117963-12	L2120606-15
	Sample Date & Time			6/9/2018 10:20:00 PM	6/15/2018 11:00:00 PM	6/25/2018 3:05:00 PM	6/9/2018 10:10:00 PM	6/15/2018 10:50:00 PM	6/25/2018 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	7.75	8.01	8.15	7.71	8.08	8.16
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	11.7	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	64	63	68	66	63	69
Turbidity	NTU	0.1	-	1.21	0.52	0.29	4.15	0.57	0.63

Analyte	Sample ID			CV-059-US	CV-059-US	CV-059-US	CV-059-DS	CV-059-DS	CV-059-DS
	ALS Laboratory Sample ID			L2109451-4	L2117963-9	L2120606-14	L2109451-3	L2117963-10	L2120606-13
	Sample Date & Time			6/9/2018 9:50:00 PM	6/15/2018 11:40:00 PM	6/25/2018 2:35:00 PM	6/9/2018 9:40:00 PM	6/15/2018 11:30:00 PM	6/25/2018 2:30:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	7.76	7.96	8.09	7.79	7.94	8.08
Total Suspended Solids	mg/L	2	30	<2.0	2.8	<2.0	11.8	6.1	<2.0
Total Dissolved Solids	mg/L	20	-	46	48	73	67	55	81
Turbidity	NTU	0.1	-	1.68	4.1	0.6	4.99	4.27	0.76



SURFACE WATER QUALITY RESULTS - CV060

Analyte	Sample ID			CV-060-US	CV-060-US	CV-060-US	CV-060-US	CV-060-DS	CV-060-DS	CV-060-DS
	ALS Laboratory Sample ID			L2106136-18	L2109451-2	L2117963-7	L2120606-12	L2106136-17	L2109451-1	L2117963-8
	Sample Date & Time			6/4/2018 9:40:00 PM	6/9/2018 9:25:00 PM	6/15/2018 11:55:00 PM	6/25/2018 2:15:00 PM	6/4/2018 9:30:00 PM	6/9/2018 9:15:00 PM	6/15/2018 11:45:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.83	7.79	8.08	8.16	7.88	7.78	8.11
Total Suspended Solids	mg/L	2	30	11.2	<2.0	<2.0	<2.0	16.8	5.6	<2.0
Total Dissolved Solids	mg/L	20	-	76	66	66	98	82	58	69
Turbidity	NTU	0.1	-	19.4	3.14	0.55	0.76	23.2	5.31	0.52



SURFACE WATER QUALITY RESULTS - CV060

Analyte	Sample ID			CV-060-DS
	ALS Laboratory Sample ID			L2120606-11
	Sample Date & Time			6/25/2018 2:10:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	8.09
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	90
Turbidity	NTU	0.1	-	0.53



SURFACE WATER QUALITY RESULTS - CV072

Analyte	Sample ID			CV-072-US	CV-072-US01	CV-072-US	CV-072-US	CV-072-DS	CV-072-DS01	CV-072-DS
	ALS Laboratory Sample ID			L2112159-30	L2112159-27	L2117963-5	L2120606-10	L2112159-34	L2112159-32	L2117963-6
	Sample Date & Time			6/10/2018 10:20:00 PM	6/10/2018 10:20:00 PM	6/16/2018 12:50:00 AM	6/25/2018 1:50:00 PM	6/10/2018 10:10:00 PM	6/10/2018 10:10:00 PM	6/16/2018 12:40:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.81	7.77	7.93	8.08	7.88	7.92	7.92
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	4.5	<2.0	5.1	4.7	5.2
Total Dissolved Solids	mg/L	20	-	55	64	45	75	56	46	37
Turbidity	NTU	0.1	-	2.01	3.18	2.54	0.33	2.77	3.44	2.84



SURFACE WATER QUALITY RESULTS - CV072

Analyte	Sample ID			CV-072-DS
	ALS Laboratory Sample ID			L2120606-9
	Sample Date & Time			6/25/2018 1:45:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	8.1
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	83
Turbidity	NTU	0.1	-	0.48



SURFACE WATER QUALITY RESULTS - CV076

Analyte	Sample ID			CV-076-US	CV-076-US	CV-076-US	CV-076-US	CV-076-US01	CV-076-DS	CV-076-DS
	ALS Laboratory Sample ID			L2107722-4	L2112159-31	L2117963-4	L2120606-7	L2120606-8	L2107722-3	L2112159-33
	Sample Date & Time			6/7/2018 3:30:00 AM	6/10/2018 11:00:00 PM	6/16/2018 1:30:00 AM	6/25/2018 1:30:00 PM	6/25/2018 1:30:00 PM	6/7/2018 3:20:00 AM	6/10/2018 10:10:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8.05	8.02	8.16	8.18	8.22	8.06	7.97
Total Suspended Solids	mg/L	2	30	3.6	3.8	<2.0	<2.0	<2.0	7.2	3.6
Total Dissolved Solids	mg/L	20	-	67	76	80	120	121	86	73
Turbidity	NTU	0.1	-	5.58	1.89	0.43	0.8	0.44	7.75	2.04

Analyte	Sample ID			CV-076-DS	CV-076-DS
	ALS Laboratory Sample ID			L2117963-3	L2120606-6
	Sample Date & Time			6/16/2018 1:20:00 AM	6/25/2018 1:25:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Limits		
pH	pH units	0.1	-	8.13	8.2
Total Suspended Solids	mg/L	2	30	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	84	121
Turbidity	NTU	0.1	-	0.48	0.45



SURFACE WATER QUALITY RESULTS - CV078

Analyte	Sample ID			CV-078-US	CV-078-US	CV-078-US	CV-078-US	CV-078-DS	CV-078-DS	CV-078-DS
	ALS Laboratory Sample ID			L2107722-6	L2112159-28	L2117963-2	L2120606-5	L2107722-5	L2112159-29	L2117963-1
	Sample Date & Time			6/7/2018 2:50:00 AM	6/10/2018 11:30:00 PM	6/16/2018 2:25:00 AM	6/25/2018 1:05:00 PM	6/7/2018 2:40:00 AM	6/10/2018 11:20:00 PM	6/16/2018 2:15:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.88	7.87	7.85	8.09	8.05	7.9	7.87
Total Suspended Solids	mg/L	2	30	4	<2.0	<2.0	<2.0	10.8	2.6	<2.0
Total Dissolved Solids	mg/L	20	-	83	54	47	86	76	50	50
Turbidity	NTU	0.1	-	6.76	1.68	0.67	0.66	15.5	2.65	1.24



SURFACE WATER QUALITY RESULTS - CV078

Analyte	Sample ID			CV-078-DS
	ALS Laboratory Sample ID			L2120606-4
	Sample Date & Time			6/25/2018 1:00:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	8.11
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	94
Turbidity	NTU	0.1	-	0.32



SURFACE WATER QUALITY RESULTS - CV079

Analyte	Sample ID			CV-079-US	CV-079-US	CV-079-US	CV-079-US	CV-079-DS	CV-079-DS	CV-079-DS
	ALS Laboratory Sample ID			L2107722-8	L2112159-21	L2117963-19	L2120606-3	L2107722-7	L2112159-26	L2117963-20
	Sample Date & Time			6/7/2018 2:00:00 AM	6/10/2018 11:55:00 PM	6/16/2018 2:45:00 AM	6/25/2018 12:50:00 AM	6/7/2018 1:50:00 AM	6/10/2018 11:45:00 PM	6/16/2018 2:35:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8.03	7.88	7.82	8.05	8.09	7.92	7.83
Total Suspended Solids	mg/L	2	30	11.5	<2.0	3.8	<2.0	2.8	3.7	3.7
Total Dissolved Solids	mg/L	20	-	90	61	33	59	79	63	35
Turbidity	NTU	0.1	-	28.9	2.36	1.05	0.63	10	3.55	1.4



SURFACE WATER QUALITY RESULTS - CV079

Analyte	Sample ID			CV-079-DS	CV-079-DS03
	ALS Laboratory Sample ID			L2120606-1	L2120606-2
	Sample Date & Time			6/25/2018 12:45:00 AM	6/25/2018 12:45:00 AM
	QA/QC Sample Type			N/A	Field Blank
	Units	LOR	Limits		
pH	pH units	0.1	-	8.09	6.08
Total Suspended Solids	mg/L	2	30	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	72	<10
Turbidity	NTU	0.1	-	0.6	1.18



SURFACE WATER QUALITY RESULTS - CV087

Analyte	Sample ID			CV-087-US	CV-087-US	CV-087-US	CV-087-DS	CV-087-DS	CV-087-DS
	ALS Laboratory Sample ID			L2112159-18	L2117963-18	L2118072-16	L2112159-19	L2117963-17	L2118072-15
	Sample Date & Time			6/11/2018 5:10:00 AM	6/16/2018 3:50:00 AM	6/23/2018 4:50:00 AM	6/11/2018 5:00:00 AM	6/16/2018 3:40:00 AM	6/23/2018 4:45:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	8.09	8.03	7.85	8.16	8.02	7.98
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	15.1	3.8	<2.0
Total Dissolved Solids	mg/L	20	-	112	45	77	123	75	71
Turbidity	NTU	0.1	-	0.5	0.56	0.32	5.37	1.86	0.38



SURFACE WATER QUALITY RESULTS - CV099

Analyte	Sample ID			CV-099-US	CV-099-US	CV-099-US	CV-099-US	CV-099-US	CV-099-US01	CV-099-DS
	ALS Laboratory Sample ID			L2104540-1	L2107722-14	L2112159-16	L2117963-16	L2118072-13	L2118072-14	L2104540-2
	Sample Date & Time			6/1/2018 4:55:00 AM	6/7/2018 12:40:00 AM	6/11/2018 4:35:00 AM	6/16/2018 4:25:00 AM	6/23/2018 4:20:00 AM	6/23/2018 4:20:00 AM	6/1/2018 4:45:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8.08	8.07	7.97	7.79	7.87	7.87	8.05
Total Suspended Solids	mg/L	2	30	8.4	6	<2.0	2.7	<2.0	<2.0	4.4
Total Dissolved Solids	mg/L	20	-	95	114	81	55	59	52	95
Turbidity	NTU	0.1	-	27.1	8.88	1.51	0.97	0.47	0.53	28.7



SURFACE WATER QUALITY RESULTS - CV099

Analyte	Sample ID			CV-099-DS	CV-099-DS	CV-099-DS	CV-099-DS
	ALS Laboratory Sample ID			L2107722-13	L2112159-3	L2117963-15	L2118072-12
	Sample Date & Time			6/7/2018 12:30:00 AM	6/11/2018 4:25:00 AM	6/16/2018 4:15:00 AM	6/23/2018 4:15:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Limits				
pH	pH units	0.1	-	8.06	7.98	7.8	7.88
Total Suspended Solids	mg/L	2	30	14	<2.0	3.2	<2.0
Total Dissolved Solids	mg/L	20	-	110	84	57	59
Turbidity	NTU	0.1	-	13.8	2.13	1.53	0.56



SURFACE WATER QUALITY RESULTS - CV102

Analyte	Sample ID			CV-102-US	CV-102-US	CV-102-US	CV-102-US	CV-102-DS	CV-102-DS	CV-102-DS
	ALS Laboratory Sample ID			L2107722-10	L2112159-6	L2117757-2	L2118072-11	L2107722-9	L2112159-7	L2117757-1
	Sample Date & Time			6/7/2018 12:20:00 AM	6/11/2018 4:20:00 AM	6/19/2018 3:10:00 AM	6/23/2018 3:55:00 AM	6/7/2018 12:10:00 AM	6/11/2018 4:10:00 AM	6/19/2018 3:05:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8.1	8.05	8.08	8.05	8.13	8.13	8.12
Total Suspended Solids	mg/L	2	30	4	<2.0	<2.0	<2.0	7.2	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	100	92	76	114	112	102	81
Turbidity	NTU	0.1	-	3.09	1.14	0.43	0.34	5.01	1.41	0.34

Analyte	Sample ID			CV-102-DS	CV-102-DS01
	ALS Laboratory Sample ID			L2118072-9	L2118072-10
	Sample Date & Time			6/23/2018 3:50:00 AM	6/23/2018 3:50:00 AM
	QA/QC Sample Type			N/A	Field Duplicate
	Units	LOR	Limits		
pH	pH units	0.1	-	8.09	8.08
Total Suspended Solids	mg/L	2	30	<2.0	3.2
Total Dissolved Solids	mg/L	20	-	110	114
Turbidity	NTU	0.1	-	0.43	0.47



SURFACE WATER QUALITY RESULTS - CV104

Analyte	Sample ID			CV-104-US	CV-104-US	CV-104-US	CV-104-US	CV-104-DS	CV-104-DS	CV-104-DS
	ALS Laboratory Sample ID			L2107722-16	L2112159-8	L2117757-4	L2118072-8	L2107722-15	L2112159-9	L2117757-3
	Sample Date & Time			6/6/2018 11:50:00 PM	6/11/2018 4:00:00 AM	6/19/2018 3:00:00 AM	6/23/2018 3:35:00 AM	6/6/2018 11:40:00 PM	6/11/2018 3:50:00 AM	6/19/2018 2:55:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8	7.93	7.98	7.89	8.03	7.93	7.99
Total Suspended Solids	mg/L	2	30	14.7	<2.0	<2.0	<2.0	39.2	2.2	<2.0
Total Dissolved Solids	mg/L	20	-	86	73	41	70	105	77	45
Turbidity	NTU	0.1	-	14.6	1.5	0.2	0.26	21	2.23	0.23



SURFACE WATER QUALITY RESULTS - CV104

Analyte	Sample ID			CV-104-DS
	ALS Laboratory Sample ID			L2118072-7
	Sample Date & Time			6/23/2018 3:30:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.93
Total Suspended Solids	mg/L	2	30	2.4
Total Dissolved Solids	mg/L	20	-	85
Turbidity	NTU	0.1	-	0.26



SURFACE WATER QUALITY RESULTS - CV106

Analyte	Sample ID			CV-106-US	CV-106-US	CV-106-US	CV-106-US	CV-106-DS	CV-106-DS	CV-106-DS
	ALS Laboratory Sample ID			L2107722-12	L2112159-10	L2117757-22	L2118072-6	L2107722-11	L2112159-13	L2117757-21
	Sample Date & Time			6/6/2018 11:35:00 PM	6/11/2018 3:40:00 AM	6/19/2018 2:50:00 AM	6/23/2018 3:00:00 AM	6/6/2018 11:25:00 PM	6/11/2018 3:50:00 AM	6/19/2018 2:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.76	8.11	7.79	7.67	8	8.09	7.89
Total Suspended Solids	mg/L	2	30	6.4	3	<2.0	<2.0	28	7.7	<2.0
Total Dissolved Solids	mg/L	20	-	65	114	30	45	68	106	33
Turbidity	NTU	0.1	-	6.36	2.75	0.8	0.56	13.2	4.09	0.73



SURFACE WATER QUALITY RESULTS - CV106

Analyte	Sample ID			CV-106-DS
	ALS Laboratory Sample ID			L2118072-5
	Sample Date & Time			6/23/2018 2:55:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.77
Total Suspended Solids	mg/L	2	30	3.2
Total Dissolved Solids	mg/L	20	-	55
Turbidity	NTU	0.1	-	0.76



SURFACE WATER QUALITY RESULTS - CV111

Analyte	Sample ID			CV-111-US	CV-111-US	CV-111-US	CV-111-US	CV-111-DS	CV-111-DS	CV-111-DS
	ALS Laboratory Sample ID			L2107421-2	L2112159-11	L2117757-20	L2118072-4	L2107421-1	L2112159-15	L2117757-19
	Sample Date & Time			6/6/2018 4:20:00 AM	6/11/2018 3:20:00 AM	6/19/2018 2:30:00 AM	6/23/2018 2:40:00 AM	6/6/2018 4:10:00 AM	6/11/2018 3:10:00 AM	6/19/2018 2:25:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.92	7.81	7.97	7.81	8.13	7.82	7.86
Total Suspended Solids	mg/L	2	30	8.4	2.1	<2.0	<2.0	15.6	4.6	<2.0
Total Dissolved Solids	mg/L	20	-	76	64	52	60	115	65	65
Turbidity	NTU	0.1	-	20.6	2.7	0.59	0.49	70.7	3.84	0.63



SURFACE WATER QUALITY RESULTS - CV111

Analyte	Sample ID			CV-111-DS
	ALS Laboratory Sample ID			L2118072-3
	Sample Date & Time			6/23/2018 2:35:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.85
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	50
Turbidity	NTU	0.1	-	0.71



SURFACE WATER QUALITY RESULTS - CV112

Analyte	Sample ID			CV-112-US	CV-112-US	CV-112-US	CV-112-US	CV-112-DS	CV-112-DS	CV-112-DS
	ALS Laboratory Sample ID			L2107421-4	L2112159-14	L2117757-8	L2118072-2	L2107421-3	L2112159-12	L2117757-7
	Sample Date & Time			6/6/2018 3:30:00 AM	6/11/2018 3:00:00 AM	6/19/2018 2:20:00 AM	6/23/2018 2:25:00 AM	6/6/2018 3:20:00 AM	6/11/2018 2:50:00 AM	6/19/2018 2:10:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.87	7.9	8.05	7.94	7.99	7.84	7.97
Total Suspended Solids	mg/L	2	30	8.4	<2.0	<2.0	<2.0	11.6	3.3	<2.0
Total Dissolved Solids	mg/L	20	-	67	80	45	62	81	79	48
Turbidity	NTU	0.1	-	12	1.84	0.3	0.37	16.3	2.35	0.31



SURFACE WATER QUALITY RESULTS - CV112

Analyte	Sample ID			CV-112-DS
	ALS Laboratory Sample ID			L2118072-1
	Sample Date & Time			6/23/2018 2:20:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.91
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	75
Turbidity	NTU	0.1	-	0.35



SURFACE WATER QUALITY RESULTS - CV114

Analyte	Sample ID			CV-114-US	CV-114-US	CV-114-US	CV-114-US	CV-114-DS	CV-114-DS	CV-114-DS
	ALS Laboratory Sample ID			L2104540-4	L2112159-17	L2117757-12	L2118072-28	L2104540-3	L2112159-25	L2117757-11
	Sample Date & Time			6/1/2018 3:15:00 AM	6/11/2018 2:40:00 AM	6/19/2018 1:55:00 AM	6/23/2018 2:05:00 AM	6/1/2018 3:05:00 AM	6/11/2018 2:30:00 AM	6/19/2018 1:50:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8.22	7.91	7.95	7.85	8.09	7.92	7.97
Total Suspended Solids	mg/L	2	30	83.6	<2.0	<2.0	<2.0	22.4	2.4	<2.0
Total Dissolved Solids	mg/L	20	-	100	69	60	65	95	38	55
Turbidity	NTU	0.1	-	100	1.15	0.26	0.31	46.7	1.09	0.44



SURFACE WATER QUALITY RESULTS - CV114

Analyte	Sample ID			CV-114-DS
	ALS Laboratory Sample ID			L2118072-27
	Sample Date & Time			6/23/2018 2:00:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.89
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	95
Turbidity	NTU	0.1	-	0.33



SURFACE WATER QUALITY RESULTS - CV128

Analyte	Sample ID			CV-128-US	CV-128-US	CV-128-US	CV-128-US	CV-128-US	CV-128-DS	CV-128-DS
	ALS Laboratory Sample ID			L2112159-23	L2117757-10	L2118072-26	L2124938-2	L2157498-2	L2112159-20	L2117757-9
	Sample Date & Time			6/11/2018 2:10:00 AM	6/19/2018 1:30:00 AM	6/23/2018 1:05:00 AM	7/3/2018 12:20:00 AM	9/2/2018 11:25:00 AM	6/11/2018 2:00:00 AM	6/19/2018 1:25:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.8	7.87	7.73	7.82	8.22	7.82	7.84
Total Suspended Solids	mg/L	2	30	3.1	2	<2.0	<2.0	<2.0	2.4	2
Total Dissolved Solids	mg/L	20	-	29	41	70	51	85	39	50
Turbidity	NTU	0.1	-	3.05	0.94	1.49	2.11	0.22	2.86	1



SURFACE WATER QUALITY RESULTS - CV128

Analyte	Sample ID			CV-128-DS
	ALS Laboratory Sample ID			L2118072-25
	Sample Date & Time			6/23/2018 1:00:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.76
Total Suspended Solids	mg/L	2	30	2
Total Dissolved Solids	mg/L	20	-	80
Turbidity	NTU	0.1	-	1.52



SURFACE WATER QUALITY RESULTS - CV129

Analyte	Sample ID			CV-129-US	CV-129-US	CV-129-US	CV-129-US	CV-129-DS	CV-129-DS	CV-129-DS
	ALS Laboratory Sample ID			L2107421-6	L2112159-24	L2117757-14	L2118072-24	L2107421-5	L2112159-22	L2117757-13
	Sample Date & Time			6/6/2018 2:15:00 AM	6/11/2018 1:40:00 AM	6/19/2018 1:15:00 AM	6/23/2018 1:25:00 AM	6/6/2018 2:05:00 AM	6/11/2018 1:30:00 AM	6/19/2018 1:10:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	8	7.92	7.92	7.83	8	7.93	7.89
Total Suspended Solids	mg/L	2	30	3.6	<2.0	<2.0	<2.0	19.6	2.8	<2.0
Total Dissolved Solids	mg/L	20	-	129	56	39	70	100	65	60
Turbidity	NTU	0.1	-	4.92	2.79	0.31	0.37	11	2.96	0.23



SURFACE WATER QUALITY RESULTS - CV129

Analyte	Sample ID			CV-129-DS
	ALS Laboratory Sample ID			L2118072-23
	Sample Date & Time			6/23/2018 1:20:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	7.86
Total Suspended Solids	mg/L	2	30	5.2
Total Dissolved Solids	mg/L	20	-	75
Turbidity	NTU	0.1	-	0.45



SURFACE WATER QUALITY RESULTS - CV167

Analyte	Sample ID			CV-167-US	CV-167-US	CV-167-US	CV-167-DS	CV-167-DS	CV-167-DS
	ALS Laboratory Sample ID			L2113837-4	L2117757-18	L2118072-22	L2113837-3	L2117757-17	L2118072-21
	Sample Date & Time			6/12/2018 3:55:00 PM	6/19/2018 12:50:00 AM	6/23/2018 12:10:00 AM	6/12/2018 3:30:00 PM	6/19/2018 12:45:00 AM	6/23/2018 12:05:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	7.99	7.95	7.92	7.99	8	7.84
Total Suspended Solids	mg/L	2	30	6.7	<2.0	14.8	7.4	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	64	59	85	63	59	85
Turbidity	NTU	0.1	-	10.1	1.24	4.11	11.9	1.43	1.73



SURFACE WATER QUALITY RESULTS - CV169

Analyte	Sample ID			CV-169-US	CV-169-US	CV-169-US	CV-169-US	CV-169-US	CV-169-DS	CV-169-DS
	ALS Laboratory Sample ID			L2104540-6	L2107421-8	L2113837-2	L2117757-16	L2118072-20	L2104540-5	L2107421-7
	Sample Date & Time			6/1/2018 1:45:00 AM	6/6/2018 1:20:00 AM	6/12/2018 4:25:00 PM	6/19/2018 12:40:00 AM	6/23/2018 12:00:00 AM	6/1/2018 1:30:00 AM	6/6/2018 1:10:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.75	7.67	7.89	7.83	7.81	8.14	7.77
Total Suspended Solids	mg/L	2	30	4	2.8	<2.0	2	<2.0	44.4	16.8
Total Dissolved Solids	mg/L	20	-	70	54	50	55	62	75	55
Turbidity	NTU	0.1	-	14.3	5.58	1.7	1.81	1.56	63.8	15

Analyte	Sample ID			CV-169-DS	CV-169-DS	CV-169-DS
	ALS Laboratory Sample ID			L2113837-1	L2117757-15	L2118072-19
	Sample Date & Time			6/12/2018 4:10:00 PM	6/19/2018 12:30:00 AM	6/22/2018 11:50:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Limits			
pH	pH units	0.1	-	7.96	7.81	7.82
Total Suspended Solids	mg/L	2	30	2.4	<2.0	21.6
Total Dissolved Solids	mg/L	20	-	48	70	91
Turbidity	NTU	0.1	-	9.95	2.16	2.48



SURFACE WATER QUALITY RESULTS - CV176

Analyte	Sample ID			CV-176-US	CV-176-US	CV-176-DS	CV-176-DS
	ALS Laboratory Sample ID			L2117757-6	L2118072-18	L2117757-5	L2118072-17
	Sample Date & Time			6/19/2018 12:10:00 AM	6/22/2018 11:30:00 PM	6/19/2018 12:05:00 AM	6/22/2018 11:25:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Limits				
pH	pH units	0.1	-	7.98	7.88	8.01	7.95
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	11.6	9.6
Total Dissolved Solids	mg/L	20	-	70	75	83	105
Turbidity	NTU	0.1	-	0.73	<0.10	0.12	12



SURFACE WATER QUALITY RESULTS - CV186

Analyte	Sample ID			CV-186-US	CV-186-US	CV-186-US	CV-186-US	CV-186-US	CV-186-US	CV-186-US
	ALS Laboratory Sample ID			L2098316-2	L2101071-4	L2102627-2	L2105292-4	L2109409-2	L2113862-3	L2117960-2
	Sample Date & Time			5/21/2018 9:50:00 PM	5/27/2018 1:25:00 AM	5/30/2018 12:30:00 AM	6/4/2018 4:20:00 AM	6/9/2018 3:30:00 AM	6/14/2018 5:10:00 AM	6/21/2018 3:30:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.54	7.49	7.48	7.6	7.53	8.01	8.09
Total Suspended Solids	mg/L	2	30	7.2	8.4	7.2	<2.0	<2.0	2.6	<2.0
Total Dissolved Solids	mg/L	20	-	60	85	55	75	42	85	159
Turbidity	NTU	0.1	-	23.7	40.3	17	10.4	7.9	7.35	2.76



SURFACE WATER QUALITY RESULTS - CV186

Analyte	Sample ID			CV-186-DS	CV-186-DS02	CV-186-DS	CV-186-DS	CV-186-DS	CV-186-DS	CV-186-DS
	ALS Laboratory Sample ID			L2098316-1	L2098316-3	L2101071-3	L2102627-1	L2105292-3	L2109409-1	L2113862-4
	Sample Date & Time			5/21/2018 9:10:00 PM	5/21/2018 9:10:00 PM	5/27/2018 1:10:00 AM	5/30/2018 12:00:00 AM	6/4/2018 4:10:00 AM	6/9/2018 3:15:00 AM	6/14/2018 5:00:00 AM
	QA/QC Sample Type			N/A	Field Blank	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.55	7.54	7.53	7.44	7.58	7.62	7.99
Total Suspended Solids	mg/L	2	30	10.4	<2.0	14	10.4	<2.0	2.9	<2.0
Total Dissolved Solids	mg/L	20	-	67	<20	95	55	67	37	78
Turbidity	NTU	0.1	-	27	0.17	39	18.4	10.1	7.85	6.16



SURFACE WATER QUALITY RESULTS - CV186

Analyte	Sample ID			CV-186-DS
	ALS Laboratory Sample ID			L2117960-1
	Sample Date & Time			6/21/2018 3:25:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	8.07
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	160
Turbidity	NTU	0.1	-	3.44



SURFACE WATER QUALITY RESULTS - CV187

Analyte	Sample ID			CV-187-US	CV-187-US	CV-187-US	CV-187-US	CV-187-US	CV-187-US	CV-187-US
	ALS Laboratory Sample ID			L2098316-7	L2101071-2	L2102627-4	L2105292-2	L2109409-4	L2113862-2	L2117960-4
	Sample Date & Time			5/21/2018 11:00:00 PM	5/27/2018 1:50:00 AM	5/30/2018 1:00:00 AM	6/4/2018 4:45:00 AM	6/9/2018 3:50:00 AM	6/14/2018 5:35:00 AM	6/21/2018 4:00:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.53	7.67	7.59	7.71	7.67	8.14	8.16
Total Suspended Solids	mg/L	2	30	4.8	30.4	8.4	4.8	<2.0	2	2.2
Total Dissolved Solids	mg/L	20	-	105	105	109	100	127	215	359
Turbidity	NTU	0.1	-	22	79.9	32.7	15.7	3.18	1	1.03



SURFACE WATER QUALITY RESULTS - CV187

Analyte	Sample ID			CV-187-DS	CV-187-DS	CV-187-DS	CV-187-DS	CV-187-DS	CV-187-DS	CV-187-DS
	ALS Laboratory Sample ID			L2098316-6	L2101071-1	L2102627-3	L2105292-1	L2109409-3	L2113862-1	L2117960-3
	Sample Date & Time			5/21/2018 10:40:00 PM	5/27/2018 1:40:00 AM	5/30/2018 12:40:00 AM	6/4/2018 4:40:00 AM	6/9/2018 3:40:00 AM	6/14/2018 5:25:00 AM	6/21/2018 3:55:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.55	7.6	7.61	7.74	7.77	8.04	8.12
Total Suspended Solids	mg/L	2	30	10.8	<2.0	10.8	4.4	<2.0	2.7	<2.0
Total Dissolved Solids	mg/L	20	-	115	80	91	109	131	112	202
Turbidity	NTU	0.1	-	31.1	11.7	40.2	16.4	7.68	9.47	2.73



SURFACE WATER QUALITY RESULTS - CV216

Analyte	Sample ID			CV-216-US	CV-216-US	CV-216-US	CV-216-US	CV-216-DS	CV-216-DS	CV-216-DS
	ALS Laboratory Sample ID			L2106136-8	L2109451-16	L2117957-2	L2120403-14	L2106136-7	L2109451-15	L2117957-1
	Sample Date & Time			6/5/2018 2:25:00 AM	6/10/2018 1:30:00 AM	6/15/2018 5:40:00 AM	6/24/2018 4:30:00 PM	6/5/2018 2:15:00 AM	6/10/2018 1:20:00 AM	6/15/2018 5:35:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits							
pH	pH units	0.1	-	7.17	7.67	7.94	8.1	7.26	7.63	7.75
Total Suspended Solids	mg/L	2	30	5.6	7.4	6.5	<2.0	14.8	5.1	<2.0
Total Dissolved Solids	mg/L	20	-	70	112	159	985	82	114	76
Turbidity	NTU	0.1	-	15.5	4.06	2.79	1.7	18.6	4.83	2.11



SURFACE WATER QUALITY RESULTS - CV216

Analyte	Sample ID			CV-216-DS
	ALS Laboratory Sample ID			L2120403-13
	Sample Date & Time			6/24/2018 4:25:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
pH	pH units	0.1	-	8.06
Total Suspended Solids	mg/L	2	30	<2.0
Total Dissolved Solids	mg/L	20	-	1010
Turbidity	NTU	0.1	-	2.14

Analyte	Sample ID			CV-217-US	CV-217-US	CV-217-US	CV-217-DS	CV-217-DS
	ALS Laboratory Sample ID			L2109451-37	L2117957-4	L2120403-12	L2117957-3	L2120403-11
	Sample Date & Time			6/10/2018 12:50:00 AM	6/15/2018 5:15:00 AM	6/24/2018 4:15:00 PM	6/15/2018 5:10:00 AM	6/24/2018 4:10:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits					
pH	pH units	0.1	-	7.24	7.44	7.68	7.59	7.74
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	44	29	52	38	56
Turbidity	NTU	0.1	-	3.65	1.24	1.04	1.25	1.08



SURFACE WATER QUALITY RESULTS - CV223

Analyte	Sample ID			CV-223-US	CV-223-US02	CV-223-US	CV-223-US	CV-223-US	CV-223-DS	CV-223-DS03
	ALS Laboratory Sample ID			L2109163-15	L2109163-16	L2112159-2	L2113862-12	L2120374-6	L2109163-13	L2109163-14
	Sample Date & Time			6/7/2018 11:40:00 PM	6/7/2018 11:40:00 PM	6/11/2018 7:00:00 AM	6/14/2018 2:30:00 AM	6/22/2018 5:00:00 AM	6/7/2018 11:30:00 PM	6/7/2018 11:30:00 PM
	QA/QC Sample Type			N/A	Field Blank	N/A	N/A	N/A	N/A	Travel Blank
	Units	LOR	Limits							
pH	pH units	0.1	-	7.4	5.85	7.56	7.62	7.47	7.48	5.88
Total Suspended Solids	mg/L	2	30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	48	25	37	24	21	38	22
Turbidity	NTU	0.1	-	4.88	<0.10	2.55	1.17	1.64	5.58	<0.10



SURFACE WATER QUALITY RESULTS - CV223

Analyte	Sample ID			CV-223-DS	CV-223-DS	CV-223-DS
	ALS Laboratory Sample ID			L2112159-1	L2113862-11	L2120374-5
	Sample Date & Time			6/11/2018 6:50:00 AM	6/14/2018 2:10:00 AM	6/22/2018 4:45:00 AM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Limits			
pH	pH units	0.1	-	7.51	7.62	7.48
Total Suspended Solids	mg/L	2	30	<2.0	2.4	<2.0
Total Dissolved Solids	mg/L	20	-	35	27	19
Turbidity	NTU	0.1	-	2.12	1.31	2.17



SURFACE WATER QUALITY RESULTS - CV224

Analyte	Sample ID			CV-224-US	CV-224-US	CV-224-US01	CV-224-US	CV-224-US	CV-224-US	CV-224-US02
	ALS Laboratory Sample ID			L2102627-8	L2109163-3	L2109163-4	L2109451-34	L2113862-10	L2117960-10	L2117960-11
	Sample Date & Time			5/30/2018 3:10:00 AM	6/7/2018 11:20:00 PM	6/7/2018 11:20:00 PM	6/10/2018 4:40:00 AM	6/14/2018 3:10:00 AM	6/21/2018 5:50:00 AM	6/21/2018 5:50:00 AM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A	N/A	Field Blank
	Units	LOR	Limits							
pH	pH units	0.1	-	7.45	7.37	7.36	7.46	7.77	7.99	6.07
Total Suspended Solids	mg/L	2	30	4.4	2.4	2.4	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	50	38	43	20	34	58	<10
Turbidity	NTU	0.1	-	20.9	8.71	8.83	4.39	3.49	2.36	0.26



SURFACE WATER QUALITY RESULTS - CV224

Analyte	Sample ID			CV-224-DS	CV-224-DS	CV-224-DS01	CV-224-DS	CV-224-DS	CV-224-DS
	ALS Laboratory Sample ID			L2102627-7	L2109163-1	L2109163-2	L2109451-33	L2113862-9	L2117960-9
	Sample Date & Time			5/30/2018 3:00:00 AM	6/7/2018 11:15:00 PM	6/7/2018 11:15:00 PM	6/10/2018 4:30:00 AM	6/14/2018 3:00:00 AM	6/21/2018 5:45:00 AM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.1	-	7.52	7.48	7.46	7.47	7.79	8.02
Total Suspended Solids	mg/L	2	30	10.4	6.8	6	2.1	2.8	2
Total Dissolved Solids	mg/L	20	-	64	45	36	29	31	66
Turbidity	NTU	0.1	-	30.8	10.3	10.1	4.27	4.08	2.63



SURFACE WATER QUALITY RESULTS - CV225

Analyte	Sample ID			CV-225-US	CV-225-US01	CV-225-US	CV-225-US	CV-225-US	CV-225-DS	CV-225-DS01
	ALS Laboratory Sample ID			L2109163-11	L2109163-12	L2109451-36	L2113862-8	L2117960-8	L2109163-9	L2109163-10
	Sample Date & Time			6/7/2018 11:10:00 PM	6/7/2018 11:10:00 PM	6/10/2018 4:50:00 AM	6/14/2018 3:40:00 AM	6/21/2018 5:30:00 AM	6/7/2018 11:00:00 PM	6/7/2018 11:00:00 PM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A	N/A	Field Duplicate
	Units	LOR	Limits							
pH	pH units	0.1	-	7.62	7.65	7.3	7.66	7.9	7.6	7.61
Total Suspended Solids	mg/L	2	30	<2.0	2	<2.0	4.4	<2.0	2.4	2
Total Dissolved Solids	mg/L	20	-	60	50	19	50	74	55	50
Turbidity	NTU	0.1	-	5.93	5.37	3.64	2.37	0.66	6.26	6.25

Analyte	Sample ID			CV-225-DS	CV-225-DS	CV-225-DS
	ALS Laboratory Sample ID			L2109451-35	L2113862-7	L2117960-7
	Sample Date & Time			6/10/2018 4:45:00 AM	6/14/2018 3:35:00 AM	6/21/2018 5:20:00 AM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Limits			
pH	pH units	0.1	-	7.26	7.66	7.87
Total Suspended Solids	mg/L	2	30	2	4	<2.0
Total Dissolved Solids	mg/L	20	-	20	47	73
Turbidity	NTU	0.1	-	3.59	2.03	0.85

APPENDIX B.3 – Acute Toxicity Results

Acute Toxicity Results for Sheardown Lake Tributaries

Sample Number	Sample ID	Date Sampled	Parameter Name	Result	Units	Lab
54960	SDLT-OUT	19-May-18	<i>Acute Toxicity - Daphnia magna*</i>	0.0	<i>mortality %</i>	<i>Aquatox</i>
54960	SDLT-OUT	19-May-18	<i>Acute Toxicity - Rainbow Trout**</i>	0.0	<i>mortality %</i>	<i>Aquatox</i>

Note: *Acute lethality to Daphnia magna (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

****Acute lethality to Rainbow trout, Oncorhynchus mykiss (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)**

Acute Toxicity Results for Camp Lake Tributaries

Sample Number	Sample ID	Date Sampled	Parameter Name	Result	Units	Lab
54959	CLT-OUT	19-May-18	<i>Acute Toxicity - Daphnia magna*</i>	0.0	<i>mortality %</i>	<i>Aquatox</i>
54959	CLT-OUT	19-May-18	<i>Acute Toxicity - Rainbow Trout**</i>	0.0	<i>mortality %</i>	<i>Aquatox</i>

Note: *Acute lethality to Daphnia magna (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

****Acute lethality to Rainbow trout, Oncorhynchus mykiss (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)**