APPENDIX E.11

2021 Freshet Monitoring Report

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

Freshet 2021 Monitoring Report

Rev 0

Date	Rev.	Prepared By	Reviewed By
31-Mar-22	0	Kendra Button	Connor Devereaux

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1 INTRODUCTION AND OBJECTIVES

This Report was prepared by Baffinland Iron Mines Corporation (Baffinland) to i) present the results of select water quality monitoring programs conducted during Freshet 2021 and ii) document the corrective actions taken in response to the unauthorized sediment releases that occurred during Freshet 2021 at the Mary River Project (the Project). The Project continues to face water quality challenges during the freshet period (May, June), however Baffinland remains committed to implementing effective mitigation measures and corrective actions to address water quality concerns.

During Freshet 2021, several unauthorized sediment releases were reported to Environment and Climate Change Canada (ECCC), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), the Qikiqtani Inuit Association (QIA), and the NT-NU 24-Hour Spill Report Line. Reported unauthorized sediment releases included NT-NU Spill Report 21-146 (Camp and Sheardown Tributaries), 21-164 (Sheardown Lake Landfill Gate Tributary) and 21-247 (Tote Road Water Crossings). Immediate and follow up corrective actions taken to address the unauthorized sediment releases are summarized in Section 5 of this Report. Copies of the original and 30-day follow-up spill reports for the unauthorized sediment releases, including photos of corrective actions taken, are provided in Appendix A.

During this time Baffinland was under an 'outbreak order' from Nunavut Public Health and the Public Health Agency of Canada. Essential staff remained on site to conduct the required monitoring and collect samples during the spring freshet period. This Covid-19 outbreak at site impacted staff and resources for ongoing freshet management and monitoring.

2 WATER QUALITY MONITORING PROGRAMS

During Freshet 2021, Baffinland conducted monitoring programs at the Mary River Mine Site (Mine Site), Milne Port, and along the Milne Inlet Tote Road (Tote Road) to monitor the water quality at key tributaries and drainages. Descriptions of the water quality monitoring programs conducted are provided in the following subsections.

2.1 Mine Site Freshet Monitoring Program

The Mine Site Freshet Monitoring Program is conducted annually to characterize the water quality of several Mine Site tributaries and drainages during the elevated runoff flows of the freshet period. The program typically starts around mid-May, when increasing snowmelt causes elevated runoff flows, and stops around the end of June, after runoff flows have receded and the majority of the snowmelt has occurred. Four (4) monitoring locations at the Mine Site are routinely monitored during the freshet period: the Camp Lake Settling Ponds outfall (CLSP-OUT), the Camp Lake Tributary 1 outfall (CLT-OUT), Sheardown Lake Landfill Gate Tributary outfall (LDFG-OUT), and Sheardown Lake Tributary 1 outfall (SDLT-OUT). Water quality monitoring involves measuring water quality parameters in the field using a portable meter and collecting water samples to be sent to an external laboratory for analyses. Water quality parameters

include total suspended solids (TSS), total dissolved solids (TDS), pH, and turbidity. Intermittent monitoring is also performed at additional upstream locations along the monitored tributaries if elevated turbidity is identified at the outfall monitoring locations.

During Freshet 2021, outfall monitoring locations CLSP-OUT, CLT-OUT, LDFG-OUT, and SDLT-OUT were inspected, and if active flow was observed, water quality monitoring was performed. Water quality monitoring, including field parameters and water samples, was conducted daily, across varying conditions and times in a 24 hour period, at each of the outfall monitoring locations if active flow was present. If seven (7) consecutive water quality samples from an outfall monitoring location were compliant with applicable water quality criteria, water quality monitoring at that outfall monitoring location was reduced to a weekly frequency. Daily water quality monitoring would be resumed at the outfall monitoring location if a non-compliant water quality result was observed. Refer to Appendices B and D for additional details on the Mine Site Freshet Monitoring Program and the four (4) monitoring locations.

2.2 Milne Port Freshet Monitoring Program

The Milne Port Freshet Monitoring Program is conducted annually to characterize the water quality of several Milne Port tributaries and drainages during the elevated runoff flows of the freshet period. The program typically starts around mid-May, when increasing snowmelt causes elevated runoff flows, and stops around the end of June, after runoff flows have receded and the majority of the snowmelt has occurred. Four (4) monitoring locations at Milne Port are routinely monitored during the freshet period: MP-C-B, MP-C-H, MP-C-J, and MP-C-K. Water quality monitoring involves measuring water quality parameters in the field using a portable meter and collecting water samples to be sent to an external laboratory for analyses. Water quality parameters include total suspended solids (TSS), total dissolved solids (TDS), pH, and turbidity.

Similar to the Mine Site Freshet Monitoring Program, during Freshet 2021, monitoring locations MP-C-B, MP-C-H, MP-C-J, and MP-C-K were inspected, and if active flow was observed, water quality monitoring was performed. Water quality monitoring, including field parameters and water samples, was conducted daily, across varying conditions and times in a 24 hour period, at each of the monitoring locations if active flow was present. If seven (7) consecutive water quality samples from a monitoring location were compliant with applicable water quality criteria, water quality monitoring at that monitoring location was reduced to a weekly frequency. Daily water quality monitoring would be resumed at the monitoring location if a non-compliant water quality result was observed.

Because monitoring locations MP-C-B, MP-C-H, MP-C-J, and MP-C-K are also used in the Project's Surveillance Network Program (refer to Section 2.4), 2021 water quality monitoring results for these locations are presented in the Project's 2021 QIA & NWB Annual Report for Operations, and are not discussed further within this Report.

2.3 Tote Road Monitoring Program

The Tote Road Monitoring Program (TRMP) is conducted annually to characterize the water quality of surface water flows at select Tote Road water crossings (culverts, bridges), with a focus on comparing upstream and downstream TSS concentrations and addressing sedimentation concerns. Water crossings monitored under the TRMP have been selected to provide a geographically representative sample set of water crossings for each watershed intersected by the Tote Road. Key depositional habitats located downstream of the Tote Road (e.g. fish habitat) and areas historically susceptible to sedimentation events were considered in selecting the water crossings. The TRMP entails weekly visual inspections and water quality monitoring at select Tote Road water crossings during the freshet period, followed by monthly water quality monitoring during periods of active flow. For additional details regarding the TRMP, refer to Appendix D of the Project's Roads Management Plan (BAF-PH1-830-P16-0023). A full discussion of the 2021 TRMP water quality monitoring results are provided in the Project's 2021 QIA & NWB Annual Report for Operations.

2.4 Surveillance Network Program

Water quality monitoring under the Surveillance Network Program is conducted each year during periods of flow as required by Baffinland's Type 'A' Water Licence 2AM-MRY1325 – Amendment 1 (Type 'A' Water Licence). Water quality results collected under the SNP are reported monthly to the NWB, CIRNAC and QIA, and further presented and discussed each year in the Project's QIA & NWB Annual Report for Operations.

3 WATER QUALITY MONITORING RESULTS AND DISCUSSION

The following subsections discuss the 2021 water quality monitoring results as they relate to the unauthorized sediment releases reported during Freshet 2021 at the Mine Site and select Tote Road water crossings.

2021 water quality monitoring results for the Mine Site Freshet Monitoring Program are provided in Appendix B. Water quality monitoring results were evaluated using criteria outlined in Table 11[1] of the Project's Type 'A' Water Licence, presented as Table 1 in this Report.

Table 1 - 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

[1]Table 11: Effluent Quality Discharge Limits for Contact Water during Operations Phase and the Early Revenue Phase of the Project

2021 water quality monitoring results for the TRMP that relate to reported unauthorized sediment releases at Tote Road water crossings during Freshet 2021 are presented in Appendix A, as part of the 30-day follow-up spill report. Water quality monitoring results were evaluated using criteria outlined in the TRMP (refer to Appendix D of the Project's Roads Management Plan).

A notification to CIRNAC occurred on May 8 of Baffinland environmental staff adherence to COVID-19 isolation requirements, impacting sample collection on that day.

3.1 NT-NU Spill Report 21-146 – Camp and Sheardown Lakes Tributaries

On May 2, 2021, snowmelt runoff resulted in TSS levels being observed at the outfall monitoring locations of Camp Lake Tributary 1 (CLT-OUT) and Sheardown Lake Tributary 1 (SDLT-OUT) that exceeded the water quality criteria outlined in Table 1. The event resulted in sediment-laden water flowing onto and under the surface ice of Camp Lake and Sheardown Lake. The event was reported on May 4, 2021 as NT-NU Spill Report 21-146, with a follow-up spill report provided to regulators and stakeholders on June 1, 2021.

3.1.1 Camp Lake Settling Ponds

CLSP-OUT, referred to as the Camp Lake Settling Ponds outfall, is located down gradient of a series of check dams near the Camp Lake Water Jetty, and was monitored as part of the 2021 Mine Site Freshet Monitoring Program. Check dams are shallow basins constructed in steep ditch sections using crushed aggregates to slow surface runoff and facilitate the settling of suspended solids. Details for monitoring location CLSP-OUT and a figure showing its location at the Mine Site are provided in Figure 1 and Appendix C.

2021 water quality results for samples collected at various sites near CLSP-OUT are also provided in Appendix B. After review of the location of sampling with the field supervisor it was determined that these water quality results are not representative of water that was entering the receiving water body. Samples were collected upstream of the sample site due to the low flow conditions at the sample site, that prevented proper sampling technique and collection of a representative sample. This review occurred after individuals were released from isolation due to the Covid-19 outbreak on site.

3.1.2 Camp Lake Tributary 1

CLT-OUT, a monitoring location near the outfall of Camp Lake Tributary 1, was monitored as part of the 2021 Mine Site Freshet Monitoring Program. Details for monitoring location CLT-OUT and a figure showing its location at the Mine Site are provided in in Figure 1 and Appendix C. 2021 water quality results for samples collected at CLT-OUT are also provided in Appendix B.

In comparing the water quality results for CLT-OUT to the water quality criteria outlined in Table 1, TSS exceeded the 30 mg/L TSS grab sample limit on eighteen (18) days (May 2- 5, 7, 9-10, 12, 14, 25-28, 30, and June 1-2, 6-7) out of forty-two (42) sampling days. No water samples were taken at CLT-OUT before May 2 or during May 15 through 24 due to frozen conditions. Moreover, no water samples were collected

at CLT-OUT on May 8 due to environmental staff adherence to COVID-19 isolation requirements. In addition, average TSS concentrations at CLT-OUT during May and June 2021 were 235.5 mg/L and 24.8 mg/L, respectively, exceeding the monthly average TSS concentration limit of 15 mg/L outlined in Table 1. Although elevated TSS levels were observed, water samples taken at CLT-OUT on May 4 and 6, 2021, confirmed runoff at the monitoring location was not acutely toxic. Following June 22, the water quality monitoring frequency at CLT-OUT was changed from daily to weekly due to seven (7) consecutive water quality samples being compliant with all water quality criteria outlined in Table 1. A final water sample was taken at CLT-OUT on June 27, which was compliant for all relevant parameters. No other exceedances of applicable water quality criteria (Table 1) were observed at the CLT-OUT during the 2021 Mine Site Freshet Monitoring Program.

3.1.3 Sheardown Lake Tributary 1

SDLT-OUT, a monitoring location located near the outfall of Sheardown Lake Tributary 1, was monitored as part of the 2021 Mine Site Freshet Monitoring Program. Details for monitoring location SDLT-OUT and a figure showing its location at the Mine Site are provided in Figure 1 and Appendix C. 2021 water quality results for samples collected at SDLT-OUT are also provided in Appendix B.

In comparing the water quality results for SDLT-OUT to the water quality criteria outlined in Table 1, TSS exceeded the 30 mg/L TSS grab sample limit on sixteen (16) days (May 2-5, 9-10, 12-13, 25-27, 30 and June 1-2, 6, 22) out of forty-four (44) sampling days. No water samples were taken at LDFG-OUT before May 2 or during May 15 through 24 due to frozen conditions. Moreover, no water samples were collected at SLDT-OUT on May 8 due to environmental staff adherence to COVID-19 isolation requirements. In addition, average TSS concentrations at SDLT-OUT during May and June 2021 were 186.6 mg/L and 16.1 mg/L, respectively, exceeding the monthly average TSS concentration limit of 15 mg/L outlined in Table 1. Although elevated TSS levels were observed, water samples taken at SDLT-OUT on May 4 and 6, 2021, confirmed runoff at the monitoring location was not acutely toxic. Following June 22, the water quality monitoring frequency at SDLT-OUT was changed from daily to weekly due to seven (7) consecutive water quality samples (June 15 – 21) being compliant with all water quality criteria outlined in Table 1. Water quality monitoring was re-initiated at SDLT-OUT on June 27, when it was observed that the June 22 water sample exceeded the 30 mg/L TSS grab sample limit. Upon receiving the external lab result from the June 22 sampling event, subsequent water quality monitoring was completed on June 29 and 30 at SDLT-OUT, which were compliant for all relevant parameters. No other exceedances of applicable water quality criteria (Table 1) were observed at the SDLT-OUT during the 2021 Mine Site Freshet Monitoring Program.

3.2 NT-NU Spill Report 21-164 – Sheardown Lake Landfill Gate Tributary

On May 6, 2021, snowmelt runoff resulted in TSS levels being observed at the outfall monitoring location of Sheardown Lake Landfill Gate Tributary (LDFG-OUT) that exceeded the water quality criteria outlined in Table 1. The event resulted in sediment-laden water flowing onto and under the surface ice of

Sheardown Lake. The event was reported on May 10, 2021 as NT-NU Spill Report 21-164, with a follow-up spill report provided to regulators and stakeholders on June 1, 2021.

3.2.1 Sheardown Lake Landfill Gate Tributary

LDFG-OUT, a monitoring location located near the outfall of Sheardown Lake Landfill Gate Tributary, was monitored as part of the 2021 Mine Site Freshet Monitoring Program. Details for monitoring location LDFG-OUT and a figure showing its location at the Mine Site are provided in Figure 1 and Appendix C. 2021 water quality results for samples collected at LDFG-OUT are also provided in Appendix B.

In comparing the water quality results for LDFG-OUT to the water quality criteria outlined in Table 1, TSS exceeded the 30 mg/L TSS grab sample limit on eight (8) days (May 6, 9, 25-28 and June 6-7) out of thirty-nine (39) sampling days. No water samples were taken at LDFG-OUT before May 6 or during May 16 through 24 due to frozen conditions. Moreover, no water samples were collected at LDFG-OUT on May 8 due to environmental staff adherence to COVID-19 isolation requirements. In addition, average TSS concentrations at LDFG-OUT during May and June 2021 were 27.7 mg/L and 12.5 mg/L, respectively, exceeding the monthly average TSS concentration limit of 15 mg/L outlined in Table 1 during May 2021. Although elevated TSS levels were observed, a water sample taken at LDFG-OUT on May 10, 2021, confirmed runoff at the monitoring location was not acutely toxic. Following June 22, the water quality monitoring frequency at LDFG-OUT was changed from daily to weekly due to seven (7) consecutive water quality samples being compliant with all water quality criteria outlined in Table 1. A final water sample was taken at LDFG-OUT on June 27, which was compliant for all relevant parameters. No other exceedances of applicable water quality criteria (Table 1) were observed at the LFDG-OUT during the 2021 Mine Site Freshet Monitoring Program.

3.3 NT-NU Spill Report 21-247 – Tote Road Water Crossings

Between May 26 and June 9, 2021, snowmelt runoff resulted in elevated TSS levels being observed at the downstream locations of six (6) Tote Road water crossing monitored under TRMP. The six (6) Tote Road water crossings were CV-001, CV-154-A, CV-112, CV-115, BG-24 and CV-093. External laboratory results for surface water samples collected at these locations indicated potential Project related change to water quality, which is defined in the TRMP as a greater than 50 mg/L increase in TSS levels in the downstream sample when upstream TSS concentrations are less than 250 mg/L. The event was reported on June 15, 2021 as NT-NU Spill Report 21-247, with a follow-up spill report provided to regulators and stakeholders on July 15, 2021. The original spill report along with the 30-day follow-up spill report are provided in Appendix A and provide a full discussion of applicable water quality results, including photos, coordinates and a figure showing the monitoring locations of the affected water crossings. For a complete discussion of the TRMP, refer to the Project's 2021 QIA & NWB Annual Report for Operations - Water Licence 2AM-MRY-1325 and Commercial Lease Q13C301.

4 NATURAL SEDIMENTATION EVENTS

On June 11, 2021, a natural sedimentation event, labelled MP-NS-04, was observed at an undisturbed watercourse north of Milne Port. The source of the sedimentation was documented with photographs and was not related to Project activities or infrastructure. Additional details of the event are provided in the 2021 QIA & NWB Annual Report for Operations - Water Licence 2AM-MRY-1325 and Commercial Lease Q13C301.

5 CORRECTIVE ACTIONS AND MITIGATION MEASURES

Consistent with Baffinland's Surface Water and Aquatic Ecosystem Management Plan (SWAEMP), corrective actions and mitigation measures implemented in response to the unauthorized sediment releases documented in NT-NU Spill Reports No. 21-146, 21-164 and 21-247 included the following:

- Installing and maintaining silt fences, coir logs and runoff mitigation berms in strategic locations;
- Constructing runoff check dams and settling ponds;
- Armouring existing ditches and road embankments with erosion protection;
- Clearing excess snow at culvert inlets and outlets; and,
- Diverting sediment-laden runoff away from fish habitat using ditches, swales, and pumps.

Photos showing the mitigation measures and corrective actions taken in 2021 in response to each unauthorized sediment release are provided in Appendix A. Corrective actions, mitigation measures, and monitoring for the unauthorized sediment releases are summarized in the subsections below.

5.1 NT-NU Spill Report 21-146, 21-164 - Camp and Sheardown Tributaries

Prior to the start of Freshet 2021, excess snow was relocated from areas around the Camp Lake Settling Ponds (CLSP-OUT), including up-gradient check dams and along the roadway leading to the Camp Lake Water Jetty, to reduce the amount of surface water runoff from snowmelt. Excess snow was also relocated from the inlets and outlets of culverts upstream of CLT-OUT, SDLT-OUT and LDFG-OUT, including culverts at the landfill gate, BG-01, CV-186 and CV-187. Culverts were also steamed out to ensure proper flow at the commencement of freshet. The excess snow was placed in approved snow stockpile areas that are monitored as outlined by the Project's Snow Management Plan. 2021 water quality monitoring results for snow stockpile areas are provided and discussed in the 2021 QIA & NWB Annual Report for Operations.

Erosion and sedimentation mitigation measures, both temporary and permanent, were installed and maintained in strategic areas near the tributaries of Camp Lake and Sheardown Lake including ditches, culvert outlets, check dams, and road embankments. Mitigation measures included silt fences, sand bag berms, coir logs, crushed aggregate and rip rap armouring.

Culvert water crossings CV-186 and CV-187, located on Sheardown Lake Tributary 1 and upstream of monitoring location SDLT-OUT, were previously upgraded during the 2017/2018 winter period as part of the Tote Road Earthworks Execution Plan (TREEP). The water crossings were extended, modified, and armoured with rip rap to improve culvert flow and erosion protection during freshet. Check dams were reinforced and silt fences were installed at the inlet and outlet of CV-186, to reduce erosion and sedimentation.

During Freshet 2021, mitigation measures were installed, monitored and maintained in accordance with the Project's SWAEMP. Upon observing elevated runoff at monitoring locations CLSP-OUT, CLT-OUT and SDLT-OUT, erosion and sedimentation mitigation measures were implemented, including diverting and pumping runoff water to existing check dams, reinforcing check dams upslope of SDLT outfall, armouring ditching upstream of the CLT tributary, and installing silt fences, sand bag berms, and coir logs, and maintaining silt curtains in Camp and Sheardown Lakes at CLSP-OUT, CLT-OUT and SDLT-OUT. Continual monitoring of mitigation measures were completed to identify and correct deficiencies, and ensure efficacy.

As an outcome of the freshet 2020 sediment releases in the Camp Lake and Sheardown Lake Tributaries Baffinland has developed a long-term surface water management plan, which started in 2020 and is currently in progress. The first construction phase of the long-term water management plan began in 2021, and will be completed for freshet 2022. Continued work on the next phases of the long term water management plan will occur in 2022.

An additional mitigation measure involves the application of a dust suppression product for road surfaces called Dust Blockr® in addition to water and calcium, to reduce the amount of fine particulate deposited onto snow that becomes mobilized during the freshet period. Dust Blockr® was applied on the surface of the entire length of the Tote Road and the Mine Site roadways in 2020 and 2021. Touch up applications of Dust Blockr® were completed during the summer in 2021 on an as needed basis in response to deficiencies identified during visual inspections.

The Mine Site Freshet Monitoring Program will resume in 2022 to assess the performance of erosion and sedimentation mitigation measures implemented at the Mine Site and to monitor compliance with applicable water quality criteria.

5.2 NT-NU Spill Report 21-247 – Tote Road Water Crossings

Prior to the start of Freshet 2021, Tote Road water crossing culverts were steamed and snow was removed at their inlets and outlets to ensure proper flow at the commencement of freshet. Excess snow was also relocated from areas near Tote Road water crossings, ditches and swales to reduce the amount of surface water runoff coming in contact with Project infrastructure from snowmelt. Relocated and removed snow was placed in approved snow stockpile areas that are monitored as outlined by the Project's Snow

Management Plan. 2021 water quality monitoring results for snow stockpile areas are provided and discussed in the Project's 2021 QIA & NWB Annual Report for Operations.

Upon observing elevated TSS levels downstream of Tote Road water crossings, field investigations of the affected crossings were completed. Erosion and sediment control measures were subsequently implemented, as appropriate, including silt fences and coir logs. In addition, rip-rap was placed along the road embankments near CV-115 and CV-093, in accordance with the Project's SWAEMP, to slow runoff and settle suspended sediments prior to entering the streams. Remedial works on the remaining crossings from the 2021 spill report will be completed prior to Freshet 2022.

In preparation for Freshet 2021, permanent erosion and sediment control measures were implemented during 2020 including a culvert replacement at KM 58 to improve water flow, and the construction of check dams at KM 33 to reduce runoff water flow and sediment transport.

6 CONCLUSIONS

Baffinland continues to implement erosion and sedimentation mitigation measures at the Project to reduce sediment loading to receiving water bodies in accordance with Section 6.2 of Baffinland's SWAEMP. The first construction phase of the long term water management plan will be completed for freshet 2022 and continued work on the next phases of the long term water management plan will occur in 2022.

FIGURES

LEGEND

- Freshet Monitoring Location
- Project Development Area
- Infrastructure

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2021 Mine Site Freshet Monitoring Program

Projection: NAD 1983 UTM ZONE 17N.
Base Map: © 2022 Digital Globe, Inc.
Imagery and Infrastructure are representative as of July-September 2021.

0 100 200 400 Meters
Scale 1:18,000
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Baffinland

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FIGURE 1

APPENDICES

APPENDIX A – NT-NU SPILL REPORTS

APPENDIX A.1 – NT-NU SPILL REPORTS 21-146, 21-164 – CAMP AND SHEARDOWN LAKES TRIBUTARIES

June 1, 2021

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Re: Follow-up to Spills #2021-146 and 2021-164 Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On May 2, 2021, warming temperatures at the Mary River Mine Site resulted in snowmelt runoff containing sediment-laden water, which was observed to be flowing at the Camp Lake Tributary 1 (CLT-OUT) and Sheardown Lake Tributary 1 (SDLT-OUT). On May 6, 2021, ongoing warm temperatures at the Mary River Mine Site resulted in snowmelt runoff containing sediment laden-water at the Sheardown Lake Landfill Gate Tributary (LDFG-OUT). The sediment-laden water at CLT-OUT and SDLT-OUT on May 2, 2021 was reported to the NT-NU Spills Reporting Line as Spill #2021-146 (Attachment 3) and the sediment-laden water observed at LDFG-OUT on May 6, 2021 was reported as Spill #2021-164 (Attachment 4). Details for the sample locations where sediment-laden water was observed at the Mary River Mine Site in May 2021 are presented in the following table:

Sample Location	Description	Location (UTM; NAD83 Zone 17W)	
		Easting	Northing
CLT-OUT	Camp Lake Tributary 1 (100 m upstream of Camp Lake outfall)	557686	7914947
SDLT-OUT	Sheardown Lake Tributary 1 (100 m upstream of Sheardown Lake outfall)	560332	7913519
LDFG-OUT	Sheardown Lake Landfill Gate Tributary (40 m upstream of Sheardown Lake outfall)	561018	7912968

The source of the sedimentation was snowmelt from the surrounding mine site infrastructure. The event resulted in sediment-laden water flowing onto and under the surface ice of Camp Lake and Sheardown Lake. Attachment 5 outlines the water quality results from monitoring conducted at CLT-OUT and SDLT-OUT from May 2 to 14, 2021 and at LDFG-OUT from May 6 to 15, 2021. Note that samples were not collected at the freshet monitoring sites on May 8 due to Covid-19 transmission prevention measures related isolation requirements for Environment Department personnel. On May 8, Baffinland notified CIRNAC via email that water sampling would not be performed at the freshet outfalls on May 8 due to the Covid-19 restrictions.

Immediate and Follow-Up Action:

Upon discovery of the elevated instream Total Suspended Solids (TSS) conditions at these drainages, personnel worked to install sedimentation mitigation measures, including silt fences, coir logs and sand bags, in areas around the CLT, SDLT and LDFG outfalls and upstream tributaries in accordance with Baffinland's Surface Water and Aquatic Ecosystem Management Plan, to slow the flow and settle sediments prior to the water entering the streams. Water diversion and pumping strategies were also implemented to reduce potential erosion and sedimentation. With freshet conditions present, daily monitoring of the water quality is ongoing. As per Baffinland's Freshet Monitoring Procedure, daily monitoring is conducted until seven (7) compliant sample results are obtained and, subsequently, the sampling frequency is reduced to weekly. The sampling frequency returns to a daily frequency if further non-compliant results are obtained.

In preparation for freshet 2021, permanent erosion and sediment control measures were reinforced and maintained as needed, including berm reinforcement upslope of the SDLT outfall and riprap armouring of the ditch at CLT upstream tributary BG-01, to stabilize the bank and reduce erosion.

Prior to the start of freshet 2021, excess snow was relocated from areas around the Camp Lake Settling Ponds, including from up-gradient runoff check dams, to reduce the amount of surface water runoff from snowmelt. Additional excess snow around the inlets and outlets of select culvert locations was removed, including at the CLT, SDLT and LDFG water crossings, and relocated to approved snow stockpile locations, to further reduce the volume of snowmelt and subsequent amount of overland flow present to mobilize sediment.

Current Status:

Conditions at CLT, SDLT and LDFG, as well as other freshet monitoring locations, are currently being sampled and assessed as per Baffinland's Freshet Monitoring Program. An updated report will be submitted on completion of the monitoring program 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 2021 and included with the 2021 QIA and NWB Annual Report for Operations. Monitoring will continue during the presence of freshet conditions and routine maintenance of check dams, silt fences and other ESC measures will be performed as necessary to ensure their effective operation. The development and implementation of the long-term surface water management plan is ongoing with support from a third party consultant.

Additional water sampling conducted for acute toxicity on May 4 and May 6 at CLT-OUT and SDLT-OUT and May 10 at LDFG locations indicated the samples collected were not acutely toxic as shown in Attachment 6.

Should you require further information or clarification on the incident described above, please feel free to contact Connor Devereaux (647) 253-0596 (ext. 6016).

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Attachments

Attachment 1: Photos
Attachment 2: Mine Site Freshet Monitoring Locations
Attachment 3: Baffinland NT-NU Spill Report #2021-146
Attachment 4: Baffinland NT-NU Spill Report #2021-164
Attachment 5: Surface Water Quality Results
Attachment 6: Acute Toxicity Testing Results

Attachment 1

Photos

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CLT Drainage

Photo 1. Snow Clearing at the Outlet of BG-01 (April 28, 2021)

Photo 2. CLT Outfall on May 2, 2021

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Photo 3. BG-01 Downstream Ditch Riprap Armouring (May 13, 2021)

Photo 4. Silt Fencing at the Outlet of BG-01 (May 15, 2021)

Photo 5. CLT Outfall on May 14, 2021

SDLT Drainage

Photo 1. Snow Removal CV-186 to CV-187 Upstream of SDLT-OUT on April 20, 2021

Photo 2. SDLT Outfall on May 2, 2021

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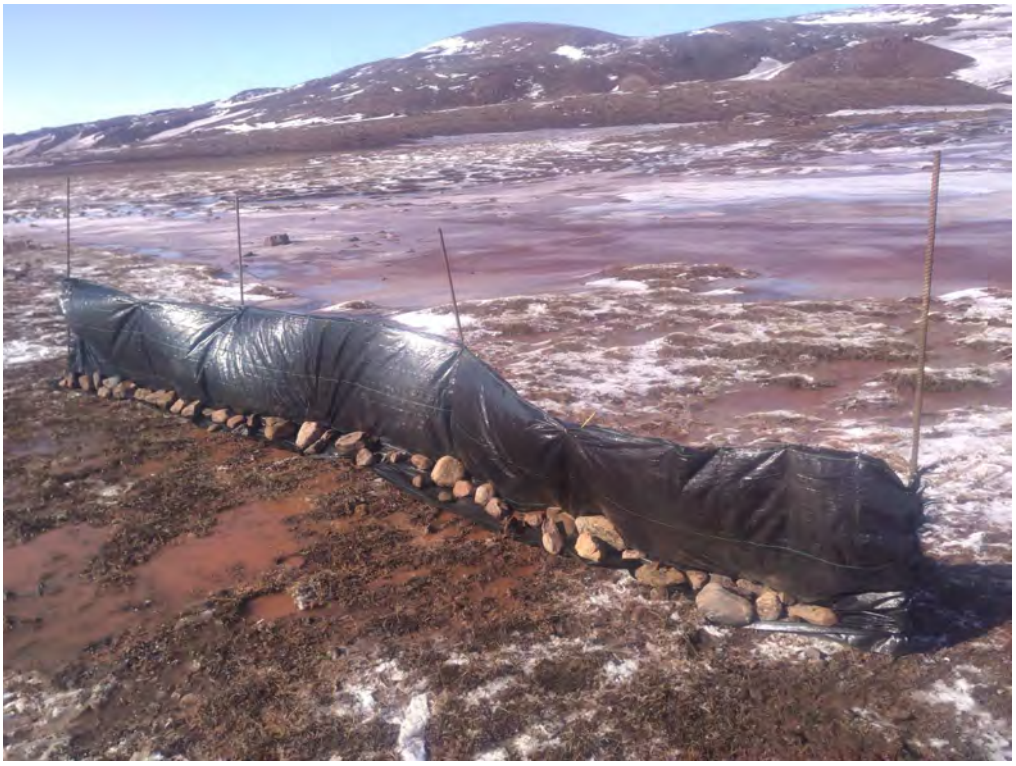

Photo 3. Erosion and Sediment Control at CV-186 Upstream of SDLT-OUT (May 12, 2021)

Photo 4. Erosion and Sediment Control at CV-186 Upstream of SDLT-OUT (May 23, 2021)

Photo 5. SDLT Outfall on May 14, 2021

LDFG Drainage

Photo 1. LDFG Outfall on May 6, 2021

Photo 2. LDFG Outfall on May 15, 2021

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Attachment 2

Mine Site Freshet Monitoring Locations

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LEGEND

- Freshet Monitoring Location
- Project Development Area

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Mine Site Monitoring Locations

Projection: NAD 1983 UTM ZONE 17N.
Base Map: © 2019 Digital Globe, Inc.
Imagery is representative as of August 2019.

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FIGURE 3

Attachment 3

Baffinland NT-NU Spill Report #2021-146

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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 **05-04-2021**	REPORT TIME **10:50**	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER **21** - _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR **05-02-2021**	OCCURRENCE TIME **16:35**		

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	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 ENVIRONMENT **N/A**

K — ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS

On May 2, 2021, warming temperatures resulted in snowmelt runoff containing sediment-laden water observed flowing at two locations at the Mary River Mine Site including Camp Lake Tributary (CLT) and Sheardown Lake Tributary (SDLT). The event resulted in sediment-laden water flowing onto and under the surface ice on Camp Lake and Sheardown Lake. In accordance with the Surface Water Aquatic Effects Management Plan, sedimentation mitigation measures are being implemented including active water pumping, check dams and silt fences in an attempt to settle sediments prior to discharge. With freshet conditions present, daily monitoring of the water quality is ongoing and initial water quality samples were submitted to the 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(5) of the Fisheries Act.

L	REPORTED TO SPILL LINE BY **Kendra Button**	POSITION **Env Superintendent**	EMPLOYER **Baffinland**	LOCATION CALLING FROM **647-253-0596**	TELEPHONE **Ext. 6255**
M	ANY ALTERNATE CONTACT **Shawn Stevens**	POSITION **Manager of HSEST**	EMPLOYER **Baffinland**	ALTERNATE CONTACT LOCATION **647-253-0596**	ALTERNATE TELEPHONE **Ext. 6006**

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 ☐ 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			

Attachment 4

Baffinland NT-NU Spill Report #2021-164

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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 **05-10-2021**	REPORT TIME **16:30**	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER **21** - _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR **05-06-2021**	OCCURRENCE TIME **12:45**		

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 **71** MINUTES **18** SECONDS **40**	LONGITUDE DEGREES **79** MINUTES **17** SECONDS **37**
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	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 ENVIRONMENT **N/A**

K — ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS

On May 6, 2021, warming temperatures resulted in snowmelt runoff containing sediment-laden water which was observed flowing at the Mary River Mine Site at the Landfill Gate Tributary (LDFG) sample location. The event resulted in sediment-laden water flowing onto and under the surface ice on Sheardown Lake. Analytical results received from the third party analytical lab for the LDFG sample showed elevated TSS levels. In accordance with the Surface Water Aquatic Effects Management Plan, sedimentation mitigation measures are being implemented including active water pumping and silt fences in an attempt to settle sediments prior to discharge. With freshet conditions present, daily monitoring of the water quality is ongoing with routine water quality samples submitted to the 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(5) 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 **Shawn Stevens**	POSITION **Manager of HSEST**	EMPLOYER **Baffinland**	ALTERNATE CONTACT LOCATION **647-253-0596**	ALTERNATE TELEPHONE **Ext. 6006**

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 ☐ 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			

Attachment 5

Water Quality Results

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SURFACE WATER QUALITY RESULTS - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT01
	Sample Identification			CLT-OUT_2021-05-02_1635	CLT-OUT01_2021-05-02_1635	CLT-OUT_2021-05-03_1305	CLT-OUT_2021-05-04_1400	CLT-OUT01_2021-05-04_1400
	ALS Laboratory Sample ID			L2582679-1	L2582679-2	L2583043-1	L2583640-1	L2583640-2
	Sample Date & Time			2021-05-02 16:35	2021-05-02 16:35	2021-05-03 13:05	2021-05-04 14:00	2021-05-04 14:00
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	Field Duplicate
	Units	LOR	Limits					
pH	pH units	0.10	6.0 - 9.5	8.69	8.72	8.3	7.97	8.00
Total Suspended Solids	mg/L	2.0	30	**2150**	**1530**	**942**	**586**	**584**
Total Dissolved Solids	mg/L	10	-	170	140	133	138	105
Turbidity	NTU	0.10	-	3340	2970	939	623	544

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	Sample Identification			CLT-OUT_2021-05-05_1110	CLT-OUT_2021-05-06_1245	CLT-OUT_2021-05-07_1115	CLT-OUT03_2021-05-07_1115	CLT-OUT_2021-05-09_1230
	ALS Laboratory Sample ID			L2584872-1	L2584947-1	L2585408-1	L2585408-2	L2585503-1
	Sample Date & Time			2021-05-05 11:10	2021-05-06 12:45	2021-05-07 11:15	2021-05-07 11:15	2021-05-09 12:30
	QA/QC Sample Type			N/A	N/A	N/A	Travel Blank	N/A
	Units	LOR	Limits					
pH	pH units	0.10	6.0 - 9.5	7.52	7.72	7.8	5.74	7.77
Total Suspended Solids	mg/L	2.0	30	**42.6**	28.9	**51**	<2.0	**69.8**
Total Dissolved Solids	mg/L	10	-	81	59	113	<10	90
Turbidity	NTU	0.10	-	55	58.0	40.8	<0.10	57.4

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT01	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	Sample Identification			CLT-OUT_2021-05-10_1310	CLT-OUT01_2021-05-10_1310	CLT-OUT_2021-05-11_1500	CLT-OUT_2021-05-12_1220	CLT-OUT_2021-05-13_1155	CLT-OUT_2021-05-14_1215
	ALS Laboratory Sample ID			L2585958-1	L2585958-2	L2586526-1	L2587987-1	L2588009-1	L2588274-1
	Sample Date & Time			2021-05-10 13:10	2021-05-10 13:10	2021-05-11 15:00	2021-05-12 12:20	2021-05-13 11:55	2021-05-14 12:15
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A		N/A
	Units	LOR	Limits						
pH	pH units	0.10	6.0 - 9.5	7.76	7.78	7.74	7.73	7.67	**7.72**
Total Suspended Solids	mg/L	2.0	30	**86.6**	**93.7**	19.0	**52.3**	28.8	**36.6**
Total Dissolved Solids	mg/L	10	-	101	94	68	56	64	75
Turbidity	NTU	0.10	-	76.5	77.3	45.4	70.1	52.2	61.1

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	Sample Identification			SDLT-OUT_2021-05-02_1730	SDLT-OUT_2021-05-03_1335	SDLT-OUT01_2021-05-03_1335	SDLT-OUT_2021-05-04_1535
	ALS Laboratory Sample ID			L2582679-3	L2583043-2	L2583043-3	L2583640-3
	Sample Date & Time			2021-05-02 17:30	2021-05-03 13:35	2021-05-03 13:35	2021-05-04 15:35
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A
	Units	LOR	Limits				
pH	pH units	0.10	6.0 - 9.5	8.47	8.04	8.07	8.18
Total Suspended Solids	mg/L	2.0	30	**743**	**442**	**417**	**811**
Total Dissolved Solids	mg/L	10	-	157	126	169	124
Turbidity	NTU	0.10	-	1100	671	650	551

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	Sample Identification			SDLT-OUT_2021-05-05_1145	SDLT-OUT_2021-05-06_1320	SDLT-OUT_2021-05-07_1145	SDLT-OUT_2021-05-09_1300
	ALS Laboratory Sample ID			L2584872-2	L2584947-2	L2585408-3	L2585503-2
	Sample Date & Time			2021-05-05 11:45	2021-05-06 13:20	2021-05-07 11:45	2021-05-09 13:00
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Limits				
pH	pH units	0.10	6.0 - 9.5	7.46	7.46	7.62	7.67
Total Suspended Solids	mg/L	2.0	30	**184**	**76.2**	11.0	**148**
Total Dissolved Solids	mg/L	10	-	70	35	73	73
Turbidity	NTU	0.10	-	161	88.1	56.5	135

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT01
	Sample Identification			SDLT-OUT_2021-05-10_1335	SDLT-OUT_2021-05-11_1425	SDLT-OUT_2021-05-12_1255	SDLT-OUT01_2021-05-12_1255
	ALS Laboratory Sample ID			L2585958-3	L2586526-2	L2587987-3	L2587987-2
	Sample Date & Time			2021-05-10 0:00	2021-05-11 14:25	2021-05-12 12:55	2021-05-12 12:55
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate
	Units	LOR	Limits				
pH	pH units	0.10	6.0 - 9.5	7.67	7.60	7.65	7.62
Total Suspended Solids	mg/L	2.0	30	**62.8**	9.9	**48.7**	**49.6**
Total Dissolved Solids	mg/L	10	-	69	11	46	71
Turbidity	NTU	0.10	-	119	41.6	51.8	51.1

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT01
	Sample Identification			SDLT-OUT_2021-05-13_1250	SDLT-OUT_2021-05-14_1140	SDLT-OUT01_2021-05-14_1140
	ALS Laboratory Sample ID			L2588009-2	L2588274-2	L2588274-4
	Sample Date & Time			2021-05-13 12:50	2021-05-14 11:40	2021-05-14 11:40
	QA/QC Sample Type			N/A	N/A	Field Duplicate
	Units	LOR	Limits			
pH	pH units	0.10	6.0 - 9.5	7.71	7.65	7.64
Total Suspended Solids	mg/L	2.0	30	**36.4**	21.0	21.3
Total Dissolved Solids	mg/L	10	-	53	67	71
Turbidity	NTU	0.10	-	56.7	43.5	45.4

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT01	LDFG-OUT
	Sample Identification			LDFG-OUT_2021-05-06_1245	LDFG-OUT_2021-05-07_1210	LDFG-OUT_2021-05-09_1330	LDFG-OUT01_2021-05-09_1330	LDFG-OUT_2021-05-10_1400
	ALS Laboratory Sample ID			L2584873-1	L2585408-4	L2585503-3	L2585503-4	L2585958-4
	Sample Date & Time			2021-05-06 12:45	2021-05-07 12:10	2021-05-09 13:30	2021-05-09 13:30	2021-05-10 14:00
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Limits					
pH	pH units	0.10	6.0 - 9.5	7.31	7.35	7.39	7.36	7.40
Total Suspended Solids	mg/L	2.0	30	**40.1**	18.0	**46.9**	**41.6**	15.7
Total Dissolved Solids	mg/L	10	-	67	52	50	48	50
Turbidity	NTU	0.10	-	128	76.8	115	118	92.9

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

SURFACE WATER QUALITY RESULTS - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	Sample Identification			LDFG-OUT_2021-05-10_1400	LDFG-OUT_2021-05-11_1405	LDFG-OUT_2021-05-12_1330	LDFG-OUT_2021-05-13_1320	LDFG-OUT_2021-05-14_1105	LDFG-OUT_2021-05-15_1155
	ALS Laboratory Sample ID			L2587332-1	L2586526-3	L2587987-4	L2588009-3	L2588274-3	L2588335-1
	Sample Date & Time			2021-05-10 14:00	2021-05-11 14:05	2021-05-12 13:30	2021-05-13 13:20	2021-05-14 11:05	2021-05-15 11:55
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Limits						
pH	pH units	0.10	6.0 - 9.5	7.41	7.42	7.44	7.39	7.41	7.41
Total Suspended Solids	mg/L	2.0	30	15.1	5.5	9.6	5.7	3.2	2.1
Total Dissolved Solids	mg/L	10	-	37	29	29	40	78	32
Turbidity	NTU	0.10	-	91.2	66.9	80.9	72.2	58.9	55.4

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Attachment 6

Acute Toxicity Testing Results

2275 Upper Middle Road East, Suite 300 | Oakville, ON, Canada L6H 0C3
Main: 416.364.8820 | Fax: 416.364.0193 | www.baffinland.com

Baffinland

ACUTE TOXICITY TESTING RESULTS - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT01	CLT-OUT
	Sample Identification			CLT-OUT_2021-05-04_1400	CLT-OUT01_2021-05-04_1400	CLT-OUT_2021-05-06_1245
	ALS Laboratory Sample ID			L2583640-1	L2583640-2	L2584947-1
	Sample Date & Time			2021-05-04 14:00	2021-05-04 14:00	2021-05-06 12:45
	QA/QC Sample Type			N/A	Field Duplicate	N/A
	Units	LOR	Limits			
Hardness (as CaCO3)	mg/L	0.50	-	34.8	34.6	59.3
pH	pH units	0.10	6-9.5	7.97	8.00	7.72
Total Suspended Solids	mg/L	3.0	30	**586**	**584**	28.9
Total Dissolved Solids	mg/L	13	-	138	105	59
Turbidity	NTU	0.10	-	623	544	58.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	36	36	58
Ammonia, Total (as N)	mg/L	0.010	-	0.112	0.091	0.118
Chloride (Cl)	mg/L	0.50	-	5.64	5.56	11.6
Fluoride (F)	mg/L	0.020	-	0.024	0.032	0.028
Nitrate (as N)	mg/L	0.020	-	0.117	0.101	0.412
Total Kjeldahl Nitrogen	mg/L	0.050	-	1.10	1.10	0.650
Phosphorus, Total	mg/L	0.0030	-	0.365	0.399	0.0344
Sulfate (SO4)	mg/L	0.30	-	4.61	2.54	6.73
Dissolved Organic Carbon	mg/L	0.50	-	6.87	8.15	7.41
Total Organic Carbon	mg/L	2.5	-	24	13	6.9
Aluminum (Al)-Total	mg/L	0.0050	-	21.2	21.1	1.53
Antimony (Sb)-Total	mg/L	0.00010	-	<0.0010	<0.0010	0.00010
Arsenic (As)-Total	mg/L	0.00010	-	0.0021	0.0018	0.00026
Barium (Ba)-Total	mg/L	0.00010	-	0.111	0.112	0.0149
Beryllium (Be)-Total	mg/L	0.00010	-	0.0010	<0.0010	<0.00010
Bismuth (Bi)-Total	mg/L	0.000050	-	0.00077	0.00090	<0.000050
Boron (B)-Total	mg/L	0.010	-	<0.10	<0.10	0.011
Cadmium (Cd)-Total	mg/L	0.0000050	-	0.000178	0.000160	0.0000158
Calcium (Ca)-Total	mg/L	0.050	-	12.4	12.4	12.1
Cesium (Cs)-Total	mg/L	0.000010	-	0.00259	0.00262	0.000191
Chromium (Cr)-Total	mg/L	0.00050	-	0.0396	0.0415	0.00251
Cobalt (Co)-Total	mg/L	0.00010	-	0.0144	0.0145	0.00114
Copper (Cu)-Total	mg/L	0.00050	-	0.0304	0.0312	0.00309
Iron (Fe)-Total	mg/L	0.010	-	27.0	27.1	1.87
Lead (Pb)-Total	mg/L	0.000050	-	0.0282	0.0292	0.00165
Lithium (Li)-Total	mg/L	0.0010	-	0.033	0.034	0.0048
Magnesium (Mg)-Total	mg/L	0.0050	-	25.5	25.4	8.67
Manganese (Mn)-Total	mg/L	0.00050	-	0.554	0.546	0.0683
Mercury (Hg)-Total	mg/L	0.0000050	-	0.0000094	0.0000077	<0.0000050
Molybdenum (Mo)-Total	mg/L	0.000050	-	0.00094	0.00101	0.00166
Nickel (Ni)-Total	mg/L	0.00050	-	0.0565	0.0575	0.00344
Phosphorus (P)-Total	mg/L	0.050	-	<0.50	<0.50	<0.050
Potassium (K)-Total	mg/L	0.050	-	13.1	12.9	3.49
Rubidium (Rb)-Total	mg/L	0.00020	-	0.0791	0.0786	0.00849
Selenium (Se)-Total	mg/L	0.000050	-	<0.00050	<0.00050	0.000059
Silicon (Si)-Total	mg/L	0.10	-	33.5	34.6	3.10
Silver (Ag)-Total	mg/L	0.000050	-	<0.00050	<0.00050	<0.000050
Sodium (Na)-Total	mg/L	0.050	-	2.37	2.33	5.51
Strontium (Sr)-Total	mg/L	0.0010	-	0.034	0.034	0.0181
Sulfur (S)-Total	mg/L	0.50	-	<5.0	<5.0	1.89
Tellurium (Te)-Total	mg/L	0.00020	-	<0.0020	<0.0020	<0.00020
Thallium (Tl)-Total	mg/L	0.000010	-	0.00045	0.00049	0.000034
Thorium (Th)-Total	mg/L	0.00010	-	0.0095	0.0111	0.00082
Tin (Sn)-Total	mg/L	0.00010	-	0.0011	0.0011	0.00016
Titanium (Ti)-Total	mg/L	0.00030	-	1.15	1.15	0.0708
Tungsten (W)-Total	mg/L	0.00010	-	<0.0010	<0.0010	0.00020
Uranium (U)-Total	mg/L	0.000010	-	0.0109	0.0111	0.00995
Vanadium (V)-Total	mg/L	0.00050	-	0.0366	0.0370	0.00235
Zinc (Zn)-Total	mg/L	0.0030	-	0.084	0.090	0.0079
Zirconium (Zr)-Total	mg/L	0.00020	-	0.0028	0.0028	0.00085
Aluminum (Al)-Dissolved	mg/L	0.0050	-	0.108	0.101	0.0469
Antimony (Sb)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Barium (Ba)-Dissolved	mg/L	0.00010	-	0.00291	0.00315	0.00654
Beryllium (Be)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	0.010	-	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved	mg/L	0.0000050	-	0.0000072	0.0000135	0.0000061
Calcium (Ca)-Dissolved	mg/L	0.050	-	7.20	7.27	11.4
Cesium (Cs)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	0.00010	-	0.00019	0.00019	0.00019
Copper (Cu)-Dissolved	mg/L	0.00020	-	0.00187	0.00177	0.00121
Iron (Fe)-Dissolved	mg/L	0.010	-	0.123	0.112	0.084
Lead (Pb)-Dissolved	mg/L	0.000050	-	0.000281	0.000247	0.000104
Lithium (Li)-Dissolved	mg/L	0.0010	-	0.0029	0.0028	0.0027
Magnesium (Mg)-Dissolved	mg/L	0.0050	-	4.09	3.99	7.50
Manganese (Mn)-Dissolved	mg/L	0.00050	-	0.0247	0.0248	0.0345
Mercury (Hg)-Dissolved	mg/L	0.0000050	-	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved	mg/L	0.000050	-	0.00131	0.00134	0.00192
Nickel (Ni)-Dissolved	mg/L	0.00050	-	0.00133	0.00133	0.00097
Phosphorus (P)-Dissolved	mg/L	0.050	-	<0.050	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	0.050	-	3.20	3.51	2.74
Rubidium (Rb)-Dissolved	mg/L	0.00020	-	0.00260	0.00244	0.00344
Selenium (Se)-Dissolved	mg/L	0.000050	-	0.000054	<0.000050	0.000078
Silicon (Si)-Dissolved	mg/L	0.050	-	0.619	0.609	0.567
Silver (Ag)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050	<0.000050
Sodium (Na)-Dissolved	mg/L	0.050	-	1.46	1.49	5.40
Strontium (Sr)-Dissolved	mg/L	0.0010	-	0.0186	0.0190	0.0167
Sulfur (S)-Dissolved	mg/L	0.50	-	0.89	1.00	2.04
Tellurium (Te)-Dissolved	mg/L	0.00020	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010	<0.000010
Thorium (Th)-Dissolved	mg/L	0.00010	-	0.00014	0.00013	<0.00010
Tin (Sn)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	mg/L	0.00030	-	0.00310	0.00280	0.00133
Tungsten (W)-Dissolved	mg/L	0.00010	-	0.00049	0.00049	0.00012
Uranium (U)-Dissolved	mg/L	0.000010	-	0.00254	0.00252	0.00853
Vanadium (V)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.0010	-	<0.0010	0.0010	0.0010
Zirconium (Zr)-Dissolved	mg/L	0.00020	-	0.00043	0.00039	0.0002
Oil and Grease	mg/L	5.0	-	<5.0	<5.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen
Acute Toxicity	-	-	Not Acutely Toxic	Not Acutely Toxic	-	Not Acutely Toxic

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

ACUTE TOXICITY TESTING RESULTS - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT
	Sample Identification			SDLT-OUT_2021-05-04_1535	SDLT-OUT_2021-05-06_1320
	ALS Laboratory Sample ID			L2583640-3	L2584947-2
	Sample Date & Time			2021-05-04 15:35	2021-05-06 13:20
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Limits		
Hardness (as CaCO3)	mg/L	0.50	-	45.2	36
pH	pH units	0.10	6-9.5	8.18	7.46
Total Suspended Solids	mg/L	3.0	30	**811**	**76.2**
Total Dissolved Solids	mg/L	13	-	124	35
Turbidity	NTU	0.10	-	551	88.1
Alkalinity, Total (as CaCO3)	mg/L	10	-	34	32
Ammonia, Total (as N)	mg/L	0.010	-	0.152	0.105
Chloride (Cl)	mg/L	0.50	-	10.6	4.33
Fluoride (F)	mg/L	0.020	-	0.042	0.037
Nitrate (as N)	mg/L	0.020	-	0.354	0.255
Total Kjeldahl Nitrogen	mg/L	0.050	-	1.10	0.850
Phosphorus, Total	mg/L	0.0030	-	0.51	0.0561
Sulfate (SO4)	mg/L	0.30	-	9.40	7.36
Dissolved Organic Carbon	mg/L	0.50	-	5.69	6.24
Total Organic Carbon	mg/L	2.5	-	10	6.8
Aluminum (Al)-Total	mg/L	0.0050	-	25.2	2.47
Antimony (Sb)-Total	mg/L	0.00010	-	<0.0010	<0.00010
Arsenic (As)-Total	mg/L	0.00010	-	0.0022	0.00041
Barium (Ba)-Total	mg/L	0.00010	-	0.134	0.0190
Beryllium (Be)-Total	mg/L	0.00010	-	<0.0010	0.00011
Bismuth (Bi)-Total	mg/L	0.000050	-	0.00067	0.000057
Boron (B)-Total	mg/L	0.010	-	<0.10	0.010
Cadmium (Cd)-Total	mg/L	0.0000050	-	0.000240	0.0000588
Calcium (Ca)-Total	mg/L	0.050	-	19.4	7.88
Cesium (Cs)-Total	mg/L	0.000010	-	0.00321	0.000311
Chromium (Cr)-Total	mg/L	0.00050	-	0.0356	0.00375
Cobalt (Co)-Total	mg/L	0.00010	-	0.0158	0.00167
Copper (Cu)-Total	mg/L	0.00050	-	0.0335	0.00572
Iron (Fe)-Total	mg/L	0.010	-	33.4	3.35
Lead (Pb)-Total	mg/L	0.000050	-	0.0345	0.00277
Lithium (Li)-Total	mg/L	0.0010	-	0.042	0.0057
Magnesium (Mg)-Total	mg/L	0.0050	-	27.0	6.50
Manganese (Mn)-Total	mg/L	0.00050	-	0.760	0.0748
Mercury (Hg)-Total	mg/L	0.0000050	-	<0.0000050	<0.0000050
Molybdenum (Mo)-Total	mg/L	0.000050	-	0.00088	0.00150
Nickel (Ni)-Total	mg/L	0.00050	-	0.0345	0.00473
Phosphorus (P)-Total	mg/L	0.050	-	<0.50	0.058
Potassium (K)-Total	mg/L	0.050	-	15.9	3.67
Rubidium (Rb)-Total	mg/L	0.00020	-	0.105	0.0116
Selenium (Se)-Total	mg/L	0.000050	-	<0.00050	0.000078
Silicon (Si)-Total	mg/L	0.10	-	38.1	4.58
Silver (Ag)-Total	mg/L	0.000050	-	<0.00050	<0.000050
Sodium (Na)-Total	mg/L	0.050	-	2.50	1.23
Strontium (Sr)-Total	mg/L	0.0010	-	0.085	0.0197
Sulfur (S)-Total	mg/L	0.50	-	<5.0	2.54
Tellurium (Te)-Total	mg/L	0.00020	-	<0.0020	<0.00020
Thallium (Tl)-Total	mg/L	0.000010	-	0.00062	0.000062
Thorium (Th)-Total	mg/L	0.00010	-	0.0143	0.00119
Tin (Sn)-Total	mg/L	0.00010	-	0.0016	0.00015
Titanium (Ti)-Total	mg/L	0.00030	-	1.52	0.133
Tungsten (W)-Total	mg/L	0.00010	-	<0.0010	0.00016
Uranium (U)-Total	mg/L	0.000010	-	0.0131	0.00282
Vanadium (V)-Total	mg/L	0.00050	-	0.0341	0.00377
Zinc (Zn)-Total	mg/L	0.0030	-	0.106	0.0116
Zirconium (Zr)-Total	mg/L	0.00020	-	0.0031	0.00089
Aluminum (Al)-Dissolved	mg/L	0.0050	-	0.0927	0.0401
Antimony (Sb)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Barium (Ba)-Dissolved	mg/L	0.00010	-	0.00296	0.00421
Beryllium (Be)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	0.010	-	<0.010	<0.010
Cadmium (Cd)-Dissolved	mg/L	0.0000050	-	0.0000184	0.0000263
Calcium (Ca)-Dissolved	mg/L	0.050	-	10.6	7.00
Cesium (Cs)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010
Chromium (Cr)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	0.00010	-	0.00023	0.00013
Copper (Cu)-Dissolved	mg/L	0.00020	-	0.00242	0.00278
Iron (Fe)-Dissolved	mg/L	0.010	-	0.189	0.072
Lead (Pb)-Dissolved	mg/L	0.000050	-	0.000318	0.000114
Lithium (Li)-Dissolved	mg/L	0.0010	-	0.0059	0.0024
Magnesium (Mg)-Dissolved	mg/L	0.0050	-	4.57	4.49
Manganese (Mn)-Dissolved	mg/L	0.00050	-	0.0445	0.0138
Mercury (Hg)-Dissolved	mg/L	0.0000050	-	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved	mg/L	0.000050	-	0.00185	0.00204
Nickel (Ni)-Dissolved	mg/L	0.00050	-	0.00106	0.00114
Phosphorus (P)-Dissolved	mg/L	0.050	-	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	0.050	-	2.84	2.44
Rubidium (Rb)-Dissolved	mg/L	0.00020	-	0.00269	0.00304
Selenium (Se)-Dissolved	mg/L	0.000050	-	0.000091	0.000131
Silicon (Si)-Dissolved	mg/L	0.050	-	0.632	0.663
Silver (Ag)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050
Sodium (Na)-Dissolved	mg/L	0.050	-	1.47	1.10
Strontium (Sr)-Dissolved	mg/L	0.0010	-	0.0591	0.0180
Sulfur (S)-Dissolved	mg/L	0.50	-	3.34	2.69
Tellurium (Te)-Dissolved	mg/L	0.00020	-	<0.00020	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010
Thorium (Th)-Dissolved	mg/L	0.00010	-	0.00017	<0.00010
Tin (Sn)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Titanium (Ti)-Dissolved	mg/L	0.00030	-	0.00323	0.00118
Tungsten (W)-Dissolved	mg/L	0.00010	-	0.00031	0.00010
Uranium (U)-Dissolved	mg/L	0.000010	-	0.00319	0.00186
Vanadium (V)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.0010	-	0.0010	0.0024
Zirconium (Zr)-Dissolved	mg/L	0.0002	-	0.00046	0.00029
Oil and Grease	mg/L	5.0	-	14.5	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Toxicity	-	-	Not Acutely Toxic	Not Actuely Toxic	Not Actuely Toxic

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

Baffinland

ACUTE TOXICITY TESTING RESULTS - LDFG-OUT

Analyte	Sample Location			LDFG-OUT
	Sample Identification			LDFG-OUT_2021-05-10_1400
	ALS Laboratory Sample ID			L2587332-1
	Sample Date & Time			2021-05-10 14:00
	QA/QC Sample Type			N/A
	Units	LOR	Limits	
Hardness (as CaCO3)	mg/L	0.50	-	20.1
pH	pH units	0.10	6-9.5	7.41
Total Suspended Solids	mg/L	3.0	30	15.1
Total Dissolved Solids	mg/L	13	-	37
Turbidity	NTU	0.10	-	91.2
Alkalinity, Total (as CaCO3)	mg/L	10	-	18
Ammonia, Total (as N)	mg/L	0.010	-	0.031
Chloride (Cl)	mg/L	0.50	-	1.55
Fluoride (F)	mg/L	0.020	-	<0.020
Nitrate (as N)	mg/L	0.020	-	0.340
Total Kjeldahl Nitrogen	mg/L	0.050	-	0.50
Phosphorus, Total	mg/L	0.0030	-	0.0231
Sulfate (SO4)	mg/L	0.30	-	2.48
Dissolved Organic Carbon	mg/L	0.50	-	3.44
Total Organic Carbon	mg/L	2.5	-	6.8
Aluminum (Al)-Total	mg/L	0.0050	-	1.18
Antimony (Sb)-Total	mg/L	0.00010	-	<0.0010
Arsenic (As)-Total	mg/L	0.00010	-	<0.0010
Barium (Ba)-Total	mg/L	0.00010	-	0.0086
Beryllium (Be)-Total	mg/L	0.00010	-	<0.0010
Bismuth (Bi)-Total	mg/L	0.000050	-	<0.00050
Boron (B)-Total	mg/L	0.010	-	<0.10
Cadmium (Cd)-Total	mg/L	0.0000050	-	<0.000050
Calcium (Ca)-Total	mg/L	0.050	-	4.20
Cesium (Cs)-Total	mg/L	0.000010	-	0.00012
Chromium (Cr)-Total	mg/L	0.00050	-	<0.0050
Cobalt (Co)-Total	mg/L	0.00010	-	0.0014
Copper (Cu)-Total	mg/L	0.00050	-	<0.0050
Iron (Fe)-Total	mg/L	0.010	-	1.83
Lead (Pb)-Total	mg/L	0.000050	-	0.00139
Lithium (Li)-Total	mg/L	0.0010	-	<0.010
Magnesium (Mg)-Total	mg/L	0.0050	-	3.25
Manganese (Mn)-Total	mg/L	0.00050	-	0.0410
Mercury (Hg)-Total	mg/L	0.0000050	-	<0.0000050
Molybdenum (Mo)-Total	mg/L	0.000050	-	<0.00050
Nickel (Ni)-Total	mg/L	0.00050	-	<0.0050
Phosphorus (P)-Total	mg/L	0.050	-	<0.50
Potassium (K)-Total	mg/L	0.050	-	2.14
Rubidium (Rb)-Total	mg/L	0.00020	-	0.0046
Selenium (Se)-Total	mg/L	0.000050	-	<0.00050
Silicon (Si)-Total	mg/L	0.10	-	2.4
Silver (Ag)-Total	mg/L	0.000050	-	<0.00050
Sodium (Na)-Total	mg/L	0.050	-	1.39
Strontium (Sr)-Total	mg/L	0.0010	-	<0.010
Sulfur (S)-Total	mg/L	0.50	-	<5.0
Tellurium (Te)-Total	mg/L	0.00020	-	<0.0020
Thallium (Tl)-Total	mg/L	0.000010	-	<0.00010
Thorium (Th)-Total	mg/L	0.00010	-	<0.0010
Tin (Sn)-Total	mg/L	0.00010	-	<0.0010
Titanium (Ti)-Total	mg/L	0.00030	-	0.0371
Tungsten (W)-Total	mg/L	0.00010	-	<0.0010
Uranium (U)-Total	mg/L	0.000010	-	0.00061
Vanadium (V)-Total	mg/L	0.00050	-	<0.0050
Zinc (Zn)-Total	mg/L	0.0030	-	<0.030
Zirconium (Zr)-Total	mg/L	0.00020	-	<0.0020
Aluminum (Al)-Dissolved	mg/L	0.0050	-	0.0349
Antimony (Sb)-Dissolved	mg/L	0.00010	-	<0.00010
Arsenic (As)-Dissolved	mg/L	0.00010	-	<0.00010
Barium (Ba)-Dissolved	mg/L	0.00010	-	0.00218
Beryllium (Be)-Dissolved	mg/L	0.00010	-	<0.00010
Bismuth (Bi)-Dissolved	mg/L	0.000050	-	<0.000050
Boron (B)-Dissolved	mg/L	0.010	-	<0.010
Cadmium (Cd)-Dissolved	mg/L	0.0000050	-	0.0000057
Calcium (Ca)-Dissolved	mg/L	0.050	-	3.75
Cesium (Cs)-Dissolved	mg/L	0.000010	-	<0.000010
Chromium (Cr)-Dissolved	mg/L	0.00050	-	<0.00050
Cobalt (Co)-Dissolved	mg/L	0.00010	-	0.00018
Copper (Cu)-Dissolved	mg/L	0.00020	-	0.00085
Iron (Fe)-Dissolved	mg/L	0.010	-	0.051
Lead (Pb)-Dissolved	mg/L	0.000050	-	0.000082
Lithium (Li)-Dissolved	mg/L	0.0010	-	0.0027
Magnesium (Mg)-Dissolved	mg/L	0.0050	-	2.61
Manganese (Mn)-Dissolved	mg/L	0.00050	-	0.0134
Mercury (Hg)-Dissolved	mg/L	0.0000050	-	<0.0000050
Molybdenum (Mo)-Dissolved	mg/L	0.000050	-	0.000529
Nickel (Ni)-Dissolved	mg/L	0.00050	-	0.00059
Phosphorus (P)-Dissolved	mg/L	0.050	-	<0.050
Potassium (K)-Dissolved	mg/L	0.050	-	1.57
Rubidium (Rb)-Dissolved	mg/L	0.00020	-	0.00183
Selenium (Se)-Dissolved	mg/L	0.000050	-	<0.000050
Silicon (Si)-Dissolved	mg/L	0.050	-	0.447
Silver (Ag)-Dissolved	mg/L	0.000050	-	<0.000050
Sodium (Na)-Dissolved	mg/L	0.050	-	1.22
Strontium (Sr)-Dissolved	mg/L	0.0010	-	0.0036
Sulfur (S)-Dissolved	mg/L	0.50	-	0.89
Tellurium (Te)-Dissolved	mg/L	0.00020	-	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.000010	-	<0.000010
Thorium (Th)-Dissolved	mg/L	0.00010	-	<0.00010
Tin (Sn)-Dissolved	mg/L	0.00010	-	<0.00010
Titanium (Ti)-Dissolved	mg/L	0.00030	-	0.00102
Tungsten (W)-Dissolved	mg/L	0.00010	-	<0.00010
Uranium (U)-Dissolved	mg/L	0.000010	-	0.000188
Vanadium (V)-Dissolved	mg/L	0.00050	-	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.0010	-	<0.0010
Zirconium (Zr)-Dissolved	mg/L	0.0002	-	<0.00020
Oil and Grease	mg/L	5.0	-	<5.0
	-	-	No Visible Sheen	No Visible Sheen
Acute Toxicity	-	-	Not Acutely Toxic	Not Acutely Toxic

Notes:

Bold highlighted cells indicate results that exceeded the applicable water quality criteria.

APPENDIX A.2 – NT-NU SPILL REPORT 21-247 – TOTE ROAD WATER CROSSINGS

July 15, 2021

Resource Management Officer
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0
Jonathan.Mesher@canada.ca

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

Enforcement Officer
Environment and Climate Change Canada
933 Mivvik Street
Iqaluit, NU X0A 0H0

Re: Follow-up to Spill #2021-247
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

Between May 26 and June 9, warming temperatures resulted in snowmelt runoff containing sediment-laden water to watercourses along the Tote Road at six (6) downstream culvert crossings monitored under the Tote Road Monitoring Program (TRMP). External laboratory results for surface water samples collected at these six (6) downstream culvert crossings indicated potential Project related change to water quality, which is defined as a greater than 50 mg/L increase in Total Suspended Solid (TSS) concentrations in the downstream sample when upstream TSS concentrations are less than 250 mg/L. Photos of the culvert crossings, and a map showing the locations are provided in Attachment 1 and Attachment 2, respectively. The sediment-laden water at CV-154-A, CV-115, CV-112 and CV-001 on May 26 and June 1 was reported to the NT-NU Spill Reporting Line on June 15, 2021 following receipt of the external laboratory results. The NT-NU Spill Report (#2021-247) is attached as Attachment 3. Details of the culvert crossing locations where potential Project related change was identified and the associated TSS concentrations are summarized in the following table:

Date	Sample Location (Culvert ID)	Location (UTM; NAD83 Zone 17W)		Upstream (US) TSS Concentration (mg/L)	Downstream (DS) TSS Concentration (mg/L)	Difference Between the DS and US TSS Concentration (mg/L)
		Easting	Northing			
May 26, 2021	CV-001	553544	7914897	29.1	169	139.9
June 1, 2021	CV-154-A	507629	7970074	74.7	455	380.3
June 1 , 2021	CV-112	521033	7954935	230	807	577
June 1, 2021	CV-115	519222	7958135	5.5	114	108.5
June 8, 2021	BG-24	548766	7918878	9.4	60.2	50.8

June 9, 2021	CV-093	523101	7944904	48.9	133	84.1

The source of the sedimentation was snowmelt from snow pack along the Tote Road adjacent to the culvert crossings. The event resulted in sediment-laden water flowing into watercourses along the Tote Road within the Mary River, Phillips Creek and Ravn River watersheds. Attachment 4 outlines the water quality results from monitoring conducted at the six (6) watercourse crossings between May 26 and July 5.

The sampling events that had downstream TSS concentrations above the screening criteria occurred during the May 26 to June 9 period when freshet conditions resulted in elevated sediment loading into the affected watercourses over a short period of time. Following this period, results for subsequent sampling events demonstrated that there were no Project related changes to water quality as a result of the operation of the Tote Road.

Immediate and Follow-Up Action:

Upon discovery of the elevated instream TSS conditions at these downstream culvert crossing locations, field investigations of the affected culvert crossings were completed. Erosion and sediment control measures were subsequently implemented where possible. Culverts CV-115 and CV-093 have had riprap placed at the inlet and outlet culvert embankments in accordance with the Surface Water Aquatic Effects Management Plan to slow runoff water flow and settle sediments prior to the water entering the streams. Road maintenance will complete the armoring with riprap of the remaining culvert embankments as soon as resources become available.

In preparation for freshet 2021, permanent erosion and sediment control measures were implemented during 2020 including a culvert replacement at KM 58 to improve water flow, and the construction of turbidity check dams at KM 33 to reduce runoff water flow and sediment transport.

Prior to the start of freshet 2021, excess snow along the Tote Road was removed and relocated to approved snow stockpile locations, to reduce the amount of surface water runoff from snowmelt. Additional excess snow around the inlets and outlets of select culvert locations was removed to further reduce the volume of snowmelt and subsequent amount of overland flow present to mobilize sediment. Steam was applied to culverts as necessary to remove ice and snow blockages to ensure the effective movement of water during freshet conditions.

Current Status:

Conditions at Tote Road culvert crossings CV-001, CV-154-A, CV-112, CV-115, BG-24 and CV-093, as well as other Tote Road culvert crossing locations, are currently being sampled and assessed as per the TRMP. TRMP monitoring is ongoing, beginning with the annual start of flow and continuing until the freeze-up of flows in September. In accordance with the TRMP, water quality monitoring at TRMP culvert crossings is conducted weekly for the duration of the freshet season and is reduced to a monthly frequency effective July 16 until the freeze-up of flows. Where appropriate, permanent corrective actions to stabilize roadway embankments and disturbed ground in the vicinity of CV-115 and CV-093 affected culvert crossings have been identified and completed. Road maintenance will complete permanent corrective actions at the remaining identified culverts and embankments as soon as resources become available. The permanent corrective actions implemented to address the sediment releases at the affected watercourse crossings will be summarized in the 2021 QIA and

NWB Annual Report for Operations. Routine maintenance of ESC measures will be performed as necessary to ensure their effective operation.

Should you require further information or clarification on the incident described above, please feel free to contact Connor Devereaux or Kendra Button (647) 253-0596 (ext. 6016).

Prepared by:

Kendra Button
Environmental Superintendent

Reviewed by:

Shawn Stevens
Manager of Health, Safety, Environment and Security

Cc: Justin Hack (CIRNAC)
Hugh Karpik (QIA)
Robert Arsenault (ECCC)
Sylvain Proulx, Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Christopher Murray, Allison Parker, Connor Devereaux (Baffinland)

Attachments

Attachment 1: Photos
Attachment 2: TRMP Culvert Crossing Monitoring Locations
Attachment 3: Baffinland NT-NU Spill Report #2021-247
Attachment 4: Surface Water Quality Results

Attachment 1

Photos

2275 Upper Middle Road East, Suite 300 | Oakville, ON, Canada L6H 0C3
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CV-001 Culvert Crossing

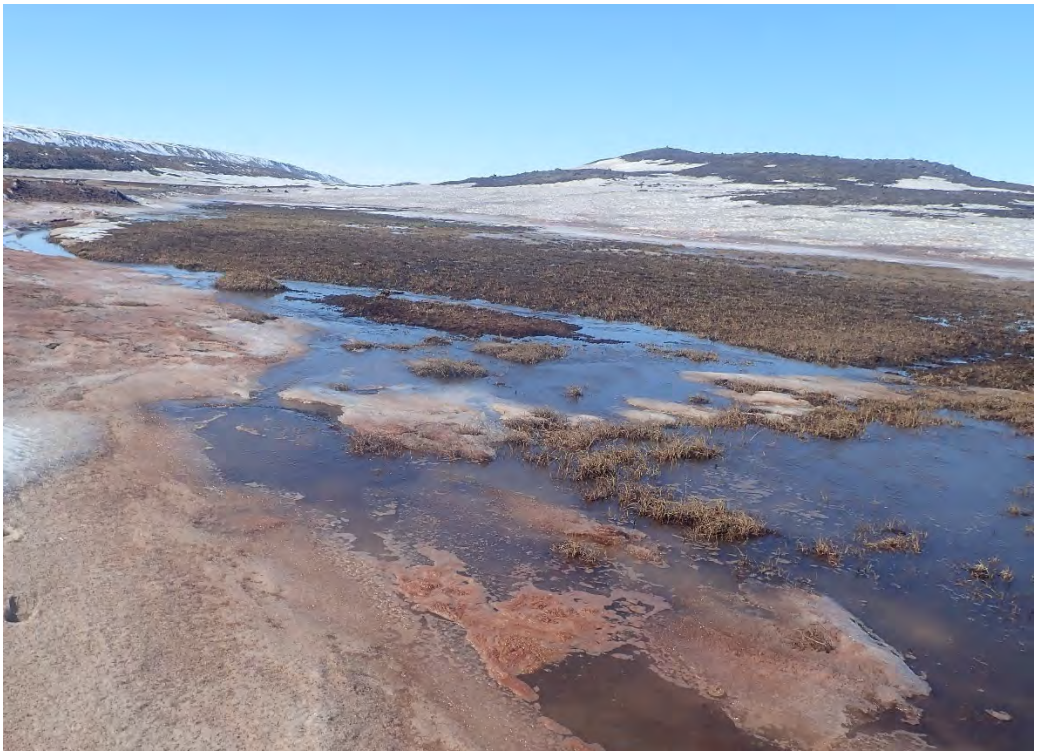

Photo 1. CV-001 Culvert Crossing Upstream on May 26, 2021

Photo 2. CV-001 Culvert Crossing Downstream on May 26, 2021

Photo 3. CV-001 Culvert Crossing Downstream on May 31, 2021

Photo 4. CV-001 Culvert Crossing Downstream on June 8, 2021

CV-154-A Culvert Crossing

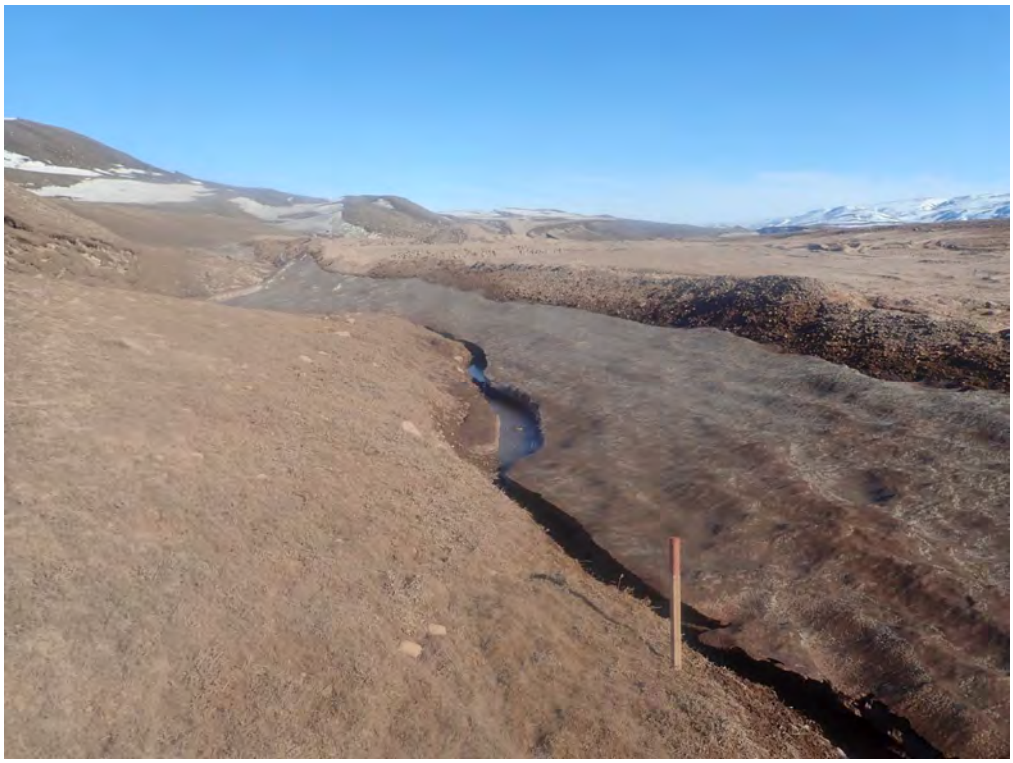

Photo 1. CV-154-A Culvert Crossing Upstream on June 1, 2021

Photo 2. CV-154-A Culvert Crossing Downstream on June 1, 2021

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Photo 3. CV-154-A Culvert Crossing Downstream on June 10, 2021

Photo 4. CV-154-A Culvert Crossing Downstream on July 11, 2021

CV-112 Culvert Crossing

Photo 1. CV-112 Culvert Crossing Upstream on June 1, 2021

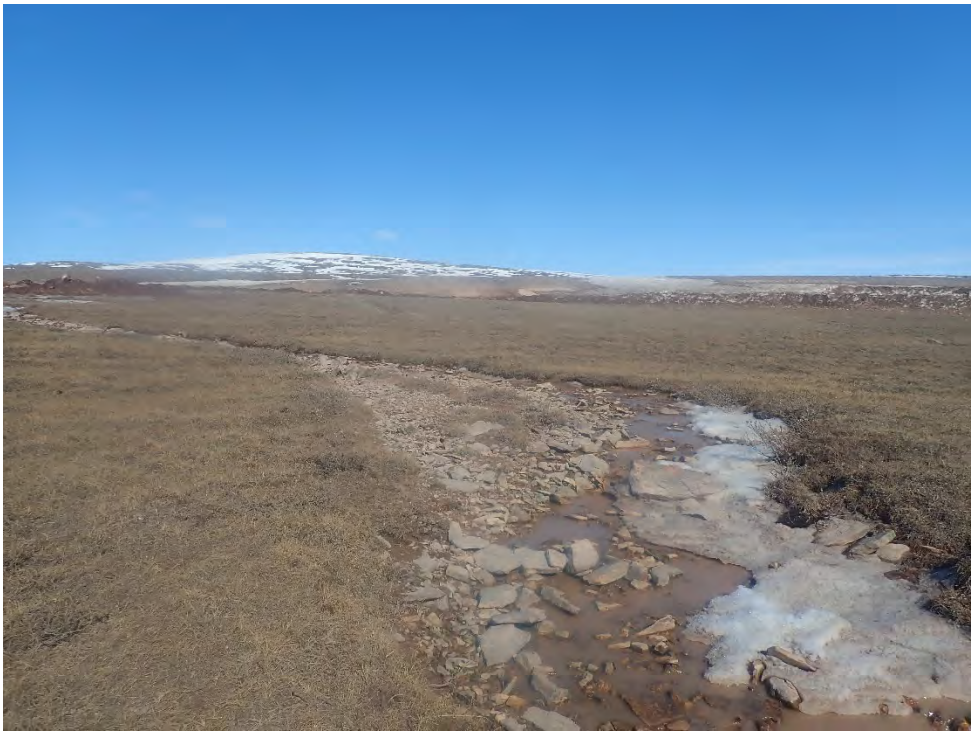

Photo 2. CV-112 Culvert Crossing Downstream on June 1, 2021

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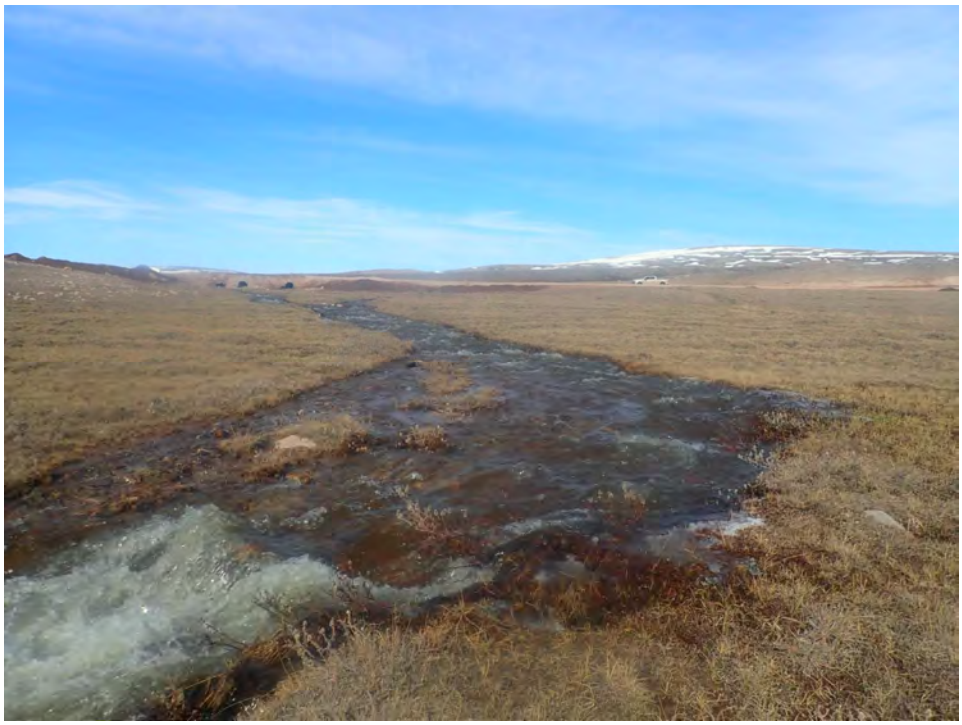

Photo 3. CV-112 Culvert Crossing Downstream on June 9, 2021

Photo 4. CV-112 Culvert Crossing Downstream on July 11, 2021

CV-115 Culvert Crossing

Photo 1. CV-115 Culvert Crossing Upstream on June 1, 2021

Photo 2. CV-115 Culvert Crossing Downstream on June 1, 2021

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Photo 3. CV-115 Culvert Crossing Downstream on June 9, 2021

Photo 4. CV-115 Culvert Crossing Upstream July 9 2021

Photo 5. CV-115 Culvert Crossing Downstream July 9 2021

Photo 6. CV-115 Culvert Crossing Downstream July 11 2021

BG-24 Culvert Crossing

Photo 1. BG-24 Culvert Crossing Upstream on June 8, 2021

Photo 2. BG-24 Culvert Crossing Downstream on June 8, 2021

Photo 3. BG-24 Culvert Crossing Downstream on June 13, 2021

Photo 4. BG-24 Culvert Crossing Downstream on July 05, 2021

CV-093 Culvert Crossing

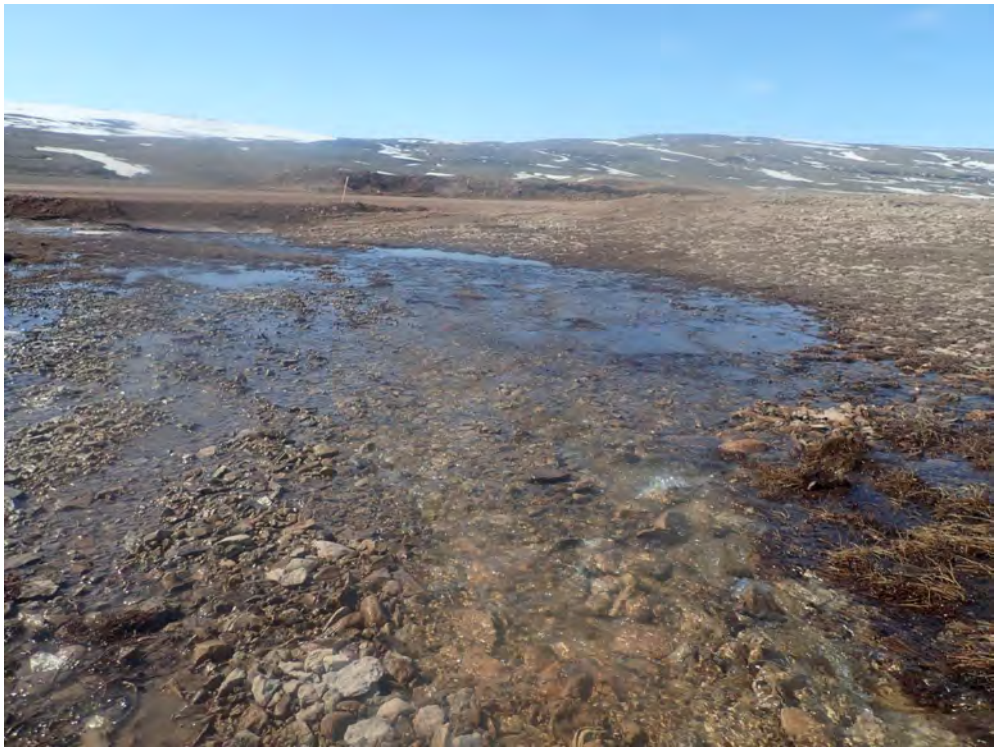

Photo 1. CV-093 Culvert Crossing Upstream on June 9, 2021

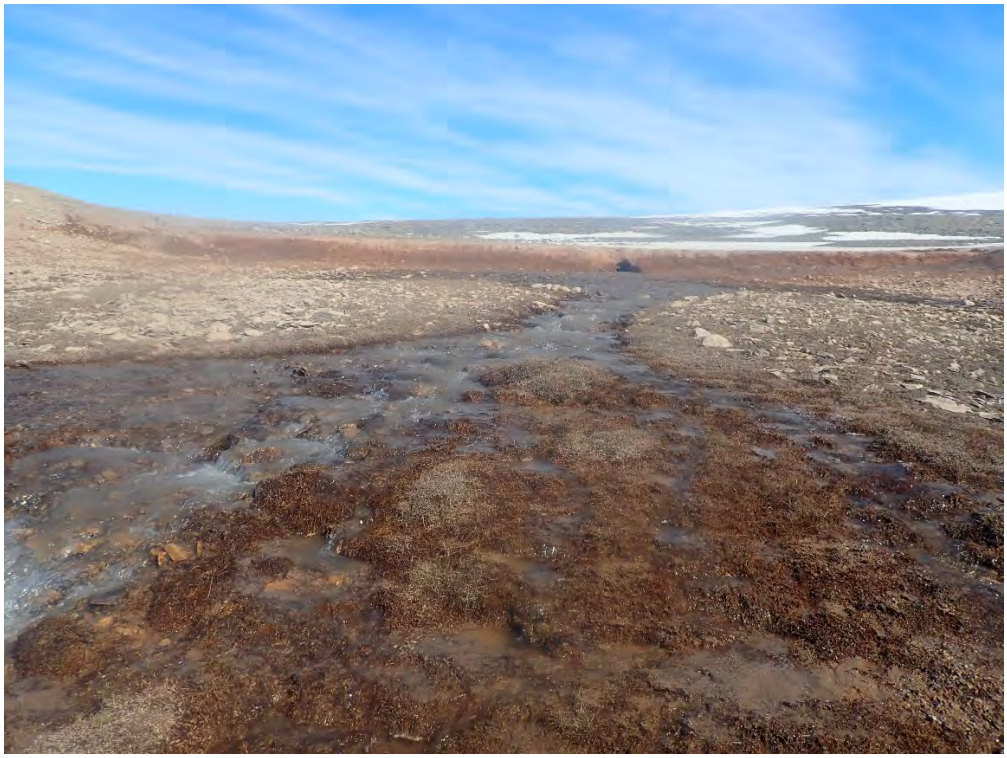

Photo 2. CV-093 Downstream Culvert Crossing on June 9, 2021

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Photo 3. CV-093 Culvert Crossing Downstream on June 14, 2021

Photo 4. CV-093 Culvert Crossing Upstream July 13 2021

Photo 5. CV-093 Culvert Crossing Downstream July 13 2021

Attachment 2

TRMP Culvert Crossing Monitoring Locations

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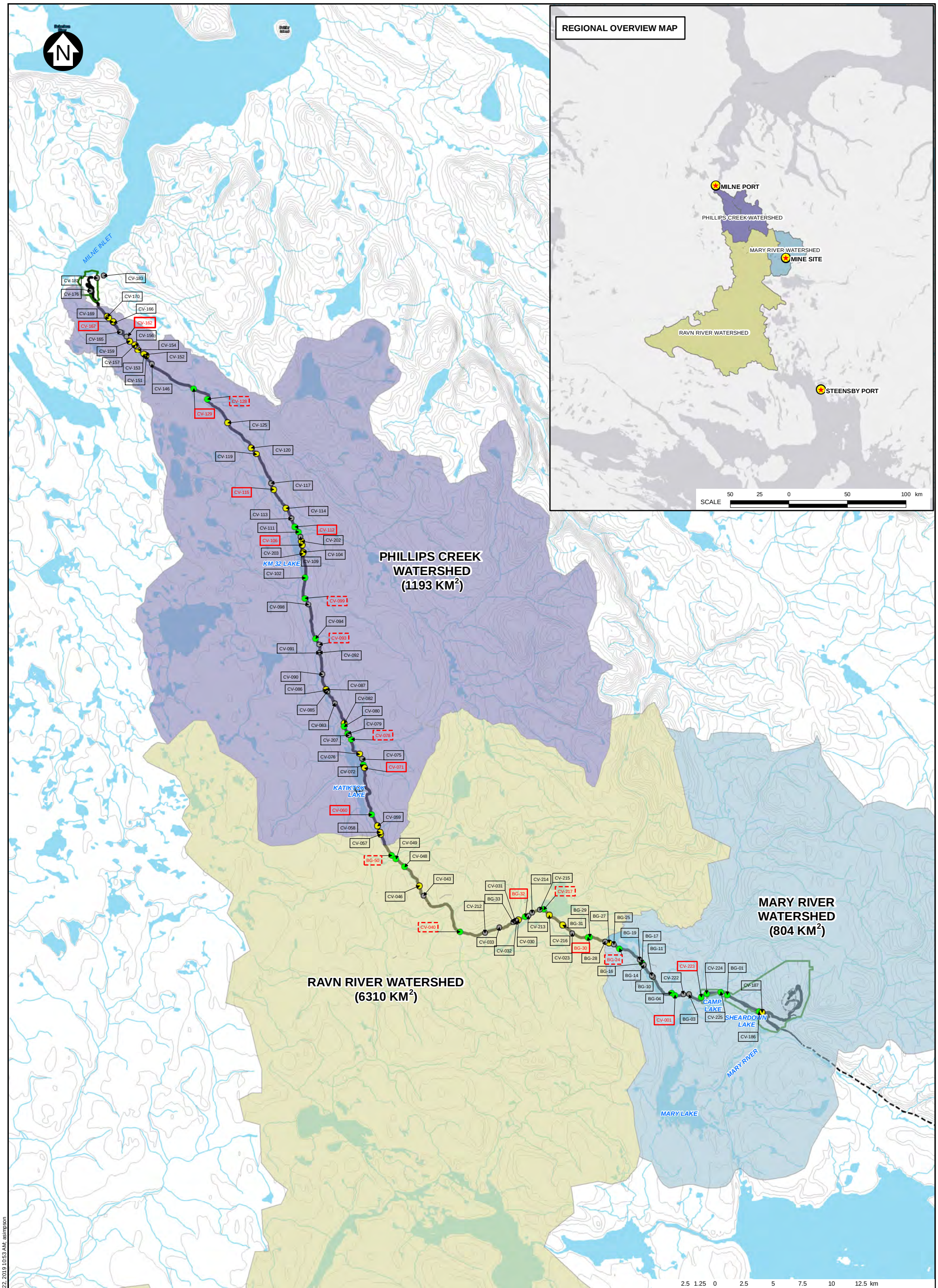

LEGEND:

- WATER
- MILNE INLET TOTE ROAD
- POTENTIAL DEVELOPMENT AREA
- WATER CROSSING MONITORED BY TOTE ROAD MONITORING PROGRAM
- HADD FISH BEARING WATER CROSSING MONITORED BY TOTE ROAD MONITORING PROGRAM

FISH BEARING STATUS

- NO
- MARGINAL
- IMPORTANT

NOTES:

1. COORDINATE GRID IS IN METRES. COORDINATE SYSTEM: UTM NAD83 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.

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	22MAR19	ISSUED WITH TRANSMITTAL	AV	AS	AV

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

TOTE ROAD MONITORING PROGRAM

Baffinland

P/A NO. NB102-181/54

REF NO. NB19-00240

FIGURE D-1

REV 0

SAVED: I:\1\02\00181\54\A\GIS\Figs\B07 R0.mxd: Mar 22, 2019 10:53 AM: asimpson

Attachment 3

Baffinland NT-NU Spill Report #2021-247

2275 Upper Middle Road East, Suite 300 | Oakville, ON, Canada L6H 0C3
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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 **06-15-2021**	REPORT TIME **19:00 HRS**	[X] ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER **21 - 247**
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 [X] 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	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 areas, high flows**	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 the Tote Road Monitoring Program, water crossings CV-154-A, CV-115, CV-112 and CV-001 monitored during Freshet were identified from lab results to be above the applicable criteria for Total Suspended Sediments (TSS) downstream of the crossing, as outlined in the Roads Management Plan. The sediment appeared to be generated by the melting snow pack adjacent to the road. In accordance with the Surface Water Aquatic Effects Management Plan erosion and sediment control measures were implemented and are planned where possible based on safe access, snow, ice cover and frozen ground. The Tote Road Monitoring Program is ongoing, including follow-up sampling. 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(5) of the Fisheries Act.

L	REPORTED TO SPILL LINE BY **Kendra Button**	POSITION **Env Superintendent**	EMPLOYER **Baffinland**	LOCATION CALLING FROM **647.253.0596**	TELEPHONE **Ext 6255**
M	ANY ALTERNATE CONTACT **Shawn Stevens**	POSITION **Manager of HSEST**	EMPLOYER **Baffinland**	ALTERNATE CONTACT LOCATION **647.253.0596**	ALTERNATE TELEPHONE **Ext 6006**

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 ☐ 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			

Attachment 4

Water Quality Results

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Surface Water Quality Results CV-154

Analyte	Sample ID				CV-154-A-DS_2021-06-01_1745	CV-154-A-US_2021-06-01_1755	CV-154-A-DS_2021-06-10_1005	CV-154-A-US_2021-06-10_1015
	ALS Laboratory Sample ID				L2597794-10	L2597794-11	L2602352-31	L2602352-32
	Sample Date & Time				2021-06-01 17:45	2021-06-01 17:55	2021-06-10 10:05	2021-06-10 10:15
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	8.19	8.00	7.89	7.76
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	**455**	74.7	16.3	6.4
Total Dissolved Solids	mg/L	10	-	-	138	121	66	79
Turbidity	NTU	0.1	-	-	186	50.5	6.10	4.14

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

Baffinland

Surface Water Quality Results CV-154

Analyte	Sample ID				CV-154-A-US01_2021-06-10_1015	CV-154-A-DS_2021-06-15_1450	CV-154-A-US_2021-06-15_1455	CV-154-A-DS_2021-06-21_1605
	ALS Laboratory Sample ID				L2602352-33	L2603802-23	L2603802-24	L2605811-39
	Sample Date & Time				2021-06-10 10:15	2021-06-15 14:50	2021-06-15 14:55	2021-06-21 16:05
	QA/QC Sample Type				Field Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	7.86	8.07	8.06	7.99
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	6.6	7.0	5.4	3.7
Total Dissolved Solids	mg/L	10	-	-	73	74	69	83
Turbidity	NTU	0.1	-	-	4.80	7.11	5.43	4.51

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

Baffinland

Surface Water Quality Results CV-154

Analyte	Sample ID				CV-154-A-US_2021-06-21_1615
	ALS Laboratory Sample ID				L2605811-40
	Sample Date & Time				2021-06-21 16:15
	QA/QC Sample Type				N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria	
pH	pH units	0.1	6.0 - 9.5	-	8.09
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	3.9
Total Dissolved Solids	mg/L	10	-	-	80
Turbidity	NTU	0.1	-	-	4.75

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

Surface Water Quality Results CV-154

Analyte	Sample ID				CV-154-A-DS_2021-06-28_1320	CV-154-A-US_2021-06-28_1340	CV-154-A-DS_2021-07-04_0735	CV-154-A-US_2021-07-04_0745
	ALS Laboratory Sample ID				L2608262-41	L2608262-42	L2610075-3	L2610075-4
	Sample Date & Time				2021-06-28 13:20	2021-06-28 13:40	2021-07-04 7:35	2021-07-04 7:45
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	8.11	8.14	8.12	8.13
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	17.2	16.7	2.8	6.0
Total Dissolved Solids	mg/L	10	-	-	97	97	161	135
Turbidity	NTU	0.1	-	-	21.0	23.1	8.47	18.6

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

Baffinland

Surface Water Quality Results CV-112

Analyte	Sample ID				CV-112-DS_2021-06-01_1605	CV-112-US_2021-06-01_1620	CV-112-DS_2021-06-09_1620	CV-112-US_2021-06-09_1630
	ALS Laboratory Sample ID				L2597794-6	L2597794-7	L2602352-21	L2602352-22
	Sample Date & Time				2021-06-01 16:05	2021-06-01 16:20	2021-06-09 16:20	2021-06-09 16:30
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	8.38	8.16	7.75	7.75
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	**807**	230	33.0	6.3
Total Dissolved Solids	mg/L	10	-	-	230	108	66	66
Turbidity	NTU	0.1	-	-	954	104	2.40	1.50

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.
Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

Baffinland

Surface Water Quality Results CV-112

Analyte	Sample ID				CV-112-DS_2021-06-15_1100	CV-112-US_2021-06-15_1105	CV-112-DS_2021-06-21_1350	CV-112-US_2021-06-21_1400
	ALS Laboratory Sample ID				L2603802-17	L2603802-18	L2605811-33	L2605811-34
	Sample Date & Time				2021-06-15 11:00	2021-06-15 11:05	2021-06-21 13:50	2021-06-21 14:00
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	7.99	7.98	8.09	8.10
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	2.6	1.1	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	57	67	74	75
Turbidity	NTU	0.1	-	-	1.79	1.21	0.82	0.58

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.
Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

Surface Water Quality Results CV-112

Analyte	Sample ID				CV-112-DS_2021-06-28_1050	CV-112-US_2021-06-28_1100	CV-112-DS_2021-07-04_0930	CV-112-US_2021-07-04_0940
	ALS Laboratory Sample ID				L2608262-33	L2608262-34	L2610075-11	L2610075-12
	Sample Date & Time				2021-06-28 10:50	2021-06-28 11:00	2021-07-04 9:30	2021-07-04 9:40
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	8.09	8.15	8.23	8.26
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	<2.0	<2.0	<1.0	<1.0
Total Dissolved Solids	mg/L	10	-	-	105	104	121	116
Turbidity	NTU	0.1	-	-	0.33	0.25	0.65	0.14

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.
Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results CV-115

Analyte	Sample ID				CV-115-DS_2021-05-26_0915	CV-115-DS01_2021-05-26_0915	CV-115-US_2021-05-26_0930	CV-115-DS_2021-06-01_1640
	ALS Laboratory Sample ID				L2594754-1	L2594754-2	L2594754-3	L2597794-8
	Sample Date & Time				2021-05-26 9:15	2021-05-26 9:15	2021-05-26 9:30	2021-06-01 16:40
	QA/QC Sample Type				N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	8.02	8.03	7.95	8.15
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	21.7	22.9	3.6	**114**
Total Dissolved Solids	mg/L	10	-	-	174	168	143	173
Turbidity	NTU	0.1	-	-	30.8	31.3	12.6	125

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

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Surface Water Quality Results CV-115

Analyte	Sample ID				CV-115-US_2021-06-01_1650	CV-115-DS_2021-06-09_1645	CV-115-US_2021-06-09_1650	CV-115-DS_2021-06-15_1125
	ALS Laboratory Sample ID				L2597794-9	L2602352-23	L2602352-24	L2603802-19
	Sample Date & Time				2021-06-01 16:50	2021-06-09 16:45	2021-06-09 16:50	2021-06-15 11:25
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	8.25	7.92	7.83	8.29
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	5.5	9.6	7.1	2.2
Total Dissolved Solids	mg/L	10	-	-	171	70	87	140
Turbidity	NTU	0.1	-	-	4.10	2.27	1.19	4.74

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

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Surface Water Quality Results CV-115

Analyte	Sample ID				CV-115-US_2021-06-15_1140	CV-115-DS_2021-06-28_1120	CV-115-US_2021-06-28_1130
	ALS Laboratory Sample ID				L2603802-20	L2608262-35	L2608262-36
	Sample Date & Time				2021-06-15 11:00	2021-06-28 11:20	2021-06-28 11:30
	QA/QC Sample Type				N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria			
pH	pH units	0.1	6.0 - 9.5	-	8.18	8.26	8.11
Total Suspended Solids	mg/L	1.0/2.0	30	See note [1]	<1.0	4.6	<2.0
Total Dissolved Solids	mg/L	10	-	-	112	172	170
Turbidity	NTU	0.1	-	-	0.39	8.56	1.00

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

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Surface Water Quality Results CV-093

Analyte	Sample ID				CV-093-DS_2021-06-09_1325	CV-093-US_2021-06-09_1340	CV-093-DS_2021-06-21_1130	CV-093-US_2021-06-21_1140
	ALS Laboratory Sample ID				L2602352-14	L2602352-15	L2605811-27	L2605811-28
	Sample Date & Time				2021-06-09 13:35	2021-06-09 13:40	2021-06-09 11:30	2021-06-09 11:30
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	8.21	8.14	8.17	8.13
Total Suspended Solids	mg/L	2	30	See note [1]	**133**	48.9	2.9	8.9
Total Dissolved Solids	mg/L	10	-	-	86	97	102	93
Turbidity	NTU	0.1	-	-	28.5	1.61	3.39	10.0

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results CV-093

Analyte	Sample ID				CV-093-DS_2021-06-28_0920	CV-093-US_2021-06-28_0930
	ALS Laboratory Sample ID				L2608262-27	L2608262-28
	Sample Date & Time				2021-06-28 9:20	2021-06-28 9:30
	QA/QC Sample Type				N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria		
pH	pH units	0.1	6.0 - 9.5	-	8.17	8.14
Total Suspended Solids	mg/L	2	30	See note [1]	5.4	<2.0
Total Dissolved Solids	mg/L	10	-	-	122	125
Turbidity	NTU	0.1	-	-	0.74	0.24

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results BG-24

Analyte	Sample ID				BG-24-DS_2021-06-08_1405	BG-24-US_2021-06-08_1420	BG-24-US01_2021-06-08_1420	BG-24-DS_2021-06-20_1230
	ALS Laboratory Sample ID				L2602352-5	L2602352-6	L2602352-7	L2605811-5
	Sample Date & Time				2021-06-08 14:05	2021-06-08 14:20	2021-06-08 14:20	2021-06-20 12:30
	QA/QC Sample Type				N/A	N/A	Field Duplicate	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	7.64	7.57	7.56	7.90
Total Suspended Solids	mg/L	2	30	See note [1]	**60.2**	9.4	8.7	<2.0
Total Dissolved Solids	mg/L	10	-	-	77	43	50	65
Turbidity	NTU	0.1	-	-	11.4	21.4	1.93	0.89

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results BG-24

Analyte	Sample ID				BG-24-US_2021-06-20_1240	BG-24-DS_2021-06-27_1130	BG-24-US_2021-06-27_1140	BG-24-DS_2021-07-05_1050
	ALS Laboratory Sample ID				L2605811-6	L2608262-6	L2608262-7	L2610075-35
	Sample Date & Time				2021-06-20 12:40	2021-06-27 11:30	2021-06-27 11:40	2021-07-05 10:50
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	7.89	7.98	7.97	8.14
Total Suspended Solids	mg/L	2	30	See note [1]	<2.0	<2.0	<2.0	<1.0
Total Dissolved Solids	mg/L	10	-	-	64	87	81	96
Turbidity	NTU	0.1	-	-	0.55	0.53	0.47	0.59

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results BG-24

Analyte	Sample ID				BG-24-US_2021-07-05_1100
	ALS Laboratory Sample ID				L2610075-36
	Sample Date & Time				2021-07-05 11:00
	QA/QC Sample Type				N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria	
pH	pH units	0.1	6.0 - 9.5	-	8.14
Total Suspended Solids	mg/L	2	30	See note [1]	<1.0
Total Dissolved Solids	mg/L	10	-	-	96
Turbidity	NTU	0.1	-	-	0.51

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results CV-001

Analyte	Sample ID				CV-001-DS_2021-05-26_1430	CV-001-US_2021-05-26_1440	CV-001-DS_2021-05-31_1135	CV-001-US_2021-05-31_1140
	ALS Laboratory Sample ID				L2594754-4	L2594754-5	L2597794-4	L2597794-5
	Sample Date & Time				2021-05-26 14:30	2021-05-26 14:40	2021-05-31 11:35	2021-05-31 11:40
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	7.46	7.32	7.18	7.09
Total Suspended Solids	mg/L	2	30	See note [1]	**169**	29.1	4.5	2.7
Total Dissolved Solids	mg/L	10	-	-	60	63	45	50
Turbidity	NTU	0.1	-	-	169	39.9	7.20	6.15

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results CV-001

Analyte	Sample ID				CV-001-DS_2021-06-08_1330	CV-001-US_2021-06-08_1335	CV-001-DS_2021-06-13_1130	CV-001-US_2021-06-13_1135
	ALS Laboratory Sample ID				L2602352-3	L2602352-4	L2603802-3	L2603802-4
	Sample Date & Time				2021-06-08 13:30	2021-06-08 13:35	2021-06-13 11:30	2021-06-13 11:35
	QA/QC Sample Type				N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	7.47	7.36	7.77	7.79
Total Suspended Solids	mg/L	2	30	See note [1]	11.8	5.1	1.9	<1.0
Total Dissolved Solids	mg/L	10	-	-	39	33	40	43
Turbidity	NTU	0.1	-	-	5.57	2.84	1.51	1.36

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results CV-001

Analyte	Sample ID				CV-001-DS_2021-06-20_1140	CV-001-US_2021-06-20_1145	CV-001-DS_2021-06-27_1055	CV-001-DS02_2021-06-27_1055
	ALS Laboratory Sample ID				L2605811-3	L2605811-4	L2608262-3	L2608262-4
	Sample Date & Time				2021-06-20 11:40	2021-06-20 11:45	2021-06-27 10:55	2021-06-27 10:55
	QA/QC Sample Type				N/A	N/A	N/A	Field Blank
	Units	LOR	Water Licence Criteria[1]	Screening Criteria				
pH	pH units	0.1	6.0 - 9.5	-	7.65	7.72	7.61	5.75
Total Suspended Solids	mg/L	2	30	See note [1]	1.8	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	56	58	92	25
Turbidity	NTU	0.1	-	-	1.76	1.76	1.84	<0.10

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results CV-001

Analyte	Sample ID				CV-001-US_2021-06-27_1105
	ALS Laboratory Sample ID				L2608262-5
	Sample Date & Time				2021-06-27 11:05
	QA/QC Sample Type				N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria	
pH	pH units	0.1	6.0 - 9.5	-	7.71
Total Suspended Solids	mg/L	2	30	See note [1]	<2.0
Total Dissolved Solids	mg/L	10	-	-	90
Turbidity	NTU	0.1	-	-	1.48

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

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Surface Water Quality Results CV-001

Analyte	Sample ID				CV-001-DS_2021-07-05_1125	CV-001-US_2021-07-05_1135
	ALS Laboratory Sample ID				L2610075-37	L2610075-38
	Sample Date & Time				2021-07-05 11:25	2021-07-05 11:35
	QA/QC Sample Type				N/A	N/A
	Units	LOR	Water Licence Criteria[1]	Screening Criteria		
pH	pH units	0.1	6.0 - 9.5	-	7.66	7.77
Total Suspended Solids	mg/L	2	30	See note [1]	<1.0	1.3
Total Dissolved Solids	mg/L	10	-	-	77	69
Turbidity	NTU	0.1	-	-	2.23	1.46

Notes:

Bold highlight indicate results that were greater than the applicable water quality screening criteria.

[1] When upstream TSS concentrations are less than 250 mg/L, a potential Project related change is defined as a greater than 50 mg/L increase in the downstream concentration. Where concentrations are greater than 250 mg/L in the upstream sample, a potential Project related change is defined as a greater than 20% increase in the downstream sample.

Reference: Roads Management Plan (BAF-PH1-830-P16-0023).

APPENDIX B – SURFACE WATER QUALITY RESULTS

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Appendix B.2

Table 1: Water Quality Results for Monitoring Location - CLSP-OUT

Analyte	Sample ID			CLSP-OUT	CLSP-OUT	CLSP-OUT	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2594017-2	L2594085-1	L2594089-1	L2595908-1	L2595921-3
	Sample Date & Time			2021-05-27 12:00	2021-05-28 11:25	2021-05-29 11:30	2021-05-30 12:10	2021-05-31 12:50
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.67	7.64	7.81	7.87	7.90
Total Suspended Solids	mg/L	2.0	30	**272**	**132**	9.0	**115**	18.0
Total Dissolved Solids	mg/L	10	-	116	116	108	104	103
Turbidity	NTU	0.10	-	88.2	158	31.0	152	40.8

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

Baffinland

Appendix B.2

Table 1: Water Quality Results for Monitoring Location - CLSP-OUT

Analyte	Sample ID			CLSP-OUT	CLSP-OUT	CLSP-OUT03	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2595910-2	L2595916-1	L2595916-2	L2598509-4	L2598511-4
	Sample Date & Time			2021-06-01 14:05	2021-06-02 11:45	2021-06-02 11:45	2021-06-03 13:10	2021-06-04 14:05
	QA/QC Sample Type			N/A	N/A	Travel Blank	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.74	7.79	6.02	7.77	7.82
Total Suspended Solids	mg/L	2.0	30	**217**	**96.0**	<2.0	**46.4**	26.5
Total Dissolved Solids	mg/L	10	-	84	110	15	101	114
Turbidity	NTU	0.10	-	260	113	<0.10	55.0	50.5

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Appendix B.2

Table 1: Water Quality Results for Monitoring Location - CLSP-OUT

Analyte	Sample ID			CLSP-OUT	CLSP-OUT01	CLSP-OUT	CLSP-OUT	CLSP-OUT
	ALS Laboratory Sample ID			L2600487-1	L2600487-2	L2600489-1	L2600574-1	L2601056-1
	Sample Date & Time			2021-06-05 8:10	2021-06-05 8:10	2021-06-06 11:55	2021-06-07 15:45	2021-06-08 8:30
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.85	7.87	7.86	7.85	7.78
Total Suspended Solids	mg/L	2.0	30	11.8	10.5	30.0	**102**	**42.0**
Total Dissolved Solids	mg/L	10	-	101	101	119	113	108
Turbidity	NTU	0.10	-	25.0	24.3	43.2	175	33.8

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Appendix B.2

Table 1: Water Quality Results for Monitoring Location - CLSP-OUT

Analyte	Sample ID			CLSP-OUT01
	ALS Laboratory Sample ID			L2601056-2
	Sample Date & Time			2021-06-08 8:30
	QA/QC Sample Type			Field Duplicate
	Units	LOR	Criteria[1]	
pH	pH units	0.10	6.0 - 9.5	7.79
Total Suspended Solids	mg/L	2.0	30	**42.6**
Total Dissolved Solids	mg/L	10	-	110
Turbidity	NTU	0.10	-	34.1

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Appendix B.2

Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT01
	ALS Laboratory Sample ID			L2582679-1	L2582679-2	L2583043-1	L2583640-1	L2583640-2
	Sample Date & Time			2021-05-02 16:35	2021-05-02 16:35	2021-05-03 13:05	2021-05-04 14:00	2021-05-04 14:00
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	Field Duplicate
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	8.69	8.72	8.30	7.97	8.00
Total Suspended Solids	mg/L	2.0	30	**2,150**	**1,530**	**942**	**586**	**584**
Total Dissolved Solids	mg/L	10	-	170	140	133	138	105
Turbidity	NTU	0.10	-	3340	2970	939	623	544

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Appendix B.2

Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2584872-1	L2584947-1	L2585408-1	L2585408-2	L2585503-1
	Sample Date & Time			2021-05-05 11:10	2021-05-06 12:45	2021-05-07 11:15	2021-05-07 11:15	2021-05-09 12:30
	QA/QC Sample Type			N/A	N/A	N/A	Travel Blank	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.52	7.72	7.80	5.74	7.77
Total Suspended Solids	mg/L	2.0	30	**42.6**	28.9	**51.0**	<2.0	**69.8**
Total Dissolved Solids	mg/L	10	-	81	59	113	<10	90
Turbidity	NTU	0.10	-	55	58.0	40.8	<0.10	57.4

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Appendix B.2

Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT01	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2585958-1	L2585958-2	L2586526-1	L2587987-1	L2588009-1
	Sample Date & Time			2021-05-10 13:10	2021-05-10 13:10	2021-05-11 15:00	2021-05-12 12:20	2021-05-13 11:55
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.76	7.78	7.74	7.73	7.67
Total Suspended Solids	mg/L	2.0	30	**86.6**	**93.7**	19.0	**52.3**	28.8
Total Dissolved Solids	mg/L	10	-	101	94	68	56	64
Turbidity	NTU	0.10	-	76.5	77.3	45.4	70.1	52.2

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2588274-1	L2594014-1	L2592738-1	L2594017-1	L2594085-2
	Sample Date & Time			2021-05-14 12:15	2021-05-25 12:05	2021-05-26 11:50	2021-05-27 11:45	2021-05-28 11:45
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	**7.72**	7.65	7.53	7.56	7.49
Total Suspended Solids	mg/L	2.0	30	**36.6**	**238**	**158**	**103**	**75.0**
Total Dissolved Solids	mg/L	10	-	75	104	83	61	73
Turbidity	NTU	0.10	-	61.1	82.5	151	64.8	91.5

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT03	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2594085-3	L2594089-2	L2595908-2	L2595921-4	L2595910-3
	Sample Date & Time			2021-05-28 11:45	2021-05-29 11:40	2021-05-30 12:30	2021-05-31 13:10	2021-06-01 14:20
	QA/QC Sample Type			Travel Blank	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	5.75	7.46	7.57	7.60	7.75
Total Suspended Solids	mg/L	2.0	30	<2.0	11.1	**85.0**	19.1	**219**
Total Dissolved Solids	mg/L	10	-	11	46	53	54	77
Turbidity	NTU	0.10	-	0.44	30.0	76.7	27.4	222

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2595916-3	L2598509-5	L2598511-5	L2600487-3	L2600489-2
	Sample Date & Time			2021-06-02 12:10	2021-06-03 13:30	2021-06-04 14:25	2021-06-05 8:35	2021-06-06 12:15
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.63	7.43	7.47	7.54	7.56
Total Suspended Solids	mg/L	2.0	30	**87.9**	26.6	18.1	11.0	**75.0**
Total Dissolved Solids	mg/L	10	-	58	42	51	41	47
Turbidity	NTU	0.10	-	66.9	26.5	22.0	16.3	37.3

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT02	CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2600489-3	L2600574-2	L2601056-3	L2601682-1	L2602646-4
	Sample Date & Time			2021-06-06 12:15	2021-06-07 16:20	2021-06-08 8:45	2021-06-09 11:55	2021-06-10 16:45
	QA/QC Sample Type			Field Blank	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	6.01	7.47	7.50	7.52	7.58
Total Suspended Solids	mg/L	2.0	30	<2.0	**32.7**	10.5	11.3	7.9
Total Dissolved Solids	mg/L	10	-	<10	39	37	44	33
Turbidity	NTU	0.10	-	<0.10	21.0	9.78	9.15	19.9

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT01	CLT-OUT	CLT-OUT	CLT-OUT02
	ALS Laboratory Sample ID			L2602677-1	L2602677-2	L2602701-4	L2602795-3	L2602795-4
	Sample Date & Time			2021-06-11 9:00	2021-06-11 9:00	2021-06-12 12:55	2021-06-13 17:10	2021-06-13 17:10
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	Field Blank
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.73	7.72	7.65	7.60	5.80
Total Suspended Solids	mg/L	2.0	30	3.4	3.5	8.0	6.0	<2.0
Total Dissolved Solids	mg/L	10	-	57	44	43	44	12
Turbidity	NTU	0.10	-	8.07	8.03	16.1	13.7	<0.10

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT	CLT-OUT03	CLT-OUT
	ALS Laboratory Sample ID			L2602812-1	L2602865-1	L2603010-3	L2603010-4	L2603016-4
	Sample Date & Time			2021-06-14 9:40	2021-06-15 13:00	2021-06-16 17:05	2021-06-16 17:05	2021-06-17 9:10
	QA/QC Sample Type			N/A	N/A	N/A	Travel Blank	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.59	7.74	7.83	6.35	7.82
Total Suspended Solids	mg/L	2.0	30	3.9	3.5	3.8	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	55	55	54	<10	50
Turbidity	NTU	0.10	-	7.80	9.77	10.9	<0.10	4.57

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT	CLT-OUT02	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2603548-4	L2603620-1	L2603620-2	L2603632-4	L2606860-2
	Sample Date & Time			2021-06-18 13:05	2021-06-19 16:30	2021-06-19 16:30	2021-06-20 10:45	2021-06-21 13:45
	QA/QC Sample Type			N/A	N/A	Field Blank	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.95	7.88	5.88	7.92	7.87
Total Suspended Solids	mg/L	2.0	30	2.5	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	75	56	<10	64	50
Turbidity	NTU	0.10	-	8.87	6.77	<0.10	3.39	5.67

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 2: Water Quality Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT01	CLT-OUT	CLT-OUT
	ALS Laboratory Sample ID			L2606860-3	L2604737-4	L2606872-4
	Sample Date & Time			2021-06-21 13:45	2021-06-22 17:00	2021-06-27 14:35
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Criteria[1]			
pH	pH units	0.10	6.0 - 9.5	7.88	7.89	8.05
Total Suspended Solids	mg/L	2.0	30	<2.0	28.3	<2.0
Total Dissolved Solids	mg/L	10	-	53	93	27
Turbidity	NTU	0.10	-	5.58	57.8	3.77

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT01	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2582679-3	L2583043-2	L2583043-3	L2583640-3	L2584872-2
	Sample Date & Time			2021-05-02 17:30	2021-05-03 13:35	2021-05-03 13:35	2021-05-04 15:35	2021-05-05 11:45
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	8.47	8.04	8.07	8.18	7.46
Total Suspended Solids	mg/L	2.0	30	**743**	**442**	**417**	**811**	**184**
Total Dissolved Solids	mg/L	10	-	157	126	169	124	70
Turbidity	NTU	0.10	-	1,100	671	650	551	161

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2584947-2	L2585408-3	L2585503-2	L2585958-3	L2586526-2
	Sample Date & Time			2021-05-06 13:20	2021-05-07 11:45	2021-05-09 13:00	2021-05-10 0:00	2021-05-11 14:25
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.46	7.62	7.67	7.67	7.60
Total Suspended Solids	mg/L	2.0	30	**76.2**	11.0	**148**	**62.8**	9.9
Total Dissolved Solids	mg/L	10	-	35	73	73	69	11
Turbidity	NTU	0.10	-	88.1	56.5	135	119	41.6

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT01	SDLT-OUT	SDLT-OUT	SDLT-OUT01
	ALS Laboratory Sample ID			L2587987-3	L2587987-2	L2588009-2	L2588274-2	L2588274-4
	Sample Date & Time			2021-05-12 12:55	2021-05-12 12:55	2021-05-13 12:50	2021-05-14 11:40	2021-05-14 11:40
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	Field Duplicate
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.65	7.62	7.71	7.65	7.64
Total Suspended Solids	mg/L	2.0	30	**48.7**	**49.6**	**36.4**	21.0	21.3
Total Dissolved Solids	mg/L	10	-	46	71	53	67	71
Turbidity	NTU	0.10	-	51.8	51.1	56.7	43.5	45.4

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2594014-2	L2592738-7	L2594017-3	L2594085-4	L2594089-3
	Sample Date & Time			2021-05-25 12:30	2021-05-26 14:15	2021-05-27 12:40	2021-05-28 12:30	2021-05-29 12:10
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.63	7.50	7.42	7.43	7.51
Total Suspended Solids	mg/L	2.0	30	**478**	**315**	**72.7**	27.6	3.9
Total Dissolved Solids	mg/L	10	-	165	93	57	68	51
Turbidity	NTU	0.10	-	295	347	91.6	72.6	15.8

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2595908-3	L2595921-2	L2595910-1	L2595916-4	L2598509-3
	Sample Date & Time			2021-05-30 12:55	2021-05-31 12:20	2021-06-01 11:20	2021-06-02 13:05	2021-06-03 12:20
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.62	7.57	7.63	7.58	7.50
Total Suspended Solids	mg/L	2.0	30	**62.3**	3.9	**90.7**	**56.8**	15.3
Total Dissolved Solids	mg/L	10	-	58	40	65	56	46
Turbidity	NTU	0.10	-	96.3	11.1	167	113	25.4

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT01	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2598511-1	L2598511-2	L2600487-5	L2600489-4	L2600574-3
	Sample Date & Time			2021-06-04 12:05	2021-06-04 12:05	2021-06-05 10:15	2021-06-06 13:00	2021-06-07 17:00
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.52	7.56	7.59	7.57	7.61
Total Suspended Solids	mg/L	2.0	30	10.0	10.7	19.0	**44.1**	18.5
Total Dissolved Solids	mg/L	10	-	51	50	53	60	47
Turbidity	NTU	0.10	-	22.3	22.1	39.3	80.0	51.4

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT03	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT02
	ALS Laboratory Sample ID			L2600574-4	L2601056-4	L2601682-2	L2602646-2	L2602646-3
	Sample Date & Time			2021-06-07 17:00	2021-06-08 9:45	2021-06-09 13:15	2021-06-10 16:20	2021-06-10 16:20
	QA/QC Sample Type			Travel Blank	N/A	N/A	N/A	Field Blank
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	5.92	7.65	7.67	7.83	5.86
Total Suspended Solids	mg/L	2.0	30	<2.0	12.1	13.9	11.4	<2.0
Total Dissolved Solids	mg/L	10	-	<10	58	63	48	<10
Turbidity	NTU	0.10	-	<0.10	20.3	23.3	35.0	<0.10

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT03	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2602677-3	L2602701-2	L2602701-3	L2602795-2	L2602812-2
	Sample Date & Time			2021-06-11 9:35	2021-06-12 12:10	2021-06-12 12:10	2021-06-13 16:40	2021-06-14 10:15
	QA/QC Sample Type			N/A	N/A	Travel Blank	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.82	7.80	6.14	7.82	7.67
Total Suspended Solids	mg/L	2.0	30	4.9	13.3	<2.0	5.9	3.6
Total Dissolved Solids	mg/L	10	-	63	60	<10	51	65
Turbidity	NTU	0.10	-	18.8	27.7	<0.10	19.6	10.1

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT01	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2602812-3	L2602865-2	L2603010-2	L2603016-3	L2603548-2
	Sample Date & Time			2021-06-14 10:15	2021-06-15 13:30	2021-06-16 16:20	2021-06-17 8:35	2021-06-18 12:15
	QA/QC Sample Type			Field Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.68	7.80	7.91	7.88	8.05
Total Suspended Solids	mg/L	2.0	30	4.0	<2.0	3.7	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	57	77	73	54	84
Turbidity	NTU	0.10	-	10.0	11.6	9.70	4.88	4.94

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT02	SDLT-OUT	SDLT-OUT	SDLT-OUT01	SDLT-OUT
	ALS Laboratory Sample ID			L2603548-3	L2603620-3	L2603632-2	L2603632-3	L2606860-1
	Sample Date & Time			2021-06-18 12:15	2021-06-19 17:00	2021-06-20 9:40	2021-06-20 9:40	2021-06-21 12:50
	QA/QC Sample Type			Field Blank	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	6.06	7.96	7.96	7.93	8.01
Total Suspended Solids	mg/L	2.0	30	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	23	86	85	95	86
Turbidity	NTU	0.10	-	0.12	3.92	3.01	3.03	3.20

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 3: Water Quality Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT	SDLT-OUT01
	ALS Laboratory Sample ID			L2604737-3	L2606872-3	L2608039-1	L2608764-1	L2608764-2
	Sample Date & Time			2021-06-22 15:30	2021-06-27 13:50	2021-06-29 9:30	2021-06-30 12:20	2021-06-30 12:20
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Duplicate
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	8.00	8.19	8.10	8.03	7.99
Total Suspended Solids	mg/L	2.0	30	**61.2**	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	178	130	109	147	153
Turbidity	NTU	0.10	-	189	2.19	2.02	1.87	1.92

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

Samples taken on May 27 and 28, 2021, were taken 400 metres upstream of the SDLT-OUT location due to concerns regarding stream bank stability.

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

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT01	LDFG-OUT
	ALS Laboratory Sample ID			L2584873-1	L2585408-4	L2585503-3	L2585503-4	L2585958-4
	Sample Date & Time			2021-05-06 12:45	2021-05-07 12:10	2021-05-09 13:30	2021-05-09 13:30	2021-05-10 14:00
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.31	7.35	7.39	7.36	7.40
Total Suspended Solids	mg/L	2.0	30	**40.1**	18.0	**46.9**	**41.6**	15.7
Total Dissolved Solids	mg/L	10	-	67	52	50	48	50
Turbidity	NTU	0.10	-	128	76.8	115	118	92.9

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2587332-1	L2586526-3	L2587987-4	L2588009-3	L2588274-3
	Sample Date & Time			2021-05-10 14:00	2021-05-11 14:05	2021-05-12 13:30	2021-05-13 13:20	2021-05-14 11:05
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.41	7.42	7.44	7.39	7.41
Total Suspended Solids	mg/L	2.0	30	15.1	5.5	9.6	5.7	3.2
Total Dissolved Solids	mg/L	10	-	37	29	29	40	78
Turbidity	NTU	0.10	-	91.2	66.9	80.9	72.2	58.9

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT01	LDFG-OUT
	ALS Laboratory Sample ID			L2588335-1	L2594014-3	L2592738-3	L2592738-4	L2594017-4
	Sample Date & Time			2021-05-15 11:55	2021-05-25 13:00	2021-05-26 13:05	2021-05-26 13:05	2021-05-27 13:00
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.41	7.32	7.30	7.31	7.32
Total Suspended Solids	mg/L	2.0	30	2.1	**62.5**	**87.5**	**97.7**	**80.0**
Total Dissolved Solids	mg/L	10	-	32	53	52	51	63
Turbidity	NTU	0.10	-	55.4	277	246	264	158

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	MS-SN-02[2]
	ALS Laboratory Sample ID			L2594085-5	L2594089-4	L2595908-4	L2595921-1	L2595323-2
	Sample Date & Time			2021-05-28 12:55	2021-05-29 12:35	2021-05-30 13:25	2021-05-31 11:55	2021-06-01 13:00
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.29	7.36	7.42	7.49	7.62
Total Suspended Solids	mg/L	2.0	30	**46.6**	10.0	16.6	3.4	24.6
Total Dissolved Solids	mg/L	10	-	61	72	88	41	58
Turbidity	NTU	0.10	-	129	41.5	75.8	47.6	206

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT02	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2595916-5	L2598509-1	L2598509-2	L2598511-3	L2600487-4
	Sample Date & Time			2021-06-02 13:35	2021-06-03 11:50	2021-06-03 11:50	2021-06-04 12:30	2021-06-05 9:45
	QA/QC Sample Type			N/A	N/A	Field Blank	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.40	7.56	5.88	7.53	7.59
Total Suspended Solids	mg/L	2.0	30	19.2	10.4	<2.0	5.9	7.8
Total Dissolved Solids	mg/L	10	-	55	44	<10	59	51
Turbidity	NTU	0.10	-	204	89	0.16	60.1	87.3

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT03
	ALS Laboratory Sample ID			L2600489-5	L2600574-5	L2601056-5	L2601682-3	L2601682-4
	Sample Date & Time			2021-06-06 13:30	2021-06-07 17:20	2021-06-08 10:05	2021-06-09 13:40	2021-06-09 13:40
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Travel Blank
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.55	7.60	7.67	7.81	5.92
Total Suspended Solids	mg/L	2.0	30	**45.5**	**45.5**	8.8	22.6	<2.0
Total Dissolved Solids	mg/L	10	-	54	63	71	86	11
Turbidity	NTU	0.10	-	130	238	70.0	89.7	<0.10

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2602646-1	L2602677-4	L2602701-1	L2602795-1	L2602812-4
	Sample Date & Time			2021-06-10 15:50	2021-06-11 9:50	2021-06-12 11:20	2021-06-13 16:15	2021-06-14 10:40
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.90	8.01	7.96	7.96	7.89
Total Suspended Solids	mg/L	2.0	30	20.3	7.7	5.6	7.4	<2.0
Total Dissolved Solids	mg/L	10	-	56	68	97	76	87
Turbidity	NTU	0.10	-	200	63.1	72.9	108	52.1

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT02	LDFG-OUT	LDFG-OUT	LDFG-OUT01
	ALS Laboratory Sample ID			L2602865-3	L2602865-4	L2603010-1	L2603016-1	L2603016-2
	Sample Date & Time			2021-06-15 14:00	2021-06-15 14:00	2021-06-16 15:55	2021-06-17 8:05	2021-06-17 8:05
	QA/QC Sample Type			N/A	Field Blank	N/A	N/A	Field Duplicate
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	7.92	6.19	8.07	8.02	8.01
Total Suspended Solids	mg/L	2.0	30	7.5	<2.0	16.4	3.8	3.8
Total Dissolved Solids	mg/L	10	-	98	15	97	92	84
Turbidity	NTU	0.10	-	79.8	<0.10	80.1	37.4	37.5

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT	LDFG-OUT
	ALS Laboratory Sample ID			L2603548-1	L2603620-4	L2603632-1	L2606860-4	L2604737-1
	Sample Date & Time			2021-06-18 11:45	2021-06-19 17:25	2021-06-20 9:05	2021-06-21 14:00	2021-06-22 15:30
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Criteria[1]					
pH	pH units	0.10	6.0 - 9.5	8.19	8.12	8.06	8.14	8.16
Total Suspended Solids	mg/L	2.0	30	<2.0	5.6	5.9	<2.0	19.7
Total Dissolved Solids	mg/L	10	-	96	104	110	107	118
Turbidity	NTU	0.10	-	48.1	43.5	25.9	9.96	152

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 4: Water Quality Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT03	LDFG-OUT	LDFG-OUT02
	ALS Laboratory Sample ID			L2604737-2	L2606872-1	L2606872-2
	Sample Date & Time			2021-06-22 15:30	2021-06-27 12:30	2021-06-27 12:30
	QA/QC Sample Type			Travel Blank	N/A	Field Blank
	Units	LOR	Criteria[1]			
pH	pH units	0.10	6.0 - 9.5	5.96	8.30	5.97
Total Suspended Solids	mg/L	2.0	30	<2.0	2.5	<2.0
Total Dissolved Solids	mg/L	10	-	16	132	<10
Turbidity	NTU	0.10	-	<0.10	9.37	<0.10

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

[2]Sampe MS-SN-02 taken on June 1, 2021 was a sample for monitoring LDFG-OUT as well as runoff downgradient of a snow stockpile.

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Table 5: Acute Toxicity Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT01	CLT-OUT
	ALS Laboratory Sample ID			L2583640-1	L2583640-2	L2584947-1
	Sample Date & Time			2021-05-04 14:00	2021-05-04 14:00	2021-05-06 12:45
	QA/QC Sample Type			N/A	Field Duplicate	N/A
	Units	LOR	Criteria[1]			
Hardness (as CaCO3)	mg/L	0.50	-	34.8	34.6	59.3
pH	pH units	0.10	6.0 - 9.5	7.97	8.00	7.72
Total Suspended Solids	mg/L	3.0	30	**586**	**584**	28.9
Total Dissolved Solids	mg/L	13	-	138	105	59
Turbidity	NTU	0.10	-	623	544	58.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	36	36	58
Ammonia, Total (as N)	mg/L	0.010	-	0.112	0.091	0.118
Chloride (Cl)	mg/L	0.50	-	5.64	5.56	11.6
Fluoride (F)	mg/L	0.020	-	0.024	0.032	0.028
Nitrate (as N)	mg/L	0.020	-	0.117	0.101	0.412
Total Kjeldahl Nitrogen	mg/L	0.050	-	1.10	1.10	0.650
Phosphorus, Total	mg/L	0.0030	-	0.365	0.399	0.0344
Sulfate (SO4)	mg/L	0.30	-	4.61	2.54	6.73
Dissolved Organic Carbon	mg/L	0.50	-	6.87	8.15	7.41
Total Organic Carbon	mg/L	2.5	-	24	13	6.9
Aluminum (Al)-Total	mg/L	0.0050	-	21.2	21.1	1.53
Antimony (Sb)-Total	mg/L	0.00010	-	<0.0010	<0.0010	0.00010
Arsenic (As)-Total	mg/L	0.00010	-	0.0021	0.0018	0.00026
Barium (Ba)-Total	mg/L	0.00010	-	0.111	0.112	0.0149
Beryllium (Be)-Total	mg/L	0.00010	-	0.0010	<0.0010	<0.00010
Bismuth (Bi)-Total	mg/L	0.000050	-	0.00077	0.00090	<0.000050
Boron (B)-Total	mg/L	0.010	-	<0.10	<0.10	0.011
Cadmium (Cd)-Total	mg/L	0.0000050	-	0.000178	0.000160	0.0000158
Calcium (Ca)-Total	mg/L	0.050	-	12.4	12.4	12.1
Cesium (Cs)-Total	mg/L	0.000010	-	0.00259	0.00262	0.000191
Chromium (Cr)-Total	mg/L	0.00050	-	0.0396	0.0415	0.00251
Cobalt (Co)-Total	mg/L	0.00010	-	0.0144	0.0145	0.00114
Copper (Cu)-Total	mg/L	0.00050	-	0.0304	0.0312	0.00309
Iron (Fe)-Total	mg/L	0.010	-	27.0	27.1	1.87
Lead (Pb)-Total	mg/L	0.000050	-	0.0282	0.0292	0.00165
Lithium (Li)-Total	mg/L	0.0010	-	0.033	0.034	0.0048
Magnesium (Mg)-Total	mg/L	0.0050	-	25.5	25.4	8.67
Manganese (Mn)-Total	mg/L	0.00050	-	0.554	0.546	0.0683
Mercury (Hg)-Total	mg/L	0.0000050	-	0.0000094	0.0000077	<0.0000050
Molybdenum (Mo)-Total	mg/L	0.000050	-	0.00094	0.00101	0.00166
Nickel (Ni)-Total	mg/L	0.00050	-	0.0565	0.0575	0.00344
Phosphorus (P)-Total	mg/L	0.050	-	<0.50	<0.50	<0.050
Potassium (K)-Total	mg/L	0.050	-	13.1	12.9	3.49
Rubidium (Rb)-Total	mg/L	0.00020	-	0.0791	0.0786	0.00849
Selenium (Se)-Total	mg/L	0.000050	-	<0.00050	<0.00050	0.000059
Silicon (Si)-Total	mg/L	0.10	-	33.5	34.6	3.10
Silver (Ag)-Total	mg/L	0.000050	-	<0.00050	<0.00050	<0.000050
Sodium (Na)-Total	mg/L	0.050	-	2.37	2.33	5.51
Strontium (Sr)-Total	mg/L	0.0010	-	0.034	0.034	0.0181
Sulfur (S)-Total	mg/L	0.50	-	<5.0	<5.0	1.89
Tellurium (Te)-Total	mg/L	0.00020	-	<0.0020	<0.0020	<0.00020
Thallium (Tl)-Total	mg/L	0.000010	-	0.00045	0.00049	0.000034
Thorium (Th)-Total	mg/L	0.00010	-	0.0095	0.0111	0.00082
Tin (Sn)-Total	mg/L	0.00010	-	0.0011	0.0011	0.00016
Titanium (Ti)-Total	mg/L	0.00030	-	1.15	1.15	0.0708
Tungsten (W)-Total	mg/L	0.00010	-	<0.0010	<0.0010	0.00020
Uranium (U)-Total	mg/L	0.000010	-	0.0109	0.0111	0.00995
Vanadium (V)-Total	mg/L	0.00050	-	0.0366	0.0370	0.00235
Zinc (Zn)-Total	mg/L	0.0030	-	0.084	0.090	0.0079
Zirconium (Zr)-Total	mg/L	0.00020	-	0.0028	0.0028	0.00085
Aluminum (Al)-Dissolved	mg/L	0.0050	-	0.108	0.101	0.0469
Antimony (Sb)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Barium (Ba)-Dissolved	mg/L	0.00010	-	0.00291	0.00315	0.00654
Beryllium (Be)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	0.010	-	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved	mg/L	0.0000050	-	0.0000072	0.0000135	0.0000061
Calcium (Ca)-Dissolved	mg/L	0.050	-	7.20	7.27	11.4
Cesium (Cs)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050	<0.00050

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Table 5: Acute Toxicity Results for Monitoring Location - CLT-OUT

Analyte	Sample Location			CLT-OUT	CLT-OUT01	CLT-OUT
	ALS Laboratory Sample ID			L2583640-1	L2583640-2	L2584947-1
	Sample Date & Time			2021-05-04 14:00	2021-05-04 14:00	2021-05-06 12:45
	QA/QC Sample Type			N/A	Field Duplicate	N/A
	Units	LOR	Criteria[1]			
Cobalt (Co)-Dissolved	mg/L	0.00010	-	0.00019	0.00019	0.00019
Copper (Cu)-Dissolved	mg/L	0.00020	-	0.00187	0.00177	0.00121
Iron (Fe)-Dissolved	mg/L	0.010	-	0.123	0.112	0.084
Lead (Pb)-Dissolved	mg/L	0.000050	-	0.000281	0.000247	0.000104
Lithium (Li)-Dissolved	mg/L	0.0010	-	0.0029	0.0028	0.0027
Magnesium (Mg)-Dissolved	mg/L	0.0050	-	4.09	3.99	7.50
Manganese (Mn)-Dissolved	mg/L	0.00050	-	0.0247	0.0248	0.0345
Mercury (Hg)-Dissolved	mg/L	0.0000050	-	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved	mg/L	0.000050	-	0.00131	0.00134	0.00192
Nickel (Ni)-Dissolved	mg/L	0.00050	-	0.00133	0.00133	0.00097
Phosphorus (P)-Dissolved	mg/L	0.050	-	<0.050	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	0.050	-	3.20	3.51	2.74
Rubidium (Rb)-Dissolved	mg/L	0.00020	-	0.00260	0.00244	0.00344
Selenium (Se)-Dissolved	mg/L	0.000050	-	0.000054	<0.000050	0.000078
Silicon (Si)-Dissolved	mg/L	0.050	-	0.619	0.609	0.567
Silver (Ag)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050	<0.000050
Sodium (Na)-Dissolved	mg/L	0.050	-	1.46	1.49	5.40
Strontium (Sr)-Dissolved	mg/L	0.0010	-	0.0186	0.0190	0.0167
Sulfur (S)-Dissolved	mg/L	0.50	-	0.89	1.00	2.04
Tellurium (Te)-Dissolved	mg/L	0.00020	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010	<0.000010
Thorium (Th)-Dissolved	mg/L	0.00010	-	0.00014	0.00013	<0.00010
Tin (Sn)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	mg/L	0.00030	-	0.00310	0.00280	0.00133
Tungsten (W)-Dissolved	mg/L	0.00010	-	0.00049	0.00049	0.00012
Uranium (U)-Dissolved	mg/L	0.000010	-	0.00254	0.00252	0.00853
Vanadium (V)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.0010	-	<0.0010	0.0010	0.0010
Zirconium (Zr)-Dissolved	mg/L	0.00020	-	0.00043	0.00039	0.0002
Oil and Grease	mg/L	5.0	-	<5.0	<5.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen
Acute Toxicity	-	-	Not Acutely Toxic	Not Acutely Toxic	-	Not Acutely Toxic

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 6: Acute Toxicity Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2583640-3	L2584947-2
	Sample Date & Time			2021-05-04 15:35	2021-05-06 13:20
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Criteria[1]		
Hardness (as CaCO3)	mg/L	0.50	-	45.2	36
pH	pH units	0.10	6.0 - 9.5	8.18	7.46
Total Suspended Solids	mg/L	3.0	30	**811**	**76.2**
Total Dissolved Solids	mg/L	13	-	124	35
Turbidity	NTU	0.10	-	551	88.1
Alkalinity, Total (as CaCO3)	mg/L	10	-	34	32
Ammonia, Total (as N)	mg/L	0.010	-	0.152	0.105
Chloride (Cl)	mg/L	0.50	-	10.6	4.33
Fluoride (F)	mg/L	0.020	-	0.042	0.037
Nitrate (as N)	mg/L	0.020	-	0.354	0.255
Total Kjeldahl Nitrogen	mg/L	0.050	-	1.10	0.850
Phosphorus, Total	mg/L	0.0030	-	0.51	0.0561
Sulfate (SO4)	mg/L	0.30	-	9.40	7.36
Dissolved Organic Carbon	mg/L	0.50	-	5.69	6.24
Total Organic Carbon	mg/L	2.5	-	10	6.8
Aluminum (Al)-Total	mg/L	0.0050	-	25.2	2.47
Antimony (Sb)-Total	mg/L	0.00010	-	<0.0010	<0.00010
Arsenic (As)-Total	mg/L	0.00010	-	0.0022	0.00041
Barium (Ba)-Total	mg/L	0.00010	-	0.134	0.0190
Beryllium (Be)-Total	mg/L	0.00010	-	<0.0010	0.00011
Bismuth (Bi)-Total	mg/L	0.000050	-	0.00067	0.000057
Boron (B)-Total	mg/L	0.010	-	<0.10	0.010
Cadmium (Cd)-Total	mg/L	0.0000050	-	0.000240	0.0000588
Calcium (Ca)-Total	mg/L	0.050	-	19.4	7.88
Cesium (Cs)-Total	mg/L	0.000010	-	0.00321	0.000311
Chromium (Cr)-Total	mg/L	0.00050	-	0.0356	0.00375
Cobalt (Co)-Total	mg/L	0.00010	-	0.0158	0.00167
Copper (Cu)-Total	mg/L	0.00050	-	0.0335	0.00572
Iron (Fe)-Total	mg/L	0.010	-	33.4	3.35
Lead (Pb)-Total	mg/L	0.000050	-	0.0345	0.00277
Lithium (Li)-Total	mg/L	0.0010	-	0.042	0.0057
Magnesium (Mg)-Total	mg/L	0.0050	-	27.0	6.50
Manganese (Mn)-Total	mg/L	0.00050	-	0.760	0.0748
Mercury (Hg)-Total	mg/L	0.0000050	-	<0.0000050	<0.0000050
Molybdenum (Mo)-Total	mg/L	0.000050	-	0.00088	0.00150
Nickel (Ni)-Total	mg/L	0.00050	-	0.0345	0.00473
Phosphorus (P)-Total	mg/L	0.050	-	<0.50	0.058
Potassium (K)-Total	mg/L	0.050	-	15.9	3.67
Rubidium (Rb)-Total	mg/L	0.00020	-	0.105	0.0116
Selenium (Se)-Total	mg/L	0.000050	-	<0.00050	0.000078
Silicon (Si)-Total	mg/L	0.10	-	38.1	4.58
Silver (Ag)-Total	mg/L	0.000050	-	<0.00050	<0.000050
Sodium (Na)-Total	mg/L	0.050	-	2.50	1.23
Strontium (Sr)-Total	mg/L	0.0010	-	0.085	0.0197
Sulfur (S)-Total	mg/L	0.50	-	<5.0	2.54
Tellurium (Te)-Total	mg/L	0.00020	-	<0.0020	<0.00020
Thallium (Tl)-Total	mg/L	0.000010	-	0.00062	0.000062
Thorium (Th)-Total	mg/L	0.00010	-	0.0143	0.00119
Tin (Sn)-Total	mg/L	0.00010	-	0.0016	0.00015
Titanium (Ti)-Total	mg/L	0.00030	-	1.52	0.133
Tungsten (W)-Total	mg/L	0.00010	-	<0.0010	0.00016
Uranium (U)-Total	mg/L	0.000010	-	0.0131	0.00282
Vanadium (V)-Total	mg/L	0.00050	-	0.0341	0.00377
Zinc (Zn)-Total	mg/L	0.0030	-	0.106	0.0116
Zirconium (Zr)-Total	mg/L	0.00020	-	0.0031	0.00089
Aluminum (Al)-Dissolved	mg/L	0.0050	-	0.0927	0.0401
Antimony (Sb)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Barium (Ba)-Dissolved	mg/L	0.00010	-	0.00296	0.00421
Beryllium (Be)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	0.010	-	<0.010	<0.010
Cadmium (Cd)-Dissolved	mg/L	0.0000050	-	0.0000184	0.0000263
Calcium (Ca)-Dissolved	mg/L	0.050	-	10.6	7.00
Cesium (Cs)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010
Chromium (Cr)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050

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Table 6: Acute Toxicity Results for Monitoring Location - SDLT-OUT

Analyte	Sample Location			SDLT-OUT	SDLT-OUT
	ALS Laboratory Sample ID			L2583640-3	L2584947-2
	Sample Date & Time			2021-05-04 15:35	2021-05-06 13:20
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Criteria[1]		
Cobalt (Co)-Dissolved	mg/L	0.00010	-	0.00023	0.00013
Copper (Cu)-Dissolved	mg/L	0.00020	-	0.00242	0.00278
Iron (Fe)-Dissolved	mg/L	0.010	-	0.189	0.072
Lead (Pb)-Dissolved	mg/L	0.000050	-	0.000318	0.000114
Lithium (Li)-Dissolved	mg/L	0.0010	-	0.0059	0.0024
Magnesium (Mg)-Dissolved	mg/L	0.0050	-	4.57	4.49
Manganese (Mn)-Dissolved	mg/L	0.00050	-	0.0445	0.0138
Mercury (Hg)-Dissolved	mg/L	0.0000050	-	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved	mg/L	0.000050	-	0.00185	0.00204
Nickel (Ni)-Dissolved	mg/L	0.00050	-	0.00106	0.00114
Phosphorus (P)-Dissolved	mg/L	0.050	-	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	0.050	-	2.84	2.44
Rubidium (Rb)-Dissolved	mg/L	0.00020	-	0.00269	0.00304
Selenium (Se)-Dissolved	mg/L	0.000050	-	0.000091	0.000131
Silicon (Si)-Dissolved	mg/L	0.050	-	0.632	0.663
Silver (Ag)-Dissolved	mg/L	0.000050	-	<0.000050	<0.000050
Sodium (Na)-Dissolved	mg/L	0.050	-	1.47	1.10
Strontium (Sr)-Dissolved	mg/L	0.0010	-	0.0591	0.0180
Sulfur (S)-Dissolved	mg/L	0.50	-	3.34	2.69
Tellurium (Te)-Dissolved	mg/L	0.00020	-	<0.00020	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.000010	-	<0.000010	<0.000010
Thorium (Th)-Dissolved	mg/L	0.00010	-	0.00017	<0.00010
Tin (Sn)-Dissolved	mg/L	0.00010	-	<0.00010	<0.00010
Titanium (Ti)-Dissolved	mg/L	0.00030	-	0.00323	0.00118
Tungsten (W)-Dissolved	mg/L	0.00010	-	0.00031	0.00010
Uranium (U)-Dissolved	mg/L	0.000010	-	0.00319	0.00186
Vanadium (V)-Dissolved	mg/L	0.00050	-	<0.00050	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.0010	-	0.0010	0.0024
Zirconium (Zr)-Dissolved	mg/L	0.0002	-	0.00046	0.00029
Oil and Grease	mg/L	5.0	-	14.5	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Toxicity	-	-	Not Acutely Toxic	Not Actuely Toxic	Not Actuely Toxic

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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

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Table 7: Acute Toxicity Results for Monitoring Location - LDFG-OUT

Analyte	Sample Location			LDFG-OUT
	ALS Laboratory Sample ID			L2587332-1
	Sample Date & Time			2021-05-10 14:00
	QA/QC Sample Type			N/A
	Units	LOR	Criteria[1]	
Hardness (as CaCO3)	mg/L	0.50	-	20.1
pH	pH units	0.10	6 - 9.5	7.41
Total Suspended Solids	mg/L	3.0	30	15.1
Total Dissolved Solids	mg/L	13	-	37
Turbidity	NTU	0.10	-	91.2
Alkalinity, Total (as CaCO3)	mg/L	10	-	18
Ammonia, Total (as N)	mg/L	0.010	-	0.031
Chloride (Cl)	mg/L	0.50	-	1.55
Fluoride (F)	mg/L	0.020	-	<0.020
Nitrate (as N)	mg/L	0.020	-	0.340
Total Kjeldahl Nitrogen	mg/L	0.050	-	0.50
Phosphorus, Total	mg/L	0.0030	-	0.0231
Sulfate (SO4)	mg/L	0.30	-	2.48
Dissolved Organic Carbon	mg/L	0.50	-	3.44
Total Organic Carbon	mg/L	2.5	-	6.8
Aluminum (Al)-Total	mg/L	0.0050	-	1.18
Antimony (Sb)-Total	mg/L	0.00010	-	<0.0010
Arsenic (As)-Total	mg/L	0.00010	-	<0.0010
Barium (Ba)-Total	mg/L	0.00010	-	0.0086
Beryllium (Be)-Total	mg/L	0.00010	-	<0.0010
Bismuth (Bi)-Total	mg/L	0.000050	-	<0.00050
Boron (B)-Total	mg/L	0.010	-	<0.10
Cadmium (Cd)-Total	mg/L	0.0000050	-	<0.000050
Calcium (Ca)-Total	mg/L	0.050	-	4.20
Cesium (Cs)-Total	mg/L	0.000010	-	0.00012
Chromium (Cr)-Total	mg/L	0.00050	-	<0.0050
Cobalt (Co)-Total	mg/L	0.00010	-	0.0014
Copper (Cu)-Total	mg/L	0.00050	-	<0.0050
Iron (Fe)-Total	mg/L	0.010	-	1.83
Lead (Pb)-Total	mg/L	0.000050	-	0.00139
Lithium (Li)-Total	mg/L	0.0010	-	<0.010
Magnesium (Mg)-Total	mg/L	0.0050	-	3.25
Manganese (Mn)-Total	mg/L	0.00050	-	0.0410
Mercury (Hg)-Total	mg/L	0.0000050	-	<0.0000050
Molybdenum (Mo)-Total	mg/L	0.000050	-	<0.00050
Nickel (Ni)-Total	mg/L	0.00050	-	<0.0050
Phosphorus (P)-Total	mg/L	0.050	-	<0.50
Potassium (K)-Total	mg/L	0.050	-	2.14
Rubidium (Rb)-Total	mg/L	0.00020	-	0.0046
Selenium (Se)-Total	mg/L	0.000050	-	<0.00050
Silicon (Si)-Total	mg/L	0.10	-	2.4
Silver (Ag)-Total	mg/L	0.000050	-	<0.00050
Sodium (Na)-Total	mg/L	0.050	-	1.39
Strontium (Sr)-Total	mg/L	0.0010	-	<0.010
Sulfur (S)-Total	mg/L	0.50	-	<5.0
Tellurium (Te)-Total	mg/L	0.00020	-	<0.0020
Thallium (Tl)-Total	mg/L	0.000010	-	<0.00010
Thorium (Th)-Total	mg/L	0.00010	-	<0.0010
Tin (Sn)-Total	mg/L	0.00010	-	<0.0010
Titanium (Ti)-Total	mg/L	0.00030	-	0.0371
Tungsten (W)-Total	mg/L	0.00010	-	<0.0010
Uranium (U)-Total	mg/L	0.000010	-	0.00061
Vanadium (V)-Total	mg/L	0.00050	-	<0.0050
Zinc (Zn)-Total	mg/L	0.0030	-	<0.030
Zirconium (Zr)-Total	mg/L	0.00020	-	<0.0020
Aluminum (Al)-Dissolved	mg/L	0.0050	-	0.0349
Antimony (Sb)-Dissolved	mg/L	0.00010	-	<0.00010
Arsenic (As)-Dissolved	mg/L	0.00010	-	<0.00010
Barium (Ba)-Dissolved	mg/L	0.00010	-	0.00218
Beryllium (Be)-Dissolved	mg/L	0.00010	-	<0.00010
Bismuth (Bi)-Dissolved	mg/L	0.000050	-	<0.000050
Boron (B)-Dissolved	mg/L	0.010	-	<0.010
Cadmium (Cd)-Dissolved	mg/L	0.0000050	-	0.0000057
Calcium (Ca)-Dissolved	mg/L	0.050	-	3.75
Cesium (Cs)-Dissolved	mg/L	0.000010	-	<0.000010
Chromium (Cr)-Dissolved	mg/L	0.00050	-	<0.00050

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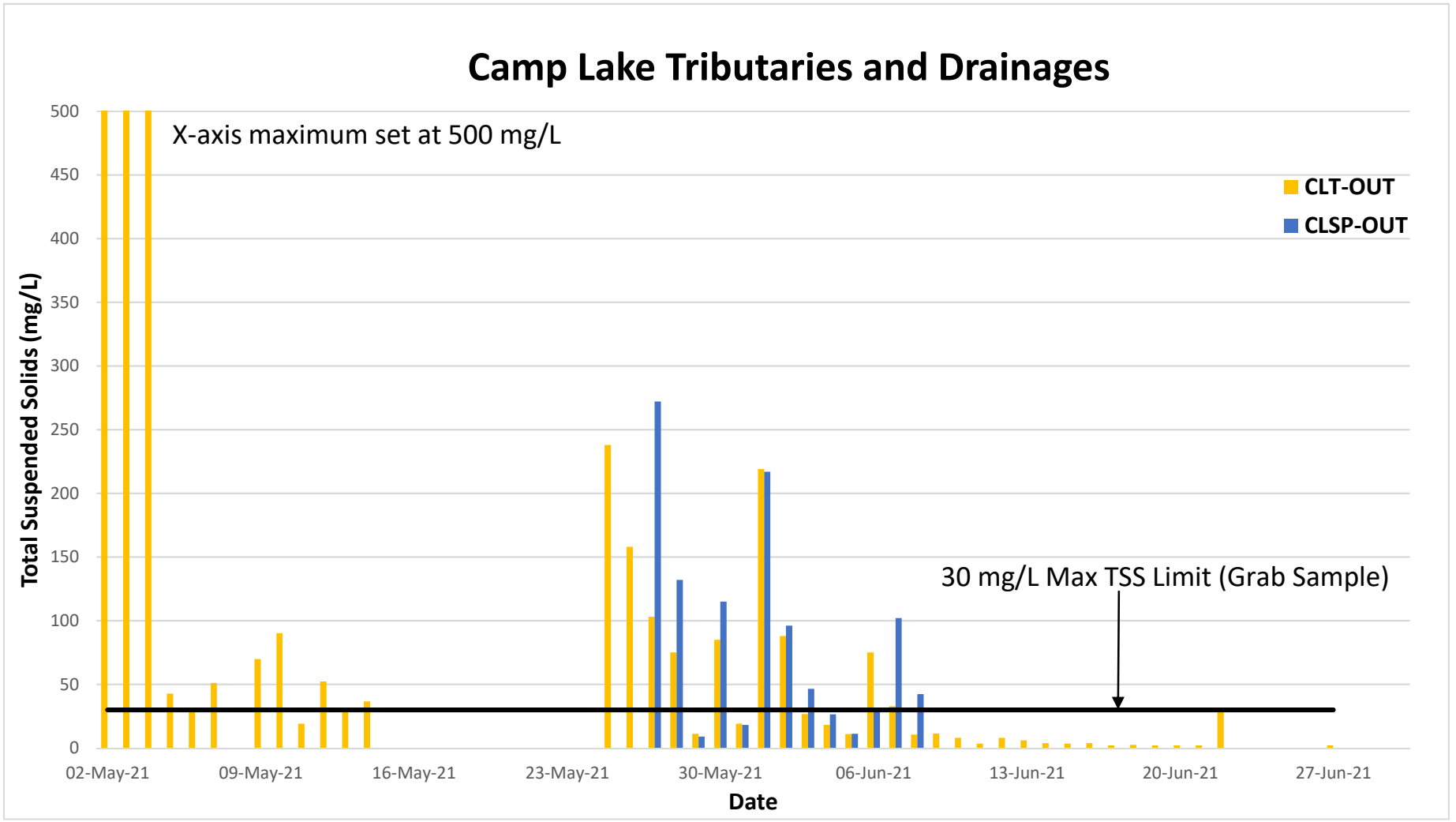
Table 7: Acute Toxicity Results for Monitoring Location - LDFG-OUT

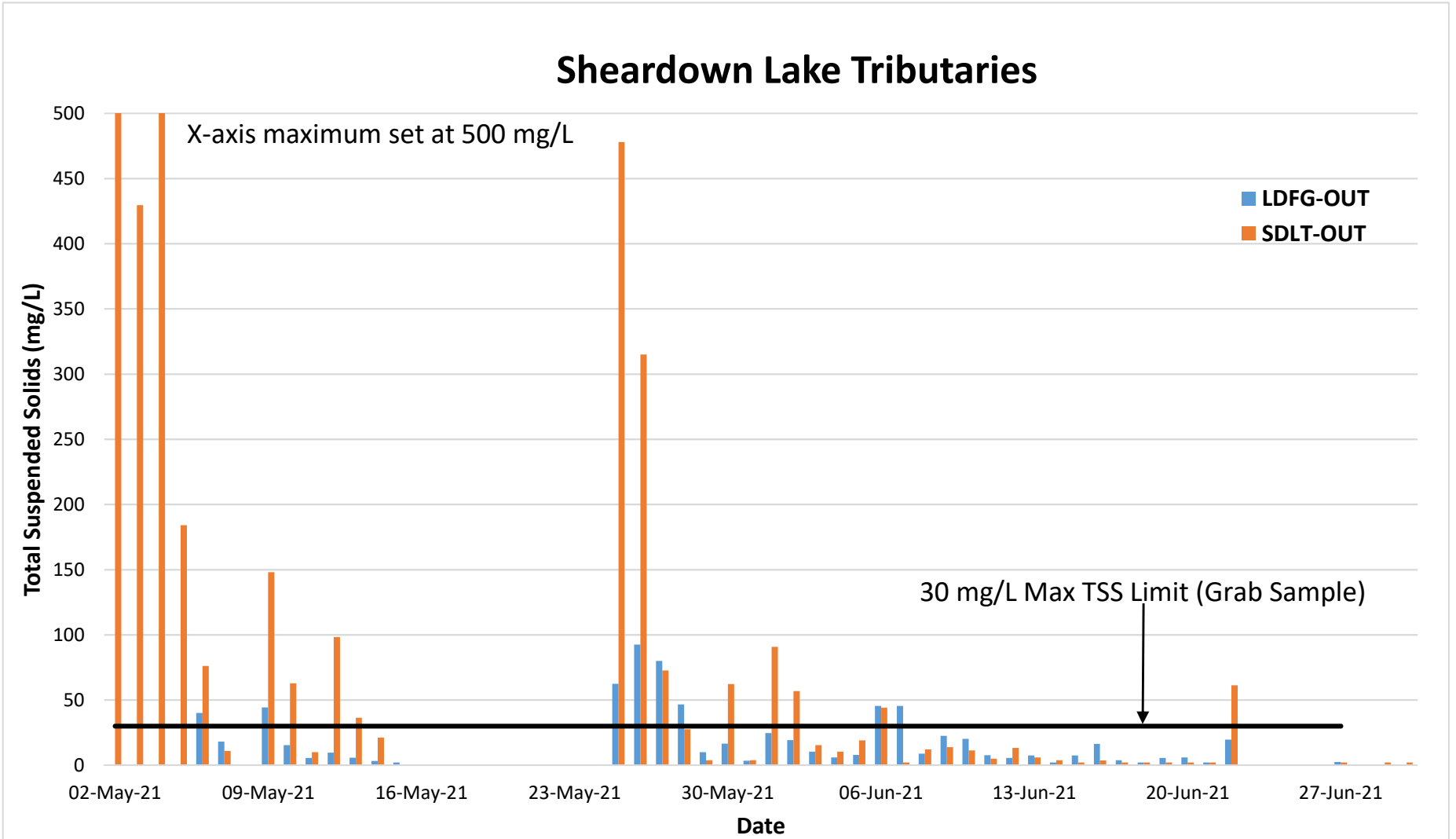
Analyte	Sample Location			LDFG-OUT
	ALS Laboratory Sample ID			L2587332-1
	Sample Date & Time			2021-05-10 14:00
	QA/QC Sample Type			N/A
	Units	LOR	Criteria[1]	
Cobalt (Co)-Dissolved	mg/L	0.00010	-	0.00018
Copper (Cu)-Dissolved	mg/L	0.00020	-	0.00085
Iron (Fe)-Dissolved	mg/L	0.010	-	0.051
Lead (Pb)-Dissolved	mg/L	0.000050	-	0.000082
Lithium (Li)-Dissolved	mg/L	0.0010	-	0.0027
Magnesium (Mg)-Dissolved	mg/L	0.0050	-	2.61
Manganese (Mn)-Dissolved	mg/L	0.00050	-	0.0134
Mercury (Hg)-Dissolved	mg/L	0.0000050	-	<0.0000050
Molybdenum (Mo)-Dissolved	mg/L	0.000050	-	0.000529
Nickel (Ni)-Dissolved	mg/L	0.00050	-	0.00059
Phosphorus (P)-Dissolved	mg/L	0.050	-	<0.050
Potassium (K)-Dissolved	mg/L	0.050	-	1.57
Rubidium (Rb)-Dissolved	mg/L	0.00020	-	0.00183
Selenium (Se)-Dissolved	mg/L	0.000050	-	<0.000050
Silicon (Si)-Dissolved	mg/L	0.050	-	0.447
Silver (Ag)-Dissolved	mg/L	0.000050	-	<0.000050
Sodium (Na)-Dissolved	mg/L	0.050	-	1.22
Strontium (Sr)-Dissolved	mg/L	0.0010	-	0.0036
Sulfur (S)-Dissolved	mg/L	0.50	-	0.89
Tellurium (Te)-Dissolved	mg/L	0.00020	-	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.000010	-	<0.000010
Thorium (Th)-Dissolved	mg/L	0.00010	-	<0.00010
Tin (Sn)-Dissolved	mg/L	0.00010	-	<0.00010
Titanium (Ti)-Dissolved	mg/L	0.00030	-	0.00102
Tungsten (W)-Dissolved	mg/L	0.00010	-	<0.00010
Uranium (U)-Dissolved	mg/L	0.000010	-	0.000188
Vanadium (V)-Dissolved	mg/L	0.00050	-	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.0010	-	<0.0010
Zirconium (Zr)-Dissolved	mg/L	0.0002	-	<0.00020
Oil and Grease	mg/L	5.0	-	<5.0
	-	-	No Visible Sheen	No Visible Sheen
Acute Toxicity	-	-	Not Acutely Toxic	Not Acutely Toxic

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

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


Camp Lake Tributaries and Drainages
X-axis maximum set at 500 mg/L
CLT-OUT
CLSP-OUT
Total Suspended Solids (mg/L)
500
450
400
350
300
250
200
150
100
50
0
30 mg/L Max TSS Limit (Grab Sample)
02-May-21
09-May-21
16-May-21
23-May-21
30-May-21
06-Jun-21
13-Jun-21
20-Jun-21
27-Jun-21
Date


Sheardown Lake Tributaries
X-axis maximum set at 500 mg/L
LDFG-OUT
SDLT-OUT
Total Suspended Solids (mg/L)
500
450
400
350
300
250
200
150
100
50
0
30 mg/L Max TSS Limit (Grab Sample)
02-May-21
09-May-21
16-May-21
23-May-21
30-May-21
06-Jun-21
13-Jun-21
20-Jun-21
27-Jun-21
Date

APPENDIX C – FRESHET MONITORING PROGRAM

Freshet Monitoring Program (May 2, 2021)

The Freshet Monitoring Program is conducted annually to characterize the water quality of several site tributaries and drainages during the high flow period of freshet. The monitoring program begins each year upon the start of flows at the monitoring locations, which typically begins around mid-May depending on weather conditions each year. the Project team forecasts the timing of freshet and initiate the monitoring program based on site knowledge from previous freshet periods, a review of meteorological and snow data, and site inspections that are conducted on an increased frequency in advance of earliest freshet start dates from previous years.

Prior to being authorized to conduct inspections, freshet monitoring and water sampling, employees tasked with implementing the freshet monitoring program complete a thorough training program during their employee orientation training. Training includes reading and understanding all relevant practices and procedures. Training also involves participating in presentations and performing in-field training with subject matter experts.

1. Mine Site Freshet Monitoring Program

The Mine Site monitoring program is conducted at four (4) monitoring locations (CLSP-OUT, CLT-OUT, SDLT-OUT, LDFG-OUT) that are monitored during freshet (typically May 15 to June 30) for the following parameters in accordance with Baffinland's Type "A" Water Licence – 2AM-MRY1325:

- pH
- Total suspended solids (TSS)
- Total dissolved solids (TDS)
- Turbidity

Water licence compliance limits for the freshet water quality parameters are presented in Table 1.

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	Maximum Concentration of any Grab Sample
TSS	15 mg/L	30 mg/L
Oil and Grease	No Visible Sheen	No Visible Sheen
pH	Between 6.0 and 9.5	Between 6.0 and 9.5

Mine Site Freshet Sampling Locations

There are four (4) outfalls that are monitored and sampled throughout freshet including CLSP-OUT and CLT-OUT that drain to Camp Lake and SDLT-OUT and LDFG-OUT that drain to Sheardown Lake. Details for the four locations are presented in Table 2.

Table 2: Freshet Monitoring Locations for the Camp Lake and Sheardown Lake Outfalls

Sample Location	Description	Location (UTM; NAD83 Zone 17W)	
		Easting	Northing
CLSP-OUT	Camp Lake Sedimentation Ponds outlet	557805	7914795
CLT-OUT	Camp Lake Tributary 1 (100 m upstream of Camp Lake outfall)	557686	7914947
SDLT-OUT	Sheardown Lake Tributary 1 (100 m upstream of Sheardown Lake outfall)	560332	7913519
LDFG-OUT	Sheardown Lake Landfill gate tributary (40 m Upstream of Sheardown Lake outfall)	561018	7912968

2. Milne Port Freshet Monitoring Program

The Milne Port monitoring locations, as detailed in Table 4, are monitored for the following parameters during freshet (typically May 20 to June 30):

- pH
- Total suspended solids (TSS)
- Total dissolved solids (TDS)
- Turbidity

Water quality at the Milne Port monitoring locations must adhere to the concentrations presented in Table 3.

Table 3: 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	Maximum Concentration of any Grab Sample
TSS	15 mg/L	30 mg/L
Oil and Grease	No Visible Sheen	No Visible Sheen
pH	Between 6.0 and 9.5	Between 6.0 and 9.5

Monitoring of Surveillance Network Program (SNP) sites is required daily during freshet and pond and berm monitoring is required weekly. Details for the monitoring locations are presented in Table 4.

Table 4: Freshet Monitoring Locations for Milne Port

Sample Location	Description	Location (UTM; NAD83 Zone 17W)	
		Easting	Northing
MP-C-H	Sealift Ramp, Upstream of culvert	504113	7976509
MP-C-J	Southwest of LP3 pad	502940	7974760
MP-C-B	West of Ore Pad	503187	7975602
MP-C-K	West of LP3 laydown	502982	7975333

3. Mine Site and Milne Port Freshet Sampling Procedure

The following monitoring steps are to be taken at the Mine Site and Milne Port during freshet as presented in Figure 1:

1. When water begins flowing at the outfall locations, samples will be collected at these locations daily for pH, TSS, TDS and Turbidity.
2. Field readings will be recorded at every sampling event after the sample has been collected.
3. The daily frequency will continue until seven (7) days of consecutive compliant results are received from the laboratory.
4. Once a sample location has seven (7) days of consecutive compliant results, the frequency will be reduced to a weekly sample event, where the week begins on Sunday.
5. If the sample location has a non-compliant result at any point, sampling will return to the daily frequency.

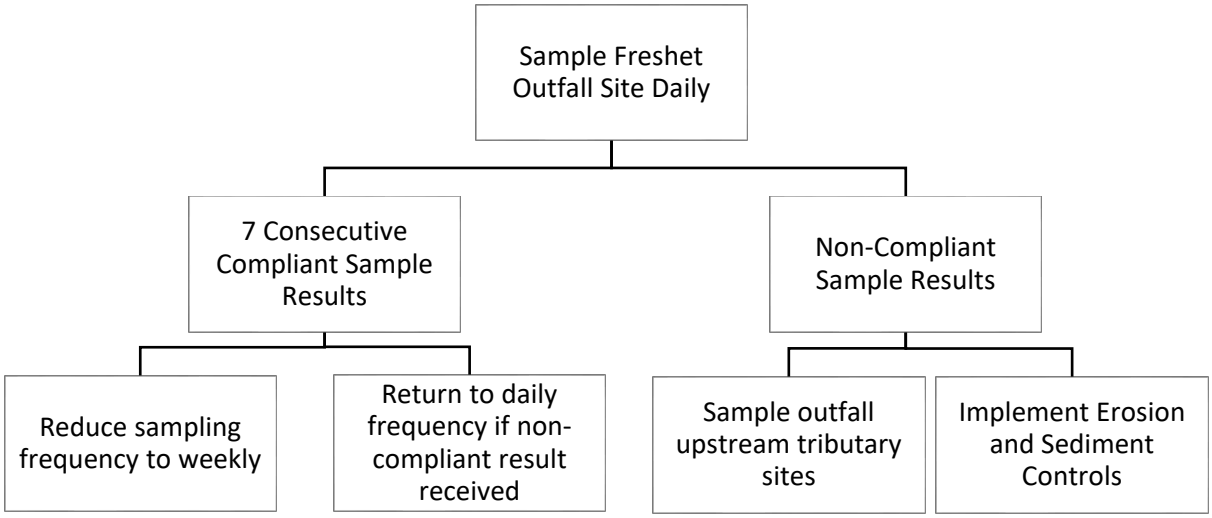


Figure 1: Sampling Flowchart

If a non-compliant result is received for an outfall site:

1. Continue to sample on a daily frequency.
2. Sample the outfall tributary locations upstream of the outfall site as presented in Table 5. Upstream locations will be assessed based on current flow conditions.
3. Implement erosion and sediment controls as mitigation measures to reduce sediment loading to the receiving environment. Lab results of the tributary locations and visual observations will assist in identifying the source, and the location and type of ESC required.
4. Sample locations on a tributary in a downstream to upstream direction, starting at the outfall location.

Table 5: Tributary Sample Locations - Camp Lake and Sheardown Lake

Outfall	Sample Location	Description	Location (UTM; NAD83 Zone 17W)	
			Easting	Northing
CLT-OUT	BG-01-DS	Downstream of BG-01 culvert in KM100 dip	557893	7914937
	BG-01-US	Upstream of BG-01 culvert in KM100 dip	558051	7914941
SDLT-OUT	CV-186-DS	Downstream of CV-186 culvert in KM103 S-Bend	560642	7913497
	CV-186-US	Upstream of CV-186 culvert in KM103 S-Bend	560757	7913503
	CV-187-US	Upstream of CV-187 culvert at KM103; MS-C-E	560980	7913386
LDFG-OUT	LDFG-MID	Downstream of the Landfill gate culvert	561097	7912884
	LDFG-US	Upstream of the Landfill gate culvert	561298	7912737