APPENDIX E.8.3

Initial and Follow-Up Spill Reports

Spill Report Number:

21-021

Baffinland

February 20, 2021

Resource Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0
Jonathan.Mesher@aandc-aadnc.gc.ca

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

Re: Follow-Up to Spill #2021-021
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:
On January 22, 2021 at 16:12hrs, approximately 967 liters of glycol coolant and 247 liters of hydraulic oil spilled onto the surface of the Mine Haul Road (MHR) at KM105.4 from hoses on a Caterpillar 793F mine haul truck that failed when the truck temporarily lost control. The spilled coolant and hydraulic oil drained down the west edge of the MHR resulting in an affected area of approximately 300 m^2 that was 3 m wide by 100 m long. At the time of the event, the mine haul truck temporarily lost traction due to icy road conditions and came to rest partially off the MHR. The spill location is >100 m to the nearest fish bearing water body.

Immediate and Follow-Up Action:
The scene of the incident was immediately secured to prevent additional product from being released from the mine haul truck. After the mine haul truck was safely removed from the spill location, mobile equipment scraped contaminated gravel and roadbed material from the affected area and placed it in sealed containers in the Hazardous Waste Berm (HWB) to be transported for offsite disposal.

Recommendations:
In response to the event, the braking system on the remainder of the 793 fleet was inspected to verify that all systems were operating properly prior to the trucks resuming haulage on the MHR. In addition, actions are being implemented to improve road maintenance on the MHR for haulage. These actions include smoothing out peak gradients at locations where the mine haul truck lost control, and implementing a scheduled road survey review to identify and remediate peak gradient variances along the MHR.

Current Status:
The affected area of the MHR was graded and resurfaced and the road is back in operation.

Should you require further information or clarification on the above noted spill, please feel free to contact the undersigned at (647) 253-0596 x6735 or Aaron MacDonell at (647) 253-0596 x6016.

Prepared by:

Connor Devereaux
Environmental Superintendent

Reviewed by:

Simon Fleury
Mine Manager

Attach: Photos, Map, Baffinland NT-NU Spill Report

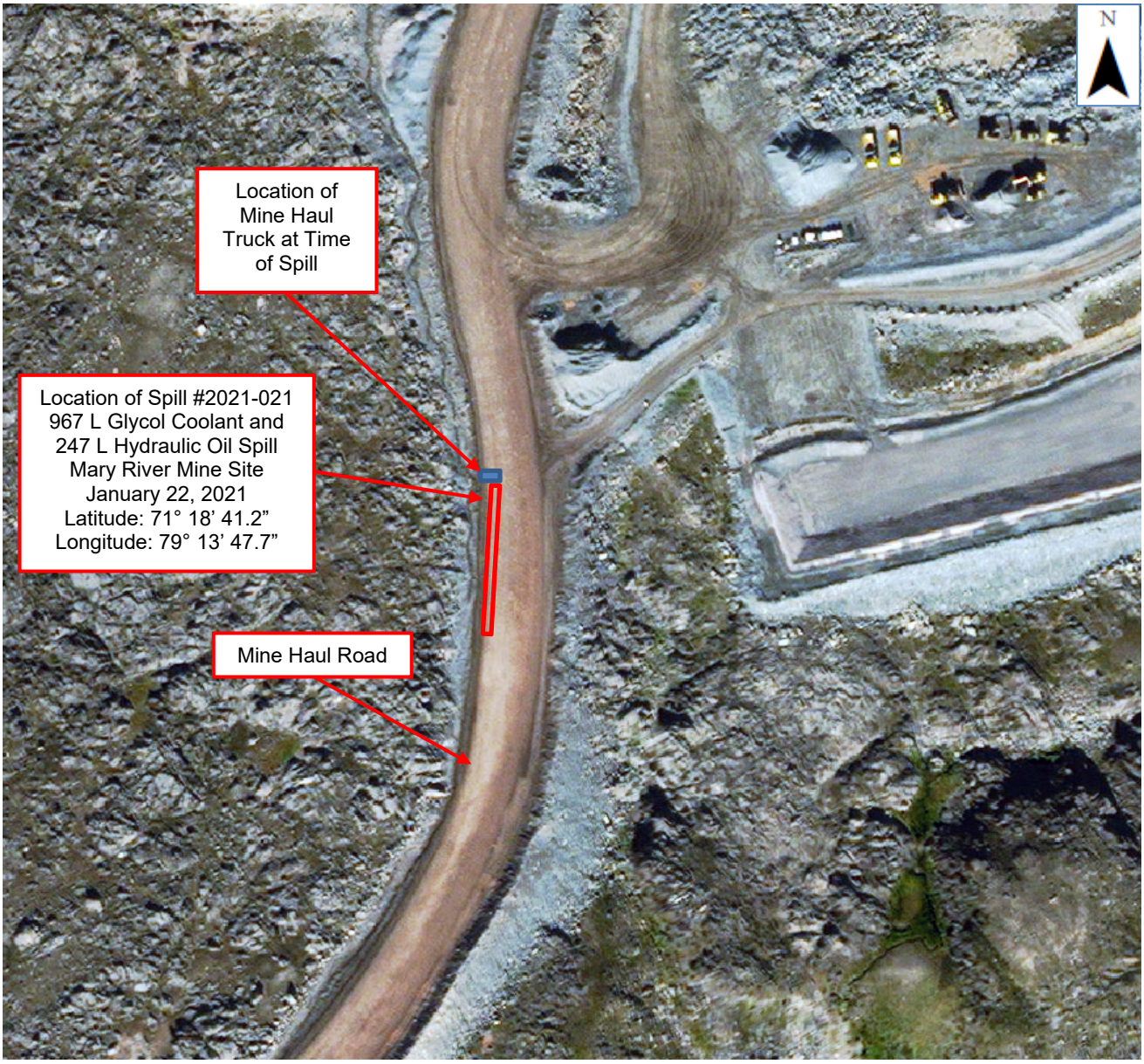
cc. Tim Sewell, Tayfun Eldum, Megan Lord-Hoyle, Francois Gaudreau, Sylvain Proulx, Christopher Murray, Shawn Stevens, Aaron MacDonell (Baffinland), Chris Spencer (QIA), Justin Hack (CIRNAC)

Photo 1. Location of Coolant and Hydraulic Oil Spill (Before Cleanup) – January 23, 2021

Photo 2. Location of Coolant and Hydraulic Oil (After Cleanup) – January 28, 2021

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

Figure 1. Map of Spill Location



Baffinland

Figure 2. Baffinland NT NU spill report

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 01-23-2021	REPORT TIME 13:30hrs	[X] ORIGINAL SPILL REPORT, OR [ ] UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER 21 - 021
B	OCCURRENCE DATE: MONTH – DAY – YEAR 01-22-2021	OCCURRENCE TIME 16:12hrs		
C	LAND USE PERMIT NUMBER (IF APPLICABLE) IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Mary River Mine Site, Baffin Island, NU	REGION [ ] NWT [X] NUNAVUT [ ] ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES 71 MINUTES 18 SECONDS 41	LONGITUDE DEGREES 79 MINUTES 13 SECONDS 48		
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 Coolant	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES Approx. 967 Litres	U.N. NUMBER N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE) Hydraulic oil	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES Approx. 247 Litres	U.N. NUMBER N/A	
I	SPILL SOURCE Caterpillar 793 Mine Haul Truck	SPILL CAUSE Equipment failure	AREA OF CONTAMINATION IN SQUARE METRES Approx. 300 m2	
J	FACTORS AFFECTING SPILL OR RECOVERY Access and Terrain	DESCRIBE ANY ASSISTANCE REQUIRED N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT N/A	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS On January 22, 2021 at 16:12hrs a spill of approximately 967 litres of coolant and 247 litres of hydraulic oil occurred on the surface of the mine haul road at KM106.2 from a Caterpillar 793 mine haul truck. The spill is contained on the surface of the haul road. The incident is currently under investigation and clean up is ongoing. Further details will be provided in the follow-up report. The location of the spill is >100 m from the nearest fish bearing water body. 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 the GN EPA paragraph 5.1(a).				
L	REPORTED TO SPILL LINE BY Aaron MacDonell	POSITION Env. Superintendent	EMPLOYER Baffinland	LOCATION CALLING FROM 647-253-0596	TELEPHONE ext. 6735
M	ANY ALTERNATE CONTACT Shawn Stevens	POSITION Manager of HSES	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			

PAGE 1 OF 1

Spill Report Number:

21-022

February 21, 2021

Resource Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0
Jonathan.Mesher@aandc-aadnc.gc.ca

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

Re: Follow-up to Spill #2021-022
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On January 23, 2021 at 06:30hrs, approximately 2,000 liters of raw sewage was spilled onto the frozen ground from the sewage lift station that services the E wing accommodations building at the Sailiivik Camp at the Mary River Mine Site. The lift station transfer pump was not operating at the time of the spill causing the underground holding tank for the lift station to overfill resulting in raw sewage overflowing onto the frozen ground. The spill affected an area of approximately 25 m^2 between E Wing and F Wing where the raw sewage soaked into snow and froze on the ground. The spill location is approximately 90 m to the nearest fish bearing water body, which is currently frozen due to winter conditions.

Immediate and Follow-Up Action:

Upon identifying the spill, the Site Services Housing Maintainer was immediately notified to request assistance. The Housing Maintainer inspected the electrical panel for the lift station and determined that the power switch for the transfer pump was in the off position. The power switch for the pump was turned on and the pump was returned to operation and pumped the holding tank down to the low-level pump shutoff setting. Additional inspections were performed to confirm that the pump was operating normally. Contaminated snow and ground was collected using a skid steer and shovels and placed in sealed containment in the Hazardous Waste Berm (HWB) to be transported for offsite disposal.

Recommendations:

Immediate corrective actions included scheduling checks of all lift stations daily by Housing Maintainers, removing snow from lift station covers to provide access for inspections, and installing warning labels on all lift station electrical panels advising personnel not to open them without an electrician present. Additional corrective actions that Baffinland is taking to prevent similar spills from re-occurring include installing warning lights on the lift station electrical panels to indicate when power to the transfer pumps is on, completing an audit of lift station electrical panels throughout the Sailiivik Camp to identify and mitigate any potential issues, building structures over lift station inspection covers to prevent snow accumulation, and implementing a lift station and panel inspection checklist for daily and weekly inspections.

Current Status:

The switch that controls power for the lift station transfer pump was turned on and the lift station was returned to normal operation. Contaminated snow and ground was removed from the affected area and placed in sealed containment in the HWB for transport offsite for disposal. The affected area will be monitored as the ground thaws to ensure all affected ground was removed during clean up activities.

Should you require further information or clarification on the above noted spill, please feel free to contact the undersigned at (647) 253-0596 x6016 or Aaron MacDonell at (647) 253-0596 x6735.

Baffinland

Prepared by:

Connor Devereaux
Environmental Superintendent

Reviewed by:

Shawn Parry
Manager, Road Maintenance & Site Services

Attach: Photos, Map, Baffinland NT-NU Spill Report

cc. Tim Sewell, Tayfun Eldym, Megan Lord-Hoyle, Francois Gaudreau, Sylvain Proulx, Christopher Murray, Shawn Stevens, Aaron MacDonell (Baffinland), Chris Spencer (QIA), Justin Hack (CIRNAC)

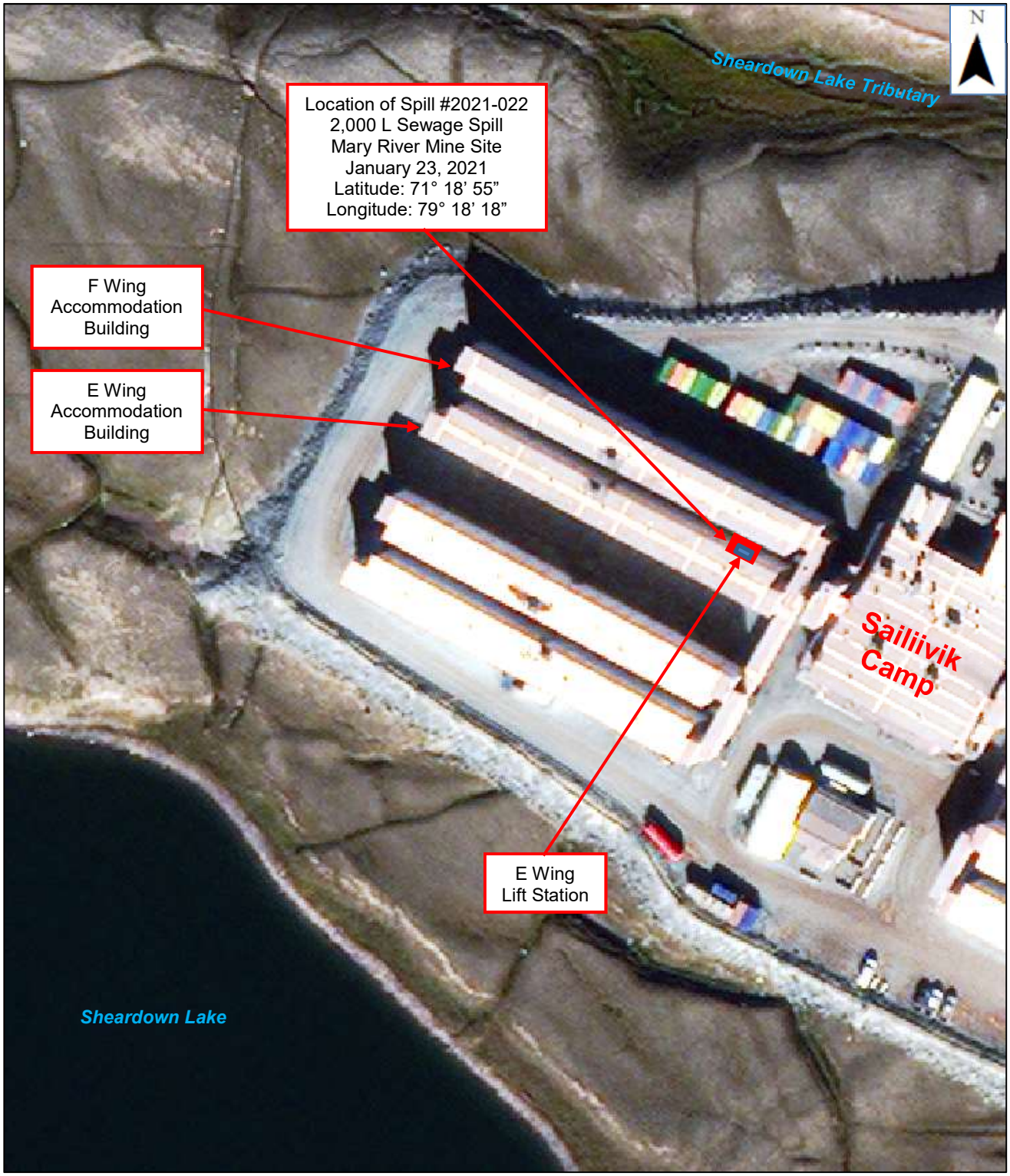
Photo 1. Location of Sewage Spill from Lift Station (Before Cleanup) – January 23, 2021

Photo 2. Location of Sewage Spill from Lift Station (After Cleanup) – January 31, 2021

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

Baffinland

Figure 1. Map of Spill Location



Baffinland

Figure 2. Baffinland NT NU spill report

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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 01-23-2021	REPORT TIME 16:00hrs	[X] ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER 21 - 022
B	OCCURRENCE DATE: MONTH – DAY – YEAR 01-23-2021	OCCURRENCE TIME 06:30hrs		
C	LAND USE PERMIT NUMBER (IF APPLICABLE) IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Mary River Mine Site, Baffin Island, NU	REGION ☐ NWT [X] NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES 71 MINUTES 18 SECONDS 55	LONGITUDE DEGREES 79 MINUTES 18 SECONDS 18		
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 Sewage	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES Approx. 2000 Litres	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 Lift Station	SPILL CAUSE Pump Failure	AREA OF CONTAMINATION IN SQUARE METRES Approx. 25m2	
J	FACTORS AFFECTING SPILL OR RECOVERY Congested area, camp structure	DESCRIBE ANY ASSISTANCE REQUIRED N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT N/A	

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

On January 23, 2021 at 06:30HRS, a site services worker identified a liquid near the base of the Mine Site Sailiivik Complex E Wing. The liquid was identified as spilled sewage and was frozen. Upon investigation, it was determined that the lift station pump had failed causing an overflow. The spill originated under E Wing and flowed to the space between E and F Wing. Approximately 2000L of sewage was released under the camp past ground surface, affecting an area of approximately 25 m2. This location is approximately 90m to the nearest water course, which is currently frozen. The spill is confined to the pad adjacent to the building. The investigation of the incident is ongoing and details will be provided in the follow-up report. 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 the GN EPA paragraph 5.1(a).

L	REPORTED TO SPILL LINE BY Aaron MacDonell	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			

PAGE 1 OF 1

Spill Report Number:

21-099

Baffinland

April 13, 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

Re: Follow-up to Spill #2021-099
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:
On March 16, 2021 at 00:10HRS, approximately 1000 liters of sewage was released to the frozen ground when the discharge hose disconnected from the Vacuum Truck discharge valve while sewage was being offloaded into the Sewage Treatment Plant (STP) that services the Port Site Complex (PSC) at Milne Port. The discharge hose disconnected during the sewage transfer because the fastening mechanism on the discharge hose was not properly locked into the fitting on the discharge valve. A factor which contributed to the release was that the Operator was not present at the discharge location to monitor the transfer hose and connection fittings during the offloading process because the Operator had remained in the cab of the Vacuum Truck after the sewage transfer was initiated. The area affected by the spill is farther than 100 m from the nearest water body, which is currently frozen.

Immediate and Follow-Up Action:
Upon identifying the spill, the Vacuum Truck Operator immediately disengaged the transfer pump and closed the discharge valve, preventing further release. A skid-steer was used to scrape the released sewage from the frozen ground and place it into Quatrex bags for storage in the hazardous waste berm. The fastening mechanisms on the Vacuum Truck were inspected to verify that they were functioning properly, and pins were subsequently installed on the fastening mechanisms of the Vacuum Truck as a secondary guard to prevent the primary locking mechanism from releasing.

Recommendations:
A Standard Operating Procedure (SOP) for Vacuum Truck operations, which instructs operators to remain at the discharge area and to continuously monitor hoses and fittings during sewage transfers was developed. All Site Services Vacuum Truck operators will be trained in the Vacuum Truck operating procedures described in the SOP.

Current Status:
Frozen ground and released sewage was removed from the spill affected area with a skid-steer and placed in Quatrex bags in the hazardous waste berm. Vacuum truck operators have been instructed to remain at the discharge area and to continuously monitor hoses and fittings during sewage transfer operations. An SOP detailing this procedure was developed.

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

Prepared by:

Connor Devereaux
Environmental Superintendent

Reviewed by:

Shawn Parry
Manager, Road Maintenance & Site Services

Attach: Photos, Map, Baffinland NT-NU Spill Report

cc. Tim Sewell, Tayfun Eldum, Megan Lord-Hoyle, Francois Gaudreau, Martin Beausejour, Sylvain Proulx, Christopher Murray, Shawn Stevens (Baffinland), Chris Spencer (QIA), Justin Hack (CIRNAC)

Photo 1. Location of Sewage Spill from Vacuum Truck (Before Cleanup) – March 16, 2021

Photo 2. Location of Sewage Spill from Vacuum Truck (After Cleanup) – March 16, 2021

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

Figure 1. Map of Spill Location

Baffinland

Figure 2. Baffinland NT NU spill report

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR: 03-16-2021	REPORT TIME: 17:30hrs	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 21 - 099
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 03-16-2021	OCCURRENCE TIME: 00:10hrs		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION: Mary River Mine Site, Baffin Island, NU	REGION: ☐ NWT ☒ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES 71 MINUTES 53 SECONDS 01	LONGITUDE: DEGREES 80 MINUTES 53 SECONDS 23		
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: Sewage	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: Approx. 1000 Litres	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: Vacuum Truck Tank Outlet	SPILL CAUSE: Hose Coupling Failure	AREA OF CONTAMINATION IN SQUARE METRES: Approx. 10m2	
J	FACTORS AFFECTING SPILL OR RECOVERY: N/A	DESCRIBE ANY ASSISTANCE REQUIRED: N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT: N/A	

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

On March 16, 2021 at 00:10HRS, approximately 1000 liters of sewage was released to the frozen ground when the coupling for a hose connected to the offloading outlet on a vacuum truck tank released when the Vacuum Truck Operator started offloading sewage into the Sewage Treatment Plant (STP) that services the Port Site Complex (PSC) at Milne Port. Upon identifying the spill, the Vacuum Truck Operator shut the tank outlet valve to prevent additional release and called the Night Shift Supervisor to request spill response assistance. A skidsteer was used to scrape the sewage from the frozen ground and place it into Quatrex bags in the hazardous waste berm for disposal. The investigation of the incident is ongoing and details will be provided in the follow-up report. 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 the GN EPA paragraph 5.1(a).

L	REPORTED TO SPILL LINE BY: Aaron MacDonell	POSITION: Env. Superintendent	EMPLOYER: Baffinland	LOCATION CALLING FROM: 647-253-0596	TELEPHONE: ext. 6016
M	ANY ALTERNATE CONTACT: Shawn Stevens	POSITION: HSEST Manager	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			

PAGE 1 OF 1

Spill Report Number:

21-146 & 21-164

June 1, 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 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).

Prepared by:

Connor Devereaux
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, Amanda McKenzie, Allison Parker, Kendra Button (Baffinland)

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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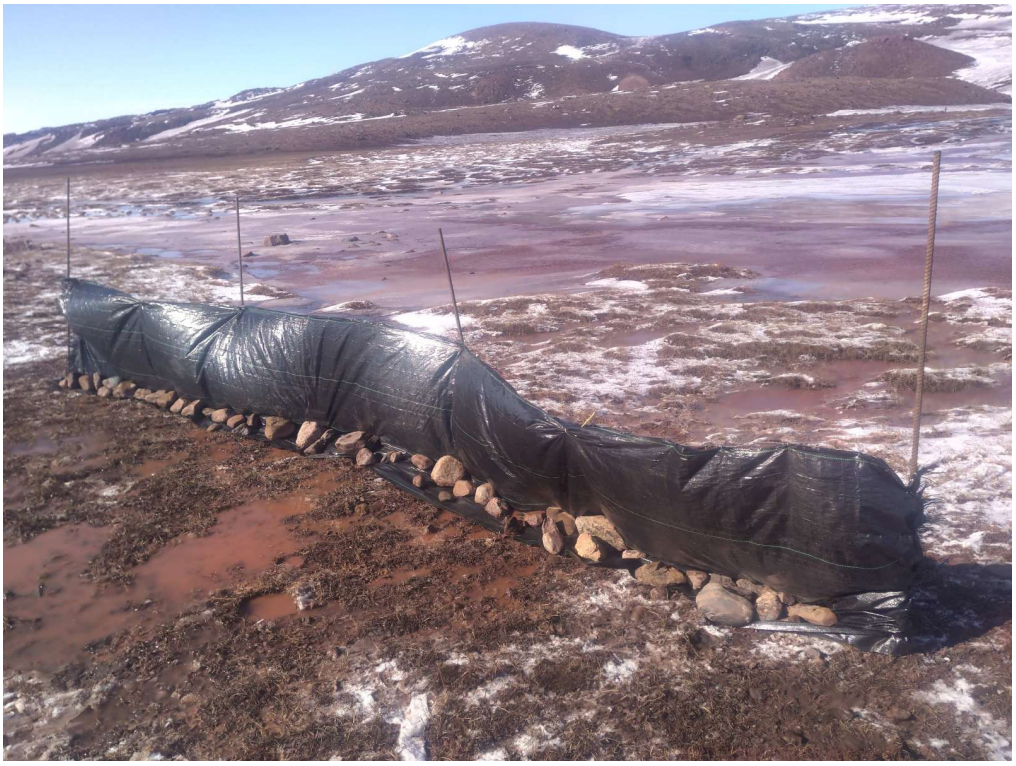

Photo 3. Erosion and Sediment Control at CV-186 Upstream of SDLT-OUT (May 12, 2021)

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

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

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** - 146
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** - 164
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

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

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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

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.