APPENDIX E.8.3

Initial and Follow-up Spill Reports

March 5, 2024

Resource Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0

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

Re: Follow-Up to Spill #2024-041
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On February 4, 2024, approximately 1500 L of untreated sewage was observed leaking from a lift station pipe into a drainage ditch, located immediately south of the Port Site Complex (WWTP), during a routine inspection. On further investigation, the release was found to be originating from the PSC raw sewage influent line; where the influent line, located between the PSC WWTP and drainage ditch, is re-directed north via a 90^{o} elbow fitting. The spill was contained to the immediate area adjacent to the WWTP, and did not migrate. The spill location is approximately 370 m to the Milne Inlet; the nearest fish bearing water.

Immediate and Follow-Up Action:

PSC lift station pumps were immediately disengaged to prevent any further flow from the PSC influent line and lift station, and the area was isolated. A vacuum truck was mobilized to empty the main PSC camp collection and discharge lift station that utilizes the effected piping, to prevent further release, and then deployed to the location of the failed fitting to capture any further sewage being released during draining of the line and preparation of the line for repair. Once the line was empty, the failed fitting was removed and a new fitting was installed. Following the repair, the influent line was placed back into service and inspected for further leaks as per routine start-up procedures. Additional clean up activities are scheduled to be initiated once thaw conditions occur if required. At that time, any remaining contaminated snow and ground material will be removed from the affected area.

Recommendations:

The long-term corrective action to prevent a similar reoccurrence is removal of the repaired 90^{o} elbow fitting and replacement with two 45^{o} fittings and a short length of pipe to reduce mechanical stress on the connection to the PSC WWTP. The PSC WWTP influent line and the repaired connection will be inspected daily until the long-term corrective measures are implemented.

Current Status:

The failed fitting has been replaced and the PSC WWTP influent line put back into service. The area will be monitored in the spring and additional clean up activities will be conducted as necessary.

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

Prepared by:

Todd Swenson
Environmental Superintendent

Reviewed by:

Dwayne Dergousoff

Dwayne Dergousoff
Deputy Manager, Site Services

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

Cc: Jeremy Fraser, Sean Noble-Nowdluk (CIRNAC)
Tim A. Soucie, Andrew Jaworenko (QIA)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Joe Armstrong, Connor Devereaux, Katie Babin, Allison Parker, Dale Kristoff (Baffinland)

Attachment 1

Spill Location

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

Attachment 2

Photographs

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

Photo 1. Untreated Sewage Release – February 4, 2024

Photo 2. Influent Line (Before Repair) – February 4, 2024

Photo 3. Influent Line (After Repair) – February 4, 2024

Photo 4. Untreated Sewage Release After Clean-up) – February 26, 2024

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

Attachment 3

Baffinland NT-NU Spill Report #2024-041

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

Baffinland

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 02-05-2024	REPORT TIME 13:00	X ORIGINAL SPILL REPORT OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR 02-04-2024	OCCURRENCE TIME 14:30		
C	LAND USE PERMIT NUMBER (IF APPLICABLE) IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MRY1325		
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 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 300 Oakville Place Drive, Suite 300, Oakville, ONT., L6H 6K8		
G	ANY CONTRACTOR INVOLVED N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
H	PRODUCT SPILLED Untreated Sewage	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 1500 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 broken pipe fitting	AREA OF CONTAMINATION IN SQUARE METRES 30 m2	
J	FACTORS AFFECTING SPILL OR RECOVERY N/A	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 Operator was walking in the area and noticed discolored snow and steam in the area of a lift station pipe. The area was cleared of snow and sewage leak was discovered. The lift station was immediately shut down and the area was isolated. A vacuum truck was used to empty the lift station to prevent further flow. The vacuum truck was then used at the failed fitting to capture any sewage from the pipe as it was cut to further drain the pipe. Once empty, the fitting was removed and a new fitting was installed. Cleanup of the area is ongoing. The spill was contained to the immediate area adjacent to the WWTP, resulting in an affected area of approximately 30 m2. The spill location is approximately 370 m to the Milne Inlet; the nearest fish bearing water. This spill is being reported as required by the conditions of water license no. 2AM-MRY1325, Part H, item 9(b) and the GN EPA paragraph 5.1(a).				

L	REPORTED TO SPILL LINE BY Katie Babin	POSITION Env. Superintendent	EMPLOYER Baffinland Iron Mine	LOCATION CALLING FROM Baffinland	TELEPHONE Ext 6016
M	ANY ALTERNATE CONTACT Todd Swenson	POSITION Env. Superintendent	EMPLOYER Baffinland Iron Mine	ALTERNATE CONTACT LOCATION Baffinland	ALTERNATE TELEPHONE Ext 6016

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 _____

March 30, 2024

Resource Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0

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

Re: Follow-Up to Spill #2024-058
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

During daily sewer inspections on February 29, 2024, it was discovered that the BD South Lift Station discharge elbow had cracked causing the joint to fail resulting in a spill of approximately 400 L of untreated sewage onto the ground. The lift tank was manually cleaned out using a vacuum truck to prevent any further spillage. The spill was frozen and contained to the immediate area underneath the PSC building area. The spill location is approximately 350 m to the Milne Inlet; the nearest fish bearing water.

Immediate and Follow-Up Action:

PSC lift station pumps were immediately disengaged to prevent any further flow from the PSC influent line and lift station, and the area was isolated. A vacuum truck was mobilized to empty the lift stations that utilizes the affected piping, to prevent further release. The failed elbow and joint was removed and replaced. Following the repair, the influent line was placed back into service and inspected for further leaks as per routine start-up procedures. Accessible contaminated material was scraped up and disposed of in the Polishing Waste Settling Pond (PWSP). Additional clean up activities are scheduled to be initiated once thaw conditions occur if required. At that time, any remaining contaminated snow and ground material will be removed from the affected area.

Recommendations:

The corrective actions implemented as a result of this spill include implementing an increased frequency of bump tests for sewage lift stations, include visual inspections of all feed and discharge piping during the daily inspections, and scheduling yearly inspections where the insulation is removed and an in depth integrity inspection is completed of the outdoor sewage piping systems

Current Status:

The failed elbow and joint have been replaced and the PSC BD lift stations were put back into service. The area will be monitored in the spring and additional clean up activities will be conducted as necessary.

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

Prepared by:

Katie Babin
Environmental Superintendent

Reviewed by:

Dwayne Dergousoff
Site Services Deputy Manager

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

Cc: Jeremy Fraser, Sean Noble-Nowdluk (CIRNAC)
Tim A. Soucie, Andrew Jaworenko (QIA)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Joe Armstrong, Connor Devereaux, Katie Babin, Todd Swenson, Allison Parker, Dale Kristoff (Baffinland)

Attachment 1

Spill Location

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

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

Attachment 2

Photographs

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

Photo 1. Untreated Sewage Release – February 29, 2024

Photo 2. Influent Line (Before Repair) – February 29, 2024

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

Photo 3. Influent Line (After Repair) – February 29, 2024

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

Attachment 3

Baffinland NT-NU Spill Report #2024-058

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

Baffinland

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: 03-01-2024	REPORT TIME: 11:30	X ORIGINAL SPILL REPORT, OR ☐ UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 24
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 02-29-2024	OCCURRENCE TIME: 14:20		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325		
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 53 SECONDS 03	LONGITUDE: DEGREES -80 MINUTES 53 SECONDS 15		
F	RESPONSIBLE PARTY OR VESSEL NAME: Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: 300 Oakville Place Drive, Suite 300, Oakville, ONT., L6H 6K8		
G	ANY CONTRACTOR INVOLVED: N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION: N/A		
H	PRODUCT SPILLED: Untreated Sewage	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: 400 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: broken pipe fitting	AREA OF CONTAMINATION IN SQUARE METRES: 150 m2	
J	FACTORS AFFECTING SPILL OR RECOVERY: N/A	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 February 29th, 2023, around 2:20 p.m., BIM Staff discovered a sewage leak near the PSC lift station. Environment personnel conducted an inspection and discovered approximately 400 liters of frozen untreated sewage on the ground. The source of the sewage spill is a failed pipe fitting at the lift station outflow; the affected lift station was emptied manually using a vacuum truck to prevent any further spillage. The failed fitting has been replaced and the damage repaired. The spilled product is frozen on the ground and contained under the PSC building area. The spill location is approximately 350 m to the Milne Inlet; the nearest fish bearing water. 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) and the GN EPA paragraph 5.1(a).

L	REPORTED TO SPILL LINE BY: Todd Swenson	POSITION: Env. Superintendent	EMPLOYER: Baffinland Iron Mine	LOCATION CALLING FROM: Baffinland	TELEPHONE: Ext 6016
M	ANY ALTERNATE CONTACT: Katie Babin	POSITION: Env. Superintendent	EMPLOYER: Baffinland Iron Mine	ALTERNATE CONTACT LOCATION: Baffinland	ALTERNATE TELEPHONE: Ext 6016

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

May 19, 2024

Resource Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0

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

Re: Follow-Up to Spill #2024-113
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On April 19, 2024, approximately 116 L of untreated sewage was released onto the ground when the industrial laundry room lift station at the Port Site Complex (PSC) overflowed. On investigation, sewage sludge was observed to have accumulated around the float inside the lift station, which prevented the lift station pumps from engaging when the high level was reached as per the design. The released sewage was contained to the immediate area adjacent to the lift station and did not migrate beyond the area of release. The location of the sewage release is approximately 318 m from the Milne Inlet, the nearest fish-bearing water, which is currently frozen.

Immediate and Follow-Up Action:

The affected lift station pumps were immediately engaged to prevent any further flow from the lift station, and the area of release was isolated. A vacuum truck was mobilized to assist with removing the remaining volume from the lift station to prevent further release, and unfrozen spilled material was also recovered from the ground and disposed of in the Port Site Polishing Waste Settling Pond (PWSP). Accumulated sludge material was removed from around the float inside the lift station, and the lift station pumps were subsequently tested and reengaged, resuming lift station operation.

Recommendations:

Corrective actions implemented to prevent a similar reoccurrence include an increased frequency of manual testing of sewage lift station floats to ensure the system functions as intended. Visual inspections of lift station floats will also be incorporated into routine daily inspections. Sewage sludge will be removed from the lift stations at an increased frequency and as required to ensure sludge accumulation does not affect lift station pump and float operations.

Current Status:

Accumulated material has been removed from the affected lift station float and the PSC laundry room lift station returned to service. The area will be monitored in the spring and additional clean-up activities will be conducted as necessary. Corrective actions have been scheduled on an automatic recurring basis into the Operators' workflow at the required frequency.

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

Prepared by:

Todd Swenson
Environmental Superintendent

Reviewed by:

Drew Blais
Superintendent, Accommodations & Essential Services

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

Cc: Jeremy Fraser, Sean Noble-Nowdluk (CIRNAC)
Tim A. Soucie, Andrew Jaworenko, Amoudla Kootoo (QIA)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Dwayne Dergousoff, Connor Devereaux, Katie Babin, Allison Parker, Dale Kristoff, Irniq Lecompte (Baffinland)

Attachment 1

Spill Location

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

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

Attachment 2

Photographs

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

Photo 1. Untreated Sewage Release – April 20, 2024

Photo 2. Untreated Sewage Release Following Clean Up – April 20, 2204

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

Attachment 3

Baffinland NT-NU Spill Report #2024-113

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

Baffinland

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

Northwest Territories | Nunavut | Canada

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: 04-20-2024	REPORT TIME: 11:30	X ORIGINAL SPILL REPORT, OR ☐ UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 24
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 04-19-2024	OCCURRENCE TIME: 11:45		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325		
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 53 SECONDS 4.8	LONGITUDE: DEGREES -80 MINUTES 53 SECONDS 12.8		
F	RESPONSIBLE PARTY OR VESSEL NAME: Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: 300 Oakville Place Drive, Suite 300, Oakville, ONT., L6H 6K8		
G	ANY CONTRACTOR INVOLVED: N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION: N/A		
H	PRODUCT SPILLED: Untreated Sewage	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: 116 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: overflow	AREA OF CONTAMINATION IN SQUARE METRES: 4 m2	
J	FACTORS AFFECTING SPILL OR RECOVERY: N/A	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 April 19, 2024, approximately 11:45 am., the housing maintainer discovered a sewage leak near the PSC Laundry Room lift station. An estimated 116 liters of untreated sewage was released to the ground. The source of the sewage spill still under investigation, but is believed to be a failed discharge pump. The affected lift station was emptied using a Vacuum Truck to prevent any further spillage. Any unfrozen spilled product was also be removed via Vacuum Truck. The spill location is approximately 318 m to the Milne Inlet, the nearest fish bearing water, which is currently frozen. 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) and the GN EPA paragraph 5.1(a).

L	REPORTED TO SPILL LINE BY: Todd Swenson	POSITION: Env. Superintendent	EMPLOYER: Baffinland Iron Mine	LOCATION CALLING FROM: Baffinland	TELEPHONE: Ext 6016
M	ANY ALTERNATE CONTACT: Katie Babin	POSITION: Env. Superintendent	EMPLOYER: Baffinland Iron Mine	ALTERNATE CONTACT LOCATION: Baffinland	ALTERNATE TELEPHONE: Ext 6016

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 ☐ NAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

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

June 9, 2024

Resource Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0

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

Re: Follow-Up to Spill #2024-149
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On May 9, 2024 at approximately 21:00, an estimated five m^3 of screened sewage effluent was released to the environment immediately outside the Mine Site Complex Waster Water Treatment Plant (MSC WWTP). As part of the operations of the treatment plant, sewage is transferred from an equalization tank to a screen tank. The screen tank was overtopped resulting in the discharge of the sewage effluent adjacent to the MSC WWTP.

The spill migrated over frozen ground approximately 250 m from the nearest fish-bearing stream, with no product expected to enter the stream (Attachment 1).

Immediate and Follow-Up Action:

Upon discovery of the release by the operator, the MSC WWTP was immediately shut down and the release contained. It was determined that the high-level float was not placed at the correct height and thus did not function as expected resulting in the overtopping of the tank and subsequent release. The high-level float was set at the correct height and the plant resumed operations. Recovery of any accessible product was completed but was limited due to frozen conditions.

Recommendations:

Corrective actions implemented to prevent a similar occurrence include modifications and improvements to the prevent any movement of the of the high-level floats, an inspection of all WWTP tanks and floats to ensure they are set to the correct height and operating as designed, update plant procedures that reflect any modifications made to the plant, and ensuring the maintenance schedule is representative of all modifications made to all WWTP's.

Current Status:

The high-level float is operating as designed to ensure shutoff of any sewage transfers that reach the tanks limit. The plant is back in service and operating properly. The area has been monitored throughout freshet and no additional clean up was required.

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

Baffinland

Prepared by:

Katie Babin
Environmental Superintendent

Reviewed by:

Eli Iannelli
Site Services Superintendent

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

Cc: Jeremy Fraser, Sean Noble-Nowdluk (CIRNAC)
Andrew Jaworenko, Amoudla Kootoo (QIA)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Dwayne Dergousoff, Eli Iannelli, Connor Devereaux, Katie Babin, Todd Swenson, Allison Parker, Dale Kristoff, (Baffinland)

Attachment 1

Spill Location Map

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. Location of Spill #2024-149

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

Attachment 2

Photos of Incident

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

Photo 1: Origin of discharge from MSC WWTP. May 9, 2024

Photo 2: Flow path of spill over frozen ground. May 9, 2024

Photo 3: Area of discharge after snow melt. June 8, 2024

Photo 4: Area further down slope of the discharge. June 8, 2024

Attachment 3

Baffinland NT-NU Spill Report #2024 -149

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 05-10-2024	REPORT TIME	X ORIGINAL SPILL REPORT OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER 24 - _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR 05-09-2024	OCCURRENCE TIME 21:00		
C	LAND USE PERMIT NUMBER (IF APPLICABLE) IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MRY1325		
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 48	LONGITUDE DEGREES -79 MINUTES 17 SECONDS 5		
F	RESPONSIBLE PARTY OR VESSEL NAME Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION 360 Oakville Place Drive, Suite 300, Oakville, ONT., L6H 6K8		
G	ANY CONTRACTOR INVOLVED N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
H	PRODUCT SPILLED Untreated Sewage	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 5000	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 Sewage Treatment Plant Tank	SPILL CAUSE Overflow	AREA OF CONTAMINATION IN SQUARE METRES N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY Frozen Conditions	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 9, 2024, at approximately 21:00, an estimated 5000 L of screened sewage was released to the ground and adjacent tundra when the tank at the MSC WWTP overflowed. During transfer of effluent from the equalization tank to the screen tank, the WWTP Operator relied on the high-level float to shut down the flow of water before it reached the overflow. However, the high-level float did not perform as expected and resulting in overflow of effluent from the tank. The overflow was immediately stopped on discovery of the release. Spilled product froze on the ground and adjacent tundra and will be removed from accessible areas when thawing conditions occur. The spill location is >250 m from the nearest fish-bearing stream. 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) and the GN EPA paragraph 5.1(a).

L	REPORTED TO SPILL LINE BY Katie Babin	POSITION Env. Superintendent	EMPLOYER Baffinland Iron Mine	LOCATION CALLING FROM Baffinland	TELEPHONE Ext 6016
M	ANY ALTERNATE CONTACT Todd Swenson	POSITION Env. Superintendent	EMPLOYER Baffinland Iron Mine	ALTERNATE CONTACT LOCATION Baffinland	ALTERNATE TELEPHONE Ext 6016

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

June 10, 2024

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Enfoncement Office
Environment and Climate Change Canada
933 Mivvik Street
Iqaluit, NU X0A 0H0

Re: Follow-Up to Spill #2024-151
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On May 10, 2024, an uncontrolled release from the KM105 Surface Water Management Pond (KM105 Pond) was confirmed through testing and observations conducted in response to observed flowing water at the downstream toe of the dam (see Attachment 2; Photograph 1). Visual inspections confirmed seepage from upstream of the northwest embankment in a discrete location from the seepage reported in 2022 and 2023. Initial field readings of the release indicated elevated levels of pH at 11.8 in the immediate vicinity of the release. Subsequent water quality samples were collected from a newly established water quality monitoring station (KM105-SWMP-SEEP-03) at the seepage location and submitted to an external laboratory to characterize the water quality of the seepage (see Attachment 3; KM105-SWMP-SEEP-03 Water Quality Results). The downstream receiving environment was frozen at the time of the release. This prevented the seepage from migrating to the receiving environment and was observed to be pooling approximately 60m downstream of the toe of the northwest embankment.

A complete water quality characterization and acute toxicity sample was taken at the downstream receiving location of D1-05 on May 27th, and it was found that the water quality was not acutely toxic.

Immediate and Follow-Up Action:

Immediate action was taken to contain the water, which included reinforcing the earthen berm to create a collection pond at the seep location and installing pumps to transfer the water back into the pond. On May 11th once the earthen berm and pumping capacity was sufficient no further release occurred between May 11th – 20th as all water was pumped back into the pond structure (See Attachment 2 and 3; Photograph 2).

Options for treatment and mitigation were investigated and implemented including continuing to pump water back into the pond, implementing a pre-treatment system for the addition of a flocculent, ferric sulphate and lime to promote the setting of suspended solids and to control pH, installation of a silt curtain upstream of the dam and the placement of floc blocs within the drainage ditch inflow to the pond (see Attachment 2; Photographs 5, 6, 7, and 8).

On May 20th, Baffinland initiated a controlled discharge from the seepage collection sump at the toe of the Km 105 surface water management dam. This was a result of the seepage rate through the structure and

newly installed grout curtain exceeding the pumping capacity and capacity to retain water with the northwest embankment.

A water quality sample was taken again to characterize the release; a full-suite MDMER Effluent Characterization, and acute lethality sample. The current available water quality results taken to date to characterize this release are presented in Attachment 3; KM105-SWMP-SEEP-03 Water Quality Results. All water quality results will be provided once available from the third party laboratory.

It should be noted that all water released from the facility once the downstream environment was flowing was compliant for all MDMER and Water Licence parameters with the expectation of TSS (see Attachment 3; KM105-SWMP-SEEP-03 Water Quality Results).

Daily monitoring has been completed since the start of the response to the seepage and the results used to inform water treatment dosage requirements as water continues to flow and be pumped back into the sedimentation pond.

Additional sampling also included a full suite plus acute lethality on May 27, 2024 as per the Metal and Diamond Mining Effluent Regulations Emergency Response Plan (BIM-5000-PLA-0003, 2023-05-25). This was conducted at location D1-05.

The result of the acute lethality sample collected from KM105-SWMP-SEEP-03a) on May 20th, 2024 and downstream of the seepage pond on May 27th once the receiving environment was flowing indicated that the release was not acutely lethal.

Mitigation/Treatment

Baffinland continues to monitor the inflow, seep and discharge for water quantity and quality. Water continues to be pumped back into the pond utilizing pumps to minimize the ongoing discharge to the environment (Attachment 2; Photograph 5). Further, modifications to the geotube and seepage collection area have been made in an effort to contain the seepage (Attachment 2; Photograph 5).

At the outset, a pre-dosing system was established at the inflow of the sedimentation pond (Attachment 2; Photograph 6), which will continue as part of the KM105 Pond Water Treatment System (KM105WTP). This includes a full-time 24/7 operator that monitors water quality and quantity and adjusts the addition of lime, ferrous sulphate, and flocculent to control pH and reduce suspended solids.

Recommendations:

Regulatory monitoring under the water licence and visual inspections will continue at seepage location KM105-SWMP-SEEP-03. Baffinland will continue to collect monthly water licence samples and MDMER related parameters at water quality monitoring station KM105-SWMP-SEEP-03 when flowing water is present, and a representative sample can be collected.

Operation of the KM105 Pond Water Treatment System which consists of a chemical dosing system at the inlet to the pond for the addition of flocculent as well as lime and/or ferrous sulphate to adjust for pH control will continue. In addition, at the effluent discharge location, a two-stage polishing system consisting of a clarification stage and a multimedia filtration stage is currently being commissioned with a target operation date of June 15th.

Water will continue to be actively pumped back from the seepage collection pond until effluent meets all applicable criteria for discharge to the environment through the established FDP.

A more comprehensive report on the water quality results, mitigation, and treatment implementation measures will be provided in the future once routine sampling commences and further remedial measures are selected in consultation with the third party engineering firm.

Current Status:

Baffinland is currently reviewing the potential remedial options for permanent repair of the water management structure at the KM 105 Sedimentation Pond and continues to engage a third-party design consultant and Engineer of Record to determine appropriate corrective actions. Water quality monitoring will continue as scheduled at the new sample location, KM105-SWMP-SEEP-03 until permanent corrective actions are implemented.

As per Section 31 of the Metal and Diamond Mining Effluent Regulations:

a. Seepage from the base of the KM105 Surface Water Management Pond.
b. The discharge quantity is unknown due to fluctuating inflow conditions resulting from drastically changing daily temperatures.
c. The release occurred at approximately 17:30 on May 10, 2024.
d. The quantity of seepage water released is unknown; therefore, the quantity of deleterious substances cannot be determined. The location of the release is shown in Attachment 1; Figure 1 and 2.
e. Not applicable as the release did not occur through the final discharge point (FDP).
f. The incident occurred on IOL, located approximately 1000m from D1-05 a sample site on Sheardown Lake Tributary-1, the nearest fish-bearing waters. The receiving body of water that MS-11 discharges into is Sheardown Lake.
g. On May 20, acute toxicity samples were collected from KM105-SWMP-SEEP-03a and on May 27, acute toxicity samples were collected at D1-05. The tests were not acutely lethal.
h. See the summary above for the circumstances of the seepage release. Manual adjustments of pre-dosing treatment of run-off inflow to the pond are ongoing along the flow path of the run-off through the structure to reduce seepage TSS levels and control pH. A third-party design consultant has been retained to evaluate and recommend remedial repair measures for the dam structure.
i. A remedial repair plan for the KM105 Pond will be developed and actioned to prevent any similar occurrence of an unauthorized deposit.

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 Manager

Reviewed by:

Eli Iannelli
Site Services Superintendent

Cc: Sean Noble-Nowdluk, Pasalic, Omer, Jeremy Fraser (CIRNAC)

Amoudla Kootoo, Andrew Jaworenko, Connor Goddard (QIA)
Curtis Didham (ECCC)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Dwayne Dergousoff, Scot Klingman, Jim Patterson, Katie Babin, Todd Swenson, Connor Devereaux, Allison Parker, Dale Kristoff (Baffinland)

Attachments
Attachment 1: Spill Location Maps
Attachment 2: Photos
Attachment 3: Baffinland NT-NU Spill Report #2024-151

Attachment 1

Location

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 #2024-151 Location

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

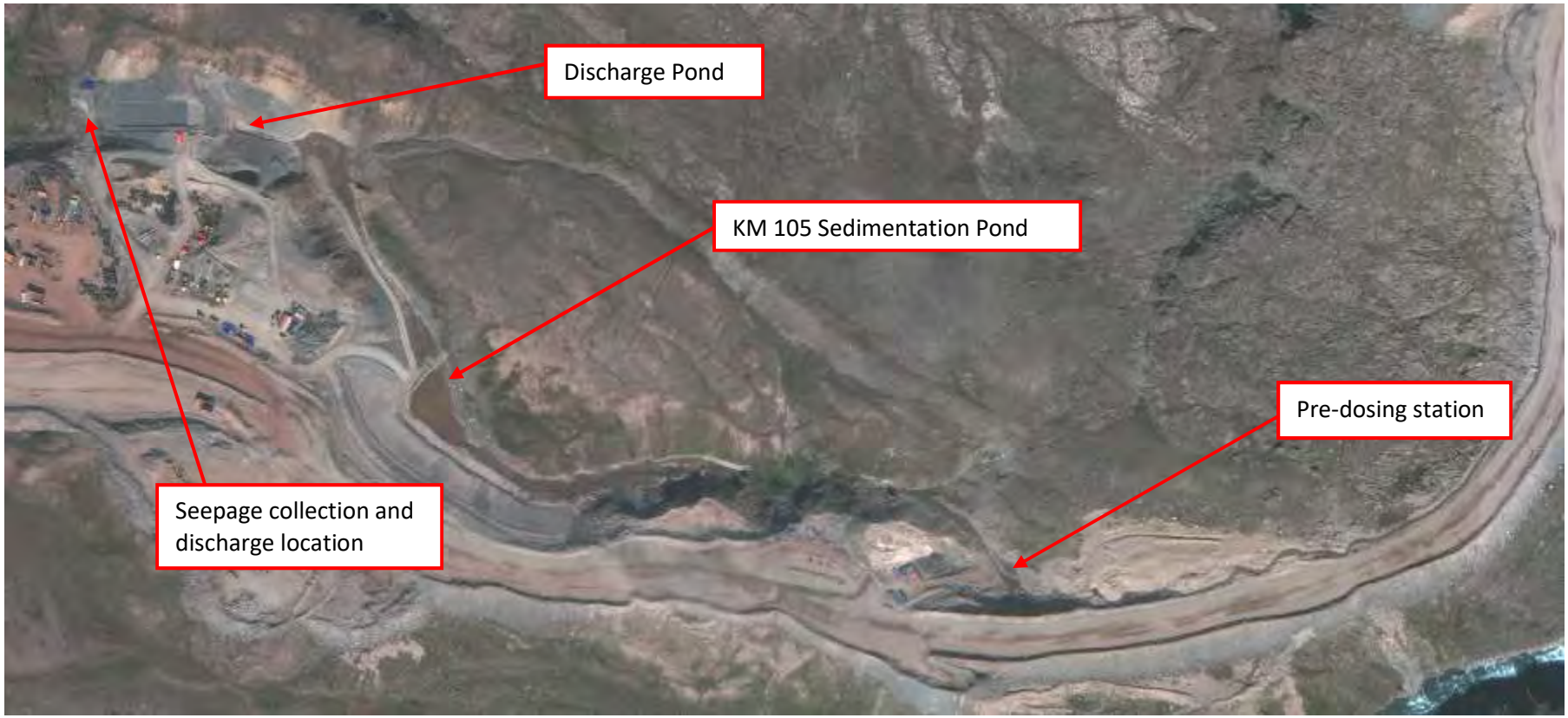


Figure 2. Aerial view of locations of components of KM105 Sedimentation Pond

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

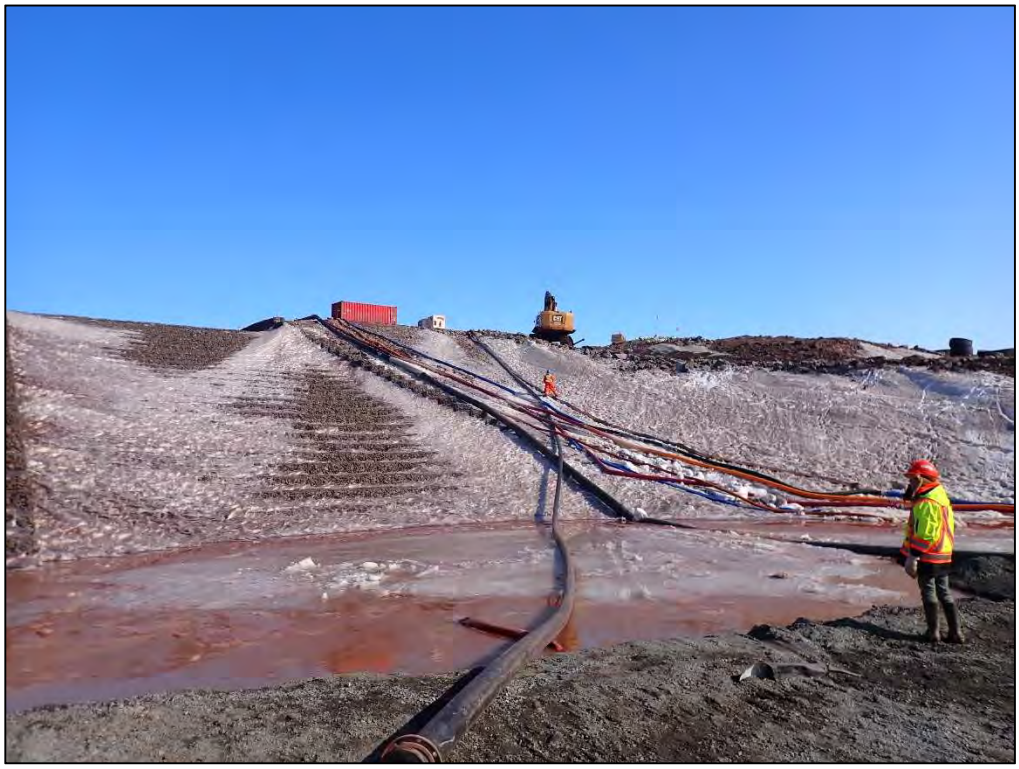
Attachment 2

Photos

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

Photograph 1. Seepage from Toe of KM105 Dam on May 11, 2024

Photograph 2. Downstream showing no seepage from toe of dam to receiving environment, May 11, 2024

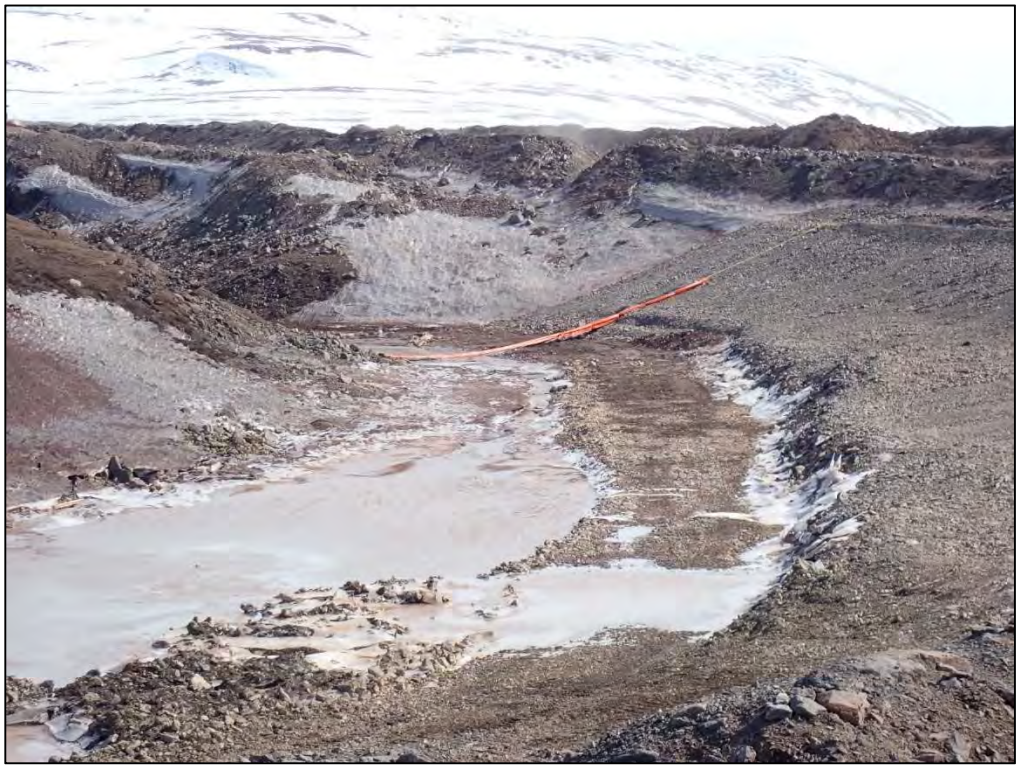


Photograph 3. Seepage collection pond (within containment) on May 19, 2024

Photograph 4. Downstream Receiving Environment on May 20, 2024

Photograph 5. Seep Collection Area on June 9, 2024

Photograph 6. Pre-dosing station on June 9, 2024



Photograph 7: Silt curtain installation

Photograph 8: Placement of Floc Blocs in drainage ditch of inflow to KM105 Pond

Baffinland

Attachment 3

KM105-SWMP-SEEP-03 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

Location Name			KM105-SWMP-SEEP-03*	KM105-SWMP-SEEP-03*	KM105-SWMP-SEEP-03*	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03
Sample Date & Time			2024-05-11	2024-05-15	2024-05-19	2024-05-20	2024-05-21	2024-05-22	2024-05-23	2024-05-24	2024-05-26
Analyte	Units	Criteria									
pH, Lab	pH units	**9.5**	**11.5**	**11.3**	8.94	8.89	7.52	6.85	6.62	6.08	7.17
Total Suspended Solids	mg/L	**30**	**50.4**	**7.0**	**103**	**352**	**442**	**192**	**284**	**75.6**	**51.3**
Total Dissolved Solids	mg/L		711		261	215	169	150	112	129	183

KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03
2024-05-27	2024-05-28	2024-05-29	2024-05-30	2024-05-31	2024-06-01	2024-06-02	2024-06-03	2024-06-05	2024-06-06	2024-06-07
7.28	7.81	8.87	8.43	8.87	8.96	8.34	8.30	8.47	8.71	8.68
10.0	**40.3**	**14.4**	21.8	14.4	14.4	18.1	21.4	24.1	16.4	19.8
37.0	128	154	117	154	161	123	116	100	120	128

*Samples collected of water pooling in immediate vicinity and not flowing to the receiving environment

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

Attachment 4

Baffinland NT-NU Spill Report #2024-151

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

Baffinland

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

Northwest Territories | Nunavut | Canada

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: 05-11-2024	REPORT TIME: 18:00	X ORIGINAL SPILL REPORT OR ☐ UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 24
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 05-10-2024	OCCURRENCE TIME: 17:30		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325		
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 46	LONGITUDE: DEGREES -79 MINUTES 15 SECONDS 45		
F	RESPONSIBLE PARTY OR VESSEL NAME: Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: 360 Oakville Place Drive, Suite 300, Oakville, ONT., L6H 6K8		
G	ANY CONTRACTOR INVOLVED: N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION: N/A		
H	PRODUCT SPILLED: High pH Water	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: Unknown	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: Snow Melt	SPILL CAUSE: Unknown	AREA OF CONTAMINATION IN SQUARE METRES: Unknown	
J	FACTORS AFFECTING SPILL OR RECOVERY: Frozen Conditions	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 10, 2024 at 17:30 water was observed flowing at the base of the KM-105 dam embankment and pooling 40 meters from the toe of the berm where it was confirmed to then freeze; confirming no further migration. The water was clear and preliminary readings indicate turbidity of 0.5 NTU and pH of 11.8. Immediate actions were taken to contain the water via reinforcing an earthen berm and installing a pump to transfer the water into the dam. An effluent characterization and acute lethality sample were taken of the water. The root cause of the release, water quality monitoring, release volumes, and corrective actions will be presented in the follow-up report. The incident occurred on IOL located approximately 1000 m from water quality station D1-05, the nearest fish bearing waters. None of the water released has entered the downstream receiving water bodies, as they are still completely frozen. This release is being reported as required by the conditions of water license no. 2AM-MRY1325, Part H, item 9(b) and section 31 of the MDMER under the Fisheries Act.

L	REPORTED TO SPILL LINE BY: Katie Babin	POSITION: Env. Superintendent	EMPLOYER: Baffinland Iron Mine	LOCATION CALLING FROM: Baffinland	TELEPHONE: Ext 6016
M	ANY ALTERNATE CONTACT: Todd Swenson	POSITION: Env. Superintendent	EMPLOYER: Baffinland Iron Mine	ALTERNATE CONTACT: Baffinland	ALTERNATE TELEPHONE: Ext 6016

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY:	POSITION: STATION OPERATOR	EMPLOYER:	LOCATION CALLED: YELLOWKNIFE, NT	REPORT LINE NUMBER: (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ LA ☐ NAC ☐ WEB ☐ 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

January 22, 2025

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

Fish and Fish Habitat Protection Biologist
Fisheries and Oceans Canada
Arctic Region

Re: Follow-Up to Spill #2024-151
Mary River Project - Water Licence No. 2AM-MRY1325

Summary/Background

The KM 105 Surface Water Management Pond (KM 105 Pond) was constructed as a key component of Baffinland's efforts to improve water management in accordance with Water Licence Modification No. 13, submitted to the Nunavut Water Board (NWB) on June 30, 2021. This modification aimed to address previous sedimentation issues observed at Deposit 1. Modification No. 13 was an adaptive management measure supported by a significant capital investment by Baffinland to better manage runoff from the Deposit, Mine Haul Road and surrounding hillside. Construction of the KM 105 Pond was completed in June 2022, and the facility was immediately commissioned to manage freshet runoff.

Design parameters for the KM 105 Pond were intended to achieve adequate settling of total suspended solids (TSS) to meet Metal and Diamond Mining Effluent Regulations (MDMER) and Water Licence discharge criteria following 3 days of retention. However, the KM 105 Pond has not performed as expected and settling performance observed during 2022, 2023 and 2024 freshet periods did not meet the design intent.

In response, Baffinland undertook a comprehensive evaluation of the KM 105 Pond's performance. This involved engaging with third-party engineers and water treatment experts to identify and assess potential mitigations and improvements. These consultations previously focused on identifying remediation measures for the dam structure and exploring strategies to enhance settling efficiency and improve water quality prior to discharge, to ensure compliance with regulatory criteria.

2022 Operations, Seepage and Remediation

On June 9, 2022, a controlled discharge was initiated from the KM 105 Pond through the permitted Final Discharge Point (FDP); MS-11, in accordance with Baffinland's MDMER Emergency Response Plan, to reduce the effluent level within the pond. The discharge was a result of a major snow event the previous week, an unexpected freeze up that limited settling, followed by an extreme pond melt, all of which affected the overall capacity of the pond.

In response to these challenges, Baffinland refined the operating strategy for the KM 105 Pond including implementing continued use of flocculants and coagulants to expedite settling times, an internal mixing system to speed up the reaction, as well as, the installation of two (2) silt curtains upstream of the intake pumps to provide additional polishing and aid in suspended solids management as water flowed into and through the pond.

Baffinland continued to discharge compliant effluent throughout the remainder of the 2022 freshet period and into the drier season of July, in compliance with all applicable requirements. By July 14, 2022, the pond had been pumped down to its minimum operating level. However, on the evening of July 14, the system control software recorded an unexpected decrease in the water level within the pond. A visual inspection conducted shortly thereafter confirmed seepage from the dam structure.

In response to the observed seepage, Baffinland engaged a third-party design consultant to evaluate potential remediation measures. Based on their analysis of site investigations and available data, the consultant determined that the seepage likely originated from the area immediately upstream of the northwest embankment geomembrane tie-in trench, where the trench transitions from the upstream embankment to the abutment slope.

The remediation plan recommended by the third-party consultant included the installation of a cut-off trench, with trench soils augmented by a bentonite mixture. This approach was designed to improve the existing anchor trenches at the toe and on the abutments by increasing the depth where no permafrost was present and/or extending their width, thereby decreasing the permeability of the fill material. In addition, an insulation cover was recommended to protect the permafrost during the melting season.

Remedial construction was completed in September 2022 to fully seal and patch the identified seepage area. This work was successfully completed and the area was effectively sealed, as understood by the design consultant, Knight Piesold Ltd. and Baffinland.

2023 Operations, Seepage and Remediation

Observations in 2023 confirmed that remediation measures implemented to address the seepage that occurred in 2022 functioned as intended. During the 2023 freshet, initial flows into the KM 105 Pond were successfully retained by the dam structure. However, in May 2023, a new seep was identified. Upon investigation, it was determined the seepage was originating from an area up-gradient of the 2022 seepage site and appeared to be related to the native substrate material beneath the pond, allowing water to bypass the retention features of the dam structure. During the August, 2024 annual geotechnical inspection, no concerns were identified with the structural integrity of the KM105 dam as a result of observed seepage by the third party geotechnical engineer.

At the direction of the Engineer of Record (EOR), multiple bentonite plugs were attempted to seal the seepage in the base of the KM 105 Pond; however, the attempts were unsuccessful. Additional remedial measures aimed at improving settling performance and mitigating further seepage issues were implemented and include:

- **Treatment of Influent Water**: Influent water was initially manually treated with ferric sulfate dosing and passive polymer flocculent block deployments to encourage faster settling of the particles within the pond. The process was later upgraded to an automated dosing system to enhance chemical dosing efficiency and precision. This pre-dosing system comprised of coagulants and flocculants was used to passively remove solids from the water flowing into the KM 105 Pond from the Deposit.
- **Installation of Sediment Curtains and Check Dams**: Sediment curtains were installed within the pond to promote settling of particulates prior to water reaching the seep location, helping to prevent suspended solids from bypassing the retention features. Check dams were also constructed within the pond to reduce water velocities and encourage settling of suspended solids in accordance with Baffinland's Surface Water and Aquatic Ecosystem Management Plan (SWAEMP) for sediment control.
- **Floating Silt Curtain**: A turbidity silt curtain was installed immediately downstream of the seep, in the nearest water body, to reduce the potential for increased total suspended solids (TSS) downstream in Sheardown Lake Tributary-1 (SDLT-1) upper reach.
- **Construction of Aggregate Pad/Geotube® Filtration System**: An aggregate pad was constructed at the base of the KM 105 Pond spillway to facilitate the installation and operation of a Geotube® filtration system. The Geotube® filtration system was subsequently installed and tested prior to winter conditions for pump operations.
- **Engineering/Design/Procurement/Fabrication of Polishing Water Treatment System:** An engineering firm was engaged to design a water treatment system capable of polishing water within the pond with residual TSS to regulatory compliance limits. The chosen system consists of a series of two clarifiers and two media filter banks that was intended to be employed to treat and release water within the pond with elevated TSS, if necessary. The Water treatment system was designed, and parts procured in 2023, with construction beginning in 2023, and continuing into 2024. The water treatment system experienced difficulties operating resultant of pumps cavitating due to dam seepage.

A geotechnical drilling program in late 2023 was completed to obtain detailed data relating to the subsurface conditions to support the design of a comprehensive remediation strategy for the KM 105 Pond. This information was used by the third-party engineering consultant to develop a detailed remediation plan. Borehole drilling results were used to design a grout curtain installation and establish grout injection volumes. A grout plant was commissioned on site, and the remediation strategy commenced up-gradient of the dam. Larger than anticipated grouting injection rates per hole were experienced. A second grout plant was locally mobilized however the volume of grout originally anticipated for this project and transported on the 2023 sealift was fully consumed prior design objectives being achieved. Cement and bentonite were sourced locally to supplement.

The volume of grout injected at the km105 Dam Grout Curtain project well exceeded the engineered forecast (>500m3 actual vs. 48m3 forecast) due to encountering unexpectedly large and numerous formation voids. On May 20, 2024, the project was shut down due to melt conditions progressing.

In addition to the grout curtain installation, Baffinland inquired with the EOR to investigate the addition of a seepage collection system to capture any potential residual seepage at the toe of the dam structure, with the intent to redirect water back to the dam.

2024 Operations, Seepage and Remediation

In May 2024, an uncontrolled release from the KM 105 Pond was confirmed through testing and visual observations following the detection of flowing water at the downstream toe of the dam. Visual inspections confirmed seepage originating from a discrete location upstream of the northwest embankment, distinct from the seepage locations reported in 2022 and 2023.

Initial field readings of the seepage water indicated elevated levels of pH at 11.8 within the adjacent area down-gradient of the dam. . At the time of the monitoring, the downstream receiving environment was frozen, preventing the seepage from migrating to the receiving environment. Instead, the water was observed pooling approximately 60 meters downstream of the toe of the northwest embankment.

In response, immediate action was taken to contain the release. The previously constructed earthen berm was reinforced to create a collection area at the seepage location, and pumps were installed to transfer the water back into the pond. A number of treatment and mitigation options were implemented, including continued pumping of water back into the pond, installation of a pre-treatment system for the addition of flocculant, ferric sulfate, and lime to control pH and promote the settling of suspended solids, installation of a silt curtain upstream of the dam, and placement of floc blocks within the drainage ditch inflow to the pond.

On May 20, Baffinland initiated a controlled discharge from the seepage collection sump at the toe of the Km 105 Pond. Water quality of the May 20 discharge was found to be compliant with all applicable water licence water quality effluent criteria with the exception of TSS. This action was necessary due to the seepage rate exceeding the pumping capacity and the inability of the newly installed grout curtain to retain water within the northwest embankment. Despite the discharge, water continued to be pumped back into the pond to minimize the volume of discharge to the environment. Modifications were also made to the Geotube® and seepage collection area to enhance containment and reduce further seepage

KM 105 Pond water treatment via pre-dosing the pond inflow continued through the open water season, with an operator monitoring water quality and manually adjusting the chemical dosing system at the pond's inflow. The system utilized flocculant, lime, and/or ferrous sulfate for pH control and settling of suspended solids. At the effluent discharge location, a two-stage polishing system consisting of a clarification stage and a multimedia filtration stage was commissioned on June 12, 2024. However, the water treatment plant experienced difficulties operating due to the pumps cavitating without sufficient water to draw from due to experienced seepage.

In the seepage collection area an overflow culvert was installed through the temporary retention structure, as shown in Figure 1.

Figure 1: Temporary Retention Structures and Associated Water Management Features

Following the establishment of these structures, efforts continued towards the commissioning of a two-stage polishing system consisting of a clarification stage and a multimedia filtration stage to reduce TSS in the collected seepage. Additionally, if necessary, any excess collected seepage or treated effluent was planned to be managed through the Geotube® filtration system, installed at the close of the 2023 open water season.

During the commissioning phase of the water treatment system, however, thawing of the temporary retention berms occurred, leading to the migration of water through the berms. This thawing compromised the ability to consistently supply ponded water to the water treatment system or Geotube® filtration system. Figure 2a shows the intended treatment process and actual flow directions following thawing of the temporary retention berms.

Legend

Runoff, Seepage and Seepage Overflow
Pumped Water (insufficient volume for treatment)
Seepage through Temporary Retention Berms

Figure 2a: Plan View and Actual Flow Directions Following Thaw of Temporary Retention Berms

2024 Water Quality

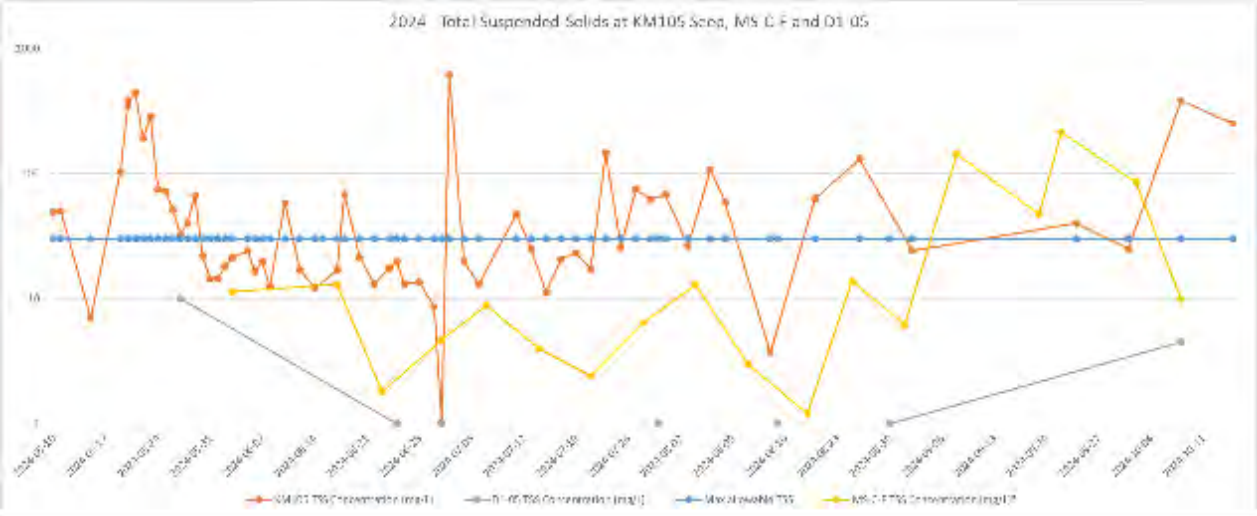
Following the first release of seepage on May 10, 2024, initial field readings indicated elevated levels of pH at 11.8 in the immediate vicinity of the seepage point. To further evaluate water quality, additional samples were collected from a newly established water quality monitoring station at the seepage location. The sample location was initially designated as KM105-SWMP-Seep-03, but was later moved to KM105-SWMP-Seep-04 to characterize the seepage following modifications made in the area, as identified in Figure 2a. Collection of samples representative of actual effluent water quality of the seepage was found to be difficult due to the inconsistent nature of seepage flow, and sediment resident of the tundra combined with low magnitude flows associated with overland (sheet) flow. Once frozen conditions resolved, samples were regularly collected at water monitoring stations MS-C-F and D1-05. MS-C-F originally part of the Surveillance Network Program (SNP), was monitored as part of the original facility submission and is provided as reference of water quality directly down gradient of the dam not in waters frequented by fish. As outlined in the original submission in Modification No. 13 this area was part of the

original facility. D1-05 is a sample site located approximately 1000 meters from the KM 105 Pond, on SDLT-1; the nearest fish-bearing waters. All referenced sample locations are depicted in Figure2b. All sampling results from KM 105 Pond seepage sampling in 2024 and downstream at sampling sites MS-C-F and D1-05 are presented in Appendix B. Samples were submitted to an accredited external laboratory for analysis.

Although elevated pH levels were present in the vicinity of the release during initial field readings and subsequent water quality samples collected at the seepage location on May 10, May 11, and May 15, the downstream receiving environment was frozen at the time of the release. This prevented the seepage from migrating to the receiving environment, and the seepage was observed to be pooling approximately 60m downstream of the toe of the northwest embankment within the original facility footprint. Subsequent samples collected when water was observed to be flowing to the receiving environment were within acceptable limits.

Water quality sampling was also conducted to assess total suspended solids (TSS) levels. Figure 3 illustrates the analytical results for TSS at the KM105-Seep locations, and at downstream water monitoring stations MS-C-F and at D1-05. The figure demonstrates that although TSS levels did exceed the criteria of 30 mg/L at the seepage location at various times throughout the 2024 season, at no time did the TSS levels exceed or approach the criteria of 30 mg/L at the downstream receiving environment assessment location D1-05. As for the MS-C-F sample location, the only occurrences of TSS levels exceeding or approaching the 30 mg/l criteria were prior to, during, and after a severe rainfall event in September. During this event, TSS at the seep reached 9040 mg/L but dropped significantly in the subsequent sampling on September 24, where it was 40 mg/L. Suspended solids concentrations at receiving environment assessment station D1-05 on September 20 and on October 8 when the subsequent sample was collected remained very low at 2.8 mg/L and 4.5 mg/L, respectively, assessing negligible impact to the receiving environment fish bearing habitat as a result of the seepage even during the unprecedented 1:1000 rainfall event.

Acute lethality samples collected at KM105-SWMP-SEEP-03a on May 20, and downstream of the seepage pond on May 27 at D1-05, once the receiving environment was flowing, indicated the release was not acutely lethal to aquatic life.



[1] Logarithmic scale used due to the wide range of TSS values, particularly the TSS value measured during the September precipitation event

[2].Outlier data for KM105 TSS concentration on September 20 of 9040 mg/L removed from figure dataset.

Figure 3: Total Suspended Solids at the KM105-Seep and Downstream Stations MS-C-F and D1-05

Throughout the summer, elevated TSS were periodically observed at the KM105-Seep location. However, Baffinland maintained its robust environmental monitoring program in accordance with the Water License . Generally, TSS levels in the inflow into the KM 105 Pond were influenced by precipitation and the volume of flows from the upstream watershed, which includes the pit and subsequent drainage ditches coming from Deposit 1.

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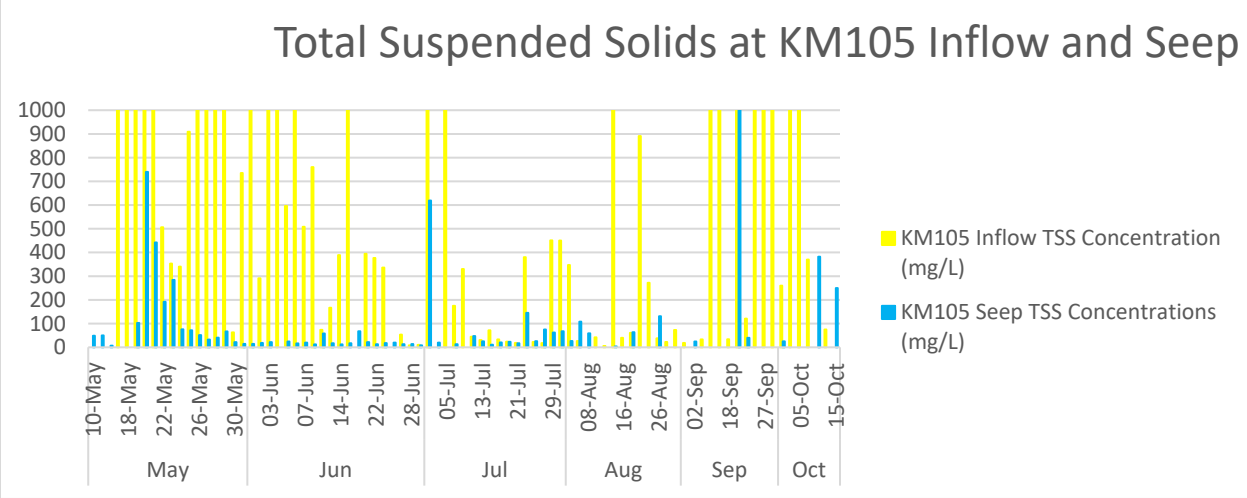
Figure 4 shows the relationship between TSS levels of inflows up-gradient of the KM 105 dam as well as seepage from the tow of the dam. The dam and water quality infrastructure within the valley, mitigated TSS throughout the open water season, regardless of the seepage. Mitigation measures including pre-treatment of inflows, sedimentation curtains, and check dams within the pond, were implemented and maintained throughout the open-water season. Although retention times in the pond were not as designed due to the formation of new channels from increased flow, Figure 4 demonstrates a significant reduction in TSS concentrations.



Note: Values that exceed the Y axis for inflows are truncated for trend analysis

Figure 4: Total Suspended Solids at KM 105 Pond Inflow and Seep,

During the significant rain event that was reported in September (NTNU 2024-478/367) the dam operated to mitigate suspended solids within the valley. Baffinland worked with consultants and determined the event to be greater than a 1 in 1,000 year rainfall event based on rainfall records between 2013 and 2023. This precipitation event resulted in a number of elevated metals within the facility footprint on September 20th, at sampling location KM105-SWMP-SEEP-04, namely copper, lead, nickel, and zinc. However, a comparison with the downstream sampling results from D1-05, collected on the same day, showed that TSS and metal concentrations at the receiving environment, where fish habitat starts, were not elevated. This sample indicates that the elevated TSS and metal concentrations did not interact with fish bearing waters. Water quality analytical results for 2024 are provided in Appendix B.

2025 Water Management Planning

Baffinland collaborated with external expert engineering advice to evaluate practicable water management strategies for 2025 for controlling surface water runoff while acknowledging the engineering solutions for KM 105 dam have not proven effective to date. The review concluded that water management within the facility footprint below and above the dam should be the focus for 2025 as opposed to continuing the 2024 grout curtain project. Further grouting was deemed unreliable as there is a possibility frozen ground will thaw and open new pathways allowing seepage to propagate. The current water management plan is to improve sediment control measures for the runoff flowing from the

valley infrastructure which will involve two processes for sediment removal: filtration and settling, both enhanced with chemical addition at the inflow. The surface water runoff flowing into the KM 105 Pond will be treated using a chemical dosing system. This system, which has been in operation since 2024, has demonstrated significant improvements in water quality as demonstrated in Figure 4, above. The flocs generated by this chemical treatment will be retained by a rock filter berm constructed within the KM 105 Pond containment, allowing for enhanced settling within the pond and filtration through the berm. This approach aligns with the International Erosion Control Association (IECA) guidelines for instream control following designs defined within the Mine Site Water Management Plan within Modification 13. The treated water will then flow into the existing downstream pond of the KM 105 dam. This pond will function as a polishing pond, enhanced with silt curtains to facilitate the settling of any remaining fine sediment. Finally, the effluent from the polishing pond will flow through an engineered structure as the final control point, where flows and water quality will be recorded. Due to winter construction constraints, some of these features will need to be installed following 2025 freshet.

Figure 5 below outlines the components of the sediment control measures proposed. Exact locations and configurations of the infrastructure are still under evaluation by a third party engineering consultant and will be field fitted.

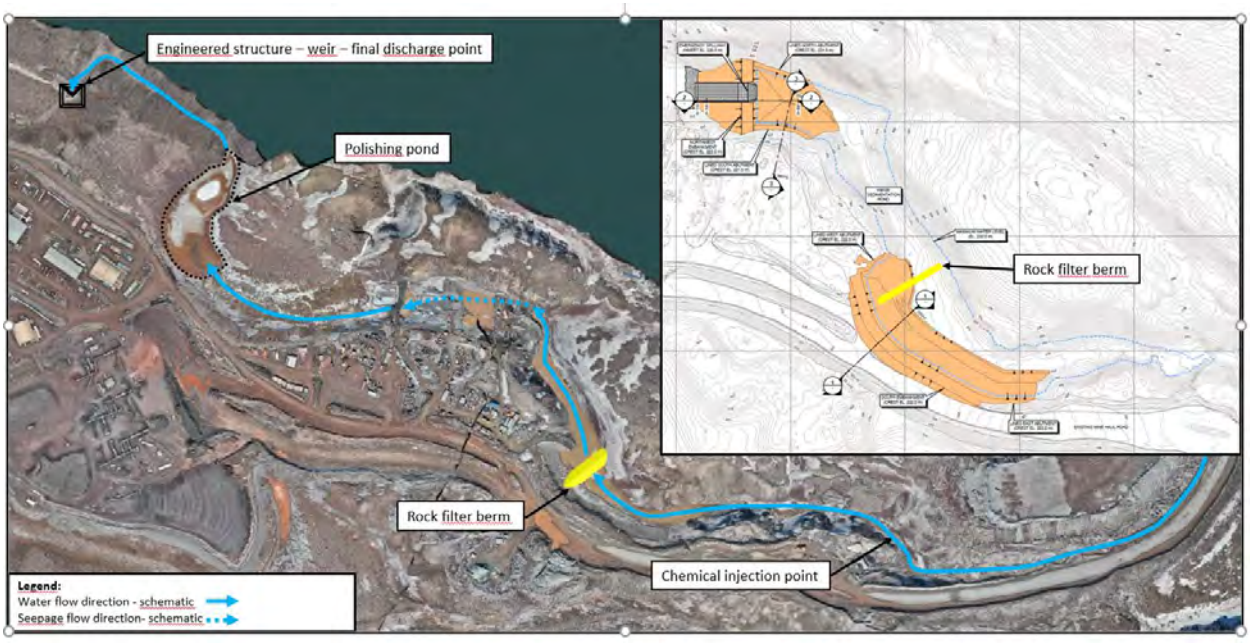


Figure 5: 2025 Sediment Control Mitigation Plan

Closure

This summary highlights the significant actions Baffinland has undertaken to date to address the ongoing seepage challenges at the KM 105 water management infrastructure. Baffinland remains committed to ensuring the protection of the surrounding environment through adaptive management and proactive

remediation strategies. As described above, in our current conceptual mitigation plan for 2025, we intend to install additional controls within the KM 105 Pond and further downstream prior to the fish-bearing portions of the stream.

We trust this additional information is satisfactory to characterize work completed to date and to outline the status of future water management planning for run-off from Deposit 1.

Attachments

Appendix A: Photos
Appendix B: Water Quality Data

January 22, 2025

APPENDIX A
Photos

Photo 1: Installation of two (2) silt curtains upstream of the intake pumps 2022

Photo 2: Remedial construction completed in September 2022 to patch seepage location

Photo 3: Attempt at sealing new seepage location utilizing bentonite plugs, 2023

Photo 4: Passive polymer flocculent block cages, August 2023

Photo 5: Check Dams, August 2023

Photo 6: Silt/ Sedimentation Curtain downstream of the KM105 dam, July 2023

Photo 7: Construction of Geotube® Filtration System at the base of the KM105 Pond, 2023

Photo 8: Drilling operations, December 2023

Photo 9: Infrastructure used to install grout curtain, February 2024

Photo 10: Grouting Operation in action, March 2024

Photo 11: Construction of Water Treatment System, March 2024

Photo 12: Reinforced earthen berm and pumps transferring water back into treatment pond, June 2024

Photo 13: Pond inflow location Pre-dosing system, June 2024

January 22, 2025

APPENDIX B
Water Quality Data

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Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time				Location	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03
				Sample Date & Time	2024-05-10 17:00	2024-05-11 00:00	2024-05-15 00:00	2024-05-19 16:45	2024-05-20 16:00	2024-05-20 17:45	2024-05-21 17:15	2024-05-22 11:15	2024-05-23 17:35	2024-05-24 13:15	2024-05-25 11:05
ALS Sample ID				ALS Sample ID	BF2400011	BF2400012	BF2400013	BF2400016	BF2400019	BF2400021	BF2400024	BF2400029	BF2400031	BF2400032	BF2400034
Sample Type				Sample Type	P	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Parameter	**Parameter**	**Unit**	**MDMER**	**Table 11 Criteria**											
pH, Lab	pH, Lab	pH units	6 - 9.5	6 - 9.5	11.7	11.5	11.3	8.94	8.89	9.1	7.52	6.85	6.62	6.08	6.79
Total Suspended Solids	Total Suspended Solids	mg/L	30	30	**48.8**	**50.4**	7	**103**	**352**	**388**	**442**	**192**	**284**	**75.6**	**71.6**
Total Dissolved Solids	Total Dissolved Solids	mg/L	-	-	1060	711	1310	261	215	218	169	150	112	129	180
Turbidity	Turbidity	NTU	-	-	1.25	12.6	3.36	148	346	301	243	123	140	66.3	60.3
Conductivity	Conductivity	us/cm	-	-	1490	-	-	-	-	322	-	-	-	-	267
Alkalinity, Total	Alkalinity, Total	mg/L	-	-	130	-	-	-	-	36.3	-	-	-	-	-
Hardness	Hardness	mg/L	-	-	606	-	-	-	-	120	-	-	-	-	-
Chloride	Chloride	mg/L	-	-	209	-	-	-	-	22.2	-	-	-	-	-
Fluoride	Fluoride	mg/L	-	-	0.332	-	-	-	-	0.102	-	-	-	-	-
Nitrate	Nitrate	mg/L	-	-	27.4	-	-	-	-	6.01	-	-	-	-	2.73
Sulfate	Sulfate	mg/L	-	-	113	-	-	-	-	54	-	-	-	-	-
Ammonia, Total (as N)	Ammonia, Total (as N)	mg/L	-	-	0.851	-	-	-	-	0.984	-	-	-	-	0.498
	Ammonia, Un-ionized	mg/L	1	-	0.843	-	-	-	-	0.208	-	-	-	-	0.0021
Total Organic Carbon	Total Organic Carbon	mg/L	-	-	28.3	-	-	-	-	8.53	-	-	-	-	-
Dissolved Organic Carbon	Dissolved Organic Carbon	mg/L	-	-	27.4	-	-	-	-	5.3	-	-	-	-	-
Total Kjeldahl Nitrogen	Total Kjeldahl Nitrogen	mg/L	-	-	4.47	-	-	-	-	3.77	-	-	-	-	-
Phosphorus, Nutrient	Phosphorus, Nutrient	mg/L	-	-	0.0177	-	-	-	-	0.257	-	-	-	-	-
Aluminum - Total	Aluminum - Total	mg/L	-	-	0.0048	-	-	-	-	16.8	-	-	-	-	2.75
Antimony - Total	Antimony - Total	mg/L	-	-	< 0.00010	-	-	-	-	< 0.00100	-	-	-	-	< 0.00010
Arsenic - Total	Arsenic - Total	mg/L	0.6	-	0.00015	-	-	-	-	0.00123	-	-	-	-	0.00029
Barium - Total	Barium - Total	mg/L	-	-	0.134	-	-	-	-	0.0908	-	-	-	-	0.0261
Cadmium - Total	Cadmium - Total	mg/L	-	-	0.0000283	-	-	-	-	0.000427	-	-	-	-	0.000234
Calcium - Total	Calcium - Total	mg/L	-	-	250	-	-	-	-	30	-	-	-	-	21.3
Chromium - Total	Chromium - Total	mg/L	-	-	0.102	-	-	-	-	0.0334	-	-	-	-	0.00512
Cobalt - Total	Cobalt - Total	mg/L	-	-	0.00038	-	-	-	-	0.01	-	-	-	-	0.00286
Copper - Total	Copper - Total	mg/L	0.6	-	0.00502	-	-	-	-	0.0396	-	-	-	-	0.00893
Iron - Total	Iron - Total	mg/L	-	-	0.027	-	-	-	-	23.3	-	-	-	-	4.3
Lead - Total	Lead - Total	mg/L	0.2	-	< 0.000050	-	-	-	-	0.0145	-	-	-	-	0.00212
Lithium - Total	Lithium - Total	mg/L	-	-	0.0384	-	-	-	-	0.0257	-	-	-	-	0.0078
Magnesium - Total	Magnesium - Total	mg/L	-	-	1.47	-	-	-	-	31.8	-	-	-	-	13.3
Manganese - Total	Manganese - Total	mg/L	-	-	0.00157	-	-	-	-	0.367	-	-	-	-	0.136
Mercury - Total	Mercury - Total	mg/L	-	-	0.000016	-	-	-	-	< 0.0000050	-	-	-	-	-
Molybdenum - Total	Molybdenum - Total	mg/L	-	-	0.0384	-	-	-	-	0.00818	-	-	-	-	0.00245
Nickel - Total	Nickel - Total	mg/L	1	-	< 0.00050	-	-	-	-	0.0317	-	-	-	-	0.00899
Phosphorus, Total	Phosphorus, Total	mg/L	-	-	< 0.050	-	-	-	-	< 0.500	-	-	-	-	0.057
Potassium - Total	Potassium - Total	mg/L	-	-	64.9	-	-	-	-	12.5	-	-	-	-	6.39
Selenium - Total	Selenium - Total	mg/L	-	-	0.000798	-	-	-	-	0.000524	-	-	-	-	0.000249
Sodium - Total	Sodium - Total	mg/L	-	-	27.5	-	-	-	-	4.07	-	-	-	-	2.08
Strontium - Total	Strontium - Total	mg/L	-	-	1.51	-	-	-	-	0.143	-	-	-	-	0.099
Thallium - Total	Thallium - Total	mg/L	-	-	0.000017	-	-	-	-	0.000193	-	-	-	-	0.000038
Tin - Total	Tin - Total	mg/L	-	-	< 0.00010	-	-	-	-	< 0.00100	-	-	-	-	0.00018

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time				Location	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03
				Sample Date & Time	2024-05-10 17:00	2024-05-11 00:00	2024-05-15 00:00	2024-05-19 16:45	2024-05-20 16:00	2024-05-20 17:45	2024-05-21 17:15	2024-05-22 11:15	2024-05-23 17:35	2024-05-24 13:15	2024-05-25 11:05
ALS Sample ID				ALS Sample ID	BF2400011	BF2400012	BF2400013	BF2400016	BF2400019	BF2400021	BF2400024	BF2400029	BF2400031	BF2400032	BF2400034
Sample Type				Sample Type	P	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Parameter	**Parameter**	**Unit**	**MDMER**	**Table 11 Criteria**											
Titanium - Total	Titanium - Total	mg/L	-	-	< 0.00030	-	-	-	-	0.607	-	-	-	-	0.0794
Total Organic Carbon	Uranium - Total	mg/L	-	-	0.000156	-	-	-	-	0.00893	-	-	-	-	0.00179
Uranium - Total	Vanadium - Total	mg/L	-	-	0.00446	-	-	-	-	0.0263	-	-	-	-	0.00408
Vanadium - Total	Zinc - Total	mg/L	1	-	< 0.0030	-	-	-	-	0.0667	-	-	-	-	0.0111
Zinc - Total	Aluminum - Dissolved	mg/L	-	-	< 0.0010	-	-	-	-	0.0367	-	-	-	-	-
Aluminum - Dissolved	Arsenic - Dissolved	mg/L	-	-	0.0001	-	-	-	-	< 0.00010	-	-	-	-	-
Arsenic - Dissolved	Cadmium - Dissolved	mg/L	-	-	0.0000258	-	-	-	-	0.0000102	-	-	-	-	-
Cadmium - Dissolved	Calcium - Dissolved	mg/L	-	-	241	-	-	-	-	26.4	-	-	-	-	-
Calcium - Dissolved	Copper - Dissolved	mg/L	-	-	0.00475	-	-	-	-	0.00218	-	-	-	-	-
Copper - Dissolved	Iron - Dissolved	mg/L	-	-	0.018	-	-	-	-	0.012	-	-	-	-	-
Iron - Dissolved	Lead - Dissolved	mg/L	-	-	< 0.000050	-	-	-	-	< 0.000050	-	-	-	-	-
Lead - Dissolved	Magnesium - Dissolved	mg/L	-	-	1.12	-	-	-	-	13.1	-	-	-	-	-
Magnesium - Dissolved	Manganese - Dissolved	mg/L	-	-	< 0.00010	-	-	-	-	0.0117	-	-	-	-	-
Manganese - Dissolved	Mercury - Dissolved	mg/L	-	-	0.0000129	-	-	-	-	< 0.0000050	-	-	-	-	-
Mercury - Dissolved	Molybdenum - Dissolved	mg/L	-	-	0.0362	-	-	-	-	0.00912	-	-	-	-	-
Molybdenum - Dissolved	Nickel - Dissolved	mg/L	-	-	< 0.00050	-	-	-	-	< 0.00050	-	-	-	-	-
Nickel - Dissolved	Potassium - Dissolved	mg/L	-	-	62.2	-	-	-	-	8.92	-	-	-	-	-
Potassium - Dissolved	Selenium - Dissolved	mg/L	-	-	0.000759	-	-	-	-	0.000395	-	-	-	-	-
Selenium - Dissolved	Sodium - Dissolved	mg/L	-	-	26.2	-	-	-	-	3.52	-	-	-	-	-
Sodium - Dissolved	Thallium - Dissolved	mg/L	-	-	0.000015	-	-	-	-	0.000011	-	-	-	-	-
Thallium - Dissolved	Uranium - Dissolved	mg/L	-	-	0.000076	-	-	-	-	0.00418	-	-	-	-	-
Uranium - Dissolved	Zinc - Dissolved	mg/L	-	-	< 0.0010	-	-	-	-	< 0.0010	-	-	-	-	-
	Radium-226	Bq/L	1.11	-	0.08	-	-	-	-	0.0991	-	-	-	-	-
Zinc - Dissolved	Oil and Grease, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 5.0
Mean Mortality to Rainbow Trout	Visible Sheen	None	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Oil and Grease, Total	Mean Mortality to Daphnia magna	%	Not Acutely Toxi	-	-	-	-	-	-	Not Acutely Toxic	-	-	-	-	-
Mean Mortality to Daphnia magna	Mean Mortality to Rainbow Trout	%	Not Acutely Toxi	-	-	-	-	-	-	Not Acutely Toxic	-	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03a	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03
			2024-05-26 14:10	2024-05-27 11:30	2024-05-28 13:10	2024-05-29 16:30	2024-05-30 10:05	2024-05-31 14:45	2024-06-01 11:00	2024-06-02 09:05	2024-06-03 16:30	2024-06-05 11:20	2024-06-06 15:25	2024-06-07 08:50	2024-06-08 10:50
ALS Sample ID			BF2400035	BF2400041	BF2400046	BF2400049	BF2400058	BF2400054	BF2400062	BF2400064	BF2400066	BF2400078	BF2400084	BF2400085	BF2400088
Sample Type			NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Parameter	**Parameter**	**Unit**													
pH, Lab	pH, Lab	pH units	7.17	7.91	7.81	8.36	8.43	8.87	8.96	8.34	8.3	8.47	8.71	8.68	8.5
Total Suspended Solids	Total Suspended Solids	mg/L	**51.3**	**32.6**	**40.3**	**67.1**	21.8	14.4	14.4	18.1	21.4	24.1	16.4	19.8	12.5
Total Dissolved Solids	Total Dissolved Solids	mg/L	183	150	128	145	117	154	161	123	116	100	120	128	141
Turbidity	Turbidity	NTU	64.2	75.3	73.4	146	53	26.8	24.3	34.3	33.7	45.2	22.2	25.8	15.8
Conductivity	Conductivity	us/cm	-	212	-	-	-	-	-	-	-	192	-	-	-
Alkalinity, Total	Alkalinity, Total	mg/L	-	-	-	-	-	-	-	-	-	29.4	-	-	-
Hardness	Hardness	mg/L	-	-	-	-	-	-	-	-	-	75.8	-	-	-
Chloride	Chloride	mg/L	-	-	-	-	-	-	-	-	-	6	-	-	-
Fluoride	Fluoride	mg/L	-	-	-	-	-	-	-	-	-	0.062	-	-	-
Nitrate	Nitrate	mg/L	-	-	-	-	-	-	-	-	-	1.12	-	-	-
Sulfate	Sulfate	mg/L	-	-	-	-	-	-	-	-	-	42.4	-	-	-
Ammonia, Total (as N)	Ammonia, Total (as N)	mg/L	-	0.314	-	-	-	-	-	-	-	0.201	-	-	-
	Ammonia, Un-ionized	mg/L	-	0.0065	-	-	-	-	-	-	-	0.0058	-	-	-
Total Organic Carbon	Total Organic Carbon	mg/L	-	-	-	-	-	-	-	-	-	1.66	-	-	-
Dissolved Organic Carbon	Dissolved Organic Carbon	mg/L	-	-	-	-	-	-	-	-	-	1.79	-	-	-
Total Kjeldahl Nitrogen	Total Kjeldahl Nitrogen	mg/L	-	-	-	-	-	-	-	-	-	0.39	-	-	-
Phosphorus, Nutrient	Phosphorus, Nutrient	mg/L	-	-	-	-	-	-	-	-	-	0.0238	-	-	-
Aluminum - Total	Aluminum - Total	mg/L	-	3.14	-	-	-	-	-	-	-	1.75	-	-	-
Antimony - Total	Antimony - Total	mg/L	-	< 0.00100	-	-	-	-	-	-	-	< 0.00100	-	-	-
Arsenic - Total	Arsenic - Total	mg/L	-	< 0.00100	-	-	-	-	-	-	-	< 0.00100	-	-	-
Barium - Total	Barium - Total	mg/L	-	0.0218	-	-	-	-	-	-	-	0.0143	-	-	-
Cadmium - Total	Cadmium - Total	mg/L	-	0.0000744	-	-	-	-	-	-	-	0.0000667	-	-	-
Calcium - Total	Calcium - Total	mg/L	-	20.4	-	-	-	-	-	-	-	16.6	-	-	-
Chromium - Total	Chromium - Total	mg/L	-	0.00887	-	-	-	-	-	-	-	< 0.00500	-	-	-
Cobalt - Total	Cobalt - Total	mg/L	-	0.00214	-	-	-	-	-	-	-	0.00125	-	-	-
Copper - Total	Copper - Total	mg/L	-	0.0068	-	-	-	-	-	-	-	< 0.00500	-	-	-
Iron - Total	Iron - Total	mg/L	-	4.52	-	-	-	-	-	-	-	2.47	-	-	-
Lead - Total	Lead - Total	mg/L	-	0.00213	-	-	-	-	-	-	-	0.00134	-	-	-
Lithium - Total	Lithium - Total	mg/L	-	0.0101	-	-	-	-	-	-	-	< 0.0100	-	-	-
Magnesium - Total	Magnesium - Total	mg/L	-	11.5	-	-	-	-	-	-	-	8.73	-	-	-
Manganese - Total	Manganese - Total	mg/L	-	0.0843	-	-	-	-	-	-	-	0.0532	-	-	-
Mercury - Total	Mercury - Total	mg/L	-	-	-	-	-	-	-	-	-	< 0.0000050	-	-	-
Molybdenum - Total	Molybdenum - Total	mg/L	-	0.0052	-	-	-	-	-	-	-	0.00364	-	-	-
Nickel - Total	Nickel - Total	mg/L	-	0.00907	-	-	-	-	-	-	-	< 0.00500	-	-	-
Phosphorus, Total	Phosphorus, Total	mg/L	-	< 0.500	-	-	-	-	-	-	-	< 0.500	-	-	-
Potassium - Total	Potassium - Total	mg/L	-	5.12	-	-	-	-	-	-	-	4.27	-	-	-
Selenium - Total	Selenium - Total	mg/L	-	< 0.000500	-	-	-	-	-	-	-	< 0.000500	-	-	-
Sodium - Total	Sodium - Total	mg/L	-	1.42	-	-	-	-	-	-	-	1.34	-	-	-
Strontium - Total	Strontium - Total	mg/L	-	0.0796	-	-	-	-	-	-	-	0.0617	-	-	-
Thallium - Total	Thallium - Total	mg/L	-	< 0.000100	-	-	-	-	-	-	-	< 0.000100	-	-	-
Tin - Total	Tin - Total	mg/L	-	< 0.00100	-	-	-	-	-	-	-	< 0.00100	-	-	-

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03a	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-03
			2024-05-26 14:10	2024-05-27 11:30	2024-05-28 13:10	2024-05-29 16:30	2024-05-30 10:05	2024-05-31 14:45	2024-06-01 11:00	2024-06-02 09:05	2024-06-03 16:30	2024-06-05 11:20	2024-06-06 15:25	2024-06-07 08:50	2024-06-08 10:50
ALS Sample ID			BF2400035	BF2400041	BF2400046	BF2400049	BF2400058	BF2400054	BF2400062	BF2400064	BF2400066	BF2400078	BF2400084	BF2400085	BF2400088
Sample Type			NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Parameter	**Parameter**	**Unit**													
Titanium - Total	Titanium - Total	mg/L	-	0.0916	-	-	-	-	-	-	-	0.053	-	-	-
Total Organic Carbon	Uranium - Total	mg/L	-	0.00281	-	-	-	-	-	-	-	0.00277	-	-	-
Uranium - Total	Vanadium - Total	mg/L	-	< 0.00500	-	-	-	-	-	-	-	< 0.00500	-	-	-
Vanadium - Total	Zinc - Total	mg/L	-	< 0.0300	-	-	-	-	-	-	-	< 0.0300	-	-	-
Zinc - Total	Aluminum - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0195	-	-	-
Aluminum - Dissolved	Arsenic - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.00010	-	-	-
Arsenic - Dissolved	Cadmium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0000227	-	-	-
Cadmium - Dissolved	Calcium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	17.7	-	-	-
Calcium - Dissolved	Copper - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.00051	-	-	-
Copper - Dissolved	Iron - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.010	-	-	-
Iron - Dissolved	Lead - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.000050	-	-	-
Lead - Dissolved	Magnesium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	7.68	-	-	-
Magnesium - Dissolved	Manganese - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0242	-	-	-
Manganese - Dissolved	Mercury - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.0000050	-	-	-
Mercury - Dissolved	Molybdenum - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.00385	-	-	-
Molybdenum - Dissolved	Nickel - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.00050	-	-	-
Nickel - Dissolved	Potassium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	3.98	-	-	-
Potassium - Dissolved	Selenium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.000195	-	-	-
Selenium - Dissolved	Sodium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	1.34	-	-	-
Sodium - Dissolved	Thallium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.000010	-	-	-
Thallium - Dissolved	Uranium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0022	-	-	-
Uranium - Dissolved	Zinc - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.0010	-	-	-
	Radium-226	Bq/L	-	-	-	-	-	-	-	-	-	0.0774	-	-	-
Zinc - Dissolved	Oil and Grease, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Mortality to Rainbow Trout	Visible Sheen	None	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Oil and Grease, Total	Mean Mortality to Daphnia magna	%	-	-	-	-	-	-	-	-	-	Not Acutely Toxic	-	-	-
Mean Mortality to Daphnia magna	Mean Mortality to Rainbow Trout	%	-	-	-	-	-	-	-	-	-	Not Acutely Toxic	-	-	-

Notes:
Bold highlight indicate results that exceeded the a

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04
			2024-06-10 16:00	2024-06-12 10:15	2024-06-14 10:30	2024-06-15 15:10	2024-06-17 09:05	2024-06-18 16:10	2024-06-20 14:15	2024-06-22 15:10	2024-06-24 13:25	2024-06-25 10:00	2024-06-26 10:50	2024-06-28 07:55	2024-06-30 13:15
ALS Sample ID			BF2400100	BF2400105	BF2400109		BF2400116	BF2400118	BF2400126	BF2400140	BF2400135	WT2417332	WT2417934	BF2400143	BF2400151
Sample Type			NP	P	NP	NP	NP	P	NP	EXPLORE	EXPLORE	P	NP	NP	NP
Parameter	**Parameter**	**Unit**													
pH, Lab	pH, Lab	pH units	8.86	9.04	9.09	-	9.16	8.88	8.76	8.42	7.67	7.42	7.5	7.93	7.8
Total Suspended Solids	Total Suspended Solids	mg/L	**58**	17.1	12.2	-	16.9	**67.9**	21.4	13.1	17.5	19.9	13.1	13.6	8.5
Total Dissolved Solids	Total Dissolved Solids	mg/L	143	176	182	-	142	150	123	175	239	229	247	300	232
Turbidity	Turbidity	NTU	21.8	14.1	14	-	22.2	56	21.5	11.8	6.99	2.75	2.33	4.84	5.41
Conductivity	Conductivity	us/cm	263	-	-	-	-	259	-	-	-	409	-	-	-
Alkalinity, Total	Alkalinity, Total	mg/L	-	-	-	-	-	-	-	-	-	18.3	-	-	-
Hardness	Hardness	mg/L	-	-	-	-	-	-	-	-	-	170	-	-	-
Chloride	Chloride	mg/L	-	-	-	-	-	-	-	-	-	23	-	-	-
Fluoride	Fluoride	mg/L	-	-	-	-	-	-	-	-	-	0.098	-	-	-
Nitrate	Nitrate	mg/L	-	-	-	-	-	-	-	-	-	3.47	-	-	-
Sulfate	Sulfate	mg/L	-	-	-	-	-	-	-	-	-	116	-	-	-
Ammonia, Total (as N)	Ammonia, Total (as N)	mg/L	0.242	-	-	-	-	0.307	-	-	-	0.287	-	-	-
	Ammonia, Un-ionized	mg/L	< 0.001	-	-	-	-	-	-	-	-	0.0016	-	-	-
Total Organic Carbon	Total Organic Carbon	mg/L	-	-	-	-	-	-	-	-	-	1.45	-	-	-
Dissolved Organic Carbon	Dissolved Organic Carbon	mg/L	-	-	-	-	-	-	-	-	-	1.73	-	-	-
Total Kjeldahl Nitrogen	Total Kjeldahl Nitrogen	mg/L	-	-	-	-	-	-	-	-	-	0.593	-	-	-
Phosphorus, Nutrient	Phosphorus, Nutrient	mg/L	-	-	-	-	-	-	-	-	-	0.0102	-	-	-
Aluminum - Total	Aluminum - Total	mg/L	2.06	-	-	-	-	2.96	-	-	-	0.422	-	-	-
Antimony - Total	Antimony - Total	mg/L	< 0.00100	-	-	-	-	< 0.00010	-	-	-	< 0.00010	-	-	-
Arsenic - Total	Arsenic - Total	mg/L	< 0.00100	-	-	-	-	0.00031	-	-	-	< 0.00010	-	-	-
Barium - Total	Barium - Total	mg/L	0.0201	-	-	-	-	0.0206	-	-	-	0.016	-	-	-
Cadmium - Total	Cadmium - Total	mg/L	< 0.0000500	-	-	-	-	0.0000552	-	-	-	0.0000342	-	-	-
Calcium - Total	Calcium - Total	mg/L	28.1	-	-	-	-	23.9	-	-	-	36.4	-	-	-
Chromium - Total	Chromium - Total	mg/L	< 0.00500	-	-	-	-	0.00653	-	-	-	0.00142	-	-	-
Cobalt - Total	Cobalt - Total	mg/L	0.00146	-	-	-	-	0.00211	-	-	-	0.00105	-	-	-
Copper - Total	Copper - Total	mg/L	< 0.00500	-	-	-	-	0.00624	-	-	-	0.00148	-	-	-
Iron - Total	Iron - Total	mg/L	3.04	-	-	-	-	4.55	-	-	-	1.13	-	-	-
Lead - Total	Lead - Total	mg/L	0.00123	-	-	-	-	0.00203	-	-	-	0.000254	-	-	-
Lithium - Total	Lithium - Total	mg/L	< 0.0100	-	-	-	-	0.0077	-	-	-	0.0068	-	-	-
Magnesium - Total	Magnesium - Total	mg/L	11.8	-	-	-	-	14.3	-	-	-	18.2	-	-	-
Manganese - Total	Manganese - Total	mg/L	0.0639	-	-	-	-	0.0781	-	-	-	0.0594	-	-	-
Mercury - Total	Mercury - Total	mg/L	-	-	-	-	-	-	-	-	-	< 0.0000050	-	-	-
Molybdenum - Total	Molybdenum - Total	mg/L	0.00529	-	-	-	-	0.00777	-	-	-	0.0086	-	-	-
Nickel - Total	Nickel - Total	mg/L	< 0.00500	-	-	-	-	0.00703	-	-	-	0.00207	-	-	-
Phosphorus, Total	Phosphorus, Total	mg/L	< 0.500	-	-	-	-	0.058	-	-	-	< 0.050	-	-	-
Potassium - Total	Potassium - Total	mg/L	5.5	-	-	-	-	6.42	-	-	-	7.63	-	-	-
Selenium - Total	Selenium - Total	mg/L	< 0.000500	-	-	-	-	0.000237	-	-	-	0.000278	-	-	-
Sodium - Total	Sodium - Total	mg/L	1.96	-	-	-	-	2.62	-	-	-	3.85	-	-	-
Strontium - Total	Strontium - Total	mg/L	0.104	-	-	-	-	0.104	-	-	-	0.175	-	-	-
Thallium - Total	Thallium - Total	mg/L	< 0.000100	-	-	-	-	0.000039	-	-	-	0.000017	-	-	-
Tin - Total	Tin - Total	mg/L	< 0.00100	-	-	-	-	0.00013	-	-	-	< 0.00010	-	-	-

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-03	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04
			2024-06-10 16:00	2024-06-12 10:15	2024-06-14 10:30	2024-06-15 15:10	2024-06-17 09:05	2024-06-18 16:10	2024-06-20 14:15	2024-06-22 15:10	2024-06-24 13:25	2024-06-25 10:00	2024-06-26 10:50	2024-06-28 07:55	2024-06-30 13:15
ALS Sample ID			BF2400100	BF2400105	BF2400109		BF2400116	BF2400118	BF2400126	BF2400140	BF2400135	WT2417332	WT2417934	BF2400143	BF2400151
Sample Type			NP	P	NP	NP	NP	P	NP	EXPLORE	EXPLORE	P	NP	NP	NP
Parameter	**Parameter**	**Unit**													
Titanium - Total	Titanium - Total	mg/L	0.0979	-	-	-	-	0.113	-	-	-	0.019	-	-	-
Total Organic Carbon	Uranium - Total	mg/L	0.00456	-	-	-	-	0.00528	-	-	-	0.00679	-	-	-
Uranium - Total	Vanadium - Total	mg/L	< 0.00500	-	-	-	-	0.00553	-	-	-	0.00182	-	-	-
Vanadium - Total	Zinc - Total	mg/L	< 0.0300	-	-	-	-	0.009	-	-	-	0.0088	-	-	-
Zinc - Total	Aluminum - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0102	-	-	-
Aluminum - Dissolved	Arsenic - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.00010	-	-	-
Arsenic - Dissolved	Cadmium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0000187	-	-	-
Cadmium - Dissolved	Calcium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	37.5	-	-	-
Calcium - Dissolved	Copper - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.00067	-	-	-
Copper - Dissolved	Iron - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.010	-	-	-
Iron - Dissolved	Lead - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.000050	-	-	-
Lead - Dissolved	Magnesium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	18.6	-	-	-
Magnesium - Dissolved	Manganese - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0507	-	-	-
Manganese - Dissolved	Mercury - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	< 0.0000050	-	-	-
Mercury - Dissolved	Molybdenum - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.00848	-	-	-
Molybdenum - Dissolved	Nickel - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.00125	-	-	-
Nickel - Dissolved	Potassium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	7.71	-	-	-
Potassium - Dissolved	Selenium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.000315	-	-	-
Selenium - Dissolved	Sodium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	3.88	-	-	-
Sodium - Dissolved	Thallium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.000013	-	-	-
Thallium - Dissolved	Uranium - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.00587	-	-	-
Uranium - Dissolved	Zinc - Dissolved	mg/L	-	-	-	-	-	-	-	-	-	0.0046	-	-	-
	Radium-226	Bq/L	0.0446	-	-	-	-	0.0272	-	-	-	0.024	-	-	-
Zinc - Dissolved	Oil and Grease, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Mortality to Rainbow Trout	Visible Sheen	None	No Visible Sheen	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Oil and Grease, Total	Mean Mortality to Daphnia magna	%	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Mortality to Daphnia magna	Mean Mortality to Rainbow Trout	%	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the a

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04
			2024-07-02 11:15	2024-07-04 09:25	2024-07-06 11:45	2024-07-11 09:35	2024-07-13 10:30	2024-07-15 13:50	2024-07-17 09:25	2024-07-19 16:25	2024-07-21 11:45	2024-07-23 09:25	2024-07-25 12:40	2024-07-27 12:00	2024-07-29 09:15
ALS Sample ID			BF2400157	BF2400160	BF2400169	BF2400180	BF2400182	BF2400183	BF2400190	BF2400194	BF2400196	BF2400202	BF2400204	BF2400206	BF2400208
Sample Type			EXPLORE	P	EXPLORE	NP	EXPLORE	NP	EXPLORE	NP	NP	NP	NP	NP	NP
Parameter	**Parameter**	**Unit**													
pH, Lab	pH, Lab	pH units	7.95	7.78	8.07	7.92	7.63	7.8	7.52	7.6	7.52	7.44	7.71	6.1	7.69
Total Suspended Solids	Total Suspended Solids	mg/L	**619**	19.8	13.1	**47.5**	25	11.2	20.7	23.1	17.2	**145**	25.7	**75**	**62.1**
Total Dissolved Solids	Total Dissolved Solids	mg/L	360	228	225	482	893	959	668	808	925	796	622	636	480
Turbidity	Turbidity	NTU	619	12.9	23.1	49.2	20.2	8.28	18	26	13	180	25	68.2	75.8
Conductivity	Conductivity	us/cm	-	396	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Total	Alkalinity, Total	mg/L	-	46.9	-	-	-	-	-	-	-	-	-	-	-
Hardness	Hardness	mg/L	-	175	-	-	-	-	-	-	-	-	-	-	-
Chloride	Chloride	mg/L	-	14.8	-	-	-	-	-	-	-	-	-	-	-
Fluoride	Fluoride	mg/L	-	0.09	-	-	-	-	-	-	-	-	-	-	-
Nitrate	Nitrate	mg/L	-	3.65	-	-	-	-	-	-	-	-	-	-	-
Sulfate	Sulfate	mg/L	-	108	-	-	-	-	-	-	-	-	-	-	-
Ammonia, Total (as N)	Ammonia, Total (as N)	mg/L	-	0.189	-	-	-	-	-	-	-	-	-	-	-
	Ammonia, Un-ionized	mg/L	-	< 0.001	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	Total Organic Carbon	mg/L	-	1.59	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	Dissolved Organic Carbon	mg/L	-	1.96	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	Total Kjeldahl Nitrogen	mg/L	-	0.591	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Nutrient	Phosphorus, Nutrient	mg/L	-	0.0112	-	-	-	-	-	-	-	-	-	-	-
Aluminum - Total	Aluminum - Total	mg/L	-	0.62	-	-	-	-	-	-	-	-	-	-	-
Antimony - Total	Antimony - Total	mg/L	-	< 0.00010	-	-	-	-	-	-	-	-	-	-	-
Arsenic - Total	Arsenic - Total	mg/L	-	0.00011	-	-	-	-	-	-	-	-	-	-	-
Barium - Total	Barium - Total	mg/L	-	0.017	-	-	-	-	-	-	-	-	-	-	-
Cadmium - Total	Cadmium - Total	mg/L	-	0.0000732	-	-	-	-	-	-	-	-	-	-	-
Calcium - Total	Calcium - Total	mg/L	-	33.4	-	-	-	-	-	-	-	-	-	-	-
Chromium - Total	Chromium - Total	mg/L	-	0.00173	-	-	-	-	-	-	-	-	-	-	-
Cobalt - Total	Cobalt - Total	mg/L	-	0.0011	-	-	-	-	-	-	-	-	-	-	-
Copper - Total	Copper - Total	mg/L	-	0.00174	-	-	-	-	-	-	-	-	-	-	-
Iron - Total	Iron - Total	mg/L	-	0.969	-	-	-	-	-	-	-	-	-	-	-
Lead - Total	Lead - Total	mg/L	-	0.000408	-	-	-	-	-	-	-	-	-	-	-
Lithium - Total	Lithium - Total	mg/L	-	0.0071	-	-	-	-	-	-	-	-	-	-	-
Magnesium - Total	Magnesium - Total	mg/L	-	23.7	-	-	-	-	-	-	-	-	-	-	-
Manganese - Total	Manganese - Total	mg/L	-	0.0902	-	-	-	-	-	-	-	-	-	-	-
Mercury - Total	Mercury - Total	mg/L	-	< 0.0000050	-	-	-	-	-	-	-	-	-	-	-
Molybdenum - Total	Molybdenum - Total	mg/L	-	0.00796	-	-	-	-	-	-	-	-	-	-	-
Nickel - Total	Nickel - Total	mg/L	-	0.00245	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total	Phosphorus, Total	mg/L	-	< 0.050	-	-	-	-	-	-	-	-	-	-	-
Potassium - Total	Potassium - Total	mg/L	-	8.26	-	-	-	-	-	-	-	-	-	-	-
Selenium - Total	Selenium - Total	mg/L	-	0.000582	-	-	-	-	-	-	-	-	-	-	-
Sodium - Total	Sodium - Total	mg/L	-	3.74	-	-	-	-	-	-	-	-	-	-	-
Strontium - Total	Strontium - Total	mg/L	-	0.145	-	-	-	-	-	-	-	-	-	-	-
Thallium - Total	Thallium - Total	mg/L	-	0.00002	-	-	-	-	-	-	-	-	-	-	-
Tin - Total	Tin - Total	mg/L	-	< 0.00010	-	-	-	-	-	-	-	-	-	-	-

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04
			2024-07-02 11:15	2024-07-04 09:25	2024-07-06 11:45	2024-07-11 09:35	2024-07-13 10:30	2024-07-15 13:50	2024-07-17 09:25	2024-07-19 16:25	2024-07-21 11:45	2024-07-23 09:25	2024-07-25 12:40	2024-07-27 12:00	2024-07-29 09:15
ALS Sample ID			BF2400157	BF2400160	BF2400169	BF2400180	BF2400182	BF2400183	BF2400190	BF2400194	BF2400196	BF2400202	BF2400204	BF2400206	BF2400208
Sample Type			EXPLORE	P	EXPLORE	NP	EXPLORE	NP	EXPLORE	NP	NP	NP	NP	NP	NP
Parameter	**Parameter**	**Unit**													
Titanium - Total	Titanium - Total	mg/L	-	0.0254	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	Uranium - Total	mg/L	-	0.00819	-	-	-	-	-	-	-	-	-	-	-
Uranium - Total	Vanadium - Total	mg/L	-	0.00115	-	-	-	-	-	-	-	-	-	-	-
Vanadium - Total	Zinc - Total	mg/L	-	< 0.0030	-	-	-	-	-	-	-	-	-	-	-
Zinc - Total	Aluminum - Dissolved	mg/L	-	0.008	-	-	-	-	-	-	-	-	-	-	-
Aluminum - Dissolved	Arsenic - Dissolved	mg/L	-	< 0.00010	-	-	-	-	-	-	-	-	-	-	-
Arsenic - Dissolved	Cadmium - Dissolved	mg/L	-	0.0000565	-	-	-	-	-	-	-	-	-	-	-
Cadmium - Dissolved	Calcium - Dissolved	mg/L	-	32.8	-	-	-	-	-	-	-	-	-	-	-
Calcium - Dissolved	Copper - Dissolved	mg/L	-	0.00071	-	-	-	-	-	-	-	-	-	-	-
Copper - Dissolved	Iron - Dissolved	mg/L	-	< 0.010	-	-	-	-	-	-	-	-	-	-	-
Iron - Dissolved	Lead - Dissolved	mg/L	-	< 0.000050	-	-	-	-	-	-	-	-	-	-	-
Lead - Dissolved	Magnesium - Dissolved	mg/L	-	22.6	-	-	-	-	-	-	-	-	-	-	-
Magnesium - Dissolved	Manganese - Dissolved	mg/L	-	0.076	-	-	-	-	-	-	-	-	-	-	-
Manganese - Dissolved	Mercury - Dissolved	mg/L	-	< 0.0000050	-	-	-	-	-	-	-	-	-	-	-
Mercury - Dissolved	Molybdenum - Dissolved	mg/L	-	0.0079	-	-	-	-	-	-	-	-	-	-	-
Molybdenum - Dissolved	Nickel - Dissolved	mg/L	-	0.00119	-	-	-	-	-	-	-	-	-	-	-
Nickel - Dissolved	Potassium - Dissolved	mg/L	-	8.01	-	-	-	-	-	-	-	-	-	-	-
Potassium - Dissolved	Selenium - Dissolved	mg/L	-	0.000678	-	-	-	-	-	-	-	-	-	-	-
Selenium - Dissolved	Sodium - Dissolved	mg/L	-	3.57	-	-	-	-	-	-	-	-	-	-	-
Sodium - Dissolved	Thallium - Dissolved	mg/L	-	0.000013	-	-	-	-	-	-	-	-	-	-	-
Thallium - Dissolved	Uranium - Dissolved	mg/L	-	0.00775	-	-	-	-	-	-	-	-	-	-	-
Uranium - Dissolved	Zinc - Dissolved	mg/L	-	0.0019	-	-	-	-	-	-	-	-	-	-	-
	Radium-226	Bq/L	-	< 0.037	-	-	-	-	-	-	-	-	-	-	-
Zinc - Dissolved	Oil and Grease, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Mortality to Rainbow Trout	Visible Sheen	None	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Oil and Grease, Total	Mean Mortality to Daphnia magna	%	-	Not Acutely Toxic	-	-	-	-	-	-	-	-	-	-	-
Mean Mortality to Daphnia magna	Mean Mortality to Rainbow Trout	%	-	Not Acutely Toxic	-	-	-	-	-	-	-	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the a

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
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Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04
			2024-07-31 10:30	2024-08-03 10:10	2024-08-06 12:05	2024-08-08 17:30	2024-08-14 14:00	2024-08-20 14:50	2024-08-26 09:45	2024-09-02 09:10	2024-09-20 16:35	2024-09-24 13:00	2024-10-01 10:00	2024-10-08 11:20	2024-10-15 15:30
ALS Sample ID			BF2400220	BF2400221	BF2400233	BF2400239	BF2400257	BF2400277	BF2400289	BF2400309	BF2400349	BF2400358	BF2400368	BF2400386	BF2400401
Sample Type			EXPLORE	EXPLORE	EXPLORE	P	P	P	EXPLORE	P	P	P	P	P	P
Parameter	**Parameter**	**Unit**													
pH, Lab	pH, Lab	pH units	7.4	7.32	7.68	7.61	7.93	7.86	7.65	7.66	8.03	7.54	7.81	7.78	7.67
Total Suspended Solids	Total Suspended Solids	mg/L	**67.6**	26.5	**108**	**59**	3.7	**63.3**	**131**	24.2	**9040**	**40**	24.9	**382**	**250**
Total Dissolved Solids	Total Dissolved Solids	mg/L	526	443	605	682	480	517	521	496	255	490	402	444	400
Turbidity	Turbidity	NTU	66.3	32.7	134	59.8	7.24	106	181	33.9	4000	57.2	40.3	428	309
Conductivity	Conductivity	us/cm	-	-	-	934	712	781	734	761	408	715	637	596	594
Alkalinity, Total	Alkalinity, Total	mg/L	-	-	-	-	88.9	-	-	100	103	-	66.3	-	-
Hardness	Hardness	mg/L	-	-	-	-	336	-	-	367	168	-	268	-	-
Chloride	Chloride	mg/L	-	-	-	-	33.4	-	-	31.5	14.3	-	13.2	-	-
Fluoride	Fluoride	mg/L	-	-	-	-	0.114	-	-	0.079	0.137	-	0.098	-	-
Nitrate	Nitrate	mg/L	-	-	-	-	7.52	-	-	10.7	4.85	-	12.6	-	-
Sulfate	Sulfate	mg/L	-	-	-	-	192	-	-	200	74.4	-	164	-	-
Ammonia, Total (as N)	Ammonia, Total (as N)	mg/L	-	-	-	0.728	0.18	0.136	0.674	0.401	0.336	1.17	1.06	0.55	0.339
	Ammonia, Un-ionized	mg/L	-	-	-	0.0029	0.0016	0.0017	0.0023	0.0026	0.0026	0.0055	0.0055	0.0022	0.0016
Total Organic Carbon	Total Organic Carbon	mg/L	-	-	-	-	2.48	-	-	2.35	< 50.0	-	2.1	-	-
Dissolved Organic Carbon	Dissolved Organic Carbon	mg/L	-	-	-	-	2.71	-	-	2.52	3.19	-	1.86	-	-
Total Kjeldahl Nitrogen	Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.644	-	-	0.608	1.42	-	0.959	-	-
Phosphorus, Nutrient	Phosphorus, Nutrient	mg/L	-	-	-	-	< 0.0020	-	-	0.0102	7.26	-	0.0128	-	-
Aluminum - Total	Aluminum - Total	mg/L	-	-	-	2.81	0.292	4.45	7.95	1.62	720	2.58	1.61	19.6	15.4
Antimony - Total	Antimony - Total	mg/L	-	-	-	< 0.00100	< 0.00010	< 0.00100	< 0.00100	< 0.00100	<0.020	< 0.00100	< 0.00010	< 0.00100	< 0.00100
Arsenic - Total	Arsenic - Total	mg/L	-	-	-	< 0.00100	0.00011	< 0.00100	< 0.00100	< 0.00100	0.044	< 0.00100	0.00019	0.00163	0.00135
Barium - Total	Barium - Total	mg/L	-	-	-	0.0518	0.0276	0.0575	0.072	0.0393	4.46	0.04	0.0279	0.14	0.121
Cadmium - Total	Cadmium - Total	mg/L	-	-	-	0.00127	0.000494	0.000809	0.000852	0.000989	0.004	0.000349	0.000437	0.000791	0.0006
Calcium - Total	Calcium - Total	mg/L	-	-	-	73.6	55.7	66.8	54	63.1	<100	41.9	40.4	53.3	53.3
Chromium - Total	Chromium - Total	mg/L	-	-	-	0.0073	0.00109	0.0115	0.0184	< 0.00500	1.75	0.00684	0.00415	0.0478	0.0374
Cobalt - Total	Cobalt - Total	mg/L	-	-	-	0.0181	0.00558	0.00908	0.0151	0.0076	0.4	0.0108	0.00582	0.0157	0.0122
Copper - Total	Copper - Total	mg/L	-	-	-	0.00632	0.00284	0.00989	0.0141	< 0.00500	**0.95**	0.00653	0.0042	0.0363	0.0285
Iron - Total	Iron - Total	mg/L	-	-	-	6.69	0.49	9.12	12.5	2.67	1290	4.03	2.56	32.6	24.4
Lead - Total	Lead - Total	mg/L	-	-	-	0.00161	0.000287	0.00287	0.00383	0.000958	**0.267**	0.00204	0.000742	0.0105	0.00881
Lithium - Total	Lithium - Total	mg/L	-	-	-	0.0163	0.0117	0.0138	0.0207	< 0.0100	0.52	< 0.0100	0.0087	0.0232	0.0215
Magnesium - Total	Magnesium - Total	mg/L	-	-	-	72.5	49.5	60.7	63.4	57.2	740	64	43.3	66.2	54.2
Manganese - Total	Manganese - Total	mg/L	-	-	-	4.76	1.84	1.54	3.51	1.76	14	2.32	1.68	1.62	0.816
Mercury - Total	Mercury - Total	mg/L	-	-	-	-	< 0.0000050	-	-	< 0.0000050	< 0.0000050	-	< 0.0000050	-	-
Molybdenum - Total	Molybdenum - Total	mg/L	-	-	-	0.0091	0.00977	0.00972	0.0112	0.00818	0.095	0.0112	0.0126	0.00955	0.0094
Nickel - Total	Nickel - Total	mg/L	-	-	-	0.0148	0.00421	0.0161	0.0222	0.00765	**1.33**	0.0214	0.0085	0.0459	0.0374
Phosphorus, Total	Phosphorus, Total	mg/L	-	-	-	< 0.500	< 0.050	< 0.500	< 0.500	< 0.500	<10	< 0.500	< 0.050	< 0.500	< 0.500
Potassium - Total	Potassium - Total	mg/L	-	-	-	8.66	7.6	9.24	8.4	7.39	213	7.3	6.29	11.3	11
Selenium - Total	Selenium - Total	mg/L	-	-	-	0.00164	0.000853	0.00126	0.0016	0.00138	<0.010	0.00184	0.00125	0.00101	0.00101
Sodium - Total	Sodium - Total	mg/L	-	-	-	10.6	8.42	9.42	8.06	8.44	10	5.01	5.23	6.47	6.38
Strontium - Total	Strontium - Total	mg/L	-	-	-	0.195	0.184	0.238	0.137	0.186	0.212	0.106	0.101	0.117	0.141
Thallium - Total	Thallium - Total	mg/L	-	-	-	< 0.000100	0.000028	< 0.000100	0.000128	< 0.000100	0.0098	< 0.000100	0.000038	0.000259	0.000216
Tin - Total	Tin - Total	mg/L	-	-	-	< 0.00100	< 0.00010	0.00209	< 0.00100	< 0.00100	0.03	< 0.00100	< 0.00010	< 0.00100	< 0.00100

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - KM105-SWMP-SEEP-03

Sample Date & Time			KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04	KM105-SWMP-SEEP-04
			2024-07-31 10:30	2024-08-03 10:10	2024-08-06 12:05	2024-08-08 17:30	2024-08-14 14:00	2024-08-20 14:50	2024-08-26 09:45	2024-09-02 09:10	2024-09-20 16:35	2024-09-24 13:00	2024-10-01 10:00	2024-10-08 11:20	2024-10-15 15:30
ALS Sample ID			BF2400220	BF2400221	BF2400233	BF2400239	BF2400257	BF2400277	BF2400289	BF2400309	BF2400349	BF2400358	BF2400368	BF2400386	BF2400401
Sample Type			EXPLORE	EXPLORE	EXPLORE	P	P	P	EXPLORE	P	P	P	P	P	P
Parameter	**Parameter**	**Unit**													
Titanium - Total	Titanium - Total	mg/L	-	-	-	0.129	0.0127	0.204	0.342	0.0699	30.4	0.114	0.0656	0.841	0.656
Total Organic Carbon	Uranium - Total	mg/L	-	-	-	0.00848	0.014	0.018	0.0106	0.0126	0.0768	0.00782	0.00707	0.0113	0.0134
Uranium - Total	Vanadium - Total	mg/L	-	-	-	0.00876	0.00072	0.011	0.0125	< 0.00500	1.06	< 0.00500	0.00251	0.0298	0.0236
Vanadium - Total	Zinc - Total	mg/L	-	-	-	< 0.0300	0.0031	< 0.0300	< 0.0300	< 0.0300	**1.81**	< 0.0300	0.0078	0.0586	0.0531
Zinc - Total	Aluminum - Dissolved	mg/L	-	-	-	-	0.0042	-	-	0.0103	0.0263	-	0.0108	-	-
Aluminum - Dissolved	Arsenic - Dissolved	mg/L	-	-	-	-	< 0.00010	-	-	< 0.00100	< 0.00010	-	< 0.00010	-	-
Arsenic - Dissolved	Cadmium - Dissolved	mg/L	-	-	-	-	0.000496	-	-	0.000862	0.000026	-	0.000418	-	-
Cadmium - Dissolved	Calcium - Dissolved	mg/L	-	-	-	-	56.4	-	-	62	26.3	-	38.7	-	-
Calcium - Dissolved	Copper - Dissolved	mg/L	-	-	-	-	0.00218	-	-	< 0.00200	0.00069	-	0.00144	-	-
Copper - Dissolved	Iron - Dissolved	mg/L	-	-	-	-	< 0.010	-	-	< 0.100	< 0.010	-	0.024	-	-
Iron - Dissolved	Lead - Dissolved	mg/L	-	-	-	-	< 0.000050	-	-	< 0.000500	< 0.000050	-	< 0.000050	-	-
Lead - Dissolved	Magnesium - Dissolved	mg/L	-	-	-	-	47.3	-	-	51.5	24.9	-	41.6	-	-
Magnesium - Dissolved	Manganese - Dissolved	mg/L	-	-	-	-	1.73	-	-	1.59	0.0986	-	1.53	-	-
Manganese - Dissolved	Mercury - Dissolved	mg/L	-	-	-	-	< 0.0000050	-	-	< 0.0000050	< 0.0000050	-	< 0.0000050	-	-
Mercury - Dissolved	Molybdenum - Dissolved	mg/L	-	-	-	-	0.00981	-	-	0.00772	0.00709	-	0.0125	-	-
Molybdenum - Dissolved	Nickel - Dissolved	mg/L	-	-	-	-	0.00344	-	-	< 0.00500	0.00062	-	0.00511	-	-
Nickel - Dissolved	Potassium - Dissolved	mg/L	-	-	-	-	7.37	-	-	6.08	9.76	-	5.97	-	-
Potassium - Dissolved	Selenium - Dissolved	mg/L	-	-	-	-	0.000988	-	-	0.00126	0.000704	-	0.00147	-	-
Selenium - Dissolved	Sodium - Dissolved	mg/L	-	-	-	-	8.04	-	-	7.63	4.54	-	5.11	-	-
Sodium - Dissolved	Thallium - Dissolved	mg/L	-	-	-	-	0.000023	-	-	< 0.000100	0.000011	-	0.00002	-	-
Thallium - Dissolved	Uranium - Dissolved	mg/L	-	-	-	-	0.0135	-	-	0.012	0.00204	-	0.00655	-	-
Uranium - Dissolved	Zinc - Dissolved	mg/L	-	-	-	-	0.0018	-	-	0.0104	0.0031	-	0.0028	-	-
	Radium-226	Bq/L	-	-	-	0.0438	0.0385	< 0.037	< 0.037	0.0515	0.404	< 0.037	< 0.037	0.0468	< 0.037
Zinc - Dissolved	Oil and Grease, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Mortality to Rainbow Trout	Visible Sheen	None	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Oil and Grease, Total	Mean Mortality to Daphnia magna	%	-	-	-	-	Not Acutely Toxic	-	-	Not Acutely Toxic	-	-	Not Acutely Toxic	-	-
Mean Mortality to Daphnia magna	Mean Mortality to Rainbow Trout	%	-	-	-	-	Not Acutely Toxic	-	-	Not Acutely Toxic	-	-	Not Acutely Toxic	-	-

Notes:
Bold highlight indicate results that exceeded the a

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - MS-C-F

			Location	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F
			Sample Date & Time	2024-06-03 17:10	2024-06-09 14:50	2024-06-17 08:40	2024-06-23 15:55	2024-07-01 14:00	2024-07-07 16:00	2024-07-14 12:30	2024-07-21 12:25	2024-07-28 11:40	2024-08-04 08:25	2024-08-11 13:30	2024-08-19 13:20	2024-08-25 14:25
			ALS Sample ID	BF2400071	BF2400096	BF2400114	BF2400137	BF2400155	BF2400173	BF2400185	BF2400199	BF2400207	BF2400225	BF2400247	BF2400270	BF2400291
			Sample Type	P	P	P	P	P	P	P	P	P	P	P	P	P
Parameter	**Unit**	**MDMER**	**NWB_OP-S-SP**													
pH, Lab	pH units	6 - 9.5	6 - 9.5	7.51	7.35	7.79	7.92	7.63	7.7	7.53	7.55	7.78	7.69	7.4	7.85	7.74
Total Suspended Solids	mg/L	30	30	11.3	7.9	13	1.8	4.7	8.8	4	2.4	6.4	12.9	3	1.2	13.8
Total Dissolved Solids	mg/L	-	-	118	139	168	164	230	217	509	688	570	376	472	500	386
Turbidity	NTU	-	-	27.1	15.3	23.9	6.94	5.05	16.9	5.04	3.93	12.1	25.4	9.61	4.04	27
Conductivity	us/cm	-	-	185	-	-	-	398	-	-	-	-	616	-	-	-
Nitrate	mg/L	-	-	1.22	-	-	-	3.5	-	-	-	-	5.79	-	-	-
Ammonia, Total (as N)	mg/L	-	-	< 5.0	-	-	-	< 5.0	-	-	-	-	< 5.0	-	-	-
Oil and Grease, Total	mg/L	-	-	0.175	-	-	-	0.173	-	-	-	-	0.319	-	-	-
Visible Sheen	None	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

Notes:

Sample Types:

P - Permitted, normal sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - MS-C-F

		MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F
		2024-09-01 10:50	2024-09-08 17:30	2024-09-19 13:40	2024-09-22 14:45	2024-10-02 17:00	2024-10-08 17:20
		BF2400305	BF2400324	BF2400348	BF2400351	BF2400372	BF2400385
		P	P	P	P	P	P
Parameter	**Unit**						
pH, Lab	pH units	7.98	7.92	7.92	7.84	7.73	7.63
Total Suspended Solids	mg/L	6.2	**144**	**47.2**	**214**	**85.3**	9.9
Total Dissolved Solids	mg/L	386	370	374	234	352	348
Turbidity	NTU	9.85	162	78.2	339	120	25.6
Conductivity	us/cm	656	-	-	299	540	-
Nitrate	mg/L	8.08	-	-	< 5.0	10	-
Ammonia, Total (as N)	mg/L	< 5.0	-	-	0.22	0.914	-
Oil and Grease, Total	mg/L	0.353	-	-	4.29	< 5.0	-
Visible Sheen	None	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen

Notes:

Bold highlight indicate results that exceede

Notes:

Sample Types:

P - Permitted, normal sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - D1-05

			Location	D1-05	D1-05	D1-05	D1-05	D1-05	D1-05	D1-05	D1-05
			Sample Date & Time	2024-05-27 10:00	2024-06-25 09:25	2024-07-01 09:45	2024-07-30 09:50	2024-08-15 12:45	2024-08-30 09:10	2024-09-20 16:15	2024-10-08 10:15
			ALS Sample ID	BF2400041	WT2417332	BF2400150	BF2400214	BF2400256	BF2400302	BF2400349	BF2400385
			Sample Type	P	P	P	P	P	P	P	P
Parameter	**Unit**	**MDMER**	**NWB_OP-S-SP**								
pH, Lab	pH units	6 - 9.5	6 - 9.5	7.28	7.56	7.74	7.47	7.86	7.48	7.86	7.44
Total Suspended Solids	mg/L	30	30	10	1	1	< 1.0	< 1.0	< 1.0	2.8	4.5
Total Dissolved Solids	mg/L	-	-	110	158	208	440	360	348	277	290
Turbidity	NTU	-	-	37	2.32	1.9	1.42	0.74	1.54	13	13.6
Conductivity	us/cm	-	-	169	297	344	684	568	566	443	-
Alkalinity, Total	mg/L	-	-	25.2	33.9	39.1	68	73.4	82	78.6	-
Hardness	mg/L	-	-	62.7	123	144	313	270	265	198	-
Chloride	mg/L	-	-	6.66	14.9	18	33.5	22.6	20.5	14.2	-
Fluoride	mg/L	-	-	0.063	0.066	-	-	0.084	-	0.078	-
Nitrate	mg/L	-	-	1.25	2.17	2.77	5.78	5.69	7.22	5.15	-
Sulfate	mg/L	-	-	36.2	68.6	84.5	201	154	152	94.2	-
Ammonia, Total (as N)	mg/L	-	-	0.23	0.0455	0.0248	0.0687	0.0074	0.106	0.032	-
Ammonia, Un-ionized	mg/L	1	-	< 0.001	< 0.001	-	-	< 0.001	-	< 0.001	-
Total Organic Carbon	mg/L	-	-	3.33	1.48	1.83	1.99	2.44	2.38	2.44	-
Dissolved Organic Carbon	mg/L	-	-	4.1	3.84	1.62	2.82	2.87	3.35	2.72	-
Total Kjeldahl Nitrogen	mg/L	-	-	0.692	0.33	0.316	0.43	0.619	0.496	0.594	-
Phosphorus, Nutrient	mg/L	-	-	0.0148	0.0023	0.0026	< 0.0020	< 0.0020	< 0.0020	0.004	-
Phenols	mg/L	-	-	-	-	< 1.0	< 1.0	-	< 1.0	-	-
Aluminum - Total	mg/L	-	-	1.09	0.0807	0.0515	0.0288	0.021	0.055	0.359	-
Antimony - Total	mg/L	-	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	-
Arsenic - Total	mg/L	0.6	-	0.0002	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	-
Barium - Total	mg/L	-	-	0.0147	0.0154	0.0177	0.0296	0.0258	0.0225	0.0174	-
Cadmium - Total	mg/L	-	-	0.00011	0.0000349	0.0000367	0.000407	0.0000871	0.000268	0.0000356	-
Calcium - Total	mg/L	-	-	15.2	26.3	31.6	53.2	45.9	45.8	33.5	-
Chromium - Total	mg/L	-	-	0.00242	0.00055	0.00058	< 0.00050	< 0.00050	< 0.00050	0.00109	-
Cobalt - Total	mg/L	-	-	0.00092	0.0002	0.00021	0.00141	0.00078	0.00133	0.0007	-
Copper - Total	mg/L	0.6	-	0.00394	0.00151	0.00146	0.0016	0.00213	0.00233	0.00249	-
Iron - Total	mg/L	-	-	1.6	0.116	0.07	0.049	0.028	0.084	0.566	-
Lead - Total	mg/L	0.2	-	0.00102	0.00016	0.000138	0.000057	< 0.000050	0.000069	0.000284	-
Lithium - Total	mg/L	-	-	0.0037	0.0044	0.0048	0.0103	0.0082	0.0081	0.0046	-
Magnesium - Total	mg/L	-	-	8.56	14	19.6	47.1	37.8	40.9	27.8	-
Manganese - Total	mg/L	-	-	0.0502	0.00226	0.00191	0.828	0.0145	0.359	0.0262	-
Mercury - Total	mg/L	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

Baffinland

Water Quality Results for Water Licence Monitoring Location - D1-05

				Location	D1-05	D1-05	D1-05	D1-05	D1-05	D1-05	D1-05	D1-05
				Sample Date & Time	2024-05-27 10:00	2024-06-25 09:25	2024-07-01 09:45	2024-07-30 09:50	2024-08-15 12:45	2024-08-30 09:10	2024-09-20 16:15	2024-10-08 10:15
				ALS Sample ID	BF2400041	WT2417332	BF2400150	BF2400214	BF2400256	BF2400302	BF2400349	BF2400385
				Sample Type	P	P	P	P	P	P	P	P
Parameter	**Unit**	**MDMER**	**NWB_OP-S-SP**									
Molybdenum - Total	mg/L	-	-		0.00336	0.00605	0.00616	0.00776	0.00477	0.00582	0.00479	-
Nickel - Total	mg/L	1	-		0.00385	0.00081	0.00084	0.00189	0.00162	0.0022	0.00169	-
Phosphorus, Total	mg/L	-	-		< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	-
Potassium - Total	mg/L	-	-		4.16	5.24	6.22	6.99	5.99	5.17	4.18	-
Selenium - Total	mg/L	-	-		0.000146	0.000145	0.000184	0.000733	0.000674	0.000876	0.000633	-
Sodium - Total	mg/L	-	-		1.37	2.66	3.4	6.74	5.76	5.95	4.22	-
Strontium - Total	mg/L	-	-		0.0532	0.1	0.122	0.171	0.129	0.111	0.0757	-
Thallium - Total	mg/L	-	-		0.000028	0.000021	0.000018	0.000026	0.000023	0.000022	0.000017	-
Tin - Total	mg/L	-	-		< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	-
Titanium - Total	mg/L	-	-		0.0329	0.00267	< 0.00200	< 0.00200	0.00082	< 0.00300	0.0144	-
Uranium - Total	mg/L	-	-		0.0013	0.00244	0.00313	0.00972	0.00984	0.0108	0.0104	-
Vanadium - Total	mg/L	-	-		0.0017	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00073	-
Zinc - Total	mg/L	1	0.5		0.0047	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	-
Aluminum - Dissolved	mg/L	-	-		0.01	-	0.0056	0.0028	-	0.0036	-	-
Arsenic - Dissolved	mg/L	-	-		< 0.00010	-	< 0.00010	< 0.00010	-	< 0.00010	-	-
Cadmium - Dissolved	mg/L	-	-		0.0000838	-	0.0000361	0.000426	-	0.000253	-	-
Calcium - Dissolved	mg/L	-	-		13.6	-	30.6	52	-	43.3	-	-
Copper - Dissolved	mg/L	-	-		0.00136	-	0.00121	0.00144	-	0.00187	-	-
Iron - Dissolved	mg/L	-	-		0.015	-	< 0.010	< 0.010	-	< 0.010	-	-
Lead - Dissolved	mg/L	-	-		< 0.000050	-	< 0.000050	< 0.000050	-	< 0.000050	-	-
Magnesium - Dissolved	mg/L	-	-		6.97	-	16.5	44.4	-	38	-	-
Manganese - Dissolved	mg/L	-	-		0.0257	-	0.00077	0.771	-	0.33	-	-
Mercury - Dissolved	mg/L	-	-		< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-
Molybdenum - Dissolved	mg/L	-	-		0.00335	-	0.00639	0.00742	-	0.00564	-	-
Nickel - Dissolved	mg/L	-	-		0.001	-	0.00067	0.00173	-	0.00183	-	-
Potassium - Dissolved	mg/L	-	-		3.64	-	5.52	6.68	-	5.06	-	-
Selenium - Dissolved	mg/L	-	-		0.000146	-	0.000189	0.000814	-	0.000919	-	-
Sodium - Dissolved	mg/L	-	-		1.21	-	2.99	6.31	-	5.36	-	-
Thallium - Dissolved	mg/L	-	-		0.000015	-	0.000018	0.000026	-	0.00002	-	-
Uranium - Dissolved	mg/L	-	-		0.000845	-	0.00296	0.0102	-	0.011	-	-
Zinc - Dissolved	mg/L	-	-		0.0017	-	< 0.0010	0.0025	-	0.0022	-	-
Radium-226	Bq/L	1.11	-		0.0693	0.0367	-	-	0.216	-	0.0628	-
Visible Sheen	None	-	No Visible Sheen		No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Mean Mortality to Daphnia magna	None	Not Acutely Toxic			Not Acutely Toxic	-	-	-	-	-	-	-
Mean Mortality to Rainbow Trout	None	Not Acutely Toxic			Not Acutely Toxic	-	-	-	-	-	-	-

Notes:
Sample Types:
P - Permitted, normal sample
FB - Field Blank
FD - Field Duplicate
TB - Trip Blank

June 21, 2024

Resources Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0

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 #2024-180
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On May 20 and May 21, 2024, as part of the Freshet Monitoring Program, Baffinland collected samples at the following monitoring locations: Sheardown Lake Tributary (SDLT), Camp Lake Tributary (CLT), and Landfill Gate tributary (LDFG). Laboratory results, on May 22, showed elevated levels of Total Suspended Solids (TSS) which were higher than the applicable criteria (30 mg/L) under the water licence. Similarly, results from a sample collected from the Camp Lake Sedimentation Ponds monitoring location (CLSP) on June 3 showed elevated levels of TSS above the applicable water licence criteria.. During this period, warming temperatures resulted in snowmelt runoff containing sediment-laden water to enter the affected watercourses over a short period of time. It is expected that the elevated TSS will have minimal impact to the receiving waterbodies due to the transient nature of the event.

Details of the CLT-OUT, SDLT-OUT, LDFG-OUT, and CLSP-OUT sampling locations are provided in Table 1 and the Mine Site freshet monitoring locations figure in Attachment 2. TSS results for sampling conducted at SDLT-OUT, CLT-OUT, LDFG-OUT, and CLSP-OUT are summarized in Table 2. Photos of the sampling locations are provided in Attachment 1. The sediment-laden water exceedances, reported to the NT-NU Spills Reporting Line as Spill #2024-180 on May 22 and June 18 (updated report), are provided in Attachment 3.

Table 1: Details for the Locations of Sampling Sites CLT-OUT, SDLT-OUT, LDFG-OUT, and CLSP-OUT

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
CLSP-OUT	Camps Lake Settling Ponds outlet	557805	7914795

Table 2: TSS Results for SDLT-OUT, CLT-OUT, LDFG-OUT, and CLSP-OUT

Sample Date	Location Name	TSS Screening Criteria (mg/L)	TSS Concentration (mg/L)
May 20, 2024	SDLT-OUT	30	79.5
May 21, 2024	SDLT-OUT	30	294
May 24, 2024	SDLT-OUT	30	45
May 26, 2024	SDLT-OUT	30	268
May 29, 2024	SDLT-OUT	30	47.7
May 30, 2024	SDLT-OUT	30	8.0
June 3, 2024	SDLT-OUT	30	46.7
June 5, 2024	SDLT-OUT	30	10.2
June 12, 2024	SDLT-OUT	30	17.1
May 21, 2024	CLT-OUT	30	204
May 23, 2024	CLT-OUT	30	6.4
May 26, 2024	CLT-OUT	30	59.4
May 29, 2024	CLT-OUT	30	60.5
May 30, 2024	CLT-OUT	30	23.3
June 3, 2024	CLT-OUT	30	62.1
June 4, 2024	CLT-OUT	30	9.2
June 5, 2024	CLT-OUT	30	9.0
June 12, 2024	CLT-OUT	30	2.7
May 21, 2024	LDFG-OUT	30	74.5
May 23, 2024	LDFG-OUT	30	7.0
May 26, 2024	LDFG-OUT	30	39.5

May 29, 2024	LDFG-OUT	30	5.5
May 30, 2024	LDFG-OUT	30	2.0
June 3, 2024	LDFG-OUT	30	16.1
June 5, 2024	LDFG-OUT	30	6.2
June 9, 2024	LDFG-OUT	30	1.3
June 12, 2024	LDFG-OUT	30	1.3
June 3, 2024	CLSP-OUT	30	433
June 4, 2024	CLSP-OUT	30	206
June 5, 2024	CLSP-OUT	30	234
June 12, 2024*	CLSP-OUT	30	337

* Low flow conditions after this date resulted in no further samples being collected to date.

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 site infrastructure. A representative confirmatory water quality sample could not be collected at CLSP-OUT following June 12 due to the onset of low-flow conditions during subsequent scheduled sampling.

Immediate and Follow-Up Action:

Erosion and Sediment Control (ESC) measures were assessed and installed where applicable, in accordance with Baffinland's Surface Water Aquatic Effects Management Plan (SWAEMP), and maintained and adjusted as required. At LDFG, a spring berm was installed across the stream to help alleviate the amount of sediment flowing into the watercourse. Additionally, floc blocs implemented in 2023 continued to be utilized to promote settling of solids prior to the water entering Sheardown Lake (see photo in Attachment 1). Ground conditions will continue to be monitored for feasibility and suitability of additional ESC measures.

Prior to the start of freshet 2024, excess snow was relocated from areas of concern around site, including the inlets and outlets of select culvert locations. This snow was relocated to approved snow stockpile locations to reduce the volume of snowmelt and subsequent amount of overland flow present to mobilize sediment. Continual snow removal on road surfaces was also ongoing prior to freshet, and culverts were steamed and cleared as necessary to ensure the effective flow of water, in accordance with Baffinland's Snow Management Plan (SMP).

Weekly sampling of water quality and daily inspections, including YSI readings, of sampling locations is conducted throughout freshet.

Current Status:

Freshet water quality monitoring and inspections of sampling locations continue to be completed at SDLT, CLT, LDFG, and CLSP throughout freshet, when there is flowing water. Samples obtained at SDLT, CLT, and LDFG were compliant as of June 5, June 4, and May 29, respectively. Due to low flow conditions at CLSP

during subsequent scheduled sampling, no further samples have been collected at this monitoring location to date. Routine maintenance of ESC measures will be performed as necessary to ensure their ongoing effective operation.

Should you require further information or clarification on the incident described above, please feel free to contact the undersigned at (647) 253-0596 (ext. 6727).

Prepared by:

Katie Babin
Environmental Superintendent

Reviewed by:

Dwayne Dergousoff
Site Services Deputy Manager

Cc: Jeremy Fraser, Sean Noble-Nowdluk (CIRNAC)
Andrew Jaworenko, Amoudla Kootoo (QIA)
Curtis Didham (ECCC)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Connor Devereaux, Todd Swenson, Jared Nadin, Allison Parker, Dale Kristoff, Irniq Lecompte (Baffinland)

Attachments

Attachment 1: Photos
Attachment 2: Mine Site Freshet Monitoring Locations
Attachment 3: Initial Spill Notifications

Attachment 1

Photos

SDLT-OUT

Photo 1: SDLT-OUT Sample Location May 21, 2024

Photo 2: SDLT Upstream Conditions May 21, 2024

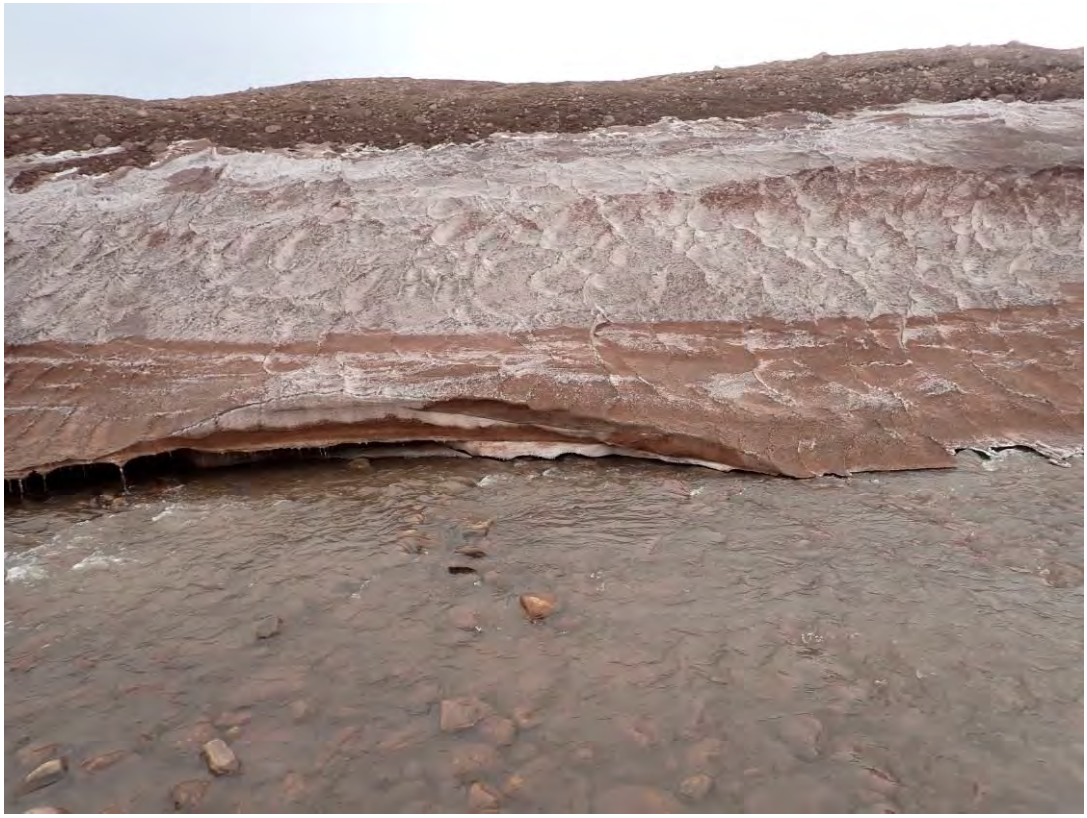

Photo 3: SDLT-OUT Sample Location Conditions June 5, 2024

Photo 4: SDLT-OUT Upstream Conditions June 5, 2024

LDFG-OUT

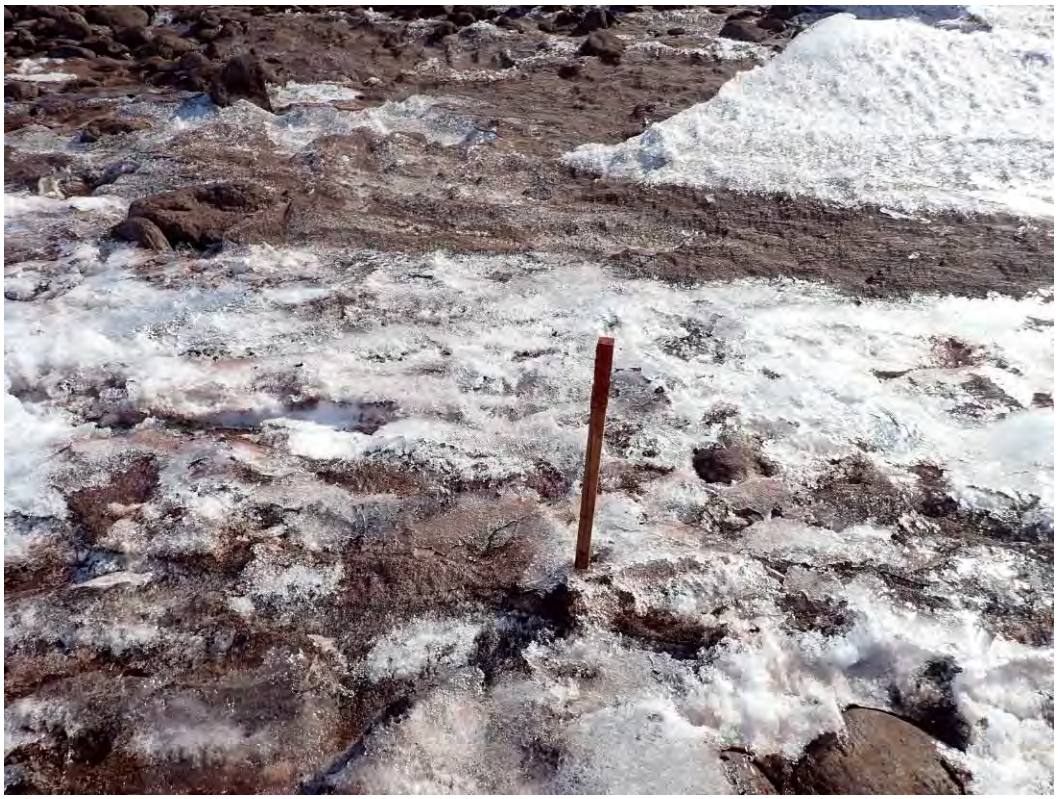

Photo 5: LDFG-OUT Sample Location May 21, 2024

Photo 6: LDFG Upstream Conditions May 21, 2024

Photo 7: LDFG-OUT Sample Location Conditions May 29, 2024

Photo 8: LDFG-OUT Upstream Conditions May 29, 2024

Photo 9: LDFG-OUT ESC Measures (Spring Berm/Floc Bloc) June 3, 2024

CLT-OUT

Photo 10: CLT-OUT Sample Location May 21, 2024

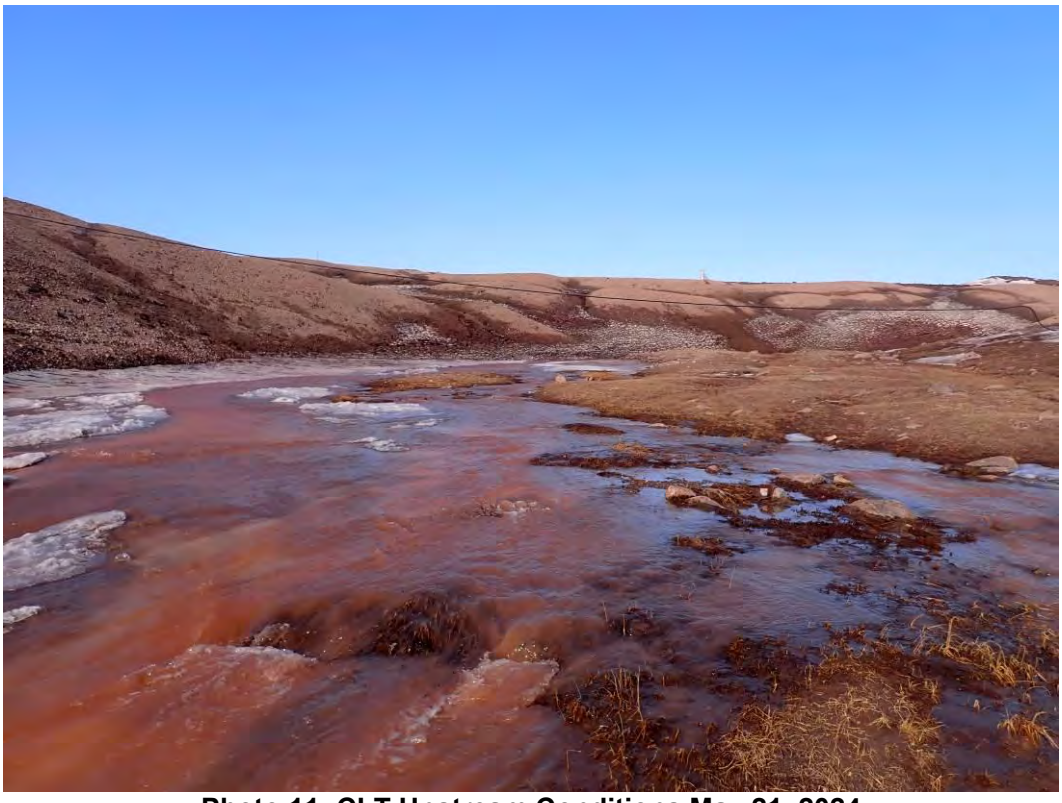

Photo 11: CLT Upstream Conditions May 21, 2024

Photo 12: CLT-OUT Sample Location Conditions June 4, 2024

Photo 13: CLT-OUT Upstream Conditions June 4, 2024

CLSP-OUT

Photo 14: CLSP-OUT Sample Location June 3, 2024

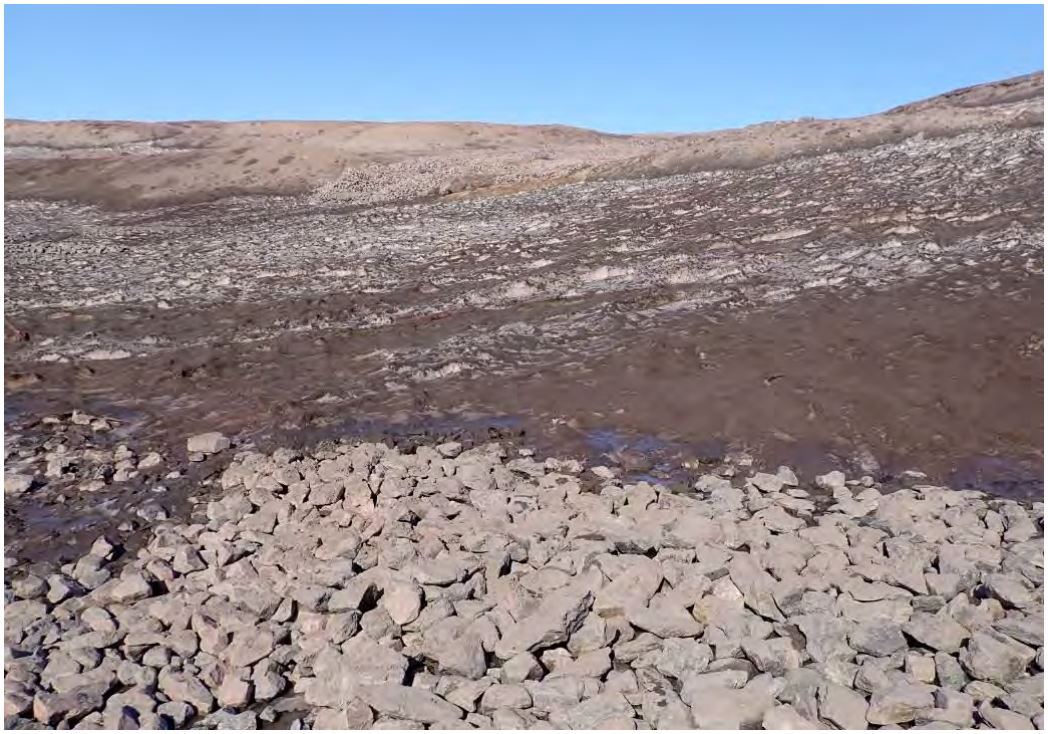

Photo 15: CLSP Melting Snow Resulting in Spill June 3, 2024

Photo 16: CLSP-OUT Sample Location Conditions June 19, 2024

Attachment 2

Mine Site Freshet Monitoring Locations

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.

0 120 240 480
Meters

N

Baffinland

ᑎᑎᕋᐅᓯᒪᔪᑦ FIGURE 3

SAVED: C:\Users\katie.mcguire\Documents\4 - Maps\Reporting\Freshet Monitoring\2020\BIM_3_Freshet_Mine.mxd, May 13, 2020 9:01 AM

Attachment 3

NT-NU Spill Line Reports

Baffinland

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: 05-22-2024	REPORT TIME: 20:00	X ORIGINAL SPILL REPORT, OR ☐ UPDATE # ___ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 24
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 05-22-2024	OCCURRENCE TIME: 05:30		
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 X NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES 71 MINUTES 18 SECONDS 59	LONGITUDE: DEGREES -79 MINUTES 18 SECONDS 42		
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: Frozen conditions, 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:

As part of the Freshet Monitoring Program, water at sampling locations Sheardown Lake Tributary (SDLT), Camp Lake Tributary (CLT), and Landfill Gate (LDFG) sample locations were identified on May 22nd from lab results to be above the applicable criteria for Total Suspended Sediments (TSS). In accordance with the Surface Water Aquatic Effects Management Plan, sedimentation mitigations including coir logs and ditching were implemented to settle sediments prior to entering the receiving environment. With freshet conditions present, monitoring of the water quality is ongoing. These exceedances are 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: Katie Babin	POSITION: Env. Superintedent	EMPLOYER: Baffinland Iron Mine	LOCATION CALLING FROM: Baffinland	TELEPHONE: Ext. 6016
M	ANY ALTERNATE CONTACT: Todd Swenson	POSITION: Env. Superintedent	EMPLOYER: Baffinland	ALTERNATE CONTACT LOCATION: Baffinland	ALTERNATE TELEPHONE: Ext. 6016

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY:	POSITION: STATION OPERATOR	EMPLOYER:	LOCATION CALLED: YELLOWKNIFE, NT	REPORT LINE NUMBER: (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ LA ☐ NAC ☐ NEB ☐ TC — SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN — FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

PAGE 1 OF 1

Baffinland

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: 06-18-2024	REPORT TIME: 15:00	☐ ORIGINAL SPILL REPORT, OR ☒ UPDATE # 01 TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 24-180
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 06-03-2024	OCCURRENCE TIME: 16:30		
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 59	LONGITUDE: DEGREES -79 MINUTES 18 SECONDS 42		
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: Frozen conditions, 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 22, 2024 Baffinland reported a freshet spill from three locations, Sheardown Lake Tributary (SDLT), Camp Lake Tributary (CLT), and Landfill Gate (LDFG) as part of the Freshet Monitoring Program. On June 3, 2024 Baffinland took a sample from the sample site known as the Camp Lake Sedimentation Pond Outlet (CLSP). Lab results from this sample indicated an elevated level of Total Suspended Solids (TSS). The levels were above the applicable criteria. The information for this spill will be included in the follow up report for the for the SDLT, CLT, and LDFG spills which will be submitted on June 21. This exceedance 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: Katie Babin	POSITION: Env. Superintedent	EMPLOYER: Baffinland Iron Mine	LOCATION CALLING FROM: Baffinland	TELEPHONE: Ext. 6016
M	ANY ALTERNATE CONTACT: Todd Swenson	POSITION: Env. Superintedent	EMPLOYER: Baffinland	ALTERNATE CONTACT LOCATION: Baffinland	ALTERNATE TELEPHONE: Ext. 6016

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION: STATION OPERATOR	EMPLOYER	LOCATION CALLED: YELLOWKNIFE, NT	REPORT LINE NUMBER: (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ LA ☐ 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

June 29, 2024

Resources Management Officer
Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0

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 #2024-199
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On May 26, 2024, as part of the Freshet Monitoring Program, Baffinland collected samples at Freshet Monitoring Program sampling location MP-C-B. Laboratory results, received on May 29, showed elevated levels of Total Suspended Solids (TSS) (36.5 mg/L) which were marginally higher than the applicable criteria of 30 mg/L under the water licence. Warming temperatures resulted in snowmelt runoff containing sediment-laden water to enter the watercourse at the sampling location. Photos of the sampling location and a map showing the Milne Port freshet monitoring locations are provided in Attachment 1 and Attachment 2, respectively. The sediment-laden water at MP-C-B that was identified from lab results on May 29 was reported to the NT-NU Spill Reporting Line on May 30, 2024. The NT-NU Spill Report (#2024-199) is included as Attachment 3. Details of the sampling location and associated TSS concentrations are summarized in Table 1 and Table 2, respectively.

Table 1: Details for the Sampling Location MP-C-B

Sample Location	Description	Location	
		Easting	Northing
MP-C-B	West of Ore Pad	502844	7975741

Table 2: Summary of TSS Results for MP-C-B

Sample Date	TSS Screening Criteria (mg/L)	TSS Concentration (mg/L)	TSS Exceedance (mg/L)
May 22, 2024	30	16.9	NA
May 26, 2024	30	36.5	6.5
June 2, 2024	30	15.2	NA
June 11, 2024	30	18.9	NA
June 17, 2024	30	13.5	NA

The sampling event that had TSS concentrations above the screening criteria occurred on May 26 when freshet conditions resulted in elevated sediment loading into the affected watercourse 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 site infrastructure. It is expected that the elevated TSS will have minimal impact to the receiving waterbody due to the transient nature of the event.

Immediate and Follow-Up Action:

The various inputs to the stream were assessed, and an ESC plan was developed and implemented at locations where increased TSS was entering the channel in accordance with Baffinland's Surface Water and Aquatic Effects Management Plan (SWAEMP), and maintained and adjusted as required. On May 22, , a spring berm and a coir log were installed upstream of MP-C-B. On May 26, additional ESC measures including the installation of floc blocs and an additional spring berm were implemented to promote settling of solids and to reduce the amount of sediment reporting to MP-C-B. To reinforce the stream bank and prevent further stream bank erosion in a localized area, sand bags were placed along the stream bank in that area. Photos of the ESC measures installed at MP-C-B are included in Attachment 1.

Daily inspections were also completed at MP-C-B with YSI checks and internal TSS analysis. Weekly sampling of water quality and daily inspections of sampling locations continued throughout freshet.

Current Status:

Freshet water quality monitoring and inspections of sampling locations will continue at freshet monitoring sites including MP-C-B throughout freshet. Samples obtained at MP-C-B were in compliance as of June 2. Routine maintenance of ESC measures will be performed as necessary to ensure their ongoing effective operation.

Should you require further information or clarification on the incident described above, please feel free to contact the undersigned at (647) 253-0596 (ext. 6716).

Prepared by:

Todd Swenson
Environmental Superintendent

Reviewed by:

Dwayne Dergousoff
Site Services Manager

Cc: Jeremy Fraser, Sean Noble-Nowdluk (CIRNAC)
Andrew Jaworenko, Amoudla Kootoo (QIA)
Curtis Didham (ECCC)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Connor Devereaux, Jerad Nadin, Katie Babin, Allison Parker, Dale Kristoff, Irniq Lecompte (Baffinland)

Attachments

Attachment 1: Photos
Attachment 2: Milne Port Freshet Monitoring Locations
Attachment 3: Baffinland NT-NU Spill Notification #2024-199