

**APPENDIX E.8.7.2**  
**INITIAL AND FOLLOW UP SPILL REPORTS**  
**OTHER**  
**(Part 3)**



August 31, 2017

Resource Management Officer  
Nunavut Field Operations  
Aboriginal Affairs and Northern Development Canada  
Box 100  
Iqaluit, NU X0A 0H0  
Justin.Hack@aandc-aadnc.gc.ca

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

**Re: Follow-up to Spill #17-253- Reported on July 13<sup>th</sup>, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On July 12th, 2017, runoff containing sediment was observed to be flowing from the surface of the haul road into the ditches then running through the culverts off the outer edge of the road. The culverts were installed to allow contact water on the road surface to be efficiently discharged off the roads surface. July 12th experienced a rain/snow event that melted, increased flows and discharged out of these culverts. The source of the spill was greater than 3km away from the Mary River, which eventually the turbid water reached through a tributary.

**Immediate and Follow-Up Action:**

There was an attempt to divert water to other locations that could minimize potential flows to downstream fish habitat and water bodies. The haul road was shut down due to safety concerns which limited response capabilities. The haul road shutdown for most of the day prevented further erosion and sediment releases. Due to weather and no fly conditions, samples from Mary River were procured the next day. Results are attached from Mary River

**Recommendations:**

During large rainfall events, limit the amount of traffic on the Mine Haul Road.

Should you require further information or clarification on the above noted spill, please feel free to William Bowden or Laura Taylor at (647) 253-0596 x6016 or Allan Knight at (647) 253-0596 x6010.

Prepared By:



Ben Widdowson  
Environmental Coordinator

Reviewed By:

A handwritten signature in cursive script, likely of William Bowden.

William Bowden  
Environmental Superintendent



Attach: Analytical Results, Map, NT-NU Spill Report

cc. Todd Burlingame, Wayne McPhee, Sylvain Proulx, Gerald Rogers, Laura Taylor, Allan Knight, Cody Gagne, Adam Gyorffy, Laura Taylor (Baffinland), Stephen Bathroy (QIA), Erik Allain, Jonathan Mesher, Justin Hack, Sarah Forte (

Figure 1: Map of Spill Location and samples



Figure 2: NT-NU Spill Report

				<b>NT-NU SPILL REPORT</b> 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 <b>13-07-2017</b>		REPORT TIME <b>12:30 hrs</b>		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT		REPORT NUMBER <b>17-253</b>
B	OCCURRENCE DATE: MONTH - DAY - YEAR <b>12-07-2017</b>		OCCURRENCE TIME <b>17:00 hrs</b>				
C	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease: Q13C301</b>			WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>			
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Mine Site, Baffin Island, NU</b>			REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN			
E	LATITUDE DEGREES MINUTES SECONDS			LONGITUDE DEGREES MINUTES SECONDS			
F	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>				
G	ANY CONTRACTOR INVOLVED <b>N/A</b>		CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>				
H	PRODUCT SPILLED <b>Sediment</b>		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>Unquantified at present time</b>		U.N. NUMBER <b>N/A</b>		
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>		U.N. NUMBER <b>N/A</b>		
I	SPILL SOURCE <b>Snow/rain event</b>		SPILL CAUSE <b>Melting of snow/rain on rd</b>		AREA OF CONTAMINATION IN SQUARE METRES <b>N/A</b>		
J	FACTORS AFFECTING SPILL OR RECOVERY <b>Steep embankment, poor access</b>		DESCRIBE ANY ASSISTANCE REQUIRED <b>N/A</b>		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>On July 12th, 2017, runoff containing sediment was observed to be flowing from the surface of the haul rd into the ditches then running through the culverts off the outer edge of the road. The culverts were installed to allow contact water on the road surface to be efficiently discharged off the roads surface. July 12th experienced a rain/snow event that melted, increased flows and discharged out of these culverts. It was attempted to divert water to other locations that could minimize potential flows to downstream fish habitat and water bodies. Upon closing the haul road down due to safety concerns, we were not able to do so. The haul road was closed for most of the day to prevent further erosion and sediment releases. Report updates will be provided with further information in the near future. The location of the spill was 100meters away from the Mary River, which eventually the turbid water reached. This incident is being reported as required by the conditions of Water Licence No. 2AM-MRY1325 and as required by subsection 38(4) of the Fisheries Act.</b>						
L	REPORTED TO SPILL LINE BY <b>Laura Taylor</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>	TELEPHONE <b>647-253-0596</b>		
M	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT LOCATION <b>Oakville</b>	ALTERNATE TELEPHONE <b>ex.5088</b>		
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 <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC				SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME		CONTACT TIME		REMARKS	
LEAD AGENCY							
FIRST SUPPORT AGENCY							
SECOND SUPPORT AGENCY							
THIRD SUPPORT AGENCY							



Baffinland Iron Mine's Corporation  
(Oakville)  
ATTN: Allan Knight  
2275 Upper Middle Rd. E.  
Suite #300  
Oakville ON L6H 0C3

Date Received: 17-JUL-17  
Report Date: 20-JUL-17 14:45 (MT)  
Version: FINAL

Client Phone: 416-364-8820

## Certificate of Analysis

Lab Work Order #: L1959329  
Project P.O. #: 4500027854  
Job Reference: MARY RIVER SEDIMENT RELEASE  
C of C Numbers:  
Legal Site Desc:



Rick Hawthorne  
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047  
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1959329-1 G0-03 Sampled By: LM/BW on 13-JUL-17 @ 09:30 Matrix: WATER <b>Physical Tests</b> pH Total Suspended Solids Total Dissolved Solids Turbidity		   7.68 2.0 22 2.31	   PEHR  PEHR	   0.10 2.0 10 0.10	   pH units mg/L mg/L NTU	   18-JUL-17	   17-JUL-17 19-JUL-17 19-JUL-17 20-JUL-17	   R3774074 R3777368 R3778568 R3778471
L1959329-2 G0-01 Sampled By: LM/BW on 13-JUL-17 @ 09:45 Matrix: WATER <b>Physical Tests</b> pH Total Suspended Solids Total Dissolved Solids Turbidity		   7.57 <2.0 21 2.33	   PEHR  PEHR	   0.10 2.0 10 0.10	   pH units mg/L mg/L NTU	   18-JUL-17	   17-JUL-17 19-JUL-17 19-JUL-17 20-JUL-17	   R3774074 R3777368 R3778568 R3778471
L1959329-3 F0-01 Sampled By: LM/BW on 13-JUL-17 @ 09:50 Matrix: WATER <b>Physical Tests</b> pH Total Suspended Solids Total Dissolved Solids Turbidity		   7.77 6.0 56 4.77	   PEHR  DLDS PEHR	   0.10 2.0 13 0.10	   pH units mg/L mg/L NTU	   18-JUL-17	   17-JUL-17 19-JUL-17 19-JUL-17 20-JUL-17	   R3774074 R3777368 R3778568 R3778471
L1959329-4 E0-10 Sampled By: LM/BW on 13-JUL-17 @ 09:55 Matrix: WATER <b>Physical Tests</b> pH Total Suspended Solids Total Dissolved Solids Turbidity		   7.73 2.8 44 2.83	   PEHR  PEHR	   0.10 2.0 13 0.10	   pH units mg/L mg/L NTU	   18-JUL-17	   17-JUL-17 19-JUL-17 19-JUL-17 20-JUL-17	   R3774074 R3777368 R3778568 R3778471
L1959329-5 E0-03 Sampled By: LM/BW on 13-JUL-17 @ 10:10 Matrix: WATER <b>Physical Tests</b> pH Total Suspended Solids Total Dissolved Solids Turbidity		   7.59 <2.0 23 2.74	   PEHR  PEHR	   0.10 2.0 10 0.10	   pH units mg/L mg/L NTU	   18-JUL-17	   17-JUL-17 19-JUL-17 19-JUL-17 20-JUL-17	   R3774074 R3777368 R3778568 R3778471
L1959329-6 C0-10 Sampled By: LM/BW on 13-JUL-17 @ 10:20 Matrix: WATER <b>Physical Tests</b> pH Total Suspended Solids Total Dissolved Solids		   7.58 <2.0 <10	   PEHR	   0.10 2.0 10	   pH units mg/L mg/L	   18-JUL-17	   17-JUL-17 19-JUL-17 19-JUL-17	   R3774074 R3777368 R3778568

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.



Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
PH-WT	Water	pH	APHA 4500 H-Electrode
Water samples are analyzed directly by a calibrated pH meter.			
Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days			
SOLIDS-TDS-WT	Water	Total Dissolved Solids	APHA 2540C
A well-mixed sample is filtered through glass fibres filter. A known volume of the filtrate is evaporated and dried at 105–5°C overnight and then 180–10°C for 1hr.			
SOLIDS-TSS-WT	Water	Suspended solids	APHA 2540 D-Gravimetric
A well-mixed sample is filtered through a weighed standard glass fibre filter and the residue retained is dried in an oven at 104–1°C for a minimum of four hours or until a constant weight is achieved.			
TURBIDITY-WT	Water	Turbidity	APHA 2130 B
Sample result is based on a comparison of the intensity of the light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. Sample readings are obtained from a Nephelometer.			

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid weight of sample

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.





## Quality Control Report

Workorder: L1959329

Report Date: 20-JUL-17

Page 1 of 3

Client: Baffinland Iron Mine's Corporation (Oakville)  
2275 Upper Middle Rd. E. Suite #300  
Oakville ON L6H 0C3

Contact: Allan Knight

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
<b>PH-WT</b>		<b>Water</b>						
<b>Batch</b>	<b>R3774074</b>							
<b>WG2571359-3</b>	<b>DUP</b>	<b>WG2571359-2</b>						
pH		7.45	7.44	J	pH units	0.01	0.2	17-JUL-17
<b>WG2571359-8</b>	<b>DUP</b>	<b>WG2571359-7</b>						
pH		7.88	7.89	J	pH units	0.02	0.2	17-JUL-17
<b>WG2571359-1</b>	<b>LCS</b>				pH units		6.9-7.1	17-JUL-17
pH								
<b>WG2571359-5</b>	<b>LCS</b>				pH units		6.9-7.1	17-JUL-17
pH								
<b>SOLIDS-TDS-WT</b>		<b>Water</b>						
<b>Batch</b>	<b>R3778568</b>							
<b>WG2573073-3</b>	<b>DUP</b>	<b>L1957931-5</b>						
Total Dissolved Solids		1250	1260		mg/L	0.6	20	19-JUL-17
<b>WG2573073-2</b>	<b>LCS</b>				%		85-115	19-JUL-17
Total Dissolved Solids								
<b>WG2573073-1</b>	<b>MB</b>				mg/L		10	19-JUL-17
Total Dissolved Solids								
<b>SOLIDS-TSS-WT</b>		<b>Water</b>						
<b>Batch</b>	<b>R3777368</b>							
<b>WG2572893-3</b>	<b>DUP</b>	<b>L1958388-1</b>						
Total Suspended Solids		905	890		mg/L	1.7	20	19-JUL-17
<b>WG2572893-2</b>	<b>LCS</b>				%		85-115	19-JUL-17
Total Suspended Solids								
<b>WG2572893-1</b>	<b>MB</b>				mg/L		2	19-JUL-17
Total Suspended Solids								
<b>TURBIDITY-WT</b>		<b>Water</b>						
<b>Batch</b>	<b>R3778471</b>							
<b>WG2574048-9</b>	<b>DUP</b>	<b>L1958620-2</b>						
Turbidity		15.6	14.7		NTU	5.9	15	20-JUL-17
<b>WG2574048-8</b>	<b>LCS</b>				%		85-115	20-JUL-17
Turbidity								
<b>WG2574048-7</b>	<b>MB</b>				NTU		0.1	20-JUL-17
Turbidity								

# Quality Control Report

Workorder: L1959329

Report Date: 20-JUL-17

Client: Baffinland Iron Mine's Corporation (Oakville)  
2275 Upper Middle Rd. E. Suite #300  
Oakville ON L6H 0C3

Page 2 of 3

Contact: Allan Knight

## Legend:

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Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

## Sample Parameter Qualifier Definitions:

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Qualifier	Description
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J	Duplicate results and limits are expressed in terms of absolute difference.
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# Quality Control Report

Workorder: L1959329

Report Date: 20-JUL-17

Client: Baffinland Iron Mine's Corporation (Oakville)  
2275 Upper Middle Rd. E. Suite #300  
Oakville ON L6H 0C3

Page 3 of 3

Contact: Allan Knight

## Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
<b>Physical Tests</b>							
Turbidity	1	13-JUL-17 09:30	20-JUL-17 09:30	48	168	hours	EHTR
	2	13-JUL-17 09:45	20-JUL-17 09:30	48	168	hours	EHTR
	3	13-JUL-17 09:50	20-JUL-17 09:30	48	168	hours	EHTR
	4	13-JUL-17 09:55	20-JUL-17 09:30	48	168	hours	EHTR
	5	13-JUL-17 10:10	20-JUL-17 09:30	48	167	hours	EHTR
	6	13-JUL-17 10:20	20-JUL-17 09:30	48	167	hours	EHTR

## Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.  
EHTR: Exceeded ALS recommended hold time prior to sample receipt.  
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.  
EHT: Exceeded ALS recommended hold time prior to analysis.  
Rec. HT: ALS recommended hold time (see units).

Notes\*:  
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.  
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1959329 were received on 17-JUL-17 10:20.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1959329-COFC

OC Number: 15 -

Page 1 of 1

<b>Report To</b> Contact and company name below will appear on the final report		<b>Report Format / Distribution</b>		<b>Select Service Level Below - Please confirm all EAP TATs with your AM - surcharges will apply</b>	
Company:	Baffinland Iron Mines Corp.	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)	Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply	
Contact:	Allan Knight	Quality Control (QC) Report with Report	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	4 day [P4] <input type="checkbox"/>	
Phone:	647-253-0596 EXT 6010	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked		3 day [P3] <input type="checkbox"/>	
Company address below will appear on the final report		Select Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	2 day [P2] <input type="checkbox"/>	
Street:	2275 Upper Middle Rd. E., Suite #300	Email 1 or Fax:	bimcore@alsglobal.com	1 Business day [E1] <input type="checkbox"/>	
City/Province:	Oakville, ON	Email 2:	bimwww@alsglobal.com	Same Day, Weekend or Statutory holiday [E0] <input type="checkbox"/>	
Postal Code:	L8H 0C3	Email 3:		Date and Time Required for all EAP TATs: dd-mm-yy hh:mm	
Invoice To:	Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Invoice Distribution		For tests that can not be performed according to the service level selected, you will be contacted.	
Copy of Invoice with Report	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Select Invoice Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	<b>Analysis Request</b>	
Company:		Email 1 or Fax:	ap@baffinland.com	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below	
Contact:		Email 2:	commercial@baffinland.com		
<b>Project Information</b>		<b>Oil and Gas Required Fields (client use)</b>			
ALS Account # / Quote #:	23642 / Q42455	AFE/Coast Center:	PD#		
Job #:	Mary River Sediment Release	Major/Minor Code:	Routing Code:		
PD / AFE:	4500027854	Requisitioner:			
LSD:		Location:			
ALS Lab Work Order # (lab use only) L1959329 81		ALS Contact:		Sampler: LM/BW	
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Number of Containers
1	G0-03	13-Jul-17	9:30	Water	1
2	G0-01	13-Jul-17	9:45	Water	1
3	F0-01	13-Jul-17	9:50	Water	1
4	E0-10	13-Jul-17	9:55	Water	1
5	E0-03	13-Jul-17	10:10	Water	1
6	C0-10	13-Jul-17	10:20	Water	1
<b>Drinking Water (DW) Samples* (client use)</b>		<b>Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)</b>		<b>SAMPLE CONDITION AS RECEIVED (lab use only)</b>	
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are samples for human drinking water use? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				Ice Packs <input type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>	
				Cooling Initiated <input type="checkbox"/>	
				INITIAL COOLER TEMPERATURES °C: 20.4 FINAL COOLER TEMPERATURES °C: 10.20	
<b>SHIPMENT RELEASE (client use)</b>		<b>INITIAL SHIPMENT RECEPTION (lab use only)</b>		<b>FINAL SHIPMENT RECEPTION (lab use only)</b>	
Release By: Ben Widdowson	Date: 17 07 13 12:13	Time:	Received by:	Date: 17 JUL 17	Time: 10:20

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

OCTOBER 2015 PRINT



September 30, 2017

Resource Management Officer  
Nunavut Field Operations  
Aboriginal Affairs and Northern Development Canada  
Box 100  
Iqaluit, NU X0A 0H0  
Justin.Hack@aandc-aadnc.gc.ca

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

**Re: Follow-up to Spill #17-328- Reported on August 31st, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On August 27th, 2017, at approximately 08:20, the Mine Site Waste Rock Sedimentation Pond (MS-08) was being discharged during a rain event. While samples were being taken, noticeable turbidity was observed. The pump was immediately shut off. Results received from the lab indicate TSS above applicable compliant levels. The pump had been discharging for approximately a 14 hr period since the last compliant sample with an estimated 523 m3 discharged in this time frame.

**Immediate and Follow-Up Action:**

The pump was immediately shut off at 08:20 and a general chemistry was taken. After letting the pond settle for 29 hours, on August 28th, another general chemistry was taken while recirculating. The sample showed TSS levels below the limit for MMER guidelines and discharge to the environment resumed.

**Recommendations:**

Daily inspection of the containment samples, which include visual, field testing and lab results.

Should you require further information or clarification on the above noted spill, please feel free to William Bowden or Laura Taylor at (647) 253-0596 x6016 or Allan Knight at (647) 253-0596 x6010.

Prepared By:

A handwritten signature in black ink, appearing to read "Laura Taylor".

Laura Taylor  
Environmental Superintendent

Attach: Analytical Results, NT-NU Spill Report, Map of Sample Location

cc. Todd Burlingame, Wayne McPhee, Sylvain Proulx, Gerald Rogers, William Bowden, Adam Gyorffy, William Bowden, Allan Knight (Baffinland), Stephen Bathroy (QIA), Erik Allain, Jonathan Mesher, Justin Hack, Sarah Forte (INAC)

Figure 1: Map of Sample Location

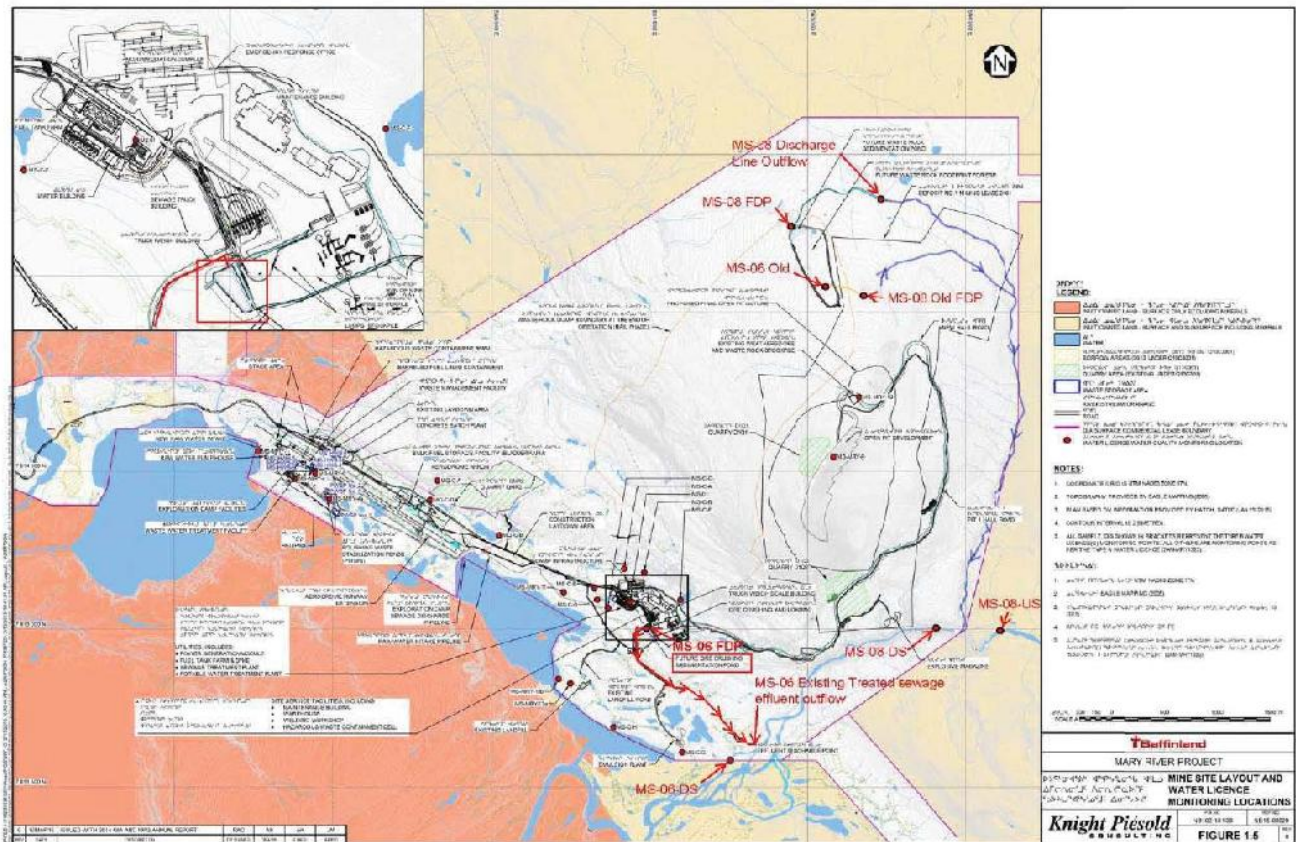




Figure 2: NT-NU Spill Report



# 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 <b>08-31-2017</b>		REPORT TIME <b>17:00HRS</b>		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER <b>17 - 328</b>
	OCCURRENCE DATE: MONTH - DAY - YEAR <b>08-27-2017</b>		OCCURRENCE TIME <b>08:20HRS</b>			
C	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease No.: Q13C301</b>			WATER LICENSE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Project, Mary Site, Baffin Island, NU</b>				REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE DEGREES <b>71</b> MINUTES <b>20</b> SECONDS <b>42</b>			LONGITUDE DEGREES <b>79</b> MINUTES <b>14</b> SECONDS <b>21</b>		
F	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>			
G	ANY CONTRACTOR INVOLVED <b>N/A</b>		CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>			
H	PRODUCT SPILLED <b>Surface Water</b>		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>approx. 523 cubic metres</b>		U.N. NUMBER <b>N/A</b>	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>		U.N. NUMBER <b>N/A</b>	
I	SPILL SOURCE <b>Waste Rock Stockpile Pond</b>		SPILL CAUSE <b>Discharge of Pond Water</b>		AREA OF CONTAMINATION IN SQUARE METRES <b>N/A</b>	
J	FACTORS AFFECTING SPILL OR RECOVERY <b>Water Discharge</b>		DESCRIBE ANY ASSISTANCE REQUIRED		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS <b>On August 27th, 2017, at approximately 08:20, the Mine Site Waste Rock Sedimentation Pond (MS-08) was being discharged during a rain event. While samples were being taken, noticeable turbidity was observed. The pump was immediately shut off. Results received from the lab indicate TSS above applicable guidelines. The pump had been discharging for approximately a 14hr period since the last compliant sample with an estimated 523 m3 discharged in this time frame. Discharging was resumed on August 28th at 12:15 after the pond had settled. The discharge continues to be sampled and monitored. The discharge occurred on IOL located &gt;3km from Mary River, the nearest fish bearing waters. A follow up report documenting the occurrence will be submitted in 30 days. This spill is being reported as required by the conditions of water license no. 2AM-MRY1325, Part H, item 9 (b), and Sec. 31 of Metal Mining Effluent Regulations.</b>					
L	REPORTED TO SPILL LINE BY <b>William Bowden</b>	POSITION <b>Env Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>	TELEPHONE <b>ext. 6016</b>	
M	ANY ALTERNATE CONTACT <b>Wayne Mcphee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>647-253-0596</b>	ALTERNATE TELEPHONE <b>Ext 5088</b>	
REPORT LINE USE ONLY						
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YUKON TERRITORY, NT	REPORT LINE NUMBER (867) 920-8130	
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME		CONTACT TIME		REMARKS
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						



September 30, 2017

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

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

**Re: Follow-up to Spill #17-322, Reported on August 31<sup>st</sup>, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On August 30, 2017 at 07:30, back haul sea containers were loaded on to the barge to be back hauled down south. When the sea can was inspected before transport, no leaks were present while the sea containers were in the sea lift lay down. As a load of back haul sea containers were being moved on the barge a crew member from the sea lift tug boat noticed a small amount of used oil dripping out from a sea can on the barge deck. The sea cans were loaded on to the ship. A single container leaked approximately 5 liters (or less) of oil during the transfer from the barge deck to Cargo ship, impacting the water surface.

**Immediate and Follow-Up Action:**

40' of spill boom and spill pads were placed on to the water surface and contained the spill between the barge, vessel, and boom. Boom and pads were removed once the sheen on the water surface was no longer visible. Vessel's SOPEP enacted and source of pollutant located, isolated, contained and cleaned up by ship's response team with assistance from Transarctic's shore team. Relevant reports and information provided to the National Authority (Transport Canada), Shipboard Oil Pollution Emergency Plan (SOPEP) to company personnel and to the port of Milne Inlet. The deck of the barge was cleaned as well.

Container returned ashore to Consignee and oil clean up materials retained on board for proper disposal.

**Recommendations:**

Ensure all cargo and containers that contain hydrocarbons, or other hazardous materials, are clearly marked and thoroughly checked before movement to ensure they are properly fastened and contained.

**Current Status:**

Upon the quick action of our crews, all hydrocarbons were cleaned off the water.

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden at (647) 253-0596 x6016, Laura Taylor (647) 253- 0596 x6016 or Allan Knight at (647) 253-0596 x6010

Prepared By:

William Bowden  
Environmental Superintendent

Reviewed by:

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

Laura Taylor  
Environmental Superintendent





Attach: SOPEP Report, Baffinland NT-NU Spill Report, Captain Claude A. NT-NU Spill Report,

cc. Todd Burlingame, Wayne McPhee, Sylvain Proulx, William Bowden, Laura Taylor (Baffinland),  
Stephen Bathroy (QIA), Scott Burgess, Erik Allain, Sarah Forte, Jonathon Mesher

# SOPEP Report

Non-Dispersible Solid (NDS) in pollution from  
the hydrocarbon  
Section 2 - Reporting Requirements

SOPEP

Standard Oil Pollution Emergency Plan  
Section 2 - Reporting Requirements

(Insert company name and address)

2A

SOPEP - Initial Notification Report

2A-1a

1. Name of vessel or facility		2. Name of company	
3. Date of incident		4. Time of incident	
5. Location of incident		6. Name of vessel or facility	
7. Type of spill	8. Amount of spill	9. Type of spill	10. Amount of spill
11. Name of vessel or facility	12. Name of company	13. Name of vessel or facility	14. Name of company
15. Name of vessel or facility	16. Name of company	17. Name of vessel or facility	18. Name of company
19. Name of vessel or facility	20. Name of company	21. Name of vessel or facility	22. Name of company
23. Name of vessel or facility	24. Name of company	25. Name of vessel or facility	26. Name of company
27. Name of vessel or facility	28. Name of company	29. Name of vessel or facility	30. Name of company
31. Name of vessel or facility	32. Name of company	33. Name of vessel or facility	34. Name of company
35. Name of vessel or facility	36. Name of company	37. Name of vessel or facility	38. Name of company
39. Name of vessel or facility	40. Name of company	41. Name of vessel or facility	42. Name of company
43. Name of vessel or facility	44. Name of company	45. Name of vessel or facility	46. Name of company
47. Name of vessel or facility	48. Name of company	49. Name of vessel or facility	50. Name of company
51. Name of vessel or facility	52. Name of company	53. Name of vessel or facility	54. Name of company
55. Name of vessel or facility	56. Name of company	57. Name of vessel or facility	58. Name of company
59. Name of vessel or facility	60. Name of company	61. Name of vessel or facility	62. Name of company
63. Name of vessel or facility	64. Name of company	65. Name of vessel or facility	66. Name of company
67. Name of vessel or facility	68. Name of company	69. Name of vessel or facility	70. Name of company
71. Name of vessel or facility	72. Name of company	73. Name of vessel or facility	74. Name of company
75. Name of vessel or facility	76. Name of company	77. Name of vessel or facility	78. Name of company
79. Name of vessel or facility	80. Name of company	81. Name of vessel or facility	82. Name of company
83. Name of vessel or facility	84. Name of company	85. Name of vessel or facility	86. Name of company
87. Name of vessel or facility	88. Name of company	89. Name of vessel or facility	90. Name of company
91. Name of vessel or facility	92. Name of company	93. Name of vessel or facility	94. Name of company
95. Name of vessel or facility	96. Name of company	97. Name of vessel or facility	98. Name of company
99. Name of vessel or facility	100. Name of company	101. Name of vessel or facility	102. Name of company

The information reported herein is for the use of the public in reporting incidents involving hazardous materials and is not to be used for any other purpose. The information is not to be used for any other purpose, including but not limited to, for the purpose of determining liability or for any other purpose.

Printed name - [Name] Date - [Date]  
Signature - [Signature] Title - [Title]

Page  
10/10

Standard Oil Pollution Emergency Plan  
Section 2 - Reporting Requirements  
Rev. 8-1-2004



# NT-NU Spill Report (Captain Claude A. Submission)



## NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-5924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

<b>A</b>	REPORT DATE: MONTH - DAY - YEAR <b>08-30-2017</b>	REPORT TIME <b>1930Z</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT		REPORT NUMBER _____
<b>B</b>	OCCURRENCE DATE: MONTH - DAY - YEAR <b>08-30-2017</b>		OCCURRENCE TIME <b>0930Z</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>NA</b>		WATER LICENCE NUMBER (IF APPLICABLE) <b>NA</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Assomption Harbour - Milne Inlet</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>53</b> SECONDS <b>30</b>		LONGITUDE DEGREES <b>080</b> MINUTES <b>52</b> SECONDS <b>36</b>		
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>MV Claude A Desgagnés</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>Quebec City, Canada</b>			
<b>G</b>	ANY CONTRACTOR INVOLVED <b>NA</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>NA</b>			
<b>H</b>	PRODUCT SPILLED <b>Used Oil</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>Approximately 4-8 litres</b>	U.N. NUMBER <b>Unknown - Unregulated</b>		
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>NA</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>NA</b>	U.N. NUMBER <b>NA</b>		
<b>I</b>	SPILL SOURCE <b>Drum within container</b>	SPILL CAUSE <b>Leaking drum</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>100</b>		
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>Cargo container leakage</b>	DESCRIBE ANY ASSISTANCE REQUIRED <b>Assistance provided</b>	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT <b>Oil in water</b>		
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS <b>Leakage from cargo container from Baffinland Ore Mines. Manifest for container states used oil inside, container leaked oil onto barge and into water. Vessel's SOPEP enacted and source of pollutant located, isolated, contained and cleaned up by ship's response team with assistance from Transarctic's shore team. Relevant reports and information provided to our National Authority (Transport Canada), to company personnel and to the port of Milne Inlet.</b> <b>Container returned ashore to Consignee and oil clean up materials retained on board for proper disposal.</b>				
<b>L</b>	REPORTED TO SPILL LINE BY <b>Capt. Ivan Oxford</b>	POSITION <b>Master</b>	EMPLOYER <b>TDI</b>	LOCATION CALLING FROM <b>Vessel</b>	TELEPHONE <b>418-907-8409</b>
<b>M</b>	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE
REPORT LINE USE ONLY					
<b>N</b>	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130
LEAD AGENCY: <input type="checkbox"/> EC <input type="checkbox"/> COG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY	CONTACT NAME		CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					

PAGE 1 OF \_\_\_\_\_

# NT-NU Spill Report (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

<b>A</b>	REPORT DATE: MONTH - DAY - YEAR <b>August 31, 2017</b>	REPORT TIME <b>11:00 hrs</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
<b>B</b>	OCCURRENCE DATE: MONTH - DAY - YEAR <b>August 30, 2017</b>	OCCURRENCE TIME <b>07:30 hrs</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease: Q13C301</b>	WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Milne Inlet Site, Baffin Island, NU</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>53</b> SECONDS <b>30</b>		LONGITUDE DEGREES <b>80</b> MINUTES <b>52</b> SECONDS <b>56</b>	
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Sutie 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>M/V Claude A. Desgagnes</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>21 Marché-Champlain Street Québec, Québec G1K 8Z8 Canada</b>		
<b>H</b>	PRODUCT SPILLED <b>Used Oil</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>5 litres</b>	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>n/a</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>n/a</b>	U.N. NUMBER <b>n/a</b>	
<b>I</b>	SPILL SOURCE <b>back haul sea container</b>	SPILL CAUSE <b>Container shifting</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>15 sq metres</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>Between barge and ship</b>	DESCRIBE ANY ASSISTANCE REQUIRED <b>Ship Crew, Site Services</b>	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>On August 30, 2017 at 07:30, Back haul sea containers were loaded on to the barge to be back hauled down south. No leaks were present while the sea containers were in the sea lift lay down. As a load of back haul sea containers were being moved on the barge a crew member from the sea lift tug boat noticed a small amount of used oil dripping out from a sea can on the barge deck. The sea cans were loaded on to the ship. A single container leaked approximately 5 liters (or less) of oil during the transfer from the barge deck to Cargo ship, impacting the water surface. 40' of spill boom and spill pads were placed on to the water surface and contained the spill between the barge, vessel, and boom. Boom and pads were removed once the sheen on the water surface was no longer visible. Reporting as required by Water Licence 2AM-MRY1325, Part H, Items 9 &amp; 10. Arctic Waters Pollution Prevention Act S. 5(1), and Fisheries Act subsection 38(4).</b>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>Allan Knight</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Onsite</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>ext. 5088</b>
REPORT LINE USE ONLY				
<b>N</b>	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN	
AGENCY			FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
CONTACT NAME			REMARKS	
CONTACT TIME				
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF \_\_\_\_\_



October 5, 2017

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

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

**Re: Follow-up to Spill #17-331**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On September 3, 2017 at 07:30, a loader operator was handling DEF totes to load on a trailer. One of the Totes had come off the ship on its side on top of a skid. The tote was leaking from the top lid. When the tote was turned upright, the bottom valve burst and DEF started to leak rapidly until it was flipped back onto its side. Approximately half the contents leaked on the ground surface (~500 L). Absorbent pads, booms and rags were immediately placed around the spill and spill trays were placed under the tote. The location of the spill was more than 150 metres from any water body.

**Immediate and Follow-Up Action:**

Spill booms and spill pads were placed on to the grounds surface and contained the spill. The tote was immediately moved upside down to stop the leak. Coordination with other departments assisted with the removal of the contaminated soil and deposited within our land farm. Clean material/ aggregate was brought in to fill the excavated area.

**Recommendations:**

Make sure that while shipping totes on /off ships or around site that the tote is standing up in its correct position.

**Current Status:**

Education of crews to move materials properly is ongoing.

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden at (647) 253-0596 x6016, Laura Taylor (647) 253- 0596 x6016 or Allan Knight at (647) 253-0596 x6010

Prepared By:

A handwritten signature in black ink, appearing to be "Laura Taylor", written over a light grey rectangular background.

Laura Taylor  
Environmental Superintendent

Attach: Baffinland NT-NU Spill Report, Picture log

cc. Todd Burlingame, Sylvain Proulx, William Bowden, Allan Knight, Gerald Rogers, Tim Sewell,  
(Baffinland), Stephen Bathroy (QIA), Scott Burgess, Erik Allain, Sarah Forte, Jonathon Mesher( INAC)





## NT-NU Spill Report (Baffinland)



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

<b>A</b>	REPORT DATE: MONTH – DAY – YEAR <b>September 4, 2017</b>	REPORT TIME <b>18:30 hrs</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER <b>17 - 331</b>
<b>B</b>	OCCURRENCE DATE: MONTH – DAY – YEAR <b>September 3, 2017</b>	OCCURRENCE TIME <b>19:30 hrs</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease: Q13C301</b>	WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Milne Inlet Site, Baffin Island, NU</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>53</b> SECONDS <b>11</b>		LONGITUDE DEGREES <b>80</b> MINUTES <b>52</b> SECONDS <b>56</b>	
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Sutie 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>Hatch</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION		
<b>H</b>	PRODUCT SPILLED <b>Diesel Exhaust Fluid (Urea)</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>500 litres</b>	U.N. NUMBER <b>Not Regulated</b>	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>	U.N. NUMBER <b>N/A</b>	
<b>I</b>	SPILL SOURCE <b>Tote</b>	SPILL CAUSE <b>Damaged bottom Valve</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>40 sq. m.</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>Sealift Laydown Pad</b>	DESCRIBE ANY ASSISTANCE REQUIRED <b>N/A</b>	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>On September 3, 2017 at 07:30, a loader operator was handling DEF totes to load on a trailer. One of the Totes had come off the ship on its side on top of a skid. The tote was leaking from the top lid. When the tote was turned upright, the bottom valve burst and DEF started to leak rapidly until it was flipped back onto its side. Approximately half the contents leaked on the ground surface (~500 L). Absorbent pads, booms and rags were immediately placed around the spill and spill trays were placed under the tote. The location of the spill was more than 150 metres from any water body. Reporting as required by Water Licence 2AM-MRY1325, Part H, Items 9 &amp; 10. Arctic Waters Pollution Prevention Act S. 5(1).</b>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>Allan Knight</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Onsite</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>ext. 5088</b>
REPORT LINE USE ONLY				
<b>N</b>	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN	
AGENCY			FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
CONTACT NAME		CONTACT TIME	REMARKS	
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

## Picture Log



Figure -1 Material Leaving Tote



Figure 2 – Stop / Prevent further Plume





Figure 3: Soil Excavated and clean fill replaced and leveled.



October 10<sup>th</sup>, 2017

Resource Management Officer  
Nunavut Field Operations  
Indigenous and Northern Affairs Canada  
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Justin.Hack@aandc-aadnc.gc.ca

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

**Re: Follow-up to Spill #17-336**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On September 6th, 2017, runoff containing sediment was observed to be flowing from washing down the proportional gate plug-up on the ship loader. Initial assessment is that water flowed out the telescopic chute on SL1, collected on the ore dock and percolated through the ore dock into the ocean. The location of the spill was directly into the ocean.

**Immediate and Follow-Up Action:**

There was no immediate actions taken due to the quick nature of the occurrence. Water flowed over a berm into the ocean and was not visible immediately after. The sediment was ore particles mixed with fresh water. Approx 2000L was released into the ocean. Developed a procedure to clean chutes without the use of water. The incident occurred very quickly and was not visible immediately after.

**Recommendations:**

Use new procedure to clean chutes that are plugged. If water use is critical to clean the feeder or any parts on the ship loader, then an internal discussion will occur to make sure water that is laden with sediment will be contained and not allowed to flow into the environment.

**Current Status:**

Education and training of crews to ensure proper cleaning techniques are used to clean chutes

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden at (647) 253-0596 x6016, Laura Taylor (647) 253- 0596 x6016 or Allan Knight at (647) 253-0596 x6010

Prepared By:



Laura Taylor  
Environmental Superintendent

Attach: Baffinland NT-NU Spill Report

cc. Todd Burlingame, Sylvain Proulx, William Bowden, Allan Knight, Gerald Rogers, Tim Sewell, (Baffinland), Stephen Bathroy (QIA), Scott Burgess, Erik Allain, Sarah Forte, Jonathon Mesher( INAC)



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

<b>A</b>	REPORT DATE: MONTH – DAY – YEAR <b>06-09-2017</b>	REPORT TIME <b>10:30 hrs</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
<b>B</b>	OCCURRENCE DATE: MONTH – DAY – YEAR <b>06-09-2017</b>	OCCURRENCE TIME <b>10:00 hrs</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease: Q13C301</b>	WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Project Milne Port Site, Baffin Island, NU</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>53</b> SECONDS <b>38</b>		LONGITUDE DEGREES <b>80</b> MINUTES <b>54</b> SECONDS <b>35</b>	
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Sutie 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>N/A</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>		
<b>H</b>	PRODUCT SPILLED <b>Sediment laden water</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>Unquantified at present time</b>	U.N. NUMBER <b>N/A</b>	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>	U.N. NUMBER <b>N/A</b>	
<b>I</b>	SPILL SOURCE <b>Ship loader terminal</b>	SPILL CAUSE <b>Fresh water washing ore chute</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>N/A</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>Directly in ocean</b>	DESCRIBE ANY ASSISTANCE REQUIRED <b>N/A</b>	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>On September 6th, 2017, runoff containing sediment was observed to be flowing from washing down the proportional gate plug-up on the ship loader. Initial assessment is that water flowed out the telescopic chute on SL1, collected on the ore dock and percolated through the ore dock into the ocean. The follow up report will be provided with further information. The location of the spill directly into the ocean. This incident is being reported as required by the conditions of Water Licence No. 2AM-MRY1325 and as required by subsection 38(4) of the Fisheries Act.</b>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>Laura Taylor</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT LOCATION <b>Oakville</b>
REPORT LINE USE ONLY				
<b>N</b>	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN	
			FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF 5



September 8, 2017

Resource Management Officer  
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Aboriginal Affairs and Northern Development Canada  
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Manager, Major Projects  
Qikiqtani Inuit Association  
P.O. Box 219  
Iqaluit, NU X0A 0H0

**Re: Follow-up to Spill #17-289- Reported on August 8th, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On August 7<sup>th</sup>, BIM received data that we had a toxicity failure at MS-08, the Mine Site Waste Rock Sedimentation Pond. August 1<sup>st</sup>, 2017, at 9:40, Mary River Waste Rock Pond (MS-08) was discharged to the environment as usual to maintain water levels and capacity. We received data from the lab yesterday showing that we had 100% mortality on a toxicity sample for both *Daphnia Magna* and Rainbow Trout. Discharging water from MS-08 stopped immediately. There was no other water pumped from MS-08 since the time the sample was taken. There was 456 m3 of water discharged the day the sample was taken. No other water from this pond was used for activities on site and was not discharged until further testing and investigations was completed.

We were then made aware of the lowered pH in the pond and the possibility that this was the cause of the mortalities. ARD has never been an issue in the past and the data from mine core samples had never suggested that we would have an issue with pH, thus the pond created for sedimentation purposes only. As water levels in the pond were consistently rising due to continued rain event, BIM decided to treat the water for pH adjustment with soda ash, as this was the only product on hand to create the adjustment safely. Without adding the soda ash mixture, we would have had an overtopping of the pond with very low pH.

On August 16<sup>th</sup>, a Letter of Notification of Potential Controlled Discharge from Waste Rock Sedimentation Pond (MS-08); Type "A" Water Licence 2AM-MRY1325 – Amend. No. 1, was sent out to INAC and ECCC to communicate our intentions with the pond moving forward.

**Immediate and Follow-Up Action:**

After the addition of the soda ash treatment to the pond, BIM sampled for all parameters including toxicities. Once these results came in from the lab, and provided the necessary data that the water was no longer toxic, we began releasing water to the environment. These results were received and reviewed showing that all parameters were within MMER and Water Licence criteria. Continued water quality monitoring during discharge are included in this report.

**Recommendations:**

Daily inspection of the containment facility volumes, flows and field readings were taken.

Should you require further information or clarification on the above noted spill, please feel free to William Bowden or Laura Taylor at (647) 253-0596 x6016 or Allan Knight at (647) 253-0596 x6010.



Prepared By:

A handwritten signature in black ink, appearing to read "Laura Taylor".

Laura Taylor  
Environmental Superintendent

Attach: Analytical Results, Map, NT-NU Spill Report, Update on Status/Action Plan Memo, Baffinland Notification for Risk Mitigation for Mary River MS-08

cc. Todd Burlingame, Wayne McPhee, Sylvain Proulx, Gerald Rogers, William Bowden, Adam Gyorffy, William Bowden, Allan Knight (Baffinland), Stephen Bathroy (QIA), Erik Allain, Jonathan Mesher, Justin Hack, Sarah Forte (INAC)



**Figure 1: Map of Sample Location**

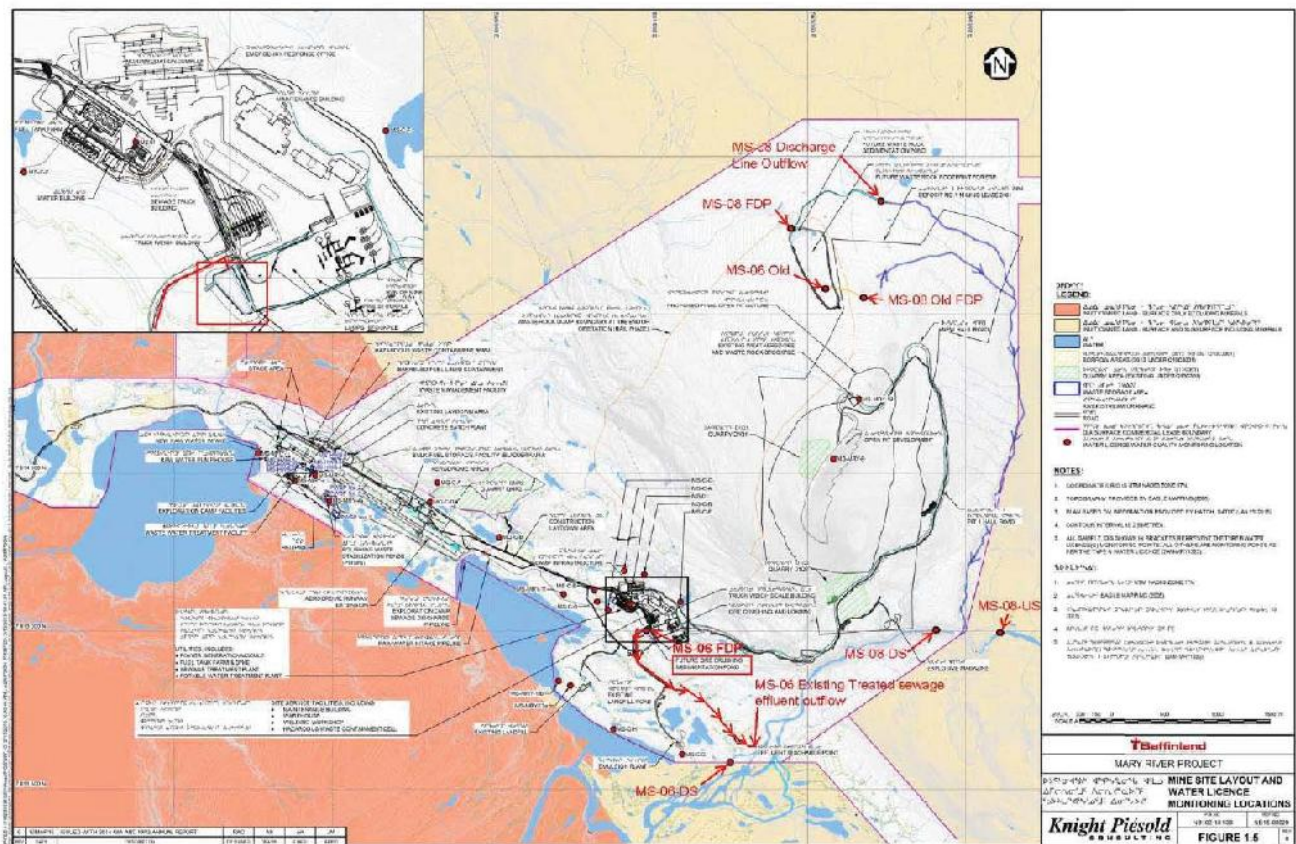




Figure 2: NT-NU Spill Report

 		<b>NT-NU SPILL REPORT</b> OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS		<b>NT-NU 24-HOUR SPILL REPORT LINE</b> TEL: (867) 920-8130 FAX: (867) 873-6924 EMAIL: spills@gov.nt.ca	
<b>REPORT LINE USE ONLY</b>					
<b>A</b>	REPORT DATE: MONTH - DAY - YEAR <b>08-08-2017</b>		REPORT TIME <b>19:30HRS</b>		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # TO THE ORIGINAL SPILL REPORT
<b>B</b>	OCCURRENCE DATE: MONTH - DAY - YEAR <b>08-07-2017</b>		OCCURRENCE TIME <b>6:00 HRS</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease No.: Q13C301</b>		WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Project, Mary Site, Baffin Island, NU</b>			REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>20</b> SECONDS <b>42</b>		LONGITUDE DEGREES <b>79</b> MINUTES <b>14</b> SECONDS <b>21</b>		
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>N/A</b>		CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A: 79° 13' 18.4"</b>		
<b>H</b>	PRODUCT SPILLED <b>Waste Rock Pond Water</b>		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>465 m3</b>		U.N. NUMBER <b>N/A</b>
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>		U.N. NUMBER <b>N/A</b>
<b>I</b>	SPILL SOURCE <b>Waste Rock Pond Water - MS-08</b>		SPILL CAUSE <b>Toxicity Failure</b>		AREA OF CONTAMINATION IN SQUARE METRES <b>N/A</b>
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>Released to the tundra</b>		DESCRIBE ANY ASSISTANCE REQUIRED <b>N/A</b>		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>August 1st, 2017, at 9:40 , Mary River Waste Rock Pond (MS-08) was discharged to the environment as usual to maintain water levels and capacity. We received data from the lab yesterday showing that we had 100% mortality on a toxicity sample for both Daphnia Magna and Rainbow Trout. There was no other water pumped from MS-08 since the time the sample was taken. There was 456 m3 of water discharged the day the sample was taken. No water from this pond will be used for activities on site and will not be discharged until further testing and investigations is completed. Ongoing monitoring of the water quality is ongoing and results will be presented in the follow-up report. This spill is being reported as required by the conditions of water license no. 2AM-MRY1325, Part H , item 9 (b) pursuant to ss12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act and as required by ss38(4) of the Fisheries Act, Sec 31(1) MMR.</b>				
<b>L</b>	REPORTED TO SPILL LINE BY <b>Laura Taylor</b>	POSITION <b>Env Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>	TELEPHONE <b>ext. 6016</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne Mcphee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>647-253-0596</b>	ALTERNATE TELEPHONE <b>Ext 5088</b>
<b>REPORT LINE USE ONLY</b>					
<b>N</b>	RECEIVED AT SPILL LINE BY <b>STATION OPERATOR</b>	POSITION <b>STATION OPERATOR</b>	EMPLOYER <b>YELLOWKNIFE, NT</b>	LOCATION CALLED <b>YELLOWKNIFE, NT</b>	REPORT LINE NUMBER <b>(867) 920-8130</b>
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> COG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					



October 8, 2017

Resource Management Officer  
Nunavut Field Operations  
Indigenous and Northern Affairs Canada  
Box 100  
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Justin.Hack@aandc-aadnc.gc.ca

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

**Re: Follow-up to Spill #17-340**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On September 8th 2017, a forklift operator transporting Jet A Fuel from the Mine Site Hazardous Waste Berm #4 (HWB4) to the helipad punctured the bottom of a Jet A barrel with the machine's forks in HWB4. 200L of fuel spilled and is entirely contained within the HWB4 which is constructed within engineered lined containment that is inspected annually by a qualified Geotechnical Engineer. The facility is located >500 m from the nearest water body and occurred on Inuit owned land.

**Immediate and Follow-Up Action:**

There was no immediate actions taken due to the quick nature of the occurrence. The fuel was contained within the impermeable liner and did not leak into the environment.

**Recommendations:**

Immediate actions need to be taken to remediate any spill straightaway even if it is contained in a non-permeable berm.

**Current Status:**

Education and training of crews to ensure proper operation of machinery is being performed. The Jet A fuel was completely cleaned up by absorbents and shoveling snow into Quatrex bags, which will later be backhauled on sealift and disposed properly.

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden at (647) 253-0596 x6016, Laura Taylor (647) 253- 0596 x6016 or Allan Knight at (647) 253-0596 x6010

Prepared By:

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

Laura Taylor  
Environmental Superintendent

Attach: Baffinland NT-NU Spill Report

cc. Todd Burlingame, Sylvain Proulx, William Bowden, Allan Knight, Gerald Rogers, Tim Sewell, (Baffinland), Stephen Bathroy (QIA), Scott Burgess, Erik Allain, Sarah Forte, Jonathon Mesher( INAC)





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

<b>A</b>	REPORT DATE: MONTH – DAY – YEAR <b>09-09-2017</b>	REPORT TIME <b>18:30</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER <b>17-340</b>
<b>B</b>	OCCURRENCE DATE: MONTH – DAY – YEAR <b>09-08-2017</b>	OCCURRENCE TIME <b>21:00</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease: Q13C301</b>	WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Mine Site, Baffin Island, NU</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>19</b> SECONDS <b>33</b>		LONGITUDE DEGREES <b>79</b> MINUTES <b>22</b> SECONDS <b>06</b>	
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>N/A</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>		
<b>H</b>	PRODUCT SPILLED <b>Jet A Fuel</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>200 L</b>	U.N. NUMBER <b>N/A</b>	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>	U.N. NUMBER <b>N/A</b>	
<b>I</b>	SPILL SOURCE <b>Punctured Jet A barrel in berm</b>	SPILL CAUSE <b>Punctured barrel</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>approx. 20m2</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>On ice/snow in lined berm</b>	DESCRIBE ANY ASSISTANCE REQUIRED <b>N/A</b>	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>On September 8th 2017, a forklift operator transporting Jet A Fuel from the Mine Site Hazardous Waste Berm #4 (HWB4) to the helipad punctured the bottom of a Jet A barrel with the machine's forks in HWB4. 200L of fuel spilled and is entirely contained within the HWB4 which is constructed within engineered lined containment that is inspected annually by a qualified Geotechnical Engineer. The facility is located &gt;500 m from the nearest water body and occurred on Inuit owned land.</b> <b>This spill is being reported as required by the conditions of Water License no. 2AM-MRY1325, Part H, item 9 (b) pursuant to ss12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act and as required by ss38(4) of the Fisheries Act, Sec 31(1) MMR.</b>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>Laura Taylor</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>Oakville</b>
REPORT LINE USE ONLY				
<b>N</b>	RECEIVED AT SPILL LINE BY STATION OPERATOR	POSITION	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC		SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY	CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF \_\_\_\_\_

### NT-NU Spill Report (Baffinland)





October 16, 2017

Jonathan Mesher, Resource Management Officer  
Nunavut Field Operations  
Indigenous and Northern Affairs Canada  
Nunavut Field Operations  
Box 100  
Iqaluit, NU X0A 0H0

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

**Re: Follow-up to Spill #17-361- Reported on September 11th, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On August 16<sup>th</sup>, we notified Indigenous and Northern Affairs Canada (INAC) and Environment and Climate Change Canada (ECCC) of a potential controlled discharge from the Waste Rock Sedimentation Pond (WRSP) in order to prevent overtopping of the WRSP. The notification included information regarding Baffinland's plans to conduct emergency treatment of the pond as the pond's pH was below applicable guidelines.

On August 22-24<sup>th</sup>, batch treatment of the WRSP was completed using sodium carbonate to effectively raise the pH from approximately 4 to 7. Prior to the batch treatment, Baffinland consulted with AMEC to determine the most effective possible treatment with resources on site and given the emergent circumstances. Discharge from the WRSP commenced on August 24<sup>th</sup>.

A significant rain event was experienced between August 26<sup>th</sup> and September 1<sup>st</sup> significantly increasing the water level and reducing the available freeboard of the WRSP. The rain event also potentially influenced the water chemistry of the WRSP.

On August 27<sup>th</sup> visual observations of the turbidity of the WRSP prompted the discharge to be shut down. Samples later confirmed that the TSS exceeded Water Licence and Metal Mining Effluent Regulation (MMER) parameters for approximately a 14hr period, as reported and summarized in Spill Report 17-328. Discharge resumed August 28<sup>th</sup> after the pond had settled and TSS criteria were below guidelines (Table 1, 2).

A Geotube Total Suspended Solids (TSS) filtration system was placed at the end of the discharge hose to mitigate potential TSS of discharge prior to commencing discharge. Water quality samples were taken daily for pH, TSS, TDS and turbidity, significantly more frequent than Water Licence and MMER requirements. Acute toxicity samples were taken on August 24<sup>th</sup> and September 5<sup>th</sup>, which passed except for the Daphnia Magna test on the September 5th sample (Table 4b).

The on-site ALS laboratory was utilised to evaluate the discharge. The discharge samples analysed by the on-site ALS lab equipment were compliant up to September 6<sup>th</sup>, under MMER and Water Licence discharge criteria for pH. Water continued to be discharged in order to maintain 0.3m freeboard and to permit Baffinland to move forward with construction work on the key in to comply with IFC drawings and a directive from INAC.

Samples were also taken and shipped offsite to ALS Waterloo for external analysis. Results received from the ALS lab in Waterloo for pH from September 1st to 6th were below MMER and Water Licence criteria; however the samples were outside the recognized holding time and the accuracy of pH measurements were likely compromised by several days of potential acid rock drainage related redox reactions (Table 1,2). Samples of this source of water are known to exhibit pH changes (normally pH reduction) over time due to oxidation of Fe<sup>2+</sup> to Fe<sup>3+</sup>. In order to evaluate whether the accuracy of pH results were compromised by active redox reactions, follow up measurements of the samples for pH were taken; they continued to show pH reductions indicating that water chemistry was changing over time. In consultation with the ALS Environmental Technical



Director, it was determined that the initial pH measurements from the on-site laboratory taken by Baffinland Staff (within 1 to 4 hours of sampling) are more likely to be accurate and reliable pH measurements representing the conditions of the samples at time of sampling, compared to the test results measured by ALS Waterloo, which are believed to have been affected by active redox reactions lowering the pH of the samples (Table 1,2). The lowered pH caused by the active redox reactions could have also influenced the Daphnia Magna test on September 5<sup>th</sup>, and there is no certainty whether the samples would have failed the Daphnia Magna acute toxicity test if the test had been performed within a shorter holding time.

The Aquatic Effects Monitoring Plan (AEMP) data for stations at the confluence of the tributary (Tributary F) that receives WRSP discharge (MS-08) to Mary River, the nearest fish bearing waters, did not show readily detectable influence from the discharge as the data exhibited a pH of 8 (table 3). Minnow Environmental, Baffinland's AEMP consultant, estimated that Tributary F was exposed to approximately 0.17% effluent concentrations during September 1 to 5<sup>th</sup>. Mary River would have been significantly lower, mitigated by the high flows and the 2.5 km distance between the discharge point and Mary River.

The discharge to the environment was stopped on September 6<sup>th</sup> after low pH values were reported from the on-site ALS lab. A summary of applicable water quality discharge data during this time is provided in Table 1,2,3,4a/b. Spill report 17-361 was submitted and since then Baffinland has been engaging external consultants to develop future mitigation measures to reduce the probability of non-compliant discharge from the WRSP.

As per MMER Reporting Part 3 Section 31(1) and 31(2)

(a) Low pH water and TSS were deposited through the final discharge point. The concentrations are listed in the attached summary of analytical water quality results. (Table 1,2). The volume and concentration of the deleterious substance entering the nearest fish bearing receiving water body would have been mitigated by the low effluent concentrations and 2.5km travel distance before reaching Mary River.

(b) The quantity of the deposit was approximately 5000 m<sup>3</sup> of low pH water and 523 m<sup>3</sup> of high TSS water (Spill report 17-328), if the ALS Waterloo sample results are relied upon. This volume was estimated by taking daily totalizer readings from a three inch omega turbine flowmeter. However, if the on-site ALS lab results are relied upon, given that those results appear to be more reliable than the ALS Waterloo results, then the estimate quantity of the deposit is significantly less than approximately 5000 m<sup>3</sup> of low pH water.

(c). N/A

(d) Exceedances of TSS concentrations and low pH water were deposited at the end of a discharge hose to the approved water shed that the Final Discharge Point (FDP) water (MS-08) is regulated to be deposited to (Figure 1)

(e) Mary River would be the ultimate receiving body of water. It is located >2.5 km away from the end of the layflat hose after the water travels through Tributary F (Figure 1).

(f) An Acute lethality test was conducted at the FDP of MS-08 during the spill time period on September 5<sup>th</sup>. Results yielded 100% mortality in Daphnia Magna and 30% mortality in Rainbow Trout. Note, however, that the sample was analyzed outside of suggested holding times and the results may have been influenced by active redox reactions (Table 4a/b).

(g) N/A

(h) Discharge was stopped on September 6<sup>th</sup> after low pH values were reported from the on-site ALS lab. Shortly after discharge stopped, the effluent line froze and surrounding area was observed to be frozen. Corrective actions to mitigate this non-compliant discharge in the future are under development.

## Recommendations and Corrective Actions

- Conduct a detailed hydrologic review to determine the appropriate capacity or required increase in dimensions for the WRSP. Golder Associates Inc is currently conducting the a review.
- Initiate a geochemical review of the waste rock dump layout and materials to develop a better understanding of low pH conditions observed on site and, if necessary, develop supplemental mitigation measures to reduce or eliminate production of acidic water from entering the WRSP.
- Review and amend the Waste Rock Management Plan to provide contingency plans for the treatment of non-compliant water.



- Review on-site equipment and consider whether additional equipment could more efficiently treat and discharge water from the WRSP
- Review and consider engineered mitigation measures to address water quality and capacity issues once the hydrological and geochemical review is complete.

A further comprehensive follow up report providing an update on mitigation measures will be submitted to INAC and ECCC.

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden (647) 253-0596 x6016 or Allan Knight at (647) 253-0596 x6010 or Tim Sewell at (647) 253-0596 x6054.

Prepared By:

Reviewed by:

A handwritten signature in black ink, appearing to read "Bill Bowden".

William Bowden  
Environmental Superintendent

A handwritten signature in black ink, appearing to read "Timothy Ray Sewell".

Timothy Ray Sewell  
Head of Health Safety and Environment

Attach: Analytical Results, Photos, Figure 1:Map of Sample Location, NT-NU Spill Report

cc. Todd Burlingame, Sylvain Proulx, Gerald Rogers, William Bowden, Adam Gyorffy, Allan Knight, Tim Sewell (Baffinland), Stephen Bathroy (QIA), Erik Allain, Jonathan Mesher, Sarah Forte (INAC)



**Photo 1: Geotube filtration system downstream of the FDP on the discharge line installed to mitigate TSS exceedances**



**Photo 2: Confluence of Tributary F, which receives MS-08 effluent, at Mary River**



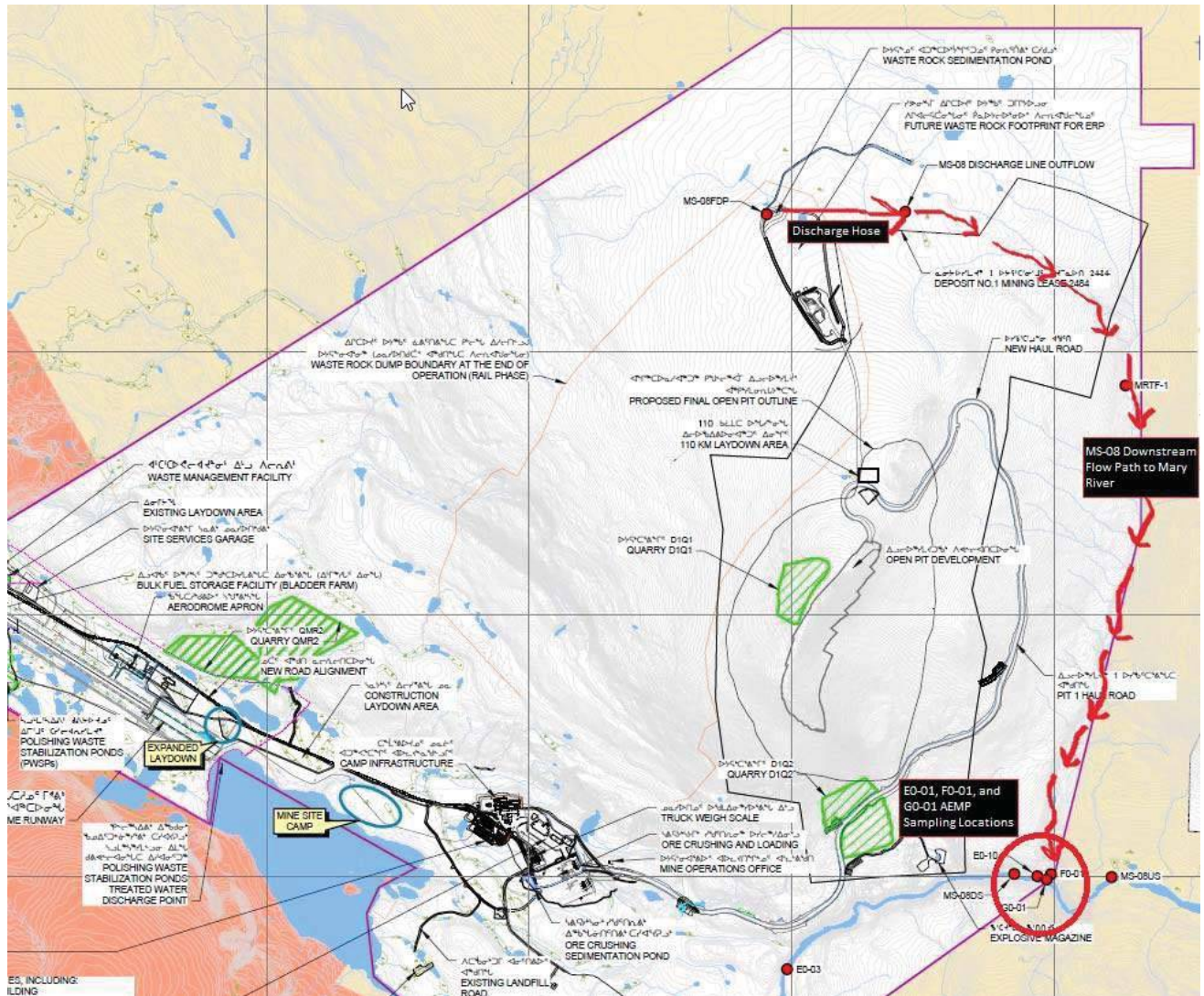


Figure 1: Map of Sample Locations and the Flow Path



MS-08 (FDP)							
Sample Date/Time		ALS Waterloo pH	ALS On-Site pH	Field Readings - pH	Total Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)
24-Aug-17	16:25	6.96	--	--	13.6	3070	43.7
	16:45	6.99	--	--	13.3	3140	--
	18:05	6.90	--	--	12	3130	42.3
	19:00	7.02	--	--	12.4	2840	37.4
	20:00	6.99	--	--	10.8	2860	36.1
25-Aug-17	8:05	7.20	--	--	7.6	3110	18.6
	14:30	7.36	--	--	6.4	3140	15.9
	18:20	7.45	--	--	4.4	3140	12.1
26-Aug-17	9:35	7.62	--	--	10	3100	17.1
	15:40	7.63	--	--	17.2	2980	26.8
	18:00	7.66	--	--	15.6	3060	22.5
27-Aug-17	8:20	7.64	--	--	240	2800	210.0
28-Aug-17	12:20	7.76	--	--	11.8	2680	18.8
	12:20	7.47	--	--	23.8	2690	51.2
29-Aug-17	8:49	7.59	--	--	12.8	2680	30.8
	10:50	7.61	--	--	9.8	2600	27.0
	11:00	7.62	--	--	9.8	2570	27.4
	14:58	7.57	--	--	9.1	2610	29.1
30-Aug-17	11:50	6.50	6.94	6.93	26.3	2810	78.3
	18:05	6.43	6.77	6.74	29.6	2940	95.1
31-Aug-17	8:30	6.84	6.80	6.56	24.5	2890	84.5
	11:55	7.08	--	--	26.4	2860	85.6
01-Sep-17	16:45	5.80	6.58	6.09	34.8	3320	121.0
02-Sep-17	8:46	5.50	6.52	5.77	24.1	3620	94.4
	14:35	5.63	6.45	5.87	24.3	3670	89.7
	18:00	5.39	6.52	5.77	21.3	3680	84.4
03-Sep-17	11:45	5.45	6.33	6.28	18.4	3530	75.4
	16:45	5.65	6.34	5.82	17.6	3630	68.0
	19:39	5.18	6.34	5.81	17	3670	72.4
04-Sep-17	9:15	5.24	6.31	6.45	29.7	3630	92.0
	17:35	5.61	6.16	5.99	14.8	3710	67.3
	17:35	5.55	6.16	5.99	22.7	3670	63.7
	18:00	5.75	--	--	13.2	3420	57.2
05-Sep-17	9:56	5.77	6.21	6.40	12.1	3830	46.9
	14:55	5.25	6.02	5.82	17	3830	52.8
06-Sep-17	11:15	5.16	5.91	6.50	12.8	3770	37.8
Note: These samples were taken from the approved MS-08 FDP (Sample Port) location.							

Note: These samples were taken from the approved MS-08 FDP (Sample Port) location.

Table 2. Laboratory results for the MS-08 discharge samples from August 24 to September 6, 2017

MS-08 Geotube					
Sample Date/Time		Lab-Run pH	Total Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)
24-Aug-17	18:25	6.96	39.8	3110	--
25-Aug-17	8:25	7.09	6.8	3100	18.2
	14:50	7.22	4.8	3140	13.1
	18:35	7.38	5.6	3140	10.8
26-Aug-17	9:50	7.61	15.2	3040	19.9
	16:00	7.56	16.8	3030	23.4
	18:20	7.62	18	3090	22.3
27-Aug-17	8:35	7.83	108	945	90.4
28-Aug-17	12:30	7.76	28.8	2640	46.3
	12:30	7.42	27.2	2710	59.2
29-Aug-17	9:10	7.43	11.2	2650	34.7
	14:46	7.51	8.3	2610	28.6
MS-08 Discharge					
Sample Date/Time		Lab-Run pH	Total Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)
30-Aug-17	12:15	6.44	27.1	2450	87.3
	18:15	6.39	27.7	2960	83.9
31-Aug-17	8:45	6.87	23.2	2960	79.8
01-Sep-17	17:00	5.84	31.2	3320	121
02-Sep-17	9:15	5.75	21.9	3600	88.1
	14:45	5.68	20.5	3690	82.7
	18:13	5.67	18.8	3640	75.9
03-Sep-17	13:00	5.57	16.2	3570	65.1
	17:00	5.62	15.7	3760	61.5
04-Sep-17	9:25	5.44	26.3	3690	79.2
	17:50	5.45	17.8	3780	60.6
05-Sep-17	9:55	5.64	11.1	3820	42.7
	15:00	5.32	16.0	3830	44.9
06-Sep-17	11:00	4.74	30.4	4090	98.9
Note: 'MS-08 Geotube' and 'MS-08 Discharge' represent the the same discharge location; the nomenclature was changed to 'MS-08 Discharge' to make it clear as to what location was being sampled.					

Table 3. Laboratory results for AEMP sampling locations downstream of MS-08

<b>E0-01</b>					
Sample Date/Time		Lab-Run pH	Total Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)
08-Jul-17	10:50	7.51	5.6	24.0	7.71
10-Aug-17	10:30	7.94	<2.0	54.0	6.10
	10:30	7.94	<2.0	43.0	6.10
01-Sep-17	11:25	8.10	<2.0	75.0	1.87
	11:35	8.09	<2.0	77.0	2.00
<b>F0-01</b>					
Sample Date/Time		Lab-Run pH	Total Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)
08-Jul-17	10:50	7.57	7.3	35.0	11.30
10-Aug-17	10:30	8.16	<2.0	85.0	2.05
01-Sep-17	11:35	8.22	5.2	136.0	6.33
<b>G0-01</b>					
Sample Date/Time		Lab-Run pH	Total Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)
08-Jul-17	10:20	7.22	3.9	19.0	5.02
10-Aug-17	10:30	7.85	<2.0	31.0	4.07
01-Sep-17	11:25	8.08	<2.0	74.0	1.83
Note: These three locations are part of Baffinland's AEMP sampling program and are located downstream of the MS-08 discharge point at the confluence with the Mary River.					

Table 4a. Acute lethality results for MS-08 for August 24, 2017

24-Aug-17		
Acute Lethality of Liquid Effluents to Rainbow Trout		
96-Hour Test Results		
Substance	Effect	Value
Control	Mean Immobility	0.0%
	Mean Mortality	0.0%
100%	Mean Immobility	0.0%
	Mean Mortality	0.0%
Test Organism: <i>Oncorhynchus mykiss</i>		
Sample Treatment: None		
pH Adjustment: None		
Test Aeration: Yes		
Pre-aeration/Aeration Rate: 6.5 ± mL/min/L		
Volume Tested (L): 19		
Number of Replicates: 1		
Organisms Per Replicate: 10		
Total Organisms Per Test Level: 10		
Test Method Deviations: None		
24-Aug-17		
Acute Lethality of Effluents to <i>Daphnia magna</i>		
48-Hour Test Results		
Substance	Effect	Value
Control	Mean Immobility	0.0%
	Mean Mortality	0.0%
100%	Mean Immobility	0.0%
	Mean Mortality	6.7%
Sample Treatment: None		
pH Adjustment: None		
Test Aeration: None		
Organism Batch: Dm17-19		
Number of Replicates: 3		
Test Organisms Per Replicate: 10		
Total Organisms Per Test Level: 30		
Organism Loading Rate: 15.0 mL/organism		
Test Method Deviations: None		



Table 4b. Acute lethality results for MS-08 for September 6, 2017

05-Sep-17		
Acute Lethality of Liquid Effluents to Rainbow Trout		
96-Hour Test Results		
Substance	Effect	Value
Control	Mean Immobility	0.0%
	Mean Mortality	0.0%
100%	Mean Immobility	0.0%
	Mean Mortality	30.0%
Test Organism: <i>Oncorhynchus mykiss</i>		
Sample Treatment: None		
pH Adjustment: None		
Test Aeration: Yes		
Pre-aeration/Aeration Rate: 6.5 ± mL/min/L		
Volume Tested (L): 20		
Number of Replicates: 1		
Organisms Per Replicate: 10		
Total Organisms Per Test Level: 10		
Test Method Deviations: None		
05-Sep-17		
Acute Lethality of Effluents to <i>Daphnia magna</i>		
48-Hour Test Results		
Substance	Effect	Value
Control	Mean Immobility	0.0%
	Mean Mortality	0.0%
100%	Mean Immobility	0.0%
	Mean Mortality	100.0%
Sample Treatment: None		
pH Adjustment: None		
Test Aeration: None		
Organism Batch: Dm17-20		
Number of Replicates: 3		
Test Organisms Per Replicate: 10		
Total Organisms Per Test Level: 30		
Organism Loading Rate: 15.0 mL/organism		
Test Method Deviations: None		



# 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

<b>A</b>	REPORT DATE: MONTH - DAY - YEAR <b>09-11-2017</b>	REPORT TIME <b>18:00HRS</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER <b>17 - 361</b>
<b>B</b>	OCCURRENCE DATE: MONTH - DAY - YEAR <b>09-11-2017</b>		OCCURRENCE TIME <b>013:00HRS</b>	
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease No.: Q13C301</b>		WATER LICENSE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>	
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Project, Mary Site, Baffin Island, NU</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>20</b> SECONDS <b>42</b>		LONGITUDE DEGREES <b>79</b> MINUTES <b>14</b> SECONDS <b>21</b>	
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>N/A</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>		
<b>H</b>	PRODUCT SPILLED <b>Surface Water</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>Unknown at this time</b>	U.N. NUMBER <b>N/A</b>	
<b>H</b>	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>	U.N. NUMBER <b>N/A</b>	
<b>I</b>	SPILL SOURCE <b>Waste Rock Stockpile Pond</b>	SPILL CAUSE <b>Discharge of Pond Water</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>N/A</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>Water Discharge</b>	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>As we continued to discharge our waste rock pond water through FDP MS-08 last week, the pH of the pond gradually decreased. From Aug 27th to Sept 6th we discharged non-compliant waters to the environment. Samples were taken for TSS and pH daily during the time of discharge as well as an acute toxicity. Field parameters were also taken on a daily basis indicating the low pH. Upon learning the results of the pH on Sept 6th, the pump was immediately shut off and no further discharging was to occur. Results received from the lab indicate that many samples had TSS above our water license criteria and that they also exceeded our monthly limit for MMER. pH was below our criteria for both MMER and Water License. Our toxicity test also returned at 100% failure. The discharge occurred on IOL located &gt;3km from Mary River, the nearest fish bearing waters. A follow up report documenting the occurrences will be submitted in 30 days. This spill is being reported as required by the conditions of water license no. 2AM-MRY1325, Part H, item 9 (b), and Sec. 31 of MMER</b>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>Laura Taylor</b>	POSITION <b>Env Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne Mcphee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>647-253-0596</b>
REPORT LINE USE ONLY				
<b>N</b>	RECEIVED AT SPILL LINE BY <b>STATION OPERATOR</b>	EMPLOYER <b>YELLOWKNIFE, NT</b>	LOCATION CALLED <b>YELLOWKNIFE, NT</b>	REPORT LINE NUMBER <b>(867) 920-8130</b>
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC		SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY	CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF 1

Figure 2: NT-NU Spill Report

October 12<sup>th</sup>, 2017

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

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

**Re: Follow-up to Spill #17-343 – Reported on September 12<sup>th</sup>, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On September 12<sup>th</sup> 2017, a forklift operator attempting to move a sea-can full of Ammonium Nitrate punctured the container. While on decline the operator was backing out after placing a sea-can down, the loader then slid back on ice and forks punctured the sea-can releasing approximately 200lbs of dry Ammonium Nitrate to the surrounding ground. The facility is located >250m from the nearest water body and occurred on Inuit owned land. The cleanup was quickly completed in a timely manner.

**Immediate and Follow-Up Action:**

The punctured sea-can was sealed using absorbent pads to prevent further release of material, and the released Ammonium Nitrate and surrounding contaminated soil was shovelled into Quatrex bags. The contaminated soil was then scraped with a loader and transported to a lined containment facility.

**Recommendations:**

The use of a spotter when moving materials in an environment where collisions are possible. Routine walk-around inspection of the work area for hazards.

**Current Status:**

All contaminated soil has been removed from the location and is stored in Quatrex bags in a lined containment berm, which will later be backhauled on sealift and disposed of properly.


Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden at (647) 253-0596 x6016 or Allan Knight at (647) 253-0596 x6010 or Timothy Ray Sewell at 1 416 364 8820 x6054.

Prepared By:



William Bowden,  
Environmental Superintendent

Reviewed by:



Timothy Ray Sewell  
Head of Health, Safety and Environment

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

cc. Todd Burlingame, Sylvain Proulx, William Bowden, Allan Knight, Gerald Rogers, Tim Sewell, (Baffinland),  
Stephen Bathroy (QIA), Scott Burgess, Erik Allain, Sarah Forte, Jonathon Mesher (INAC)





Photo 1: Sea-can puncture sealed with Absorbent Pad



Photo 2: Ammonium Nitrate and contaminated soil being removed and placed into Quatrex bags





Photo 3: Ground after contaminated soil and sea-can removal



**Figure 1: Map of Spill Location**



Canada

# NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spill@gnv.nl.ca

REPORT LINE USE ONLY

<b>A</b>	REPORT DATE MONTH - DAY - YEAR <b>09-12-2017</b>	REPORT TIME <b>8:30</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT. OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
<b>B</b>	OCCURRENCE DATE MONTH - DAY - YEAR <b>09-12-2017</b>	OCCURRENCE TIME <b>6:00</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease: Q13C301</b>	WATER LICENSE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Mine Site, Baffin Island, NU</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>19</b> SECONDS <b>40</b>		LONGITUDE DEGREES <b>79</b> MINUTES <b>27</b> SECONDS <b>38</b>	
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>N/A</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>		
<b>H</b>	PRODUCT SPILLED <b>Dry Ammonium Nitrate</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>200 lbs</b>	UN NUMBER <b>N/A</b>	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>	UN NUMBER <b>N/A</b>	
<b>I</b>	SPILL SOURCE <b>Punctured Seacan</b>	SPILL CAUSE <b>Seacan full of product</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>approx. 2 m2</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>None</b>	DESCRIBE ANY ASSISTANCE REQUIRED <b>N/A</b>	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>On September 12th 2017, a forklift operator attempting to move a sea can full of AN punctured the container. While on decline the operator was backing out after placing a sea-can down, the loader then slid back on ice and forks punctured the c-can releasing approx. 200lbs of Ammonium Nitrate to the surrounding ground. The facility is located &gt;250 m from the nearest water body and occurred on Inuit owned land. The clean up is ongoing and more information will be provided in the follow up report.</b>  <b>This spill is being reported as required by the conditions of Water License no. 2AM-MRY1325, Part H, Item 9 (b) pursuant to ss12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act and as required by ss38(4) of the Fisheries Act, Sec 31(1) MMER.</b>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>Laura Taylor</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>Oakville</b>
REPORT LINE USE ONLY				
<b>N</b>	RECEIVED AT SPILL LINE BY STATION OPERATOR	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE NT
LEAD AGENCY <input type="checkbox"/> DEC <input type="checkbox"/> GCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> INEB <input type="checkbox"/> ITC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN	
FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED				
AGENCY	CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF \_\_\_\_\_

Figure 2: NT-NU Spill Report



October 12<sup>th</sup>, 2017

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

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

**Re: Follow-up to Spill #17-342 – Reported on September 12<sup>th</sup>, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On September 12<sup>th</sup> 2017, an OHT was climbing the hill north bound at KM 62 on the tote road and a drive shaft failed, severing the fuel lines on the passenger side fuel tank causing the fuel to release onto the road. Approximately 100 Liters of Diesel fuel was released onto the Tote Rd. The flow of fuel was stopped, contained and cleaned up immediately. The spill occurred >10 m from the nearest water body and occurred on Crown Land. The spill was contained and did not enter nearby waterways.

**Immediate and Follow-Up Action:**

The severed fuel lines were immediately plugged to slow the flow of fuel and a spill berm was placed under the leaking tank. The released fuel was cleaned up with absorbent spill pads and a mechanic was brought to the site to repair the severed fuel lines. The contaminated soil was then scraped off the road with a loader and transported to a lined containment facility.

**Recommendations:**

Preventative maintenance inspection programs on Ore Haul Trucks to prevent and reduce mechanical failures and resultant spills. Ore Haul Trucks carry spill response supplies to mitigate spills on the Tote Road.

**Current Status:**

All contaminated soil has been removed from the road and is stored in Quatrex bags in a lined containment berm, which will later be backhauled on sealift and disposed of properly.

Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden at (647) 253-0596 x6016 or Allan Knight at (647) 253-0596 x6010.

Prepared By:



William Bowden,  
Environmental Superintendent

Reviewed by:



Timothy Ray Sewell  
Head of Health, Safety and Environment

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

cc. Todd Burlingame, Sylvain Proulx, William Bowden, Allan Knight, Gerald Rogers, Tim Sewell, (Baffinland), Stephen Bathroy (QIA), Scott Burgess, Erik Allain, Sarah Forte, Jonathon Mesher (INAC)





**Photo 1: Plugged fuel leak and berm to contain fuel.**



**Photo 2: Contained Fuel Spill with Absorbent Pads**

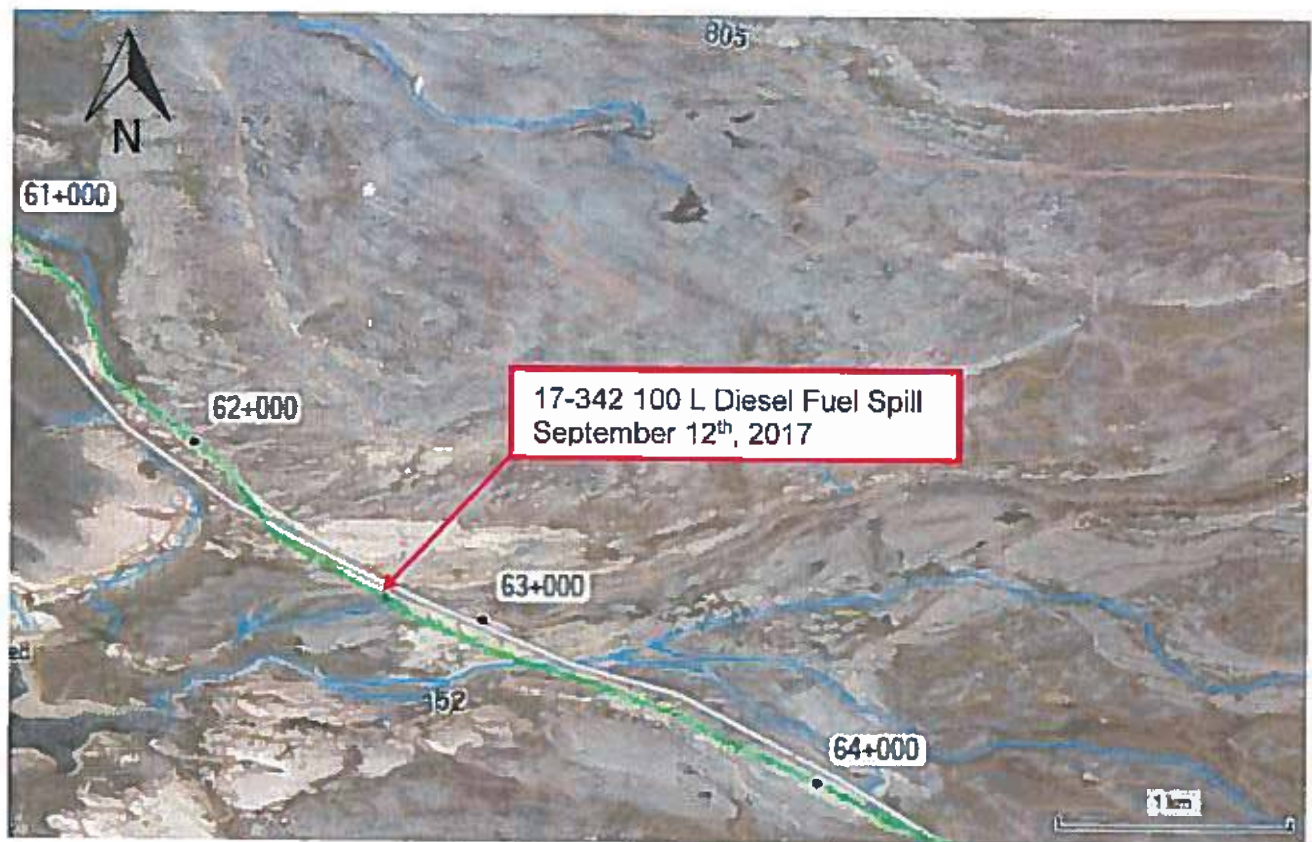




Photo 3: Removal of Contaminated Soil



Photo 4: Road after contaminated soil removal



**Figure 1: Map of Spill Location**



Canada

**NT-NU SPILL REPORT**

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 673-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

<b>A</b>	REPORT DATE: MONTH - DAY - YEAR <b>09-12-2017</b>	REPORT TIME <b>08:00</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER <b>17 342</b>
<b>B</b>	OCCURRENCE DATE: MONTH - DAY - YEAR <b>09-12-2017</b>	OCCURRENCE TIME <b>07:00</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>Crown Land</b>	WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Mine Site, Baffin Island, NU</b>		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	LATITUDE DEGREES <b>71</b> MINUTES <b>26</b> SECONDS <b>32</b>		LONGITUDE DEGREES <b>80</b> MINUTES <b>10</b> SECONDS <b>34</b>	
<b>F</b>	RESPONSIBLE PARTY OR VESSEL NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>N/A</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>		
<b>H</b>	PRODUCT SPILLED <b>Diesel Fuel</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>100 L</b>	U.N. NUMBER <b>N/A</b>	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>	U.N. NUMBER <b>N/A</b>	
<b>I</b>	SPILL SOURCE <b>OHT Punctured Fuel Tank</b>	SPILL CAUSE <b>Punctured Fuel Tank</b>	AREA OF CONTAMINATION IN SQUARE METRES <b>approx. 30m2</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>None</b>	DESCRIBE ANY ASSISTANCE REQUIRED <b>N/A</b>	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS  <b>On September 12th 2017, an OHT was climbing the hill north bound at KM 62 on the tote road and a drive shaft failed severing the fuel lines on the passenger side fuel tank causing the fuel to release onto the road. Approximately 100 Liters of Diesel fuel was released onto the Tote Rd and was stopped and cleaned up immediately. The spill occurred &gt;10 m from the nearest water body and occurred on Crown Land. This spill is being reported as required by the conditions of Water License no. 2AM-MRY1325, Part H, item 9 (b) pursuant to ss12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act and as required by ss38(4) of the Fisheries Act, Sec 31(1) MMR.</b>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>Laura Taylor</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION CALLING FROM <b>Mary River</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>Oakville</b>
REPORT LINE USE ONLY				
<b>N</b>	RECEIVED AT SPILL LINE BY <b>STATION OPERATOR</b>	POSITION <b>STATION OPERATOR</b>	EMPLOYER <b>YELLOWKNIFE, NT</b>	REPORT LINE NUMBER <b>(867) 920-8130</b>
LEAD AGENCY <input type="checkbox"/> DEC <input type="checkbox"/> CCG <input type="checkbox"/> GMMT <input type="checkbox"/> GN <input type="checkbox"/> LA <input type="checkbox"/> INAC <input type="checkbox"/> NES <input type="checkbox"/> UTC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN	
AGENCY			FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
CONTACT NAME		REMARKS		
CONTACT TIME				
LEAD AGENCY				
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF \_\_\_\_\_

Figure 2: NT-NU Spill Report



October 13<sup>th</sup>, 2017

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

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

**Re: Follow-up to Spill #17-346 – Reported on September 13<sup>th</sup>, 2017**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

**Summary:**

On the morning of September 13<sup>th</sup> 2017, the water treatment plant operator was called out to a report of a water leak at the Mine Site Potable Water Treatment Plant (WTP). Upon initial investigation, it was identified that a ball valve on distribution pump #2 had split open, releasing treated potable water to the building pad and migrating to the surrounding area. The pumps were turned off and the breakage isolated. Approximately 40% of water tank was drained down before the leak could be stopped, releasing an estimated 25 cubic metres of treated water, which percolated into the pad and surrounding area. The facility is located >100 m from the nearest water body and occurred on Inuit owned land.

**Immediate and Follow-Up Action:**

The breakage was immediately isolated and the pump switched off. The pipe and valve was replaced on distribution pipe #2 from the pump to the manifold, including a new ball-check valve and manual ball valve. A follow-up inspection of the breakage area occurred, revealing ground settlement below the distribution piping that placed stress on the piping. Clamping on all distribution pumps was loosened to allow the piping the ability to move as base elevations change.

**Recommendations:**

Regular inspections of ground settlement near all pumps and pipes to prevent stress-related breakages. Ensure distribution pumps are maintained to the extent that piping has the ability to flex.

**Current Status:**

All non-treated water percolated into the ground, with no pooling and did not cause erosion to the area. The distribution pumps are all adjusted for potential settlement, repaired and back in service.

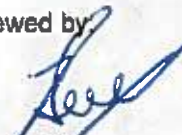
Should you require further information or clarification on the above noted spill, please feel free to contact William Bowden at (647) 253-0596 x6016 or Allan Knight at (647) 253-0596 x6010.

Prepared By:



William Bowden,  
Environmental Superintendent

Reviewed by:



Timothy Ray Sewell  
Head of Health, Safety and Environment

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

cc. Todd Burlingame, Sylvain Proulx, William Bowden, Allan Knight, Gerald Rogers, Tim Sewell, (Baffinland),  
Stephen Bathroy (QIA), Scott Burgess, Erik Allain, Sarah Forte, Jonathon Mesher (INAC)

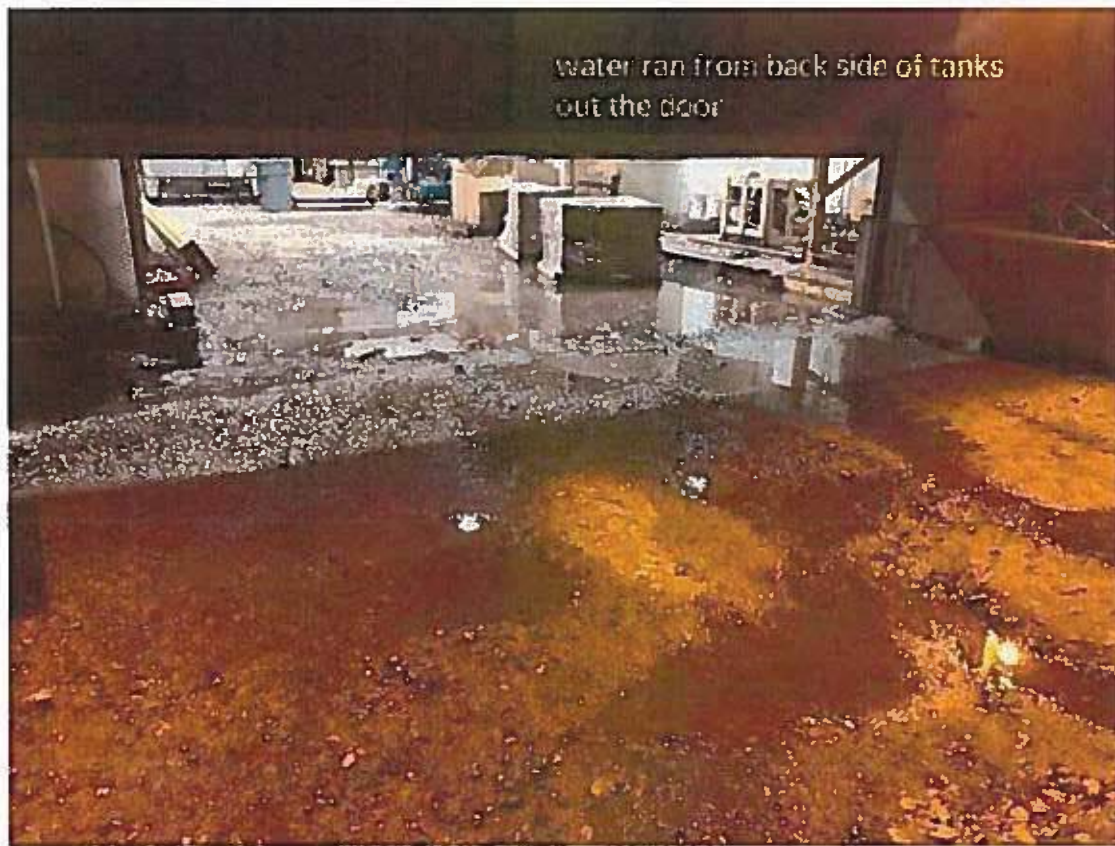


Photo 1: Distribution pumps with broken valve on #2 that released the water.



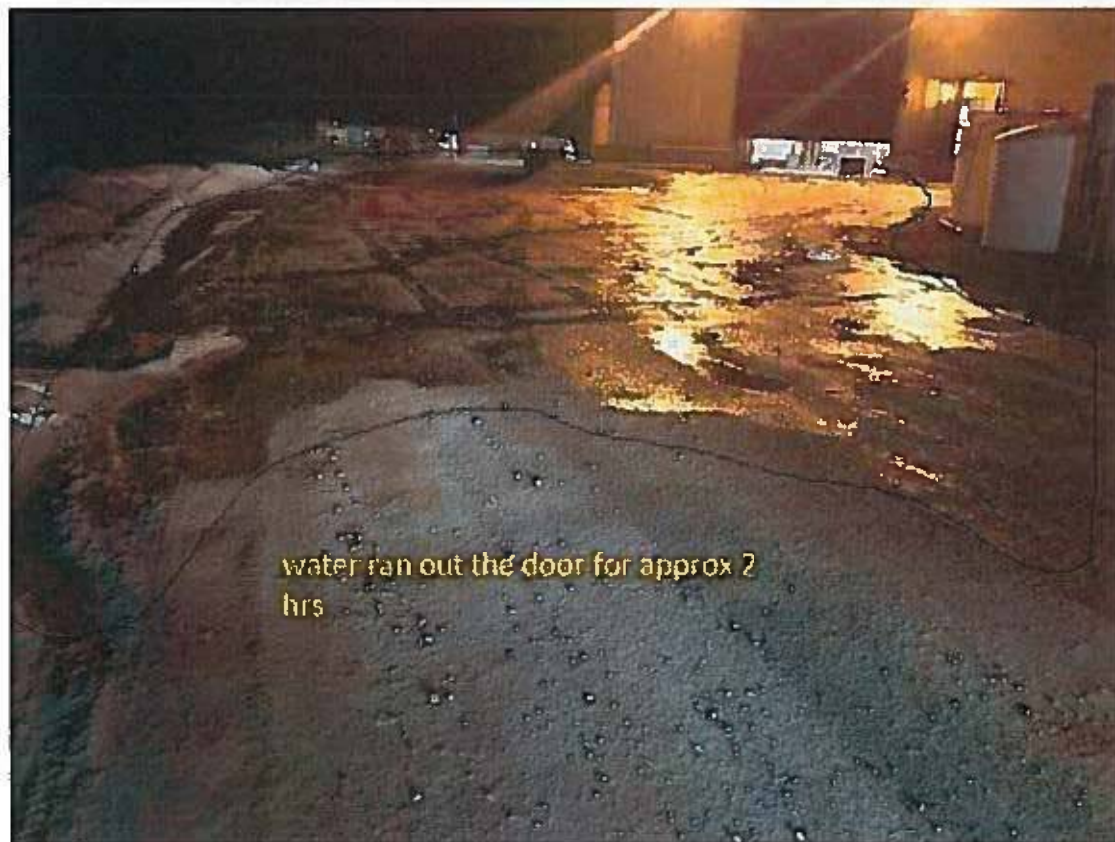
Photo 2: Broken valve from stress strain.





water ran from back side of tanks  
out the door

Photo 3: Extent of released water in the water treatment plant.



water ran out the door for approx 2  
hrs

Photo 4: Extent of released water outside of the water treatment plant



**Figure 1: Map of Spill Location**





Canada

## NT-NU SPILL REPORT

ON GASOLINE, OILS, PAINTS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL (867) 523-1130

FAX (867) 523-8024

E-MAIL spill@nunavut.ca

REPORT LINE USE ONLY

<b>A</b>	REPORT DATE: MONTH - DAY - YEAR <b>09-14-2017</b>	REPORT TIME <b>20:00 HRS</b>	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE TO THE ORIGINAL SPILL REPORT	REPORT NUMBER <b>17 346</b>
<b>B</b>	OCCURRENCE DATE: MONTH - DAY - YEAR <b>09-13-2017</b>	OCCURRENCE TIME <b>01:00 HRS</b>		
<b>C</b>	LAND USE PERMIT NUMBER (IF APPLICABLE) <b>IOL - Commercial Lease: Q13C301</b>	WATER LICENCE NUMBER (IF APPLICABLE) <b>2AM-MRY1325 Type "A"</b>		
<b>D</b>	OCCURRENCE PLACE NAME, OR DISTANCE AND DIRECTION FROM NAMED LOCATION <b>Mary River Mine Site, Baffin Island, NU</b>		SEE ON <input type="checkbox"/> MAP <input type="checkbox"/> AIR PHOTO <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
<b>E</b>	ATTITUDE DEGREES <b>71</b> MINUTES <b>18</b> SECONDS <b>49</b>		DIRECTION DEGREES <b>79</b> MINUTES <b>17</b> SECONDS <b>11</b>	
<b>F</b>	RESPONSIBLE PARTY OR OPERATOR NAME <b>Baffinland Iron Mines Corp.</b>	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION <b>2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3</b>		
<b>G</b>	ANY CONTRACTOR INVOLVED <b>N/A</b>	CONTRACTOR ADDRESS OR OFFICE LOCATION <b>N/A</b>		
<b>H</b>	SPILL PRODUCT <b>Treated potable water</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>25 cubic metres</b>	UN NUMBER <b>N/A</b>	
	SECOND PRODUCT SPILLED (IF APPLICABLE) <b>N/A</b>	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES <b>N/A</b>	UN NUMBER <b>N/A</b>	
<b>I</b>	SPILL SOURCE <b>Treated Water Tank</b>	SPILL CAUSE <b>damaged ball valve</b>	AFFECT OF CONTAMINATION IN ECOSYSTEMS <b>Unknown</b>	
<b>J</b>	FACTORS AFFECTING SPILL OR RECOVERY <b>Porous ground</b>	DEGREE OF ANY AESTHETIC REQUIRE <b>N/A</b>	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT <b>N/A</b>	
<b>K</b>	<p>ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS</p> <p>On the morning of September 13 2017, the water treatment plant operator was called out to a report of a water leak at the Mine Site Potable Water Treatment Plant (WTP). Upon initial investigation, it was identified that a ball valve on one of the distribution pumps had spilt, releasing treated potable water to the building pad and migrating to the surrounding area. The pumps were turned off and the breakage isolated. Approximately 40% of water tank was drained down before the leak could be stopped, releasing approximately 25 cubic metres of treated water, which percolated into the pad and surrounding area. The facility is located &gt;100 m from the nearest water body and occurred on Inuit owned land. Further details will be provided in a follow-up report. This spill is being reported as required by the conditions of Water Licence No. 2AM-MRY1325, Part H, Item 9 (b) pursuant to subsection 12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act.</p>			
<b>L</b>	REPORTED TO SPILL LINE BY <b>William Bowden</b>	POSITION <b>Env. Superintendent</b>	EMPLOYER <b>Baffinland</b>	LOCATION ON LINE FROM <b>Mary River</b>
<b>M</b>	ANY ALTERNATE CONTACT <b>Wayne McPhee</b>	POSITION <b>Dir. Sust Development</b>	EMPLOYER <b>Baffinland</b>	ALTERNATE CONTACT <b>Oakville</b>
REPORT LINE USE ONLY				
<b>N</b>	REPORTED AT SPILL LINE BY	POSITION STATION / POSITION	EMPLOYER	LOCATION ON DATED VELOCITY / TIME
LEAD AGENCY		CONTACT NAME	CONTACT TIME	REMARKS
FIRST SUPPORT AGENCY				
SECOND SUPPORT AGENCY				
THIRD SUPPORT AGENCY				

PAGE 1 OF

Figure 2: NT-NU Spill Report