APPENDIX E.8.7.1

INITIAL AND FOLLOW UP SPILL REPORTS

MINE SITE WASTE ROCK FACILITY

August 5, 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 #17-230- Reported on June 1st, 2017
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On July 1st, the Mine Site Waste Rock Sedimentation Pond (MS-08) was in critical danger of overflowing (<0.5m freeboard). Limited pre-discharge sample results have been received from the lab, based on these preliminary results, it was determined that a controlled discharge out of the normal course of events would be required. The volume discharged and complete sample results will be provided in the follow-up report.
The spill site is on IOL located > 3 km from the Mary River, the nearest fish bearing water.

Immediate and Follow-Up Action:

Results from sampling on June 27, 2017 were in progress at the time of the controlled discharge. These results were received July 17, 2017 and all parameters were within criteria. Continued water quality monitoring during discharge are included in this report.

Recommendations:

Daily inspection of all containment facility volumes.

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:

Allan Knight
Environmental Superintendent

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

cc. Todd Burlingame, Wayne McPhee, Sylvain Proulx, Eric Steinmetzer, Gerald Rogers, Gordon Mudryk, Jeff Bush, William Bowden, Laura Taylor (Baffinland), Stephen Bathroy (QIA), Erik Allain, Jonathan Mesher, Justin Hack, Sarah Forte (INAC)

Table 1. Water Chemistry Results - MS-08							
Sample Number	**Sample ID**	**Date Sampled**	**Results Received**	**Parameter Name**	**Result**	**Units**	**Lab**
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Conductivity	52.3	umhos/cm	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Hardness (as CaCO3)	22	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	pH	7.12	pH units	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Total Suspended Solids	<2.0	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Total Dissolved Solids	25 *	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Turbidity	-	NTU	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Acidity (as CaCO3)	3.3	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Ammonia, Total (as N)	0.049	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Chloride (Cl)	<0.50	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Fluoride (F)	<0.020	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Nitrate (as N)	0.081	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Total Kjeldahl Nitrogen	0.17	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Phosphorus, Total	0.0045	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Sulfate (SO4)	15	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Cyanide, Total	<0.0020	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Dissolved Organic Carbon	<1.0	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Total Organic Carbon	<1.0	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Aluminum (Al)-Total	0.109	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Antimony (Sb)-Total	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Arsenic (As)-Total	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Barium (Ba)-Total	0.00192	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Beryllium (Be)-Total	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Bismuth (Bi)-Total	<0.000050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Boron (B)-Total	<0.010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Cadmium (Cd)-Total	<0.000010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Calcium (Ca)-Total	2.13	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Cesium (Cs)-Total	0.000012	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Chromium (Cr)-Total	<0.00050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Cobalt (Co)-Total	0.00126	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Copper (Cu)-Total	<0.0010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Iron (Fe)-Total	0.191	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Lead (Pb)-Total	0.000096	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Lithium (Li)-Total	0.001	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Magnesium (Mg)-Total	3.7	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Manganese (Mn)-Total	0.0883	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Mercury (Hg)-Total	<0.000010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Molybdenum (Mo)-Total	0.000056	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Nickel (Ni)-Total	0.00145	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Phosphorus (P)-Total	<0.050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Potassium (K)-Total	0.24	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Rubidium (Rb)-Total	0.00053	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Selenium (Se)-Total	0.000095	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Silicon (Si)-Total	0.28	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Silver (Ag)-Total	<0.000050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Sodium (Na)-Total	<0.50	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Strontium (Sr)-Total	0.0016	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Sulfur (S)-Total	5.4	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Tellurium (Te)-Total	<0.00020	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Thallium (Tl)-Total	<0.000010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Thorium (Th)-Total	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Tin (Sn)-Total	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Titanium (Ti)-Total	0.00372	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Tungsten (W)-Total	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Uranium (U)-Total	0.00008	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Vanadium (V)-Total	<0.00050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Zinc (Zn)-Total	<0.0030	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Zirconium (Zr)-Total	<0.00030	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Dissolved Mercury Filtration Location	FIELD		ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Dissolved Metals Filtration Location	FIELD		ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Aluminum (Al)-Dissolved	0.0087	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Antimony (Sb)-Dissolved	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Arsenic (As)-Dissolved	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Barium (Ba)-Dissolved	0.0018	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Beryllium (Be)-Dissolved	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Bismuth (Bi)-Dissolved	<0.000050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Boron (B)-Dissolved	<0.010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Cadmium (Cd)-Dissolved	<0.000010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Calcium (Ca)-Dissolved	2.34	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Cesium (Cs)-Dissolved	<0.000010	*mg/L*	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Chromium (Cr)-Dissolved	<0.00050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Cobalt (Co)-Dissolved	0.00122	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Copper (Cu)-Dissolved	0.00035	mg/L	ALS

Sample Number	Sample ID	Date Sampled	Results Received	Parameter Name	Result	Units	Lab
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Iron (Fe)-Dissolved	0.018	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Lead (Pb)-Dissolved	<0.000050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Lithium (Li)-Dissolved	0.0013	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Magnesium (Mg)-Dissolved	3.87	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Manganese (Mn)-Dissolved	0.092	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Mercury (Hg)-Dissolved	<0.000010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Molybdenum (Mo)-Dissolved	<0.000050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Nickel (Ni)-Dissolved	0.00131	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Phosphorus (P)-Dissolved	<0.050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Potassium (K)-Dissolved	0.277	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Rubidium (Rb)-Dissolved	0.00034	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Selenium (Se)-Dissolved	0.000085	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Silicon (Si)-Dissolved	0.079	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Silver (Ag)-Dissolved	<0.000050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Sodium (Na)-Dissolved	<0.50	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Strontium (Sr)-Dissolved	0.0019	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Sulfur (S)-Dissolved	4.21	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Tellurium (Te)-Dissolved	<0.00020	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Thallium (Tl)-Dissolved	<0.000010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Thorium (Th)-Dissolved	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Tin (Sn)-Dissolved	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Titanium (Ti)-Dissolved	<0.00030	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Tungsten (W)-Dissolved	<0.00010	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Uranium (U)-Dissolved	0.000032	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Vanadium (V)-Dissolved	<0.00050	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Zinc (Zn)-Dissolved	0.0024	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Zirconium (Zr)-Dissolved	<0.00030	mg/L	ALS
L1950717-1	MS-08	27-Jun-17	17-Jul-17	Ra-226	<0.0068	Bq/L	ALS
233856	MS-08	27-Jun-17	17-Jul-17	Acute Toxicity	non-lethal	mortality	Aquatox
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Conductivity	67.3	umhos/cm	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Hardness (as CaCO3)	26	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	pH	7.19 *	pH units	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Total Suspended Solids	3.4	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Total Dissolved Solids	36 *	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Turbidity	-	NTU	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Acidity (as CaCO3)	2.4	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Ammonia, Total (as N)	0.028	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Chloride (Cl)	0.52	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Fluoride (F)	<0.020	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Nitrate (as N)	0.15	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Phosphorus, Total	0.0061	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Sulfate (SO4)	20.9	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Cyanide, Total	<0.0020	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Dissolved Organic Carbon	<0.50	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Total Organic Carbon	0.73	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Aluminum (Al)-Total	0.106	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Antimony (Sb)-Total	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Arsenic (As)-Total	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Barium (Ba)-Total	0.00276	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Beryllium (Be)-Total	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Bismuth (Bi)-Total	<0.000050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Boron (B)-Total	<0.010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Cadmium (Cd)-Total	<0.000010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Calcium (Ca)-Total	2.88	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Cesium (Cs)-Total	0.000015	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Chromium (Cr)-Total	<0.00050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Cobalt (Co)-Total	0.0013	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Copper (Cu)-Total	0.009	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Iron (Fe)-Total	0.2	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Lead (Pb)-Total	0.000323	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Lithium (Li)-Total	0.0011	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Magnesium (Mg)-Total	4.68	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Manganese (Mn)-Total	0.119	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Mercury (Hg)-Total	<0.000010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Molybdenum (Mo)-Total	0.000067	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Nickel (Ni)-Total	0.00175	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Phosphorus (P)-Total	<0.050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Potassium (K)-Total	0.341	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Rubidium (Rb)-Total	0.00069	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Selenium (Se)-Total	0.000087	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Silicon (Si)-Total	0.24	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Silver (Ag)-Total	<0.000050	mg/L	ALS

Sample Number	Sample ID	Date Sampled	Results Received	Parameter Name	Result	Units	Lab
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Sodium (Na)-Total	<0.50	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Strontium (Sr)-Total	0.0021	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Sulfur (S)-Total	6.79	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Tellurium (Te)-Total	<0.00020	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Thallium (Tl)-Total	<0.000010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Thorium (Th)-Total	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Tin (Sn)-Total	0.00048	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Titanium (Ti)-Total	0.0047	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Tungsten (W)-Total	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Uranium (U)-Total	0.000119	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Vanadium (V)-Total	<0.00050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Zinc (Zn)-Total	<0.0030	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Zirconium (Zr)-Total	<0.00030	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Dissolved Mercury Filtration Location	FIELD		ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Dissolved Metals Filtration Location	FIELD		ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Aluminum (Al)-Dissolved	0.0067	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Antimony (Sb)-Dissolved	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Arsenic (As)-Dissolved	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Barium (Ba)-Dissolved	0.0021	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Beryllium (Be)-Dissolved	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Bismuth (Bi)-Dissolved	<0.000050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Boron (B)-Dissolved	<0.010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Cadmium (Cd)-Dissolved	<0.000010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Calcium (Ca)-Dissolved	2.95	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Cesium (Cs)-Dissolved	<0.000010	*mg/L*	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Chromium (Cr)-Dissolved	<0.00050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Cobalt (Co)-Dissolved	0.00121	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Copper (Cu)-Dissolved	0.00026	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Iron (Fe)-Dissolved	0.012	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Lead (Pb)-Dissolved	<0.000050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Lithium (Li)-Dissolved	0.0011	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Magnesium (Mg)-Dissolved	4.55	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Manganese (Mn)-Dissolved	0.117	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Mercury (Hg)-Dissolved	<0.000010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Molybdenum (Mo)-Dissolved	0.000066	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Nickel (Ni)-Dissolved	0.00146	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Phosphorus (P)-Dissolved	<0.050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Potassium (K)-Dissolved	0.299	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Rubidium (Rb)-Dissolved	0.00035	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Selenium (Se)-Dissolved	0.000091	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Silicon (Si)-Dissolved	0.088	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Silver (Ag)-Dissolved	<0.000050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Sodium (Na)-Dissolved	<0.50	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Strontium (Sr)-Dissolved	0.0022	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Sulfur (S)-Dissolved	6.88	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Tellurium (Te)-Dissolved	<0.00020	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Thallium (Tl)-Dissolved	<0.000010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Thorium (Th)-Dissolved	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Tin (Sn)-Dissolved	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Titanium (Ti)-Dissolved	<0.00030	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Tungsten (W)-Dissolved	<0.00010	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Uranium (U)-Dissolved	0.000053	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Vanadium (V)-Dissolved	<0.00050	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Zinc (Zn)-Dissolved	0.0013	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Zirconium (Zr)-Dissolved	<0.00030	mg/L	ALS
L1954208-1	MS-08	1-Jul-17	2-Aug-17	Ra-226	<0.0051	Bq/L	ALS
L1954143-1	MS-08	2-Jul-17	13-Jul-17	pH	7	pH units	ALS
L1954143-1	MS-08	2-Jul-17	13-Jul-17	Total Suspended Solids	18.8	mg/L	ALS
L1954143-1	MS-08	2-Jul-17	13-Jul-17	Total Dissolved Solids	105 *	mg/L	ALS
L1954143-1	MS-08	2-Jul-17	13-Jul-17	Turbidity	30.3 *	NTU	ALS
L1952134-1	MS-08	3-Jul-17	5-Jul-17	pH	7	pH units	ALS
L1952134-1	MS-08	3-Jul-17	5-Jul-17	Total Suspended Solids	19.2	mg/L	ALS
L1952134-1	MS-08	3-Jul-17	5-Jul-17	Total Dissolved Solids	105	mg/L	ALS
L1952134-1	MS-08	3-Jul-17	5-Jul-17	Turbidity	25.9	NTU	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Conductivity	192	umhos/cm	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Hardness (as CaCO3)	81	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	pH	7.08	pH units	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Total Suspended Solids	13.6	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Total Dissolved Solids	127 *	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Turbidity	-	NTU	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Acidity (as CaCO3)	2.8	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Ammonia, Total (as N)	0.114	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Chloride (Cl)	0.89	mg/L	ALS

Sample Number	Sample ID	Date Sampled	Results Received	Parameter Name	Result	Units	Lab
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Fluoride (F)	<0.020	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Nitrate (as N)	0.658	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Total Kjeldahl Nitrogen	0.26	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Phosphorus, Total	0.0158	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Sulfate (SO4)	70.6	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Cyanide, Total	<0.0020	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Dissolved Organic Carbon	<0.50	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Total Organic Carbon	0.97	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Aluminum (Al)-Total	0.342	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Antimony (Sb)-Total	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Arsenic (As)-Total	0.0001	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Barium (Ba)-Total	0.00692	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Beryllium (Be)-Total	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Bismuth (Bi)-Total	<0.000050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Boron (B)-Total	<0.010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Cadmium (Cd)-Total	0.000017	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Calcium (Ca)-Total	6.93	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Cesium (Cs)-Total	0.000048	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Chromium (Cr)-Total	0.00105	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Cobalt (Co)-Total	0.00637	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Copper (Cu)-Total	0.003	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Iron (Fe)-Total	0.857	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Lead (Pb)-Total	0.000688	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Lithium (Li)-Total	0.0018	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Magnesium (Mg)-Total	16.8	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Manganese (Mn)-Total	0.552	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Mercury (Hg)-Total	<0.000010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Molybdenum (Mo)-Total	0.000083	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Nickel (Ni)-Total	0.00695	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Phosphorus (P)-Total	<0.050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Potassium (K)-Total	0.697	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Rubidium (Rb)-Total	0.00192	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Selenium (Se)-Total	0.000323	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Silicon (Si)-Total	0.69	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Silver (Ag)-Total	<0.000050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Sodium (Na)-Total	<0.50	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Strontium (Sr)-Total	0.0046	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Sulfur (S)-Total	26.6	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Tellurium (Te)-Total	<0.00020	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Thallium (Tl)-Total	0.000014	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Thorium (Th)-Total	0.00053	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Tin (Sn)-Total	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Titanium (Ti)-Total	0.019	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Tungsten (W)-Total	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Uranium (U)-Total	0.000165	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Vanadium (V)-Total	0.00083	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Zinc (Zn)-Total	0.0046	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Zirconium (Zr)-Total	0.00035	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Dissolved Mercury Filtration Location	FIELD		ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Dissolved Metals Filtration Location	FIELD		ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Aluminum (Al)-Dissolved	<0.0050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Antimony (Sb)-Dissolved	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Arsenic (As)-Dissolved	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Barium (Ba)-Dissolved	0.00419	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Beryllium (Be)-Dissolved	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Bismuth (Bi)-Dissolved	<0.000050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Boron (B)-Dissolved	<0.010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Cadmium (Cd)-Dissolved	0.000018	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Calcium (Ca)-Dissolved	6.98	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Cesium (Cs)-Dissolved	<0.000010	*mg/L*	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Chromium (Cr)-Dissolved	<0.00050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Cobalt (Co)-Dissolved	0.00586	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Copper (Cu)-Dissolved	0.001	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Iron (Fe)-Dissolved	0.16	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Lead (Pb)-Dissolved	<0.000050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Lithium (Li)-Dissolved	0.0021	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Magnesium (Mg)-Dissolved	15.5	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Manganese (Mn)-Dissolved	0.504	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Mercury (Hg)-Dissolved	<0.000010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Molybdenum (Mo)-Dissolved	0.000082	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Nickel (Ni)-Dissolved	0.006	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Phosphorus (P)-Dissolved	<0.050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Potassium (K)-Dissolved	0.519	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Rubidium (Rb)-Dissolved	0.00075	mg/L	ALS

Sample Number	Sample ID	Date Sampled	Results Received	Parameter Name	Result	Units	Lab
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Selenium (Se)-Dissolved	0.000335	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Silicon (Si)-Dissolved	0.164	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Silver (Ag)-Dissolved	<0.000050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Sodium (Na)-Dissolved	<0.50	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Strontium (Sr)-Dissolved	0.0047	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Sulfur (S)-Dissolved	25.8	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Tellurium (Te)-Dissolved	<0.00020	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Thallium (Tl)-Dissolved	<0.000010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Thorium (Th)-Dissolved	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Tin (Sn)-Dissolved	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Titanium (Ti)-Dissolved	<0.00030	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Tungsten (W)-Dissolved	<0.00010	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Uranium (U)-Dissolved	0.000031	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Vanadium (V)-Dissolved	<0.00050	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Zinc (Zn)-Dissolved	0.0028	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Zirconium (Zr)-Dissolved	<0.00030	mg/L	ALS
L1954085-1	MS-08	4-Jul-17	31-Jul-17	Ra-226	0.012	Bq/L	ALS
L1954760-1	MS-08	7-Jul-17	9-Jul-17	pH	6.76	pH units	ALS
L1954760-1	MS-08	7-Jul-17	9-Jul-17	Total Suspended Solids	4.8	mg/L	ALS
L1954760-1	MS-08	7-Jul-17	9-Jul-17	Total Dissolved Solids	215	mg/L	ALS
L1954760-1	MS-08	7-Jul-17	9-Jul-17	Turbidity	5.85	NTU	ALS
L1957780-1	MS-08	8-Jul-17	17-Jul-17	pH	6.88	pH units	ALS
L1957780-1	MS-08	8-Jul-17	17-Jul-17	Total Suspended Solids	<2.0	mg/L	ALS
L1957780-1	MS-08	8-Jul-17	17-Jul-17	Total Dissolved Solids	271 *	mg/L	ALS
L1957780-1	MS-08	8-Jul-17	17-Jul-17	Turbidity	1.06 *	NTU	ALS

Notes:

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

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

Figure 1: Map of Spill Location

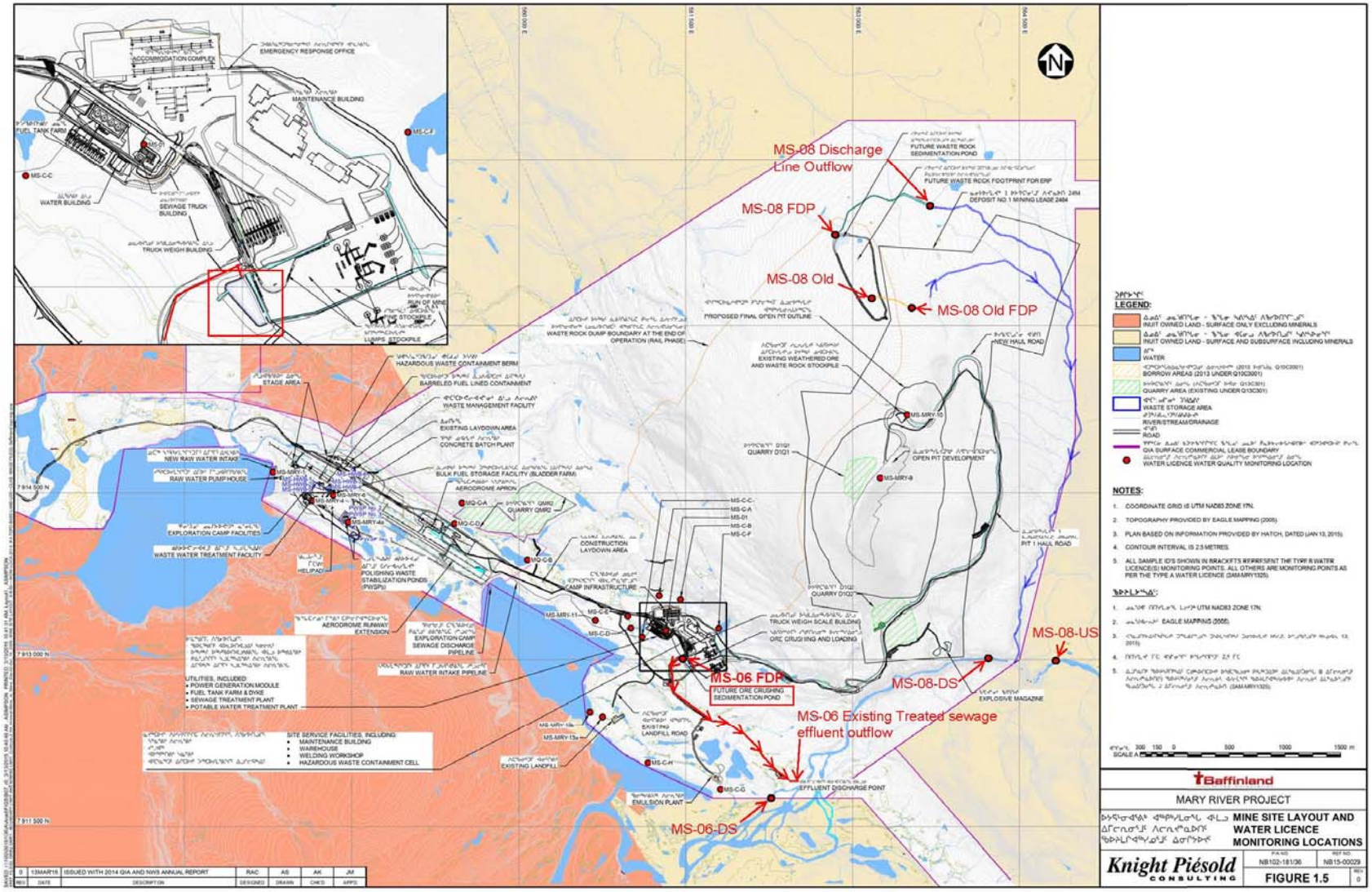

Figure 2: NT-NU Spill Report

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

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

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR: 07-01-2017	REPORT TIME: 15:30 hrs	[X] ORIGINAL SPILL REPORT, OR [ ] UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 17 - 230
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 07-01-2017	OCCURRENCE TIME: 15:30 hrs		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION: Mary River Mine Site, Baffin Island, NU	REGION: [ ] NWT [X] NUNAVUT [ ] ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES 71 MINUTES 20 SECONDS 42	LONGITUDE: DEGREES 79 MINUTES 14 SECONDS 21		
F	RESPONSIBLE PARTY OR VESSEL NAME: Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: 2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3		
G	ANY CONTRACTOR INVOLVED: N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION: N/A		
H	PRODUCT SPILLED: Melt water from storage facility	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: unquantified at present time	U.N. NUMBER: N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE): N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: N/A	U.N. NUMBER: N/A	
I	SPILL SOURCE: Waste Rock Sedimentation Pond	SPILL CAUSE: Snow melt	AREA OF CONTAMINATION IN SQUARE METRES: N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY: Poor access / Large volume	DESCRIBE ANY ASSISTANCE REQUIRED: N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT: N/A	

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

On July 1st, the Mine Site Waste Rock Sedimentation Pond (MS-08) was in critical danger of overflowing (<0.5m freeboard). Limited pre-discharge sample results have been received from the lab, based on these preliminary results, it was determined that a controlled discharge out of the normal course of events would be required. The volume discharged and complete sample results will be provided in the follow-up report.
The spill site is on IOL located > 3 km from the Mary River, the nearest fish bearing water.
This spill is being reported:
1) As required by the conditions of water license no. 2AM-MRY1325, Part H , item 9 (b) pursuant to subsection 12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act;
2) Under the Fisheries Act as required by section 31 of the Metal Mining Effluent Regulations, and;
3) As required by the Government of Nunavut's, Environmental Protection Act paragraph 5.1(a)

L	REPORTED TO SPILL LINE BY: Allan Knight	POSITION: Env. Superintendent	EMPLOYER: Baffinland	LOCATION CALLING FROM: 647-253-0596	TELEPHONE: ext. 6010
M	ANY ALTERNATE CONTACT: Wayne McPhee	POSITION: Dir. Sust Development	EMPLOYER: Baffinland	ALTERNATE CONTACT LOCATION: Off Site	ALTERNATE TELEPHONE: 5088

REPORT LINE USE ONLY

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

LEAD AGENCY [ ] EC [ ] CCG [ ] GNWT [ ] GN [ ] ILA [ ] INAC [ ] NEB [ ] TC | SIGNIFICANCE [ ] MINOR [ ] MAJOR [ ] UNKNOWN | FILE STATUS [ ] OPEN [ ] CLOSED

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

PAGE 1 OF 1

Baffinland

September 8, 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 #17-289- Reported on August 8th, 2017
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On August 7th, BIM received data that we had a toxicity failure at MS-08, the Mine Site Waste Rock Sedimentation Pond. 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. 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 16th, 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:

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

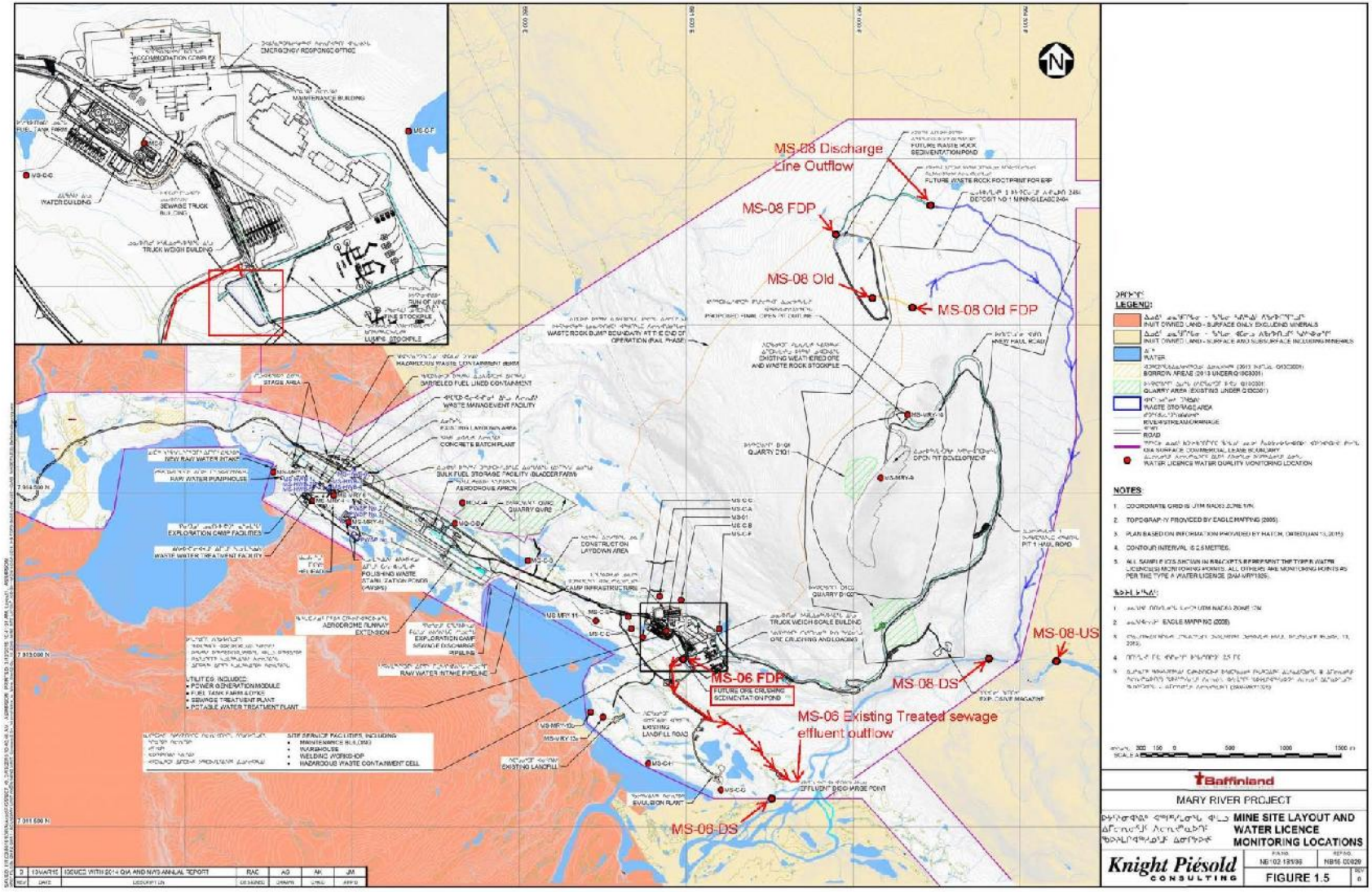

Figure 2: NT-NU Spill Report

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

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

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR: 08-08-2017	REPORT TIME: 19:30HRS	X ORIGINAL SPILL REPORT, OR ☐ UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 17
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 08-07-2017	OCCURRENCE TIME: 6:00 HRS		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease No.: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION: Mary River Project, Mary Site, Baffin Island, NU	REGION: ☐ NWT X NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES 71 MINUTES 20 SECONDS 42	LONGITUDE: DEGREES 79 MINUTES 14 SECONDS 21		
F	RESPONSIBLE PARTY OR VESSEL NAME: Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: 2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3		
G	ANY CONTRACTOR INVOLVED: N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION: N/A: 79° 13' 18.4"		
H	PRODUCT SPILLED: Waste Rock Pond Water	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: 465 m3	U.N. NUMBER: N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE): N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: N/A	U.N. NUMBER: N/A	
I	SPILL SOURCE: Waste Rock Pond Water - MS-08	SPILL CAUSE: Toxicity Failure	AREA OF CONTAMINATION IN SQUARE METRES: N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY: Released to the tundra	DESCRIBE ANY ASSISTANCE REQUIRED: N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT: N/A	

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

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) MMER.

L	REPORTED TO SPILL LINE BY: Laura Taylor	POSITION: Env Superintendent	EMPLOYER: Baffinland	LOCATION CALLING FROM: Mary River	TELEPHONE: ext. 6016
M	ANY ALTERNATE CONTACT: Wayne Mcphee	POSITION: Dir. Sust Development	EMPLOYER: Baffinland	ALTERNATE CONTACT LOCATION: 647-253-0596	ALTERNATE TELEPHONE: Ext 5088

REPORT LINE USE ONLY

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

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

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

PAGE 1 OF 1

Baffinland

September 25, 2017

Justin Hack, Resource Management Officer
Nunavut Field Operations
Iqaluit Office
Indigenous Affairs and Northern Development Canada
Box 100
Iqaluit, NU X0A 0H0

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

Re: Follow-up to Spill #17-312- Reported on August 26th, 2017
Mary River Project - Water Licence No. 2AM-MRY1325

Summary:

On August 23, 2017 during an inspection of the Mine Site Waste Rock Stockpile Sedimentation Pond with Environment and Climate Change Canada (ECCC) and Indigenous and Northern Affairs Canada (INAC), seepage was observed originating from the central toe of the Sedimentation Pond in approximately four (4) discrete but closely clustered locations. It is uncertain as to the exact cause of the observed flows however the current ongoing investigation indicates that surface water runoff was infiltrating below the liner inlet key in. Seepage was not identified in previous INAC inspections or in the first Bi-Annual inspection report from 2017 performed by Barry H. Martin Consulting Engineer and Architect onsite August 1-10 for a comprehensive site geotechnical inspection. Samples of the seepage from the toe of the waste rock berm were taken on August 23 and 24; results and exceedances are included in the attached. External analytical results indicate water quality compliant under Metal Mining Effluent Regulations (MMER), and Water licence Section F, Item 24 with the exception of Nickel and Total Suspended Solids (TSS).

As per MMER Reporting section 31(1)
31(2)

(a) Influent of waste rock surface water runoff was infiltrating below the liner inlet key-in indicated by seepage observed from the central toe of the sedimentation pond in approximately four discrete but closely clustered locations. Samples of the seepage indicate water quality was compliant with the exception of Nickel and TSS.
(b) The estimated quantity of the deposit is unknown.
(c) Exceedances of TSS and Nickel concentrations were deposited at the seepage locations identified below from analytical laboratory results.
(d) No deleterious substance were deposited through the Final Discharge Point.
(e) Camp Lake would be the ultimate receiving body of water. It is located >5.5km away from the seepage location
(f) Acute lethality test were not conducted. Analytical results are provided.
(g) The lethality of effluent was unknown at the time seepage was first observed.
(h) An emergency containment ditch was installed around the perimeter of the toe of the sedimentation pond in order to capture seepage on August 25. Re-grading upstream of the sedimentation pond key in was performed to reduce pooling water on the inlet.

A further comprehensive follow up report addressing Spill Reports 17-289, 17-312, 17 382, and 17-361 will be submitted to regulators providing corrective actions and further planned future mitigation to address the aforementioned spill reports.

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.

William Bowden
Environmental Superintendent

Todd Burlingame
Vice-President, Sustainable Development

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

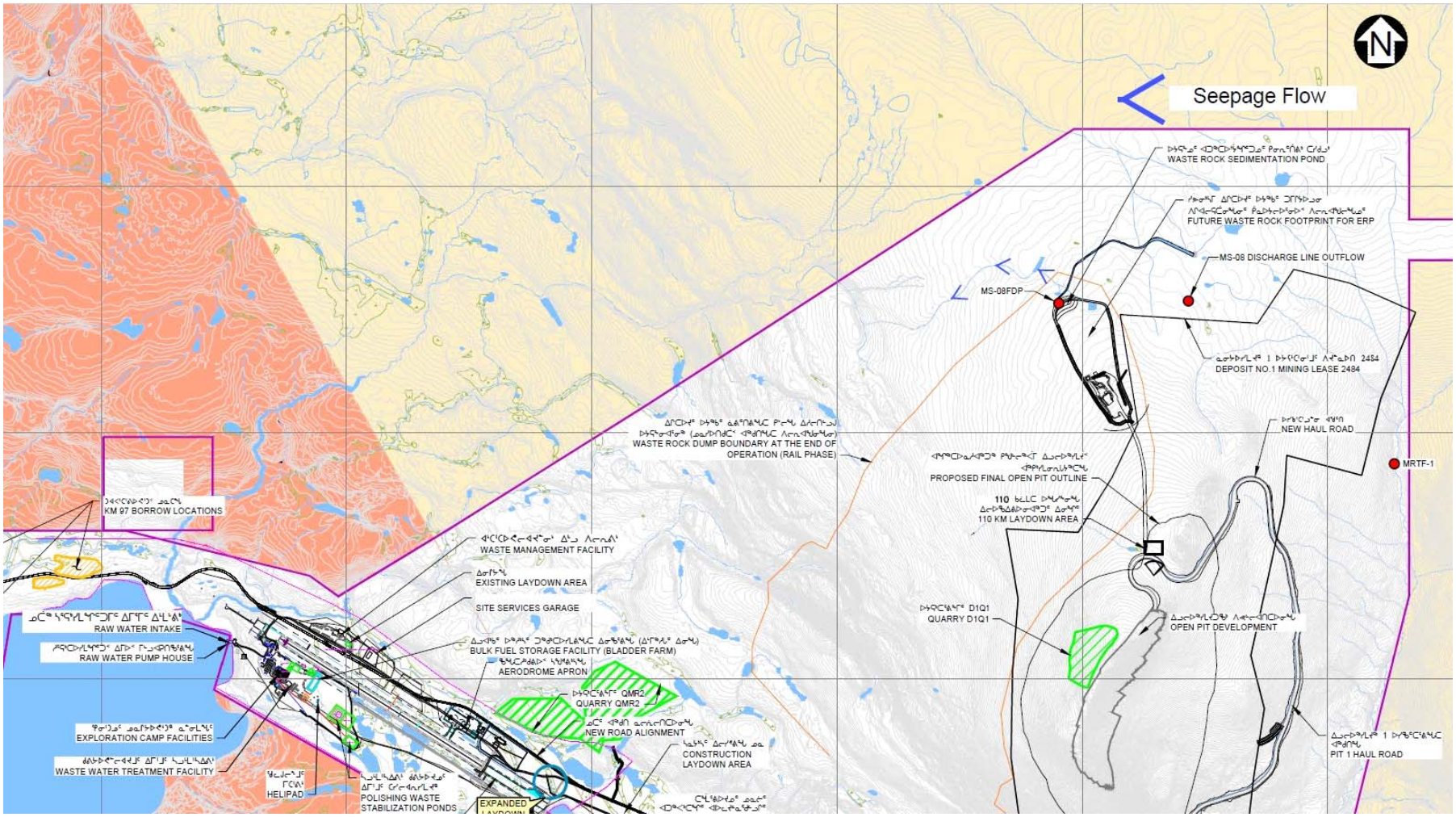

Figure 1: Map of Waste Rock Sedimentation Pond Location and Flow

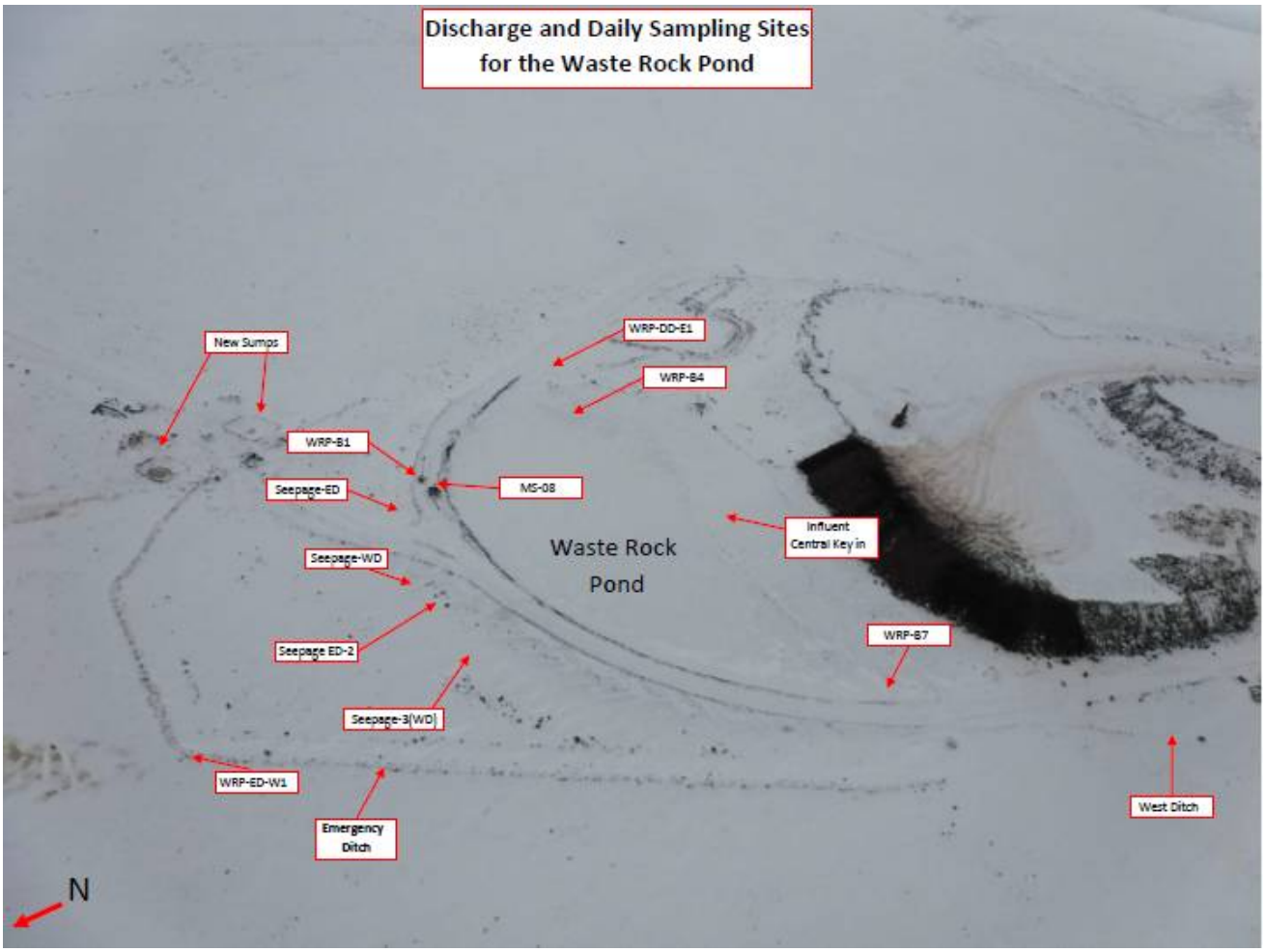

Figure 2: Detailed Map of Waste Rock Sedimentation Pond, Sample Locations, and Emergency Ditch

ALS		Sample ID	SEEPAGE ED-2	SEEPAGE ED	SEEPAGE-ED @1200	SEEPAGE-ED @1635	SEEPAGE-WD @1645	SEEPAGE-3 (WD) @1655	SEEPAGE-ED-2-36W
		Lat	N71 20 44.0	N71 20 43.2	N71 20 43.2	N71 20 43.2	N71 20 43.5	N71 20 42.8	N71 20 44.0
		Long	W79 14 17.1	W79 14 22.0	W79 14 22.0	W79 14 22.0	W79 14 20.2	W79 14 25.0	W79 14 17.1
9/25/2017		ALS ID	L1980184-1	L1980184-2	L1980959-1	L1980959-2	L1980959-4	L1980959-5	L1994785-1
Multiple Work Orders		Date Sampled	8/23/2017 3:20:00 PM	8/23/2017 2:40:00 PM	8/24/2017 12:00:00 PM	8/24/2017 4:35:00 PM	8/24/2017 4:45:00 PM	8/24/2017 4:55:00 PM	9/16/2017 3:50:00 PM
Analyte	Units	LOR	Water	Water	Water	Water	Water	Water	Water
Conductivity	umhos/cm	3	-	-	9060	-	-	-	11700
Hardness (as CaCO3)	mg/L	24	-	-	7830	-	-	-	10500
pH	pH units	0.1	6.3	6.27	6.1	6.1	6.39	6.85	6.23 *
Total Suspended Solids	mg/L	2	38.7	26.5	19.2	18.8	14	18.5	109
Total Dissolved Solids	mg/L	20	10500	12100	11700	11800	7820	3580	14900 *
Turbidity	NTU	0.1	179	212	-	72.6	64.7	27.6	IP
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	96	-	-	-	IP
Ammonia, Total (as N)	mg/L	0.2	-	-	4.69 *	-	-	-	IP
Chloride (Cl)	mg/L	5	-	-	42.1 *	-	-	-	IP
Fluoride (F)	mg/L	0.2	-	-	<0.20 *	-	-	-	IP
Nitrate (as N)	mg/L	0.2	-	-	48.4 *	-	-	-	IP
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	3.85 *	-	-	-	IP
Phosphorus, Total	mg/L	0.03	-	-	0.204 *	-	-	-	IP
Sulfate (SO4)	mg/L	3	-	-	8420 *	-	-	-	0.0563
Cyanide, Total	mg/L	0.2	-	-	<0.20 *	-	-	-	IP
Dissolved Organic Carbon	mg/L	1	-	-	5.7	-	-	-	IP
Total Organic Carbon	mg/L	1	-	-	5.9	-	-	-	IP
Acidity (as CaCO3)	mg/L	2	-	-	242	-	-	-	IP
Aluminum (Al)-Total	mg/L	0.05	<0.50 *	<0.50 *	<0.50 *	<0.50 *	<0.50 *	0.654 *	1.12 *
Antimony (Sb)-Total	mg/L	0.001	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.0010 *	<0.010 *
Arsenic (As)-Total	mg/L	0.001	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.0010 *	<0.010 *
Barium (Ba)-Total	mg/L	0.002	0.046 *	0.044 *	0.043 *	0.043 *	0.042 *	0.0302 *	0.085 *
Beryllium (Be)-Total	mg/L	0.001	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.0010 *	<0.010 *
Bismuth (Bi)-Total	mg/L	0.0005	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.00050 *	<0.0050 *
Boron (B)-Total	mg/L	0.1	<1.0 *	<1.0 *	<1.0 *	<1.0 *	<1.0 *	<0.10 *	<1.0 *
Cadmium (Cd)-Total	mg/L	0.0001	0.0016 *	0.0017 *	0.0016 *	0.0015 *	<0.0010 *	0.00027 *	0.0018 *
Calcium (Ca)-Total	mg/L	5	357 *	346 *	351 *	355 *	330 *	158 *	461 *
Cesium (Cs)-Total	mg/L	0.0001	<0.0010 *	<0.0010 *	<0.0010 *	<0.0010 *	<0.0010 *	<0.00010 *	0.0021 *
Chromium (Cr)-Total	mg/L	0.005	<0.050 *	<0.050 *	<0.050 *	<0.050 *	<0.050 *	<0.0050 *	<0.050 *
Cobalt (Co)-Total	mg/L	0.001	0.957 *	0.977 *	0.983 *	0.967 *	0.493 *	0.149 *	1.36 *
Copper (Cu)-Total	mg/L	0.01	<0.10 *	<0.10 *	<0.10 *	<0.10 *	<0.10 *	<0.010 *	<0.10 *
Iron (Fe)-Total	mg/L	0.5	82.0 *	96.5 *	96.1 *	91.2 *	28.0 *	3.13 *	75.0 *
Lead (Pb)-Total	mg/L	0.0005	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.00050 *	<0.0050 *
Lithium (Li)-Total	mg/L	0.01	<0.10 *	<0.10 *	<0.10 *	<0.10 *	<0.10 *	0.021 *	<0.10 *
Magnesium (Mg)-Total	mg/L	0.5	1730 *	1730 *	1710 *	1670 *	1090 *	467 *	2340 *
Manganese (Mn)-Total	mg/L	0.005	68.7 *	69.3 *	68.7 *	66.9 *	39.1 *	15.3 *	93.9 *
Mercury (Hg)-Total	mg/L	0.00001	-	-	<0.000010	-	-	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.0005	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.00050 *	<0.0050 *
Nickel (Ni)-Total	mg/L	0.005	0.935 *	0.955 *	0.953 *	0.943 *	0.506 *	0.190 *	1.34 *
Phosphorus (P)-Total	mg/L	0.5	<5.0 *	<5.0 *	<5.0 *	<5.0 *	<5.0 *	<0.50 *	<5.0 *
Potassium (K)-Total	mg/L	0.5	20.7 *	19.8 *	19.3 *	19.2 *	19.7 *	8.26 *	29.1 *
Rubidium (Rb)-Total	mg/L	0.002	0.047 *	0.050 *	0.047 *	0.045 *	0.032 *	0.0126 *	0.049 *
Selenium (Se)-Total	mg/L	0.0005	0.0165 *	0.0170 *	0.0169 *	0.0136 *	0.0103 *	0.00581 *	0.0256 *
Silicon (Si)-Total	mg/L	1	<10 *	<10 *	<10 *	<10 *	<10 *	1.3 *	<10 *
Silver (Ag)-Total	mg/L	0.0005	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.0050 *	<0.00050 *	<0.0050 *
Sodium (Na)-Total	mg/L	5	<50 *	<50 *	<50 *	<50 *	<50 *	88.9 *	56 *
Strontium (Sr)-Total	mg/L	0.01	0.29 *	0.29 *	0.29 *	0.30 *	0.23 *	0.104 *	0.34 *
Sulfur (S)-Total	mg/L	5	2690 *	2740 *	2740 *	2690 *	1770 *	853 *	3920 *
Tellurium (Te)-Total	mg/L	0.002	<0.020 *	<0.020 *	<0.020 *	<0.020 *	<0.020 *	<0.0020 *	<0.020 *
Thallium (Tl)-Total	mg/L	0.0001	<0.0010 *	<0.0010 *	<0.0010 *	<0.0010 *	<0.0010 *	0.00011 *	<0.0010 *
Thorium (Th)-Total	mg/L	0.001	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.0010 *	<0.010 *
Tin (Sn)-Total	mg/L	0.001	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.0010 *	<0.010 *
Titanium (Ti)-Total	mg/L	0.003	<0.030 *	<0.030 *	<0.030 *	<0.030 *	<0.030 *	0.0034 *	<0.070 *
Tungsten (W)-Total	mg/L	0.001	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.010 *	<0.0010 *	<0.010 *
Uranium (U)-Total	mg/L	0.0001	0.0156 *	0.0180 *	0.0176 *	0.0160 *	0.0133 *	0.00675 *	0.0055 *
Vanadium (V)-Total	mg/L	0.005	<0.050 *	<0.050 *	<0.050 *	<0.050 *	<0.050 *	<0.0050 *	<0.050 *
Zinc (Zn)-Total	mg/L	0.03	<0.30 *	<0.30 *	<0.30 *	<0.30 *	<0.30 *	<0.030 *	<0.30 *
Zirconium (Zr)-Total	mg/L	0.003	<0.030 *	<0.030 *	<0.030 *	<0.030 *	<0.030 *	<0.0030 *	<0.030 *
Dissolved Mercury Filtration Location		n/a	-	-	FIELD	-	-	-	FIELD
Dissolved Metals Filtration Location		n/a	-	-	FIELD	-	-	-	FIELD
Aluminum (Al)-Dissolved	mg/L	0.5	-	-	<0.50 *	-	-	-	<0.50 *
Antimony (Sb)-Dissolved	mg/L	0.01	-	-	<0.010 *	-	-	-	<0.010 *
Arsenic (As)-Dissolved	mg/L	0.01	-	-	<0.010 *	-	-	-	<0.010 *
Barium (Ba)-Dissolved	mg/L	0.01	-	-	0.045 *	-	-	-	0.080 *
Beryllium (Be)-Dissolved	mg/L	0.01	-	-	<0.010 *	-	-	-	<0.010 *
Bismuth (Bi)-Dissolved	mg/L	0.005	-	-	<0.0050 *	-	-	-	<0.0050 *
Boron (B)-Dissolved	mg/L	1	-	-	<1.0 *	-	-	-	<1.0 *
Cadmium (Cd)-Dissolved	mg/L	0.001	-	-	0.0016 *	-	-	-	0.0018 *
Calcium (Ca)-Dissolved	mg/L	5	-	-	345 *	-	-	-	434 *
Cesium (Cs)-Dissolved	mg/L	0.001	-	-	<0.0010 *	-	-	-	<0.0010 *
Chromium (Cr)-Dissolved	mg/L	0.05	-	-	<0.050 *	-	-	-	<0.050 *
Cobalt (Co)-Dissolved	mg/L	0.01	-	-	1.00 *	-	-	-	1.29 *
Copper (Cu)-Dissolved	mg/L	0.02	-	-	0.021 *	-	-	-	<0.020 *
Iron (Fe)-Dissolved	mg/L	1	-	-	97.8 *	-	-	-	64.9 *
Lead (Pb)-Dissolved	mg/L	0.005	-	-	<0.0050 *	-	-	-	<0.0050 *
Lithium (Li)-Dissolved	mg/L	0.1	-	-	<0.10 *	-	-	-	<0.10 *
Magnesium (Mg)-Dissolved	mg/L	5	-	-	1690 *	-	-	-	2290 *
Manganese (Mn)-Dissolved	mg/L	0.05	-	-	69.2 *	-	-	-	90.3 *
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.005	-	-	<0.0050 *	-	-	-	<0.0050 *
Nickel (Ni)-Dissolved	mg/L	0.05	-	-	0.981 *	-	-	-	1.25 *
Phosphorus (P)-Dissolved	mg/L	5	-	-	<5.0 *	-	-	-	<5.0 *
Potassium (K)-Dissolved	mg/L	5	-	-	19.6 *	-	-	-	23.9 *
Rubidium (Rb)-Dissolved	mg/L	0.02	-	-	0.046 *	-	-	-	0.046 *
Selenium (Se)-Dissolved	mg/L	0.005	-	-	0.0156 *	-	-	-	0.0212 *
Silicon (Si)-Dissolved	mg/L	5	-	-	<5.0 *	-	-	-	<5.0 *
Silver (Ag)-Dissolved	mg/L	0.005	-	-	<0.0050 *	-	-	-	<0.0050 *
Sodium (Na)-Dissolved	mg/L	50	-	-	<50 *	-	-	-	<50 *
Strontium (Sr)-Dissolved	mg/L	0.1	-	-	0.29 *	-	-	-	0.34 *
Sulfur (S)-Dissolved	mg/L	50	-	-	2720 *	-	-	-	3810 *
Tellurium (Te)-Dissolved	mg/L	0.02	-	-	<0.020 *	-	-	-	<0.020 *
Thallium (Tl)-Dissolved	mg/L	0.001	-	-	<0.0010 *	-	-	-	<0.0010 *
Thorium (Th)-Dissolved	mg/L	0.01	-	-	<0.010 *	-	-	-	<0.010 *
Tin (Sn)-Dissolved	mg/L	0.01	-	-	<0.010 *	-	-	-	<0.010 *
Titanium (Ti)-Dissolved	mg/L	0.03	-	-	<0.030 *	-	-	-	<0.030 *
Tungsten (W)-Dissolved	mg/L	0.01	-	-	<0.010 *	-	-	-	<0.010 *
Uranium (U)-Dissolved	mg/L	0.001	-	-	0.0167 *	-	-	-	0.0044 *
Vanadium (V)-Dissolved	mg/L	0.05	-	-	<0.050 *	-	-	-	<0.050 *
Zinc (Zn)-Dissolved	mg/L	0.1	-	-	0.12 *	-	-	-	0.12 *
Zirconium (Zr)-Dissolved	mg/L	0.03	-	-	<0.030 *	-	-	-	<0.030 *
Oil and Grease, Total	mg/L	2	<2.0	-	-	-	-	-	
Ra-226	Bq/L	0.0075	-	-	0.12	-	-	-	
* = Result Qualified	Mouse-over the result to see the qualification.								

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	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	____-_____
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

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

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC	SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN	FILE STATUS ☐ OPEN ☐ CLOSED

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

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:

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

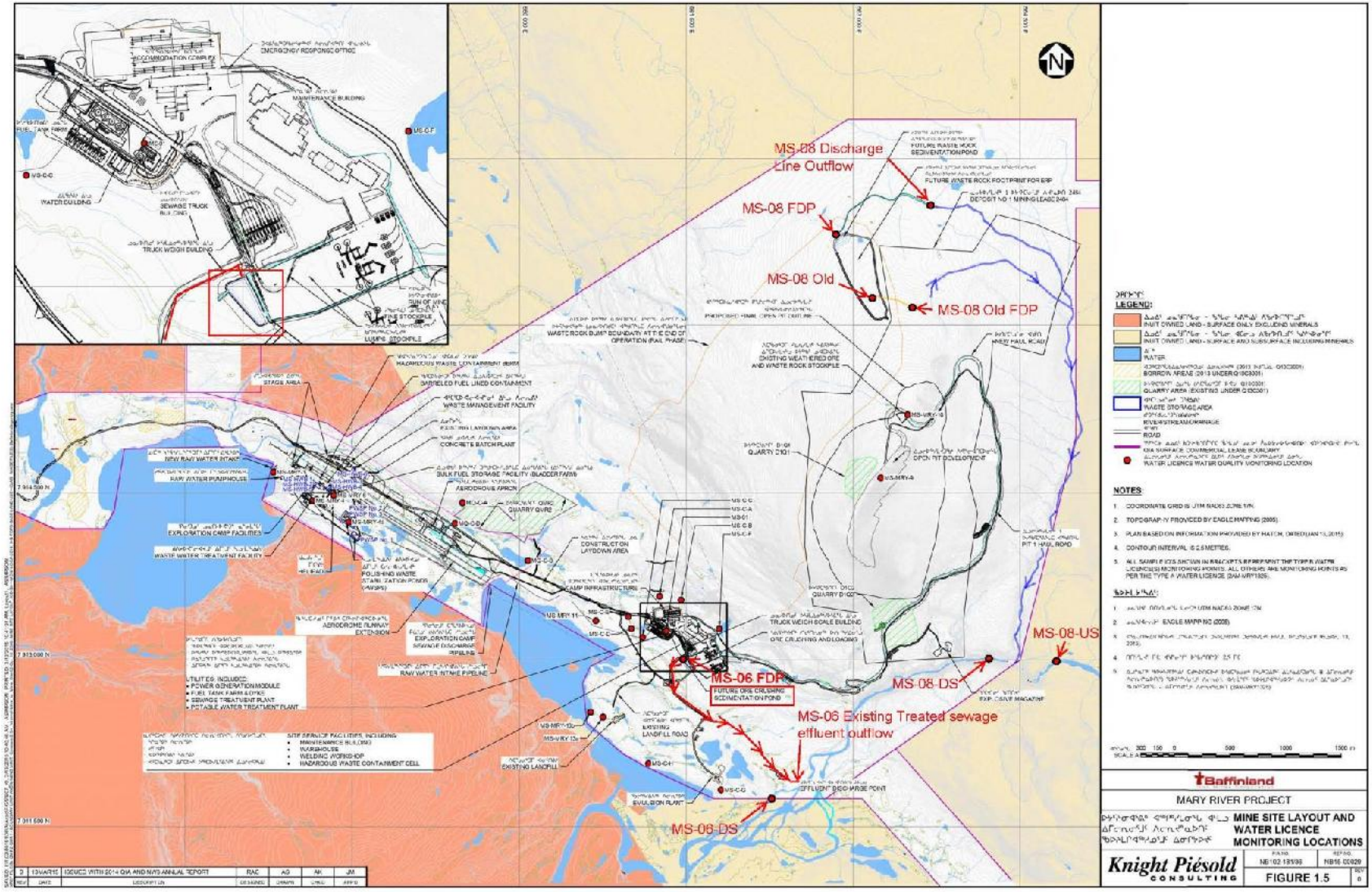

Figure 2: NT-NU Spill Report

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

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

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR: 08-31-2017	REPORT TIME: 17:00HRS	[X] ORIGINAL SPILL REPORT, OR [ ] UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 17 - 328
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 08-27-2017	OCCURRENCE TIME: 08:20HRS		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease No.: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION: Mary River Project, Mary Site, Baffin Island, NU	REGION: [ ] NWT [X] NUNAVUT [ ] ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES 71 MINUTES 20 SECONDS 42	LONGITUDE: DEGREES 79 MINUTES 14 SECONDS 21		
F	RESPONSIBLE PARTY OR VESSEL NAME: Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: 2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3		
G	ANY CONTRACTOR INVOLVED: N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION: N/A		
H	PRODUCT SPILLED: Surface Water	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: approx. 523 cubic metres	U.N. NUMBER: N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE): N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: N/A	U.N. NUMBER: N/A	
I	SPILL SOURCE: Waste Rock Stockpile Pond	SPILL CAUSE: Discharge of Pond Water	AREA OF CONTAMINATION IN SQUARE METRES: N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY: Water Discharge	DESCRIBE ANY ASSISTANCE REQUIRED:	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT: N/A	

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

On 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 >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.

L	REPORTED TO SPILL LINE BY: William Bowden	POSITION: Env Superintendent	EMPLOYER: Baffinland	LOCATION CALLING FROM: Mary River	TELEPHONE: ext. 6016
M	ANY ALTERNATE CONTACT: Wayne Mcphee	POSITION: Dir. Sust Development	EMPLOYER: Baffinland	ALTERNATE CONTACT LOCATION: 647-253-0596	ALTERNATE TELEPHONE: Ext 5088

REPORT LINE USE ONLY

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

LEAD AGENCY [ ] EC [ ] CCG [ ] GNWT [ ] GN [ ] ILA [ ] INAC [ ] NEB [ ] TC | SIGNIFICANCE [ ] MINOR [ ] MAJOR [ ] UNKNOWN | FILE STATUS [ ] OPEN [ ] CLOSED

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

PAGE 1 OF 1

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 16th, 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 22-24th, 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 24th.

A significant rain event was experienced between August 26th and September 1st 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 27th 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 28th 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 24th and September 5th, 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 6th, 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^{2+} to Fe^{3+}. 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 5th, 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 5th. 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 6th 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 Table1,2,3,4a/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^3 of low pH water and 523 m^3 of high TSS water (Spill report 17-328), if the ALS Waterloo sample resulted 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^3 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 5th. 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 6th 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:

William Bowden
Environmental Superintendent

Reviewed by:

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

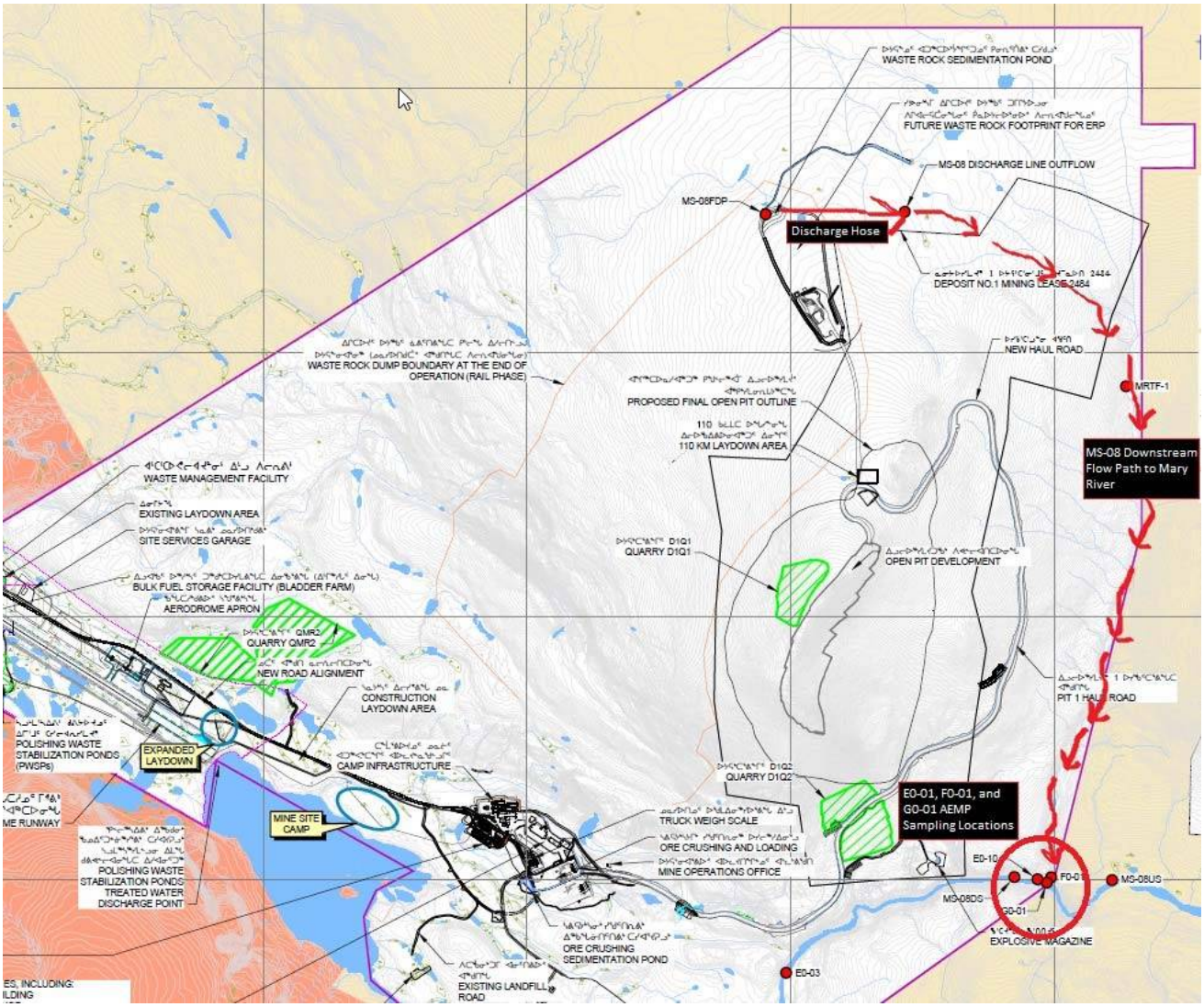

Figure 1: Map of Sample Locations and the Flow Path

Table 1. Laboratory results for MS-08 sampling from August 24 to September 6, 2017

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.							

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

E0-01					
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
F0-01					
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
G0-01					
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: *Oncorhynchus mykiss*		
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 *Daphnia magna*		
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: *Oncorhynchus mykiss*		
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 *Daphnia magna*		
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

Northwest Territories | Nunavut | Canada

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

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR: 09-11-2017	REPORT TIME: 18:00HRS	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: 17 - 361
B	OCCURRENCE DATE: MONTH – DAY – YEAR: 09-11-2017	OCCURRENCE TIME: 013:00HRS		
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease No.: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION: Mary River Project, Mary Site, Baffin Island, NU	REGION: ☐ NWT ☒ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES 71 MINUTES 20 SECONDS 42	LONGITUDE: DEGREES 79 MINUTES 14 SECONDS 21		
F	RESPONSIBLE PARTY OR VESSEL NAME: Baffinland Iron Mines Corp.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: 2275 Middle Road East, Suite 300, Oakville, ON L6H 0C3		
G	ANY CONTRACTOR INVOLVED: N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION: N/A		
H	PRODUCT SPILLED: Surface Water	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: Unknown at this time	U.N. NUMBER: N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE): N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: N/A	U.N. NUMBER: N/A	
I	SPILL SOURCE: Waste Rock Stockpile Pond	SPILL CAUSE: Discharge of Pond Water	AREA OF CONTAMINATION IN SQUARE METRES: N/A	
J	FACTORS AFFECTING SPILL OR RECOVERY: Water Discharge	DESCRIBE ANY ASSISTANCE REQUIRED:	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT: N/A	

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

As 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 >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

L	REPORTED TO SPILL LINE BY: Laura Taylor	POSITION: Env Superintendent	EMPLOYER: Baffinland	LOCATION CALLING FROM: Mary River	TELEPHONE: ext. 6016
M	ANY ALTERNATE CONTACT: Wayne Mcphee	POSITION: Dir. Sust Development	EMPLOYER: Baffinland	ALTERNATE CONTACT LOCATION: 647-253-0596	ALTERNATE TELEPHONE: Ext 5088

REPORT LINE USE ONLY

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

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

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

PAGE 1 OF 1

Figure 2: NT-NU Spill Report