Appendix C

Sequence of Events and Actions Taken by Spill Report and Other Concerns (With Photos)

Appendix C.1 - Spill Report 16-158 - Sheardown Lake Tributaries and Sheardown Lake

Table C.1 - Spill Report 16-158 - Sequence of Events and Actions Taken

May 7	Sheardown Lake tributaries, LDFG and SDLT, discovered discharging turbid water into Sheardown Lake . Source of the discoloured, turbid water is thought to be snowmelt downwind of the Mine Site Crusher Pad.
May 8	Siltation control measures (silt fences, flocculent, treated jute) installed in both affected Sheardown Lake tributaries, LDFG and SDLT, to settle out sediments prior to discharge. Monitoring locations established in both affected Sheardown Lake tributaries.
May 9	Initial report submitted to Environment Canada, DFO, and INAC via e-mail.
May 8 to June 8	Daily sampling program initiated and continued until June 8 at established monitoring locations along both affected tributaries. Water samples were primarily analyzed for TSS, TDS, pH and turbidity. Additional sampling was conducted on May 10, May 19 and May 23 for additional parameters, including acute toxicity, metals, nutrients, hydrocarbons and major ions.
May 9	Berms built up along road near culverts, CV-186 and CV-187, to prevent road runoff from directly discharging into Sheardown Lake tributary SDLT.
May 10	Sediment release from Sheardown Lake tributaries (LDFG and SDLT) reported to the NT-NU Spill Line and regulators (**NT-NU Spill Report - 16-158**).
	Check Dams #1 and #2 (see Figure 1) installed along Sheardown Lake tributary SDLT downstream of Crusher Pad.
May 12	Feasibility of removing sediments from ice surface on Sheardown Lake investigated. Sediment removal was determined to be not feasible due to weakening ice conditions along the shoreline of Sheardown Lake.
May 13 to 17	Additional flocculent, silt fences and treated jute installed along affected Sheardown Lake tributaries SDLT and LDFG.
May 18	Environment Canada and INDC inspectors arrive onsite and inspect Milne Port and Tote Road.
May 19	Environment Canada and INDC inspectors inspect Mine Site.
	Road built up at CV-186 to prevent road runoff from pooling and directly discharging into Sheardown Lake tributary SDLT.
	Environment Canada, INDC and Baffinland collect water samples at the outfalls of Sheardown Lake tributaries SDLT and LDFG.
May 19 to 20	Flow upstream of Check Dam # 1 is diverted to the Crusher Sedimentation Pond.
May 20	Environment Canada and INDC inspectors notify Baffinland that directions under the Fisheries Act will be issued to the Company as a result of surface water runoff conditions observed during their inspection.
	Additional sources of sedimentation entering the upper reaches of tributary SDLT, including sediment deposit discovered upstream of the Crusher Pad along the Mine Haul Road.
May 21	Mine Haul Road regraded and "berm punchouts" filled in to direct runoff away from Mary River and the upper reaches of tributary SDLT.
May 22	Silt fences and silt curtain installed along SDLT immediately downstream of Mine Haul Road discovered sedimentation sources.
	Flocculent stations installed in upper reaches of SDLT to settle out sediment from Mine Haul Road runoff.
May 23	Constructed check dam directly downstream of the Mine Haul Road "berm punchout" at km 104.5 to collect Mine Haul Road runoff and capture sediment from the Mine Haul Road runoff. (Runoff through this Mine Haul Road berm punchout had resulted in the development of a sediment delta near the upper reaches of tributary SDLT)
May 24	Kemira Chemicals and AMEC-Foster Wheeler contracted to assist Baffinland in developing and optimizing mobile water treatment systems using flocculants.
	Turbid water samples sent to Kemira Chemicals and AMEC-Fost Wheeler for initial flocculant bucket testing.
	Constructed check dam downstream of landfill access road along Sheardown Lake tributary LDFG using sandbags.
May 27 to June 23	Removed lose sediment from sediment delta located downstream of the Mine Haul Road berm punchout at km 104.5. (Sediment delta situated near the bank of tributary SDLT.)

Appendix C.1 - Spill Report 16-158 - Sheardown Lake Tributaries and Sheardown Lake

Table C.1 - Spill Report 16-158 - Sequence of Events and Actions Taken

May 29	Pumped Exploration Phase Ore Stockpile test pits to isolated natural sump to prevent test pits from overflowing into tributary SDLT.
June 1 - 15	AMEC-Foster Wheeler Engineer arrives onsite to develop flocculant treatment systems and pilot test additional siltation controls including geotubes..

Appendix C.1 - Spill Report 16-158 - Sheardown Lake Tributaries and Sheardown Lake

Table C.1 - Spill Report 16-158 - Sequence of Events and Actions Taken

June 8	Sampling program discontinued as a result of compliant, baseline TSS levels observed consistently over the past several days in both affected Sheardown Lake tributaries SDLT and LDFG.
June 12	Construction of three (3) check dams upstream of SDLT along Mine Haul Road (Sheardown Valley) to allow for water treatment (flocculants) of the Mine Haul Road runoff.
June 17 to 21	Kemira Chemicals Chemist arrives onsite to assist Baffinland in developing and optimizing mobile water treatment systems using flocculants.
June 20 to June 21	Coagulant/flocculant dosing system setup and pilot tested at Check Dam #4 (assissted by Kemira Chemicals).
June 24 to July 8	Sheardown Lake Tributaries are running clear for the period.
July 9 to July 22	Sheardown Lake Tributaries are running clear for the period.
July 23 to August 5	Sheardown Lake Tributaries are running clear for the period.
August 2	Additional silt fences installed near road crossing (CV-186) to control road runoff.
August 6 to 19	Silt fences and silt curtains inspected and repaired as required across the site.
August 20 to Sept 2	Sheardown Lake Tributaries are running clear for the period. Silt fences and silt curtains inspected and repaired as required across the site.

Appendix C.1 - Photos

Photo 1 – Outlet at Sheardown Lake Tributary on August 29, 2016

Photo 2 – Upstream at Sheardown Lake Tributary on August 29, 2016

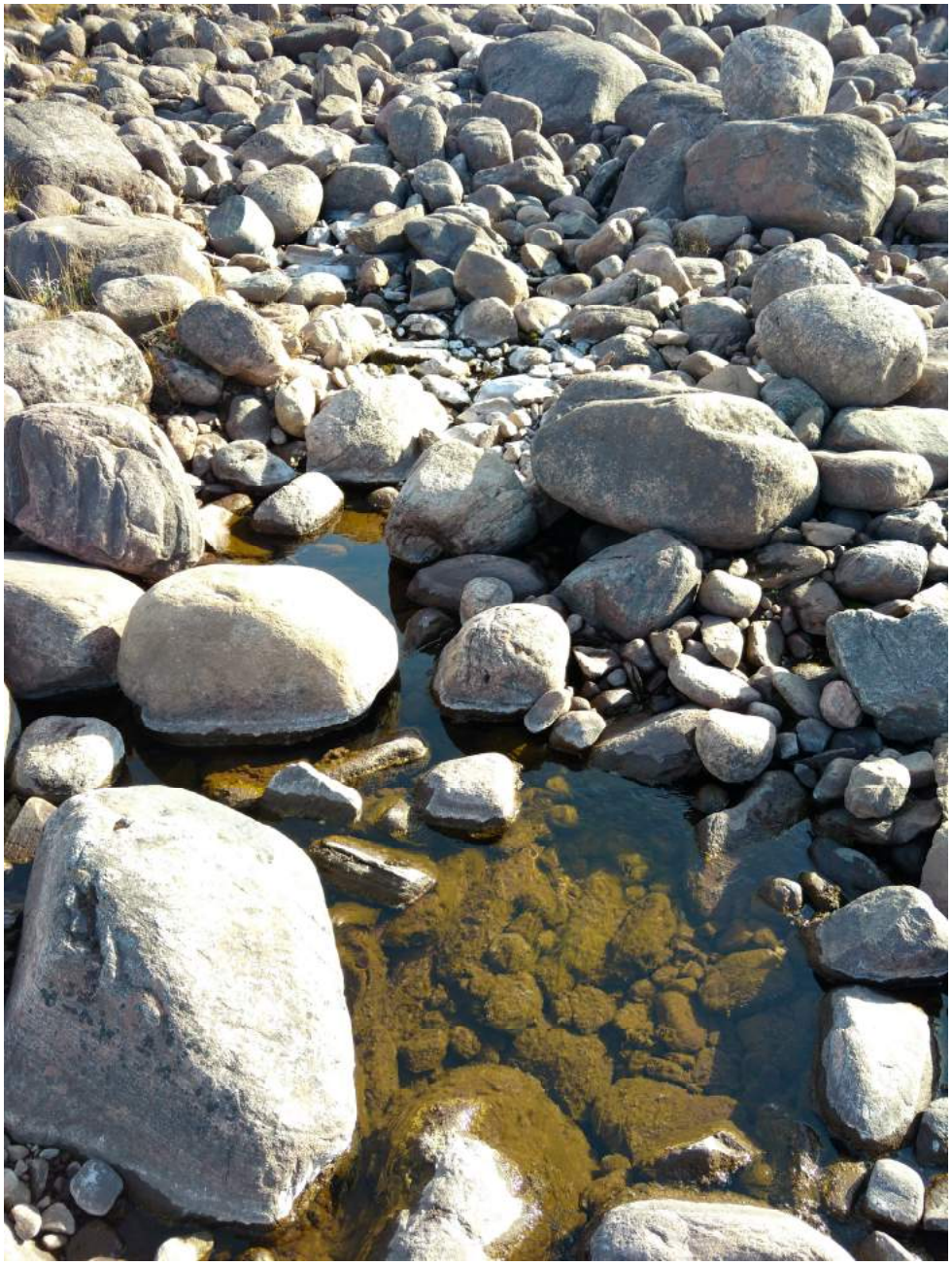

Photo 3 – Flow at Landfill Gate Tributary on August 29, 2016

Appendix C.2 - Spill Report 16-176 - Camp Lake Tributaries and Camp Lake

Table C.2 - Spill Report 16-176 - Sequence of Events and Action Taken

May 17	Runoff containing sediments observed flowing from the Mine Site airstrip into Camp Lake Tributary # 1 (CLT1) and Camp Lake.
	Siltation control measures (silt fences, flocculent, jute) installed along CLT1 and airstrip drainages to settle out sediments prior to discharge.
	Airstrip swale draining into Camp Lake Tributary #1 lined with 6" aggregate. Culvert installed at North end of airstrip to prevent airstrip runoff from crossing the road into Camp Lake Tributary #1.
	Sediment release to Camp Lake Tributary #1 and Camp Lake reported to the NT-NU Spill Line and regulators (**NT-NU Spill Report- 16-176**).
May 18	Camp Lake Sedimentation Ponds near the Camp Lake water intake jetty repaired to settle out and capture sediment entrained in runoff from the Exploration Camp pad at the Mine Site.
	Monitoring locations established along Camp Lake Tributary #1 and downstream of the Camp Lake Sedimentation Ponds (refer to Figure 1).
	Environment Canada and AANDC inspectors arrive onsite and inspect Milne Port and Tote Road.
May 18 - June 8	Conducted daily sampling until June 8 at established monitoring locations. Daily water samples were primarily analyzed for TSS, TDS, pH and turbidity. Additional sampling was conducted on May 23 for additional parameters, including acute toxicity, metals, nutrients, hydrocarbons and major ions.
May 18	Environment Canada and INAC inspectors arrive onsite and inspect Milne Port and Tote Road.
May 19	Environment Canada and INAC inspectors inspect Mine Site.
	Environment Canada,INAC and Baffinland collect water samples downstream of the Camp Lake Sedimentation Ponds
May 20	Environment Canada and INAC inspectors notify Baffinland that directions under the Fisheries Act will be issued to the Company as a result of surface water runoff conditions observed during their inspection.
May 24	Kemira Chemicals and AMEC-Foster Wheeler contracted to assist Baffinland in developing and optimizing mobile flocculant treatment systems.
	Turbid water samples sent to Kemira Chemicals and AMEC-Fost Wheeler for initial flocculant bucket testing.
June 1 - 15	AMEC-Foster Wheeler Engineer arrives onsite to develop flocculant treatment systems and pilot test additional siltation controls including geotubes..
June 8	Sampling program discontinued as a result of compliant, baseline TSS levels observed consistently over the past several days at the outfalls of CLT1 and the Camp Lake Sedimentation Ponds.

Appendix C.2 - Spill Report 16-176 - Camp Lake Tributaries and Camp Lake

Table C.2 - Spill Report 16-176 - Sequence of Events and Action Taken

June 17 to 21	Kemira Chemicals Chemist arrives onsite to assist Baffinland in developing and optimizing mobile water treatment systems using flocculants.
June 25 to July 8	Camp Lake Tributaries are running clear. No sedimenation issues.
July 9 to July 22	Camp Lake Tributaries are running clear. No sedimenation issues.
July 23 to August 5	Camp Lake Tributaries are running clear.
August 2	Additional silt fences installed near road crossing (BG-01) to control Tote Road runoff.
August 6 to 19	August 6 to 19 Silt fences and silt curtains inspected and repaired as required across the site.
August 20 to Sept 2	Camp Lake Tributary is running clear with CLSP-OUT dry during the report period. Silt fences inspected and repoaired as required.
August 27	Rip rap installed at culverts downstream of the Airstrip drainage

Appendix C.2 – Photos

Photo 1 – Outlet at Camp Lake Tributary on August 29, 2016

Photo 2 – Upstream at Camp Lake Tributary on August 29, 2016

Table C.3 Spill Report 16-181 - Mine Haul Road to Mary River and Sheardown Lake Tributary

Sequence of Events and Actions Taken	
May 20	Runoff containing sediments was obsevered flowing from the surface of the Mine Haul Road through "berm punch outs" on the outer edge of the road and into the Mary River and Sheardown Lake tributary SDLT.
	Sediment deposit discovered near upper reaches of tributary SDLT directly downstream of km 104.5 Mine Haul Road "berm punch out".
May 21	Sediment release to Mary River and Sheardown Lake reported to the NT-NU Spill Line and regulators (**NT-NU Spill Report- 16-181**).
	Mine Haul Road "berm punch outs" are sealed to redirect runoff to check dams and natural sumps to settle out and capture sediment entrained in runoff from the Mine Haul Road.
May 22	Constructed Check Dam #3 near entrance of magazine access road to collect Mine Haul Road runoff and capture sediment.
	Flocculant installed upstream of Check Dam # 3 on Mine Haul Road.
May 23	Constructed Check Dam #4 at the end of magazine access road to collect Mine Haul Road runoff.
	Constructed check dam directly downstream of the Mine Haul Road "berm punchout" at km 104.5 to collect Mine Haul Road runoff and capture any additional sediment releases from the Mine Haul Road. (Runoff through this Mine Haul Road berm punchout had resulted in the development of a sediment delta near the upper reaches of tributary SDLT)
May 24	Flocculant installed upstream of Check Dam #4 on Mine Haul Road.
May 26	Installed geotextile over the upstream face of Check Dam #4.
	Water samples taken upstream and downstream of Check Dam #4
May 27 - 31	Golder Associates geotechnical engineer arrives at site to provide guidance, assess risk, and develop a list of priority drainage works along the Mine Haul Road
May 27 - June 23	Removed lose sediment from sediment deposit located downstream of the Mine Haul Road "berm punch out" at km 104.5. (Sediment deposit situated near the bank of tributary SDLT.)
June 1 - June 15	AMEC-Foster Wheeler Engineer arrives onsite to develop flocculant treatment systems and pilot test additional siltation controls including geotubes.
June 12	Constructed three (3) check dams upstream of SDLT along Mine Haul Road (Sheardown Valley) to allow for water treatment (flocculants) of Mine Haul Road runoff before entering SDLT.
	Installed silt fences and flocculant stations upstream and throughout Sheardown Valley.
	Water samples taken upstream and downstream of Check Dam #4.

Table C.3 Spill Report 16-181 - Mine Haul Road to Mary River and Sheardown Lake Tributary

Sequence of Events and Actions Taken	
June 16	Installed silt fences downstream of the Mine Haul Road culverts discharging to Mary River.
June 17 - 21	Kemira Chemicals Chemist arrives onsite to assist Baffinland in developing and optimizing mobile water treatment systems using flocculants.
June 20 - June 21	Pilot testing of coagulant/flocculant dosing system at Check Dam #4 (assissted by Kemira Chemicals).
June 21	Installed additional siltation controls, including geotextile, silt fences and flocculant, at km 108.5 of the Mine Haul Road.
June 25	Check dam completed at km 108.5, silt fences erected downstream.
June 26-27	Mine Haul Road ditch riprapped between km 108.5 and km 109
June 27-29	Maintenance of ditches and culvert inlets completed - excavation of deposited sediments.
June 25 to July 8	Tributaries running from Mine Haul Road running relatively clear.
July 9 to July 22	Tributaries running from Mine Haul Road running relatively clear.
July 23 to August 5	Tributaries running from Mine Haul Road running relatively clear.
July 25, 26	Rainfall event causes sloughing of a section of the bank on the Mary River upstream of Deposit 1 and the Mine Site, increasing turbidity of Mary River.
August 1, 2	Additional siltation mitigation measures installed along Mine Haul Road including, silt fences, flocculant blocks and geotubes. Sumps upstream of Mine Haul Road culverts modified to increase residency time of surface water runoff.
August 4	AMEC-Foster Wheeler Engineer, assisted by Baffinland staff, conducts additional flocculant/coagulant testing using Zetag-8814 polymer-flocculant mix and geotubes to control Mine Haul Road surface water runoff sedimentation issues.
Augst 6 to 19	Silt fences and silt curtains inspected and repaired as required, installation of additional in stream flocculant.
August 26	Mary River was observed flowing more turbid than normal
August 27 to Sept 1	Slope sloughing upstream of the project development area above Mary River identifed. Increased monitoring of Mary River to evaluate the effects.
	Slope soughng above the MMER tributary which drains to Mary River identified. Silt fences were erected to mitigate the slope sloughing.
	Silt fences inspected and repaired as required

Appendix C.3 – Photos

Photo 1 – Mary River upstream of Mine site during natural sediment loading event on August 28, 2016

Photo 2 – Waterfall upstream of Mine site during natural sediment loading event on August 29, 2016

Photo 3 – Mary River downstream of Mine site during natural sediment loading event on August 28

Photo 4 – Thaw slope sloughing occurring upstream of project development area on August 30, 2016

Photo 4 – Tributary downstream of thaw slope sloughing joining Mary River upstream of the project development area on August 30, 2016

Photo 5 – Slope sloughing on MMER tributary upstream of Mary River with silt fence mitigation measures installed on August 26, 2016

Appendix C.4 - Spill Report 16-198 - Camp Lake Tributary 1

Table C.4 - Spill Report 16-198 - Sequence of Events and Actions Taken

May 31	Sediment deposit along the bank of Camp Lake Tributary #1 (CLT1) discovered near the North end of the Mine Site airstrip. The source of the sediment deposit is determined to be from a slumping section of stream bank along Camp Lake Tributary #1.
	Sediment release to Camp Lake Tributary #1 reported to the NT-NU Spill Line and regulators (**NT-NU Spill Report 16-198**).
June 1	Installed silt fences around perimeter of sediment deposit to prevent migration of sediment into tributary.
	Removed sediment deposit from stream bank. Lined face of slumping stream bank with geotextile and reinforced with 6" aggregate to prevent similar incidents.
June 1 to 15	AMEC-Foster Wheeler Engineer arrives onsite to develop flocculant treatment systems and pilot test additional siltation controls including geotubes..
June 17 to 21	Kemira Chemicals Chemist arrives onsite to assist Baffinland in developing and optimizing mobile water treatment systems using flocculants.
June 25 to July 8	Area of slumping remains stable over the reporting period.
July 9 to July 22	Area of slumping remains stable over the reporting period.
July 23 to August 5	Area of slumping remains stable over the reporting period.
August 6 to 19	Area of slumping remains stable over the reporting period.
August 20 to Sept 2	Area of slumping remains stable over the reporting period.

Appendix C.4 – Photos

Photo 1 – Current status of stable slope face by Camp Lake Tributary #1 on August 30, 2016.

Table C.5.1 Spill Report 16-202 and Update No. 1, Tote Road.	
Sequence of Events and Actions Taken	
May 20	Environment Canada and INAC inspectors notify Baffinland that directions under the Fisheries Act will be issued to the Company as a result of surface water runoff conditions observed during their inspection. This included conditions at various locations on the Tote Road.
May 20 to present	Siltation control measures (silt fences, silt curtains, flocculent, treated jute) installed at various locations along the Tote Road to address potential sedimentation and turbidy issues
May 20 to present	Operational resources are allocated to deal with sedment issues on Tote Road including remvoal of sediments using exacator, installation of geotextile and riprap in critical locations.
May 31	Several active of areas of sedimenation and turbidity observed and reported to the NT-NU Spill Line and EC and INAC Inspectors. These include stream crossings CV-223 (km 97), BG-17 (Km 90), and BG-29 (km 85). NT-NU Spill Report - 16-202
May 31 to present	Additional resources are dedicated to fixing potential sedimenation prooblems on the Tote Road between km 75 and km 100. These include trucks, excavators, labourers, etc., and a dedicated construction manager.
June 19	Sediment release observed at two additional locations along the Tote Road at stream crossing BG-31 at km 82 and at crossing BG-28 at km 86.3. (**NT-NU Spill Report - 16-202, Update No. 1**).
June 19 to present	Sediment controls put in place to curtail sediment release to Muriel and David Lakes.
	REFER TO TABLE C.5.2 FOR DETAILS OF SPECIFIC ACTIONS TAKEN ON THE TOTE ROAD TO MINIMIZE SEDIMENTATION ISSUES.

Table C.5.2 Spill Report 16-202 and Update No. 1, Tote Road Work Completed

Tote Road Chainage	Reason Work was/is Required	Proposed Control	Comments
km 77	Surface water flow through natural and excavated ditch contributing turbidy to drainage in to outflow of Muriel Lake	Lay geotextile liner in ditch and line with rip rap rock	To be completed.
82-83	Surface water flow through excavated trench/on grade along Tote Roadcausing sediment to deposit on ice of Muriel lake	Install two check dams at km 82.1. Requires strategy for long term stabilization/sediment control	Completed
83-83.2	Surface water flow through excavated ditch of fine sand contributig to turbidity in to head waters of BG30 HADD	Lay geotextile liner in ditch and line with rip rap rock	Completed
83.2-83.4	Surface water flow through excavated ditch of fine sand contributig to turbidity in to head waters of BG30 HADD	Lay geotextile liner in ditch and line with rip rap rock	Completed
83.4-83.6	Surface water flow through excavated ditch of fine sand contributig to turbidity in to head waters of BG30 HADD	Lay geotextile liner in ditch and line with rip rap rock	Completed
83.7-83.9	Surface water flow through excavated ditch of fine sand contributig to turbidity in to head waters of BG30 HADD	Lay geotextile liner in ditch and line with rip rap rock & Check dams	Completed
83.9-84.0	Surface water flow through excavated ditch of fine sand contributig to turbidity in to head waters of BG30 HADD	Lay geotextile liner in ditch and line with rip rap rock & Check dam	Completed
84.0-84.2	Surface water flow through excavated ditch of fine sand contributig to turbidity in to BG29 and feeds the creek in to Muriel Lake	Lay geotextile liner in ditch and line with rip rap rock	Completed
84.2-84.3	Surface water flow through excavated ditch of fine sand contributig to turbidity in to BG29	Lay geotextile liner in ditch and line with rip rap rock	Completed
85.25-85.35	Surface water flow through excavated ditch of fine sand contributig to turbidity in downstream drainages.	Ditch fully lined with geotextile and riprap for the entire length.	Completed
85.6-85.8	Ditch feeding Lake to BG29 CV contains some sedimentdue to ditch excavation	Lay geotextile liner in ditch and line with rip rap rock, silt curtain drainage in to lake	Completed. Silt Curtain installed.
85.65-85.9	Surface water flow through excavated ditch of fine sand contributig to turbidity in downstream drainages.	Ditch fully lined with geotextile and riprap for the entire length.	Completed.
85.8-86.1	Ditch stabilization required as trench feeds CV in to David Lake	Lay geotextile liner in ditch and line with rip rap rock	Completed
86.1- 86.25	Surface water flow through excavated ditch of fine sand contributig to turbidity in downstream drainages.	Riprap extentended for 40 , ditch line reestablished and check dam installed at outlent of culvert	Completed.
86.2-86.3	Ditch stabilization required as trench feeds CV in to David Lake	Lay geotextile liner in ditch and line with rip rap rock	Completed
86.3-86.5(cv)	Low flow condition only and trench requires significant earthworks in this area.	No mitigation in ditch. Install check dam on north side of culvert inlet	Completed
86.5-86.8	Low flow condition only and trench requires significant earthworks in this area.	No mitigation in ditch. Install check dam across creek drainage at km 86.8	Completed
86.8-87.3	Flooded ditch acting as settling pond with very low flow from pool. Ditch requires significant earthworks in this area	Install check dam at km 86.8	Completed
87.3-87.5(cv)	Large pool in ditch area acting as a settling pond and irregular trench requires significant earthworks.	No immediate action	Not completed yet, requires long term strategy
87.5-87.6(cv)	Ditch stabilization required as trench feeds culver in to David Lake	Lay geotextile liner in ditch and line with rip rap rock and install small check dams	Completed
87.6-88.0	Ditch stabilization required as trench feeds CV in to David Lake	No action at this time. Very small catchment area and ditch is dry.	Not completed yet, requires long term strategy
88.0-88.2(cv)	Ditch stabilization required as trench feeds CV in to David Lake	No action at this time in ditch. Very flat areas with no flow. Install rip rap at NW drainage in to culvert inlet and place a small CD upstream	Check Dam installed.
88.2-88.4	Ditching in culvert feeding David Lake	Lay geotextile liner in ditch and line with rip rap rock, laid geotextile and armoured eroded creek bed that ties in to drainage , and the culvert inlet basin	Completed. Silt Curtain installed.
88.4-88.5 (CV)		No action at this time	
88.5-88.6	Open Ditch.	Install Check dam at km 88.6 at north end of pool	Completed
88.7-88.9	Open Ditch.	Southern pool to CV is flat with no drainage. No action at this time.	Not completed.
88.9-89.2	Open Ditch.	Lay geotextile liner in ditch and line with rip rap rock	Not completed.
km 89.9	Permafrost degradation pond culvert plugged and risk of pond overtopping in to David Lake Tributary	Steam clean culvert open and drain pond	Complete June 11.
km 90.2	Erosion from snow melt/creek off of Hill	Stabilize drainage from vegetation down to ditch with rip rap	Complete June 11.
km 90.2-90.4	Base of steep embankment excavated and causing slope instability along the 300 meter stretch.	Geo and armour areas not yet failing to prevent future (0-2 year) failure of slope as in other adjacent areas. Reassessment of areas requires input from permafrost engineer.	Not yet completed.
km 90.3	Steep slopes in two areas along embankment in process of failing due to disturbance at base of slope, and surface run off/permafrost degradation	Sluffed embankment reinforced with rip rap berm and silt fence applied. Permanent engineered solution required for long term stabilization	Immediate actions completed.

Table C.5.2 Spill Report 16-202 and Update No. 1, Tote Road Work Completed

Tote Road Chainage	Reason Work was/is Required	Proposed Control	Comments
~91.4-91.7	Ditching of fine sand on drainage on either side of culvert producing very turbid water feeding creek to David Lake	Construct ditches at crest of km 92 hill. Lay geotextile liner in ditch and line with rip rap rock. Excavate and backhaul excess fine sand to temporary storage location at km 97 laydown	Completed.
km 97	Water draining off rip ripped shoulder and embankment through low lying sediment rich delta to Tom's creek	Install new silt fence at discharge	Completed June.
km97-CV223	Sediment laden snow in draianage. Potential for erosion from slope around culvert inlet	Remove sediment laden snow and armour slopes.	Snow removed from West and East drainages, East culvert slope lined with geo and armoured with rip rap.
Km 96 - CV224	Sediment laden snow in draianage. Potential for erosion from ditches in to culvert drainage	Remove sediment laden snow and armour approach ditches and slopes.	Sediment removed from inlet drainage. Rip rap removed and geotextile lined and rip rapped South East ditch 20 m. SW drainage lined with geo and rip rapped.
km 95 - CV001	Sediment laden snow in drainage.	Remove sediment laden snow	Snow Removed.
km 94 - BG004	Potential for erosion from ditches in to culvert drainage	Line NW and SW drainages (~30 m each) with geotextile and armoured with rip rap.	NW and SW drainages (~30 m each) lined with geotextile and armoured with rip rap.
km 90 - BG17	Sediment laden snow in draianage. Potential for erosion from SE ditches in to culvert drainage	Remove sediment laden snow and armour SE approach ditches and slopes.	Sediment laden snow removed from inlet basin. SE drainage ditch lined with geo and armoured with rip rap fro ~70 m down to creek. Complete June 3
km 96 CV224	Post completion of controls, ice melted under geo allowing embankment to erode into creek bed	Remove sediment from creek bed and sediment covered snow from drainage & edge of embankment. Extend geotextile liner along SE enbankment and line with rip rap rock.	Completed.
km 91 BG14	Ditching on in ditch and along embankment creating turbid water feeding creek to David Lake	Repair and reinforce check dam at upstream of CV. Excavate and backhaul excess fine sand to a location to be designated?	Check dam completed. Excess sand removed.

Appendix C.5 – Photos at various locations along the Tote Road

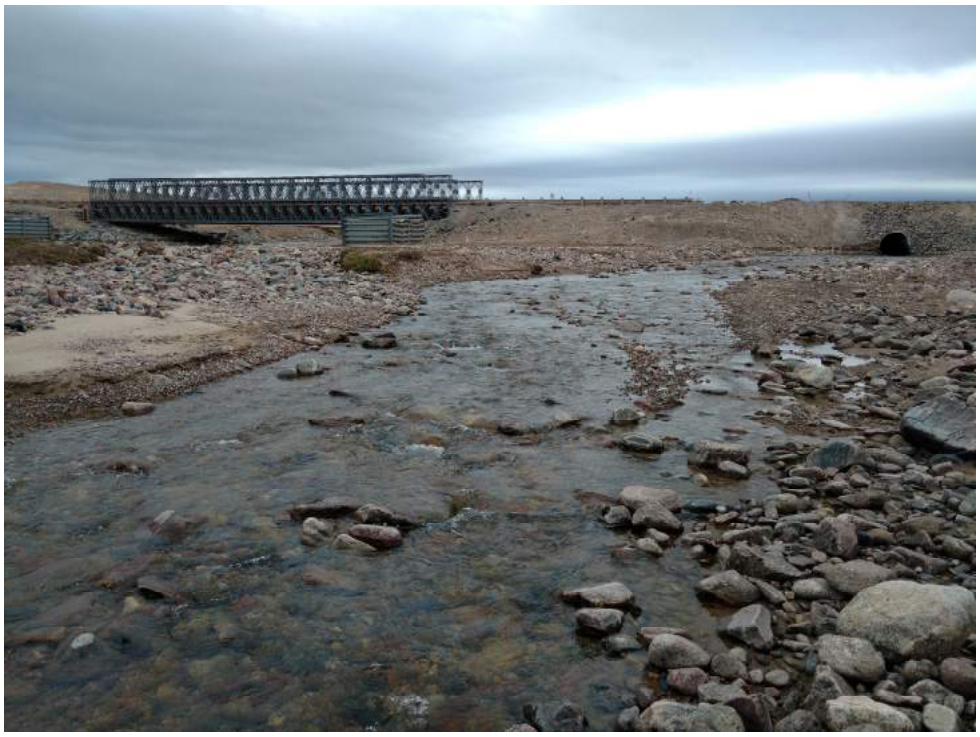

Photo 1 – Water flowing clear downstream of CV223 (km 97) on August 26, 2016

Photo 2 – Water flowing clear downstream of BG-17 (km 90) on August 26, 2016

Photo 3 – Water flowing clear downstream of BG-28 (km 86.3) on August 26, 2016

Photo 4 – Water flowing clear downstream of BG-29 (km 85) on August 26, 2016

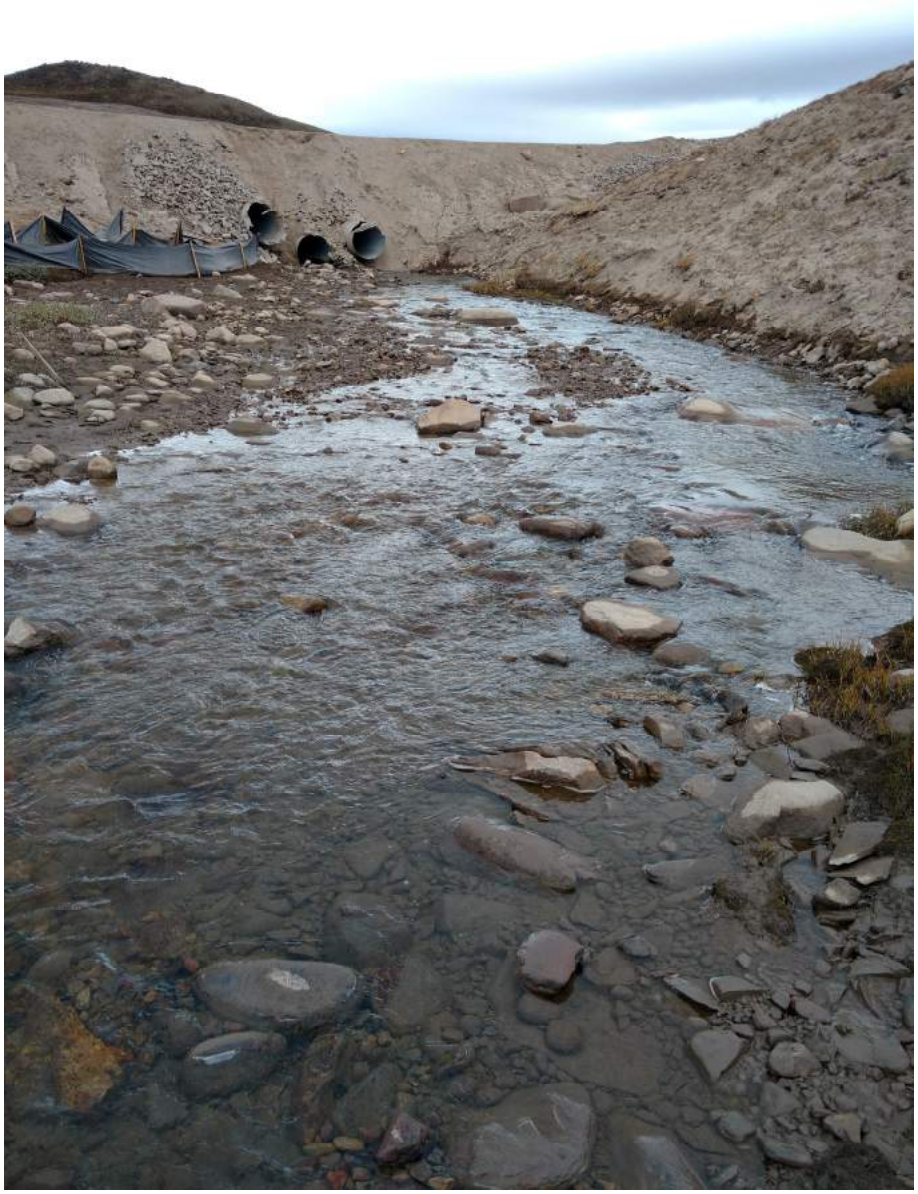

Photo 5 – Water flowing clear downstream of BG-01 (km 100) on August 26, 2016

Table C.6 Construction of Ditches and Drainage System Around Milne Port Ore Stockpile and Mine Site Crusher Stockpile

Sequence of Events and Actions Taken

Prior to May 20	Milne and Mine Site - Ongoing monitoring of surface water adjacent to the ore stockpile to ensure that there was no adverse impacts due to surface water runoff or seepage.
May 20	Environment Canada and INAC inspectors notify Baffinland that directions under the Fisheries Act will be issued to the Company due partially to the incomplete drainage works around the Milne Ore Stockpile Facility and the Mine Crusher Stockpile Area and Crusher Ore Pad. Written Direction provided June 7. INAC letter of non-compliance received on June 16.
May 23	Document provided to Environment Canada and INAC Inspectors: Milne Stockpile Pad Water Drainage System – Excecution Plan and Schedule. Completion date of July 17.
May 24 to June 24	Milne - The drainage system ditches are functionally operational by June 7.
June 22	Milne - Ditching system presently fully operational, minor items to be included including survey for as-built report and clean-up of the area.
June 25 to July 8	Mine Site - Installation of final ditching system is underway for Crusher Stockpile Pad.
July 9 to July 22	Mine Site Cursher Stockpile Pad - Ditching sytem construciton substantially completed and operational July 15 Milne Port Ore Pad Stockpile Pad - Ditching system construction operational.
July 23 to Aug 5	Ditching systems completed and operating as designed. No drainage issues. Operational monitoring underway.
August 6 to Aug 19	Ditching systems completed and operating as designed. No drainage issues. Operational monitoring underway.
August 20 to Sept 2	Ditching systems completed and operating as designed. No drainage issues. Operational monitoring underway.

Table D.7 Impacted Snow Removal from Milne Beach and Tote Road Bridges

Sequence of Events and Actions Taken

May 20	Environment Canada and INAC inspectors notify Baffinland that directions under the Fisheries Act will be issued to the Company. One of the items of concern was dirty snow west of the Ore Loader at Milne and on/under bridges on the Tote Road.
May 21 to 23	Dirty snow removed from Milne Beach using Loader.
May 21 to 25	Crews mobilized to clean under bridges on Tote Road. Effort is partially successful by hampered by warmer temperatures and soft slushy conditions which posed safety hazard.