

**APPENDIX D.7.5**  
**2016 QIA INSPECTION REPORTS**  
**AND BAFFINLAND REPOSSES**



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July 18, 2016

Mr. Todd Burlingame  
Vice President  
Sustainable Development  
Baffinland Iron Mines Corporation  
2275 Upper Middle Road East, Suite 300  
Oakville, ON L6H 0C3

Mr. Burlingame,

**RE: BAFFINLAND IRON MINES CORPORATION'S, MARY RIVER PROJECT, JUNE 2015 INSPECTION –  
QIKIQTANI INUIT ASSOCIATION FINDINGS AND RECOMMENDATIONS**

This letter is being issued from the Qikiqtani Inuit Association (QIA) to Baffinland Iron Mines Corporation (BIMC) which provides a summary of the findings and recommendations from the QIA's June 2016 Inspection, as per Schedule E, Item 12 of the Commercial Lease No.: Q13C301 (CPL).<sup>1</sup> The Inspection was undertaken from June 24 to June 28, 2016, by ARKTIS Solutions Inc. (ARKTIS) on behalf of the QIA.

In summary, the June 2016 Inspection included the following activities:

- A general site inspection to assess BIMC's compliance with select environmental terms and conditions of any permits, licences, leases or other agreements that are associated with the Project;
- An update on the Tote Road Reconciliation, including the current status of survey and sections upgraded since the September 2015 Environmental Inspection;
- A review of the issues surrounding the KM 97 Borrow Source survey and volume calculation;
- A review of the proposed Q16 Quarry area; and,
- An inspection of BIMC's water management practices and infrastructure, in particular, those items described in Environment and Climate Change Canada's (ECCC) June 7, 2016, letter and Indigenous and Northern Affairs Canada's (INAC) June 16, 2016, notice.

The findings, recommendations, and action items from the June 2016 Inspection are provided in Table 1.

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<sup>1</sup> QIA and BIMC (2013) Commercial Lease No. Q13C301. September 6, 2013.



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**Qikiqtani Inuit Association**

Please do not hesitate to contact the undersigned should you require any further information.

Sincerely,

Stephen Williamson Bathory  
Director, Department of Major Projects



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**Table 1.** Summary of findings, recommendations, and action items from the September 2015 Environmental Inspection.

No.	Description of Concern or Finding	Recommended Action	Timeline	Responsible Party
1	There is windblown waste and rubbish around site following winter.	BIMC to complete site wide housekeeping and tidying.	16/07/31	BIMC
2	Liner from the Milne Port fuel bladder facility still located in the landfarm. The liner has been mostly segregated from the contaminated soils.	As previously agreed, BIMC is to package the liner in a lined sea can for shipment offsite during the 2016 sealift. A lined sea can is located adjacent to the landfarm. BIMC stated that they were unable to load the liner into the sea can in the landfarm, as it has the potential to rupture the liner due to weight; BIMC will use a long-arm excavator to complete the task. If the excavator is not available or can not be used for this purpose, an alternative method to remove the liner shall be developed (which will not rupture the liner) and implemented to meet the 2016 sealift.	16/09/30	BIMC
3	Evidence of free product, 1 mm thick on pooled water, in Hazardous Waste Berm MP-HWB-1.	BIMC to treat free product and contaminated water. BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	16/09/21	BIMC



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No.	Description of Concern or Finding	Recommended Action	Timeline	Responsible Party
4	Sedimentation in stream at km 74, culvert CV211. Water flowing downhill along old alignment is sediment-bearing. Material stockpiled near downstream side of culvert may also be contributing to sedimentation. Upstream of culvert, the stream has minimal sediment load.	BIMC implemented sediment and erosion control methods within hours of documenting the event. Mitigation includes silt fences and flocculent impregnated jute.	16/06/26 Complete, Ongoing	BIMC
5		BIMC to relocate materials stockpiled near downstream side of culvert.	16/07/08	BIMC
6		BIMC to install rip rap on slopes near CV211 to reduce the potential of future events at this location.	16/07/31	BIMC
7	The landfill fencing is damaged following winter, and minor amounts of windblown waste is located outside the landfill perimeter.	BIMC to repair landfill fencing. BIMC to return waste outside of landfill to landfill.	16/07/31	BIMC
8	Fuel drums outside of containment near the Mine Site refueling station.	BIMC to relocate drums to containment area or use temporary containment beneath drums.	16/07/01 Complete	BIMC
9	Oil tote outside of containment in the southwest corner of the utilities complex.	BIMC to relocate tote to containment area or use temporary containment beneath tote.	16/07/01 Complete	BIMC
10	Drainage from QMR2 access road was redirected into Camp Lake Tributary 1 by breaching the perimeter berm of the access road. The breach in	BIMC to repair breach in berm. BIMC to implement a drainage plan for the QMR2 access road. The drainage plan shall be added as an appendix to the	17/03/31	BIMC



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No.	Description of Concern or Finding	Recommended Action	Timeline	Responsible Party
	the berm was unauthorized by the environmental department. The breach contributed to sedimentation events in the Camp Lake Tributary 1 as evidenced by the deployment of sediment and erosion control and deposited sediments.	QMR2 Quarry Management Plan, and submitted with the 2016 Annual Report.		
11	Fuel drum located on top of the aerodrome fuel berm.	BIMC to relocate drum to containment area or use temporary containment beneath drum.	16/07/01 Complete	BIMC
12	Free product, 1 mm thick, floating on surface of water in the Mine Site fuel bladder farm.	BIMC to treat free product and contaminated water. BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	16/09/21	BIMC
13	Free product, 1 mm thick, floating on surface of water in Hazardous Waste Berm HWB-MS-4.	BIMC to treat free product and contaminated water. BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	16/09/21	BIMC
14	Water has been relocated to the Mine Site fuel bladder farm for treatment, however, evidence of free product in Hazardous Waste Berm HWB-MS-3 sediments.	BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	16/09/21	BIMC



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No.	Description of Concern or Finding	Recommended Action	Timeline	Responsible Party
15	Minimal number of drip trays located under the equipment located outside of the Mine Site Maintenance facilities; however, the Inspector is uncertain how long the equipment has been located there.	BIMC to send out notice reminding employees and contractors the importance and proper use of spill trays.	16/07/01 Complete	BIMC
16	Two totes of oil and hydraulic fluid located outside of containment behind Mine Site Toromont Maintenance Shop.	BIMC to relocate totes to containment area or use temporary containment beneath totes.	16/07/01 Complete	BIMC
17	Totes of waste oil and other hazardous material located in front of Mine Site Maintenance Shop. This material is awaiting pickup for transfer to the hazardous waste berms.	BIMC to construct a small hazardous waste berm for temporary storage of the hazardous waste material while awaiting pick-up.	16/07/01 Complete	BIMC
18	Recently constructed drainage ditches for the waste rock stockpile pond were not properly constructed. Ditching is currently redirecting runoff around the waste rock stockpile sedimentation pond. Ditching was intended to capture runoff from the waste rock stockpile while diverting runoff not from the waste rock stockpile ( <b>Error! Reference source not found. to Error! Reference source not found.</b> ).	BIMC promptly reconstructed the ditching so that runoff from the waste rock stockpile is collected into the waste rock stockpile pond.	16/06/27 Complete	BIMC



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No.	Description of Concern or Finding	Recommended Action	Timeline	Responsible Party
19	Mine Site crusher and ore stockpile pad exceeded the design footprint and impinged on the 31 m buffer area between Project infrastructure and water bodies (Sheardown Lake Tributary) ( <b>Error! Reference source not found.</b> ).	BIMC to re-construct pad to the proposed design criteria ensuring that there is a 31 m buffer area between the Project infrastructure and all water bodies. Ditching will be located on the perimeter of the crusher pad as required by ECCC's Fisheries Act Direction. BIMC will be expanding the crusher pad beyond the current for-construction drawing footprint; the drawings for this expansion are currently being developed.	16/07/17	BIMC
20	The hazardous waste berms at the Project have been subject to continuing spills of waste oil over the past year. Due to the limited capacity of the oily water separator plant (OWSP), and the long period of frozen conditions, it may take the majority of the unfrozen months to clean up these spills.	It is recommended that BIMC review their hazardous waste management policy, to mitigate against spills moving forward.	None	BIMC
21	If untreated water cannot be managed effectively with the current OWSP, improvements to the OWSP (or management of the water) may be required.	It is recommended that BIMC review the current capacity of the OWSP, the current and future demand on the OWSP, and the time required annually for the OWSP to treat the contaminated water on site. BIMC shall provide a report these findings to the QIA.	16/09/21	BIMC





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No.	Description of Concern or Finding	Recommended Action	Timeline	Responsible Party
22	In the construction zone from km 77 to km 74, BIMC has used made frequent use of sedimentation and erosion controls. Deposited sediment upstream of these controls demonstrates BIMC's effective employment of the devices.	The sedimentation events in the km 74 to km 77 construction area may be a result of construction activities; however, due to the long, and occasionally steep slopes in this area, it is recommended that all slopes along this section near stream crossings be lined with geosynthetic liner and rip rap to prevent future occurrences. It is recommended that a timeline for completing this task be discussed as part of the Tote Road Management Plan.	16/09/30	BIMC
23	The characteristics of the Tote Road and the stream crossings along the Tote Road change frequently from the Mine Site to Milne Port.	To manage the Tote Road effectively, it is recommended that the Tote Road Management Plan be developed in consideration of these different intervals along the Tote Road. Additionally, it is recommended that the Tote Road Management Plan incorporate maps for each interval, showing high risk sections, what sediment and erosion control is in place, and fish-bearing waterbodies.	16/09/30	BIMC



November 12, 2016

Mr. Stephen Williamson Bathory  
Director Major Projects

Qikiqtani Inuit Association  
Igluvut Building, 2nd floor  
P.O. Box 1340  
Iqaluit, NU  
X0A 0H0

**Re: Response to Findings and Recommendations - QIA June Inspection**

Dear Stephen:

During June 24<sup>th</sup> to June 28<sup>th</sup>, 2016, Arktis Solutions Inc. conducted an environmental inspection at Baffinland's Mary River Project. During the inspection, several concerns and recommendations were identified and outlined in the QIA letter dated July 18, 2016.

The attached Table A.1 summarizes the findings and recommendations noted by QIA during the June inspection and provides Baffinland's response.

Please do not hesitate to contact us should you have any further comments or questions.

Sincerely,

James Millard  
Environmental Manager

Attach: QIA Letter to Baffinland, dated July 18, 2016 (eight pages)  
Table A.1 – Baffinland Response to QIA Letter (three pages)

Cc: Jamie Van Gulck (Arktis Solutions)  
Todd Burlingame, Wayne McPhee (Baffinland)

**Table A.1 - Baffinland Response to QIA Letter, dated July 18, 2016 (Inspection date June 24-28)**

No.	Description of QIA Inspector's Concern or Finding	QIA Recommended Action	Item Status	BIM Response
1	There is windblown waste and rubbish around site following winter.	BIMC to complete site wide housekeeping and tidying.	Completed	Throughout the summer months, each department initiated the clean-up and organization of their respective work areas. Windblown waste and debris left over from the spring melt was collected, segregated and disposed of according to the Baffinland Waste Management Plan. Baffinland will continue to initiate and encourage site wide housekeeping and clean-up events in the future. In addition, the Environment department will continue conduct routine inspections and audits to ensure departments are adhering to the Waste Management Plan.
2	Liner from the Milne Port fuel bladder facility still located in the landfarm. The liner has been mostly segregated from the contaminated soils.	As previously agreed, BIMC is to package the liner in a lined sea can for shipment offsite during the 2016 sealift. A lined sea can is located adjacent to the landfarm. BIMC stated that they were unable to load the liner into the sea can in the landfarm, as it has the potential to rupture the liner due to weight; BIMC will use a long-arm excavator to complete the task. If the excavator is not available or can not be used for this purpose, an alternative method to remove the liner shall be developed (which will not rupture the liner) and implemented to meet the 2016 sealift.	Completed	Most of the accessible HDPE liner was removed from the Milne Port landfarm prior to September 30, 2016, and stored in lined seacans for shipment off site during the 2017 sealift. Following the 2017 spring melt, the landfarm will be operated in accordance with the approved Baffinland <i>Landfarm Operation, Maintenance and Monitoring Manual</i> .
3	Evidence of free product, 1 mm thick on pooled water, in Hazardous Waste Berm MP-HWB-1.	BIMC to treat free product and contaminated water. BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	Completed	Contaminated water contained in Hazardous Waste Berm MP-HWB-1 was transported to the Milne Port Contaminated Snow Storage Facility for treatment. Impacted water contained within the Contaminated Snow Storage Facility was treated using the onsite oily water treatment plant and discharged to the receiving environment during late August 2016. The discharged effluent discharged met the water quality criteria outlined in the Type A Water Licence (2AM-MRY1325).
4	Sedimentation in stream at km 74, culvert CV211. Water flowing downhill along old alignment is sediment-bearing. Material stockpiled near downstream side of culvert may also be contributing to sedimentation. Upstream of culvert, the stream has minimal sediment load.	BIMC implemented sediment and erosion control methods within hours of documenting the event. Mitigation includes silt fences and flocculent impregnated jute.  BIMC to relocate materials stockpiled near downstream side of culvert.  BIMC to install rip rap on slopes near CV211 to reduce the potential of future events at this location.	Completed	Noted.
			Completed	The materials stockpiled downstream of CV211 were removed in late June.
			1-May-17	Rip rap (aggregate) has yet to be installed along the slopes and drainage routes near CV211. Rip rap will be installed along the slopes near CV211 by June 1, 2017.
7	The landfill fencing is damaged following winter, and minor amounts of windblown waste is located outside the landfill perimeter.	BIMC to repair landfill fencing. BIMC to return waste outside of landfill to landfill.	Completed	A small quantity of windblown landfill waste outside of the perimeter fence was collected and redeposited back to the landfill in June 2016. The existing fence was temporarily repaired. A new perimeter fence was installed around the open face of the landfill during September 2016. The fence is positioned around the northern perimeter of the landfill and has so far proven effective in capturing windblown waste originating from the landfill.
8	Fuel drums outside of containment near the Mine Site refueling station.	BIMC to relocate drums to containment area or use temporary containment beneath drums.	Completed	The fuel drums were placed within secondary containment (spill tray).
9	Oil tote outside of containment in the southwest corner of the utilities complex.	BIMC to relocate tote to containment area or use temporary containment beneath tote.	Completed	The oil tote has been placed within secondary containment (spill tray).
10	Drainage from QMR2 access road was redirected into Camp Lake Tributary 1 by breaching the perimeter berm of the access road. The breach in the berm was unauthorized by the environmental department. The breach contributed to sedimentation events in the Camp Lake Tributary 1 as evidenced by the deployment of sediment and erosion control and deposited sediments.	BIMC to repair breach in berm. BIMC to implement a drainage plan for the QMR2 access road. The drainage plan shall be added as an appendix to the QMR2 Quarry Management Plan, and submitted with the 2016 Annual Report.	1-May-17	Baffinland will repair the breach in the berm prior to freshet 2017 and reconfigure the drainage so as to not impact the nearby streams. Consideration will be given to adding a drainage plan for the QMR2 access road to the existing QMR2 Quarry Management Plan.
11	Fuel drum located on top of the aerodrome fuel berm.	BIMC to relocate drum to containment area or use temporary containment beneath drum.	Completed	The fuel drum has been placed inside the Aerodrome fuel berm.

**Table A.1 - Baffinland Response to QIA Letter, dated July 18, 2016 (Inspection date June 24-28)**

No.	Description of QIA Inspector's Concern or Finding	QIA Recommended Action	Item Status	BIM Response
12	Free product, 1 mm thick, floating on surface of water in the Mine Site fuel bladder farm.	BIMC to treat free product and contaminated water. BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	Completed	Water contained within the former Mine Site fuel bladder farm (MS-HWB-7) berm was treated using the onsite oily water treatment plant and discharged to the receiving environment prior to freeze-up. The effluent discharged to the receiving environment met the water quality criteria outlined in the Type A Water Licence (2AM-MRY1325). In addition, Baffinland will inspect the exterior of containers for contamination prior to removing drums or totes from storage berms.
13	Free product, 1 mm thick, floating on surface of water in Hazardous Waste Berm HWB-MS-4.	BIMC to treat free product and contaminated water. BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	Completed	Water contained within the Mine Site Hazardous Waste Berm MS-HWB-4 was treated using the onsite oily water treatment plant and discharged to the receiving environment prior to freeze-up. The effluent discharged to the receiving environment met the water quality criteria outlined in the Type A Water Licence (2AM-MRY1325). In addition, Baffinland will inspect the exterior of containers for contamination prior to removing drums or totes from storage berms.
14	Water has been relocated to the Mine Site fuel bladder farm for treatment, however, evidence of free product in Hazardous Waste Berm HWB-MS-3 sediments.	BIMC to ensure exteriors of containers are not contaminated when removing these items from the hazardous waste berm.	Completed	Baffinland will continue to inspect the exterior of containers for contamination prior to removing drums or totes from storage berms.
15	Minimal number of drip trays located under the equipment located outside of the Mine Site Maintenance facilities; however, the Inspector is uncertain how long the equipment has been located there.	BIMC to send out notice reminding employees and contractors the importance and proper use of spill trays.	Completed	Baffinland will continue to enforce the use of the spill trays under vehicles that are being parked for extended periods of time in accordance with Baffinland's Spill Tray Guideline. The Environment department will continue to send out reminders to employees stressing the importance of the use of the spill trays and compliance with this practice will be a component of routine environmental inspections conducted by the Environment Department.
16	Two totes of oil and hydraulic fluid located outside of containment behind Mine Site Toromont Maintenance Shop.	BIMC to relocate totes to containment area or use temporary containment beneath totes.	Completed	The two totes were relocated inside the Toromont Maintenance building and were placed into secondary containment (spill tray).
17	Totes of waste oil and other hazardous material located in front of Mine Site Maintenance Shop. This material is awaiting pickup for transfer to the hazardous waste berms.	BIMC to construct a small hazardous waste berm for temporary storage of the hazardous waste material while awaiting pick-up.	In Progress	The noted hazardous wastes outside of the Mobile Maintenance Shop have been transferred to the hazardous waste berms. Consideration is presently being given to fabricating a small berm for temporary hazardous waste storage outside of the Mobile Maintenance Shop.
18	Recently constructed drainage ditches for the waste rock stockpile pond were not properly constructed. Ditching is currently redirecting runoff around the waste rock stockpile sedimentation pond. Ditching was intended to capture runoff from the waste rock stockpile while diverting runoff not from the waste rock stockpile.	BIMC promptly reconstructed the ditching so that runoff from the waste rock stockpile is collected into the waste rock stockpile pond.	Completed	The Waste Rock Settling Pond was completed in May 2016. Modifications were made to the ditching and diversion structures throughout the summer to ensure effective direction of surface water drainage. Nuna East was contracted to recontour and modify the water management infrastructure (sedimentation pond, drainage ditching, diversion berms) associated with the waste rock stockpile and pond. These modifications were effective in directing most runoff originating from the waste rock stockpile to the sedimentation pond.
19	Mine Site crusher and ore stockpile pad exceeded the design footprint and impinged on the 31 m buffer area between Project infrastructure and water bodies (Sheardown Lake Tributary).	BIMC to re-construct pad to the proposed design criteria ensuring that there is a 31 m buffer area between the Project infrastructure and all water bodies. Ditching will be located on the perimeter of the crusher pad as required by ECC's Fisheries Act Direction. BIMC will be expanding the crusher pad beyond the current for-construction drawing footprint; the drawings for this expansion are currently being developed.	Completed	During early July, the limits of the crusher pad were modified to allow for a 31 m buffer area between the crusher pad and nearby water bodies. Moreover, in accordance with the facility design intent, a perimeter ditch was completed around the crusher pad to redirect runoff to the crusher pad sedimentation pond. The construction drawings for the crusher pad expansion were submitted to QIA and others on September 29 <sup>th</sup> as part of Fisheries Act Direction Completion Report.
20	The hazardous waste berms at the Project have been subject to continuing spills of waste oil over the past year. Due to the limited capacity of the oily water separator plant (OWSP), and the long period of frozen conditions, it may take the majority of the unfrozen months to clean up these spills.	It is recommended that BIMC review their hazardous waste management policy, to mitigate against spills moving forward.	Ongoing	Agreed, Baffinland agrees that a periodic reviews of hazardous waste and waste management are useful undertakings.

**Table A.1 - Baffinland Response to QIA Letter, dated July 18, 2016 (Inspection date June 24-28)**

No.	Description of QIA Inspector's Concern or Finding	QIA Recommended Action	Item Status	BIM Response
21	If untreated water cannot be managed effectively with the current OWSP, improvements to the OWSP (or management of the water) may be required.	It is recommended that BIMC review the current capacity of the OWSP, the current and future demand on the OWSP, and the time required annually for the OWSP to treat the contaminated water on site. BIMC shall provide a report of these findings to the QIA.	In Progress	To date, Baffinland has been able to effectively treat the volume of oily water using existing treatment facilities. The volume of oily water requiring treatment is safely stored in engineered lined facilities. Baffinland reviews storage and treatment capacity of its facilities on a periodic basis. Consideration is currently being given to acquire additional equipment to increase the onsite capacity for hydrocarbon contaminated water treatment. In future, Baffinland will endeavor to update QIA and others on the status of this initiative.
22	In the construction zone from km 77 to km 74, BIMC has used and made frequent use of sedimentation and erosion controls. Deposited sediment upstream of these controls demonstrates BIMC's effective employment of the devices.	The sedimentation events in the km 74 to km 77 construction area may be a result of construction activities; however, due to the long, and occasionally steep slopes in this area, it is recommended that all slopes along this section near stream crossings be lined with geosynthetic liner and rip rap to prevent future occurrences. It is recommended that a timeline for completing this task be discussed as part of the Tote Road Management Plan.	In Progress	This area will be assessed for the requirement of further work such as the installation of geotextile and rip rap. The Tote Road Earthworks Execution Plan (TREETP) will be completed in February 2017 and will provide the scope and timeline for this work, if warranted. The TREETP will help to inform the contents of a revised Roads Management Plan.
23	The characteristics of the Tote Road and the stream crossings along the Tote Road change frequently from the Mine Site to Milne Port.	To manage the Tote Road effectively, it is recommended that the Tote Road Management Plan be developed in consideration of these different intervals along the Tote Road. Additionally, it is recommended that the Tote Road Management Plan incorporate maps for each interval, showing high risk sections, what sediment and erosion control is in place, and fish-bearing waterbodies.	In Progress	The existing Roads Management Plan (the Plan) will be revised to include a section focused on environmental protection measures and controls used along the Tote Road based on recognized environmental risks. The Snow Management Plan and initiatives outlined in the Tote Road Earthworks Execution Plan (TREETP), will also be included. The revised Roads Management Plan will be submitted to QIA and others by March 31, 2017. In the meantime, Baffinland may reach out to QIA and others to discuss some of the details of this plan prior to final submission.



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August 25, 2016

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Sanikiluaq

Mr. Todd Burlingame  
Vice President, Sustainable Development  
Baffinland Iron Mines Corporation  
2275 Upper Middle Road East, Suite 300  
Oakville, ON L6H 0C3

Mr. Burlingame,

## RE: BAFFINLAND IRON MINES CORPORATION'S, MARY RIVER PROJECT, AUGUST 2016 INSPECTION – QIKIQTANI INUIT ASSOCIATION FINDINGS AND RECOMMENDATIONS

This letter is being issued from the Qikiqtani Inuit Association (QIA) to Baffinland Iron Mines Corporation (BIMC) which provides a summary of the findings and recommendations from the QIA's August 2016 Inspection, as per Schedule E, Item 12 of the Commercial Lease No.: Q13C301 (CPL).<sup>1</sup> The Inspection was undertaken from August 12 to 16, 2016, by ARKTIS Solutions Inc. (ARKTIS) on behalf of the QIA.

In summary, the August 2016 Inspection included the following activities:

- A general site inspection, with focus on the Tote Road, to assess BIMC's compliance with select environmental terms and conditions of any permits, licences, leases or other agreements that are associated with the Project;
- Assess the current status of construction and upgrades along the Tote Road; and,
- Interview with BIMC Environmental Manager to understand the monitoring and reporting activities associated with water crossings on the Tote Road during the construction and operation phases.

The findings, recommendations, and action items from the June 2016 Inspection are provided in Table 1.

<sup>1</sup> QIA and BIMC (2013) Commercial Lease No. Q13C301. September 6, 2013.



Sanikiluaq

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**Table 1.** Summary of findings, recommendations, and action items from the August 2016 Environmental Inspection.

Item No.	Concern Identified	Recommendation
1.	The water level in the East Sedimentation Pond, at Milne Ore Stock Pile Facility, is near the freeboard limit. Based on GPS readings, current freeboard is approximately 1 m. BIMC stated that the water quality in the pond was being sampled the day of inspection for comparison with effluent quality limits and that the freeboard requirement in the issued for construction drawings is 0.3 m. There is no freeboard requirement listed in the water licence.	<p><b>Recommendation 1:</b> If water in the pond meets the water quality criteria, it is recommended that the water be discharged before the freeboard limit is reached.</p> <p>If the water quality is not acceptable, it is recommended to relocate the water to an alternate approved containment facility, to ensure freeboard is not exceeded.</p> <p>During the Inspection, BIMC collected a water sample from this pond and agrees that if it is within licence limits for water quality criteria, discharge of water from the pond is to occur.</p>
2.	The Milne landfarm contains waste debris including a HDPE liner (from the former bladder facility) mixed in with hydrocarbon contaminated soil. The waste debris and HDPE liner are a primary reason why the landfarm is currently not operational.	<p><b>Recommendation 2:</b> It is recommended that all debris, including the HDPE liner be removed and only design approved material be placed in the landfarm to allow for its operation, to treat hydrocarbon contaminated soil. This recommendation was also noted in previous 2015 and 2016 Environmental Inspections<sup>2,3</sup> during which BIMC agreed the activity would be completed by September 30, 2016.</p>

<sup>2</sup> Qikiqtani Inuit Association November 2, 2015 letter to BIMC titled “Baffinland Iron Mines Corporation’s, Mary River Project, June and July 2015 Inspections – Qikiqtani Inuit Association Findings and Recommendations”.

<sup>3</sup> Qikiqtani Inuit Association July 18, 2016 letter to BIMC titled “Baffinland Iron Mines Corporation’s, Mary River Project, June 2016 inspection – Qikiqtani Inuit Association Finding and Recommendations”.





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Item No.	Concern Identified	Recommendation
		During the Inspection, BIMC agreed the landfarm cannot operate with the debris in the containment cell. The deadline of September 30, 2016 remains.
3.	<p>Specified Substances have been stockpiled along KM 3 and 4 of the Tote Road. Additionally, screening of the quarried material has recently occurred at a location near KM 3.5. Stockpiling and processing of Specified Substances is an activity that is planned for the quarry site and managed under the Quarry Management Plan.</p> <p>This is not an approved activity along the Tote Road, which may have negative environmental impacts. For example, the quarry site monitors the surface run off water quality; however, this is not necessarily occurring at the Tote Road stockpiles.</p>	<p><b>Recommendation 3:</b> If water is present, it is recommended that water quality downgradient of the stockpiled Specified Substances and screener location be monitored for potential impacts to the receiving environment. Parameters to monitor shall be the same as that applied to the quarry run off waters. Testing shall be at a frequency as applied to the quarry run off waters and defined in the water licence. If water quality monitoring results in unacceptable quality, corrective action shall be implemented immediately to reduce the water quality in the downstream.</p> <p>During the Inspection, BIMC agreed to complete water quality testing in this area.</p>
4.	The perimeter fence for the Mary River landfill has been removed. A perimeter fence can be an effective method to manage windblown debris.	<p><b>Recommendation 4:</b> It is recommended that a perimeter fence to mitigate against windblown debris entering the receiving environment be reinstalled. This item was also identified during the June 2016 inspection.</p> <p>During the Inspection, BIMC agreed that a fence is effective in mitigating against windblown waste and this is noted in their management plans. Current planning is to have a fence installed in the 2016 season.</p>



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Item No.	Concern Identified	Recommendation
5.	<p>The recent fuel spill at Milne is in the process of being remediated. There will be a large volume of contaminated water that will require treatment prior to discharge (estimates are &gt;70,000 m<sup>3</sup> of contaminated water). The contaminated water will be partially stored in new fuel bladders that will be positioned within the Milne fuel storage facility.</p> <p>The residual contamination in the fuel facility will likely result in additional contaminated water in the future and will require regular management. The current means available on site to treat hydrocarbon contaminated water has a treatment capacity of 50 to 70 m<sup>3</sup>/day (dependent on influence concentration). Thus, there may be limited water treatment capacity to manage hydrocarbon contaminated water at site.</p>	<p><b>Recommendation 5a:</b> BIMC complete a needs assessment to increase the capacity for hydrocarbon contaminated water treatment. This item was also identified during the June 2016 inspection<sup>Error! Bookmark not defined.</sup>.</p> <p>BIMC notes that the management of the contact water from the recent spill may need to be addressed independent from the current on-site treatment system. The details of the spill clean-up are not yet finalized at the current time. BIMC is of the opinion that the current treatment capacity available at site is sufficient to meet operational needs.</p> <p><b>Recommendation 5b:</b> The use of fuel bladders at the Mary River project has been identified as environmental concern by QIA in the past. BIMC is reminded that the QIA do not accept the use of fuel bladders as an approved means for fuel storage. It is acknowledged that BIMC use of the fuel bladders in responding to this spill is only for the temporary storage of contact water. This practice is acceptable to QIA however must only be use for short-term temporary storage (not more than one-year).</p>
6.	<p>Based on a review of select management plans and responses from BIMC environmental staff, the QIA has formed the following opinions:</p> <ul style="list-style-type: none"> <li>i. The timing for the complete construction of the road is not well understood.</li> </ul>	<p><b>Recommendation 6a:</b> In addition to the recommendation for the Tote Road Management Plan content provided to BIMC on August 1, 2016<sup>5</sup>, the following items are recommended to be included within the Tote Road Management Plan:</p>

<sup>5</sup> Qikiqtani Inuit Association August 1, 2016 letter to Baffinland Iron Mines Corporation titled "Tote Road Management Plan – Preliminary Report Content".



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Item No.	Concern Identified	Recommendation
	<p>ii. Operations of the road are occurring prior to complete construction of the road.</p> <p>iii. There are road construction upgrades that are not in accordance with the issued for construction drawings, and modifications have been completed during construction to address safety and operational efficiency.</p> <p>iv. There is uncertainty on the expected as-built information to be reported by BIMC. The timing for reporting as-built information is also not well understood.</p> <p>v. The water quality criteria to apply to water crossings during construction, operation and closure phases are uncertain.</p> <p>vi. The locations for water quality monitoring appear to be mainly associated with water crossings that may have a potential impact on fish. Monitoring of water crossings, or other water bodies potentially impacted by the Tote Road, may not be captured within the current monitoring program. There are potential implications regarding the assessment of changes to water quality, as needed to evaluate impacts as per the Water Compensation Agreement<sup>4</sup>.</p> <p>vii. There is a need to have a response action framework to document the decision process on when to implement sediment and erosion control measures, and dust control measures, to mitigate against potential impacts to water.</p>	<p>i. The process BIMC is to follow to complete a modification of the Tote Road design during construction. A modification may be related, but not limited to: realignment, cut and fill, or change to a water crossing.</p> <p>ii. Outline the expected Tote Road, and associated infrastructure, as-built information that will be reported to QIA.</p> <p>iii. Outline the anticipated construction, operation and closure phase timelines.</p> <p>iv. Outline the water quality monitoring locations, frequency and parameters to test for each of the following phases: construction, operation and closure. Monitoring is to address, but not be limited to: water crossing locations; adjacent water bodies; abandoned road sections; effects from dust accumulation; and subsequent drainage to water.</p> <p>v. Water quality criteria during the construction, operations and closure phases of the project.</p> <p>vi. Document the response action framework to limit potential impact to water from sedimentation and erosion onto waters.</p> <p>vii. Document the response action framework to limit potential impacts to water from dust.</p> <p>viii. Pertinent management outcomes from the work being completed to address the ECCC directive.</p> <p><b>Recommendation 6b:</b> Yearly as-built information for the Tote Road be submitted to QIA within the Annual Report.</p>

<sup>4</sup> Qikiqtani Inuit Association and Baffinland Iron Mines Corporation (2013). Water Compensation Agreement. Signed May 3, 2013.



November 14, 2016

Mr. Stephen Williamson Bathory  
Director Major Projects

Qikiqtani Inuit Association  
Igluvut Building, 2nd floor  
P.O. Box 1340  
Iqaluit, NU  
X0A 0H0

**Re: Response to Findings and Recommendations - QIA August Inspection**

Dear Stephen:

During August 12<sup>th</sup> to August 16<sup>th</sup>, 2016, Arktis Solutions Inc. conducted an environmental inspection at Baffinland's Mary River Project. During the inspection, several concerns and recommendations were identified and outlined in the QIA letter dated August 25, 2016.

The attached Table A.1 summarizes the findings and recommendations noted by QIA during the August inspection and provides Baffinland's response.

Please do not hesitate to contact us should you have any further comments or questions.

Sincerely,

James Millard  
Environmental Manager

Attach: QIA Letter to Baffinland, dated August 25, 2016 (six pages)

Table A.1 – Baffinland Response to QIA Letter (two pages)

Cc: Jamie Van Gulck (Arktis Solutions)  
Todd Burlingame, Wayne McPhee, Sylvain Proulx, Robert Gagne (Baffinland)

**Table A.1 - Baffinland Response to QIA Letter, dated August 25, 2016 (Inspection Date August 12-16)**

No.	Description QIA Inspector's Concern or Finding	QIA Recommended Action	Item Status	BIM Response
1	The water level in the East Sedimentation Pond, at Milne Ore Stock Pile Facility, is near the freeboard limit. Based on GPS readings, current freeboard is approximately 1 m. BIMC stated that the water quality in the pond was being sampled the day of inspection for comparison with effluent quality limits and that the freeboard requirement in the issued for construction drawings is 0.3 m. There is no freeboard requirement listed in the water licence.	Recommendation 1: If water in the pond meets the water quality criteria, it is recommended that the water be discharged before the freeboard limit is reached. If the water quality is not acceptable, it is recommended to relocate the water to an alternate approved containment facility, to ensure freeboard is not exceeded. During the Inspection, BIMC collected a water sample from this pond and agrees that if it is within licence limits for water quality criteria, discharge of water from the pond is to occur.	Ongoing	The recommendation provided by QIA is standard practice for operations of Baffinland's sedimentation ponds. The recommended minimum freeboard for the operation of the Milne Ore Stockpile Sedimentation Ponds is 0.3 m, based on the design engineer's recommendation. The water quality and freeboard in the ponds are and will be monitored closely. The ponds were discharged periodically throughout the summer period in accordance with the applicable terms, conditions, and effluent criteria outlined in Type A Water Licence (2AM-MRY1325).
2	The Milne landfarm contains waste debris including a HDPE liner (from the former bladder facility) mixed in with hydrocarbon contaminated soil. The waste debris and HDPE liner are a primary reason why the landfarm is currently not operational.	Recommendation 2: It is recommended that all debris, including the HDPE liner be removed and only design approved material be placed in the landfarm to allow for its operation, to treat hydrocarbon contaminated soil. This recommendation was also noted in previous 2015 and 2016 Environmental Inspections <sup>2,3</sup> during which BIMC agreed the activity would be completed by September 30, 2016.  During the Inspection, BIMC agreed the landfarm cannot operate with the debris in the containment cell. The deadline of September 30, 2016 remains.	Ongoing	Most of the accessible HDPE liner was removed from the Milne Port landfarm prior to September 30, 2016, and stored in lined seacans for shipment off site during the 2017 sealift. Other types of waste debris were also removed and properly sorted and disposed. Some oversize aggregate remains to be removed and this will be completed prior to May 31, 2017. During summer 2017, the landfarm will be operated in accordance with the approved Baffinland Landfarm Operation, Maintenance and Monitoring Manual.
3	Specified Substances have been stockpiled along KM 3 and 4 of the Tote Road. Additionally, screening of the quarried material has recently occurred at a location near KM 3.5. Stockpiling and processing of Specified Substances is an activity that is planned for the quarry site and managed under the Quarry Management Plan.  This is not an approved activity along the Tote Road, which may have negative environmental impacts. For example, the quarry site monitors the surface run off water quality; however, this is not necessarily occurring at the Tote Road stockpiles.	Recommendation 3: If water is present, it is recommended that water quality downgradient of the stockpiled Specified Substances and screener location be monitored for potential impacts to the receiving environment. Parameters to monitor shall be the same as that applied to the quarry run off waters. Testing shall be at a frequency as applied to the quarry run off waters and defined in the water licence. If water quality monitoring results in unacceptable quality, corrective action shall be implemented immediately to reduce the water quality in the downstream. During the Inspection, BIMC agreed to complete water quality testing in this area.	Ongoing	Runoff or water flow was not observed downgradient of the crushing/screening activity at km 3.5 during the weekly water sampling events which occurred on August 22, August 29 and September 5. Because of this, no water quality monitoring location has been established at this time. During the spring and summer of 2017, BIMC will continue to monitor for runoff and water flow downgradient of the crushing/screening activity at km 3.5.
4	The perimeter fence for the Mary River landfill has been removed. A perimeter fence can be an effective method to manage windblown debris.	Recommendation 4: It is recommended that a perimeter fence to mitigate against windblown debris entering the receiving environment be reinstalled. This item was also identified during the June 2016 inspection.  During the Inspection, BIMC agreed that a fence is effective in mitigating against windblown waste and this is noted in their management plans. Current planning is to have a fence installed in the 2016 season.	Completed	The old fence was removed during landfill berm extension activities. A new perimeter fence was installed around the open face of the landfill during September 2016. The fence is positioned around the northern perimeter of the landfill and has proven effective in capturing windblown waste originating from the landfill. Wind blown waste captured by the fence is routinely removed and redeposited back in the landfill.

**Table A.1 - Baffinland Response to QIA Letter, dated August 25, 2016 (Inspection Date August 12-16)**

No.	Description QIA Inspector's Concern or Finding	QIA Recommended Action	Item Status	BIM Response
5	The recent fuel spill at Milne is in the process of being remediated. There will be a large volume of contaminated water that will require treatment prior to discharge (estimates are >70,000 m3 of contaminated water). The contaminated water will be partially stored in new fuel bladders that will be positioned within the Milne fuel storage facility. The residual contamination in the fuel facility will likely result in additional contaminated water in the future and will require regular management. The current means available on site to treat hydrocarbon contaminated water has a treatment capacity of 50 to 70 m3/day (dependent on influence concentration). Thus, there may be limited water treatment capacity to manage hydrocarbon contaminated water at site.	<p>Recommendation 5a: BIMC complete a needs assessment to increase the capacity for hydrocarbon contaminated water treatment. This item was also identified during the June 2016 inspection</p> <p>BIMC notes that the management of the contact water from the recent spill may need to be addressed independent from the current on-site treatment system. The details of the spill clean-up are not yet finalized at the current time. BIMC is of the opinion that the current treatment capacity available at site is sufficient to meet operational needs.</p> <p>Recommendation 5b: The use of fuel bladders at the Mary River project has been identified as environmental concern by QIA in the past. BIMC is reminded that the QIA do not accept the use of fuel bladders as an approved means for fuel storage. It is acknowledged that BIMC use of the fuel bladders in responding to this spill is only for the temporary storage of contact water. This practice is acceptable to QIA however must only be use for short-term temporary storage (not more than one-year).</p>	Ongoing	<p>To date, Baffinland has been able to effectively treat the volume of oily water using the existing treatment plant. The volume of oily water requiring treatment is safely stored in engineered lined facilities. Baffinland reviews storage and treatment capacity of its facilities on a periodic basis.</p> <p>Consideration is currently being given to acquiring additional equipment to increase the onsite capacity for hydrocarbon contaminated water treatment, specifically to deal with the recent spill referenced in QIA's comments. In future, Baffinland will endeavor to update QIA and others on the status of this initiative.</p> <p>Baffinland is currently utilizing fuel bladders as short term storage for hydrocarbon residuals and contaminated water associated with the fuel spill and has no plans to use the bladders to store fuel for the longer term. The fuel bladders currently are situated within the secondary containment (berm) of the Milne Port Tank Farm Facility.</p>
6	Based on a review of select management plans and responses from BIMC environmental staff, the QIA has formed the following opinions: i. The timing for the complete construction of the road is not well understood. ii. Operations of the road are occurring prior to complete construction of the road. iii. There are road construction upgrades that are not in accordance with the issued for construction drawings, and modifications have been completed during construction to address safety and operational efficiency. iv. There is uncertainty on the expected as-built information to be reported by BIMC. The timing for reporting as-built information is also not well understood. v. The water quality criteria to apply to water crossings during construction, operation and closure phases are uncertain. vi. The locations for water quality monitoring appear to be mainly associated with water crossings that may have a potential impact on fish. Monitoring of water crossings, or other water bodies potentially impacted by the Tote Road, may not be captured within the current monitoring program. There are potential implications regarding the assessment of changes to water quality, as needed to evaluate impacts as per the Water Compensation Agreement <sup>4</sup> . vii. There is a need to have a response action framework to document the decision process on when to implement sediment and erosion control measures, and dust control measures, to mitigate against potential impacts to water.	<p>Recommendation 6a: In addition to the recommendation for the Tote Road Management Plan content provided to BIMC on August 1, 2016 5, the following items are recommended to be included within the Tote Road Management Plan:</p> <p>i. The process BIMC is to follow to complete a modification of the Tote Road design during construction. A modification may be related, but not limited to: realignment, cut and fill, or change to a water crossing. ii. Outline the expected Tote Road, and associated infrastructure, as-built information that will be reported to QIA. iii. Outline the anticipated construction, operation and closure phase timelines. iv. Outline the water quality monitoring locations, frequency and parameters to test for each of the following phases: construction, operation and closure. Monitoring is to address, but not be limited to: water crossing locations; adjacent water bodies; abandoned road sections; effects from dust accumulation; and subsequent drainage to water. v. Water quality criteria during the construction, operations and closure phases of the project. vi. Document the response action framework to limit potential impact to water from sedimentation and erosion onto waters. vii. Document the response action framework to limit potential impacts to water from dust. viii. Pertinent management outcomes from the work being completed to address the ECCC directive.</p> <p>Recommendation 6b: Yearly as-built information for the Tote Road be submitted to QIA within the Annual Report.</p>	Ongoing	<p>Baffinland is currently considering the various recommendations provided in the August 1 letter as well as the items provided in the August 25, 2016, inspection report. We look forward to more fully responding to QIA on those items that directly relate to the Commercial Lease, e.g., Recommendation 6a (i., ii., iii) and 6b. The Roads Management Plan will be revised and submitted to QIA and others by March 31, 2017. This revised document will address these recommendations.</p> <p>With regard to water quality concerns and monitoring along the Tote Road, Baffinland continues to work with EC, INAC, DFO, as well as QIA on water quality and crossing issues and concerns. The development and implementation of the Sedimentation and Dust Mitigation Action Plans are examples of Baffinland's efforts and work in this regard.</p>