

## APPENDIX E.13

### SNP Modification Application

April 30, 2020

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P.O. Box 119  
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**Re: Mary River Project - Changes to Surveillance Network Program (SNP)  
Type 'A' Water Licence 2AM-MRY1325 - Amendment No. 1**

In accordance with Part I, Items 6 & 28 of the Baffinland Iron Mines Corporation's (Baffinland) Type 'A' Water Licence – 2AM-MRY1325 - Amendment No. 1 (Type 'A' Water Licence) for the Mary River Project (Project), Baffinland is pleased to submit this request for approval for proposed changes to the Project's Surveillance Network Program (SNP), outlined in Schedule I of the Type 'A' Water Licence.

The SNP outlines the monitoring requirements for Project effluents discharged to the receiving environment and surface water drainage downstream of specific Project areas. The current and proposed SNP monitoring stations at the Mine Site and Milne Port, as presented in Schedule I of the Type 'A' Water Licence - Amendment No. 1 are presented in Figure 1 and Figure 2, respectively. Baffinland is proposing location changes to four (4) sites and an inactivation of one (1) site at Milne Port due to the implementation of the Port Site Water Management Plan and associated construction activities in 2019. Baffinland is also proposing one (1) new station at Milne Port and an updated station location at Mary River. A summary of the proposed changes to the SNP monitoring stations and associated justifications are presented in Table 1.

An application was submitted by Baffinland in 2019<sup>1</sup> to revise the SNP monitoring stations associated with the Bulk Sample phase pit and stockpile, which had become inactive and were encompassed by the development of Deposit 1 on the initiation of the Early Revenue Phase. Baffinland proposed the relocation of these SNP stations, such that they would better characterize surface water quality associated with active development of Deposit 1, however a location for MS-MRY-10 could not be determined until the 2019 field season. Based on observations of surface water flow throughout the 2019 field season, Baffinland is proposing an updated and finalized location for MS-MRY-10, as presented in Figure 1.

Baffinland is proposing new locations for SNP stations MP-C-B, MP-C-B01, MP-Q1-01, MP-Q1-02 and a new station MP-C-J as presented in Figure 2. The new locations/areas have been selected to provide sufficient coverage for the monitoring of surface water drainage downstream of active construction and

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<sup>1</sup> Letter titled 'Mary River Project - Changes to Surveillance Network Program (SNP) Type 'A' Water Licence 2AM-MRY1325 - Amendment No.' submitted to NWB March 31, 2019.

quarry work at Milne Port, following the implementation of the Port Site Water Management Plan. Baffinland is also proposing the de-activation of station MP-C-G.

The 2018 Annual Report included an application to the NWB to discontinue and/or relocate some monitoring stations to reflect current Project infrastructure. On September 10, 2019, the NWB accepted the proposed changes<sup>2</sup>, re-issuing Schedule I, Table 13 Monitoring Program: Milne Port Site and Table 14 Monitoring Program: Mary River Mine Site of the water licence. Baffinland identified that some stations were omitted or incorrectly presented when Schedule I was re-issued on September 10, 2019. Baffinland has detailed the station corrections, as well as the proposed changes to the SNP monitoring locations in the attached Table 2.

We trust that this information meets the requirements under Part I of the Type 'A' Water Licence and look forward to the NWB's response. Please do not hesitate to contact the undersigned should you have any questions or comments.

Regards,



Christopher Murray,  
Environmental & Regulatory Compliance Manager

Cc: Karén Kharatyan (Nunavut Water Board)  
Chris Spencer, Jared Ottenhof (Qikiqtani Inuit Association)  
Bridget Campbell, Godwin Okonkwo, Justin Hack, Jonathan Mesher (Crown-Indigenous Relations and Northern Affairs Canada)  
Megan-Lord Hoyle, Lou Kamermans, Timothy Ray Sewell, Shawn Stevens, Connor Devereaux, Amanda McKenzie (Baffinland)

#### *Figures*

Figure 1 – Mine Site Water Licence Monitoring Locations – Pre and Post Change 2020  
Figure 2 – Milne Port Water Licence Monitoring Locations – Pre and Post Change 2020

#### *Tables*

Table 1 – Proposed Changes to SNP Stations  
Table 2 – Corrections Identified in Schedule I, Tables 13 and 14 (Issued September 10, 2019)

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<sup>2</sup> Letter titled "Type 'A' Water Licence No. 2AM-MRY1325, Mary River Project - Nunavut Water Board Response to March 31, 2019 Request for Modification of Monitoring Program by Baffinland Iron Mines Corporation" submitted to Baffinland on September 10, 2019.

**Table 1: Proposed Changes to SNP Stations**

Station ID	Location	Station Description	Current Location (NAD83, Zone 17W)		Proposed Change	Reason for Change
			Easting	Northing		
MP-C-B	Milne Port	Surface discharge downstream of construction area at Milne Port	503242	7975558	Move the sampling station to a new location:  71°52'53.9"N 80°55'5.8"W	Implementation of the Port Site Water Management Plan, SNP sample site MP-C-B will be relocated due to onsite construction. Relocation of this station will allow for continued monitoring of site run-off.
MP-C-B01	Milne Port	Surface discharge downstream of construction area at Milne Port	503242	7975558	Move the station to a new location:  71°52'40.9"N 80°54'50.9"W	Implementation of the Port Site Water Management Plan, SNP sample site MP-C-B01 will be relocated due to onsite construction. Relocation of this station will allow for continued monitoring of site run-off.
MP-Q1-01	Milne Port	Within extent of quarry Q1 development	503828	7975062	Move the station to a new location:  71°52'13.2"N 80°53'22.2"W	In accordance with Part I, Items 24 of the Type 'A' Water Licence, during periods of flow and following major precipitation events, Baffinland conducts monthly water quality monitoring of surface water flows downstream of active quarries and borrows sources. Implementation of the Port Site Water Management Plan, SNP sample site MP-Q1-01 will be relocated due to onsite construction. Relocation of this station will allow for continued monitoring of site run-off.

Station ID	Location	Station Description	Current Location (NAD83, Zone 17W)		Proposed Change	Reason for Change
			Easting	Northing		
MP-Q1-02	Milne Port	Within extent of quarry Q1 development	503811	7975272	Move the station to a new location: 71°52'43.7"N 80°53'23.1"W	In accordance with Part I, Items 24 of the Type 'A' Water Licence, during periods of flow and following major precipitation events, Baffinland conducts monthly water quality monitoring of surface water flows downstream of active quarries and borrows sources. Implementation of the Port Site Water Management Plan, SNP sample site MP-Q1-02 will be relocated due to onsite construction. Relocation of this station will allow for continued monitoring of site run-off.
MP-C-G	Milne Port	Surface discharge downstream of construction area at Milne Site	502939	7976238	Discontinue monitoring station. Remove monitoring station from Table 13 (Schedule I).	This station no longer captures surface discharge downstream of construction area due to expansion of the Ore Pad at Milne Port. Thus, removal of the station is proposed.
MP-C-J	Milne Port	Surface discharge south of Laydown LP3	--	--	Proposed new station location: 71°52'22.5"N 80°54'55.2"W	In 2019, additional construction of laydown LP3 resulted in the expansion of land disturbance to the south. In order to capture any flow in this region, a new station has been proposed.
MS-MRY-10	Mine Site	Deposit No. 1 – Downstream Surface Water Drainage	564000	7915046	Move the station to a new location: 71°19'31.3"N 79°12'49.9"W	As approved by NWB on September 10, 2019, the area associated with MS-MRY-10 has been repurposed as a laydown to support mining operations at Deposit No. 1. This proposed new location for MS-MRY-10 will allow for the long-term monitoring outside the pit limit of Deposit No. 1 surface water drainage.

**Table 2: Corrections Identified in Schedule I - Conditions Applying to General and Aquatics Effects Monitoring**

**Modified Table 13: Monitoring Program - Milne Port Site**

Station	Description	Project Phases	Monitoring Parameters	Frequency	Baffinland Comment
MP-MRY-2	Freshwater Intake at Phillips Creek (Summer)	Construction Operations Closure	Group 1	Record Daily Report Monthly	
MP-MRY-3	Freshwater Intake from Km 32 Lake (Winter)	Construction Operations Closure	Group 1	Record Daily Report Monthly	
MP-01	Milne Port Sewage Treatment Facilities  (discharge into ditch prior to ocean)	Construction Operations	Groups 1, 2	Monthly	
			Group 3	Annually	
MP-01a	Milne Port Polishing Waste Stabilization Pond (PWSP)	Construction Operations	Groups 1, 2	Once prior to discharge and Monthly	
			Group 3	Annually	
MP-02	Milne Port Maintenance Shop Oily water/ WWTF	Construction Operations	Groups 1 and 4	Monthly	
MP-03	Milne Port Bulk Fuel Storage Facility Stormwater	Construction Operations	Groups 1 and 4, 5	Daily Flow Monthly	
MP-04	Milne Port Landfarm Facility Stormwater	Construction Operations Closure	Group 1 Group 5 Plus TSS	Daily Flow Monthly	
MP-C-A	Surface discharge downstream of construction area at Milne Port	Construction	Groups 1 and 8	During periods of flow and following significant precipitation events, on a monthly basis	
MP-C-B					
MP-C-C					
MP-C-D					
MP-C-E					

Station	Description	Project Phases	Monitoring Parameters	Frequency	Baffinland Comment
MP-C-F					
<del>MP-C-G</del>					To be removed, inactivation proposed for station.
MP-C-H					
MP-C-J	Surface discharge south of Laydown LP3	Construction Operation	Groups 1 and 8	During periods of flow and following significant precipitation events, on a monthly basis	New proposed site to be added to Table 13.
MP-05	Milne Port Ore Stockpile Sedimentation Pond (East)	Construction Operations Closure	Groups 1 and 7	Monthly during summer	
			Group 3	Annually	
MP-06	Milne Port Ore Stockpile Settling Pond (West)	Construction Operations Closure	Groups 1 and 7	Monthly during summer	
<del>MS-C-G</del>	Surface discharge downstream of construction area at Milne Site	Construction	Group 1 and 8	During period of flow and following precipitation events on a monthly basis	To be moved to Table 14 for Mine Site Stations.
<del>MS-C-H</del>					

**Modified Table 14: Monitoring Program - Mary River Mine Site**

Station	Description	Project Phases	Monitoring Parameters	Frequency	Baffinland Comment
MS-MRY-1	Freshwater Intake from Camp Lake	Construction Operations Closure	Group 1	Record Daily	
MS-01	Mine Site Sewage Treatment Facilities	Construction Operations	Groups 1 and 2	Monthly	
			Group 3	Annually	
MS-01a	Mine Site Polishing/Waste Stabilization Pond (PWSP)	Construction Operations	Groups 1 and 2	Once prior to discharge and Monthly	
			Group 3	Annually	
MS-02	Mine Site Maintenance Shop Oily Water WWTF	Construction Operations	Groups 1 and 4	Monthly	

Station	Description	Project Phases	Monitoring Parameters	Frequency	Baffinland Comment
MS-MRY-04	Exploration Camp Sewage Treatment Facility	Construction Operations Closure	Groups 1 and 2	Monthly	
			Group 3	Annually	
MS-MRY-04a	Exploration Camp Polishing Waste Stabilization Ponds (PWSP)	Construction Operations	Groups 1 and 2	Once prior to discharge and monthly hereafter	
			Group 3	Annually	
MS-03	Mine Site Bulk Fuel Storage Facility Stormwater	Construction Operations	Groups 1 and 5	Daily Flow Monthly	
MS-04	Mine Site Fuel Unloading Station Stormwater	Construction Operations	Groups 1 and 5	Daily Flow Monthly	
MS-05	Mine Site Landfarm Facility Stormwater	Construction Operations	Groups 1 and 5 Plus TSS	Daily Flow Monthly	
MS-MRY-6	Exploration Camp Bulk Fuel Storage Facility (Bladder Farm) Stormwater	Construction Operations	Groups 1 and 5	Daily Flow Monthly	
MS-06+	Ore Stockpile Pond Stormwater	Operations Closure	Groups 1 and 7	Monthly during summer	
			Group 3	Annually	
MS-07	Run of Mine Ore Stockpile Pond Stormwater	Operations Closure	Groups 1 and 7	Monthly during summer	
			Group 3	Annually	
MS-08	Waste Rock Stockpile West Pond	Operations Closure	Groups 1 and 7	Monthly during summer	
			Group 3	Annually	
MS-09	Waste Rock Stockpile East Pond	Operations Closure	Groups 1 and 7	Monthly during summer	
			Group 3	Annually	
MS-MRY-09	Deposit No. 1 surface water drainage (including the Bulk Sample Open Pit)	Construction Operations	Groups 1 and 7	Monthly (during summer)	
			Group 3	Annually	
MS-MRY-10	Deposit No. 1 surface water drainage	Construction Operations Closure	Groups 1 and 7	Monthly (during summer)	Updated location of MS-MRY-10 proposed.
			Group 3	Annually	
MS-MRY-13a & MS-MRY-13b	Non-Hazardous Waste Landfill	Construction Operations Closure	Groups 1 and 6	Daily Monthly	



Station	Description	Project Phases	Monitoring Parameters	Frequency	Baffinland Comment
	– Downstream surface water drainage				
MS-C-A	Surface discharge downstream	Construction	Groups 1 and 8	During periods of flow and following significant precipitation events, on a monthly basis	
MS-C-B					
MS-C-C					
MS-C-D					
MS-C-E					
MS-C-F					
MS-C-G	Surface discharge downstream of construction area at Mine Site	Construction	Group 1 and 8	During period of flow and following precipitation events on a monthly basis	Moved to Table 14, previously listed in Table 13.
MS-C-H					



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