

Nunavut Impact Review Board

Summer 2021 Site Update  
Report

**The Mary River Project**

Baffinland Iron Mines Corporation

NIRB File No. 08MN053



September 2021

**Report title:** Summer 2021 Site Update Report for the Nunavut Impact Review Board’s Monitoring of Baffinland Iron Mines Corporation’s *Mary River Project* (NIRB File No. 08MN053)

**Project:** Mary River Project  
**Project Location:** Qikiqtani (North Baffin) Region, Nunavut  
**Land Tenure:** Inuit Owned Land

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**Last In person Site Visit:** February 6-9, 2020

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**Cover Photos:** Aerial view of the crusher pad at Mine Site

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Objectives and Purpose of Site Update .....	1
1.2	Objective and Purpose of a Public Information Session .....	1
<b>2</b>	<b>BACKGROUND OF THE MARY RIVER PROJECT AND AMENDMENTS.....</b>	<b>2</b>
<b>3</b>	<b>PREPARATIONS FOR THE SITE UPDATE .....</b>	<b>4</b>
<b>4</b>	<b>GENERAL OBSERVATIONS FOR MARY RIVER MINE SITE.....</b>	<b>6</b>
<b>5</b>	<b>MARY RIVER MINE SITE .....</b>	<b>7</b>
5.1	Accommodations Complex .....	7
5.2	Waste Rock Storage Facility, Sedimentation Pond, and Wastewater Treatment Facility.....	8
5.3	Deposit No. 1.....	9
5.4	Crusher Plant and Sedimentation Pond.....	10
5.5	Preparation for Spring Freshet.....	15
5.6	Waste Management Facility and Landfill Area .....	16
5.7	Mine Site Tank Farm .....	19
5.8	Other Mine Site Infrastructure and Activities.....	20
<b>6</b>	<b>STOTE ROAD .....</b>	<b>24</b>
<b>7</b>	<b>MILNE PORT.....</b>	<b>29</b>
7.1	Landfarm Area.....	30
7.2	Ore Dock and Stockpile Area.....	31
7.3	Milne Port Sedimentation Pond.....	34
7.4	Milne Port Incinerator, Waste Management Facility, Spill Response Equipment, and Maintenance Shops .....	35
7.5	General Laydown Areas .....	37
7.6	Phase 2 Materials Laydown Areas .....	38
7.7	Other Milne Port Facilities .....	40
<b>8</b>	<b>CONSTRUCTION AND/OR MODIFICATIONS COMPLETED IN 2020/2021 .....</b>	<b>43</b>
<b>9</b>	<b>COVID-19 .....</b>	<b>45</b>
9.1	2021 Monitoring Activities.....	48
<b>10</b>	<b>OTHER ITEMS.....</b>	<b>51</b>
<b>11</b>	<b>CONCLUSION .....</b>	<b>54</b>

## LIST OF FIGURES

Figure 1: Project Location Map.....	2
Figure 2: Early Revenue Phase of the Mary River Project .....	3

## LIST OF TABLES

Table 1: Summer 2021 Site Update Report Select Terms and Conditions for the Mary River Project.....	6
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## LIST OF PHOTOGRAPHS

Photo 1: Aerial view of Mary River Mine Site, August 2019.....	5
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Photo 2: Aerial view of Milne Port, August 2019 .....	5
Photo 3: Sallivik Accommodation Complex with Metal Skirting Around the Base .....	7
Photo 4: Bernice Pitseolak, Site Services Mine Pool Operator .....	7
Photo 5: Waste Rock Facility Facing South from Pond .....	8
Photo 6: Waste Rock Pond Aerial .....	8
Photo 7: Water Treatment Plant Located at Waste Rock Stockpile West Pond .....	9
Photo 8: Deposit No. 1 Pit Walls, August 2021.....	9
Photo 9: Deposit No. 1 Access Road .....	10
Photo 10: Aerial view of the Crusher Plant Facility, July 2021 .....	10
Photo 11: Conveyor at Crusher Facility .....	11
Photo 12: Hoods and Shrouding on Crusher Conveyor .....	11
Photo 13: View of Iron Build-up at Transfer Point in the Crusher Facility .....	12
Photo 14: Iron Build-up Under Crusher Equipment at Transfer Point .....	12
Photo 15: Standing Water at the Crusher Facility .....	13
Photo 16: Dustfall Monitoring Station Towards Deposit 1.....	13
Photo 17: View of the Tundra Surrounding the Crusher Plant Pond and Ditches .....	14
Photo 18: Another View of the Tundra Surrounding the Crusher Ore Stockpile Stormwater Pond and Ditches .....	14
Photo 19: Snow Removal from a Culvert Across from Sallivik Camp .....	15
Photo 20: Snow Removal Near Weatherhaven .....	15
Photo 21: Freshet Monitoring Site, Surface Discharge Downstream of Construction area.....	16
Photo 22: Incinerator Building at Mary River Mine Site.....	16
Photo 23: Waste Segregation in the Incinerator Building .....	17
Photo 24: Fencing at Mine Site Landfill looking North .....	17
Photo 25: Fencing at Mine Site Landfill looking Southeast .....	18
Photo 26: Groundwater Monitoring Wells Near the Mine Site Landfill.....	18
Photo 27: Landfill Piles as per the Waste Management Plan.....	19
Photo 28: Mine Site Bulk Fuel Storage Facility Stormwater (MS-03).....	19
Photo 29: Spill Response Equipment at the MS-03 Tank Farm .....	20
Photo 30: Weather Station at the Weatherhaven .....	20
Photo 31: Quarry at Mary River Mine .....	21
Photo 32: Waste Segregation Bins Outside the Mobile Maintenance Shop .....	21
Photo 33: Waste Segregation in the Mobile Maintenance Shop .....	22
Photo 34: Laydown Area at Mary River on the South Side of the Sallivik Camp.....	22
Photo 35: View of the Hunters and Trappers Organization Cabin from a Helicopter .....	23
Photo 36: Hunters and Trappers Organization Cabin near Mary River Mine .....	23
Photo 37: Visitor Communication Centre near Weatherhaven .....	24
Photo 38: Culvert Inspections.....	24
Photo 39: Snowmobile Crossing Signage at KM91 .....	25
Photo 40: Wildlife Camera at KM42 .....	25
Photo 41: Dustfall Monitoring Station at KM25 .....	26
Photo 42: Truck Wetting the Tote Road for Dust Suppression .....	26
Photo 43: Tire Drag for Dust Suppression .....	27
Photo 44: Water Pumping Station at the KM97 Borrow Pit.....	27

Photo 45: Emergency Shelter at KM40.....	28
Photo 46: Interior of Emergency Shelter .....	28
Photo 47: View of North Side of the Milne Port Site.....	29
Photo 48: View of West side of the Milne Port Site .....	29
Photo 49: Milne Port Landfarm .....	30
Photo 50: Landfarm Laydown with Oily Water Storage Treatment Equipment .....	30
Photo 51: Sea Ice from the Ship Loader .....	31
Photo 52: Ore Dock and Ship Loader .....	31
Photo 53: David Akikulu, Ship Loader in Ship Loader Tower One .....	32
Photo 54: Stockpile Area and Ore Dock.....	32
Photo 55: Cargo Unloading at Milne Inlet .....	33
Photo 56: Bulk Fuel Off-load at Milne Inlet .....	33
Photo 57: MP-06A Settling Pond looking West .....	34
Photo 58: MP-06 Settling Pond looking West .....	34
Photo 59: Waste Sorting Bins Outside the Incinerator Facility .....	35
Photo 60: Milne Port Incinerator Facility.....	35
Photo 61: Hazardous Waste Berm 2.....	35
Photo 62: Hazardous Waste Berm 3.....	35
Photo 63: Storage of Spill Response Equipment Located Next to Emergency Response Team Shop .....	36
Photo 64: Mobile Maintenance Shop.....	36
Photo 65: Laydown at KM7.....	37
Photo 66: Laydown along the Tote Road at KM6.....	37
Photo 67: Laydown Area at Milne Port.....	37
Photo 68: Laydown Area at Milne Port at the South Side of the Port Site Complex Accommodations Building.....	37
Photo 69: Crusher Building Stored at Milne Port .....	38
Photo 70: Railway Car Tipping Building .....	38
Photo 71: Conveyor Belts Stored at Milne Port.....	39
Photo 72: Signage on Phase 2 Buildings .....	39
Photo 73: Milne Port Quarry .....	40
Photo 74: Magazine Storage Area Access Road at Milne Port .....	40
Photo 75: Tire Storage Waiting for Backhaul.....	41
Photo 76: Milne Port Fuel Tank Farm .....	41
Photo 77: Hunters and Trappers Organization Cabin.....	42
Photo 78: Freight Dock .....	42
Photo 79: Mine Haul Road KM-106 to KM-107 following Lift Construction .....	43
Photo 80: New Stockpile Located at KM-106 .....	43
Photo 81: New Access Road at KM-105.....	44
Photo 82: Expansion of the Mine Site Helipad .....	44
Photo 83: One of the New Dust Collectors around Milne Port .....	45
Photo 84: New Culvert by Effluent Discharge .....	45
Photo 85: New culvert near Site Services Shop.....	45
Photo 86: COVID Testing Outside H-wing.....	46

Photo 87: Signage for New COVID Procedure .....	46
Photo 88: Signage Regarding COVID Safety Procedure .....	47
Photo 89: Signage Regarding COVID-19 Visitor Procedures at the Hunters and Trappers Organization Cabin .....	47
Photo 90: Nunavummiut Returning to Mary River.....	48
Photo 91: Signs at Mary River .....	48
Photo 92: Tote Road Monitoring Program .....	48
Photo 93: Environmental Technician Conducting a Test for Hydrology Program.....	49
Photo 94: Environmental Technicians Sampling Water for the Aquatic Effects Monitoring Program Lakes Program.....	49
Photo 95: Research Vessel Completing the Marine Environmental Effects Monitoring Program .....	50
Photo 96: Brucehead Marine Mammal Monitoring Camp.....	50
Photo 97: Golder Aerial Crew .....	51
Photo 98: Start of Sailiivik Walking Trail; Posters on Wildlife Identification and Local Geology .	51
Photo 99: Photos in Sailiivik Building showing Walking Trail .....	52
Photo 100: Cafeteria Bulletin Board Posting Waste Sorting, Animals Tracks, and Caribou Encounters .....	53
Photo 101: Sailiivik Recreation Room.....	53

# 1 INTRODUCTION

The Nunavut Impact Review Board (NIRB or Board) was established through Articles 10 and 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and is responsible for post environmental assessment monitoring of a project in accordance with Part 7 of Article 12 of the *Nunavut Agreement* and s. 135(4) of the *Nunavut Planning and Project Assessment Act (NuPPAA)*, S.C. 2013, c. 14.

The NIRB Monitoring Officers were unable to conduct a summer site visit in 2021 due to constraints and restrictions caused by the COVID-19 pandemic. Therefore, the Monitoring Officers could not visually inspect activities and assess compliance to the requirements of the Project Certificate. To keep parties up to date at site, the NIRB developed this Site Update Report based on discussions, updates, and photos provided by the Proponent for the summer season. This Site Update Report will form a part of the NIRB's 2020-2021 monitoring program.

## 1.1 Objectives and Purpose of Site Update

The objective of the NIRB's site update is to determine whether, and to what extent the land or resource use in question, is being carried out within the predetermined Terms and Conditions as set out in the amended Project Certificate No. 005 as issued for the Mary River Project (Mary River or the Project) in accordance with Section 12.7.2(b) of the *Nunavut Agreement* and [s. 135(3)(b)] of the *NuPPAA*.

The NIRB Project Certificate used to assess Baffinland Iron Mines Corporation's (Baffinland or the Proponent) compliance throughout this report was Project Certificate No. 005, Amendment 3 (June 18, 2020).

Baffinland staff provided images of the Project area and activities based on a list prepared by the NIRB. These images provide information necessary for agencies to enforce terms and conditions and will further be used to assess the accuracy of the predictions from the project impact statements.

Materials related to the NIRB's 2020-2021 monitoring year will be filed under the application number for the Extension Request to the Production Increase Proposal [www.nirb.ca/project/124703](http://www.nirb.ca/project/124703).

## 1.2 Objective and Purpose of a Public Information Session

The NIRB was unable to host Public Information Sessions in the summer of 2021 in Igloolik and Pond Inlet due to the COVID-19 pandemic. However, pursuant to the *Nunavut Agreement* and the Mary River Project Certificate No. 005, the NIRB monitoring responsibilities include providing periodic updates regarding its Monitoring Program for the communities most affected by the Project. In lieu of in-person Public Information Sessions, the NIRB is organizing radio shows in Igloolik and Pond Inlet to ensure ongoing awareness of Project-specific Terms and Conditions. Further information on the radio shows will be provided as soon as available.

## 2 BACKGROUND OF THE MARY RIVER PROJECT AND AMENDMENTS

### *The Mary River Project*

The original Mary River Project was approved by the NIRB in December 2012 and involved the development of an open pit iron ore mine on northern Baffin Island. It included the use of an existing Tote Road between Milne Inlet and the Mine Site at Mary River as well as railway connecting the Mine Site to the Steensby Port (Figure 1). As originally proposed, iron ore would be transported from the Mine Site via a railway south to the port at Steensby Inlet. Year-round shipping of the iron ore would be through Foxe Basin and Hudson Strait to markets in Europe, using purpose-built ore carriers. Since the issuance of the Mary River Project Certificate No. 005 on December 28, 2012, several elements of the original Mary River Project have not been constructed, although these remain authorized under Project Certificate No. 005, including: the port at Steensby Inlet, the railway from the Mine Site to Steensby Inlet and the fleet of purpose-built ore carriers.

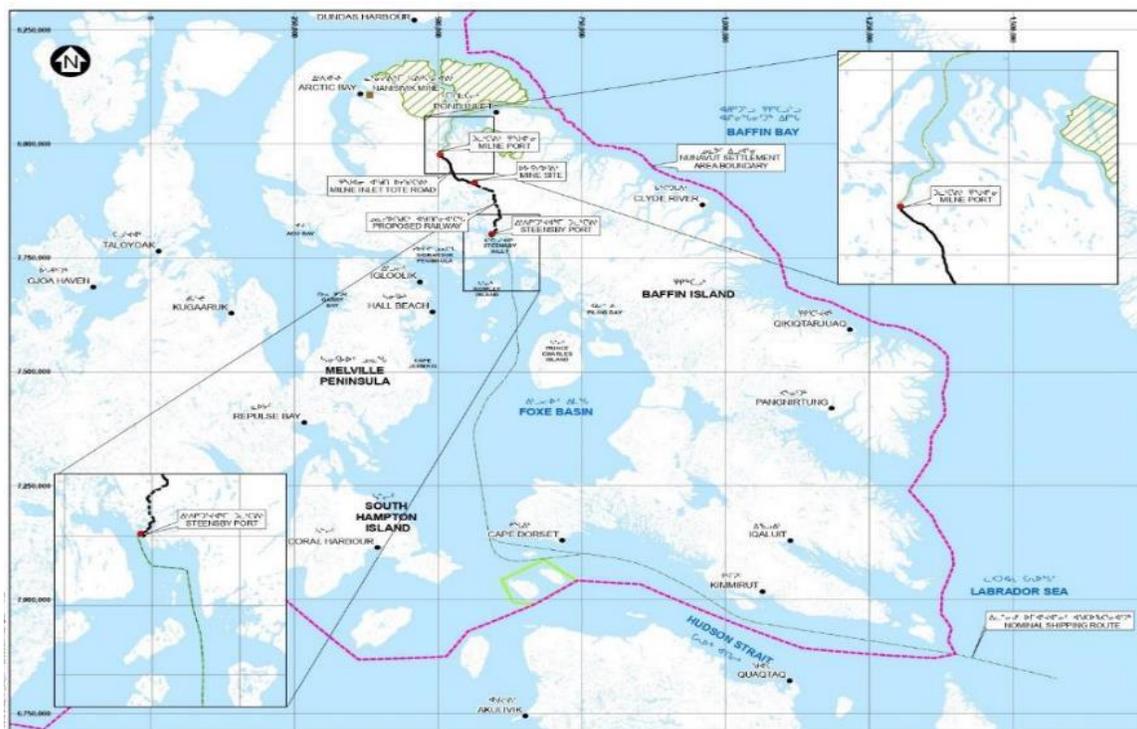


Figure 1: Project Location Map

### *The Early Revenue Phase Proposal*

In January 2013, Baffinland applied for an amendment to the original Mary River Project, seeking to modify specific project components and activities to support limited mining activity to commence prior to the construction of the railway and full facilities at the Steensby Port (Figure 2). Specifically, Baffinland proposed to use the Tote Road to transport a smaller volume of ore to Milne Port for shipment during the open water season only, with development of the railway, Steensby Port, and the purpose-built ore carriers to be delayed until shipments through Milne Inlet had generated sufficient revenue to support subsequent development. Consequently, the

Early Revenue Phase Proposal changed the shipping route from Foxe Basin to a northern route through Eclipse Sound. Following the NIRB’s assessment of the Early Revenue Phase Proposal, the Project as modified was approved to proceed and Mary River Project Certificate No. 005 was subsequently amended and re-issued on May 28, 2014.

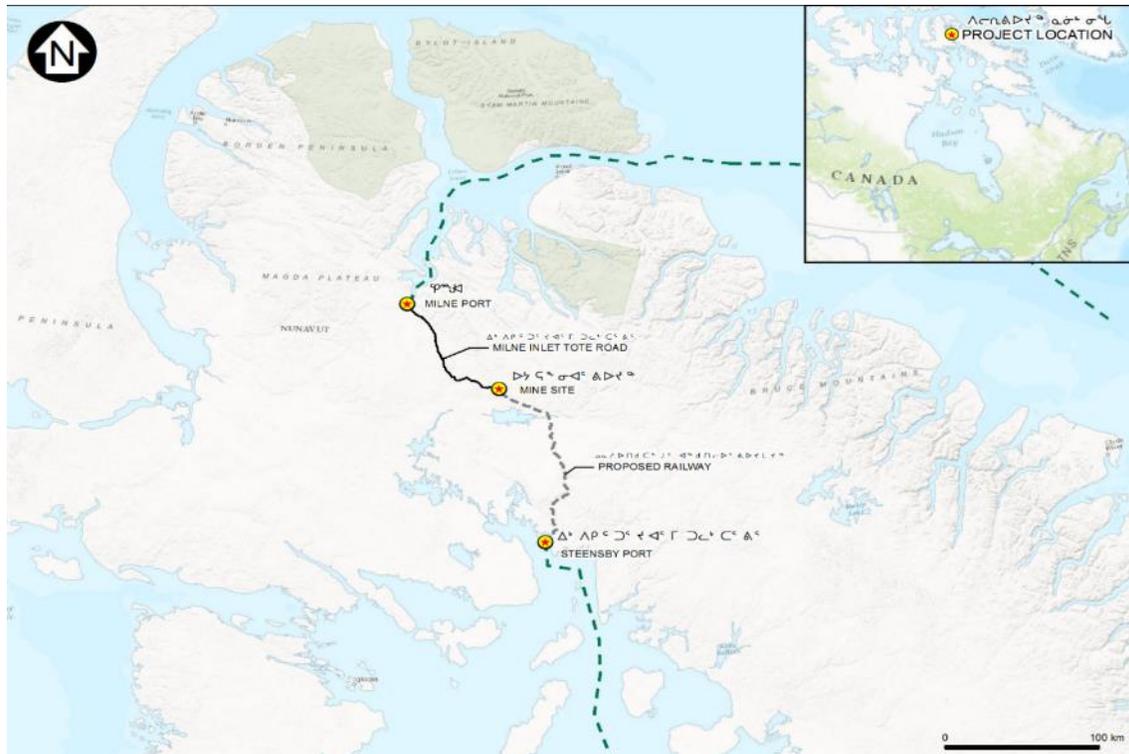


Figure 2: Early Revenue Phase of the Mary River Project

***Production Increase Proposal***

In April 2018, Baffinland submitted the “Production Increase, Fuel Storage and Milne Port Accommodations Modification Proposal” (Production Increase Proposal) to the NIRB. This proposed an increase in the maximum volume of ore that would be trucked from the Mary River site to Milne Port via the Tote Road from 4.2 million tonnes per year (Mt/a) to 6 Mt/a, as well as the addition of a 15 million-liter (ML) diesel fuel tank within the existing Fuel Storage Facility at Milne Port, and installation of a new 380-person accommodation at Milne Port. On August 31, 2018, the NIRB issued its Reconsideration Report and Recommendations for the Production Increase Proposal to then Minister of Intergovernmental, Northern Affairs and Internal Trade which advised that the camp upgrades and fuel storage expansion proceed, while the increased transportation of ore to Milne Port and shipping to markets not be allowed to proceed. On September 30, 2018, the Ministers of Intergovernmental Affairs, Northern Affairs and Internal Trade, and Crown-Indigenous Relations, on behalf of the Responsible Ministers accepted the Board’s recommendation to allow the fuel increase and installation of new accommodation at Milne Port without amendment to the Project Certificate. The Ministers also varied the Production Increase Proposal allowing Baffinland to increase shipping from Milne Inlet until the end of 2019 and Project Certificate No 005, Amendment 2 was released on October 30, 2018.

### ***Extension Request to the Production Increase Proposal***

On December 6, 2019 Baffinland formally requested the Board to consider further modifying Conditions 179(a) and 179(b) of the Mary River Project Certificate<sup>1</sup> as part of its “Extension Request to the Production Increase Proposal” (the Extension Request) as a result of the suspension of the Phase 2 Development Proposal Hearing proceedings. After the NIRB’s assessment of the potential ecosystemic and socio-economic effects of the Extension Request, on March 4, 2020 the Board provided their recommendation to the Minister of Northern Affairs, as well as the Minister of Fisheries and Oceans and the Canadian Coast Guard, Minister of Environment and Climate Change, Minister of Transport and Minister of Natural Resources Canada, advising that the Ministers approve Baffinland’s Extension Request to the Production Increase Proposal until December 31, 2021. On May 19, 2020. The Minister of Northern Affairs wrote to the Board on behalf of the Responsible Ministers to accept the Board’s recommendation regarding Term and Conditions 179 (a) and (b) of the Extension Request. The Minister also varied Term and Conditions 179 (c) and 183 in Project Certificate No. 005 Amendment No. 3, issued on June 18, 2020, to ensure those conditions were meeting their original intent.

### ***Current Assessment – Phase 2 Development Proposal***

During the 2020-2021 monitoring period, the NIRB continued the reconsideration for the Phase 2 Development Proposal. The NIRB conducted the resumed Public Hearing Technical Sessions from January 25-30, 2021, and the Community Roundtable scheduled for February 4-6, 2021. On January 29, 2021, the Ikajutit Hunters and Trappers Association brought forward a motion to extend the January-February 2021 sessions and provided several options. The Board partially granted this motion scheduling Extended Public Hearing sessions for April 12-21, 2021. On April 15, 2021, Nunavut’s Chief Public Health Officer announced a positive case of COVID-19 in Iqaluit and ordered the immediate suspension of the Board’s Public Hearing. With the COVID-19 outbreak under control in Iqaluit, the Board has scheduled the resumption of the Extended Public Hearing on November 1<sup>st</sup> to November 6<sup>th</sup>, 2021.

## **3 PREPARATIONS FOR THE SITE UPDATE**

In preparation of the site update, the NIRB Monitoring Officers reviewed the following items and used them to create a site update checklist which was provided to the Proponent as guidance in providing current photos of the site to assess compliance to the requirements of the Mary River Project Certificate.

- Mary River Project Certificate No. 005, Amendment No. 3;
- Previous NIRB 2020 Summer and 2021 Winter Site Update Reports;
- 2020 NIRB Monitoring Report; and
- Additional follow-up correspondence relevant to the monitoring of the approved Mary River Project.

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<sup>1</sup> Baffinland letter to the NIRB regarding their Extension Request to the Production Increase Proposal (Doc. ID No. 327657).



## 4 GENERAL OBSERVATIONS FOR MARY RIVER MINE SITE

The following are images supplied by Baffinland in August 2021 and the photos were taken between May and August 2021. The photos have been provided as information for all parties and where photos pertain specifically to a Term and Condition of the Mary River Project Certificate (Project Certificate No 005, Amendment No. 3), Monitoring Officers have noted it in the following table.

**Table 1: Summer 2021 Site Update Report Select Terms and Conditions for the Mary River Project**

<b>T&amp;C No.</b>	<b>Category</b>	<b>Observation</b>
<b>Meteorology and Climate</b>		
5	Weather Stations	Evidence of weather stations installed on site was provided in <a href="#">Photo 30</a> .
10	Dustfall Monitoring	Evidence of dustfall monitoring stations were provided at the Mine Site, <a href="#">Photo 16</a> : Dustfall Monitoring Station Towards Deposit 1, along the Tote Road, <a href="#">Photo 41</a> : Dustfall Monitoring Station at KM25, and at Milne Port, <a href="#">Photo 83</a> : One of the New Dust Collectors around Milne Port. Evidence of dust mitigation measures appear in <a href="#">Photo 42</a> : Truck Wetting the Tote Road for Dust Suppression and <a href="#">Photo 43</a> : Tire Drag for Dust Suppression.
11	Incinerator	Evidence of waste management practices at the incinerator facilities at both the Mine Site and Milne Port are shown in <a href="#">Photo 23</a> : Waste Segregation in the Incinerator Building and <a href="#">Photo 59</a> : Waste Sorting Bins Outside the Incinerator Facility.
<b>Groundwater and Surface Water</b>		
23	Groundwater Monitoring	Evidence of compliance was provided in <a href="#">Photo 26</a> : Groundwater Monitoring Wells Near the Mine Site Landfill.
<b>Terrestrial Wildlife Habitat and Waste Management</b>		
54	Terrestrial Environmental Management Plan	Evidence of wildlife video-surveillance was provided in <a href="#">Photo 40</a> : Wildlife Camera at KM42 .
64	Waste Management – Carnivore Deterrents	Evidence of skirting around the Sailiivik complex in <a href="#">Photo 3</a> : Sailiivik Accommodation Complex with Metal Skirting Around the Base. The <a href="#">Photo 24</a> : Fencing at Mine Site Landfill looking North and <a href="#">Photo 25</a> : Fencing at Mine Site Landfill looking reveal fencing around the mine site landfill.
<b>Marine Environment- Spill Prevention</b>		
92	Spill Response Equipment	Evidence of spill response equipment located on site was provided in <a href="#">Photo 29</a> : Spill Response Equipment at the MS-03 Tank Farm and <a href="#">Photo 63</a> .
<b>Socioeconomic Impacts</b>		

165	Emergency Shelters	<a href="#">Photo 45</a> and <a href="#">Photo 46</a> show the emergency shelter constructed and maintained along the Tote Road for both employees and land users.
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## 5 MARY RIVER MINE SITE

### 5.1 Accommodations Complex



Photo 3: Sailiivik Accommodation Complex with Metal Skirting Around the Base



Photo 4: Bernice Pitseolak, Site Services Mine Pool Operator

## 5.2 Waste Rock Storage Facility, Sedimentation Pond, and Wastewater Treatment Facility



Photo 5: Waste Rock Facility Facing South from Pond



Photo 6: Waste Rock Pond Aerial



**Photo 7: Water Treatment Plant Located at Waste Rock Stockpile West Pond**

### **5.3 Deposit No. 1**



**Photo 8: Deposit No. 1 Pit Walls, August 2021**



**Photo 9: Deposit No. 1 Access Road**

#### **5.4 Crusher Plant and Sedimentation Pond**



**Photo 10: Aerial view of the Crusher Plant Facility, July 2021**



**Photo 11: Conveyor at Crusher Facility**



**Photo 12: Hoods and Shrouding on Crusher Conveyor**



**Photo 13: View of Iron Build-up at Transfer Point in the Crusher Facility**



**Photo 14: Iron Build-up Under Crusher Equipment at Transfer Point**



**Photo 15: Standing Water at the Crusher Facility**



**Photo 16: Dustfall Monitoring Station Towards Deposit 1**



**Photo 17: View of the Tundra Surrounding the Crusher Plant Pond and Ditches**



**Photo 18: Another View of the Tundra Surrounding the Crusher Ore Stockpile Stormwater Pond and Ditches**

## 5.5 Preparation for Spring Freshet



**Photo 19: Snow Removal from a Culvert Across from Sailiivik Camp**



**Photo 20: Snow Removal Near Weatherhaven**



Photo 21: Freshet Monitoring Site, Surface Discharge Downstream of Construction area

## 5.6 Waste Management Facility and Landfill Area



Photo 22: Incinerator Building at Mary River Mine Site



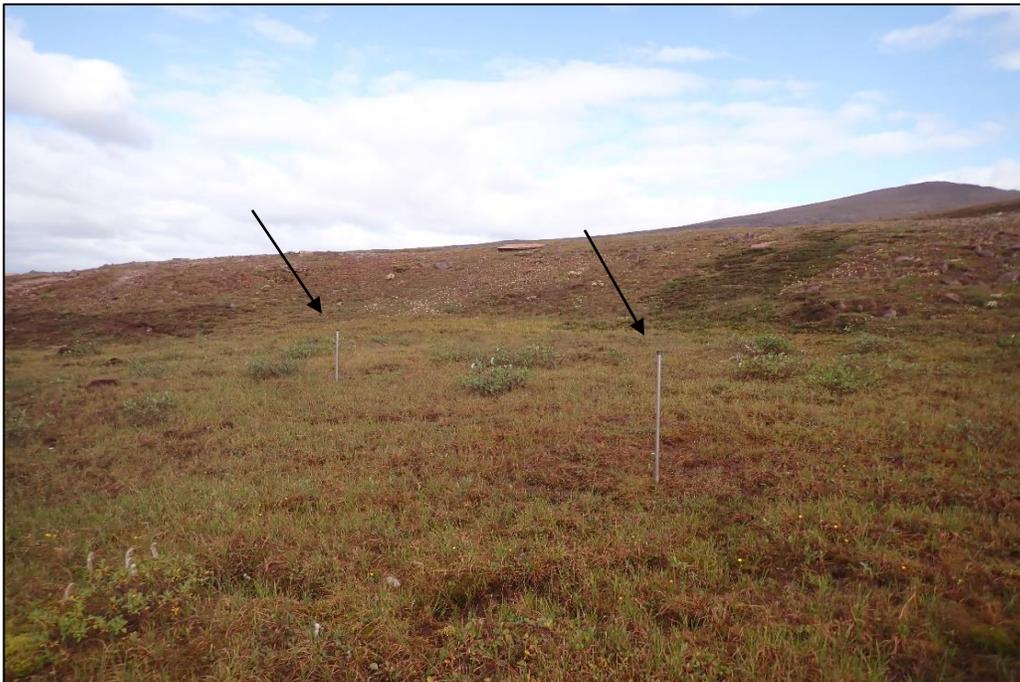
**Photo 23: Waste Segregation in the Incinerator Building**



**Photo 24: Fencing at Mine Site Landfill looking North**



**Photo 25: Fencing at Mine Site Landfill looking Southeast**



**Photo 26: Groundwater Monitoring Wells Near the Mine Site Landfill**



**Photo 27: Landfill Piles as per the Waste Management Plan**

## **5.7 Mine Site Tank Farm**



**Photo 28: Mine Site Bulk Fuel Storage Facility Stormwater (MS-03)**



Photo 29: Spill Response Equipment at the MS-03 Tank Farm

## 5.8 Other Mine Site Infrastructure and Activities



Photo 30: Weather Station at the Weatherhaven



**Photo 31: Quarry at Mary River Mine**



**Photo 32: Waste Segregation Bins Outside the Mobile Maintenance Shop**



**Photo 33: Waste Segregation in the Mobile Maintenance Shop**



**Photo 34: Laydown Area at Mary River on the South Side of the Sailiivik Camp**



**Photo 35: View of the Hunters and Trappers Organization Cabin from a Helicopter**



**Photo 36: Hunters and Trappers Organization Cabin near Mary River Mine**



Photo 37: Visitor Communication Centre near Weatherhaven

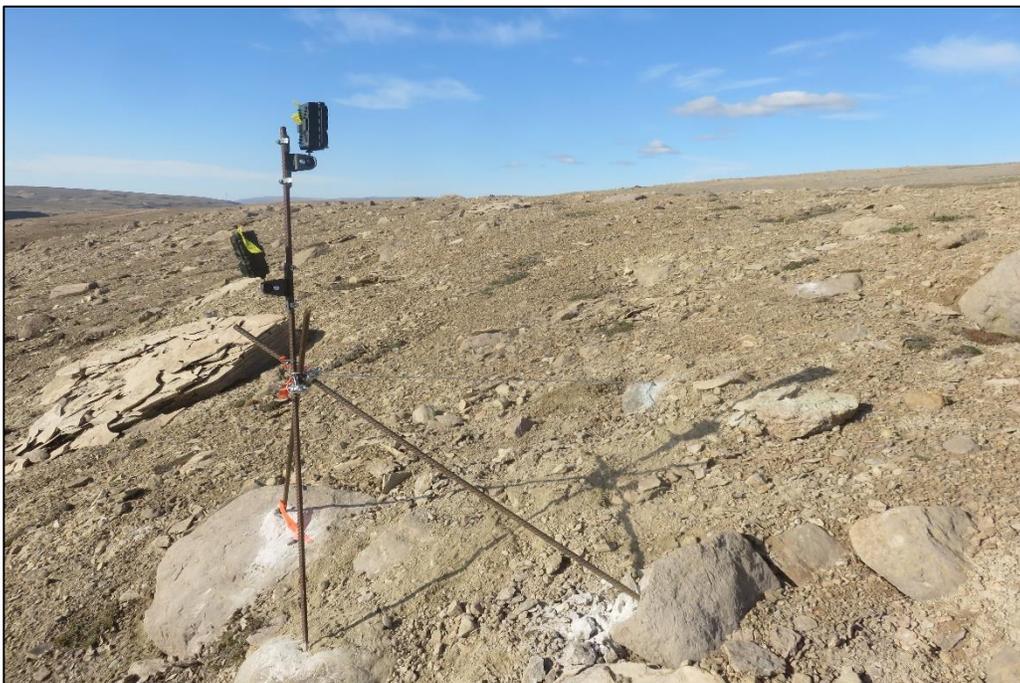
## 6 TOTE ROAD



Photo 38: Culvert Inspections



**Photo 39: Snowmobile Crossing Signage at KM91**



**Photo 40: Wildlife Camera at KM-42**



**Photo 41: Dustfall Monitoring Station at KM25**



**Photo 42: Truck Wetting the Tote Road for Dust Suppression**



**Photo 43: Tire Drag for Dust Suppression**



**Photo 44: Water Pumping Station at the KM97 Borrow Pit**



**Photo 45: Emergency Shelter at KM40**



**Photo 46: Interior of Emergency Shelter**

## 7 MILNE PORT



**Photo 47: View of North Side of the Milne Port Site**



**Photo 48: View of West side of the Milne Port Site**

## 7.1 Landfarm Area



**Photo 49: Milne Port Landfarm**



**Photo 50: Landfarm Laydown with Oily Water Storage Treatment Equipment**

## 7.2 Ore Dock and Stockpile Area



Photo 51: Sea Ice from the Ship Loader



Photo 52: Ore Dock and Ship Loader



**Photo 53: David Akikulu, Ship Loader in Ship Loader Tower One**



**Photo 54: Stockpile Area and Ore Dock**



**Photo 55: Cargo Unloading at Milne Inlet**



**Photo 56: Bulk Fuel Off-load at Milne Inlet**

### 7.3 Milne Port Sedimentation Pond



Photo 57: MP-06A Settling Pond looking West



Photo 58: MP-06 Settling Pond looking West

## 7.4 Milne Port Incinerator, Waste Management Facility, Spill Response Equipment, and Maintenance Shops



**Photo 59: Waste Sorting Bins Outside the Incinerator Facility**



**Photo 60: Milne Port Incinerator Facility**



**Photo 61: Hazardous Waste Berm 2**



**Photo 62: Hazardous Waste Berm 3**



**Photo 63: Storage of Spill Response Equipment Located Next to Emergency Response Team Shop**



**Photo 64: Mobile Maintenance Shop**

## 7.5 General Laydown Areas



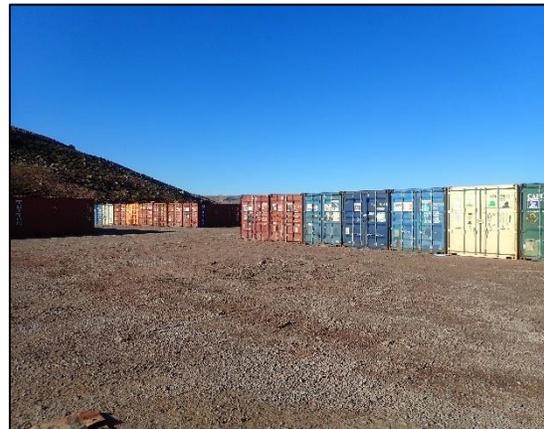
**Photo 65: Laydown at KM7**



**Photo 66: Laydown along the Tote Road at KM6**



**Photo 67: Laydown Area at Milne Port**



**Photo 68: Laydown Area at Milne Port at the South Side of the Port Site Complex Accommodations Building**

## 7.6 Phase 2 Materials Laydown Areas



**Photo 69: Crusher Building Stored at Milne Port**



**Photo 70: Railway Car Tipping Building**



**Photo 71: Conveyor Belts Stored at Milne Port**



**Photo 72: Signage on Phase 2 Buildings**

## 7.7 Other Milne Port Facilities



Photo 73: Milne Port Quarry



Photo 74: Magazine Storage Area Access Road at Milne Port



**Photo 75: Tire Storage Waiting for Backhaul**



**Photo 76: Milne Port Fuel Tank Farm**



**Photo 77: Hunters and Trappers Organization Cabin**



**Photo 78: Freight Dock**

## 8 CONSTRUCTION AND/OR MODIFICATIONS COMPLETED IN 2020/2021



**Photo 79: Mine Haul Road KM-106 to KM-107 following Lift Construction**



**Photo 80: New Stockpile Located at KM-106**



**Photo 81: New Access Road at KM-105**



**Photo 82: Expansion of the Mine Site Helipad**



Photo 83: One of the New Dust Collectors around Milne Port



Photo 84: New Culvert by Effluent Discharge



Photo 85: New culvert near Site Services Shop

## 9 COVID-19

Baffinland dealt with a COVID-19 outbreak and the mine was under “Outbreak Order” from Nunavut Public Health between May and July 2021. During this period, the Proponent had reduced staff at site but maintained monitoring objectives. Additionally, Baffinland added COVID -19 testing areas outside the H Wing (Photo 86) and additional signage to highlight COVID-19 protocols.



Photo 86: COVID Testing Outside H-wing

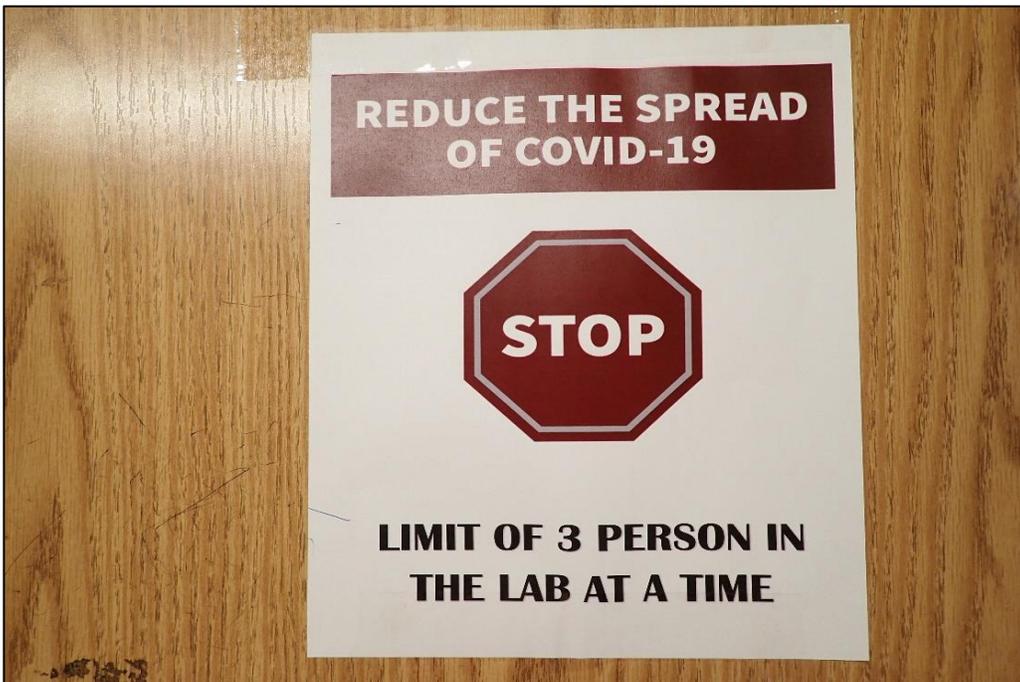


Photo 87: Signage for New COVID Procedure



Photo 88: Signage Regarding COVID Safety Procedure

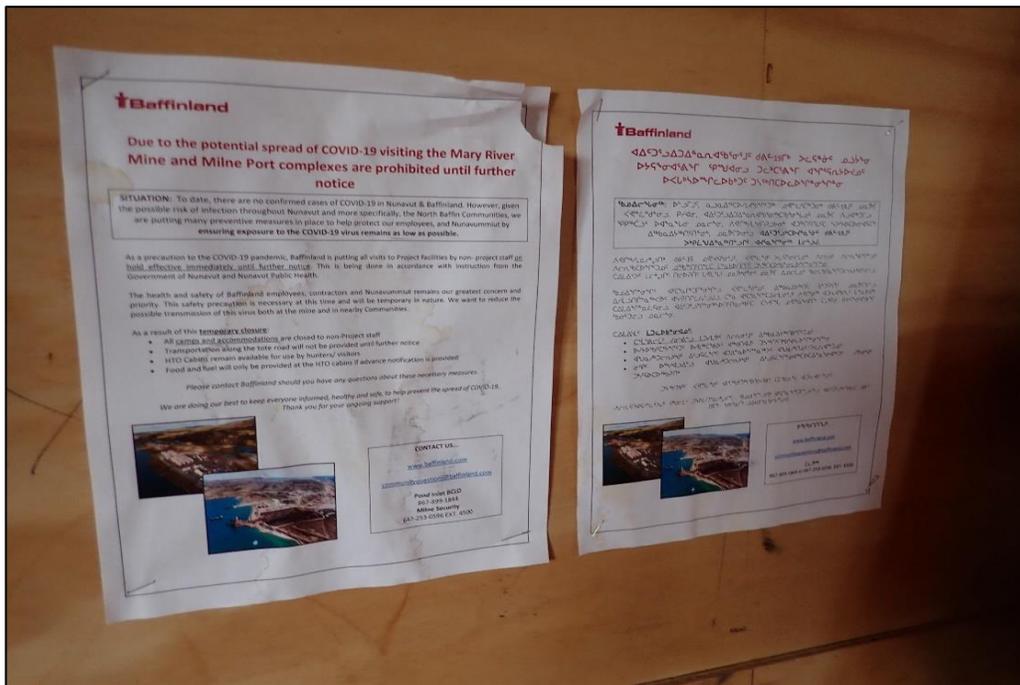


Photo 89: Signage Regarding COVID-19 Visitor Procedures at the Hunters and Trappers Organization Cabin



Photo 90: Nunavummiut Returning to Mary River



Photo 91: Signs at Mary River

## 9.1 2021 Monitoring Activities



Photo 92: Tote Road Monitoring Program



**Photo 93: Environmental Technician Conducting a Test for Hydrology Program**



**Photo 94: Environmental Technicians Sampling Water for the Aquatic Effects Monitoring Program Lakes Program**



Photo 95: Research Vessel Completing the Marine Environmental Effects Monitoring Program



Photo 96: Brucehead Marine Mammal Monitoring Camp



Photo 97: Golder Aerial Crew

## 10 OTHER ITEMS



Photo 98: Start of Saliivik Walking Trail; Posters on Wildlife Identification and Local Geology



Photo 99: Photos in Sailiivik Building showing Walking Trail



Photo 100: Cafeteria Bulletin Board Posting Waste Sorting, Animals Tracks, and Caribou Encounters



Photo 101: Sailiivik Recreation Room

## 11 CONCLUSION

From the photos received, the site appears to be generally in compliance with the Terms and Conditions of the Project Certificate 005, Amendment 3. The equipment on-site looks well maintained and waste generated by the Project seems appropriately managed and segregated into its suitable location.

Understanding that dust is a recurring concern by communities, NIRB staff appreciate Baffinland expanding the dust monitoring with an additional station ([Photo 83](#)) and conducting dust suppression mitigation ([Photo 42](#) and [Photo 43](#)). However, there are clear observations of dust deposition on the snow surface ([Photo 19](#)) and obvious dust layers in the snow cut surface from the freshet preparation ([Photo 21](#)). The NIRB will continue to track this topic.

The NIRB acknowledges the efforts made by Baffinland to maintain the Project adequately during the COVID-19 outbreak and the continued monitoring as per the Terms and Conditions. However, the NIRB Monitoring Officers encourage Baffinland to keep monitoring dust deposition around the Project and communicate the ongoing process with impacted communities. Despite the current review of Phase 2 Development Proposal, it is expected that Baffinland will fulfil its duties and meet or exceed the Terms and Conditions in Project Certificate 005, Amendment 3, and collaborate with involved parties and communities.

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