Baffinland

7 December 2018

Eqe Bay Exploration Program

Type 'B' Water Licence Application

Attachment 15

Environmental Protection Plan

Baffinland Iron Mines Corporation

EQE BAY

ENVIRONMENTAL PROTECTION PLAN

BAF-XXX-XXX-XXX-XXX

DRAFT

Prepared By: Andrew Vermeer
Department: Sustainable Development
Title: Regulatory Reporting Specialist
Date: December 7, 2018
Signature:

Approved By: Thomas Iannelli
Department: Exploration
Title: Head of Exploration
Date: December 7, 2018
Signature:

DOCUMENT REVISION RECORD

Issue Date MM/DD/YY	Revision	Prepared By	Approved By	Issue Purpose
12/07/18	DRAFT	AV	TI	DRAFT – Issued for Permitting

Index of Major Changes/Modifications in Revision

Item No.	Description of Change	Relevant Section

0 CONTENTS AND REVISION CONTROL

The Environmental Protection Plan (EPP) is a living document and routinely reviewed and revised as required. The Contents and Revision Control Operational Standard presented, herein, outlines the contents of the EPP and provides a Contents List with the most recent revision date for each Operational Environment Standard (OES). The Contents List will be updated and re-issued when any OES is revised or added.

This EPP has been developed for the Eqe Bay Exploration Program, using a similar document developed for the Mary River Project (BAF-PH1-830-P16-0008, Rev 1, August 30, 2016). All OESs will be considered Rev. 0 in this Plan.

SECTION 2	OPERATIONAL ENVIRONMENT STANDARDS	REV #	REVISION DATE
2.1	Cultural Heritage and Archaeological Resources	0	
2.2	Avoiding Disturbance to Local Land Users	0	
2.3	Land Disturbance	0	
2.4	Water Use	0	
2.5	Geotechnical Drilling Operations	0	
2.6	Equipment Operations & Mobilization	0	
2.7	Fuel Storage and Handling	0	
2.8	Aircraft Flights	0	
2.9	Sediment and Erosion Control	0	
2.10	Polar Bear Encounters	0	
2.11	Fox and Wolf Encounters	0	
2.12	Caribou Protection Measures	0	
2.13	Bird Protection Measures	0	
2.14	Solid Waste Management	0	
2.15	Wastewater Treatment	0	
2.16	Hazardous Material and Hazardous Waste Management	0	
2.17	Road Construction	0	
2.18	Watercourse Crossing Installation	0	
2.19	Exploration Drilling Operations	0	
2.20	Wildlife Log Instructions	0	
2.21	Quarry and Borrow Development	0	
2.22	Compliance Inspections	0	
2.23	Spill Control Measures and Reporting	0	
SECTION 3	**DOCUMENTATION LOGS AND FORMS**		
3.1	Cultural Heritage Change Find Discovery Form	0	
3.2	Human Use Log	0	
3.3	Water Collection Log	0	
3.4	Drill Inspection Forms	0	

3.5	NT-NU Spill Report Form	0	
3.6	Polar Bear Readiness Audit Form	0	
3.7	Wildlife Log	0	
3.8	Active Migratory Bird Nest Search Form	0	
3.9	Off-site Waste Disposal Log	0	
3.10	Wastewater Log	0	
3.11	Watercourse Crossing Data Monitoring Form	0	
3.12	Turbidity Monitoring Data Form	0	
3.13	Environmental Inspection Forms	0	
SECTION 4			
4.0	Request for Revision to an Operational Standard	0	

TABLE OF CONTENTS

List of Appendices

1 INTRODUCTION

The purpose of the Environment Protection Plan is to ensure that a high level of importance is placed on the protection of the environment by personnel throughout the lifecycle of Baffinland Iron Mines Corporation's (Baffinland's) Eqe Bay Exploration Program (Exploration Program). This document provides Operational Environment Standards (OESs) to identify and address environmental issues and concerns and to provide guidance and control measures, to avoid potential negative impacts to the environment and/or mitigate these impacts to the greatest extent practicable. The OESs are not comprehensive and are intended to be used in conjunction with relevant documents such as Environmental Management Plans (EMPs), Standard Operating Procedures, Environmental Permits, Licences, and Regulations, etc. The EPP will be updated as required to reflect current management reviews, incident investigations, regulatory changes, or other Exploration Program modifications. The EPP is an integral part of the Environmental Management System implemented for the Exploration Program and allows for the integration of environmental issues and regulations into the Exploration Program's design and operation.

The EPP provides a practical way to facilitate field implementation of environmental regulations, practices, and measures required to eliminate or reduce potential adverse environmental effects. It is a working document for use by personnel, as well as at the Baffinland corporate level for ensuring commitments made in policy statements are implemented and monitored. The EPP provides a quick reference for personnel to monitor for compliance and to make suggestions for improvements. This EPP provides the general protection measures for routine and unplanned activities associated with the Exploration Program. The EPP is developed in recognition of applicable permits, authorizations, approvals and Inuit Knowledge. As well, this Plan provides operational measures that comply with aforementioned permits, approvals, etc., and provides reference to other associated and relevant documents such as Environmental Management Plans and Standard Operating Procedures.

The specific purposes of the EPP are as follows:

- Provide a reference document to ensure that commitments to minimize adverse environmental effects will be met.
- Document and identify environmental concerns and ensure appropriate protection measures are implemented.
- Provide concise guidance to personnel regarding the implementation of appropriate standards for protecting the environment and minimizing adverse environmental effects.
- Provide a reference and training document for personnel when planning and/or conducting specific activities and working in specific areas.
- Communicate changes in the Program through the revision process.
- Provide a reference to related applicable documents such as legislative requirements, guidelines, permits, Environmental Management Plans, Standard Operating Procedures, etc.

The EPP provides documentation of environmental protection measures against which the environmental performance of the Exploration Program can be readily measured and corrective actions developed and implemented where required. Personnel are expected to understand and implement the environmental protection measures provided within the EPP. If, at any time, personnel do not understand how or when to implement an environmental protection measure, personnel should contact the Environmental Representative onsite to obtain further clarification.

1.1 HEALTH, SAFETY AND ENVIRONMENT POLICY

This Baffinland Iron Mines Corporation Policy on Health, Safety and Environment is a statement of our commitment to achieving a safe, healthy and environmentally responsible workplace. We will not compromise this policy for the achievement of any other organizational goals.

We implement this Policy through the following commitments:

- Continual improvement of safety, occupational health and environmental performance
- Meeting or exceeding the requirements of regulations and company policies
- Integrating sustainable development principles into our decision-making processes
- Maintaining an effective Health, Safety and Environmental Management System
- Sharing and adopting improved technologies and best practices to prevent injuries, occupational illnesses and environmental impacts
- Engaging stakeholders through open and transparent communication.
- Efficiently using resources, and practicing responsible minimization, reuse, recycling and disposal of waste.
- Reclamation of lands to a condition acceptable to stakeholders.

Our commitment to provide the leadership and action necessary to accomplish this policy is exemplified by the following principles:

- As evidenced by our motto “Safety First, Always” and our actions Health and Safety of personnel and protection of the environment are values not priorities.
- All injuries, occupational illnesses and environmental impacts can be prevented.
- Employee involvement and active contribution through courageous leadership is essential for preventing injuries, occupational illnesses and environmental impacts.
- Working in a manner that is healthy, safe and environmentally sound is a condition of employment.
- All operating exposures can be safeguarded.

- Training employees to work in a manner that is healthy, safe and environmentally sound is essential.
- Prevention of personal injuries, occupational illnesses and environmental impacts is good business.
- Respect for the communities in which we operate is the basis for productive relationships.

We have a responsibility to provide a safe workplace and utilize systems of work to meet this goal. All employees must be clear in understanding the personal responsibilities and accountabilities in relation to the tasks we undertake.

The health and safety of all people working at our operation and responsible management of the environment are core values to Baffinland. In ensuring our overall profitability and business success every Baffinland and business partner employee working at our work sites is required to adhere to this Policy.

Brian Penney
Chief Executive Officer
April 2018

1.2 ENVIRONMENTAL APPROVALS

Table 1-1 will list Baffinland's issued Environmental Approvals for the Eqe Bay Exploration Program, once received. This list will be continually updated as the Exploration Program progresses through the regulatory process and evolves.

TABLE 1-1: ENVIRONMENTAL APPROVALS ISSUED FOR THE EQE BAY EXPLORATION PROGRAM

Permit ID	Licence Name	Applicability	Expiry
Nunavut Impact Review Board			
N/A	Screening Decision Report (Aug. 17, 2018)	Exploration Program activities.	N/A
Nunavut Water Board			
TBD	Type 'B' Water Licence	Waste and water management related to the Exploration Program.	TBD
Authorizations under the *Fisheries Act*			
TBD	Letter of Advice for Barge Landing and Culvert Crossings	Watercourses, aquatic and marine environments.	TBD
Land Use Lease			
TBD	Inuit Land Use Lease III	Exploration Program activities.	TBD

The terms and conditions included in approvals that have been received to date (i.e. NIRB Screening Decision Report) have been incorporated into the OESs provided in this document. As the Exploration Program progresses through the regulatory process and additional approvals are received, this Plan will be revised to reflect the new terms and conditions (i.e. Type 'B' Water Licence).

1.3 ROLES AND RESPONSIBILITIES

1.3.1 VICE-PRESIDENT OF SUSTAINABLE DEVELOPMENT

- Provide corporate resources and overall direction to the implementation of the EPP.

1.3.2 DIRECTOR OF SUSTAINABLE DEVELOPMENT

- Provide technical guidance and final review and approval of revised versions of EPP.
- Ensure EPP is properly communicated to the Eqe Bay Camp Manager and Exploration Program Personnel.

1.3.3 EQE BAY CAMP MANAGER

- Implement the EPP in daily operations.
- Maintain a current copy of the EPP at site.
- Provide training and support to ensure successful implementation of the EPP.
- Initiate changes to improve and update the Plan as required.

1.3.4 EQE BAY EXPLORATION PROGRAM PERSONNEL

- Read and understand the relevant sections of the EPP.
- Adhere to this Plan's protocols and procedures.

1.3.5 ENVIRONMENTAL REPRESENTATIVE

- Conduct routine inspections of Exploration Program activities to ensure compliance with this Plan and relevant approvals.
- Provide environmental monitoring and reporting (i.e. spills) support to Exploration Program operations.

2 OPERATIONAL ENVIRONMENT STANDARDS

2.1 CULTURAL HERITAGE AND ARCHAEOLOGICAL RESOURCES

A number of cultural heritage and archaeological sites have been identified across the Project Area. The Environmental Representative will provide information regarding the location of these sites relative to potential work areas. The potential exists to encounter undiscovered cultural heritage or archaeological resources (Chance Finds) when conducting construction activities such as excavating and site clearing.

2.1.1 ENVIRONMENTAL CONCERN

The Eqe Bay Exploration area has been occupied by humans for over 4,000 years. Archaeological sites are common throughout the region, mostly consisting of stone structures that usually represent tent rings and shelters, caches, traps, hunting blinds, cairns and *inukshuks*. Stone tool making sites are also present. These types of archaeological sites and features are often difficult to recognize. All archaeological sites are valuable, non-renewable sources of information about local people's history and provide crucial data for scientists studying Northern ways of life throughout the past. It is against territorial law to disturb known or suspected archaeological sites, punishable by fine or imprisonment. Many areas of the Project have not been surveyed by a qualified archaeologist; therefore Personnel must obtain approval from the Environmental Representative before traveling off of existing roads or disturbing ground surfaces.

The Eqe Bay Exploration Area is expected to have a high overall archaeological potential. Surveys are being undertaken in July or August 2018, and may involve revisions to this OES.

2.1.2 ENVIRONMENTAL PROTECTION MEASURES

The following measures will be implemented to minimize the potential for impacting an archaeological site:

- Personnel shall not deviate from already disturbed areas or established routes (existing roads and camp areas).
- Cultural resources discovered during Program activities (Chance Finds) shall be reported to the onsite Environmental Representative who will develop a course of action in consultation with the Program Archaeologist.
- Upon a discovery, a Cultural Heritage Chance Find Discovery Report (Section 3.1) must be completed and submitted to the Environmental Representative.
- Human remains and funerary objects shall be treated with dignity and respect at all times, regardless of ethnic origins, cultural backgrounds or religious affiliations.
- Artifacts shall be left where they are found. If artifacts are disturbed or removed, their location shall be reported to the Environmental Representative.
- Archaeological site locations shall be kept confidential to prevent unauthorized collection or disturbance of artifacts.

- Known sites near Program activities will be marked by stakes, flagging and/or yellow rope at approximately 30 metres away from each site.
- All personnel shall avoid and remain more than 30 m away from all known or suspected archaeological sites, staying well away from any temporary protection measures such as flagging, stakes and/or yellow rope fencing.
- Existing inukshuks shall not be modified or disturbed. New inukshuks or rock piles shall not be constructed since building new rock piles may clutter the archaeological record and/or result in unknowingly using rocks from existing archaeology sites.
- Known archaeological sites shall be avoided by re-routing roads and establishing borrow excavations at locations approved for use by the Program Archaeologist. Sites that can't be avoided will be mitigated by the archaeology team prior to construction activities.
- If suspected archaeological or human remains (structures, artifacts or bones) are unearthed during work operations, stop work immediately and notify the Environmental Representative. The Environmental Representative will in turn contact the Program Archaeologist and the appropriate lands inspector and the Government of Nunavut, as required by law. The Program Archaeologist shall complete an archaeological review of all proposed Program Areas as they are finalized to identify areas with possible conflicts and areas where Program activities may proceed.

2.1.3 FORMS

- Baffinland – Eqe Bay EPP - Cultural Heritage Chance Find Discovery Report (Section 3.1)

2.2 AVOIDING DISTURBANCE TO LOCAL LAND USERS

2.2.1 ENVIRONMENTAL CONCERN

Land and resource use in the Program Areas includes hunting, fishing and trapping. While Eqe Bay is not currently a high use area, it should be expected that other land users could enter the area at any time. Baffinland is committed to minimize disturbance to land users to the extent practical.

2.2.2 ENVIRONMENTAL PROTECTION PROCEDURE

Measures will be implemented to minimize disturbance to existing land use patterns for the duration of the Exploration Program. These measures include:

- Aircraft will fly in accordance with guidelines outlined in the Aircraft Flights Operational Environment Standard (Section 2.8).
- Road traffic will operate in accordance with guidelines outlined in the Road Construction and Borrow Development OES (Section 2.17).
- Pilots and others will record the presence of other land users in the Human Use Log (Section 3.2) posted at camp, and will notify the Environmental Representative of any sightings.
- Land users are encouraged to record their presence using the Human Use Log (Section 3.2) posted at camp.
- Any disruptions to land use will be documented so that this information can be considered in subsequent phases of exploration activities.

2.2.3 FORMS

- Baffinland – Eqe Bay EPP - Human Use Log (Section 3.2)

2.2.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP - Aircraft Flights (Section 2.8)

2.3 LAND DISTURBANCE

Development of the Eqe Bay Exploration Program will require ground disturbances, including camp and road construction, quarrying and mobile vehicle operation.

2.3.1 ENVIRONMENTAL CONCERN

The Arctic is a fragile environment where the recovery of vegetation within this region is slow. Ground disturbance shall be minimized to protect archaeological resources, wildlife habitats, sensitive landforms, such as ice-rich permafrost features, and prevent erosion and the movement of sediment into watercourses and water bodies. Conditions provided in received and pending approvals address ground disturbances and outline the necessary protection measures that are required to minimize impact to the environment.

2.3.2 ENVIRONMENTAL PROTECTION PROCEDURE

The following measures shall be implemented to minimize potential ground disturbances:

- Personnel and equipment shall remain on only existing roads and trails.
- Modifications to any design/engineering drawings must be approved by the Environmental Representative before any work on the modification may be started.
- Rutting (furrow creation) shall be minimized on ground surfaces when possible.
- All camps and equipment storage areas shall be located on gravel, sand and/or other durable land.
- No materials shall be stored on the surface ice of streams.
- No material shall be removed from below the ordinary High Water Mark of any stream or water body.
- Greywater sumps must be located at distance of at least 31 metres above the ordinary High Water Mark of any water body.
- Equipment and supplies brought to Eqe Bay shall be clean and free of soils that could contain plant seeds not naturally occurring in the area or other invasive species. Vehicle tires and treads in particular must be inspected prior to initial use.
- Prior to construction activities, a site drainage drawing must be submitted to the Environmental Representative for approval.
- The limits for all clearing, grubbing and topsoil overburden removal shall be staked in the field prior to the commencement of any work.
- Areas to be cleared shall have sediment and erosion control measures implemented prior to the initiation of any clearing activities. The sediment and erosion control measures shall be adapted to suit the field conditions associated with the specific construction activities as construction proceeds.
- No debris or any other construction material shall be allowed to enter any water body.
- A Baffinland Incident Investigation Form will be completed for all non-approved land disturbances.

2.3.3 FORMS

- Baffinland - Incident Investigation Form

2.3.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Cultural Heritage and Archaeological Resources (Section 2.1)
- Baffinland – Eqe Bay EPP – Sediment and Erosion Control (Section 2.9)
- Baffinland – Eqe Bay EPP – Road Construction and Borrow Development (Section 2.17)

2.4 WATER USE

2.4.1 ENVIRONMENTAL CONCERN

The use of water by Baffinland for the Exploration Program will be governed by a Type 'B' Water Licence issued by the Nunavut Water Board (NWB). In addition to regulating water usage, the Type 'B' Water Licence regulates many aspects of the Program's waste management practices, construction and operation activities, emergency response planning and the abandonment, reclamation and closure of the areas associated with the Exploration Program.

This Operational Environment Standard provides guidance for water use activities associated with the Exploration Program.

2.4.2 ENVIRONMENTAL PROTECTION MEASURES

CAMP WATER SUPPLY

- Only approved water sources shall be used for Program activities.
- The Eqe Bay Exploration Camp will obtain water from unnamed lake EB-2.
- Water supply facilities will be maintained to the satisfaction of the Water Licence Inspector (Crown-Indigenous Relations and Northern Affairs Canada; CIRNAC).
- Total volumes of water withdrawn from any water body by Baffinland will be recorded and provided to the Environmental Representative using the Water Collection Log (Section 3.3).
- Daily water usages volumes for the Exploration Program shall not exceed volumes outlined in Baffinland's Type 'B' Water Licence, as shown below in Table 2.4-1TABLE 2.4-1

TABLE 2.4-1: WATER USE FOR DOMESTIC AND INDUSTRIAL PURPOSES

Program Activity	Maximum Daily Water Usage (m^3 per day)
Domestic (Camp)	29
Drilling	270

- Streams and lakes cannot be disturbed or used as a water source unless authorized and approved by the Nunavut Water Board.
- Work shall be performed in such a way as to ensure that materials such as sediment, fuel or any other hazardous material do not enter watercourses and waterbodies through the implementation of sediment control measures and proper hazardous materials management practices. In the event of a release to the environment, the Spill Contingency Plan shall be implemented.

- All water intake hoses shall be equipped with a screen of an appropriate mesh size (as approved by the DFO) to ensure that fish are not entrained. Additionally, operators will ensure the water intake hoses withdraw water at such a rate that fish do not become impinged on the screen.
- Measures shall be provided to prevent and control erosion on banks of any body of water.
- Equipment shall not be washed in any watercourse or waterbody.
- No fuelling and/or servicing of equipment shall occur within 31 metres of any water body.

For water use activities associated with drilling programs, see Exploration Drilling Operations (Section 2.18).

2.4.3 FORMS

- Baffinland – Eqe Bay EPP – Water Collection Log (Section 3.3)

2.4.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Sediment and Erosion Control (Section 2.9)
- NWB - Type 'B' Water Licence

2.5 GEOTECHNICAL DRILLING OPERATIONS

Geotechnical drilling may be required to support the engineering and designing of Eqe Bay facilities and infrastructure (i.e. airstrip).

2.5.1 ENVIRONMENTAL CONCERN

Environmental concerns associated with drilling include surface disturbances, drilling fluid and cutting disposal, impacts on dust, noise, water quality, and habitat encroachment. The use of water for drilling purposes is subject to the conditions outlined in the Type 'B' Water Licence.

2.5.2 ENVIRONMENTAL PROTECTION MEASURES

The following protection measures for geotechnical drilling management shall be implemented:

- Pre-Drilling Preparation and Acceptable Drill Locations:
  - A Pre-Drilling Inspection Report (see Section 3.4) shall be completed by the acting supervisor before drilling activities commence.
  - Geotechnical drilling activities and disturbance may be carried out within 31 m of the ordinary High Water Mark of nearby waterbodies as long as the drilling location has been approved by the Nunavut Water Board. Drilling crews must confirm all geotechnical drill locations with the Environmental Representative before drill mobilization.
  - Archaeology clearance for geotechnical drilling locations shall be confirmed with the Environmental Representative prior to drill mobilization (see Section 2.1).
  - Conduct a visual wildlife inspection immediately prior to movement of the drill. For details on drilling restrictions associated with wildlife interactions, see Operational Environment Standards: Polar Bear Encounters (Section 2.10), Fox and Wolf Encounters (Section 2.11), Caribou Protection Measures (Section 2.12) and Bird Protection Measures (Section 2.13).
  - Implement sediment and erosion control measures prior to drilling operations and maintain these during the operation to minimize transport of sediment into adjacent water bodies. Prior to the commencement of drilling for each hole, establish a dedicated sump location where collected "dirty" drill water and cuttings will be deposited. The location shall be a minimum of 31 m from the ordinary High Water Mark of nearby water bodies and located such that any flow toward a water body is minimized (sump shall be in a bowl, depression or be on a flat surface).
- Drill Operation and Movements:
  - For each drilling location, a Daily Drilling Inspection Report shall be completed for each day of drilling activities.
  - Material shall not be stored on the surface of frozen streams or lakes, including immediate banks, except materials that are for immediate use.
  - All drill waste, including water, chips, muds and salts ($CaCl_2$) from land based drilling shall be disposed in a properly constructed sump or natural depression located at least 31 m above the High Water Mark of any water body.

- All activities, including the overland transport of workers, shall be conducted in such a way to minimize ground disturbance.
- All waste, such as food and packaging, shall be collected for disposal at the camp on a daily basis.
- Feeding and/or harassing wildlife is strictly prohibited.
- Equipment or vehicles shall not be moved unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.
- Daily inspections for fuel/hydraulic leaks, equipment condition, sediment and erosion control, and water intakes shall be conducted prior to commencing work activities at the start of each work shift/day. All leaks shall be immediately reported to the Environmental Representative and repaired.
- All drill rigs shall be equipped with spill kits in the event of leaks and spills. All operators should be trained in spill response and be familiar the use of spill kits.
- Equipment shall not obstruct any stream.
- Equipment storage holding areas will be located on gravel, sand or other durable land 31 m above the ordinary High Water Mark of any water body in order to minimize impacts on surface drainage and water quality.
- Contain and re-circulate drill water to the fullest extent possible in order to reduce water usage. Utilize silt fences and natural depressions to prevent water from running into nearby watercourses and water bodies.
- Separate clean water from “dirty” water streams whenever possible, (by means of hose extensions and snow berms or other means that direct and keep discharge away from the immediate area of the drill hole) to prevent migration and expansion of a “dirty” water plume.
- Work shall be performed in such a way as to ensure that materials such as sediment, fuel and/or any other hazardous material does not enter watercourses and water bodies through the implementation of sediment control measures and proper hazardous materials management practices. In the event of a release to the environment, the Spill Contingency Plan shall be implemented.
- The drill water and cuttings spillage footprint shall be minimized through the use of berms, sumps, silt fences and/or other means of containment.
- Dispose of drill water into a properly constructed sump, or a naturally occurring contained depression. Drill water shall not be released directly to a nearby water course or water body.
- Use portable containment sumps (bins), for drill water and cuttings where containment in the ground is impractical. The bins shall not overflow and shall be dumped by means of helicopter or pump, to the location identified for disposal of dirty drill water and cuttings.
- In case of an artesian flow occurrence, drill holes shall be immediately plugged and permanently sealed to prevent induced contamination of groundwater or salinization of surface waters. Report the artesian flow occurrence as soon as possible to the Environmental Representative who in turn will report the occurrence to the Nunavut Water Board.

- Drill Hole Abandonment:
  - Restore, contour and stabilize constructed drill sumps, and other disturbed areas, to the pre-disturbed state upon completion of drilling.
  - Return all combustible waste and petroleum products to camp for proper management and disposal.
  - Plug all drill holes upon completion, and where possible return drills cuttings at the surface to the drill hole at all land-based drilling locations.
  - Contour and stabilize all other disturbed areas upon completion of work and restore these areas to a pre-disturbed state.
  - Upon completion of a hole in rock, the casing will be removed. If the casing cannot be removed it will be cut off to be flush with surface and backfilled.
  - Remove all non-combustible garbage and debris from the land use area to an approved disposal site.
  - A Post-Drilling Inspection Report (see Section 3. – Drill Inspection Forms - Pre-Drilling, Daily and Post Drilling) will be filled out at the completion of each drill hole.
  - Ensure a copy of all Pre-Drilling, Post-Drilling and Daily Drill Inspection Reports for all drill holes are submitted to the Environmental Representative at the completion of each drilling program.

2.5.3 FORMS

- Baffinland - Eqe Bay EPP – Drill Inspection Forms (Section 3.4)

2.5.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Sediment and Erosion Control (Section 2.9)
- Baffinland – Eqe Bay EPP - Polar Bear Encounters (Section 2.10)
- Baffinland – Eqe Bay EPP - Fox and Wolf Encounters (Section 2.11),
- Baffinland – Eqe Bay EPP - Caribou Protection Measures (Section 2.12)
- Baffinland – Eqe Bay EPP - Bird Protection Measures (Section 2.13)
- Baffinland – Eqe Bay EPP – Exploration Drilling Operations (Section 2.21)
- NWB - Type 'B' Water Licence
- Baffinland - Eqe Bay Spill Contingency Plan

2.6 EQUIPMENT OPERATION AND MOBILIZATION

2.6.1 ENVIRONMENTAL CONCERNS

Mobile equipment emits noise and air emissions, are potential sources of leaks and spills and can cause rutting and land disturbances, as well as disturbance of archaeological sites if necessary clearances have not been obtained.

Noise associated with equipment use and mobilization may negatively affect neighbours. Air emissions may have air quality implications. Accidental leaks or spills of fuel or other hazardous materials may affect soils, water quality, fish and fish habitat, and wildlife.

2.6.2 ENVIRONMENTAL PROTECTION MEASURES

- Damage to archaeology sites will be avoided by following the protection measures outlined in the Operational Environment Standard: Cultural Heritage and Archaeology Resources (Section 2.1).
- Rutting and land disturbance will be minimized by following the protection measures outlined in the Operational Environment Standard: Land Disturbance (Section 2.3).
- All equipment will be equipped with properly functioning mufflers.
- All spills involving equipment shall be reported to the Environmental Representative immediately and documented by submitting the necessary documentation using the Baffinland Incident Investigation Form and NT-NU Spill Report Form (Section 3.6). See Operational Environment Standard: Spill Control Measures and Reporting (Section 2.33) for more details on spill reporting.
- Daily pre-operation inspections will be made on all equipment. If problems are identified the equipment will be taken out of service and repaired.
- Equipment operators will be trained and licenced to operate their particular equipment; training will be provided for operators before operating any new equipment.
- Equipment and vehicles that will remain parked for extended periods of time or that are prone to leaks will have spill trays placed underneath them to contain any fluid leaks.

2.6.3 FORMS

- Baffinland – Baffinland Incident Investigation Form
- Baffinland – NT-NU Spill Report Form (Section 3.6)

2.6.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Cultural Heritage and Archaeological Resources (Section 2.1)
- Baffinland – Eqe Bay EPP – Land Disturbance (Section 2.3)
- Baffinland – Eqe Bay EPP – Spill Control Measures and Reporting (Section 2.33)

2.7 FUEL STORAGE AND HANDLING

Fuel will be stored in drums and double walled ISO tanks within constructed containment to support Eqe Bay exploration activities.

2.7.1 ENVIRONMENTAL CONCERNS

Accidental and uncontrolled leaks, releases and spills of fuel may occur due to improper storage, poor handling procedures or equipment malfunction. Fuel releases to the environment have the potential to negatively affect worker health and safety as well as soil quality, aquatic life and wildlife. The potential for fuel spills is addressed through the Spill Contingency Plan developed for the Eqe Bay Exploration Program.

2.7.2 ENVIRONMENTAL PROTECTION MEASURES

The following environmental protection measures shall be used for all storage and handling of fuels during the Eqe Bay Exploration Program:

- Personnel refuelling equipment or vehicles will supervise re-fuelling at all times and will not leave fuel transfer operations unattended.
- Transfer of fuel to storage tanks or to vehicles shall be conducted by a fully-trained and qualified person.
- Exposed pipelines shall be protected from damage by vehicular collision through the installation of guard rails or barriers.
- Adequate spill response equipment and supplies will be available at fuel storages sites, refuelling stations, maintenance areas and drill sites.
- Hoses and pipes used for fuel transfer shall be equipped with properly functioning and approved check valves that are spaced to prevent backflow of fuel in the case of failures.
- All spills shall be reported to the Environmental Representative immediately and documented by submitting the necessary documentation using the Baffinland Incident Investigation Form (BAF-PH1-810-FOR-0005) and NT-NU Spill Report Form (Section 3.6). See Operational Environment Standard: Spill Control Measures and Reporting (Section 2.33) for more details on spill reporting.
- All fuel storage tanks will be inspected on a regular basis and will be in accordance with the requirements outlined in the Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products, issued by the Canadian Council of Ministers of the Environment.
- Fuel storage containers will be stored in secondary containment and shall not be placed within 31 m of ordinary High Water Mark of nearby water bodies.

- All mobile equipment will be serviced and fuelled on land at least 31 m above the ordinary High Water Mark of any water body. No petroleum or chemical product will be allowed to spread to surrounding lands or into water bodies.
- All fuel containers shall be sealed, labelled with the name Baffinland Iron Mines Corporation and stored in a way to prevent wildlife access.
- Waste oils, lubricants, and other used oil shall be placed in drums, labeled as waste materials, and stored in a contained area until removed from site for disposal at an approved, licenced waste management facility (Section 2.16 - Hazardous Material & Hazardous Waste Management).
- All fuel storage areas shall be inspected on a regular basis. See Operational Environment Standard: Compliance Inspections (Section 2.32).
- Repair all leaks immediately.

2.7.3 FORMS

- Baffinland – Baffinland Incident Investigation Form
- Baffinland – NT-NU Spill Report (Section 3.6)

2.7.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Hazardous Material & Hazardous Waste Management (Section 2.16)
- Baffinland – Eqe Bay EPP – Spill Control Measures and Reporting (Section 2.22)
- Baffinland – Eqe Bay Spill Contingency Plan
- NWB - Type 'B' Water Licence

2.8 AIRCRAFT FLIGHTS

The Eqe Bay Exploration Program will involve air traffic consisting of flights made by helicopters and smaller twin-engine fixed wing aircraft. The high level of aircraft use requires pilots, and personnel directing pilots, to be aware of the potential disturbances to wildlife and the requirements of the various approvals issued to Baffinland. Additionally, Inuit hunters may be moving through the Eqe Bay area at any time of the year, and Baffinland has committed to minimizing disturbance of local users to the extent practical. All personnel are responsible for operating in accordance with the legal requirements and commitments outlined in this Operational Environment Standard. However, safety will be considered the most critical aspect of aircraft operations and safety considerations will supersede other concerns.

2.8.1 CONCERNS REGARDING WILDLIFE

Aircraft can cause disturbance to wildlife by interrupting their activities (i.e. feeding, calving, migration, etc.) and possibly causing the animals to leave an area and habitats. Caribou, important to Inuit culture and diet, can be sensitive to aircraft noise. Disturbance of caribou has the greatest effect prior to, during and following calving (approximately mid-May to mid-July). Migratory birds are also disturbed by low-level overflights.

2.8.2 CONCERNS REGARDING INUIT LAND USE

Aircraft can disturb hunters or other land users (i.e. tourists) during low level flights that disturb the people and/or the wildlife they may be pursuing. Land users travel over land and ice from roughly late November through late June/early July. August is particularly important for boats due to the short duration of open water. Land users may travel by boat and camp in the area, and may travel inland hunting caribou by walking or using all-terrain vehicles.

2.8.3 ENVIRONMENTAL PROTECTION MEASURES

- Minimize the number of flights to the extent possible.
- Subject to safety requirements, aircraft will maintain a cruising altitude of at least:
  - 650 m above ground level minimum, and;
  - 1,100 m vertical and 1,500 m horizontal from observed concentrations of migratory birds. If altitude is not possible, maintain a lateral distance of at least 1,500 m.
- Ensure that certification of noise compliance is current, where compliance is applicable.
- Personnel should report to the Camp Manager any improper flight practices.
- Avoid caribou calving sites between May 15 and July 15, as identified by Program biologists or observed by aircraft pilots.
- Pilots shall report to the Environmental Representative caribou movements and locations during calving and post-calving periods, so that these areas can be avoided.
- Avoid large concentrations of wildlife and take alternate routes.

- Plan routes that are likely to have least occurrences of wildlife.
- Hovering or circling may greatly increase disturbances and must be avoided when practical.
- The Environmental Representative will inform pilots of wildlife sensitive area.
- For details on reporting wildlife sightings, refer to Operational Standard: Wildlife Log Instructions (Section 2.19)

2.8.4 EXCEPTIONS

- Low-level flights will be required during slinging operations in the vicinity of the Eqe Bay and on occasion at other locations, or where short distances are involved.

2.8.5 FORMS

None

2.8.6 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP - Polar Bear Encounters (Section 2.10)
- Baffinland – Eqe Bay EPP - Fox and Wolf Encounters (Section 2.11)
- Baffinland – Eqe Bay EPP - Caribou Protection Measures (Section 2.12)
- Baffinland – Eqe Bay EPP - Bird Protection Measures (Section 2.13)

2.9 SEDIMENT AND EROSION CONTROL

Land disturbances during road construction and operation, culvert installation and excavation of borrow locations and quarries have the potential to cause erosion and release sediment-laden runoff into nearby watercourses and/or water bodies. Sediment and erosion control measures may include, but are not limited to, silt fencing, erosion control mats (fascines), erosion blankets/geotextile lining, sand bags, terraces, benching, use of flocculants, check dams and riprap structures. Personnel are responsible for the implementation of erosion and sedimentation control measures prior to the initiation of construction, borrowing or quarrying activities in each specific work area.

2.9.1 ENVIRONMENTAL CONCERN

The potential exists for the movement of soil (wind erosion), the unplanned release of sediment to watercourses/water bodies and the slumping or change in landscape form associated with changes in the permafrost profile. Stormwater, which may include any surface runoff and flows resulting from precipitation, drainage or other sources, may contain suspended sediments, metals, petroleum hydrocarbons, and other substances. These materials may affect water quality. Rapid runoff can degrade the quality of the receiving water by eroding stream beds and banks. Due to the region's arid climate, high winds can erode soil with minimal vegetation cover.

2.9.2 ENVIRONMENTAL PROTECTION MEASURES

As required, personnel may be instructed to implement additional sediment and erosion control measures by the Environmental Representative to ensure protection of the receiving environment.

The following environmental protection procedures/measures will be implemented to prevent or mitigate erosion and sediment-laden runoff impacts:

- Road embankments, watercourse crossing installations and borrow/quarry areas shall be constructed in accordance with approved plans and procedures.
- Temporary and permanent drainage installations shall be designed, constructed, and maintained to an appropriate standard.
- The topsoil/overburden stockpiles shall be contoured, where possible, with established drainage routes around the stockpiles, as specified by the Environmental Representative.
- Stream bank sections and slopes that contain loose or erodible materials shall be stabilized through the application of filter fabrics or geotextile in conjunction with riprap. Sediment control measures will be installed prior to watercourse crossing installations (Section 2.18 - Tote Road Watercourse Crossing Installation).
- Appropriate sediment and erosion control measures will include a combination of silt fences, silt (turbidity) curtains, sediment traps, check dams and gravel berms.

- Roads shall be constructed with gradients or surface treatment and drainage systems to limit the potential for run-off and erosion.
- Quarry and borrow activities will be concentrated to the maximum extent possible to limit the area of disturbance.

2.9.3 FORMS

None

2.9.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Road Construction (Section 2.17)

2.10 POLAR BEAR ENCOUNTERS

2.10.1 ENVIRONMENTAL CONCERN

Polar Bear encounters are possible in the Eqe Bay area and can pose an immediate threat to life, health, safety, and property.

2.10.2 ENVIRONMENTAL PROTECTION MEASURES

The following measures will be implemented to minimize the potential for bear-human encounters:

- Site and working areas will be kept clean of food scraps and garbage at all times. Effective waste management is paramount to reducing the likelihood of encounters.
- Do not attempt to chase, catch or follow polar bears under any circumstance.
- Polar bears that attempt to approach work sites or personnel must be actively deterred by shouting or use of noise makers such as bear bangers whenever possible.
- All polar bear sightings must be reported immediately to the Environmental Representative and Camp Manager, regardless of the time of day.
- Bear monitors will be posted at the Eqe Bay camp and will accompany remote field crews that do not have full-time air support.
- The Environmental Representative will authorize and coordinate the use of deterrent measures. A defence kill is to be used as an absolute last resort only when there is an imminent risk to human safety.
- Under the direction from the Environmental Representative, helicopters may be used to haze/deter polar bears away camps and work sites.
- Any defensive kills must be reported immediately to the Environmental Representative, who will notify the Qikiqtani Inuit Association (QIA), Hunters and Trappers Organization (HTO), wildlife officer and other stakeholders as required. The meat from the carcass must not be allowed to spoil and the animal will need to be dressed immediately and the meat and pelt appropriately stored until transportation is available to the designated affected community.
- Polar bear safety will be part of the Eqe Bay site orientation program.
- A copy of the Polar Bear Safety Plan developed for the Mary River Project will be kept at the Eqe Bay camp for reference.
- Routine completion of a Polar Bear Readiness Audit to ensure that all polar bear incidents are documented and promptly reported to regulators and that all preparation and requirements regarding polar bear mortalities are in place.

2.10.3 FORMS

- Polar Bear Readiness Audit Form (Section 3.6)

2.10.4 RELATED DOCUMENTS

- Polar Bear Readiness Procedure and Audit (Appendix A)

2.11 FOX AND WOLF ENCOUNTERS

2.11.1 ENVIRONMENTAL CONCERN

Foxes and wolves can become habituated to sites where they can access food and food waste. This situation can arise from intentional feeding by personnel or improper waste management practices. Once such food conditioning has occurred, these animals lose their fear of humans and may approach personnel in an aggressive fashion. Rabies is usually endemic in fox populations. Habituated foxes that act aggressively will be addressed immediately.

2.11.2 ENVIRONMENTAL PROTECTION MEASURES

The following measures will be implemented to minimize potential impacts to foxes and wolves and the associated risk to the health and safety of personnel:

- Site and working areas will be kept clean of food scraps and garbage. All waste will be disposed of at the Eqe Bay exploration camp incinerator, or securely stored for off-site disposal.
- Wildlife will not be intentionally fed under any circumstances. The consequences of such actions will be major disciplinary action.
- Fox and wolf sightings should be recorded in the Wildlife Log (see Section 3.2) at camp. Wolf sightings should be reported to the Environmental Representative immediately.
- Wildlife attempting to approach personnel will be deterred by shouting, chasing and using noise makers, such as bear bangers. Should those deterrents not work, the site Environmental Representative will be notified immediately for their assessment. Typically, wolves can be readily deterred by the above methods. Based on site experience, foxes are less responsive to deterrence. Due to the high incidence of rabies in foxes on Baffin Island, foxes that exhibit aggressive behaviour to humans, regardless of deterrence measures, are presumed to be rabid. The Environmental Representative will assess the situation and make the recommendation for or against dispatching a likely rabid fox by lethal shot.
- In the rare situation where a lethal shot is necessary, approval to proceed will be provided by the Environmental Representative. Only personnel authorized and trained in the use of firearms will be used. This task will be executed so that personnel, equipment and infrastructure are not endangered. If rabies is suspected, a body shot will be taken, and the carcass will be handled to avoid direct physical contact. The carcass will be incinerated immediately, and the appropriate wildlife officer will be notified.
- Fox and wolf interactions will be documented and included in the Wildlife Logs (see Section 3.7).

2.11.3 FORMS

- Baffinland – Eqe Bay EPP – Wildlife Log (Section 3.10)

2.11.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Wildlife Log Instructions (Section 2.20)

2.12 CARIBOU PROTECTION MEASURES

2.12.1 ENVIRONMENTAL CONCERN

Caribou are currently present in relatively low numbers in the Eqe Bay region. Caribou harvesting is important to local communities, so there is added importance to ensuring that the Exploration Program operates with minimal potential effects on caribou. The potential effects on caribou include those from disturbance, primarily due to noise and other sensory disturbances from exploration activities. The primary mitigation for caribou is avoidance followed by monitoring.

2.12.2 ENVIRONMENTAL PROTECTION MEASURES

The following measures will be implemented to minimize disturbance to caribou:

- Personnel that are not Nunavut Land Claim beneficiaries will not be permitted to hunt or fish on any land accessed from the Eqe Bay camp.
- Mobile equipment and vehicles shall yield the right-of-way to wildlife.
- Traffic is to slow down and keep distance from the animals as much as possible. If necessary, traffic will stop to enable crossings of groups or to allow groups of caribou paralleling the road to move into adjacent habitat. Caribou occurrence in the vicinity of the road and their responses to traffic will be monitored by on the ground behavioral observations, to determine if it is apparent that caribou are being disturbed or displaced by traffic or exploration activities. Specific guidance is provided in the Caribou Encounter Decision Tree provided in Appendix B.
- All caribou sightings will be reported to the Environmental Representative who will keep geo-referenced records of caribou sightings. This will enable biologists to monitor caribou activity in relation to the Exploration Program's activities.
- Active caribou calving sites (as identified by biologists or observed by aircraft pilots) will be avoided between May 15 and July 15.
- Should pregnant caribou cows, cow with young calves, or groups of 50 or more caribou be observed within one (1) kilometer of Eqe Bay exploration activities, operations in the vicinity of sighted caribou activities will be assessed by the Environmental Representative and modified as required. If the caribou are determined to be disturbed by operational activities, the activity will be modified or cease until the caribou are no longer in the immediate area. The QIA and HTOs of nearby communities will be consulted if it is determined that modifications to operational activities may be required.

2.12.3 FORMS

- Baffinland – Eqe Bay EPP – Wildlife Log (Section 3.7)

2.12.4 RELATED DOCUMENTS

- Baffinland - Caribou Encounter Decision Tree (Appendix B)

2.13 BIRD PROTECTION MEASURES

2.13.1 ENVIRONMENTAL CONCERN

Birds are generally widespread and often encountered in the Baffin region. The majority of these birds are migratory. The main concern with birds is that the potential exists that some aspects of the exploration activities may disrupt nesting and migratory patterns. Birds are an important part of the food chain in the Arctic ecosystem and changes in their numbers and distribution will directly affect predators like raptors and foxes that rely on them as a readily available source of food. It is against the law to disturb or destroy an active migratory bird's nest (Migratory Bird Convention Act and regulations).

2.13.2 ENVIRONMENTAL PROTECTION MEASURES

The following measures will be implemented to minimize disturbance to birds and bird nests:

- Personnel are not permitted to hunt birds.
- On-ground inspections will be conducted for bird nests and eggs for each area prior to equipment placement or Program activities. Active nest sites will be identified through observation of high densities of birds, nests, or birds exhibiting territorial behaviour indicating a nearby nest. Active nests must not be destroyed or disturbed.
- The inspections will be conducted based on method described in Appendix C of the EPP - Mary River Active Migratory Bird Surveys Protocol.
- Personnel will avoid disrupting nest sites identified.
- Songbirds, shorebirds, loons and waterfowl — If nests of these birds are found then drills, pumps and waterlines should be placed at least 500 metres from these nest sites and precaution should be taken to avoid disrupting them.
- Shoreline and waterline routes will be inspected for breeding birds, nests, and post-hatch young, before waterlines for drills are placed. Personnel should remain more than 100 m from these nest sites at all times and time spent on the hose alignment should be minimized to reduce disturbances in areas between water source and Program activities.
- Active raptor (falcons, hawks and owls) nests will be avoided by relocation of Program activities, if possible. Where possible or practical, Program activities will be relocated at least 500 m from known active raptor nests during the breeding season, rescheduled to outside the breeding season (mid-April to mid-August) or delayed until the young have fledged and left the nest.
- Bird sightings, particularly raptors or large concentrations of birds, should be recorded in the Wildlife Log (Section 3.7) at camp.
- If nests and eggs are encountered during exploration activities, the primary mitigation will be avoidance. Personnel shall establish clear zones of avoidance on the basis of the species-specific nest setback distances outlined in Appendix C. If it is determined that observance of these

setbacks is not feasible, nest-specific guidelines and procedures shall be developed to ensure the nests and their young are protected.

- The seaward site of seabird colonies and areas used by flocks of migrating waterfowl shall be avoided by a minimum distance of three (3) kilometres.

2.13.3 FORMS

- Baffinland – Eqe Bay EPP – Wildlife Log (Section 3.7)
- Baffinland – Active Migratory Bird Nest Search Form (Section 3.8)

2.13.4 RELATED DOCUMENTS

- Baffinland - Active Migratory Bird Nest Survey Protocol (Appendix C)

2.14 SOLID WASTE MANAGEMENT

2.14.1 ENVIRONMENTAL CONCERN

Solid wastes are non-liquid, non-soluble materials including domestic garbage, food wastes, construction debris, commercial refuse, non-combustible and non-hazardous materials. Solid waste materials generated by Eqe Bay activities will be re-used and recycled wherever possible and feasible. Where it is not possible or feasible, the three (3) main methods of solid waste management will be incineration, open burning and off-site disposal. Solid waste, if not properly disposed of, may cause health and safety concerns to personnel, attract wildlife, and could impair the aesthetics of the Eqe Bay area.

2.14.2 INCINERATION

Domestic wastes, that cannot feasibly be re-used or recycled, will be incinerated at the Eqe Bay exploration camp. Combustible non-hazardous wastes (i.e., food scraps, oily rags, paper and small plastics, etc.) will be incinerated to minimize the negative impacts of attraction vectors to wildlife. Residual ash generated by incinerator operations will be stored in drums for off-site disposal. Refer to the Eqe Bay Waste Management Plan for additional details.

2.14.3 OPEN BURNING

Untreated, clean wood waste products including lumber, timber, and pallets as well as paper and cardboard packaging that cannot feasibly be re-used or recycled will be burned onsite at approved open-burn location at Eqe Bay. Any treated and/or painted waste wood products, including plywood or particle board, will not be permitted for opening burning. Open burning shall strictly be operated in an open top sea container at an approved open-burning location. Refer to the Eqe Bay Waste Management Plan for additional details.

2.14.4 ENVIRONMENTAL PROTECTION MEASURES

- Waste streams generated by the Eqe Bay Exploration Program will be sorted according to the Eqe Bay Waste Sorting Guidelines (Appendix A of the Eqe Bay Waste Management Plan) and disposed by means of incineration, open-burning, or shipment offsite for proper disposal at licenced waste facilities.
- All wildlife attracting waste (i.e., food scraps) will be stored in sealed animal proof containers.
- All waste backhauled offsite to licenced waste facilities will be manifested using the Off-Site Waste Disposal Log (Section 3.9) or a similar tracking mechanism.
- Sewage sludge generated at the sewage treatment plants will be dewatered and incinerated onsite.
- Waste accumulated and stored on site prior to disposal will be contained in shipping containers or lined secondary containment structures to mitigate health, safety and environmental hazards.
- Time lapse between waste collection and disposal shall be minimized to the extent practical.

- All personnel are responsible for daily housekeeping and clean-up of their work areas.
- All personnel will be trained in the Eqe Bay Waste Sorting Guidelines (Appendix A of the Eqe Bay Waste Management Plan) and will be responsible for sorting their own waste.

2.14.5 FORMS

- Baffinland – Eqe Bay EPP - Offsite Waste Disposal Log (Section 3.9)

2.14.6 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Hazardous Material and Hazardous Waste Management (Section 2.16)
- Baffinland – Eqe Bay Waste Management Plan

2.15 WASTEWATER TREATMENT

2.15.1 ENVIRONMENTAL CONCERN

Wastewater, such as sewage, grey water, and oily (contaminated) water will be generated by the Eqe Bay Exploration Program. Sewage generated by the Eqe Bay exploration camp will be directed to a dedicated sewage treatment plant for treatment and effluent discharge. Greywater will be directed to the sewage treatment plant for treatment or directly discharged to an approved sump location. Oily water will be collected, stored in drums or totes, and shipped offsite for treatment and/or disposal. Refer to the Eqe Bay Waste Management Plan for additional details.

Uncontrolled or untreated releases of wastewater has the potential to impact downstream receiving environments.

2.15.2 ENVIRONMENTAL PROTECTION MEASURES

The following measures will be implemented to minimize the potential for accidental releases of wastewater on site:

- The quantity of treated effluent discharged from the sewage treatment plant will be monitored and recorded using inline flow monitors. Water quality of treated effluent will be routinely monitored to ensure compliance with the water quality discharge criteria stipulated in the Type 'B' Water Licence.
- Issues and/or concerns identified at the sewage treatment plant (i.e., improper operation, pipeline rupture, system breakdown, etc.), will be reported immediately to the Environmental Representative and Camp Manager and will be addressed promptly.
- In the event of an accidental release of wastewater into the environment (i.e., pipeline rupture, etc.), immediate action will be required to ensure that the release is contained and mitigated. Refer to the Eqe Bay Spill Contingency Plan for additional guidance. All spills will be reported to the Environmental Representative. For more information on spill reporting, see Operational Environment Standard: Spill Control Measures and Reporting (Section 2.23).
- Water quality and operational data will be reported to applicable regulators and stakeholders as required by the Type 'B' Water Licence and other relevant approvals.
- The sludge generated by the sewage treatment plant will be dewatered using a filter press and incinerated on site. Sludge will be stored in an animal proof secure area until disposal.
- Water conservation initiatives will be implemented where feasible to reduce water use and volumes of wastewater generated by exploration activities.
- Treated wastewater will only be released into the receiving environment at approved locations. All wastewater discharges will be monitored to ensure all discharged effluent meets the regulatory requirements outlined in Type 'B' Water Licence.

2.15.3 FORMS

- Baffinland – Eqe Bay EPP - Wastewater Log (Section 3.10)

2.15.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Spill Control Measures and Reporting (Section 2.23)
- NWB – Type 'B' Water Licence
- Baffinland – Eqe Bay Spill Contingency Plan

2.16 HAZARDOUS MATERIAL AND HAZARDOUS WASTE MANAGEMENT

2.16.1 ENVIRONMENTAL CONCERN

Hazardous materials (other than fuels) will be used during the Eqe Bay Exploration Program, including oils, greases, antifreeze, ammonium nitrate, batteries, cleaners and other chemicals. Where the generation of the hazardous waste cannot be prevented, its management onsite will aim to prevent waste from resulting in potential negative impacts to the health and safety of personnel and the environment. Refer to the Eqe Bay Waste Management Plan for additional details.

2.16.2 ENVIRONMENTAL PROTECTION MEASURES

Effective implementation of the following controls is required to ensure that hazardous materials and hazardous wastes are properly managed in order to minimize the potential for accidental releases to the environment:

- Hazardous materials and hazardous waste will be stored within designated lined and contained areas or within shipping containers at the laydown area.
- Storage containers will be leak-proof and have content names and labels clearly visible.
- Lubricating oils and antifreeze will be dispensed from drums or cubes using either fitted taps or pumps and will employ drip trays.
- Regular visual inspection for leaks, drips or indications of loss will be conducted at all storage areas for evidence of accidental releases and verification that hazardous wastes and materials are properly labelled and stored.
- Hazardous wastes and materials will be stored in a manner that prevents access by wildlife.
- All hazardous waste shall be clearly labelled and will not be combined with other solid non-hazardous waste.
- Smoking within 10 m of any hazardous waste storage location will be prohibited.
- Hazardous wastes and materials will be stored at least 31 m away from the ordinary High Water Mark of nearby water bodies.
- Baffinland shall itemize and maintain a tracking manifest for all hazardous materials to be used on-site. The Camp Manager shall conduct periodic inspections and audits to confirm the tracking manifest is up to date and accurate. Personnel will be responsible for maintaining the current Material Safety Data Sheets (MSDS) on-site for all hazardous materials pertaining to their activities.
- All spills shall be reported to the Environmental Representative and documented by submitting the necessary documentation using the Baffinland Incident Investigation Form and the NT-NU Spill Report Form (Section 3.5). The Eqe Bay Spill Contingency Plan will be implemented, as

required. Refer to Operational Environment Standard - Spill Control Measures and Reporting (Section 2.23) for additional details.

- All biological hazardous wastes generated at the medical clinic and first aid stations will be packaged, labeled and transported offsite for disposal at an appropriate licenced facility.
- Transportation and packaging of hazardous waste offsite shall be coordinated and supervised by fully-trained and qualified personnel.

2.16.3 FORMS

- Baffinland – NT-NU Spill Report Form (Section 3.5)
- Baffinland – Baffinland Incident Investigation Form

2.16.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Spill Control Measures and Reporting (Section 2.23)
- Baffinland – Eqe Bay Spill Contingency Plan
- Baffinland – Eqe Bay Waste Management Plan

2.17 ROAD CONSTRUCTION

2.17.1 ENVIRONMENTAL CONCERN

The movement of material during road construction can expose soils and make them vulnerable to erosion. These activities can result in changes to the thermal regime of the ground (active layer and permafrost), as a new active layer is created. Modification to the thermal regime may induce melting of any ground ice present, resulting in thaw settlement and depressions caused by these settlements leading to erosion and possibly ponding of water.

2.17.2 ENVIRONMENTAL PROTECTION MEASURES

The ground surface will re-establish thermal equilibrium and will be suitable for re-colonization by natural vegetation over time. The following measures will be implemented to enhance this re-establishment of thermal equilibrium and minimize the effects of erosion, sedimentation and water ponding:

- The appropriate sedimentation and erosion mitigation measures will be installed prior to construction to mitigate impacts to surface water flows during construction.
- Roads will constructed of competent material.
- At low lying areas where roadbed fill is in the order of 1 m and the permafrost can be expected to rise to a meaningful degree, swales or culverts will be installed as part of road maintenance to prevent the ponding of water.
- Culverts will be designed and installed using industry best practices in order to properly manage surface water flows (refer to Section 2.18)

2.17.3 FORMS

None

2.17.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP - Sediment and Erosion Control (Section 2.9)
- Baffinland – Eqe Bay EPP – Watercourse Crossing Installation (Section 2.18)

2.18 WATERCOURSE CROSSINGS INSTALLATION

The Eqe Bay Exploration Program is expected to develop an access road or trail to connect the exploration camp to the exploration area. Two (2) crossing types are proposed:

- Conventional single or multiple culverts crossings designed to pass select design flows within fish-bearing streams, and
- Conventional single or multiple culverts installed to preserve drainage across the access road/trail.

2.18.1 ENVIRONMENTAL CONCERNS

Watercourse crossing installation has the potential to impact aquatic environments through the:

- Alteration of fish habitat or blockage of fish passage.
- Accidental releases of deleterious substances (i.e., fuel spills, sediment).

The construction of watercourse crossings has the potential to negatively affect fish and fish habitat from the construction of the crossing structures or the post-construction influence of the completed structures on fish habitat. Elevated levels of suspended sediment are the primary change in water quality that could result from work on or around water. Construction activities typically result in short-term effects, while long term effects can arise through erosion of ditches and slopes if not mitigated.

There are two groups of water crossings with respect to fish habitat and the environmental protection measures required:

- **Large Culvert Crossings in Fish Habitat** - Crossings in fish habitat, subject to the conditions of a DFO Letter of Advice or an authorization (to be determined by the DFO), will be installed according to an engineering design that specifies the sizing of the crossing (i.e., the number and diameter of culverts required to pass design flows) and the manner of installation (i.e., according to a typical or site-specific drawing).
- **Minor Drainage Crossings** – Sections of the proposed access road/trail alignment cross perpendicular to a slope. Small diameter culverts will need to be installed across the road/trail at these and other locations to manage sheet flows. Culvert sizes will be judged onsite during installation.

There are basic environmental protection measures that apply to all groups of crossings, and additional measures that apply to the fish-bearing crossings.

2.18.2 ENVIRONMENTAL PROTECTION MEASURES

The following measures will be implemented to minimize the potential impacts of water crossings and installations:

- Culverts will be installed in accordance with approved plans.
- Work should be scheduled during low flow conditions whenever possible – avoid conducting work during large precipitation/runoff events.
- Sediment and erosion control measures shall be implemented prior to work and shall be left in place and maintained until all disturbed areas have been stabilized. For more information on sediment and erosion control measures see Operational Environment Standard: Sediment and Erosion Control (Section 2.9).
- Any stockpiled materials shall be stored and stabilized 31 m away from the High Water Mark of nearby water bodies, unless for immediate use.
- All materials and equipment shall be operated and stored in a manner that prevents deleterious substance (e.g. petroleum products, silt, debris, etc.) from entering water bodies. This includes checking that equipment is free of fluid leaks, and that grease and other debris is wiped or washed clean from the equipment, before entering the water.
- Re-fuelling and equipment maintenance is to be conducted 31 metres away from the High Water Mark of nearby water bodies.
- Install crossings at right angles to the watercourse so that the original direction of stream flow is not significantly altered.
- Minimize in-water work (get-in and get-out quickly).
- Water crossings will be backfilled with substrate (fill) material that is clean, competent, and consistent with the existing substrate size and texture found within the watercourse.
- All disturbed areas shall be stabilized immediately upon completion of work.

2.18.3 ADDITIONAL ENVIRONMENTAL PROTECTION MEASURES – FISH-BEARING CROSSINGS

- The Environmental Representative shall be on on-site to assess the crossings prior to the onset of construction to confirm the absence or presence of spawning sites at least 20 metres upstream or downstream of the crossing location, and whether spawning Arctic char are present in the vicinity.
- For all crossings where fish may be present, the Environmental Representative shall be present to monitor construction activities and document turbidity levels upstream and downstream of the crossing under construction using the Watercourse Crossing Data Monitoring Form (Section 3.11) and the Turbidity Monitoring Data Form (Section 3.12). The Environmental Representative shall

be on-site during all in-water construction, compensation and restoration works to ensure the approved design and conditions of approval (i.e. DFO Letter of Advice) are being adhered to.

- If machinery is required to bring material or equipment to the opposite side of the watercourse, then it shall be restricted to a onetime event (over and back) and only if no other existing crossing can be used. If the stream bed and banks are highly erodible (e.g., dominated by organic materials and silts) and erosion and degradation is likely to occur as a result of equipment crossing, then a temporary crossing structure or other practices shall be used to protect these areas.
- Machinery fording shall occur at least 20 metres upstream or downstream of location where fish and/or spawning sites are noted.

2.18.4 FORMS

- Baffinland – Eqe Bay EPP - Watercourse Crossing Data Monitoring Form (Section 3.11)
- Baffinland – Eqe Bay EPP - Turbidity Monitoring Data Form (Section 3.12)

2.18.5 RELATED DOCUMENTS

- DFO Letter of Advice or Authorization (to be confirmed)
- Baffinland – Eqe Bay EPP - Sediment and Erosion Control (Section 2.9)

2.19 EXPLORATION DRILLING OPERATIONS

Exploration drilling will be required to confirm, characterize and quantify new and already known deposits during the Eqe Bay Exploration Program.

2.19.1 ENVIRONMENTAL CONCERN

Environmental concerns with drilling include surface disturbances, drilling fluid and cutting disposal, impacts on dust, noise and water quality, and habitat encroachment.

All drilling muds and other additives will be approved by the Environmental Representative prior to being transported and used on site for any exploration drilling program. MSDS on drilling muds and other additives will be appended to the Eqe Bay Spill Contingency Management Plan.

Use of water for drilling will be subject to the conditions outlined in the Type 'B' Water Licence.

2.19.2 ENVIRONMENTAL PROTECTION MEASURES

- Pre-Drilling Preparation and Acceptable Drill Locations:
  - A Pre-Drilling Inspection Report (see Section 3.4) shall be completed by the acting supervisor before drilling activities commence.
  - Drilling activities and disturbance may be carried out within 31 m of the ordinary High Water Mark of nearby waterbodies as long as the drilling location has been approved by the Nunavut Water Board. Drilling crews must confirm all drill locations with the Environmental Representative before drill mobilization.
  - Archaeology clearance for drilling locations shall be confirmed with the Environmental Representative prior to drill mobilization (see Section 2.1).
  - Conduct a visual wildlife inspection immediately prior to movement of the drill. For details on drilling restrictions associated with wildlife interactions, see Operational Environment Standards: Polar Bear Encounters (Section 2.10), Fox and Wolf Encounters (Section 2.11), Caribou Protection Measures (Section 2.12) and Bird Protection Measures (Section 2.13).
  - Implement sediment and erosion control measures prior to drilling operations and maintain these during the operation to minimize transport of sediment into adjacent water bodies. Prior to the commencement of drilling for each hole, establish a dedicated sump location where collected "dirty" drill water and cuttings will be deposited. The location shall be a minimum of 31 m from the ordinary High Water Mark of nearby water bodies and located such that any flow towards a water body is minimized (sump shall be in a bowl, depression or be on a flat surface).
- Drill Operation and Movements:
  - For each drilling location, a Daily Drilling Inspection Report shall be completed for each day of drilling activities.
  - Material shall not be stored on the surface of frozen streams or lakes, including immediate banks, except materials that are for immediate use.

- All drill waste, including water, chips, muds and salts ($CaCl_2$) from land based drilling shall be disposed in a properly constructed sump or natural depression located at least 31 m from the ordinary High Water Mark of nearby water bodies.
- All activities, including the overland transport of workers, shall be conducted in such a way to minimize ground disturbance.
- All waste, such as food and packaging, shall be collected for disposal at the camp on a daily basis.
- Feeding and/or harassing wildlife is strictly prohibited.
- Equipment or vehicles shall not be moved unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.
- Daily inspections for fuel/hydraulic leaks, equipment condition, sediment and erosion control, and water intakes shall be conducted prior to commencing work activities at the start of each work shift/day. All leaks shall be immediately reported to the Environmental Representative and repaired.
- All drill rigs shall be equipped with spill kits in the event of leaks and spills. All operators should be trained in spill response and be familiar the use of spill kits.
- Equipment shall not obstruct any stream.
- Equipment storage holding areas will be located on gravel, sand or other durable land 31 m above the ordinary High Water Mark of any water body in order to minimize impacts on surface drainage and water quality.
- Contain and re-circulate drill water to the fullest extent possible in order to reduce water usage. Utilize silt fences and natural depressions to prevent water from running into nearby watercourses and water bodies.
- Separate clean water from “dirty” water streams whenever possible, (by means of hose extensions and snow berms or other means that direct and keep discharge away from the immediate area of the drill hole) to prevent migration and expansion of a “dirty” water plume.
- Work shall be performed in such a way as to ensure that materials such as sediment, fuel and/or any other hazardous material does not enter watercourses and water bodies through the implementation of sediment control measures and proper hazardous materials management practices. In the event of a release to the environment, the Spill Contingency Plan shall be implemented.
- The drill water and cuttings spillage footprint shall be minimized through the use of berms, sumps, silt fences and/or other means of containment.
- Dispose of drill water into a properly constructed sump, or a naturally occurring contained depression. Drill water shall not be released directly to a nearby water course or water body.
- Use portable containment sumps (bins), for drill water and cuttings where containment in the ground is impractical. The bins shall not overflow and shall be dumped by means of helicopter or pump, to the location identified for disposal of dirty drill water and cuttings.

- In case of an artesian flow occurrence, drill holes shall be immediately plugged and permanently sealed to prevent induced contamination of groundwater or salinization of surface waters. Report the artesian flow occurrence as soon as possible to the Environmental Representative who in turn will report the occurrence to the Nunavut Water Board.

- Drill Hole Abandonment:

  - Restore, contour and stabilize constructed drill sumps, and other disturbed areas, to the pre-disturbed state upon completion of drilling.
  - Return all combustible waste and petroleum products to camp for proper management and disposal.
  - Plug all drill holes upon completion, and where possible return drills cuttings at the surface to the drill hole at all land-based drilling locations.
  - Contour and stabilize all other disturbed areas upon completion of work and restore these areas to a pre-disturbed state.
  - Upon completion of a hole in rock, the casing will be removed. If the casing cannot be removed it will be cut off to be flush with surface and backfilled.
  - Remove all non-combustible garbage and debris from the land use area to an approved disposal site.
  - A Post-Drilling Inspection Report (see Section 3. – Drill Inspection Forms - Pre-Drilling, Daily and Post Drilling) will be filled out at the completion of each drill hole.
  - Ensure a copy of all Pre-Drilling, Post-Drilling and Daily Drill Inspection Reports for all drill holes are submitted to the Environmental Representative at the completion of each drilling program.

2.19.3 FORMS

- Baffinland – Eqe Bay EPP – Drill Inspection Forms (Section 3.4)

2.19.4 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Sediment and Erosion Control (Section 2.9)
- Baffinland – Eqe Bay EPP - Polar Bear Encounters (Section 2.10)
- Baffinland – Eqe Bay EPP - Fox and Wolf Encounters (Section 2.11),
- Baffinland – Eqe Bay EPP - Caribou Protection Measures (Section 2.12)
- Baffinland – Eqe Bay EPP - Bird Protection Measures (Section 2.13)
- Baffinland – Eqe Bay EPP – Exploration Drilling Operations (Section 2.21)
- NWB - Type 'B' Water Licence
- Baffinland - Eqe Bay Spill Contingency Plan

2.20 WILDLIFE LOG INSTRUCTIONS

A log of wildlife sightings in the Eqe Bay area will be posted at the exploration camp maintained and managed by the Environmental Representative.

Wildlife species potentially in the Eqe Bay area include caribou, wolf, fox, arctic hare, lemmings, polar bear, walrus, seals, whales, raptors, loons, ducks, geese, songbirds and shorebirds. Personnel will be required to record wildlife sightings on the posted Wildlife Log (Section 3.7) with the exception of caribou sightings, which should be reported to the Environmental Representative directly due to the sensitive nature of these sightings.

All polar bear and wolf sightings are required to be reported to the Environmental Representative immediately. Refer to OESs: Polar Bear Encounters (Section 2.10) and Fox and Wolf Encounters (Section 2.11) for additional information on polar bear and wolf sightings. Refer to Caribou Protection Measures (Section 2.12) for additional information on caribou sightings.

2.20.1 WILDLIFE LOG INSTRUCTIONS

- Record your name and the date of the observation.
- Record the GPS coordinates if possible. Ensure coordinates are recorded in latitude/longitude or UTM NAD83.
- Briefly describe the location, noting any significant landmarks, infrastructure nearby, water bodies or other features. This is particularly important if GPS coordinates for the sighting are not available.
- Record the type of animal. Identify the species, if possible, or the general type or group.
- Record the number of animals observed and the life stage (juvenile or adult), if known.
- Record observations on the behaviour of the animal. What was it doing at the time you observed it? Was it making any sounds? How did it react to your presence? How far away was it? Were you walking/driving/flying?

2.20.2 FORMS

- Baffinland – Eqe Bay EPP – Wildlife Log (Section 3.7)

2.20.3 RELATED DOCUMENTS

- Baffinland - Eqe Bay EPP – Polar Bear Encounters (Section 2.10)
- Baffinland – Eqe Bay EPP – Fox and Wolf Encounters (Section 2.11)
- Baffinland – Eqe Bay EPP – Caribou Protection Measures (Section 2.12)
- Baffinland – Eqe Bay EPP – Bird Protection Measures (Section 2.13)

2.21 QUARRY AND BORROW MANAGEMENT

The development of several rock quarries and/or borrow sources may be required to support the Eqe Bay Exploration Program.

2.21.1 ENVIRONMENTAL CONCERN

Environmental concerns associated with quarrying and borrowing activities include: soil erosion, habitat loss, dust generation, permafrost degradation and water ponding. The water quality of waterbodies adjacent to these activities may also be impacted by means of sedimentation, fuel contamination and ammonia contamination from explosives residue.

2.21.2 ENVIRONMENTAL PROTECTION MEASURES

The following environmental protections measures for the management of quarries and borrow sources shall be implemented to mitigate potential impacts:

- Only approved quarry and borrow sources will be developed.
- Site specific management plans for each quarry and borrow source will be developed. Management plans will be approved by the QIA and NWB.
- Personnel involved in the development of quarries and borrow sources will be familiar with the conditions and environmental protection measures outlined in the site specific quarry and borrow source management plans.
- The limits of the quarry and/or borrow source shall be clearly flagged/staked in the field prior to conducting any work in the field.
- Surface water flows near quarries and borrow sources will be managed and monitored as proposed in the most current site specific quarry and/or borrow source management plans.
- Quarry and borrows sources will be developed as proposed in the most current site specific quarry and/or borrow source management plans, including the maintenance of the approved vegetated buffer zones between development and nearby water bodies.
- Rock removed from quarries will be sampled and confirmed to be non-acid generating and non-metal leaching, as per the site specific quarry management plan.
- Stockpiling and crushing infrastructure will be located on stable ground, at least 31 m from the ordinary High Water Mark of nearby water bodies.
- Disturbance to vegetation will be minimized, as practical.
- The side slopes of the borrow sources will be 1H:1V to 2H:1V, slightly gentler than natural slopes to reduce risks associated with water pooling and erosion.
- Organics and topsoil will be salvaged and stored for use in reclamation. Overburden material may be stored for reclamation or if the material is of acceptable quality, be used for construction.

- Adequate sediment and erosion control measures, including silt fences, turbidity curtains, settling ponds and check dams, will be installed around the development area to protect adjacent watercourses and waterbodies from adverse impacts such as sedimentation and elevated turbidity levels. Refer to Operational Environment Standard - Section 2.9 – Sediment and Erosion Control for additional details.
- Proper fuel containment and handling techniques will be used. Refer to Operational Environment Standard – Fuel Storage and Handling (Section 2.7) for additional details.
- Adequately stocked spill kits will be available at quarries and borrows sources in the event of a spill.
- Use proper explosives handling techniques to minimize waste and releases to the environment.
- Dust mitigation measures, including the use of water, calcium chloride and other dust suppression products, will be used as required to manage dust emissions at quarry locations.

2.21.3 FORMS

None

2.21.4 RELATED DOCUMENTS

- QIA Land Use Permit
- Baffinland – Eqe Bay EPP – Land Disturbance (Section 2.3)
- Baffinland – Eqe Bay EPP – Sediment and Erosion Control (Section 2.9)
- Baffinland – Eqe Bay EPP – Fuel Storage and Handling (Section 2.7)

2.22 COMPLIANCE INSPECTIONS

Personnel are responsible for maintaining a clean, safe and environmentally acceptable work area. Personnel are expected to conduct regular operational inspections of their work areas and facilities to ensure Baffinland's commitments and expectations regarding health, safety and environment are being met or exceeded. Deficiencies identified during the inspections will be promptly addressed.

In addition to operational inspections conduct by operational personnel, the Environmental Representative will conduct routine inspections to confirm Eqe Bay operations are in compliance with the Type 'B' Water Licence, Inuit Land Use Lease III and other applicable approvals, using the Environmental Inspection Forms (Section 3.13) provided in this Plan. A finalized set of Environmental Inspection Forms (Section 3.13) for Eqe Bay activities will be included in the Rev. 0 of the Eqe Bay EPP.

Personnel who are unsure about certain environmental impacts and/or necessary protection measures will consult the Environmental Protection Plan first followed by the Environmental Representative before proceeding with any the activity under question.

Inspections will focus around the following:

- Hazardous materials and hazardous waste will be stored in a spill tray, a lined containment berm or shipping container.
- Waste should be segregated in accordance with the Waste Sorting Guidelines. Operational personnel in concert with the Camp Manager will ensure that disposal bins for each type of waste (hazardous, landfill, incinerator) are accessible and clearly labelled.
- Food waste and wildlife attractants will be disposed indoors to prevent the attraction and food conditioning of wildlife.
- Refuelling and equipment maintenance activities will employ the use of spill trays to prevent hazardous materials such as fuel, oils and greases from spilling onto the ground.

2.22.1 FORMS

- Baffinland - Eqe Bay EPP - Environmental Inspection Forms (Section 3.13)

2.22.2 RELATED DOCUMENTS

- Baffinland - Eqe Bay EPP
- Baffinland – Eqe Bay Spill Contingency Plan
- Baffinland – Eqe Bay Waste Management Plan

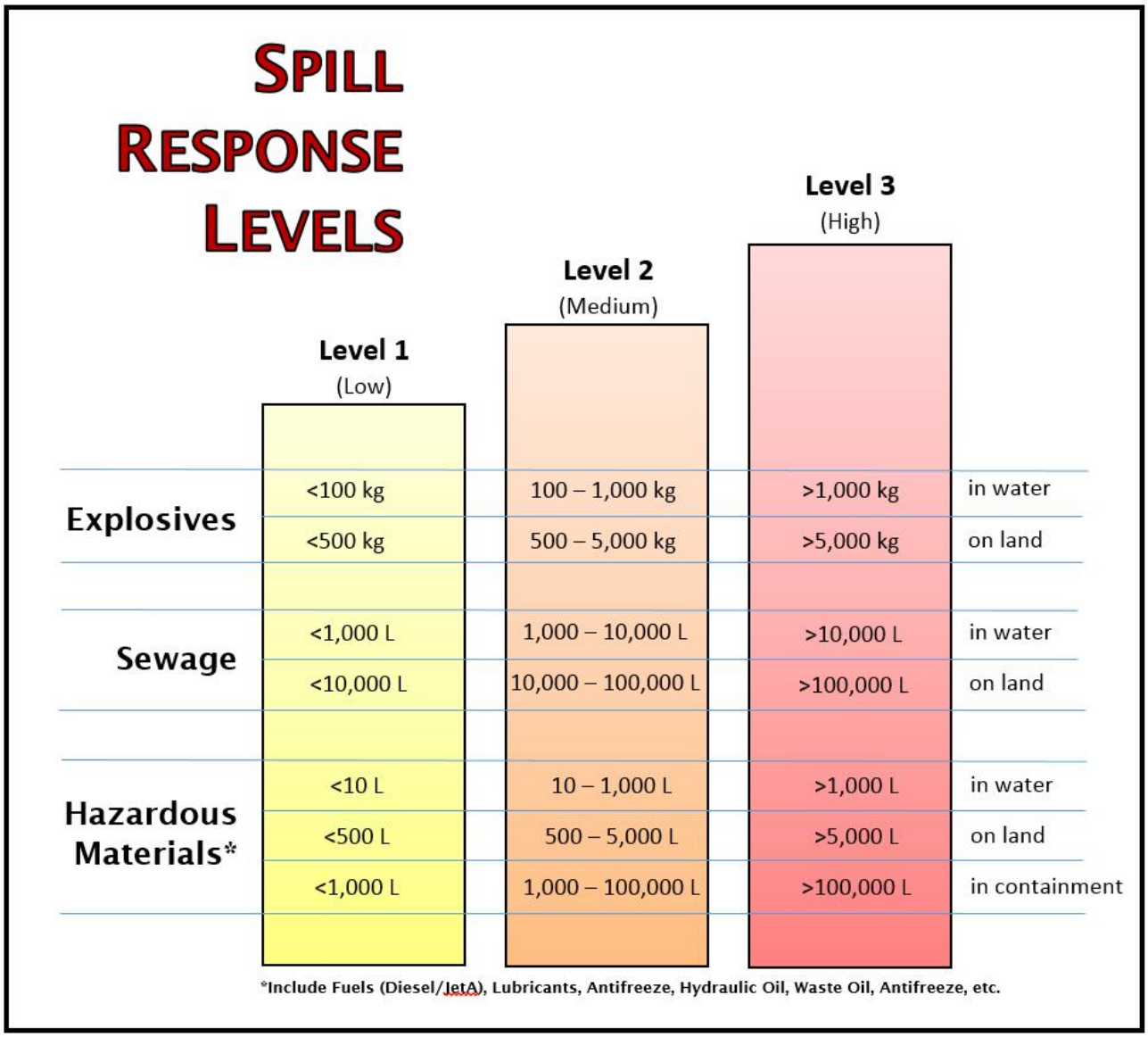
2.23 SPILL CONTROL MEASURES AND REPORTING

Several hazardous materials will be used during Eqe Bay Exploration Program including Jet-A1, diesel, oils, greases, antifreeze, calcium chloride, ammonium nitrate, batteries, cleaners and a variety of other materials. The management of hazardous materials onsite will focus on preventing the materials from causing harm to the health and safety of personnel and the surrounding environment. All spills, leaks and releases of hazardous materials will be reported to the Environmental Representative and documented using the Baffinland Incident Investigation Form (BAF-PH1-810-FOR-0005) and NT-NU Spill Report Form (Section 3.5).

Baffinland has adopted a classification system that includes three levels of emergency response. Each level of emergency, based on the significance of the event, requires varying degrees of response, effort and support. With emphasis on spills and releases the three response levels are as follows:

- Level 1 (Low) – Minor accidental release of a deleterious substance with:
  - No threat to public safety; and/or
  - Negligible environmental impact to receiving environment.
- Level 2 (Medium) – Major accidental release of a deleterious substance with:
  - Some threat to public safety; and/or
  - Moderate environmental impact to receiving environment
- Level 3 (High) – Uncontrolled hazard which:
  - Jeopardizes personnel safety: and/or
  - Significant environmental impacts to receiving environment

For spills, the level of emergency response to a spill incident will be based on the substance released, quantity spilled, the receiving environment that is potentially impacted, and the human health risk. The level of response will also take into account whether the location of the spill is within or outside of containment. Refer to the Eqe Bay Spill Contingency Plan for additional details on spill response scenarios, spill response equipment and the specific spill response roles and responsibilities of site personnel. The matrix on the next page will be used as a working guideline for personnel when responding to spills.



The general spill reporting and cleanup requirements that will be employed during the Eqe Bay Exploration Program are outlined in Table 2.22-1. The Environmental Representative will be responsible for external reporting requirements (i.e. NT-NU Spill Line).

TABLE 2.23-1: GENERAL SPILL REPORTING AND CLEAN UP REQUIREMENTS

Spill on Land		
Volume (L)	**Required Documentation**	**Spill Clean up**
Less than 1 litre	- Verbal or email report	Environmental Representative will advise if needed.
Greater than 1 litre and less than 100 litres	- Photos of spill and clean-up - Baffinland Incident Investigation Report	Spills greater than 30 litres will have an Environmental Representative present to advise clean-up efforts.
Greater than 100 litres	- Photos of spill and clean-up - Baffinland Incident Investigation Report - NT-NU Spill Report - Notification to regulators and the Spill Line	The Environmental Representative will lead and advise clean-up efforts.
Spill on Water Body or Watercourse		
Volume (L)	**Required Documentation**	**Spill Clean up**
Any volume	- Photos of spill and clean-up - Baffinland Incident Investigation Report - NT-NU Spill Report - Notification to regulators and the Spill Line	The Environmental Representative will lead and advise clean-up efforts.

2.23.1 FORMS

- Baffinland – Baffinland Incident Investigation Form
- Baffinland EPP - NT-NU Spill Report Form (Section 3.5)

2.23.2 RELATED DOCUMENTS

- Baffinland – Eqe Bay EPP – Hazardous Material & Hazardous Waste Management (Section 2.16)
- Baffinland – Eqe Bay Spill Contingency Plan

3 DOCUMENTATION LOGS AND FORMS

A key aspect of the EPP is effective record-keeping. The following logs and forms will be used to record key information:

- Cultural Heritage Chance Find Discovery Form (Section 3.1).
- Human Use Log (Section 3.2)
- Water Collection Log (Section 3.3)
- Drill Inspection Forms (Section 3.4)
- NT-NU Spill Report Form (Section 3.5)
- Polar Bear Readiness Audit Form (Section 3.6)
- Wildlife Log (Section 3.7)
- Active Migratory Bird Nest Search Form (Section 3.8)
- Off-site Waste Disposal Log (Section 3.9)
- Wastewater Log (Section 3.10)
- Watercourse Installation Form (Section 3.11)
- Turbidity Monitoring Data Form (Section 3.12)
- Environmental Inspection Forms (Section 3.13)

The record keeping forms are described further in their respective sections of the EPP. All completed logs and forms are to be submitted to the Environmental Representative.

3.1 CULTURAL HERITAGE AND CHANCE FIND DISCOVERY FORM

Cultural Heritage Chance Find Discovery Form	Reference No. (Environmental Representative to assign)

Please complete this form in the event of a chance find of a suspected burial, archaeological finds scatter, or an isolated find of a single artifact (e.g. stone tools/arrowheads, eggshell, pottery, concave milling/grinding stones, spherical hammerstones).		
Date and Time of Discovery :		
Name(s) and Contact Information of Discoverer(s) : Telephone #: Email:		
Location of the Discovery :	Area : GPS coordinates :	
Description of Archaeological Discovery :		
Estimated weight (kg):		
Dimensions (cm) :		
Sketch of Discovery Area :	**Drawing of Chance Find(s) :**	
Temporary Protection Implemented :		

Name	**Signature**	**Date (MM/DD/YY)**
Received by Environmental Representative	**Signature**	**Date (MM/DD/YY)**

Notes :

If you need more room to draw or describe the discovery area/finds, please use back of the page.

****Please return this form to the Environmental Representative as soon as possible (within 24 hours of the discovery at the latest)****

3.2 HUMAN USE LOG

Land and resource uses in the Eqe Bay include; hunting, fishing, trapping, and tourism. Potential impacts to existing land use will include the interruption of camping, hunting, tourism and marine activities. Baffinland has made a commitment to minimize disturbance to other land users to the extent possible.

Approvals issued to Baffinland require that the Company monitor the potential effects of its activities on Inuit harvesting activities. To do so, Baffinland wants to be aware of when people come into the area. The objective is to understand the activities of other land users.

TABLE 3.2.1: HUMAN USE OF OBSERVATION LOG

Date (MM/DD/YY)	Where (GPS)	Number of People In Party	Inuit or Non-Inuit	Activities Observed (Camp, Hunting, Travel, Etc.)

3.3 WATER COLLECTION LOG

Baffinland **Water Collection Log**

Date	Time	Truck ID	No. Loads	Source	Discharge Location	Operator name	Initials

3.4 DRILL INSPECTION FORMS

PRE-DRILLING INSPECTION REPORT

Baffinland		**PRE-DRILLING INSPECTION REPORT**	
		Baffinland personnel:	
		Date:	
		Time:	
		Proposed hole ID:	
		Final hole ID:	
PROPOSED HOLE INFORMATION:			
Deposit #:		**Collar location:**	E
Project:		(NAD 83)	N
Area:		**Dip:**	
NTS:		**Azimuth:**	
Elevation:		**Target depth:**	
Description of drill hole location:			
Purpose of drill hole:			
DRILLING INFORMATION:			
Has site been approved by drill foreman?			
Drill contractor: Drill personnel: Drill #:			
Expected start of drilling:			
Is moving of drill hole required?			
If yes, provide reason:			
New collar location:	E	N	
WATER MANAGEMENT:			
Water source:			
Pump Station #:			
Sump location identified and constructed?:	Yes/No (Photo required)		
Corner 1:	E	N	
Corner 2:	E	N	
Silt fence(s) constructed?: Yes/No (Photo required)			
Corner 1:	E	N	
Corner 2:	E	N	
SITE ASSESSMENTS:			
Are wildlife present?: (If yes, record in log)			
Is site safe for drilling?			
Stable platform	Yes /No	Fire Extinguisher	Yes /No
First Aid kit	Yes /No	Eye Wash	Yes /No
PPE	Yes /No	Spill Kits	Yes /No
Safety concerns/issues:			
Environmental concerns?			
PHOTOGRAPHIC RECORD:			
Photo of drill hole location prior to setup?		Yes /No	
Name:		Folder:	
Uploaded to hard drive?			
COMMENTS:			

DAILY DRILLING INSPECTION REPORT

Baffinland	**DAILY DRILL INSPECTION REPORT** **Baffinland personnel:** **Date:** **Time:** **Hole ID:**

HOLE INFORMATION:

Deposit #:	1	**Collar location:**	E
Location:		(NAD 83)	N

DRILLING INFORMATION

Drill contractor:
Drill personnel:
Drill #:

DRILLING PROGRESS:

Day Shift	Night Shift
Start depth:	**Start depth:**
End depth:	**End depth:**
Total depth drilled:	**Total depth drilled:**
Casing installed:	**Casing installed:**

Any rods/casing/tools lost in the drillhole? If yes, what was lost?

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

WATER USE ASSESSMENT:

Sediment control measures in place:
Assessment of effectiveness:
Approximate water level in sump:
Color of water in sump:
Color of runoff?
Conductivity readings?: Station # Reading; Station # Reading; Station # Reading
Turbidity sample(s) taken?: Sample # Reading; Sample # Reading

DAILY WATER USE MONITORING:

Water meter reading (start of day):

Water meter reading (end of day):

SITE ASSESSMENT:

Are wildlife present?: (check log for previous wildlife activity)

Is site safe for drilling?

Stable platform	Yes /No	Fire Extinguisher	Yes / No
First Aid kit	Yes /No	Eye Wash	Yes / No
PPE	Yes /No	Spill Kits	Yes / No
Lined Berms	Yes /No		

Safety concerns/issues:
Environmental concerns?
Corrective action required?: Action plan (if required):
Responsible party:
Date to be completed: Photograph (only required to document problems and corrective actions)

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Photo of water management measures? Yes /No
Name: Folder:
Uploaded to hard drive?

COMMENTS:

POST-DRILLING INSPECTION REPORT

Baffinland	POST-DRILLING INSPECTION REPORT Baffinland personnel: Date: Time: Final hole ID:

HOLE INFORMATION:

Deposit #:
Project: MARY RIVER
Area: BAFFIN ISLAND
NTS: 37G/5
Elevation:
Description of drill hole location:
Purpose of drill hole:

Collar location: E
(NAD 83) N
Dip:
Azimuth:
EOH:

DRILLING INFORMATION:

Drill contractor:
Drill personnel:
Drill #:
End of drilling:
Casing:
Any rods/casing/tools lost in the drill hole? If yes, what was lost?

Are rods/casing left in the ground cut at ground level and is the hole properly plugged and capped? Yes / No
Next set-up collar location: E N

WATER USE ASSESSMENT:

Water source: Mary River
Pump station #:
Total amount of hours water was pumped from pump station:

SITE ASSESSMENT:

All materials and debris removed from site? Yes /No
Any environmental concerns? Yes /No If yes, please describe below:

Any additional work required? Yes /No If yes, please describe below:

Corrective action:
Responsible party:
Date to be completed by:

PHOTOGRAPHIC RECORD:

Photo of drill hole location following demobilization and clean up? Yes /No
Name: Folder:
Uploaded to hard drive?

COMMENTS:

INSPECTION COMPLETED BY:

Baffinland signature: Drill contractor signature:

3.5 NT-NU SPILL REPORT FORM

SECTION	OPERATIONAL ENVIRONMENT STANDARD	REVISION	REVISION DATE
3.6	NT-NU Spill Report Form	A	July 15, 2014

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

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

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # TO THE ORIGINAL SPILL REPORT	
C	LAND USE PERMIT NUMBER (IF APPLICABLE): IOL - Commercial Lease No.: Q13C301	WATER LICENCE NUMBER (IF APPLICABLE): 2AM-MRY1325 Type "A"		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION: ☐ NWT X NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES MINUTES SECONDS	LONGITUDE: DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM / TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION / ALTERNATE TELEPHONE

REPORT LINE USE ONLY

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

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

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

PAGE 1 OF _____

3.6 POLAR BEAR READINESS AUDIT FORM

Baffinland

Polar Bear Readiness Audit

Auditors: _____ Date: _____

Dressing Hardware

☐ Two 6 inch Buck Knives

☐ Two 4 inch Buck Knives

☐ One Sawblade

Fire Arm Approved Personnel Onsite

Name	Shift	Room

Pre-approved Polar Bear Dressers

Name	Shift	Room

Carcass Storage Location

Storage location	Temperature

Carcass Delivery Capabilities

Delivery Method	Delivery Timeline

Comments:

3.7 WILDLIFE LOG

DID YOU SEE ANY WILDLIFE?

LET US KNOW ᐅᒪᔪᓐᓂᒃ

ᑕᑯᓚᐅᕐᐱᑦ ? ᐊᕐᑎ ᖃᐅᔨᑲᕐᑎᒍᑦ

Wildlife observations by site personnel make very important contributions to environmental baseline studies. It is important enough that Baffinland asks you to record any observations of wildlife by listing them on this form.
ᐅᒪᔪᓐᓂᒃ ᖃᐅᔨᓯᖃᑦᑕᕐᓂᖅ ᓴᕕᒃᓴᕐᓂᐊᕐᕕᖕᒥ ᓴᓇᔪᓐᓂᑦ ᐊᑐᕈᑎᖃᑎᐊᕐᒪᑦ ᐊᕙᑎᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ.
ᐊᑐᕈᑎᖃᕐᓂᖓ ᐱᔪᑎᒋᓪᓗᒍ ᐸᕝᕙᓕᒧᑦ ᐃᓕᓯᓐᓂᒃ ᐊᐱᕆᒍᑦ ᐅᒪᔪᓐᓂᒃ ᑕᑯᖕᒪᕕᑦ ᑎᑎᖃᑦᑕᓗᒋᑦ

DATE ᐅᓪᓗᖓ	ANIMAL & HOW MANY? ᐅᒪᔪᖅ ᑭᓯᑕᐅᕙ ᐊᒪᓗ ᖃᔨᐅᑕᐅᕙᑦ ?	WHERE? ᓇᓂ ?	COMMENTS ᐅᖃᐅᓯᑦ

Please leave wildlife alone. Do not feed them and never leave waste behind.

ᐊᕐᑎ ᐅᒪᔪᑦ ᐅᓚᕕᓴᖃᑕᓐᖏᓗᒋᑦ ᕿᒥᓇᕐᓱᖏᓗᒋᑦ ᐊᒻᒪ ᑕᒪᐅᖓᑐᐃᓐᓇᖅ
ᐃᒋᑎᖃᑕᓐᖏᓗᒋᑦ

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used.

3.8 ACTIVE MIGRATORY BIRD NEST SEARCH FORM

Active Migratory Bird Nest Search Form

Survey Date: MM/DD/YYYY	Start Time: 24 hour	End Time: 24 hour

Names of Surveyors:	Total # of Surveyors:

Weather Conditions (Precipitation, Cloud cover, Wind, Temperature) – Note: Surveys should not be conducted in rain, snow or other inclement weather

Description of Search Area (Location – Geographic Place Name or Distance & Direction from Named Location, Size etc.):	Photos of Site:

Survey Map (Include any existing disturbance, water bodies or other geographic features and the location of any nests found)	Waypoint Corners of Search Area (Waypoint #, Latitude, Longitude)
	Waypoint Corner 1:
	Waypoint Corner 2:
	Waypoint Corner 3:
	Waypoint Corner 4:

Number of Nests Found (Details on Page Two)

Nest Observations:

Nest ID #	Waypoint (Waypoint #, Latitude, Longitude)	Species/Species Group	# Eggs/Young
	Description of Nest		Photo Numbers
	Nest Buffer Applied (Size, How it was Determined, How it was Marked)		

Nest ID #	Waypoint (Waypoint #, Latitude, Longitude)	Species/Species Group	# Eggs/Young
	Description of Nest		Photo Numbers
	Nest Buffer Applied (Size, How it was Determined, How it was Marked)		
Nest ID #	Waypoint (Waypoint #, Latitude, Longitude)	Species/Species Group	# Eggs/Young
	Description of Nest		Photo Numbers
	Nest Buffer Applied (Size, How it was Determined, How it was Marked)		
Nest ID #	Waypoint (Waypoint #, Latitude, Longitude)	Species/Species Group	# Eggs/Young
	Description of Nest		Photo Numbers
	Nest Buffer Applied (Size, How it was Determined, How it was Marked)		

3.9 OFF-SITE WASTE DISPOSAL LOG

Line	Prov. Code	Shipping Name of Waste (i.e. Kitchen Grease, Contaminated Oily Solid, etc.)	Class	UN	P.G	Quant. Shipped (kg)	Packaging				Phys. State (S, L, G)
							Mine Site	Milne Port	Total	Packaging Type	

Note : PACKAGING TYPE : 01 drum; 02 tank; 03 bulk; 04 carton; 05 bag; 06 roll-off or lugger; 07 other

3.10 WASTEWATER LOG

Baffinland

Wastewater Log

Date	Time	Truck ID	No. Loads	Source	Discharge Location	Operator name	Initials

3.11 WATERCOURSE CROSSING DATA MONITORING FORM

SECTION	OPERATIONAL ENVIRONMENT STANDARD	REVISION #	REVISION DATE
3.14	Watercourse Crossing Data Monitoring Form	A	June 4, 2008

CROSSING ID:										
Construction Duration:		**Start:**			**Finish:**					
	Environmental Inspector:			**Start (Date and Time):**			**Finish (Date and Time):**			
Env. Inspector on site during in-water work:										
LOCATION	**Datum:**			**Zone:**						
Easting (m):		**Northing (m):**		**Elevation (from mapping):**			**Other notes:**			
FISH ASSESSMENT PRIOR TO CONSTRUCTION				**Date of Inspection:**						
Fish Present?	**Y / N**			**If Yes, distance from crossing:**				**US / DS**		
Spawning Arctic Char present at crossing?	**Y / N**			**(If yes, contact biologist)**						
Spawning site present 20 m upstream or downstream of crossing?	**Y / N**									
CHANNEL CHARACTERISTICS	**Date Measured:**									
	Pre-Construction						**Post Construction**			
Location	**Distance**	**Width (m)**		**Water Depth (m)**			**Width (m)**		**Water Depth (m)**	
		Wetted	**High W**	**Max**	**Avg.**		**Wetted**	**High W**	**Max**	**Avg.**
Crossing										
Upstream										
Downstream										
SEDIMENT AND EROSION CONTROL MEASURES										
Measure installed:							**Date installed:**			
							Dated removed:			
							Turbidity monitored Y / N			
Measures taken to stabilize disturbed areas:										
CROSSING INSTALLATION DETAILS										
1.2 m		**culverts**		**lengths of culvert**			**Notes:**			
1.0 m		**culverts**		**lengths of culvert**						
0.5 m		**culverts**		**lengths of culvert**						
PHOTOS	***View across crossing, view from upstream, view from downstream and any other to illustrate conditions.***									
	Photo #	**Date**	**Direction**	**Vantage point**		**Photo #**	**Date**	**Direction**	**Vantage point**	
Before					**After**					
across					across					
from US					from US					
from DS					from DS					
During					**Sed Con**					
across					across					
from US					from US					
from DS					from DS					
NOTES										

3.12 TURBIDITY MONITORING DATA FORM

CROSSING ID:							
Field Crew:			**Date:**			**Time:**	
LOCATION	**Datum:**		**Zone:**				
Easting (m):		**Northing (m):**		**Elevation (from mapping):**		**Other notes:**	
CURRENT WEATHER: Wind:		**Air Temp:**		**Precipitation:**		**Cloud Cover (%):**	
Recent Weather Events:							
CONSTRUCTION	**Construction Phase (circle one):** Pre-Construction		During Construction		Post-Construction		
Type of Activity:			**Equipment in Use:**				
Date Construction Began:							
Is the crossing location changing? (i.e. Is the crossing moving upstream or downstream of its original location? How far? Which direction?)							
SITE SKETCH, NOTES, REMARKS: (i.e. high water table, high turbidity, natural bank erosion, water color, char observed in stream, algae in water, etc.) Is there anything unique about this crossing compared to other watercourses? (i.e. steep banks, clay in water, etc.)							
Substrate Particles **% Areal Coverage (est.)** **% sand/silt/clay (<2mm)** **% gravel (2 - 64 mm)** **% cobble (64 - 256 mm)** **% boulder (> 256 mm)** **% bedrock**				**Riparian Vegetation and Shading (describe):**			
***IN SITU* TURBIDITY READINGS** (complete at least one measurement upstream and downstream of crossing) **Meter Make and Model:**							
Location	**Distance from crossing (m)**	**Turbidity (NTU)**	**Time**	**Location**	**Distance from crossing (m)**	**Turbidity (NTU)**	**Time**
Upstrea				**Upstream**			
Crossing				**Crossing**			
Dwnstrm				**Downstrea**			
FLOW ESTIMATES	**Location :**						
High Water Width (m):				**Distance between points (m):**			
Wetted Channel Width:				**Time (min):** /			
Approx. Average Depth:				**Surface velocity estimate:**			
				Average Velocity (0.8 (1) x Surface Velocity) (V) =			
Note (1) - depends on substrate composition: 0.8 for rough, loose rocks or coarse gravel / 0.9 for smooth mud, sand, or hard pan rock							
PHOTOS: (upstream, crossing, downstream)							
NOTES:							

3.13 ENVIRONMENTAL INSPECTION FORMS

Aircraft Fuel Dispensing Areas Inspection Checklist

Baffinland

Date:	
Inspecting Personnel:	
Camp:	

	Condition	Y/N or NA	Recommended Corrective Action (if necessary)	Responsible Party	Corrective Action Taken or Plan	Completion Date
1	Is a spill kit present and fully stocked?					
2	Is a drum or disposal bin present for used absorbent pads?					
3	Is there a spill tray present for re-fuelling activities?					
4	Are spill trays damaged or overflowing?					
6	Are fuel lines damaged or leaking?					
7	Does the Jet A fuel tank have visible signs of overflow (ex. stains on the side of the tank)?					
8	Are there visible leaks or free product within the fuel berm?					
9	Is there evidence of leaking or visible staining outside of lined area?					
10	Is there water present in the bermed area? If so, specify maximum water depth.					
11	Is there free phase product visible on any water surface within the bermed area?					
12	Are there signs of instability or tears in bermed areas? (i.e. collapsing berm or exposed liner).					
13	Is there any other refuse present? (i.e. garbage, loose materials, etc.)					

Additional Notes:

Containment Berms and Accommodations Complex Fuel Storage Inspection Checklist

Date:
Inspecting Personnel:
Camp:

Baffinland

Area		Condition	Y/N or NA	Recommended Corrective Action (if necessary)	Responsible Party	Corrective Action Taken or Plan	Completion Date
Accomodations Complex - Fuel Tanks (Day)	1	Are spill kits present, labelled and fully stocked?					
	2	Is there any visible damage to the fuel tanks?					
	3	Are any lines, fittings, or pipes damaged and/or leaking?					
	4	Are there any fuel stains or visible spills near the fuel storage tanks?					
	5	Are storage tanks protected by cement barriers?					
Containment Berms (Bladder Farm, New Product Berms, Steel Tank Farm)	1	Is a spill kit present, labelled and stocked at each berm?					
	2	Are there visible leaks or stains within or outside the berms?					
	3	Is there water present in the bermed areas? If so, specify maximum water depth.					
	4	Is there free phase product visible on any water surface within the bermed areas?					
	6	Are there signs of instability or tears in bermed areas? (i.e. collapsing berm or exposed liner)					
	7	Are all containers within the berms labelled, stored upright, and in good condition (i.e. free of structural defects)?					
	8	Is there any refuse present? (i.e. garbage, loose materials, etc.)					

Additional Notes:

Hazardous Waste Containment Berm Inspection Checklist

Date:

Inspecting Personnel:

Camp:

Baffinland

	Condition	Y/N or NA	Recommended Corrective Action (if necessary)	Responsible Party	Corrective Action Taken or Plan	Completion Date
1	Are spill kits present, labelled, and fully stocked?					
2	Are all containers within the berm correctly labelled, stored upright and in good condition (i.e. free of structural defects)?					
3	Is there evidence of leaking or visible staining outside of lined area?					
4	Is there water present in the bermed area? If so, specify maximum water depth.					
5	Is there free phase product visible on any water surface within the bermed area?					
6	Is there free phase product visible on the ground within the bermed area?					
7	Are there signs of instability or tears in bermed areas? (i.e. collapsing berm or exposed liner)					
8	Is there any other refuse present? (i.e. garbage, loose materials, etc.)					

Additional Notes:

Crusher and Quarry Inspection Checklist

Date:	
Inspecting Personnel:	
Camp:	

Baffinland

	Condition	Y/N or NA	Recommended Corrective Action (if necessary)	Responsible Party	Corrective Action Taken or Plan	Completion Date
1	Are hazardous materials and waste being stored in secondary containment?					
2	Are spill kits present, labelled, and fully stocked?					
3	Is explosives packaging (boxes, plastic bags) being burnt in an approved open burn location?					
4	Is ash generated from open burns being transferred and stored in the appropriate drums?					
5	Are waste items being properly sorted and diposed of?					
6	Are the natural drainage patterns of the quarried area still intact?					
7	Are silt fences or settling ponds in place to limit sediment transport into surrounding water bodies?					
8	Is there any signs of pooling water or thawing permafrost?					
9	Are there any fuel stains or visible spills?					
10	Is topsoil or overburden being stockpiled in area away from drainage routes?					
11	Are operators conducting pre-operation checks on their equipment?					
12	Do equipment operators have an adequate amount of spill reponse supplies on board?					

Genset Area Inspection Checklist

Date:	
Inspecting Personnel:	
Camp:	

Baffinland

Area		Condition	Y/N or NA	Recommended Corrective Action (if necessary)	Responsible Party	Corrective Action Taken or Plan	Completion Date
Genset Area	1	Is a spill kit present, labelled and fully stocked?					
	2	Are spill berms present under the oil drains, hose connections, and any other points of potential leakage?					
	3	Are spill berms in danger of overflowing?					
	4	Is there visible staining under the oil drains or other areas of potential leakage?					
	5	Are any hoses or nozzles cracked, damaged or leaking?					
	6	Are all hazardous waste/materials in secondary containment?					
	7	Is there any other refuse present? (i.e. garbage, loose materials, etc.)					

Additional Notes:

Incinerator and Burnable Waste Storage Inspection Checklist

Date:

Inspecting Personnel:

Camp:

Baffinland

	Condition	Y/N or NA	Recommended Corrective Action (if necessary)	Responsible Party	Corrective Action Taken or Plan	Completion Date
1	Is a spill kit present, labelled and fully stocked?					
2	Are fuel lines damaged or leaking?					
3	Are spill trays present at any points of potential leakage in fuel lines? (e.g. hose connections)					
4	Is any burnable waste securely contained within the sea can?					
5	Are any inappropriate waste types present (ex. styrofoam, aerosols, waste batteries)?					
6	Is the surrounding area free of loose debris?					
8	Are there any animal attractants (ex. food waste being left outdoors)?					
9	Is the door to the incinerator securely shut to prevent animal access?					
11	Do all ash drums have lids on them?					
12	Are operators filling out the incinerator log?					
13	Is there signage describing acceptable wastes?					

Additional Notes:

Tent City (Exploration Camp) Inspection Checklist

Date:	
Inspecting Personnel:	
Camp:	

Baffinland

	Condition	Y/N or NA	Recommended Corrective Action (if necessary)	Responsible Party	Corrective Action Taken or Plan	Completion Date
1	Are fuel berms present behind each tent?					
2	Are fuel berms structurally sound? (i.e. no rips, tears or leaks)					
3	Are fuel berms in danger of overflowing?					
4	Are fuel drum and fuel drum stands structurally sound? (i.e. punctures, tilting, etc.)					
5	Is there any staining around fuel berms or tents indicating a spill?					
6	Are the fuel lines damaged or leaking?					
7	Is there any refuse present? (i.e. Loose garbage)					
8	Is environmental lab waste stored in a labelled quatrex bag?					

Additional Notes:

Baffinland

Waste Sorting Area Inspection Checklist

Date: _____
Time: _____
Inspector name: _____
Inspector's position: _____

Please review and complete the form as applicable. Any non-conformances with the waste sorting area should be reported to the Environment Department.

General Site			
	Yes	No	Corrective Action
Is the route to the waste sorting area in suitable condition to provide truck access?			
Are the waste sorting signs in good condition?			
Are the waste containers upright and in their appropriate locations?			
Does the waste appear to be sorted?			
Is the site clean and free of litter?			
Are there any unacceptable wastes present? (ie. food scraps, cardboard, paper, scrap wood, small plastics or other burnables)			

Waste Sorting Containers						
	Container type* (drum or quatrex)	Quantity	Capacity (Full, half, empty)	Condition (OK, damaged, leaky)	Signage (OK, damaged, missing)	Comments
Aerosol cans						
Used absorbents						
Propane Containers						
Used oil filters						
Waste batteries						
Contaminated hoses						
Mixed waste containers						
Oily plastics						

Additional Comments

Baffinland

General Environmental Inspection Form

NAME:_____ DATE:_____

AREA(S) INSPECTED:_____

_____

_____

_____

ENVIRONMENTAL CONCERNS: _____

_____

_____

CORRECTIVE ACTIONS REQUIRED:_____

_____

_____

_____

COMMENTS:_____

_____

_____

4 REQUEST FOR REVISION TO AN OPERATIONAL ENVIRONMENT STANDARD

The EPP is a living document, and its users are encouraged to suggest changes to the content or wording of Operational Environment Standards to make the document more useful.

Please submit a copy of this Request for Revision to an Operational Environment Standard to the Environmental Representative.

Section To Be Revised (or Title of New Operational Environment Standard): (E.g. Section 2.1 Archaeology)
Nature of Proposed Change: (E.g. update, addition, new, etc.)
Rationale For Request (E.g. Environmental Protection, worker safety, etc.)
The Revision (or New Operational Environment Standard):

Appendix A -
Polar Bear Readiness Procedure and Audit

POLAR BEAR READINESS PROCEDURE AND AUDIT

Introduction

The purpose of this document is to ensure that all polar bear incidents are documented and promptly reported to regulators and that all preparation and requirements regarding polar bear mortalities are in place. The Polar Bear Safety Plan developed for the Mary River Project should be referenced for additional information pertaining to polar bear mortalities.

Reporting Requirements

In the event of a polar bear mortality QIA, HTOs of the nearest communities and the appropriate Government of Nunavut (GN) Wildlife Officer must be notified within 2 hours of the kill.

1. QIA
   To be updated with contact information provided by QIA.
2. HTO
   To be updated with contact information provided by Igloolik and Hall Beach HTOs.
3. GN Wildlife Officer
   To be updated with contact information provided by the GN.

Preparations and Procedure

1. Firearm Use
   Only pre-approved designated individuals that have documented their Possession and Acquisition licence with the Camp Manager will be authorised to shoot a polar bear.
2. Dressing
   Only pre-approved Inuit workers with the experience and expertise will attend to field dressing, gutting, skinning, cutting the carcass. A Wildlife Carcass Dressing Kit consisting of two 6 inch blades, two 4 inch blades and one sawblade will be provided by the Environmental Representative.

   In the event of polar bear mortality, the following parts must be preserved and delivered to the GN Wildlife Officer:

   i. The lower jaw or an undamaged post-canine tooth,
   ii. Any lip tattoos present,
   iii. Any radio collars or ear tags present, and
   iv. Evidence of sex (i.e. penis/baculum).

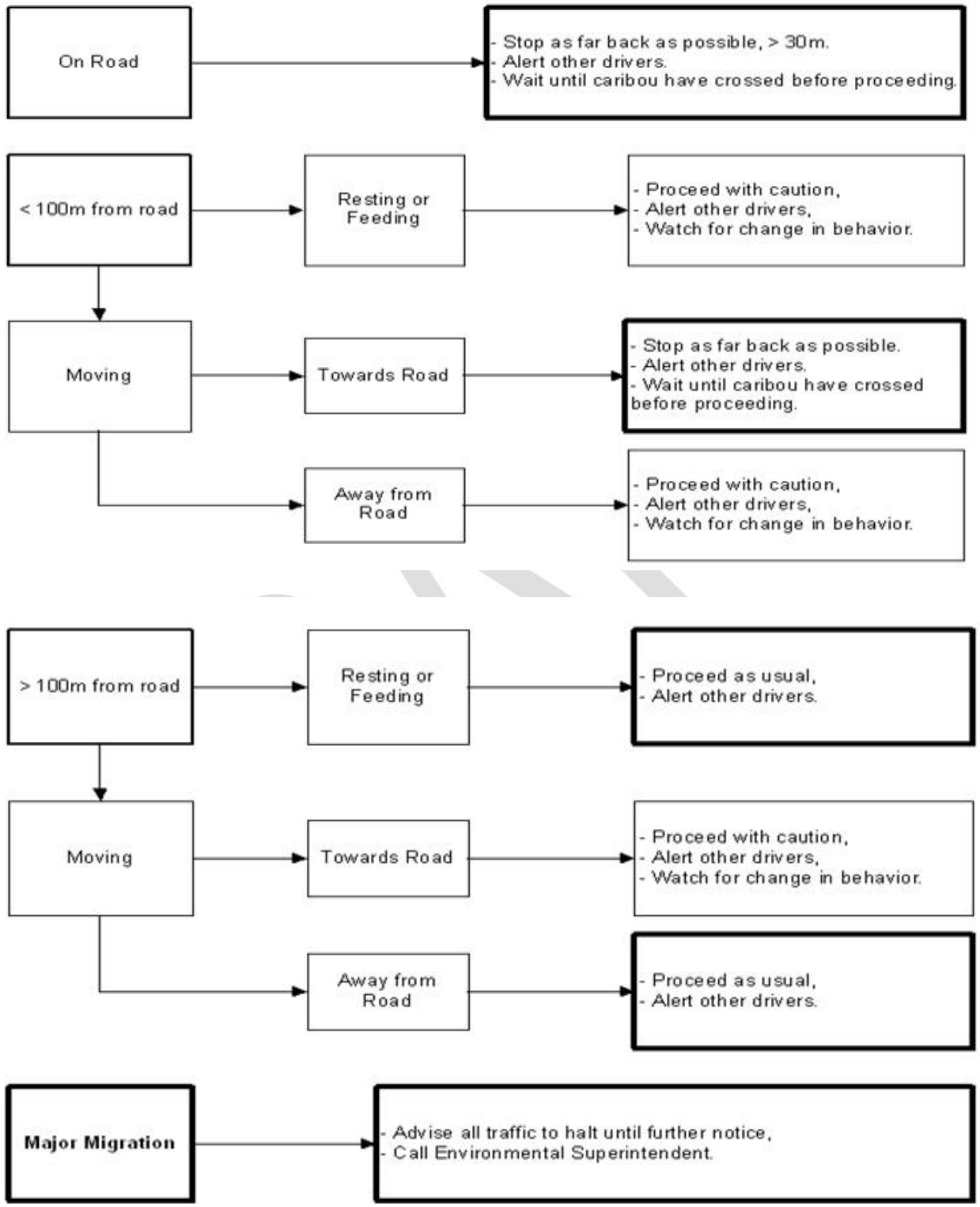
3. Carcass Storage

   All salvageable parts of the carcass must be delivered to the designated community within 24 hours of the kill, if possible. Prior to being delivered and to avoid spoilage, all salvageable wildlife parts must be promptly and safely stored in a refrigerated place. The meat and salvageable parts should not be stored in a shipping container.

Polar Bear Readiness Audit

Polar bear readiness and preparation requirements will be audited once per month by the Environmental Representative using the form provided in Section 3.6 of the Eqe Bay EPP.

Appendix B-
Caribou Encounters Decision Tree



Appendix C -
Active Migratory Bird Nest Survey Protocol

Table 1. Recommended setback distances for activity near bird nests.

Species Group	Recommended Setbacks Distances (m)	
	Pedestrian / ATV's	Roads/Construction/Inustrial Activity
Songbirds	30	100
Shorebirds	50[a]	100[a]
Terns & Gulls	200[b]	300[b]
Ducks	100	150
Geese	300	500
Loons & Cranes	500	750

a For nests of American Golden Plover or Ruddy Turnstone, these setbacks should be increased to 150 m for pedestrians/ATVs and 300 m for Roads/Construction/Industrial Activities respectively. For nests of Black-bellied Plover, Whimbrel, or Red Knot, these setbacks should be increased to 300 m for pedestrians/ATVs and 500 m for Roads/Construction/Industrial Activities. If field crews are untrained in the identification of these species, then the higher setbacks should be applied for all shorebird species. In areas where several species are nesting in proximity, setbacks for the most sensitive species should be used if they are present.

b For project activities in proximity to nests of Ross's Gull these setbacks should be increased to 500 m for pedestrians/ATVs and 750 m for Roads/Construction/Industrial Activities. The draft Recovery Strategy for Ivory Gull currently identifies the area within a 2 km radius around colonies where at least one individual was observed nesting any time between 2002 and 2009 as Critical Habitat. As a precautionary approach, a 2 km setback should also be applied to any Ivory Gull nest that is encountered in an area that is not currently identified as Critical Habitat in the Recovery Strategy.

For further information, contact Baffinland's on-site Environment Team, or Environment Canada at

Director, Prairie and Northern Region, Canadian Wildlife Service, Environment Canada

Twin Atria Building, Room 200, 4999–98 Avenue, Edmonton AB, T6B 2X3

Phone: 780-951-8850

Further information on incidental take is available on the internet (as of June 2012):

http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=FA4AC736-1

EDI
ENVIRONMENTAL DYNAMICS INC.

Baffinland
Iron Mines Corporation

Mary River Active Migratory Bird Nest Survey (AMBNS) Protocol

ALL ACTIVE BIRD NESTS ARE PROTECTED FROM DISTURBANCE

Federal government regulations protect all active migratory bird nests from disturbance and destruction. Baffinland is committed to the protection of all active bird nests and this AMBNS protocol will be used during the Mary River Project's construction and operation. From 31 May to 31 August, when disturbance (clearing) or other industrial activities occur in previously undisturbed areas, Baffinland will conduct AMBNSs and protect nests and nesting birds with no disturbance buffers around active nests. This guide provides an overview of how to conduct an AMBNS and establish appropriate no disturbance buffers.

Background

The Migratory Birds Regulations, under the Migratory Birds Convention Act (MBCA), 1994, prohibit the harming of migratory birds and the disturbance or destruction of their nests and eggs. The inadvertent destruction of nests and eggs from industrial activity is called "incidental take" and is illegal. Environment Canada, responsible for the MBCA, expects that Baffinland will exercise due diligence to avoid harm to migratory birds, their nests, eggs, and young.

To avoid conflict with nesting birds, clearing should be completed outside of the migratory bird nesting season. In the Mary River Project area, bird nesting activity can occur from 31 May to 31 August. In the event that clearing unavoidably overlaps with the breeding bird season, Baffinland will conduct Active Migratory Bird Nest Surveys (AMBNS) and establish no-disturbance buffers to reduce the likelihood of disturbing or destroying active nest.