Attachment 24

Waste Management Plan

(51 Pages)

Baffinland Iron Mines Corporation

DRAFT WASTE MANAGEMENT PLAN

Phase 2 Proposal Revisions – FOR REVIEW PURPOSES ONLY

This Document provides Revisions to:
Document #BAF-PH1-830-P16-0028
Rev 7
September 25, 2018

Baffinland Iron Mines Corporation

WASTE MANAGEMENT PLAN

BAF-PH1-830-P16-0028

Rev 7

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TRACK CHANGES TABLE

A review and update of the Waste Management Plan has been undertaken, the following revisions have been completed.

Index of Major Changes/Modifications in Revision 7, September 2018:

Item No.	Description of Change	Relevant Section
1	General update to reflect current operations and support 6 Mtpa application.	Entire Document
2	Provided additional clarity on the waste management roles and responsibilities for Project departments and personnel.	Section 4.0.

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1 INTRODUCTION

1.1 PURPOSE AND SCOPE

~~As required by Baffinland Iron Mines Corporation's (Baffinland) Type A Water Licence No. 2AM-MRY1325 Amendment No. 1 (Type A Water Licence) and Type 'B' Water Licence No. 2BE-MRY1421 (Type 'B' Water Licence) for the Mary River Project (Project), a review of Project Environmental Management and Monitoring Plans (EEMPs) was completed. This Waste Management Plan (Plan) was updated to meet the requirements of the Type A and 'B' Water Licences. Further and continual modifications and revisions to this Plan shall be completed based on changes to Project infrastructure, waste management procedures, and protocols. Updates to this Plan shall be completed in accordance to the terms and conditions of Baffinland's Water Licences, Commercial Lease – Q13C301 (Commercial Lease) with the Qikiqtani Inuit Association (QIA), the amended Project Certificate No. 005 issued by the Nunavut Impact Review Board (NIRB) and any subsequent requirements which may be issued. Tables of concordance with the applicable regulatory approvals are provided in Appendix A.~~

The purpose of this Plan is to identify Baffinland Iron Mines Corporation's (Baffinland's) framework for effective waste management on the Mary River Project. This includes identifying the roles and responsibilities of its employees and contractors and as well as procedures for handling, storing and disposing of solid wastes generated at Project sites to ensure that it is conducted in a safe, efficient and environmentally compliant manner that minimizes the potential for adverse impacts to the environment. Monitoring controls and strategies for adaptive management and continuous improvement are described.

This Plan identifies wastes generated at Project sites including, inert and non-hazardous solid wastes, construction debris, and domestic waste, and ~~. This Plan also identifies~~prescribes the various disposal methods ~~prescribed to waste types generated at the Project~~ for these wastes. ~~in addition to providing monitoring controls and strategies for adaptive management and continuous improvement.~~ The following infrastructure has or is planned to be ~~been~~ constructed at Project sites to handle, store, transport and dispose of Project waste:

- Waste management facilities at the Mine Site and Milne Port to facilitate incineration, waste sorting and storage;
- Open burning facilities at the Mine Site and Milne Port;
- Landfill facility at the Mine Site;
- Landfarm facility at Milne Port;
- Landfarm facility at the Mine Site; and
- Polishing Waste Stabilizing Ponds (PWSPs) at the Mine Site and Milne Port
- Landfill facility at Milne Port.~~;~~

~~Following construction, a landfill will be constructed within the exhausted quarry at Milne Port.~~

Other management plans that deal with waste management on the Project include:

- Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011) – describes the management of hazardous wastes, including used oils, contaminated fuel, used chemical products, biomedical waste, and spill clean-up materials; and
- Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010) – describes the management of sewage effluent and sludge and other effluents generated by the Project

~~The management of hazardous wastes (e.g. used oils, contaminated fuel, used chemical products, biomedical waste, spill clean-up materials) is provided in Baffinland's Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011). The management of sewage effluent and sludge as well as other effluents generated by the Project is provided in Baffinland's Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010).~~

This Plan is required by the following Project authorizations:

- Type A Water Licence No. 2AM-MRY1325 issued by the Nunavut Water Board (NWB or the Board)
- Type B Water Licence No. 2BE-MRY1421
- Commercial Lease – Q13C301 (Commercial Lease) with the Qikiqtani Inuit Association (QIA)
- Project Certificate No. 005 issued by the Nunavut Impact Review Board (NIRB)

Tables of concordance with the applicable regulatory approvals are provided in Appendix A. This Waste Management Plan (Plan) has been updated to support the environmental review and permitting of the Phase 2 Proposal. Further and continual modifications and revisions to this Plan shall be completed based on changes to Project infrastructure, waste management procedures, and protocols.

1.2 DEFINITIONS

Project:	The necessary tasks and work executed during the lifespan of the Project at the Project Site, including the construction, operation, closure and reclamation phases, of the Project.
Site:	The areas occupied by the Project facilities (permanent or temporary) during the construction, operation, closure and reclamation phases of the Project.

Contractor:	A person or business which provides goods, material, equipment, personnel, and/or services to Baffinland under terms specified in a contract.
Waste:	The residual waste material (hazardous, non-hazardous or putrescible) generated during the construction, operation, closure and reclamation phases of the Project.
Hazardous Waste:	The wastes generated during the lifespan of the Project that present a threat to the human health or the environment because they exhibit one or more of the following characteristics: corrosive, reactive, explosive, toxic, inflammable, or biologically infectious.
Non-Hazardous Waste:	The wastes generated during the lifespan of the Project that do not present a threat to human health or the environment.
Putrescible Wastes:	The wastes generated during the lifespan of the Project that degrade very rapidly, i.e., plants, food scraps or animal remains.
Incinerator Waste:	Waste identified as suitable for incineration based on incineration technology used on-site, applicable regulations and project approvals. Includes: food waste, domestic waste, packaging waste, wood waste, absorbents, and some types of filters (e.g., air filters)
Clean Wood Products:	Clean untreated wood waste including wood or timber, not suitable for recycling or reuse, which is substantially free of glue, petroleum based materials, other chemicals, or contains other non-wood chemical products.
Opacity	Opacity is the degree to which the exhaust gases reduce the transmission of light and obscure the view of any object in the background. It is expressed as a percentage representing the extent to which an object viewed through the gases is obscured. Although not an emission standard, opacity provides an indication of the general performance of the incinerator during normal operation.

1.3 Regulatory Requirements

The following Acts and Regulations provide specific requirements for the management of non-hazardous solid waste generated at the Project:

- Territorial Lands Act ~~1985~~;
- Territorial Land Use Regulations;
- Nunavut Waters and Nunavut Surface Rights Tribunal Act ~~2002~~;

- Canadian Environmental Protection Act;
- Safety Act, Occupational Health and Safety Regulations;
- National Fire Code;
- Public Health Act; and
- Fisheries Act.

Due to the complexities and the number of acts and regulations involved, the Government of Nunavut has published several guidelines to assist waste generators in effectively developing waste management plans for activities completed at Project sites. These guidelines have been used to develop this Plan.

2 BAFFINLAND POLICIES

2.1 HEALTH SAFETY AND ENVIRONMENT (HSE) 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

2.2 Sustainable Development Policy

At Baffinland Iron Mines Corporation (Baffinland), we are committed to conducting all aspects of our business in accordance with the principles of sustainable development & corporate responsibility and always with the needs of future generations in mind. Baffinland conducts its business in accordance with the Universal Declaration of Human Rights and ArcelorMittal's Human Rights Policy which applies to all employees and affiliates globally.

Everything we do is underpinned by our responsibility to protect the environment, to operate safely and fiscally responsibly and with utmost respect for the cultural values and legal rights of Inuit. We expect each and every employee, contractor, and visitor to demonstrate courageous leadership in personally committing to this policy through their actions. The Sustainable Development and Human Rights Policy is communicated to the public, all employees and contractors and it will be reviewed and revised as necessary on a regular basis. These four pillars form the foundation of our corporate responsibility strategy:

1. Health and Safety
2. Environment
3. Upholding Human Rights of Stakeholders
4. Transparent Governance

1.0 HEALTH AND SAFETY

- We strive to achieve the safest workplace for our employees and contractors; free from occupational injury and illness, where everyone goes home safe everyday of their working life. Why? Because our people are our greatest asset. Nothing is as important as their health and safety. Our motto is "Safety First, Always".
- We report, manage and learn from injuries, illnesses and high potential incidents to foster a workplace culture focused on safety and the prevention of incidents.
- We foster and maintain a positive culture of shared responsibility based on participation, behaviour, awareness and promoting active courageous leadership. We allow our employees and contractors the right to stop any work if and when they see something that is not safe.

2.0 ENVIRONMENT

- Baffinland employs a balance of the best scientific and traditional Inuit knowledge to safeguard the environment.
- Baffinland applies the principles of pollution prevention, waste reduction and continuous improvement to minimize ecosystem impacts, and facilitate biodiversity conservation.
- We continuously seek to use energy, raw materials and natural resources more efficiently and effectively. We strive to develop more sustainable practices.
- Baffinland ensures that an effective closure strategy is in place at all stages of project development to ensure reclamation objectives are met.

3.0 UPHOLDING HUMAN RIGHTS OF STAKEHOLDERS

- We respect human rights, the dignity of others and the diversity in our workforce. Baffinland honours and respects the unique cultural values and traditions of Inuit.
- Baffinland does not tolerate discrimination against individuals on the basis of race, colour, gender, religion, political opinion, nationality or social origin, or harassment of individuals freely employed.
- Baffinland contributes to the social, cultural and economic development of sustainable communities in the North Baffin Region.

- We honour our commitments by being sensitive to local needs and priorities through engagement with local communities, governments, employees and the public. We work in active partnership to create a shared understanding of relevant social, economic and environmental issues, and take their views into consideration when making decisions.
- We expect our employees and contractors, as well as community members, to bring human rights concerns to our attention through our external grievance mechanism and internal human resources channels. Baffinland is committed to engaging with our communities of interest on our human rights impacts and to reporting on our performance.

4.0 TRANSPARENT GOVERNANCE

- Baffinland will take steps to understand, evaluate and manage risks on a continuing basis, including those that may impact the environment, employees, contractors, local communities, customers and shareholders.
- Baffinland endeavours to ensure that adequate resources are available and that systems are in place to implement risk-based management systems, including defined standards and objectives for continuous improvement.
- We measure and review performance with respect to our safety, health, environmental, socio-economic commitments and set annual targets and objectives.
- Baffinland conducts all activities in compliance with the highest applicable legal & regulatory requirements and internal standards.
- We strive to employ our shareholder's capital effectively and efficiently and demonstrate honesty and integrity by applying the highest standards of ethical conduct.

4.1 FURTHER INFORMATION

Please refer to the following policies and documents for more information on Baffinland's commitment to operating in an environmentally and socially responsible manner:

Health, Safety and Environment Policy
Workplace Conduct Policy
Inuktitut in the Workplace Policy
Site Access Policy
Hunting and Fishing (Harvesting) Policy
Annual Report to Nunavut Impact Review Board
ArcelorMittal Canada Sustainability and Corporate Responsibility Report

If you have questions about Baffinland's commitment to upholding human rights, please direct them to contact@baffinland.com.

Brian Penney
Chief Executive Officer
March 2016

3 PROJECT WASTE MANAGEMENT

Baffinland has implemented, and continues to improve upon, a waste minimization program that focuses on the principles outlined in its EHS Management System Framework Standard (BAF-PH1-830-STD-0001). Remaining waste will be disposed of in non-hazardous landfill facilities, incinerated, or shipped offsite to licenced waste disposal facilities.

~~Records of all backhauled wastes from Project sites are maintained onsite and confirmation of proper disposal through the use of waste manifest tracking systems will be obtained from licenced waste disposal facilities. These records are made available upon request.~~

3.1 WASTE IDENTIFICATION

~~A summary of the types of waste expected to be generated by the Project, and disposal method, are provided below.~~

Table 3-1 and Table 3-2 ~~provide~~ list the wastes ~~types~~ generated at the Project and the prescribed disposal method(s). Table 3-3 summarizes the Project's current waste management facilities.

3.2 WASTE MANAGEMENT METHODS

Waste remaining after application of waste minimization strategies are managed in a practical and environmentally responsible manner utilizing the following methods appropriate for each waste type generated:

- Waste sorting at all generation points
- (refer to the Waste Sorting Guidelines, BAF-PH1-830-P25-0001);
- Incineration of non-hazardous combustible wastes
- (refer to the Incinerator Maintenance and Operation Procedure, BAF-PH1-320-PRO-0002);
- Authorized open burning of untreated wood, cardboard and paper products
- (refer to the Open Burning of Untreated Wood, Cardboard and Paper Products Procedure, BAF-PH1-300-PRO-0001);
- Landfilling of inert non-combustible wastes at Project Landfill Facilities
- (refer to the Landfill Maintenance and Operation Manual, BAF-PH1-320-T07-0004);
- Temporary storage and off-site shipping of hazardous and recyclable waste materials
- (refer to the Hazardous Materials and Hazardous Waste Management Plan, BAF-PH1-830-P16-0011);

- Temporary storage and offsite shipping of used tires
- (refer to the On Site Tire Disposal Procedure, BAF-PH1-300-PRO-0020)
- On-site treatment for contaminated soil from hydrocarbon spills at Project landfarm facilities (refer to Baffinland's Landfarm Operation Maintenance and Monitoring Manual, BAF-PH1-320-T07-0004); and
- On-site treatment of contaminated water and snow generated from hydrocarbon spills using a contaminated snow containment berm and oily water separator (refer to the Fresh Water Supply, Sewage and Wastewater Management Plan, BAF-PH1-830-P16-0010).

Table 3-1: Waste Disposal by Generation Location

Source	Waste Description	Waste Type	General Disposal Method
Offices	Computers and other electronic wastes, fluorescent lights	Recycle	Off-site recycling or disposal
	Waste paper	Combustible/ non-hazardous	Incineration
Wastewater treatment facilities	Biological sludge (dried solids)	Combustible/ non-hazardous	Incineration
Maintenance complexes	Used batteries, waste hydrocarbon products, engine oil, oil filters, glycols, aerosol cans, refrigerants, solvents, etc.	Hazardous	Off-site recycling or disposal, possible reuse of fuel and oil for heating and other uses.
	Scrap metal, rubber, plastic	Inert	Onsite landfilling or off-site disposal
Laboratories	Chemical laboratory wastes, toxic substances	Hazardous	Off-site recycling or disposal
Domestic waste from accommodation facilities and kitchens/cafeterias	Accommodation facility garbage, food wastes	Combustible/ non-hazardous	Incineration
Inert waste from construction sites and materials from operations	Treated wood, plastics, cement, sand, used construction materials, metal, pipes, glass, insulation, etc.	Inert	Onsite landfilling
	Untreated wood/cardboard	Combustible/ non-hazardous	Incineration (cardboard)/ open burning
Medical facilities	Biomedical wastes	Hazardous	Biomedical off-site disposal
Incinerators	Ash (placed in closed drums)	Inert	Onsite landfilling if non-hazardous, offsite disposal if hazardous
Fuel spills	Hydrocarbon-contaminated soil	-	On-site treatment using landfarm facilities

Table 3-1: Waste Disposal by Generation Location

Source	Waste Description	Waste Type	General Disposal Method
	Hydrocarbon-contaminated snow/water/ice	-	On-site treatment and reuse of product if practical

Table 3-2: Waste Handling and Disposal by Waste Type

Waste Material	Waste Type	Classification	General Management Method	Final Disposal
Absorbents – and other similar spill response material	Petroleum	Hazardous if used for a spill clean-up. Not TDG regulated.	Collect in white Quatrex bags. Store full bags in the hazardous waste storage areas until final disposal.	Offsite disposal
Activated Carbon	Petroleum	Hazardous. Not TDG regulated.	Collect in white Quatrex bags. Store in the hazardous waste storage areas until final disposal.	Offsite disposal
Aerosol Cans	HHW	Hazardous. TDG regulated as "Aerosol, Flammable, Class 2.1, UN 1950"	Disposal bins located at various locations inside the main facilities, and at the waste management building. Store full drums in the hazardous waste storage areas in open top drums.	Offsite disposal
Appliances	Inert/ Chemical	May be hazardous.	Appliances may contain ozone depleting substances (refrigerator) or electronic boards. May require removal of hazardous components before final disposal in the landfill. Manage accordingly. Store in contained location until approval is received by the onsite Environment Department to dispose in landfill.	Onsite landfilling
Batteries, wet (lead - acid)	Chemical	Hazardous. TDG regulated as "Batteries, wet, filled with acid, Class 8, UN 2794"	Collect in black Quatrex bags in workplace sorting areas. Vehicle batteries should be drained of power and terminals should be covered with electrical tape. Stacked layers of vehicle batteries should be separated by a layer of cardboard. Store full bags in the hazardous waste storage areas until final disposal.	Offsite disposal
Batteries, Lithium ion.	HHW	Hazardous. TDG regulated as "Lithium Batteries, Class 9, UN 3090" and "Lithium Batteries Contained In Equipment; or Lithium Batteries Packed With Equipment, Class 9, UN 3091"	Collect and store batteries separately in water-tight containers with chalk ($CaCO_3$), lime powder (CaO) or Vermiculite. Store in a sea container with proper identification away from other flammable and combustible materials. Batteries should be drained of power and terminals should be covered with electrical tape. Care must be taken to ensure that the batteries are not damaged while awaiting disposal.	Offsite disposal

Table 3-2: Waste Handling and Disposal by Waste Type

Waste Material	Waste Type	Classification	General Management Method	Final Disposal
Batteries, rechargeable (NiCad, Mercury, Lithium, Silver-Oxide)	HHW	Hazardous. Small household-Type 'B'atteries are generally not TDG regulated.	Disposal bins (same as for alkaline batteries) are located at various locations inside the main accommodation facilities. Segregate per Type And transfer to different 20L pails. Transfer to 20L pail, then in open top drums. Store in the hazardous waste berm until final disposal. Computer batteries should be brought to the onsite Environment Department.	Offsite disposal
Batteries, dry (alkaline)	HHW	Hazardous. Not TDG regulated.	Disposal bins (same as for rechargeable batteries) are located at various locations inside the main accommodation facilities. Transfer to 20L pail, then in open top drums. Store in the hazardous waste storage areas until final disposal.	Offsite disposal
Biomedical Waste – Sharps, human anatomical, blood, and body fluids	Biomedical	Biomedical hazard.	Contain and store in suitable biohazard containers at the medical office until disposal.	Offsite disposal
Calcium Chloride	Chemical	Hazardous. Not TDG regulated.	Collect and store in white Quatrex bags.	Offsite disposal or use as dust suppressant on roads (as authorized)
Cardboard	Inert	Non-hazardous.	Suitable for open burning, incineration or disposal in the landfill. Store accordingly in adequate container before final disposal. Incinerate if cardboard has come in contact with food.	Open burning/ onsite landfilling
Cement	Inert	Non-hazardous, inert waste.	May be used as a landfill cover if crushed.	Onsite landfilling
Chemicals – spent lab reagents	Chemical	Hazardous. Shipping TDG instructions should follow MSDS recommendations.	Management method should follow MSDS recommendations.~~M~~MSDS sheets are found in the laboratory.	Offsite disposal
Cigarette butts	Chemical	Hazardous. Not TDG regulated.	Collect in cigarette butts receptacles outside each main entrance.	Incineration
Compressed gas cylinders	Chemical	Hazardous. TDG regulation varies depending on gas.	Safely empty cylinders of all gases. Store away from sources of heat and ignition. Return containers to manufacturer for reuse following TDG procedures. When not shipped offsite, remove valves and purge cylinder with compressed air or inert gas. Dispose of as metal.	Offsite reuse /Landfill
Contaminated Soils	Petroleum	Hazardous. Not TDG regulated.	Store and remediate on site in landfarm facilities.	Onsite treatment
Contaminated snow, ice	Petroleum	Hazardous. Not TDG regulated.	Store at landfarm facilities (snow dump) and treat using onsite oil/water separator.	Onsite treatment

Table 3-2: Waste Handling and Disposal by Waste Type

Waste Material	Waste Type	Classification	General Management Method	Final Disposal
Contaminated water	Petroleum	Hazardous. Not TDG regulated.	Collect in trays, drums, or pumped via pipeline. Store in closed top drums or bladders in hazardous waste storage areas until treatment in oil/water separator. Or store at landfarm facilities (snow dump) and treat using onsite oil/water separator.	Onsite treatment
Diesel fuel	Petroleum	Hazardous. TDG regulated as "Diesel, Class 3, UN 1202, FP 39°C"	Collect in trays, drums, or pumped via pipeline. Store in closed top drums in hazardous waste storage areas until final disposal. Not a waste unless contaminated by a substance that makes it unusable as a fuel. Diesel not suitable as mobile fuel can be used for heating purposes.	Onsite recovery/ Offsite disposal
Drums – empty	Petroleum	Hazardous. Not TDG regulated.	"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. Consult the MSDS of the substance previously contained in the drums for guidance on handling and disposal.	Offsite disposal
Drums – residuals	Petroleum	Hazardous. Considered the same hazard as original product.	Drum residuals are to be collected in different containers for reuse (diesel, Jet A, oil) or disposal (antifreeze or other product). Reuse diesel and oil for heating and other uses.	Onsite recovery/ Offsite disposal
Electronic Equipment	HHW	Hazardous. Not TDG regulated. May contain heavy metals.	Typical electronic wastes consist of used computers, cell phones, cameras, TVs and monitor screens, media players, switches, and testing equipment. Electronic wastes shall be brought to the onsite Environment Department or placed in a Quatrex bag in a contained storage facility until offsite shipment for recycling or final disposal. Batteries shall be removed of equipment and managed accordingly.	Offsite recycling or disposal.
Fluorescent Lamps – bulbs and tubes	HHW	Hazardous in large quantities (trace amount of mercury). Not TDG regulated.	Bulbs will be brought to the onsite Environment Department to be processed using an onsite bulb eater that crushes the bulbs and captures residual mercury vapour. Crushed bulbs and filters generated by the bulb eater will be sent off site for final disposal in sealed drums/barrels.	Onsite processing /offsite disposal
Filters – Lube oil	Petroleum	Hazardous. Not TDG regulated.	Drain and crush filters. Collect in open top drums and store in the hazardous waste storage areas until final disposal offsite.	Offsite disposal
Food Waste/ Putrescible	Domestic	Non-hazardous	Collect in plastic bags. Store in animal proof steel bins outside kitchens. Incinerate on a regular basis.	Incineration

Table 3-2: Waste Handling and Disposal by Waste Type

Waste Material	Waste Type	Classification	General Management Method	Final Disposal
Gasoline	Petroleum	Hazardous. TDG regulated as "Gasoline, Class 3, UN 1203, FP -39°C"	Collect in trays, drums, or pumped via pipeline. Store in closed top drums in the hazardous waste storage areas until final disposal. Gasoline will not be considered a waste unless contaminated by a substance that makes it unusable as a fuel.	Offsite disposal
Clean Glass	Inert	Non-hazardous, inert waste	Collect and store in landfill bins.	Onsite landfilling
Glycol	Chemical	Hazardous. Not TDG regulated.	Collect in trays, drums, or pumped via pipeline. Store in closed top drums or totes in the hazardous waste storage areas until final disposal.	Offsite disposal
Grease	Petroleum	Non-hazardous	Store in open top drums in the hazardous waste storage areas until final disposal.	Offsite disposal
Human Waste	Domestic	Hazardous. Not TDG regulated	Human waste that cannot be treated by onsite WWTP (i.e. deposited in barrels at satellite camps – Bruce Head) will be stored in closed drums in the hazardous waste storage areas until final disposal.	Offsite disposal
Hydraulic fluid	Petroleum	Hazardous. Not TDG regulated.	Collect in trays, drums, or pumped via pipeline. Store in closed top drums in the hazardous waste storage areas until final disposal.	Offsite disposal
Incinerator Ash	Inert/ Chemical	Inert.	Composition of incinerator ash will depend on the wastes that were incinerated. Stored in open top drums. Non-hazardous ash will be landfilled. Hazardous ash will be shipped offsite for final disposal. Routine ash sampling and testing will be conducted to classify incinerator ash generated by the Project.	Onsite landfilling/ offsite disposal (if hazardous)
Jet A Fuel	Petroleum	Hazardous. TDG regulated as "Aviation gas, UN 1863, FP 39°C"	Collect in trays, drums, or pumped via pipeline. Store in closed top drums in the hazardous waste storage areas until final disposal. Jet A will not be considered a waste unless contaminated by a substance that makes it unusable as a fuel. Jet A not suitable as aviation fuel can be used for heating purposes.	Onsite recovery/ offsite disposal
Kitchen Grease/Oil	Domestic	Non-hazardous.	Collect in closed-top drums or 20L pails in a sea container outside the kitchen. Suitable for incineration or stored in sea cans until offsite disposal.	Incineration/offsite disposal
Lube Oil	Petroleum	Hazardous. Not TDG regulated.	Collect in trays, drums, or pumped via pipeline. Store in totes in the hazardous waste storage areas until final disposal. Possible reuse as heating oil or other uses in approved furnaces.	Onsite reuse/ offsite disposal
Metal	Inert	Non-hazardous, inert waste	Collect and store in landfill bins.	Onsite landfilling

Table 3-2: Waste Handling and Disposal by Waste Type

Waste Material	Waste Type	Classification	General Management Method	Final Disposal
Methanol	Chemical	Hazardous. TDG regulated as "Methanol, Class 3, UN 1230, P.G. II"	Collect in UN certified container. Store in the hazardous waste storage areas until final disposal.	Offsite disposal
Oily rags and similar debris	Petroleum	Not hazardous if used for cleaning. Classified as absorbent if used to clean-up spills.	Suitable for incineration. Collect in drums at workplace sorting areas. Bring to incinerator and disperse between waste loads.	Incineration
Ozone Depleting Substances (ODS, i.e. air conditioning and refrigerant gases)	Chemical	Hazardous.	ODS must be removed by certified technician before disposal of unit. ODS must be stored as per instructions from certified technician.	Offsite disposal
Paint	Petroleum	May be hazardous if oil based.	Collect in white Quatrex bags. Store in the hazardous waste storage areas until final disposal.	Offsite disposal
Paper Products	Domestic	Non-hazardous	Collect in incinerator waste bins. If product is cardboard, manage accordingly.	Incineration
Plastics – food packaging, bags, etc.	Domestic	Non-hazardous	Collect in garbage bags.	Incineration
Plastics – oil/ hydrocarbon containers, contaminated berm liner	Petroleum	Hazardous. Not TDG regulated.	Drain fluid in appropriate tote or drum. Collect in white Quatrex bags. Store in the hazardous waste storage areas until final disposal.	Offsite disposal
Plastics – bulky	Inert	Non-hazardous	Collect and store clean containers or other clean component in landfill bins.	Onsite landfilling
Plastics – PVC	Inert	Non-hazardous	Collect and store in landfill bins.	Onsite landfilling
Plastics – Styrofoam	Inert	Non-hazardous	Collect in white Quatrex bags. Store in landfill bins.	Onsite landfilling
Textiles	Inert	Non-hazardous	Collect and store in landfill bins. Incinerate if textiles came in contact with food.	Onsite landfilling/ incineration
Tires	Inert	Non-hazardous	Collect and store in laydown until final disposal.	Offsite disposal
Unusual waste	To be determined	To be determined	Bring to the onsite Environment Department, if size permits. Proper management and disposal will be determined on a case-by-case basis.	To be determined
Vehicles	Inert/ Petroleum/ Chemical	Non-hazardous if drained of all fluids.	Drain all fluids and dispose appropriately. Store in laydown area until approval is given by the onsite Environment Department to landfill the vehicle.	Onsite landfilling
Wood - scraps	Inert	Non-hazardous, inert waste	Collect and store in landfill bins. Suitable for incineration if in small amount.	Onsite landfilling/ Incineration
Wood - treated	Inert	Non-hazardous, inert waste	Collect and store for shipment offsite.	Offsite disposal

Table 3-2: Waste Handling and Disposal by Waste Type

Waste Material	Waste Type	Classification	General Management Method	Final Disposal
Wood - untreated	Inert	Non-hazardous, inert waste	Collect and store in untreated wood bin.	Open burning

3.3 Project Waste Flow

Waste flow block diagrams have been developed for Mine Site and Milne Port waste streams and are provided in Appendix B. Project waste streams are illustrated by their storage and treatment paths.

3.3.1 Generation Points

Waste generated at Project will be sorted and collected. To facilitate efficient and effective waste management, waste will be required to be disposed of in labelled receptacles based on waste type and disposal methods outlined in Table 3-1 and outlined in Baffinland's Waste Sorting Guidelines (BAF-PH1-830-P25-0001).

Project waste will be managed to ensure that it is prevented from entering nearby water bodies. Areas designated as waste disposal or storage locations will be located at a minimum distance of thirty-one (31) metres from the ordinary High Water Marks of nearby water bodies.

3.3.2 Waste Collection

Collection of wastes at Project sites, including permanent shelters along the Tote Road, will be completed by trained personnel from the Site Services Department and transported to the appropriate waste management facilities where it is sorted (visual inspection) upon arrival to ensure proper segregation.

3.3.3 Waste Management Facilities

Waste management buildings at the Project are located at the Mine Site and Milne Port. Each building is comprised of a heated all-season building and adjacent laydown areas that provide the following ancillary, functions:

- A central depot where waste will be managed, properly processed, packaged, labelled, inventoried, secured (e.g., on pallets) and stored for reuse onsite or shipment offsite;
- Incinerators (refer to Section 3.5);
- Concrete floors for containment;
- Large bay doors for transferring waste and equipment; and
- Drum crushing machine (only at the Mine Site).

Waste oil storage tanks, as well as, oil filter draining and crushing equipment are located at Project Mobile Maintenance Facilities.

~~In addition, a non-hazardous waste landfill is located at the Mine Site and a landfarm facility, equipped with a lined area for contaminated snow, is located at Milne Port.~~

Each Project site (Milne Port and the Mine Site) is equipped with ~~A summary of~~ the waste management facilities ~~currently at the Project is~~ summarized in Table 3-3.

Table 3-3: Mary River Project Waste Management Facilities Summary

Facility Type	Components	Function
Waste Management Buildings	• Heated waste management building • Incinerator	A central depot where hazardous waste and waste suitable for incineration generated across the site is managed, properly processed, packaged, labeled, inventoried, and treated prior to storage.
Waste Storage Areas	• Secure lined and bermed secondary containment • Used tire storage area (seacans)	A central depot where hazardous waste, ash, and used tires are stored prior to final disposal.
Landfarm/Contaminated Snow Containment Pond	• Two engineered geomembrane lined containment cells	The larger west cell is used as a landfarm for the bio-treatment of contaminated soil. The smaller east cell is used for the containment of hydrocarbon contaminated snow collected during winter operations.
Landfill	• Non-hazardous waste landfill facility • Gated and locked area	Disposal of inert, non-combustible and non-hazardous wastes.
Open Burn Areas	• Gated and locked area • Burn box (modified sea-can)	Disposal method for untreated wood, cardboard, and paper products generated onsite.

3.4 Waste Handling and Minimization by Category

This Plan has been developed to ensure that Baffinland's waste management strategies focus on implementing the principles of reduction, recovery, reuse and recycling throughout the life of the Project, using the following initiatives:

- Grubbed organic soil material;
- Used oil re-use;
- Non-hazardous waste – construction materials;
- Domestic waste from accommodations complexes;
- Sewage;
- Hazardous waste; and
- Office paper.

3.4.1 Grubbed Organic Soil Material

During land disturbances required for Project operations, grubbed organic soil material will be collected and stockpiled for future reclamation efforts following the decommissioning of facilities or closure of operations.

3.4.2 Used Oil Reuse

Used oil will be generated from mechanical equipment use and maintenance activities. Used oil will be collected and transported to secondary containment where it will be stored in 1,000 L totes. There is potential for use of used oil in waste oil burners. Oil that cannot be reused onsite will be shipped offsite as described in the Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011). Used oil used for fuel burner feedstock, will comply with Government of Nunavut's *Environmental Guideline for Used Oil and Waste Fuel (GN, 2012)* and impurity levels identified in Table 3-4.

Table 3-4: Maximum Levels of Impurities in Used Oil/Fuel Burner Feedstock

Impurity	Maximum Concentration (ppm)	
	Used Oil	Waste Oil
Cadmium	2	2
Chromium	10	10
Lead	100	100
Total Organic Halogens (as chlorine)	1000	1500
Polychlorinated Biphenyls	2	2
Ash Content	-	0.6% by weight

Note: Values taken from Table 4, *Environmental Guideline for Used Oil and Waste Fuel (GN, 2012)*

3.4.3 Non-Hazardous Waste Materials - Construction

Disposal of Project construction waste material including packing and building materials, cables and wiring and other miscellaneous items (e.g., used tools, equipment, etc.) generated during construction activities will be completed according to waste type. Most construction waste will be segregated into the following waste streams:

LUMBER

Lumber will be generated by unpacking and from the disposal of temporary supports/infrastructure. Where possible, shipments will be received on pallets that can be reused onsite. Other clean lumber waste will be stacked and made available for reuse or burned onsite as per Baffinland's Open Burning of Untreated Wood, Cardboard and Paper Products Procedure (BAF-PH1-300-PRO-0001) (refer to Section 3.6). Chemically treated lumber will be separated and, if it cannot be reused onsite, shipped offsite for disposal at licenced waste disposal facilities.

PLASTICS

Polyethylene film and other construction plastics include packaging (containers), insulation, pipelines, wire sheath and various other construction consumables. Ad-hoc opportunities for recycling these materials will be investigated and where practical materials will be reused, otherwise, plastics will be disposed at Project Landfill Facilities.

STEEL AND SCRAP METAL

Steel and scrap metal waste will be separated from the other solid waste produced during construction activities by those who generate it. If it is determined to be economically feasible, steel and other scrap metal waste will be shipped offsite for recycling, otherwise, scrap metal will be disposed at Project Landfill Facilities.

UNSET CONCRETE AND CONCRETE WASTE

During construction periods, concrete will be provided from a batch plant located at a construction lay down area. Waste concrete will arise from off spec mixes, residual concrete at the end of a pour and from wash down of equipment.

A purpose built pond shall be used to receive all of the waste concrete and concrete contaminated wash water. The pond that will receive wash water will be designed to allow for settling of solids, decant and analysis, and if necessary pH adjustment.

All fresh concrete and concrete product waste to be disposed of onsite shall be disposed of in the concrete waste pond. No concrete truck will be cleaned anywhere else on site. Waste hardened concrete will either be used as fill or disposed at Project Landfill Facilities.

MISCELLANEOUS CONSTRUCTION WASTE

All other non-hazardous construction waste will be segregated at its source into categories, based on potential for reuse, such as metal containers, plastics and corrugated board. If these materials are not suitable for reuse onsite, they will be disposed at Project Landfill Facilities.

3.4.4 Domestic Waste from Accommodations Complexes

Accommodations complexes house Project personnel in addition to providing meals and other domestic support facilities (e.g. office and recreation facilities). Wastes generated from these facilities will be similar in nature to general residential domestic waste, and will be comprised of a higher percentage of organic (food) wastes.

Project domestic waste will be collected in secure containers and removed daily. All containers containing food waste or items potentially contaminated by food (e.g. food packaging) will be required to be secured in animal-proof storage waste bins or sea cans to prevent access by wildlife.

The Site Services Department maintains responsibility for waste management, including source separation and disposal, of waste generated at Project accommodation complexes in accordance with Baffinland's Waste Sorting Guidelines (BAF-PH1-830-P25-0001).

3.4.5 Sewage

Sewage generated by Project activities will be managed by the principals and procedures provided in Baffinland's Fresh Water, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010).

3.4.6 Hazardous Waste

Hazardous waste generated by Project activities will be managed by the principals and procedures provided in Baffinland's Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011).

3.4.7 Miscellaneous Refuse

Disposal of miscellaneous items (e.g., tools, equipment, electronics, clothing, etc.) requiring special handling will be completed by the owner/generator under the direction of the Environment Department. Large items containing components of variable waste types will be required to be broken-down and disposed of in accordance with Baffinland's Waste Sorting Guidelines (BAF-PH1-830-P25-0001).

Mechanical/equipment parts will be drained of oil or other fluids prior to disposal. Drained fluids will be disposed of in accordance with Baffinland's Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011).

3.4.8 Office Paper

White paper waste (e.g. printer paper) generated at the Project accommodations complexes and ancillary offices will be collected for recycling. The following procedures have and will continue to be implemented to reduce the amount of paper waste generated on site:

- Electronic distribution – Electronic forms and notifications increase the amount of desk/shelf space available;
- Double-Sided Printing – When practical ensure all documents are double sided. Double-sided printing has been set as default on all office copiers;
- Print Only the Pages You Need – Rather than printing the entire document consider saving the file electronically as well as cutting and pasting relevant information. Only reprint pages of documents that have been revised rather than the full document;
- Reuse – Collect single-sided paper in a bin so that it could be reused for printing, faxing or scratch pad;
- Route Hardcopy Memos and Newsletters – Instead of making numerous copies, route one copy around the office or post in a centralized area; and

- Copier Maintenance – Only qualified personnel are permitted to complete maintenance on copiers and printers.

3.5 INCINERATORS

Combustible non-hazardous wastes generated at the Project will be incinerated to minimize the negative impacts of attraction vectors to wildlife. Project Incinerators are located in waste management buildings at Milne Port and the Mine Site and are identified on the site layouts provided in Appendix C. An incinerator is also present at the Steensby Port and is only used during summer months when the accommodations camps at Steensby Port are in use. Incinerator volume capacities for Project sites are provided in Table 3-5.

Table 3-5: Incinerator Allocation

Site	Incinerator Waste Produced (t/day)	Incinerators Type	Total Capacity (as per design basis)
Mine Site	1.23	ECO 2TN Mobile Incinerator	2 tonnes
Steensby Port	0.09	500 lbs./Batch Incinerator	0.5 tonnes
Milne Port	0.50	ECO 2TN Mobile Incinerator	2 tonnes

Incinerators at the Mine Site and Milne Port have the option of using a liquid waste system to burn waste petroleum products such as used oil or off-spec fuels, which would decrease diesel requirements but would increase power consumption. Larger or additional incinerators may be brought on-line as required to meet the Project's needs during construction or expansion. Immediately following commissioning of temporary and permanent Project Incinerators, Baffinland will conduct a stack test to confirm incinerators are operating with applicable air emission standards. Follow up stack tests will be competed every five (5) years for dioxins, furans and mercury to confirm Project Incinerators continue to remain within the applicable air emission standards. Stack test results will be provided to the applicable regulatory agencies in the NIRB Annual Report, required by the Project Certificate.[1] All Project Incinerators will operate in accordance with the Government of Nunavut's *Environmental Guideline for the Burning and Incineration of Solid Waste (GN, 2012)* and will be maintained as per the manufacturer's recommendations (e.g. OEM manual).

Incinerator waste will be segregated according to the Incinerator Operation Procedure (BAF-PH1-320-PRO-0002) to ensure that only suitable materials are incinerated to achieve a complete burn-cycle. Incineration of hazardous wastes, non-combustible materials, or treated wood products will be prohibited. The incineration of plastics will be minimized to the maximum extent practicable.

[1] Pre-operation stack testing conducted on Project Incinerators at the Mine Site and Milne Port in 2013 confirmed conformance with applicable air quality standards based on a 'typical' waste stream.

Incineration of some food-related and other plastics will be unavoidable; however, best efforts will be made to reduce/prevent incineration of plastics containing chlorine molecules, which can generate dioxins and furans.

3.5.1 Personnel Training Programs for Incinerator Operation

Only personnel trained in the Incinerator Operation Procedure (BAF-PH1-320-PRO-0002) will be permitted to operate Project Incinerators. The incinerator manufacturer will be requested to provide support and guidance, including on-site specialized training, as required.

3.5.2 Air Emissions

Air emission standards establish limits on the levels of contaminants that can be released to the atmosphere. These standards are expressed as a concentration in the exhaust gases leaving the stack and are capable of being achieved using available technology or waste diversion practices. The following emission standards apply to solid waste incinerators operating in Nunavut and have been adopted from the Canadian Council of Ministers of the Environment (CCME) Canada Wide Standards for Dioxins and Furans and Mercury Emissions. For existing, new or expanding solid waste incinerators the maximum concentration (corrected to 11% oxygen at stack) of dioxins, furans and mercury in the exhaust gases from the stack are provided in Table 3-6.

Table 3-6: Air Emissions Standards for Solid Waste Incinerators

Parameter	Numeric Standard	Explanation
Dioxins and Furans	80 pg I-TEQ/cubic metre	Unit of measure is picograms of International Toxicity Equivalents per cubic metre of air
Mercury	20 µg/R cubic metre	Unit of measure is micrograms per Reference cubic metre (the volume of gas adjusted to 25°C and 101.3 kilopascals)

Note: Values taken from Table 1, *Environmental Guideline for the Burning and Incineration of Solid Waste (GN, 2012)*

Opacity in the incinerator stack should not exceed 5%. While it is not anticipated that opacity levels will exceed 1% to 2% under normal operation, values greater than 5% indicate the incinerator is not performing properly and additional performance evaluation and adjustments are required.

3.5.3 Ash Disposal

The incineration process produces bottom ash as a process residual. Several factors influence this process including the operating conditions in the burn chamber (i.e. temperature, holding time, air turbulence and waste compaction), and the wetness and chemical composition of the waste. Disposal of incinerator bottom ash and other unburned residue from incinerator operations will be completed with caution due to physical (e.g., glass, nails) and chemical hazards. Appropriate PPE will be required when operating the incinerator and handling the residual ash. Bottom ash will only be handled once it has completely cooled.

Non-hazardous ash from the incineration process will be buried at Project Landfill Facilities. Prior to disposal, Toxicity Characteristic Leaching Procedure (TCLP) (Test method 1311 (US EPA) analyses will be completed to determine suitability of incinerator ash for disposal at Project Landfill Facilities. Composite samples of incinerator bottom ash, as outlined in Baffinland's Incinerator Ash Sampling Procedure (BAF-PH1-830-PRO-005), will be collected on a periodic basis for analyses and the laboratory results from TCLP analyses will be compared to the guidelines for solid waste/process residual concentrations suitable for landfills, outlined in the Government of Nunavut's *Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities (GN, 2011*; refer to Table 3-7). A more intensive short term sampling program will be utilised to audit the routine ash sampling schedule and yield detailed information on small batches of bottom ash each year.

If laboratory results are below guidelines for process residuals, the ash will be considered suitable for landfill disposal. Closed or covered containers will be used when transporting bottom ash from the incinerator to Project Landfill Facilities for disposal. The ash once deposited in the landfill will be promptly covered over with material to prevent migration. If monitoring indicates ash exceeds applicable guidelines and is not suitable for landfilling, an investigation will be undertaken to identify the cause and identify a solution. Ash that does not meet guidelines following TCLP analysis will be reprocessed onsite or transported offsite for disposal at a licenced waste disposal facility. Records of analytical results and volumes of ash will be maintained onsite, and will be made available upon request.

Table 3-7: Guidelines for Solid Waste/Process Residuals Suitable for Landfill Disposal

Parameter	Concentration maximum (mg/L)
Arsenic	2.5
Barium	100
Cadmium	0.5
Chromium	5
Lead	5
Mercury	0.1
Selenium	1
Silver	5
Zinc	500
Carbon Tetrachloride (tetrachloromethane)	0.5
Methyl Ethyl Ketone	200
Polychlorinated Biphenyls (PCBs)	50 (concentration by mass)
Polychlorinated Dibenzo Dioxins and Furans	0.0000015 (I-TEQ)
Tetrachloroethylene	3
Trihalomethanes (Total)	10
Vinyl Chloride	0.2

Note: Values taken from *Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities* (GN, 2011)

3.5.4 Monitoring During Operations

Monitoring of Project Incinerators will include routine inspections for signs of leakage, corrosion or other physical defects. If defects are identified, an assessment of health, safety, and environment risk will be required prior to further operation of the incinerator, and if significant risks are identified, repairs will be required to be completed before the equipment is used again.

Operation of incinerators at the Project will be monitored using on-line sensors capable of continuous monitoring of combustion processes; this includes temperature in both the primary and secondary burn chambers, as well as in the stack. Temperature readings outside of the normal range provide warning to the operator that the system is not functioning properly. The combustion process monitor is equipped with visible alarms to warn operators of poor incinerator operation.

Incinerator operation records required to be maintained on-site and provided upon request to the Inspector (CIRNAC) or the NWB include:

- Data from the process monitoring instruments;
- Repairs and maintenance performed on the incinerator and monitoring instruments;
- Modifications to operation procedures;
- Quantity, condition and TCLP analysis results of collected bottom ash;
- Operator training; and,
- Incinerator logs recorded by operators, detailing waste volumes~~, waste type~~ and date/time of burns.

3.6 Open Burning

Untreated wood, cardboard, and paper products generated onsite will be disposed of by authorized open burning. Open burning disposal reduces the volume of inert waste disposed at Project Landfill Facilities. Only waste suitable for open burning will be segregated for open burning disposal. Baffinland's open burning authorization prohibits the burning of hazardous wastes, non-combustible materials, food waste, plastics, Styrofoam or treated wood products (plywood). To ensure removal of prohibited wastes, secondary waste segregation will be completed during the loading process at Project Open Burn Facilities.

Installation of locked gates will limit access to Open Burn Facilities to authorized personnel only. Signs and Baffinland's Open Burning of Untreated Wood, Cardboard and Paper Products Procedure (BAF-PH1-300-PRO-0001) will be posted to outline acceptable and unacceptable waste types at Open Burn Facilities.

3.6.1 Personnel Training Programs for Open Burning Operation

Site personnel responsible for open burning activities will be required to be trained on the specific requirements necessary to maintain compliance with Baffinland's Open Burning Authorization. Training will include a review of both Baffinland's Waste Sorting Guidelines (BAF-PH1-830-P25-0001), as well as the Open Burning of Untreated Wood, Cardboard and Paper Products Procedure

(BAF-PH1-300-PRO-0001). Training records are maintained onsite and provided upon request to the Inspector (CIRNAC) or the NWB.

3.6.2 Ash Disposal

Bottom ash from the open burning of paperboard packing and untreated wood waste is suitable for disposal at Project land facilities. Ash is removed from Project Open Burn Facilities weekly or as required.

3.6.3 Monitoring During Operations

On-going monitoring of open burning operations will be completed by Environment Department personnel to ensure operator compliance with Baffinland's Open Burning of Untreated Wood, Cardboard and Paper Products Procedure (BAF-PH1-300-PRO-0001) and Open Burning Authorization.

Biweekly inspections of Open Burn Facilities will be completed to ensure that wastes deposited remain in compliance with the established procedures.

Operators are required to document waste type and volume (based on visual estimation of volume to nearest cubic meter) for each burn event.

3.7 Landfill Facility Operations

All inert, non-combustible (plastics, cement, used construction materials, scrap metal, pipes, glass, etc.) waste generated by Project activities will be disposed of at Project Landfill Facilities. Non-hazardous waste, including ash from incineration and open burning of clean wood processes, and waste which cannot be salvaged or incinerated, will also be deposited at the Project Landfill Facilities. Disposal of all domestic (food) waste, hazardous and biomedical materials at Project Landfill Facilities will be prohibited. Current Project Landfill Facilities are identified on site layouts provided in Appendix C.

3.7.1 Landfill Facility Operations

Project Landfill Facilities' operation and management procedures are provided in Baffinland's Landfill Maintenance and Operation Manual (BAF-PH1-320-T07-0004).

3.7.2 Personnel Training Programs for Landfill Operation

Landfill Facility Operators will be trained in the operational and safety procedures associated with Project Landfill Facilities. Training will include a review of both the Waste Sorting Guidelines (BAF-PH1-830-P25-0001) and the Landfill Maintenance and Operation Manual (BAF-PH1-320-T07-0004). Landfill Facility Operator training records will be maintained onsite and provided upon request to the Inspector (CIRNAC) or the NWB.

3.7.3 Monitoring During Operation

Routine inspection of landfill operations will be completed to monitor waste volume, type, source, water seepage and geotechnical stability. Specifically, landfill inspections will focus on waste volume, composition and overall conformance to the Project's Waste Sorting Guidelines (BAF-PH1-830-P25-0001).

The annual volume of waste disposed of at Project Land Facilities will be determined by established survey methods.

Water quality monitoring will be conducted using the principles outlined in the *Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment* (CCME, 2016). Refer to the Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026) and Surface Water Sampling Program – Quality Assurance and Quality Control Plan (BAF-PH1-830-P16-0001) for surface water sampling locations and procedures.

Ground Temperature Monitoring

It is anticipated that the active layer will advance into the landfill waste and cover material. Ground temperatures are not expected to increase based on the types of inert wastes to be disposed. During regular landfill inspections, signs of ground warming will be monitored by watching for evidence of soil creep.

Leachate Monitoring

Leachate production is not expected based on the relatively dry, inert nature of the waste to be placed in Project Landfill Facilities. However, periodic surface water monitoring will be used detect landfill leachate, in the unlikely event leachate is generated. The Type A Water Licence prescribes monitoring of surface runoff from Project Landfill Facilities and provide water quality objectives that must be met. Additionally, the feasibility of groundwater monitoring near Project infrastructure will be investigated using drive-point piezometers and/or shallow wells.

Inspection and Maintenance

Routine visual inspections will be conducted for various components of Project Landfill Facilities, including the berms, fencing, etc. Project Landfill Facilities will also be included in the Biannual Geotechnical Inspections, prescribed by the Type A Water Licence, conducted by a Professional Engineer. Based on the findings of the routine and geotechnical inspections, maintenance will be completed as required. Inspection and maintenance records will be maintained onsite and provided upon request to the Inspector (CIRNAC) or the NWB.

3.8 Hazardous Waste Storage and Disposal

Project waste streams will be classified as hazardous wastes based on potential risk to human health and safety, property and the environment. Hazardous wastes generated onsite include, but are not limited to: used oils, solvents and paints, used and/or surplus chemicals, biomedical wastes, gas cylinders, electronic waste, batteries, light bulbs and smoke detectors.

Baffinland will ensure that all hazardous waste generated at the Project is effectively managed and disposed. Hazardous waste will be properly stored, transported, treated and disposed. All site personnel (including contractors) will be responsible for managing the waste they generate and will be required to

comply with the procedures provided in this Plan, the Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011), and will be subject to monitoring and enforcement.

3.9 On-Site Treatment of Hydrocarbon Contaminated Material

Soils contaminated by hydrocarbons from spills and site decommissioning initiatives will be managed as described in Baffinland's Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011).

3.10 Oily Water

Oily water generated by Project activities will be managed as described in Baffinland's Fresh Water, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010).

3.11 Ship Waste Management

Baffinland will not accept waste originating from ships and/or vessels servicing Milne Port. Waste generated by ships and/or vessels servicing Milne Port will disposed of at the receiving port.

3.12 Used Tires

Used tires are a significant waste stream at most mining operations. Project used tires will be stockpiled in shipping containers in designated areas at both Milne Port and the Mine Site, as outlined by Baffinland's On Site Current Tire Disposal Procedure (BAF-PH1-300-PRO-0020). Baffinland will continue to investigate options that increase Project sustainability and allow for the reuse of tires at Project sites in an environmentally and safe manner (e.g. ballast along containment berms, road barriers).

3.13 Relevant Operational Environmental Standards

Environmental Protection Plan (EPP) (BAF-PH1-830-P16-0008) Operational Environmental Standards (OESs) that are relevant to this Plan are identified in Table 3.8. As required, where there is a modification to a relevant OES, this Plan will be revised to reflect that change.

Table 3-8: Relevant Operational Environmental Standards

Section	Title/Description
2.5	Geotechnical Drilling Operations
2.6	Equipment Operations
2.7	Fuel Storage and Handling
2.14	Solid Waste Management
2.15	Sewage Treatment
2.16	Hazardous Waste Management
2.17	Road Construction and Borrow Development
2.19	Road Traffic Management

2.21	Exploration Drilling Operations
2.26	Concrete Production
3.12	Off-Site Waste Disposal Log

4 ROLES AND RESPONSIBILITIES

Roles and responsibilities for the management of waste generated at the Project will be as follows.

4.1.1 Chief Operations Officer (COO) / General Manager

- Reports to the Chief Executive Officer
- Responsible for providing oversight for all Project operations and allocating the necessary resources for the operation, maintenance and management of the Project's waste management facilities.

4.1.2 Port & Logistics Manager/Superintendent

- Reports to the Chief Operations Officer.
- Responsible for providing support to the Site Services Manager in regards to shipping wastes offsite for disposal at licensed waste disposal facilities.

4.1.3 Site Services Manager

- Reports to the COO / General Manager.
- Responsible for providing oversight for all Site Services operations, including the operation, maintenance and management of the Project's waste management facilities (containment berms, incinerators, landfill facilities, open burn facilities and landfarm facilities).
- The Site Services Manager will also be responsible for ensuring that Site Services personnel operating and managing the Project's waste management facilities receive the appropriate training.

4.1.4 Fixed Plant Superintendent

- Reports to the Site Services Manager.
- Responsible for maintaining the Project's incinerators and waste management buildings.

4.1.5 Surface Works Superintendent

- Reports to the Site Services Manager.
- Responsible for the operation and management of the Project's incinerators, containment berms, landfill facilities, open burn facilities and landfarm facilities.

4.1.6 Surface Works Supervisor

- Reports to the Surface Works Superintendent.
- Responsible for the implementation of the operational and management practices for the Project's incinerators, containment berms, landfill facilities, open burn facilities and landfarm facilities, as outlined in the Project's:

- Incinerator Operation Procedure (BAF-PH1-320-PRO-0002)
- Landfill Maintenance and Operation Manual (BAF-PH1-320-T07-0004)
- Landfarm Operation, Maintenance and Monitoring Manual (BAF-PH1-320-T07-0005)
- Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011)
- Open Burning of Untreated Wood, Cardboard and Paper Products Procedure (BAF-PH1-300-PRO-0001)

4.1.7 LANDFILL OPERATOR

- Reports to the Surface Works Supervisor.
- Responsible for operating Project Landfill Facilities in accordance with the Landfill Maintenance and Operation Manual (BAF-PH1-320-T07-0004).
- Key landfill operational tasks will include:
- Conducting visual inspections of deposited landfill waste prior to processing waste at Project Landfill Facilities to confirm waste sorting and conformance with the Project's Waste Sorting Guidelines (BAF-PH1-830-P25-0001);
- Compacting and managing waste along the working face; and,
- Placing cover material on compacted waste to prevent windblow debris and complete areas/cells.

4.1.8 INCINERATOR OPERATOR

- Reports to the Surface Works Supervisor.
- Responsible for operating Project Incinerators in accordance with the Incinerator Operation Procedure (BAF-PH1-320-PRO-0002) and guidance documentation provided by the manufacturer. Key incinerator operational tasks will include:
- Conducting visual inspections of incinerator waste prior to incineration to confirm proper waste sorting and conformance with the Project's Waste Sorting Guidelines (BAF-PH1-830-P25-0001);
- Combining waste streams to achieve incinerator waste loads with appropriate waste compositions to ensure optimal incineration of Project waste;
- Monitoring incinerator operational parameters (i.e. temperature of primary and secondary chambers, fuel levels, etc.) to ensure optimal combustion conditions are achieved; and,
- Recording waste volumes, waste type and date/time of burns in the incinerator logs.

4.1.9 Project Employees and Contractors

- All Project employees and contractors will be responsible for sorting and disposing of their waste as outlined in this Plan.

4.1.10 Environment Department

- Reports to the Health, Safety and Environment Manager.
- The Environment Department will be responsible for:
    - Conducting biweekly environmental inspections of Project's waste management facilities to confirm conformance with the Project's established operational and management practices and reporting any identified deficiencies to the appropriate department for corrective action.
    - Sampling and monitoring incinerator bottom ash to confirm conformance with the applicable guidelines;
    - Conducting periodic waste audits to ensure waste streams are being properly segregated;
    - Providing environmental awareness training to Project employees and contractors, including waste management practices; and,
    - Reporting data and results of the Project's waste monitoring programs to the appropriate regulators and stakeholders.
- The Environment Department will also support the Site Services Department in scheduling stack emissions test required for the Project's incinerators.

4.1.11 Health & Safety Department

- Reports to the Health, Safety and Environment Manager.
- The Health & Safety Department will be responsible for conducting routine inspections of the Project's waste management facilities to confirm conformance with the Project's established operational and management practices, as it relates to the health and safety of Project personnel. Identified deficiencies will be reported to the appropriate department for corrective action.

5 MONITORING AND REPORTING REQUIREMENTS

5.1 WASTE MONITORING

Waste monitoring at the Project will include the visual inspection of the main components of the waste management system (described below) and the measurement and recording of wastes processed onsite and transported offsite.

5.1.1 INCINERATOR MONITORING

Monitoring of Project Incinerators will be completed to ensure incinerators are functioning as designed and that appropriate wastes are being incinerated as described in Section 3.5 of this Plan and the Incinerator Operation Procedure (BAF-PH1-320-PRO-0002).

5.1.2 OPEN BURNING MONITORING

Monitoring of Project open burn activities will be completed as described in Section 3.6 of this Plan and the Open Burning of Untreated Wood, Cardboard and Paper Products Procedure (BAF-PH1-300-PRO-0001).

5.1.3 LANDFILL MONITORING

Landfill activities will be monitored as described in Section 4.7 of this Plan and the Landfill Maintenance and Operation Manual (BAF-PH1-320-T07-0004). Monitoring will involve visual inspections to ensure the disposal of inert wastes only, and that adequate cover is provided to contain waste and prevent wind dispersal.

5.1.4 HAZARDOUS WASTE MONITORING

All hazardous waste will be monitored as described in the Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011).

5.1.5 LANDFARM MONITORING

Landfarm activities will be monitored as described in the Landfarm Operation Maintenance and Monitoring Manual (BAF-PH1-320-T07-0005).

5.2 OPERATIONS MONITORING

In addition to specific monitoring and reporting requirements under the Project's regulatory approvals, such as the Type A and 'B' Water Licences, Commercial Lease and Project Certificate, the Environmental Department will schedule routine inspections of various aspects of Project operations. Inspections will be conducted to confirm overall conformance with the requirements of this Plan, the EPP, and standard operating procedures, and will include biweekly inspections of the Project's waste management facilities.

Inspection forms will be used to document the findings and required corrective actions. These reports are generated as an internal operational management tool to promote continuous improvement in environmental performance and stewardship. Checklists will be used as internal operational monitoring and compliance tools. These checklists are integrated into the EPP and other operating procedures/work instructions.

5.3 Data Management

The Environmental Department will be responsible for managing the data collected during the Project's waste management and monitoring activities.

Records of all backhauled wastes from Project sites are maintained onsite and confirmation of proper disposal through the use of waste manifest tracking systems will be obtained from licenced waste disposal facilities. These records are made available upon request.

5.4 Regulatory Reporting

Submission of quarterly and annual reports, containing the following information, will be completed to meet the requirements specified by the Type A and 'B' Water Licences, Commercial Lease, and the Project Certificate:

- Status and locations of the Project's waste management facilities;
- Quantities and disposal methods for the various types of waste generated by the Project;
- The location and name of the disposal facility (onsite and offsite) for each waste type;
- Other information as requested by regulators or stakeholders.

Baffinland will submit to the NWB and the Inspector (CIRNAC), thirty (30) days prior to the removal and transfer of waste, a declaration of authorization from any community in Nunavut receiving waste from the Project, which clearly states that authorization has been granted for the deposit by Baffinland at the Hamlet's appropriately licenced facilities.

Records of waste disposal activities will be available upon request to the Inspector (CIRNAC) or the NWB. In addition, concerning stakeholders and the public may request detailed information as part of the Stakeholder Involvement Plan (BAF-PH1-830-P16-0025).

6 ADAPTIVE STRATEGIES

Baffinland is committed to continual improvement in its work activities with the aim of reducing risks to the environment and improving operational effectiveness. The strategy employed at Baffinland is regular monitoring supported by operational change and adoption of other mitigating measures if warranted.

Housekeeping and operational measures have and will continue to be instituted. As part of the EPP, work procedures will continuously be adapted with the goal to reduce, recover, reuse and recycle waste. Regular scheduled inspections of waste management facilities along with the non-compliance reporting system described in Section 5 will ensure continual improvement and adaptation of waste management strategies throughout the life cycle of the Project.

As per the requirements of Baffinland`s EHS Management Framework Standard (BAF-PH1-830-STD-0001), Baffinland will conduct and document management reviews of its Waste Management Plan on a regular basis. Such reviews will ensure the integration of waste monitoring results are integrated with other aspects of the Project and that the necessary adjustments are implemented as required. These reviews also provide a formal mechanism to assess the effectiveness of management practices in achieving the Baffinland's objectives and maintaining on-going compliance with Project approvals.

7 REFERENCES

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Appendix A
Concordance Tables

- Concordance Table with Type A Water Licence Conditions
- Concordance Table with Type B Water Licence Conditions
- Concordance Table with Project Certificate No. 005 (Amendment No. 1)

Tables A-1, A-2 and A-3 show the terms and conditions of the Project's Type A Water Licence (2AM-MRY1325 – Amendment No. 1), Type 'B' Water Licence (2BE-MRY1421) and the Project Certificate (No. 005 – Amend. No 1) and the location within the Waste Management Plan.

Table A- 1: Concordance Table With Type A Water Licence Terms And Conditions

Part	Number	Condition	Section
D	17	The Licencee shall submit a Construction Monitoring Report to the NWB, within ninety (90) days following the completion of any structure designed to contain, withhold, divert or retain Waters or Wastes. The construction summary report shall be prepared by an Engineer(s) in accordance with Schedule D, Item 1.	Within 90 days of the completion of any structure designed to contain, withhold, divert or retain Waters or Wastes Baffinland will submit a Construction Summary Report.
D	19	The Licencee shall prevent any chemicals, fuel or wastes associated with the undertaking from entering any Water body.	Section 3.3.1 Refer to the Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011)
F	1	The Board has approved, the Plan entitled Waste Management Plan (BAF-PH1-830-P160028, Rev 3), March 20, 2015, submitted as additional information with the 2014 Annual Report.	N/A
F	5	The Licencee shall locate areas designated for waste disposal at a minimum distance of thirty-one (31) meters from the ordinary High Water Mark of any water body such that the quality, quantity or flow of water is not impaired, unless otherwise approved by the NWB in writing.	Section 3.3.1
F	6	The Licencee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an Incinerator System;	Section 3.5
F	7	The Licencee shall test the bottom ash generated by all Incinerator Systems, by using the acceptable test procedures for analyzing residuals, prior to being disposed of at any Landfill Facility. If the composition of the ash makes it unsuitable for disposal at the Landfill facilities, the Licencee shall direct the Waste to an appropriate facility for disposal. The records of analysis results and volumes of ash shall be maintained and provided to an Inspector upon request.	Section 3.5.3
F	8	The Licencee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood, to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the NWB in writing.	Section 3.6

Part	Number	Condition	Section
F	10	The Licencee shall submit to the NWB and the Inspector (CIRNAC), thirty (30) days prior to the removal and transfer of waste, a declaration of authorization from any community receiving waste from the Project, which clearly states that authorization has been granted for the deposit by the Licencee at the Hamlet's appropriately licenced facilities.	Section 5.4
F	11	The Licencee shall provide at least ten (10) days' notice to the Inspector (CIRNAC) prior to planned Discharges from any Waste Management Facility, Oily Water/Wastewater Treatment Facilities, Sewage Treatment Facilities, and any other relevant facilities associated with the Project. The notice shall include the estimated volume proposed for Discharge and the location and description of the receiving environment.	Refer to the Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011) and Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010)
F	13	The Licencee shall remove any waste generated from temporary and permanent shelters along the Tote Road and along the railway corridor for treatment at appropriately licenced Waste Management Facilities.	Section 3.3.2 Section 3.3.3
F	29	The Licencee shall maintain records of all Waste backhauled from the Mary River Project and confirmation of proper disposal through the use of Waste manifest tracking systems and registration with the Government of Nunavut, Department of Environment. These records shall be made available upon request, to an Inspector or the NWB.	Section 3.0

Table A- 2: Concordance Table With Type 'B' Water Licence Terms And Conditions

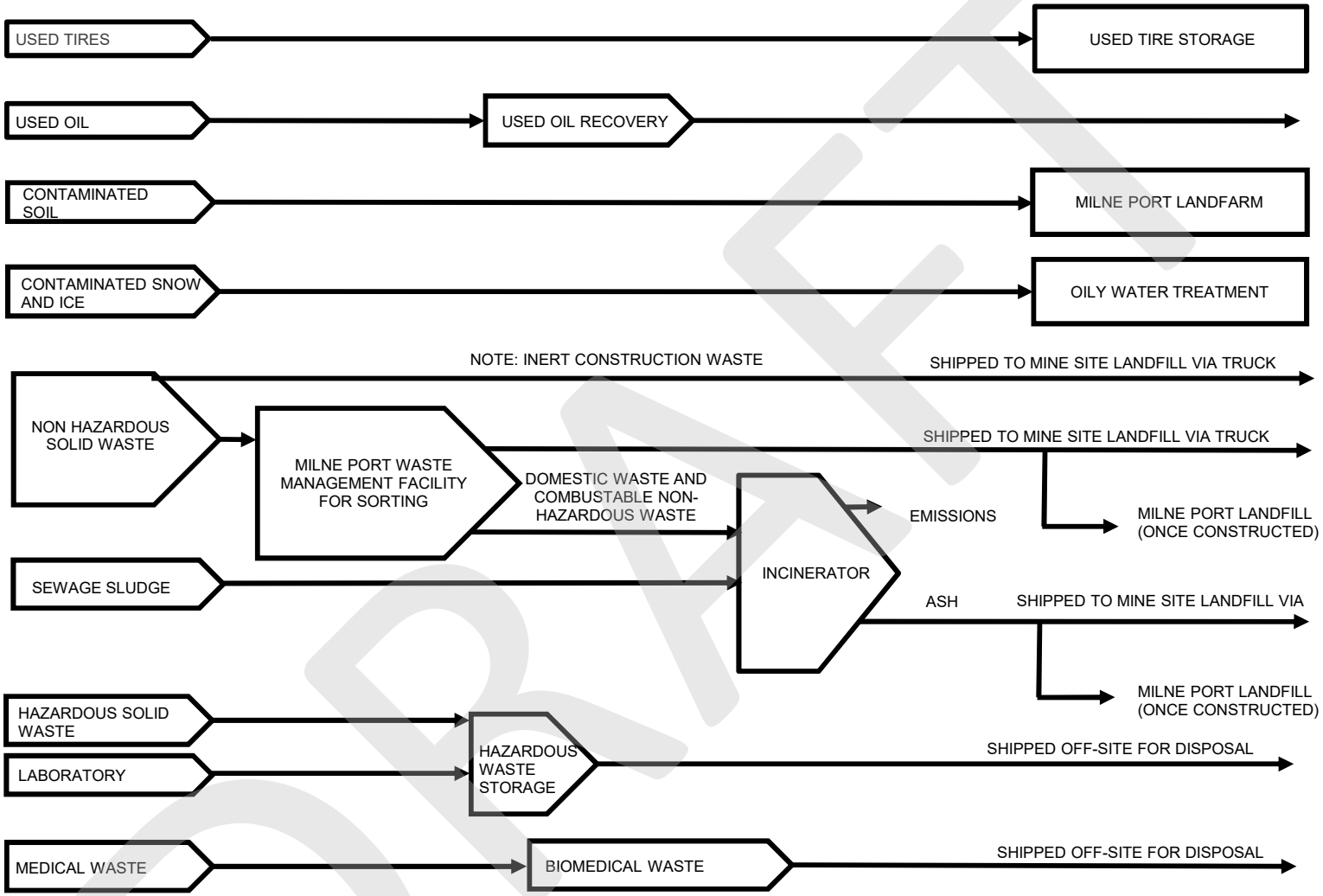
Part	Number	Condition	Section
D	1	The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any water body such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the NWB in writing.	Section 3.3.1
D	2	The Licensee shall not practice on-site landfilling or open-burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood so as to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding Waters, unless otherwise approved by the NWB in writing.	Section 3.6
D	3	The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.	Section 3.5
D	4	The Licensee shall provide to the NWB with documented authorization from all communities in Nunavut receiving Wastes from the Mary River Exploration Project prior to any backhauling and disposal of wastes to those communities.	Section 5.4

Part	Number	Condition	Section
D	5	Licensee shall provide to the NWB a copy of the written authorization received from the Licensee of 2AM-MRY1325 at least 30 days prior to backhauling waste from facilities and undertakings under this licence to facilities associated with Licence 2AM-MRY1325.	Section 5.4
D	6	The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of operation at a licensed waste disposal facility.	Section 5.1.4
D	7	The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste. These records shall be made available to an Inspector or the NWB upon request.	Section 3.0

Table A-3: Concordance Table With Project Certificate Terms And Conditions

Number	Condition	Section
11	The Proponent shall develop and implement an Incineration Management Plan that takes into consideration the recommendations provided in Environment Canada's Technical Document for Batch Waste Incineration (2010).	Section 3.5
12	Prior to commencing any incineration of on-site Project wastes, the Proponent shall conduct at least one stack test immediately following the commissioning of each temporary and permanent incinerator.	Section 3.5
64	The Proponent shall ensure that its Environment Protection Plan incorporates waste management provisions to prevent carnivores from being attracted to the Project site(s). Consideration must be given to the following measures: a) The Proponent shall ensure that its Environment Protection Plan incorporates waste management provisions to prevent carnivores from being attracted to the Project site(s). Consideration must be given to the following measures: Installation of an incinerator beside the kitchen that will help to keep the food waste management process simple and will minimize the opportunity for human error (i.e. storage of garbage outside, hauling in a truck (odors remain in truck), hauling some distance to a landfill site, incomplete combustion at landfill, fencing of landfill, etc.); and b) Installation of solid carnivore-proof skirting on all kitchen and accommodation buildings (i.e., heavy-duty steel mesh that would drop down from the edge of the buildings/trailers and buried about a half meter into the ground to prevent animals from digging under the skirting).	This Condition has been addressed in the Environmental Protection Plan (BAF-PH1-830-P16-0008)

Appendix B
Block Flow Diagrams for Solid Waste



NOTES:

1. MODIFIED FROM HATCH DRAWING NO. H337697-7000-007-002-0001.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	19FEB'19	ISSUED WITH REPORT	AMB	RAC

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

MILNE PORT
WASTE MANAGEMENT BLOCK FLOW DIAGRAM

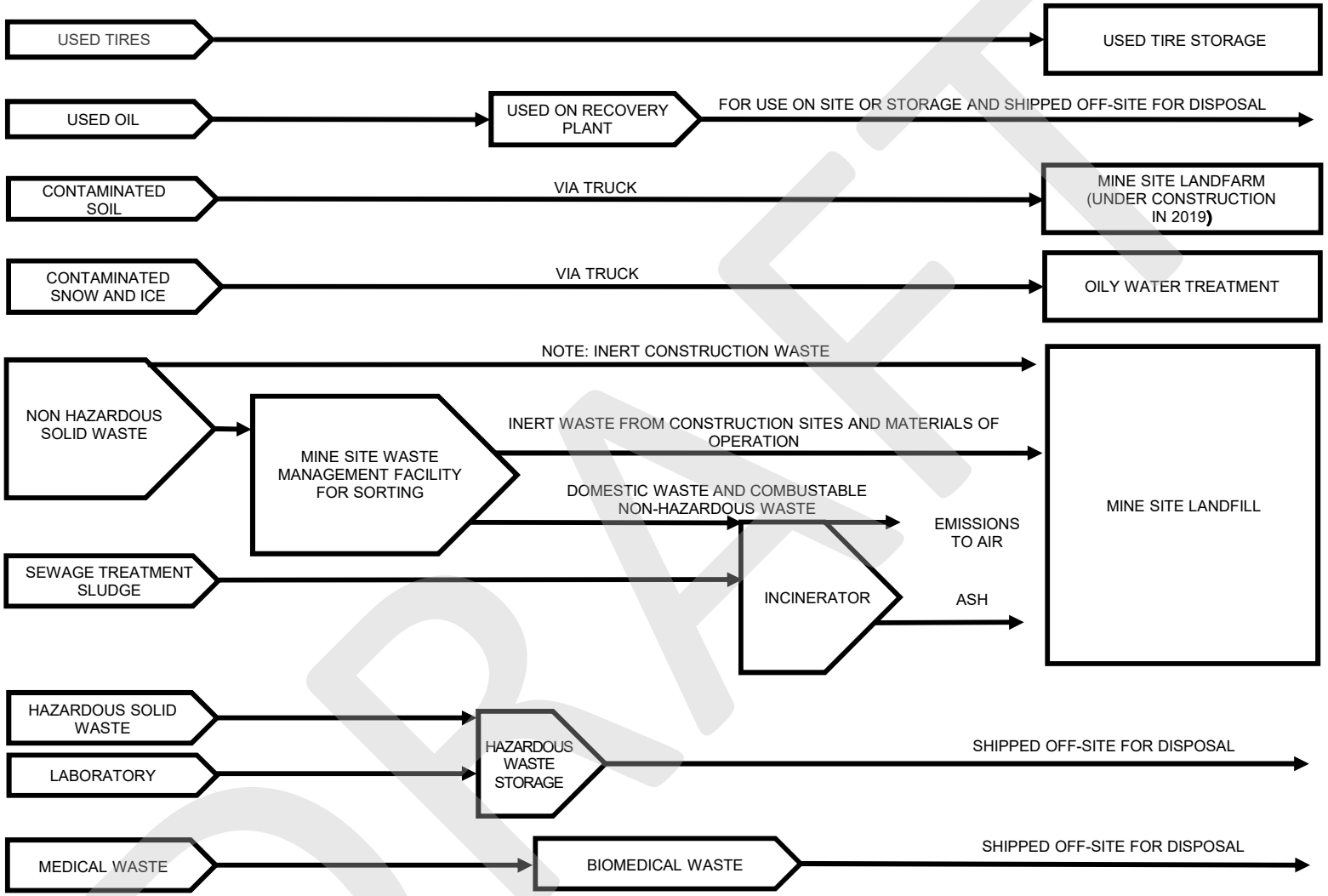
Knight Piésold CONSULTING

P/A NO. NB102-181/53

REF. NO. NB19-00131

FIGURE B.1

REV 0



NOTES:

1. MODIFIED FROM HATCH DRAWING NO. H337697-7000-007-002-0001.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	19FEB'19	ISSUED WITH REPORT	AMB	RAC

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

MINE SITE
WASTE MANAGEMENT BLOCK FLOW DIAGRAM

Baffinland

P/A NO. NB102-181/53

REF. NO. NB19-00131

FIGURE B.2

REV 0

Appendix C
Site Layouts Milne Port and Mine Site

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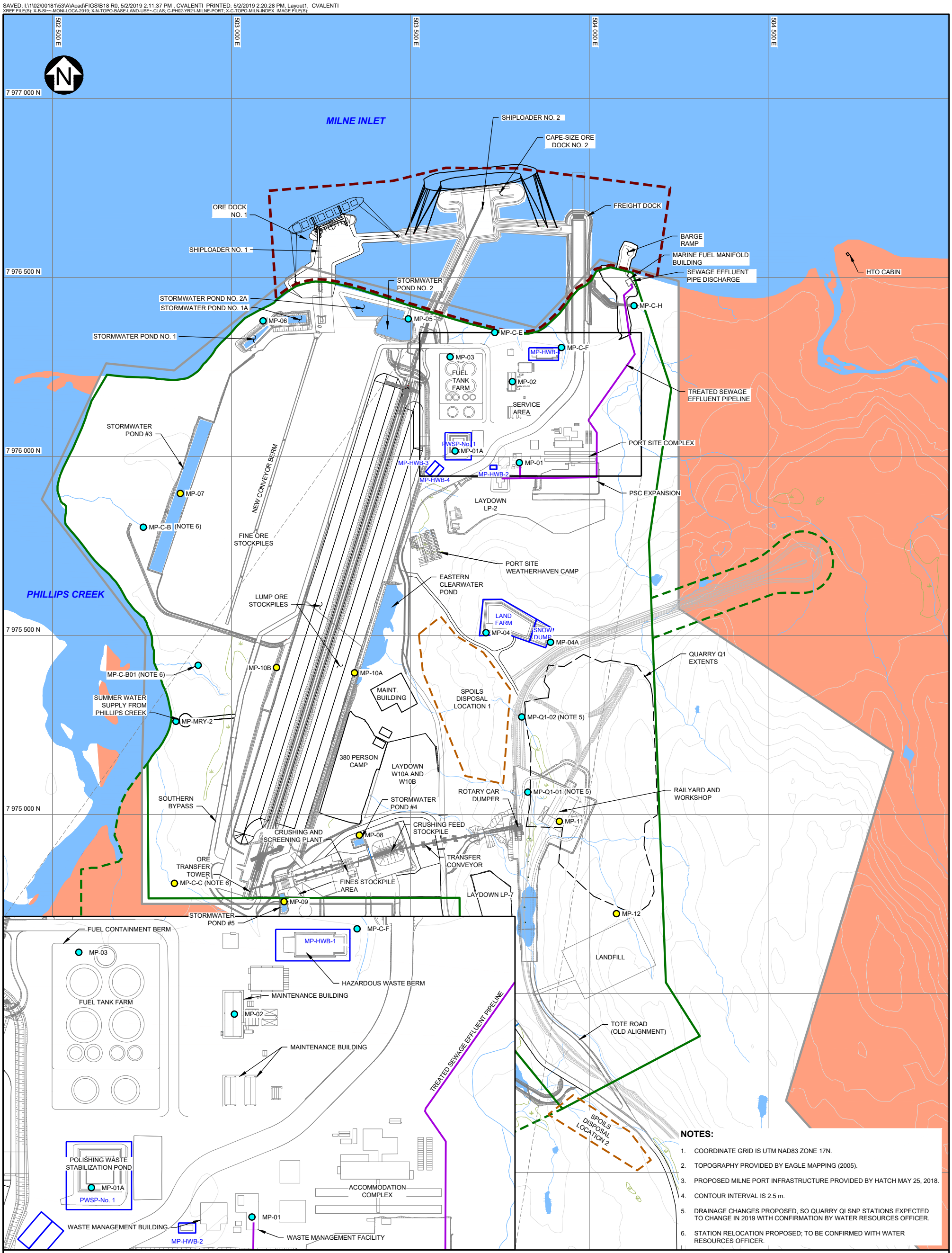
XREF FILE(S): X-B-SI~~-MONI-LOCA-2019; X-N-TOPO-BASE-LAND-USE~~CLAS; C-PH02-YR21-MILNE-PORT; X-C-TOPO-MILN-INDEX IMAGE FILE(S):



NOTES:

1. COORDINATE GRID IS UTM NAD83 ZONE 17N.
2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
3. PROPOSED MILNE PORT INFRASTRUCTURE PROVIDED BY HATCH MAY 25, 2018.
4. CONTOUR INTERVAL IS 2.5 m.
5. DRAINAGE CHANGES PROPOSED, SO QUARRY QI SNP STATIONS EXPECTED TO CHANGE IN 2019 WITH CONFIRMATION BY WATER RESOURCES OFFICER.
6. STATION RELOCATION PROPOSED; TO BE CONFIRMED WITH WATER RESOURCES OFFICER.

LEGEND:

- WATER
- SPOILS DISPOSAL LOCATION
- INUIT OWNED LAND - SURFACE ONLY EXCLUDING MINERALS
- WASTE STORAGE AREA
- ROAD
- WATER LICENCE SURVEILLANCE NETWORK PROGRAM (SNP) STATION
- PROPOSED SURVEILLANCE NETWORK PROGRAM STATION
- COMMERCIAL LEASE BOUNDARY
- PROJECT DEVELOPMENT AREA (PDA)
- PDA EXPANSION FOR PHASE 2 PROPOSAL
- FORESHORE LEASE BOUNDARY / MARINE PDA
- RIVER/STREAM/DRAINAGE
- TREATED SEWAGE EFFLUENT PIPELINE

SCALE A: 100 50 0 100 200 300 400 500 m

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	02MAY'19	ISSUED WITH REPORT	RAC	CJV	SRA

BAFFINLAND IRON MINES CORPORATION

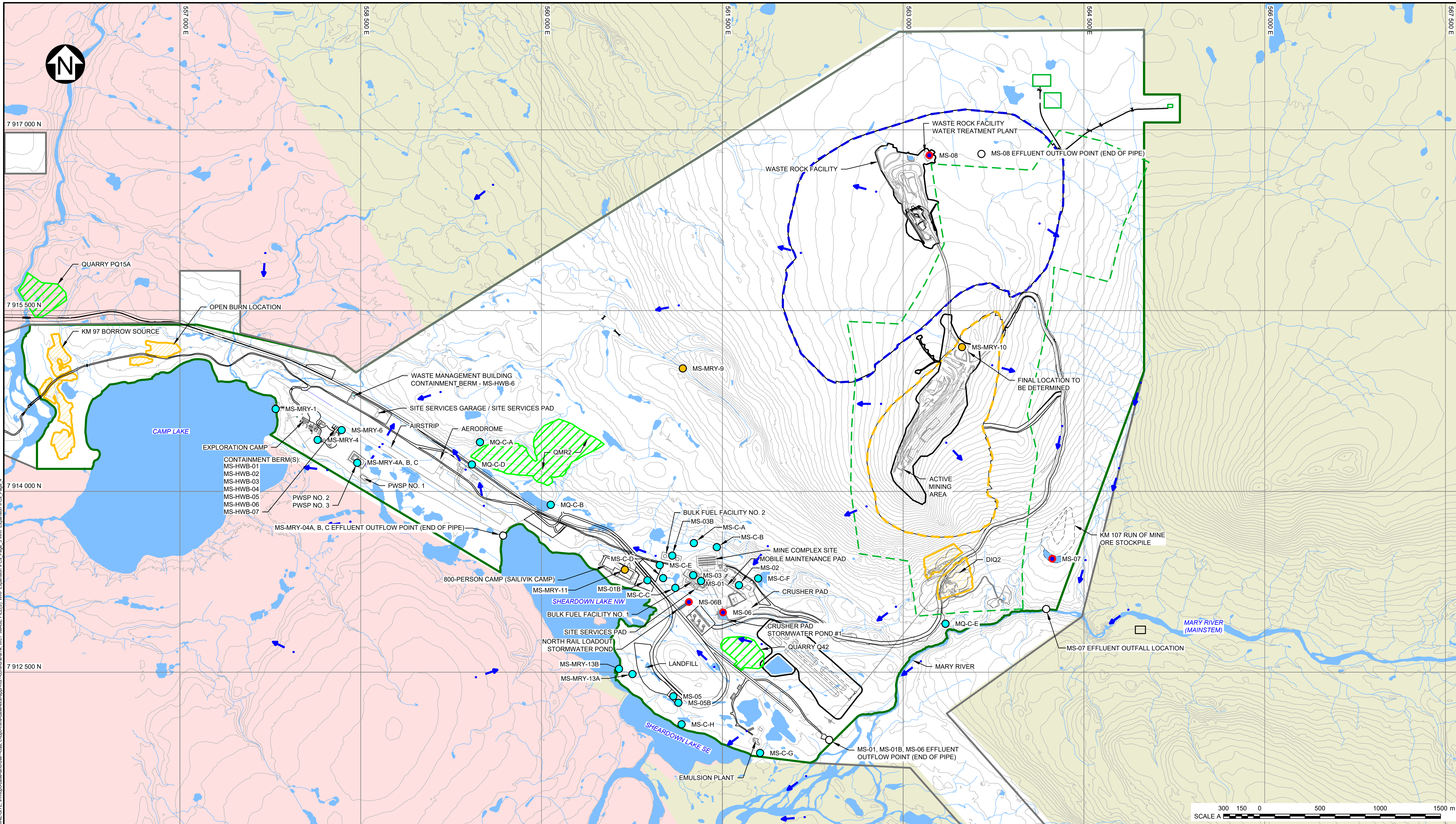
MARY RIVER PROJECT

PHASE 2 PROPOSAL MILNE PORT LAYOUT SHOWING WATER LICENCE MONITORING STATIONS

Knight Piésold CONSULTING

P/A NO. NB102-181/53 | REF NO. 3

FIGURE 6.1 | REV 0



SAVED: I:\102\00181\53\A\Acad\FIGS\B19 R0, 5/2/2019 2:17:35 PM, CVALENTI PRINTED: 5/2/2019 2:19:30 PM, FIG 6.2, CVALENTI ACAD VERSION: 23.05 (LMS TECH)

LEGEND:

- EXISTING BORROW AREA
- QUARRY
- INUIT OWNED LAND SURFACE AND SUBSURFACE
- INUIT OWNED LAND SURFACE ONLY
- CONTOUR
- WATER
- QIA SURFACE COMMERCIAL LEASE BOUNDARY
- POTENTIAL DEVELOPMENT AREA BOUNDARY
- ULTIMATE DEPOSIT NO. 1 PIT LIMITS
- ULTIMATE WASTE ROCK STOCKPILE LIMITS
- SURVEILLANCE NETWORK PROGRAM (SNP) STATION
- SNP STATION / METAL AND DIAMOND MINING EFFLUENT REGULATIONS (MDMER) FINAL DISCHARGE POINT
- INACTIVE SNP
- EFFLUENT OUTFLOW POINT (END OF PIPE)
- DRAINAGE DIRECTION

NOTES:

1. COORDINATE GRID IS UTM NAD83, ZONE 17.
2. DETAILED WATER AND CONTOURS FROM EAGLE MAPPING (2005). CONTOUR INTERVAL IS 10 m.
3. CURRENT MINE AREA FROM THE WASTE DUMP TO THE CRUSHER PAD, AND DITCHES ALONG THE HAUL ROAD PROVIDED BY BIM (MARCH 12, 2018).
4. ALL OTHER SITE INFRASTRUCTURE PROVIDED BY HATCH (AUGUST 2, 2016). AND SIMPLIFIED BY KP STAFF (JAN, 2018).

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	02MAY'19	ISSUED WITH REPORT	RAC	CJV	SRA

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

PHASE 2 PROPOSAL
MINE SITE LAYOUT SHOWING
WATER LICENCE MONITORING STATIONS

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB102-181/53	3

FIGURE 6.2 REV 0