Section 1: Introduction

Baffinland Iron Mines Corporation is committed to taking all necessary steps to ensure that the collection, handling, storage, transportation and disposal of wastes generated during the construction, operation and closure of the Mary River Project is conducted in a safe, efficient and environmentally compliant manner. One of the first steps towards achieving these goals is the preparation of this Waste Management Plan for Construction, Operation and Closure (WMP). The WMP establishes the roles and responsibilities of employees, contractors and other site personnel as well as protocols for handling, storing and disposing of all solid wastes generated onsite. The intent is to afford a high degree of control over the waste generation and to minimize the adverse environmental effects associated with waste generation.

The basis of a sound waste management program lies in the three R's: reduction, recovery, reuse and recycling of wastes. The main objectives of this WMP are:

- the creation of a framework for the proper handling and disposal of wastes
- the minimization of potentially adverse impacts on the environment
- compliance with all regulatory requirements for waste management.

Waste generation follows the "Cradle to Grave" principle. It is the primary responsibility of all personnel to implement the plan as outlined, in accordance with their contractual and legal obligations, under the supervision of the Project Manager or Site Manager as assisted by the Site Environmental Coordinator (SEC). Exaggerating

This WMP applies to the Construction, Operation and Closure Phase of the Mary River Project at all project sites. This plan will be reviewed on an annual basis and updated as necessary to accommodate any deficiencies, inadequacies or potential improvements that are identified.

1.1 Purpose

The aim of the Waste Management Plan is to implement a sound waste minimization program that will focus upon the principles of Reduction / Recovery / Reuse / Recycling. The residual waste generated by the Project activities will then be disposed of in a landfill/landfarm, incinerated or shipped off-site to southern Canada for final disposal, treatment, or recycling.

This Waste Management Plan deals with wastes generated by the Mary River Project including, among others, inert and hazardous solid wastes, i.e., solids, semi-solid and sludge, used oils, contaminated fuel, and antifreeze, used chemical products, biomedical waste and spills clean-up materials. The management of sewage effluent and sludge from the sewage treatment plants is the subject of the Waste Water Management Plan.

The Waste Management Plan presents the various disposal methods, the types and expected quantities of waste produced and the ultimate disposal of the waste stream. The Plan also defines the roles and responsibilities, specific requirements, and monitoring controls for managing solid and hazardous wastes generated by the Project. It also presents the strategy for adaptive management and continuous improvement.

In order to handle, storage, transport and treat / dispose the wastes generated during the construction, operation and closure phase of the Project, several treatment or disposal facilities must be built on-site to ensure that the waste management is being conducted in a safe, efficient and environmental-compliant manner. The infrastructure deemed necessary to manage the wastes appropriately are:

- Two long term waste management facilities at the Mine Site and Steensby Port
- Two long term landfills and landfarm's at the Mine Site and Steensby Port
- Temporary landfarm, incinerator, hazardous / medical waste storage facility and waste oil treatment/recovery facility at Milne Port
- Temporary incinerator and waste storage areas at Mine Site, Steensby Port and Rail Camps for use only during construction

All Project activities are regulated and will be performed according to the law and regulations applicable to the Project and procedures developed.

The Waste Management Plan (WMP) presented in this document establishes a management strategy for all the wastes generated during the construction, operation, closure and reclamation of the Project.

1.2 Definitions

Project	:	All necessary tasks and work from construction, operation, closure and reclamation phase, during the lifespan of the Project, on the Site.
Site	:	All of the areas occupied by the Project facilities (permanent or temporary) during the construction, operation, closure and reclamation phase of the Project.
Contractor	:	A person or business which provides goods, material, equipment, personnel, and/or services to Baffinland Iron Mines Corporation under terms specified in a contract.
Waste	:	All residual material (hazardous, non-hazardous or Putrescible) generated during the construction, operation, closure and reclamation phase of the Project.
Hazardous Waste	:	All kind of wastes generated during the lifespan of the Project and that present a threat to the human health or the environment because they posses one or more of the following characteristics: corrosive, reactive, explosive, toxic, inflammable, or biologically infectious.
Non-Hazardous Waste	:	All kind of wastes generated during the lifespan of the Project and that do not present a threat to human health or the environment.
Putrescible Wastes	:	All kind of wastes generated during the lifespan of the Project and that are degraded very rapidly, i.e., plants, food scraps or animal remains.

1.3 Regulatory Requirements

A number of Acts and Regulations provide specific requirements for the management of the different types of waste generated at the Mary River Project. They are:

- Territorial Lands Act 1985;
- Territorial Land Use Regulations;
- Nunavut Waters and Nunavut Surface Rights Tribunal Act 2002;
- Canadian Environmental Protection Act;
- Transportation of Dangerous Goods Act and Regulations;
- Safety Act, Occupational Health and Safety Regulations;
- Work Site Hazardous Materials Information Systems Regulations;
- Export and Import of Hazardous Waste Regulations;
- Spill Contingency Planning and Reporting Regulations;
- National Fire Code;
- Public Health Act;
- Explosives Act;
- Fisheries Act;
- Metal Mining Effluent Regulations; and
- Petroleum Refining Liquid Effluent Regulation.

Due to the complexities and the number of acts and regulations involved, the Government of Nunavut has published a number of Guidelines to assist the generators of waste in the development and an effective waste management plan for their specific sites. These guidelines are listed as references in Section 9.

The Project will be subject to a Type 'A' Water License. Conditions regarding aspects of waste disposal as outlined in this Plan will be specified by the water license and will likely include:

- Annual inspection of earthworks by a geotechnical engineer during summer months
- Submission of landfill expansion design documents to NWB 60 days prior to construction
- Any required updates to the Landfill Operations and Maintenance Plan
- Submission of a revised Environmental Monitoring Plan;
- Waste disposal areas must be a minimum of 30 m from the ordinary high water mark of any water body such that quality, quantity or flow of water is not impaired, unless authorized by the NWB
- Prior to the removal and transfer of waste, a declaration of authorization must be obtained from the Hamlet of Pond Inlet which clearly indicates the authorization to allow the deposit of solid waste in the Hamlet's NWB licensed solid waste facility
- records must be maintained of waste (including hazardous waste, waste oil, and non-combustible waste) that is backhauled and records must be maintained confirming proper disposal/fate of backhauled waste;
- food waste, paper waste, and wood products must be incinerated using an incinerator capable of meeting Canada Wide Standards for Dioxins and Furans, and Mercury.

1.4 Relationship to Other Management Plans

This plan is based on the concepts and principles found in Appendix 10A-1 EHS Management System Framework Standard and 10A-2 Hazard Identification and Risk Assessment Standard. The plan should be reviewed in concert with the following additional plans that have been prepared for the EIS:

- Environmental Protection Plan;
- Surface Water and Aquatic Ecosystem Management Plan;
- Wastewater Management Plan;
- Preliminary Mine Closure and Reclamation Plan;
- Air & Noise Management Plan;
- Emergency Response and Spill Contingency Plan;
- Explosives Management Plan;
- Terrestrial Wildlife Management Plan; and
- Hazardous Materials and Hazardous Waste Management Plan.

1.5 Baffinland's Commitments

Baffinland provides adequate resources to implement and maintain the EHS Management System including the necessary human, material and financial resources. Baffinland's Sustainable Development Policy is presented in Section 2.

1.6 Update of This Management Plan

The Waste Management Plan is a "living document". It will be regularly updated on the basis of management reviews (as outlined in Section 8), incident investigations, regulatory changes or other Project related changes.

Section 2: Sustainable Development Policy

At Baffinland Iron Mines Corporation, we are committed to conducting all aspects of our business in accordance with the principles of sustainable corporate responsibility and always with the needs of future generations in mind. Everything we do is underpinned by our responsibility to protect the environment, to operate safely and fiscally responsibly and to create authentic relationships. We expect each and every employee, contractor, and visitor to demonstrate a personal commitment to this policy through their actions. We will communicate the Sustainable Corporate Policy to the public, all employees and contractors and it will be reviewed and revised as necessary on an annual basis.

These four pillars form the foundation of our corporate responsibility strategy:

- Health and Safety
- Environment
- Investing in our Communities and People
- 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 from the very earliest of planning stages. Why? Because our people are our greatest asset. Nothing is as important as their health and safety.
- 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 and awareness. We allow our workers and contractors the right to stop any work if and when they see something that is not safe.

2.0 ENVIRONMENT

- We employ a balance of the best scientific and traditional Inuit knowledge to safeguard the environment.
- We apply the principles of pollution prevention 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 pioneering new processes and more sustainable practices.
- We understand the importance of closure planning. We ensure that an effective closure strategy is in place at all stages of project development and that progressive reclamation is undertaken as early as possible to reduce potential long-term environmental and community impacts.

3.0 INVESTING IN OUR COMMUNITIES AND PEOPLE

- We respect human rights and the dignity of others. We honour and respect the unique culture, values and traditions of the Inuit people.

- We contribute to the social, cultural and economic development of sustainable communities adjacent to our operations.
- 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.

4.0 TRANSPARENT GOVERNANCE

- We will take steps to understand, evaluate and manage risks on a continuing basis, including those that impact the environment, employees, contractors, local communities, customers and shareholders.
- We 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 environmental, safety, health, socio-economic commitments and set annual targets and objectives.
- We conduct all activities in compliance with the highest applicable legal requirements and internal standards
- We strive to employ our shareholder's capital effectively and efficiently. We demonstrate honesty and integrity by applying the highest standards of ethical conduct.

Tom Paddon
President and Chief Executive Officer
September 2011

Section 3: Targeted VEC's

Waste will be generated throughout the life cycle of the project. To ensure that wastes are handled, stored and managed in a safe and environmentally acceptable manner, Baffinland will apply best practices for its waste management activities.

Inadequate handling, storage and elimination of waste could impact the following valued ecosystem components (VECs):

- Soils (spills & contamination)
- Water quality (contamination of runoff)
- Fish and fish habitat
- Permafrost
- Vegetation (uptake of contaminants or loss of vegetation)
- Birds (exposure and ingestion of contaminants)
- Terrestrial wildlife (exposure and ingestion of contaminants)
- Human health (exposure and ingestion of contaminants).

Section 4: Waste Management Approach

The aim of the Waste Management Plan is to implement a sound waste minimization program that will focus upon the principles out lined in Appendix 10A-1 EHS Management System Framework Standard. The remaining waste will then be disposed of in a non-hazardous landfill, incinerated or shipped off-site for final disposal / treatment or recycling.

4.1 Waste Identification

A summary of the types of waste expected to be generated by the Project, and disposal method, are presented below. Operations and Maintenance procedures will be developed for each waste to be managed. This information will be summarized in manuals and training will be provided as required. For the majority of long term infrastructure, the facilities used in construction will be the same ones used during the operations phase.

Table 4.1 presents an overview of the types of waste generated by the Mary River Project and the general disposal method for each type of waste. **Table 4.2**, **Table 4.3**, and **Table 4.4** presents the expected quantities of waste generated for the construction and operation phases respectively.

4.2 Waste Management Methods

Wastes remaining after application of the waste minimization techniques will be managed in a practical and environmentally responsible manner utilized methods appropriate for each waste type generated. The following methods will be applied at the site:

- Waste sorting at all generation points
- Incineration of non-hazardous combustible wastes
- Open burning in a regulated burn pit of untreated wood and cardboard
- Landfilling of inert non-combustible wastes
- Temporary storage and off-site shipping of hazardous and recyclable waste materials
- On-site treatment for contaminated soil and oily water from hydrocarbon spills in a landfarm.

Table 4.1: Waste Type and General Disposal Methods

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 facility	Biological sludge (dried solids)	Combustible/ non-hazardous	Incineration / Landfilling
Maintenance complex	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, tires, rubber, plastic	Inert	Inert landfill
Laboratory	Chemical laboratory wastes, toxic substances	Hazardous	Off-site recycling or disposal
Domestic waste from construction camp, accommodation facility and kitchens/canteens	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	Landfill
	Untreated wood / cardboard	Combustible/ non-hazardous	Incineration / open burning
Medical facility	Biomedical wastes	Hazardous	Biomedical off-site disposal
Incinerator	Ash (placed in closed drums)	Inert	Inert Landfill (if non-hazardous)
Fuel spill	Hydrocarbon-contaminated soil	-	On-site treatment using landfarm facility
Fuel spill	Hydrocarbon-contaminated snow/water/ice	-	On-site treatment and reuse of product if practical

Table 4.2: Waste Quantities

Non-Hazardous Solid Waste Generation Estimate										
Project Phase and Location	Time Period	On Site Personnel [1]	Total Waste Generated (excluding sludge and ash)[2]	Incineration Waste			Inert Landfill Waste			
				Waste Stream - Suitable for Incineration	Sewage Sludge Cakes [6]	Total Waste Incinerated	Waste Stream - Suitable for Landfill	Inert Wastes[6]	Ash[7][9]	Total
			(tonnes)					(m^3)		
CONSTRUCTION PHASE[3]										
Mine Site Camp	Daily (avg)	1200	6.72	2.24	0.44	2.68	4.48	11.20	0.67	11.87
	Annual	1200	2453	818	162.1	980	1635	4088	245	4333
	Total[7] (4 years)		9811	3270	648.2	3919	6541	16352	980	17332
Steensby Port Camp	Daily (avg)	600	3.36	1.12	0.22	1.34	2.24	5.60	0.34	5.94
	Annual	600	1226	409	81.0	490	818	2044	122	2166
	Total[7] (4 years)		4906	1635	324.1	1959	3270	8176	490	8666
Milne Port Camp	Daily (avg)	165	0.92	0.31	0.06	0.37	0.62	1.54	0.09	1.63
	Annual	165	337	112	22.3	135	225	562	34	596
	Total[7] (4 years)		1349	450	89.1	539	899	2248	135	2383
Rail Camp (Ravn River)[8]	Daily (avg)	200	1.12	0.37	0.07	0.45	0.75	1.87	0.11	1.98
	Annual	200	409	136	27.0	163	273	681	41	722
	Total[7] (4 years)		1635	545	108.0	653	1090	2725	163	2889
Rail Camp (Mid Rail)[8]	Daily (avg)	200	1.12	0.37	0.07	0.45	0.75	1.87	0.11	1.98
	Annual	200	409	136	27.0	163	273	681	41	722
	Total[7] (4 years)		1635	545	108.0	653	1090	2725	163	2889
Rail Camp (North Cockburn)[9]	Daily (avg)	200	1.12	0.37	0.07	0.45	0.75	1.87	0.11	1.98
	Annual	200	409	136	27.0	163	273	681	41	722
	Total[7] (4 years)		1635	545	108.0	653	1090	2725	163	2889

Non-Hazardous Solid Waste Generation Estimate										
Project Phase and Location	Time Period	On Site Personnel [1]	Total Waste Generated (excluding sludge and ash)[2]	Incineration Waste			Inert Landfill Waste			
				Waste Stream - Suitable for Incineration	Sewage Sludge Cakes [6]	Total Waste Incinerated	Waste Stream - Suitable for Landfill	Inert Wastes[6]	Ash[7][9]	Total
			(tonnes)					(m^3)		
Rail Camp (South Cockburn)[9]	Daily (avg)	300	1.68	0.56	0.11	0.67	1.12	2.80	0.17	2.97
	Annual	300	613	204	40.5	245	409	1022	61	1083
	Total[7] (4 years)		2453	818	162.1	980	1635	4088	245	4333
Construction Total			**20971**	**6990**	**1386**	**8376**	**13981**	**34952**	**2094**	**37046**
OPERATION PHASE(4)										
Mine Site Camp	Daily (avg)	475	2.66	1.33	0.18	1.51	1.33	3.33	1.51	4.83
	Annual	475	971	485	64.1	550	485	1214	550	1763
	Total[7] (20 years)		19418	9709	1283.0	10992	9709	24273	10992	35264
Steensby Port Camp	Daily (avg)	175	0.98	0.49	0.06	0.55	0.49	1.23	0.55	1.78
	Annual	175	358	179	23.6	202	179	447	202	650
	Total[7] (20 years)		7154	3577	472.7	4050	3577	8943	4050	12992
Operation Total			**26572**	**13286**	**1756**	**15042**	**13286**	**33215**	**15042**	**48257**

[1] Maximum populations were assumed to be carried year round to be conservative
[2] Disposal Rate of 5.6 kg/day - Cold Region Utilities Monograph, 3rd edition, pg 14-16 1996
[3] Assumed 1/3 of waste stream is suitable for incineration, 2/3 suitable for landfill during construction phase due to high amounts of packaging waste during construction
[4] Assume 1/2 of waste stream is suitable for incineration, 1/2 suitable for landfill during operation phase as per Meadowbank Landfill Management Plan, 2008
[5] Estimated sewage sludge production at 0.37 kg/person/day based on Draft EIS Appendix 10D-3, Seprotech specification
[6] Estimated waste density was assumed as 0.4 tonnes/m^3 for moderately compacted solid waste - AMEC Earth & Environmental. Victor Diamond Mine Project Comprehensive Study. Waste Management Addendum Jan 18 2005
[7] Estimated ash density was assumed as 1.0 tonnes/m^3 - AMEC Earth & Environmental. Victor Diamond Mine Project Comprehensive Study. Waste Management Addendum Jan 18 2005
[8] Assume all waste suitable for landfill goes to Mine site
[9] Assume all waste suitable for landfill goes to Steensby Port
[9] Assume 95% volume reduction, 200 kg/m^3 density for non-compacted waste

Table 4.3: Estimated Domestic Solid Non Hazardous Waste [1]

Waste	Waste Description	Disposal Method	Est. Total Annual Production (tonnes)
Construction Phase			
Organic	Kitchens	Incinerator	6172
Paper	Packaging/Offices	Incinerator/On-site landfill	1769
Plastic	Offices/Camps	Incinerator[2]/On-site landfill	1265
Cardboard	Packaging/Camps	Incinerator	1347
Cloth	Camps	Incinerator	410
Multi-Material	Packaging/Camps	Incinerator/On-site landfill	293
Metal	Packaging	On-site landfill	176
Glass	Camps	On-site landfill	164
Wood	Packaging	Incinerator	117
Operation Phase			
Organic	Kitchens	Incinerator	7002
Paper	Packaging/Offices	Incinerator/On-site landfill	2006
Plastic	Offices/Camps	Incinerator[3]/On-site landfill	1435
Cardboard	Packaging/Camps	Incinerator	1528
Cloth	Camps	Incinerator	465
Multi-Material	Packaging/Camps	Incinerator/On-site landfill	332
Metal	Packaging	On-site landfill	199
Glass	Camps	On-site landfill	186
Wood	Packaging	Incinerator	133

[1] Composition based in part on 2011 Mary River Waste Audit results (Aug 27 - Aug 29), Assume 50% of waste generated to be domestic

[2] Poly-chlorinated plastics will be sorted out of waste stream and sent to landfill and will not be incinerated

Table 4.4: Estimated Hazardous Waste [1]

Waste	Waste Description	Disposal Method	Est. Total Annual Production (tonnes)
Construction Phase			
Waste oils and fluids	Maintenance	Shipped off Site	133
Batteries	Maintenance	Shipped off Site	13
Spent activated carbon	Domestic	Shipped off Site	13
Aerosol containers	Misc.	Shipped off Site	8
Empty compressed gas cylinders	Misc.	Shipped off Site	minimal
Kitchen grease	Kitchen	Shipped off Site	57
Crushed drums / plastic pails	Misc.	Shipped off Site	26
Spoiled CaCl	Drilling	Shipped off Site	4
Operation Phase			
Waste oils and fluids	Maintenance	Shipped off Site	76
Batteries	Maintenance	Shipped off Site	7
Spent activated carbon	Domestic	Shipped off Site	8
Aerosol containers	Misc.	Shipped off Site	5
Empty compressed gas cylinders	Misc.	Shipped off Site	minimal
Kitchen grease	Kitchen	Shipped off Site	33
Crushed drums / plastic pails	Misc.	Shipped off Site	15
Spoiled CaCl	Drilling	Shipped off Site	3
Contaminated Soils or Snow to Landfarm during all phases (m^3)[2]			
Soils contaminated with Hydrocarbon	Fuel spill	On-site treatment (landfarm)	8400
Water/ice/snow contaminated with HC	Fuel spill	On-site treatment (landfarm)	25200

1 Composition based on Canutuec Hazardous Waste Shipment Manifest from Mary River Project 2011

2 Assume 350 m^3 of contaminated soil 1/4 of the year, Landfarm Design and Management Plan, Meadowbank Mine (Golder, 2007)

3 Assume 350 m^3 of contaminated snow/ice 3/4 of the year, Landfarm Design and Management Plan, Meadowbank Mine (Golder, 2007)

4.3 Waste Flow

Visual representations of waste flows are presented in Annex as block flow diagrams. Waste streams are described and their respective storage and treatment paths are demonstrated. Diagrams are provided for construction and operation phase for the Mine Site and Steensby Port. Diagrams are provided for construction phase for Milne Port, Mid-Rail Rail Camp, Ravn River Rail Camp and Cockburn Lake Rail Camp.

4.3.1 Generation Points

Waste will be sorted and collected at all major generation points at each project site (Mary River, Steensby Port, Milne Port, and Rail Camps) according to the Mary River Project Waste Sorting Guidelines (Annex 6). Disposal will occur in appropriately labelled receptacles based on disposal methods and waste sorting guidelines. This will ensure waste types are disposed of in the correct methods as outlined in table 4.1. Waste will be stored indoors or in secure wildlife proof receptacles prior to collection.

4.3.2 Waste Collection

Waste will be collected from generation points on a daily basis by a waste collection vehicle(s) and taken the appropriate waste handling facility for treatment and/or final disposal as shown in Annex 1. Waste will be collected by personnel trained in waste handling guidelines and personnel will use visual inspection to ensure waste types are taken to the appropriate treatment or disposal location.

4.3.3 Temporary Waste Sorting and Processing Facilities (during Construction Phase only)

Temporary waste management facilities will be constructed at all sites (Mary River, Steensby Port, Milne Port, Ravn River Rail Camp, Mid Rail Rail Camp and South Cockburn Lake Rail Camp for use only during the construction phase. These facilities will consist of:

- A secure central depot where waste generated across the site will be managed, properly processed, packaged, labelled, inventoried, secured (e.g., on pallets) and stored for transportation to disposal site as per Block Flow Diagrams in Annex 1
- All wildlife attracting wastes such as organics, sewage waste or petroleum based chemicals will be stored animal proof containers inside a secured area that will be monitored

As much as possible and practical, the various waste streams will be sorted at the source according to the Mary River Project Waste Sorting Guideline (Annex 6)

4.3.4 Permanent Waste Sorting and Processing Facilities

Permanent waste management facilities will be constructed at Steensby Port and the Mine Site. These facilities will consist of a heated all season building and adjacent laydown areas that provide the following capabilities, functions and / or facilities:

- A central depot where waste generated across the site will be managed, properly processed, packaged, labelled, inventoried, secured (e.g., on pallets) and stored for sealift or reuse on site
- The waste management facility has a poured concrete floor with large doors for transferring waste in and out plus an adjacent office for the waste management technician
- Waste oil storage tank adjacent to facility with waste oil filtering process inside and temporary storage for filtered or unfiltered oil
    - The filtered waste oil will be used for waste oil burners used to heat select facilities on site which include the waste management facility itself, truck warming shed, etc. Waste oil can also be blended into fuel for certain operations.
- Oil filter draining and crushing facility
- Drum crushing machine
- Strapping and plastic wrap capabilities
- Label making capabilities.

As much as possible and practical, the various waste streams will be sorted at the source according to the Mary River Project Waste Sorting Guideline (Annex 6).

All food waste and other animal attractants (greases, glycol based antifreeze) will be stored inside of the facility prior to incineration to avoid the attraction of wildlife.

Table 4.5: Mary River Project Waste Management Facility Summary

Location	Facility Type	Components	Function
Milne Port	Temporary - Waste Management Facility	• Secured laydown area • Heated building • Incinerator • secure hazardous waste storage area • Used tire storage area	A central depot where hazardous waste and waste suitable for incineration generated across the site will be managed properly processed, packaged, labelled, inventoried, and treated and/or stored for disposal on site or off site as appropriate.
Milne Port	Landfarm	• Landfarm facility	See Annex 5.
Mine Site	Temporary - Waste Management Facility	• Secured laydown area • Secure hazardous waste storage area and containers • Animal proof containers for storage of animal attracting waste	A secure central depot where waste generated across the site will be managed, properly processed, packaged, labelled, inventoried, secured (e.g., on pallets) and stored for transportation to disposal or treatment locations
Mine Site	Landfarm	• Landfarm facility	See Annex 5.
Mine Site	Landfill	• Licensed Landfill facility • Access road • Used tire storage area	Disposal of inert, non-combustible waste and non-hazardous wastes.
Mine Site	Permanent - Waste Management Facility	• Secured area, • heated building, • incinerator, • secure hazardous waste storage area	A central depot where hazardous waste and waste suitable for incineration generated across the site will be managed properly processed, packaged, labelled, inventoried, and treated and/or stored for disposal on site or off site as appropriate.
Steensby Port	Temporary - Waste Management Facility	• Secured area, • Secure hazardous waste storage area • Animal proof containers for storage of animal attracting waste	A secure central depot where waste generated across the site will be managed, properly processed, packaged, labelled, inventoried, secured (e.g., on pallets) and stored for transportation to disposal or treatment locations.
Steensby Port	Landfarm	• Landfarm facility	See Annex 5.
Steensby Port	Landfill	• Licensed Landfill Facility • Access road • Used tire storage area	Disposal of inert, non-combustible waste and non-hazardous wastes.
Steensby Port	Permanent - Waste Management Facility	• Secured area, • Heated building, • Incinerator, • Secure hazardous waste storage area	A central depot where hazardous waste and waste suitable for incineration generated across the site will be managed properly processed, packaged, labelled, inventoried, and treated and/or stored for disposal on site or off site as appropriate.
Ravn River Rail Camp	Temporary - Waste Management Facility	• Secured area, • Incinerator, • secure hazardous waste storage area	A central depot where hazardous waste and waste suitable for incineration generated across the site will be managed properly processed,

Location	Facility Type	Components	Function
			packaged, labelled, inventoried, and treated and/or stored for disposal on site or off site as appropriate.
Mid Rail Rail Camp	Temporary - Waste Management Facility	• Secured area, • Incinerator, • secure hazardous waste storage area	A central depot where hazardous waste and waste suitable for incineration generated across the site will be managed properly processed, packaged, labelled, inventoried, and treated and/or stored for disposal on site or off site as appropriate.
North Cockburn Lake Rail Camp	Temporary - Waste Management Facility	• Secured area, • Incinerator, • secure hazardous waste storage area	A central depot where hazardous waste and waste suitable for incineration generated across the site will be managed properly processed, packaged, labelled, inventoried, and treated and/or stored for disposal on site or off site as appropriate.
South Cockburn Lake Rail Camp	Temporary - Waste Management Facility	• Secured area, • Incinerator, • secure hazardous waste storage area	A central depot where hazardous waste and waste suitable for incineration generated across the site will be managed properly processed, packaged, labelled, inventoried, and treated and/or stored for disposal on site or off site as appropriate.

4.4 Waste Handling and Minimization by Category

The Waste Management Plan is designed to ensure that a sound waste management program which focuses on the principles of reduction/recovery/reuse/recycling is implemented. The following are examples the Mary River Project will undertake to minimize the amount of waste being generated on Project sites and ensure proper handling.

4.4.1 Vegetation less than 80 mm Diameter, Grubbed Material and Soil

There will be a need during and at the completion of construction for revegetation of disturbed areas, which will typically have little or no topsoil after disturbance. Non-salvageable timber along with shrubs and other small woody plants shall be chipped and mixed in with the grubbed material to be used on an ongoing basis as soil cover and to stabilize disturbed slopes. Material will be stockpiled, for use when restoring the major areas, including the temporary camp sites and laydown areas. Stockpile(s) will be located to avoid drainage into the stockpile and to collect any seepage from the stockpile for analysis and treatment if necessary. Any such material not required for site restoration can be used in the landfill as final cover material.

4.4.2 Other Spoils Removed During Excavation

Every effort will be made during the design to balance the cut and fill requirements. However most of the fill area has requirements for stability of materials that will preclude the use of some of the excavated materials. Such materials will be disposed of in one of the designated Disposal Sites or used in other applications as much as possible.

4.4.3 Nonhazardous Waste Materials Generated During Construction Operations

A large amount of material will be generated during the construction operation, including packing materials, containers, temporary supports and general construction debris, used tools and pieces of construction material.

It is anticipated that some of the contractors generating this waste will carry out their own salvage of economically worthwhile recyclables, particularly ferrous metals and copper, where a ready market exists. Typically tires, where the casings are sound, are retreaded for ongoing use, reducing the materials requiring final disposal.

In some cases large amounts of a single waste product will be produced, that can be readily source separated. Specific items identified at this time include:

- Timber **-** generated by unpacking, and from the disposal of temporary supports. Where possible shipments will be bought in on pallets that can be returned for reuse, thereby reducing the waste generated. Where timber waste consists of clean timber of useable size it will be stacked and made available for reuse. Timber that is not reusable will be disposed of via open burning. Note that chemically treated timber shall be separated and, if it cannot be reused, shall be disposed of as a hazardous waste, and shipped off-site.

- Polyethylene film - Film is used in large quantities to wrap and hence protect equipment. It is anticipated that substantial amounts will be generated by unpacking equipment. Opportunities for recycling this material will be explored and if practical the film will be baled and shipped for reuse.

- Steel and other scrap metal waste shall be kept separate from the other solid waste produced during construction. Separation of steel and scrap metal from other solid waste shall be the responsibility of site personnel handling the materials. If economically worthwhile steel and other scrap metal waste will be shipped off site for recycling.

- Recyclable materials shall be placed in appropriate recycling bins or on pads by site personnel. Containers shall be clearly marked and have signage reminding all workers of what is recyclable and what is not. Recycling bins shall be placed alongside garbage bins to promote recycling habits.
- All other nonhazardous waste material will be separated at source into categories, based on potential for recycling, such as metal containers, water bottles, corrugated board, and the need for segregation for final disposal, such as tire casings.
- During the course of the project, opportunities will be explored to expand the list of recyclables, particularly for wastes generated in large quantities. Recyclable materials shall be placed in appropriate recycling bins by site personnel. Containers shall be clearly marked and have signage reminding all workers of what is recyclable and what is not. Recycling bins shall be placed alongside garbage bins to promote recycling habits.
- All sites will be provided with, at fixed locations, separate containers/areas for each type of waste to be separated, and dispose of to a recycling facility off site, hazardous waste facility off-site, landfill, or incinerator. The containers will be located in convenient locations to encourage utilization, and will be protected by fencing, to catch any wind blow generated during transfer of waste to the containers.
- Each contractor will be responsible for bringing all of the waste collected on their site to the provided waste containers.

- In locations where organic (food) waste will be generated, a separate container will be provided for this waste, secure against animal access. These organic waste containers will be emptied each day, and the waste will be treated using incineration.

4.4.4 Unset Concrete and Concrete Wash Water from Mixing and Transportation of Concrete

During the major works, concrete will be provided from a batching plant located at the construction laydown area. Waste concrete will arise from off-spec mixes, residual concrete at the end of a pour, and from wash down of the 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 and decant; and analysis, and if necessary pH adjustment, prior to discharge will occur.

All fresh concrete and concrete product waste to be disposed of onsite shall be disposed of in the concrete waste pond. No concrete truck shall be cleaned anywhere else onsite. Waste hardened concrete will be either used as fill or disposed of in one of the onsite landfills.

4.4.5 Camp Site Waste

During peak of construction camps will provide housing for up to 2900 of personnel across the project and provide meals and other domestic support facilities. Wastes generated from this operation will be similar to normal residential domestic garbage, with a higher percentage of organic (food) wastes.

The operation of the camp site will be by a contractor, who will have responsibility for the management, including source separation and disposal, of all waste generated on site. Recyclables will be consolidated and disposed of to the Contractor supplied containers, and the remaining waste transported and disposed of to as per Annex1 by the Camp Contractor, using appropriate vehicles, equipped to stop any loss of either liquid or wind-blow during transportation.

The camp contractor will be required to collect all waste in secure containers, and to remove organic (food) waste daily. All containers containing food waste or items potentially contaminated by food shall be secure against animal access.

4.4.6 Sewage Generated at the Various Working Locations and at the Rail Camp Sites

Sewage will generate at all sites, throughout the period of construction and operation. During the period from beginning of construction until facilities are available, all sewage generated on site, will be collected in holding tanks, which will be pumped out for disposal once facilities become available. The trucks used for transport will be sealed and the unloading facility designed to minimize odor generation during waste transfer operations.

4.4.7 Hazardous Waste

Hazardous Waste handling is described in the Mary River Project Hazardous Waste Management Plan (H337697-0000-07-126-0002).

4.4.8 Other Miscellaneous Materials, or Items that No Longer Have Economic Value

During the operation miscellaneous tools, used parts, clothing etc will be discarded. Items requiring special handling should be dealt with by the generator either by disposal or breakdown into readily handled components to be treated in accordance with the previous sections.

Parts should be drained of oil or other liquids before disposal, with the drained fluids being disposed of as per Mary Rive r Project Hazardous Waste Management Plan (H337697-0000-07-126-0002).

4.4.9 Office Paper

All white paper waste generated at the office site shall be collected in secured bins for shredding and disposal. Paper waste generated elsewhere shall be placed in a waste disposal bin by site personnel. To reduce the amount of paper waste generated on site the following list of procedures could be developed and implemented:

- Distribute electronically – Electronic forms increase the amount of desk/shelf space available.
- Double Sided Printing – When practical ensure all documents are double sided.
- 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.
- Copier Maintenance – Only allow qualified personnel to provide maintenance to all copiers and printers.

4.5 Incinerators

The main disposal method for combustible non-hazardous wastes generated on-site will be incineration. This method will eliminate problems associated with odours attracting wildlife, or the creation of poisonous or flammable gases through the decomposition of putrescible materials.

Incinerators for the Project are proposed as follows in Table 4.6:

Table 4.6: Incinerator Allocation

	CONSTRUCTION		OPERATION			COMMENTS
	Waste Produced Suitable for Incineration	Units	Waste Produced Suitable for Incineration	Units	Capacity (t)	
Mine Site	2.68	2 ton (x1), 1 ton (x1)	1.51	2 ton (x1)	2	Less one 1 ton unit after construction
Steensby Port	1.34	1 ton (x2)	0.55	1 ton (x1)	1	Less one 1 ton unit after construction
Milne Port	0.37	1 ton (x1)	0.00	-	-	Milne is temporary facility only for construction
Ravn River	0.45	1 ton (x1)	0.00	-	-	Camp is temporary facility only for construction
Mid Rail	0.45	1 ton (x1)	0.00	-	-	Camp is temporary facility only for construction
North Cockburn	0.45	1 ton (x1)	0.00	-	-	Camp is temporary facility only for construction
South Cockburn	0.67	1 ton (x1)	0.00	-	-	Camp is temporary facility only for construction

The locations of the incinerators are shown in Annex 2.

The specifications for the proposed incinerators are presented in Annex 3.

All incinerators will 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 will be brought on-line as required to meet the Project's needs during the construction phase.

Waste that is destined for the incinerator will be segregated as part of operating procedures to ensure that only appropriate materials will be incinerated. Biomedical waste, hazardous wastes, non-combustible materials, or treated wood products must not be incinerated. The incineration of plastics will be minimized to the maximum extent practicable. Incineration of some food-related and other plastics is unavoidable; however, best efforts will be made to reduce volumes of potentially dioxin/furan related plastics during the procurement process.

All incinerator systems will operate in accordance with the Environmental Guideline for the Burning and Incineration of Solid Waste by the Department of the Environment, Government of Nunavut, 2010. This included all regulatory guidelines, operating procedures and best management practices whenever feasible.

4.5.1 Personnel Training Programs for Incinerator Operation

Only trained personnel will operate the incinerator(s), and operating manuals will be provided (see example in Annex 3), including standard operating procedures. The incinerator manufacturer will be requested to provide on-site specialized training as required.

4.5.2 Air Emissions

Air emission standards establish limits on the amount of contaminants that can be released into the atmosphere. These standards are expressed as a concentration in the exhaust gases leaving the stack and are capable of being achieved using generally 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, respectively. Similar standards for the open burning of solid waste and modified burn barrels have not been established.

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 4.7

Table 4.7: Air Emission 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/Rcubic metre	Unit of measure is micrograms per Reference cubic metre (the volume of gas adjusted to 25oC and 101.3 kilopascals)

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

Air monitoring for dioxins, furans, and mercury will be conducted on an as-required basis based on applicable federal and territorial standards and guidelines. Guidelines also exist for sulphur dioxide and total suspended particulates, which may be analyzed as a ‘best management practice.

Routine inspections and monitoring will be undertaken on incineration facilities as required. Details of the incinerators are provided in Annex 3.

4.5.3 Ash Disposal

The management of bottom ash and other unburned residue is an integral part of sound waste management and the ash will need to be disposed of. Extreme care must always be exercised when handling ash because of its physical (i.e. glass, nails) and chemical hazards. Closed or covered containers will be used when moving or transporting bottom ash from the incinerator to the final disposal site. This will minimize physical contact with the ash and any release of fine ash particles to the environment. Bottom ash will only be handled once completely cooled.

Bottom ash from the open burning of paper, paperboard packing and untreated wood waste or unburned materials from modified burn barrels used to burn paper, paperboard packing, untreated wood, food waste, food packaging and natural fibre textiles is suitable for burial in a designated pit or municipal landfill.

Ashes from the incineration process will be buried within a designated area of the landfill. A Toxicity Characteristic Leaching Procedure (TCLP) analysis will be conducted on ash as required prior to disposal in the landfill. Ash that does not meet guidelines following TCLP analysis will be treated on-site if possible or transported for off-site disposal at an appropriate facility. The TCLP Procedure Test method 1311 (US EPA) will be the preferred method to analyze the residuals as this test is designed to simulate the processes a material would be subjected to if placed in a landfill.

4.5.4 Monitoring During Operation

Monitoring of the incinerators will be conducted in conjunction with other monitoring program required for the Project. Specifically, incinerator monitoring will include incinerators will be inspected for signs of leakage, corrosion or other physical defects before each burn cycle. Repairs must be completed before the equipment is used again to ensure the health and safety of the operator, nearby people and the environment.

The operation of incinerators will be monitored using on-line instruments capable of continuously measuring the combustion process and stack emission; this included the temperature in both the primary and secondary burn chambers. Temperature readings outside of the normal range can warn the operator that the system is not working properly.

Continuous emissions monitoring will also be used at all permanent incinerator units. In-stack monitoring provides the operator with information on the combustion process and on pollutants being released to the environment and help detect if operating conditions malfunction and contaminates enter the environment (i.e. hydrogen chloride, dioxins, furans, mercury).

Each process and in-stack monitor will be equipped with visible and audible alarms to warn operators of poor incinerator operation.

Written records will be kept by incinerator operators of what waste is burned, when and how much.

Other record keeping requirements include:

- Operating data including readings from the process and emissions monitoring instruments
- Weather conditions (i.e. air temperature and wind speed) at the time the incinerator is being operated
- Repairs and maintenance performed on the incinerator and monitoring instruments
- Major changes in operation
- Quantity, condition and disposal location of the collected bottom ash
- Operator training.

Records will be maintained on-site throughout the operational life of the facility and be made available to Inspectors and other regulatory officials upon request.

4.6 Inert Landfill

A central inert landfill has been constructed near the Mine Site. The landfill design was submitted to the NWB for approval before construction, as required by the water license. The landfill is used for disposal of inert, non-combustible waste only (plastics, cement, sand, used construction materials, scrap metal, pipes, glass, etc.). Non-hazardous waste, including ashes from the incineration process, and waste which cannot be salvaged or incinerated, will be deposited in this site. Ash will only be disposed of following receipt of TCLP analysis that meets acceptable standards. There will be no disposal of food waste, hazardous materials, paper products or biomedical waste in the landfill. A secondary landfill will be constructed at the Steensby Port site. The locations of these landfills are shown in

Details of the Landfill design and closure are provided in Annex 5. The quantities of inert waste expected are presented in Table 4.2.

4.6.1 Landfill Operation

Landfill operation will be performed under the same guidelines at both the Mine Site and Steensby Port landfills. As is presently the practice, the landfill will be operated by trained personnel who will carry out regular inspection and monitoring of the facility. An operation and maintenance manual approved by the NWB will direct landfill operations. This manual will include:

- A general description of how the landfill is to be operated and maintained
- A proposed schedule for when specific operating and maintenance activities are to be conducted (i.e., seasonal surface water sampling, routine visual inspection, berm inspections, etc.)
- A list of who is responsible for completing each item scheduled
- Location of the landfill and proximity to receiving waters
- A description of the cover material to be used as well as the source of the material and how it will be placed
- Runoff and drainage control within and around the landfill, including erosion and sediment control and proposed restoration measures for erosion which occurs
- Treatment measures for contaminated drainage (although this is not seen as an issue)
- Prevention of windblown debris (although this is not seen as an issue)
- Method and frequency of site maintenance.

The manual will assist landfill site operators in establishing a proper waste management system and in ensuring that the system operates efficiently and in compliance with the permits.

4.6.2 Operating Procedure

Regular cover will be applied to reduce the risk of wind-blown debris, and the landfill will be engineered for closure. Open burning of un-treated wood and cardboard wastes may be conducted to reduce volume requirements as permits allow. Routine inspection and monitoring will be undertaken in terms of waste volume, type, source, water seepage, etc.

4.6.3 Placement of waste

The area method will be used to place the waste in the landfill. Once the first layer is completed and covered, a second layer will be formed. The following measures will be taken during the landfill operation:

- Compaction of waste will be undertaken typically once per week or in combination with collection frequency, depending on the nature of the waste. Generally the waste will be worked and compacted as they are dumped.
- Operations will be undertaken to minimize close-out requirements.
- Cover material will be placed to a thickness of 0.1 m between cells, 0.3 m on the surface of cells, and, 1.5 m for closure.

4.6.4 Monitoring during operation

Monitoring of the landfill will be conducted in conjunction with other monitoring program required for the Project. Specifically, landfill monitoring will include:

4.6.4.1 Volume and Waste Composition:

Records will be kept of waste volume / type and cover material placed in the landfill. The annual volume of waste disposed of in the landfill will be determined from these records. The annual volume may be confirmed through the use of survey.

4.6.4.2 Water sampling and soil:

The “Guidance Manual on Sampling and Data Management for Contaminated Sites” (CCME 1993) will be followed for all water and soil quality monitoring. Refer to the Site Water Management Plan for surface water sampling locations and procedures. A soil sampling program will be initiated at several locations around the landfill site(s) prior to construction and after the initial perimeter berm.

4.6.4.3 Ground temperature monitoring:

It is expected that the active layer will progress into the landfill waste and cover material. Ground temperatures are not expected to increase due to the presence of the landfill and the type of waste disposed in it. During regular landfill inspections, signs of ground warming will be monitored by watching for evidence of soil creep.

4.6.4.4 Leachate monitoring:

Leachate production is not expected based on the relatively dry, inert nature of the waste to be placed in the landfill. However, periodic surface water monitoring will allow for the detection of landfill leachate, in the unlikely event leachate is generated.

4.6.4.5 Inspection and maintenance:

Routine visual inspections will be conducted for various components of the landfill, including the berms, fencing (if installed), etc. If required, maintenance will be completed as soon as required. Records will be kept at all inspections and maintenance measures completed and will form part o the annual landfill site report.

4.6.5 Annual Report

An annual report will be completed for the overall project and will include the following information on the landfill:

- Total volume of waste deposited in the landfill site during the previous year
- Progression of the landfill site development, indicating the landfill site location currently in use and areas that have been closed
- Monitoring results
- Remaining life expectancy of the landfill site
- Details of operational problems encountered during the year and the measures taken to resolve the operational problems
- Photographs.

4.7 Hazardous Waste Storage and Disposal

Some of the materials included in the waste streams are classified as hazardous wastes because of the potential risk to human health and safety, property and the environment. Hazardous wastes that will be generated on-site will include, but not be limited to: used oils, solvents and paints, used and/or surplus chemicals, medical wastes, gas cylinders, electronic waste, batteries, light bulbs, and smoke detectors.

Baffinland is responsible for ensuring that all hazardous waste generated on its site will be properly managed from the time it is generated to final disposal. Hazardous waste must be properly stored, transported, treated and disposed. Contractors can manage waste on behalf of Baffinland; however, Baffinland is responsible for ensuring, in advance, that the waste management method is acceptable. All of Baffinland's contractors will be required to submit a Waste Management Plan for their specific activities.

All Hazardous waste will be managed according the Mary Rive r Project Hazardous Waste Management Plan (H337697-0000-07-126-0002).

4.8 In-Site Treatment of Hydrocarbon Contaminated Material

Soils contaminated by hydrocarbons from spills will be salvaged and deposited within a land farm cell for bioremediation. The land farm will initially be approximately 70 m x 100 m in size and no more than 0.3 m deep to ensure the soils are kept within the thermally active zone. The cell will be confined within a berm and underlain by an Arctic geomembrane beneath select fill material. The contaminated soils will be placed and spread during summer months for remediation through natural microbiological and evaporative processes. Soil that has reached acceptable levels of hydrocarbon degradation will be removed and transferred to the landfill. The land farm will be operated in accordance with Nunavut government guidelines. The soil will be turned regularly to provide aeration and promote the remediation process. Inspections and sampling will be done to assess the effectiveness of the cell under different climatic conditions. If the harsh climatic conditions at Mary River inhibit natural biological activity, special bacteria may be introduced. If it becomes evident that effective remediation is still not achievable, Baffinland will source an off-site land farm for disposal.

4.9 Ship waste management

Baffinland will not accept any type of waste originating from a ship. The vessels will be equipped with a sewage treatment plant and an incinerator for solid and liquid wastes. All tanks containing oil or oily waste will be placed in a location in the ship that will keep them separated from clean areas. A diesel fired incinerator for incinerating oil waste and sludge from the sewage plant will be installed in the incinerator room on board.

4.10 Used Tires

Used tires are a major waste stream of mining operations. Used tires will either be stockpiled at Milne or Steensby port facilities for shipment off site (re -treading, re-use, or disposal) or will be disposed on site in the landfill or in a designated location within the footprint of the waste rock pile at a depth that will allow for permafrost aggradations.

4.11 Propylene Glycol

Propylene glycol will be used at Steensby Port and Mine Site airstrips for plane de-icing as will in the heating of project buildings. All storage, handling, use and disposal of propylene glycol will be done in contained areas to avoid spills to the environment. Prior to use propylene glycol will be stored in tightly closed containers or tanks in a cool, dry, well-ventilated area away from incompatible substances. Used propylene glycol will be collected then stored in the waste management temporary storage facilities on site in secured containers for shipment off-site for disposal.

4.12 EPP Procedures Relevant to this Waste Management Plan

The following table outlines the EPP procedures that are relevant to the Waste Management Plan. The EPP is a living document and is subject to on-going updates.

Table 4.8: Content of the EPP Related to the Waste Management Plan

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**
3.7	**Off-Site Waste Disposal Log**

Section 5: Roles and Responsibilities

The Sustainable Development department is responsible for environmental management, including ensuring compliance with applicable regulations and permit requirements through on-going monitoring, and the development and implementation of operational standards, procedures and employee training. Roles and responsibilities for implementation of the Waste Management Plan are described in **Tables 5.1**.

Tables 5.1: Roles and Responsibilities

Position	Responsibilities
Construction Manager	- Accountable for the environmental performance on site - Establishes goal and targets for environmental performance - Responsible for the implementation of Baffinland Environmental Management Plans
HSE Manager	- Provides direction on environmental issues to the Site Management Team - Staffing of Environmental Department - Supervise / conduct site inspection and audits - Initiate and manage environmental studies as required - Manage external environmental consultants / specialists - Environmental reporting as required by permits and authorizations - Liaise with regulatory agencies on all environmentally related issues - Conducting surveillance of facilities and project waste sites for the presence of wildlife to ensure that predator control measures are effective
Environmental Lead	- Provide specialist advice and input on environmental matters, - Conduct environmental studies and monitoring programs - Conducts audits of operations, as requested - Prepare environmental reports
Contractors / Subcontractors	All contractors / subcontractors are considered equivalent to Baffinland staff in all aspects of environmental management and control, and their responsibilities in this respect mirror those of Baffinland personnel. Contractor personnel will be included in the on-site induction process. The responsibilities of the Contractors / subcontractors include the following: • comply with the requirements of the EPP • conduct regular site checks / inspections to ensure that regular maintenance/enhancements are undertaken to minimize potential environmental impacts • provide personnel with appropriate environmental toolbox / tailgate meetings and training • work cooperatively and proactively with Environmental Coordinator t and Construction Manager to facilitate implementation of the above.

Table 5.2 presents the management team responsible for overseeing implementation of Baffinland's Environmental Management Plans and their contact information.

Table 5.2: Baffinland Management Members and Contact Information

Position	Individual	Telephone Contact	E-mail Contact
On-site Coordinator	**TBD**		
Environmental Superintendant	**TBD**		
Operations Manager	**TBD**		

NOTE: Upon approval of 2012 Work Plan, Baffinland Management Members and Contact information (Table 5.2) will be updated to reflect the organization of BIM and the EPCM contractor on site at the commencement of 2012 Work Plan.

Baffinland's On-Site Co-Coordinators are responsible for enforcement of waste management practices at the Mary River Project. They train and inform site personnel on matters pertaining to waste management practices. He works cooperatively to Baffinland's Environmental Superintendant and reports to the Operations Manager.

5.1 Training Programs

Baffinland will identify and document training needs and deliver the appropriate training to all employees and contractors whose work may impact on the risks to health and safety in the work place and whose work may cause a significant environmental impact. During orientation training, all employees and contractors will be made aware of:

- The importance of conformance with the Waste Management Plan and its procedures
- The risk to the environment and health & safety associated with handling of various types of waste products
- The consequences to the environment, health and safety if there are deviations from specified operational controls
- Best management practices related to waste handling and strategies to avoid attracting wildlife
- Their specific roles and responsibilities in achieving conformance.

Staff and sub-contractors working on site will receive environmental training as part of the Site Orientation, to achieve a basic level of environmental awareness understanding of their obligations regarding compliance with regulatory requirements, commitments and best practices.

Operations and Site Managers and contractor supervisors will be provided this Plan and will receive additional orientation with respect to the requirements outlined. In addition, all supervising level staff and sub-contractors will be provided with the Operational Standards (the EPP and applicable work procedures or work instructions) as written guidance/reference for their work.

Targeted environmental awareness training will be provided to both individuals and groups of workers assuming a specific authority or responsibility for environmental management or those undertaking an activity with an elevated high risk of environmental impact, such as in-water work at watercourse crossings. These will be delivered in the form of toolbox/tailgate meetings or other means as appropriate.

a) The content of the environmental component of the site induction will include at a minimum:

b) Location of environmental sensitivities

c) Location of additional information on environmental matters

d) Due diligence responsibilities

e) Responsibilities related to waste management, minimizing noise as necessary, road traffic rules, etc.

f) Principles and necessary steps to avoid encounters with bears or other wildlife and what to do if one such encounter occurs

With respect to waste management, Baffinland will have a written training and awareness plan which will consider:

- the differing level of risks and potential consequences associated with different types of wastes
- the different responsibilities, abilities, and literacy of employees
- the culture of the employees
- contractors involved and their relevant experience / expertise
- the trainers, training methods and settings
- training frequency
- documentation of training and evaluation of training.

Baffinland will regularly review and update the training and awareness plan based on changes in training needs and regulatory required training.

5.2 Communication

The types of communications for which members of the team will participate include the following:

a) formal written correspondence and meetings with stakeholders

b) site visits by community representatives

c) design, construction and planning meetings

d) field inspections and monitoring reports disseminated by the Environmental Health & Safety HSE Manager

e) electronic communications

f) tailgate / toolbox meetings

g) formal written correspondence and meetings with government regulatory bodies

h) formal environmental awareness training

Communications will be appropriately recorded and filed for future reference. Where appropriate, the copies of communications will be forwarded to the Operations Manager(s), and Vice President Sustainability.

5.3 External Communications

Effective forms of communication include the proactive notification to external stakeholders of Project activity. Project activity updates will be provided to the communities of north Baffin Island through various means including regular meetings, public notices and radio announcements as appropriate. Baffinland will endeavour to maintain Community Liaison Offices to assist in this regard. Information on waste management will be integral to this external communication effort.

5.4 Construction

During the construction phase of the Project, the EPCM (Engineering Procurement and Construction Management) contractor will be responsible for implementing this Plan. The waste management will take into account the numerous construction sites, volumes and types of waste generated. The organizational structure of the EPCM contractor will reflect the waste management complexity of the construction phase.

5.5 Operation & Closure

During the operations phase, the Maintenance and Warehouse HSE Manager will be responsible for operation of waste management facilities in accordance with this Plan, and subsequent updates to the majority of the Plan. Environmental guidance and monitoring will be the responsibility of the Baffinland Environmental HSE Manager.

Section 6: Performance Indicators, Thresholds, and Incident Response

Periodic inspections of waste management facilities will ensure compliance with this waste management plan. The EPP and associated operations procedures / work instructions outline detailed procedures for handling and storage of fuel, lubricants and other waste materials. These procedures are in place and training will be provided to all employees and contractors on waste handling. Accidental spills are the most likely type of environmental incident to occur while conducting the above mentioned activities. Response procedures, documented in the EPP and the Emergency and Spill Response Plan, are in place to deal with these occurrences.

The ultimate performance indicator for hazardous materials management is the number of incidents of non compliance reported on a daily or monthly basis. Incidents of non-compliance are classified by type and each type entails remedial actions as outlined in Appendix 10A-2: Hazard Identification and Risk Assessment Standard.

Where an investigation triggers a review and update of established EPP procedures, these reviews and update will be carried out in accordance the procedures established by Baffinland`s EHS Framework.

Section 7: Monitoring and Reporting Requirements

7.1 Waste Monitoring

Waste monitoring includes the visual inspection of three main components of the waste management system (described below) and the measurement and recording of all wastes taken off site. The following information will be reported on an annual basis as currently is the practice:

a) The quantities hazardous waste transported off-site for disposal

b) The location and name of the disposal facility for each waste type

c) The date that each was hauled off-site for disposal, for each occasion that these are removed from the site

d) Quantities of non-hazardous inert solid wastes disposed in the landfill.

e) Quantities of hydrocarbon contaminated soils and water processed in treatment facilities.

Inert solid wastes will be stored and disposed in a manner that minimizes the opportunity for wind-blown debris and animal attraction. Any wastes that are shipped off site will be recorded using an Off-Site Waste Disposal Log or equivalent developed from the EPP.

Regular visual inspection of waste management facilities will be conducted by the HSE Manager to ensure proper operation and adequate environmental/health and safety controls are in place.

Waste audits will be undertaken periodically generation points to ensure waste streams are properly segregated

7.1.1 Incinerator Monitoring

Monitoring of the incinerator operation involves ensuring proper operation and that appropriate wastes are incinerated as well as those described in Section 4.1.

7.1.2 Landfill Monitoring

Monitoring of the inert landfill, involves visual inspections to ensure that only inert wastes are deposited in the landfill, and that adequate cover is provided so that wastes are contained and are not being dispersed by the wind. The Waste Disposal Facility (Landfill) Inspection Form is included in the EPP and landfill operating procedures. Wastes will be managed and monitored for compatibility with landfill disposal prior to disposal in the landfill. Also Waste audits will be undertaken periodically at generation points to ensure waste streams are properly segregated and that potential wildlife attractants are diverted from landfill.

A written operations manual has been developed and submitted to the Water Board as part of the landfill design and commissioning process. The operations manual provides the following information:

- a description of the facility and the design
- the maintenance schedule, frequency of inspection of dams, dykes and drainage works
- the operation schedule
- identify the personnel responsible for completion of operations
- the runoff and drainage control within and around the facility and restoration of erosion
- treatment option for contaminated drainage
- the control of effluent discharge and effluent quality
- prevention measures for windblown debris
- management procedures for sorting of waste, along with management of hazardous waste and recyclable materials

7.1.3 Hazardous Waste Monitoring

All Hazardous waste will be monitored according the Mary Rive r Project Hazardous Waste Management Plan (H337697-0000-07-126-0002)

7.2 Operations Monitoring

In addition to specific monitoring and reporting requirements under the regulatory approvals such as the water license, QIA land lease, land use permits, and fisheries authorization as well as monitoring of project effects, the Environmental Lead will coordinate routine inspections of various aspects of the operations. Routine inspections are conducted to confirm overall conformance with the requirements of the Waste Management Plan, companion EPP, and operating procedures / work instructions, and will include inspections of site-based waste management activities.

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

7.3 Data Management

The Environmental Lead is responsible for data management and reporting related to waste management. The data management system includes conducting routine inspections and monitoring, and providing these results to appropriate parties as required.

7.4 Water Licence Reporting

Since waste disposal is regulated by the Nunavut Water Board (NWB) through the water licensing process, there will be monthly water license reporting requirements. An annual Project report will be prepared that addresses requirements specified by the water licence, the Nunavut Impact Review Board (NIRB), and the landowners. Information likely to be included in reporting regarding waste disposal includes:

- GPS coordinates and photographic records of waste disposal facilities and status
- annual geotechnical inspection recommendations from a geotechnical engineer concerning the performance of lined and bermed waste containment structures
- quantities and fate of various types of waste on and off site Any other details on waste disposal requested by the NWB.

Records of waste disposal activities will be available upon request to NWB and landowner's inspectors.

7.5 Stakeholder Reporting

Future arrangements regarding reporting could be made through the Inuit Impact Benefits Agreement (IIBA) or other mechanisms; this will be incorporated in future Plan updates.

Section 8: 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 been 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 6 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, the company will conduct and document management reviews of its Waste Management Plan on a regular basis. Such reviews will ensure the integration of monitoring results for the waste management plan are integrated with other aspects of the Project and that necessary adjustments are implemented as required. These reviews also provide a formal mechanism to assess the effectiveness of the management in achieving the company's objectives and maintaining on-going compliance with Project permits and authorizations.

Section 9: QA /QC

As per the requirements of Baffinland`s EHS Framework, regular audits will be undertaken to ensure compliance with the current Waste Management Plan and that best management practices are implemented for waste management. The result of these audits will form the basis for an annual written statement of assurance by management on the effectiveness of its Waste Management Plan.

Camp incinerators are installed at each of the camps associated with the Mary River Project, namely Milne Port, Mine Site, Mid-Rail and Steensby. Each of these incinerators utilizes dual chamber, variable air flow design technology and is specifically designed for remote camp operations. QA/QC procedures for air emission monitoring are outlined in the *Air Quality & Noise Abatement Management Plan*.

Section 10: References

Canadian Council of Ministers of the Environment (CCME). Canada-Wide Standards for Dioxins and Furans. Winnipeg: 2001.

Canadian Council of Ministers of the Environment. Canada-Wide Standards for Mercury Emissions. Quebec City: 2000.

Canadian Council of Ministers of the Environment. Guidelines for the Management of Biomedical Waste in Canada. CCME-EPC-WM-42E. CCME, Feb. 1992.

Environment and Natural Resources. Guidelines for the Management of Biomedical Waste in the Northwest Territories. April 2005.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Dust Suppression. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for General Management of Hazardous Waste. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Industrial Waste Discharges. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Ozone Depleting Substances. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Site Remediation. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Air Quality - Sulphur Dioxide and Suspended Particulates. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Waste Antifreeze. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Waste Asbestos. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Waste Batteries. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Waste Paint. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Waste Solvents. January 2002.

Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Disposal Guidelines for Fluorescent Lamp Tubes. January, 2003.

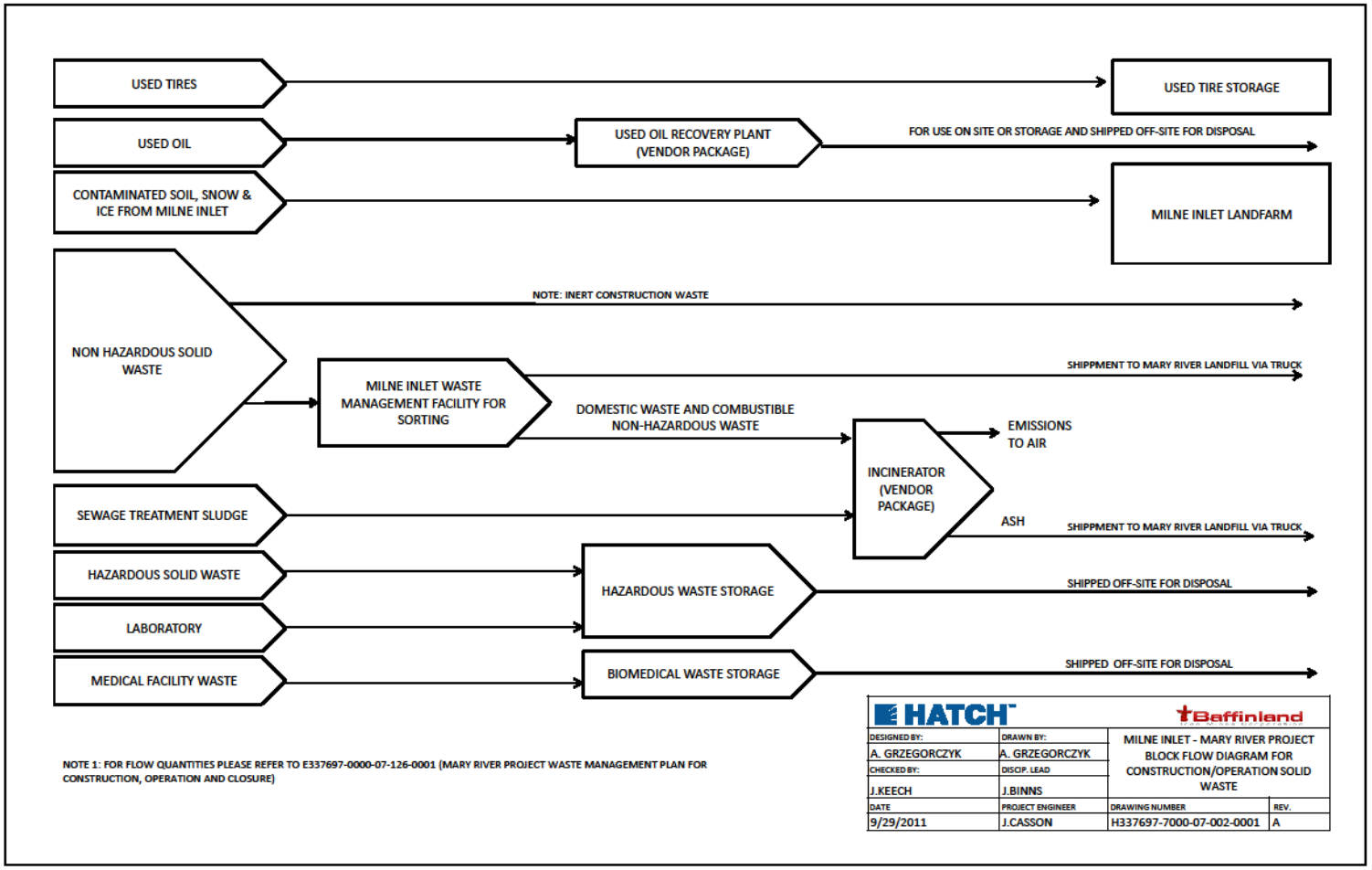
Government of Nunavut. Department of Environment. Manager, Pollution Control. Eno, Robert. Personal Communication. 15 Aug. 2008.

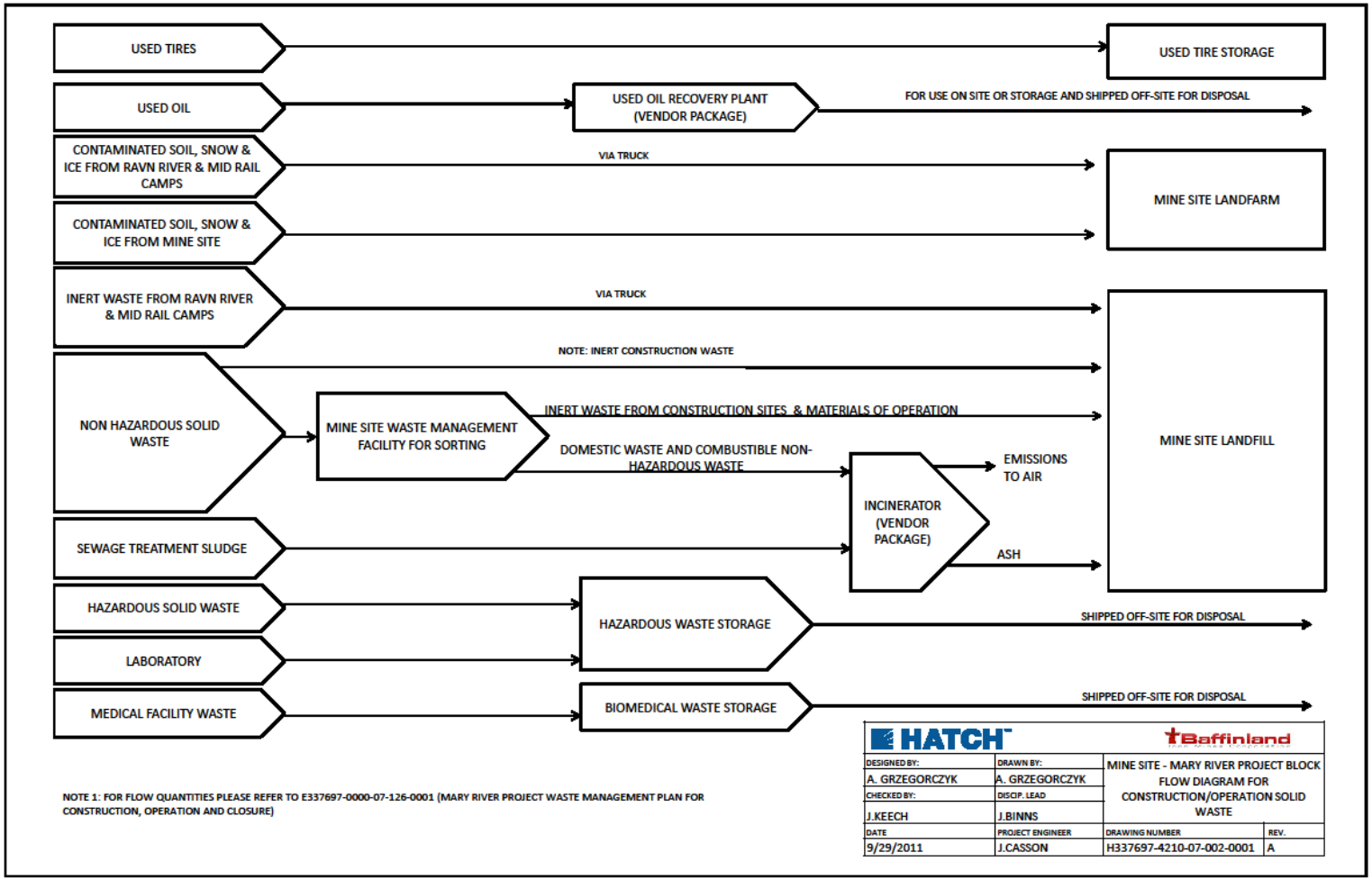
Northwest Territories (NWT). Municipal and Community Affairs. Guidelines for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories. Prepared by Kent, R., P. Marshall and L. Hawke. Yellowknife: Ferguson Simek Clark, (April 21) 2003

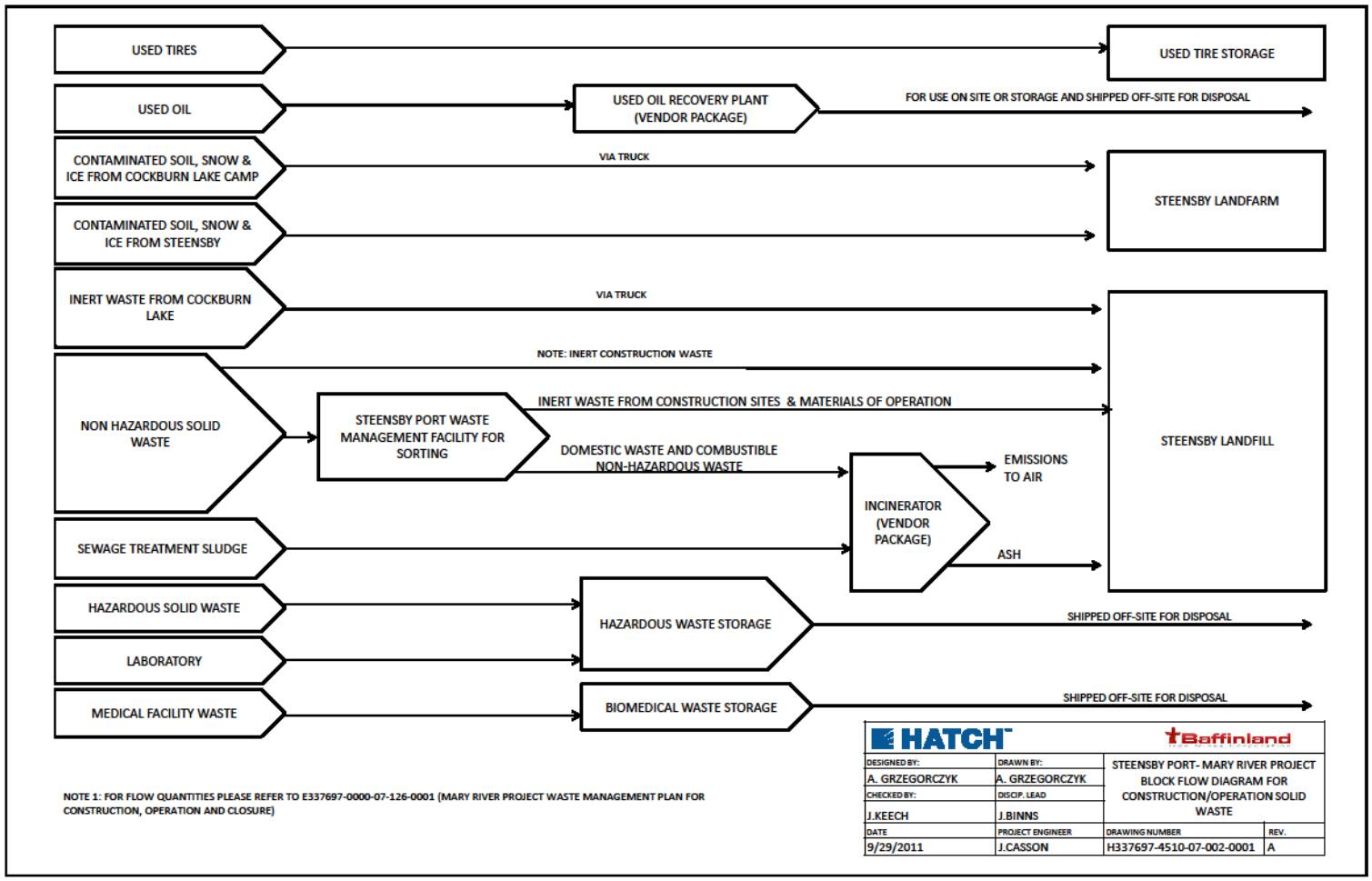
Annex 1

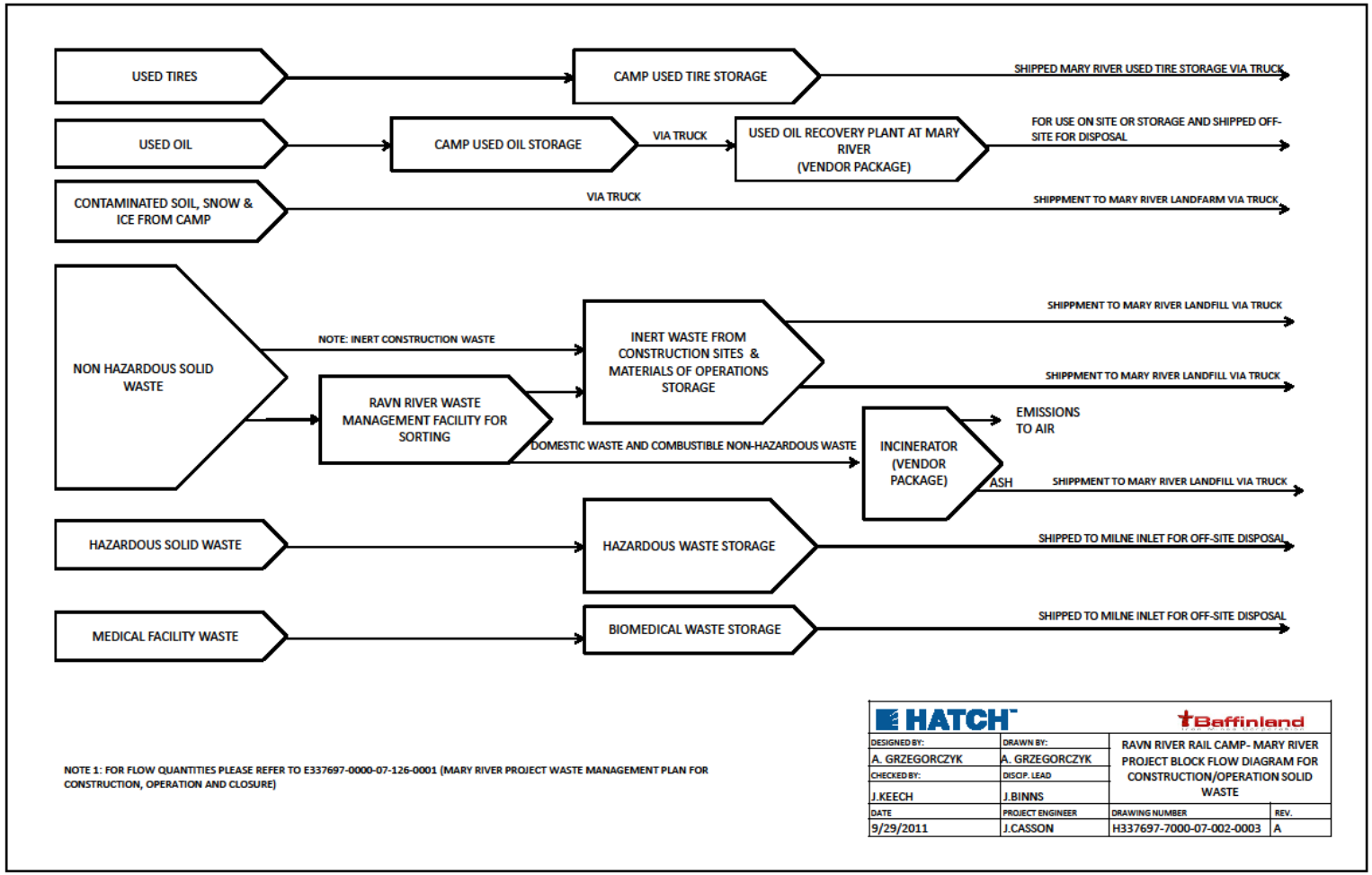
Block Waste Flow Diagrams

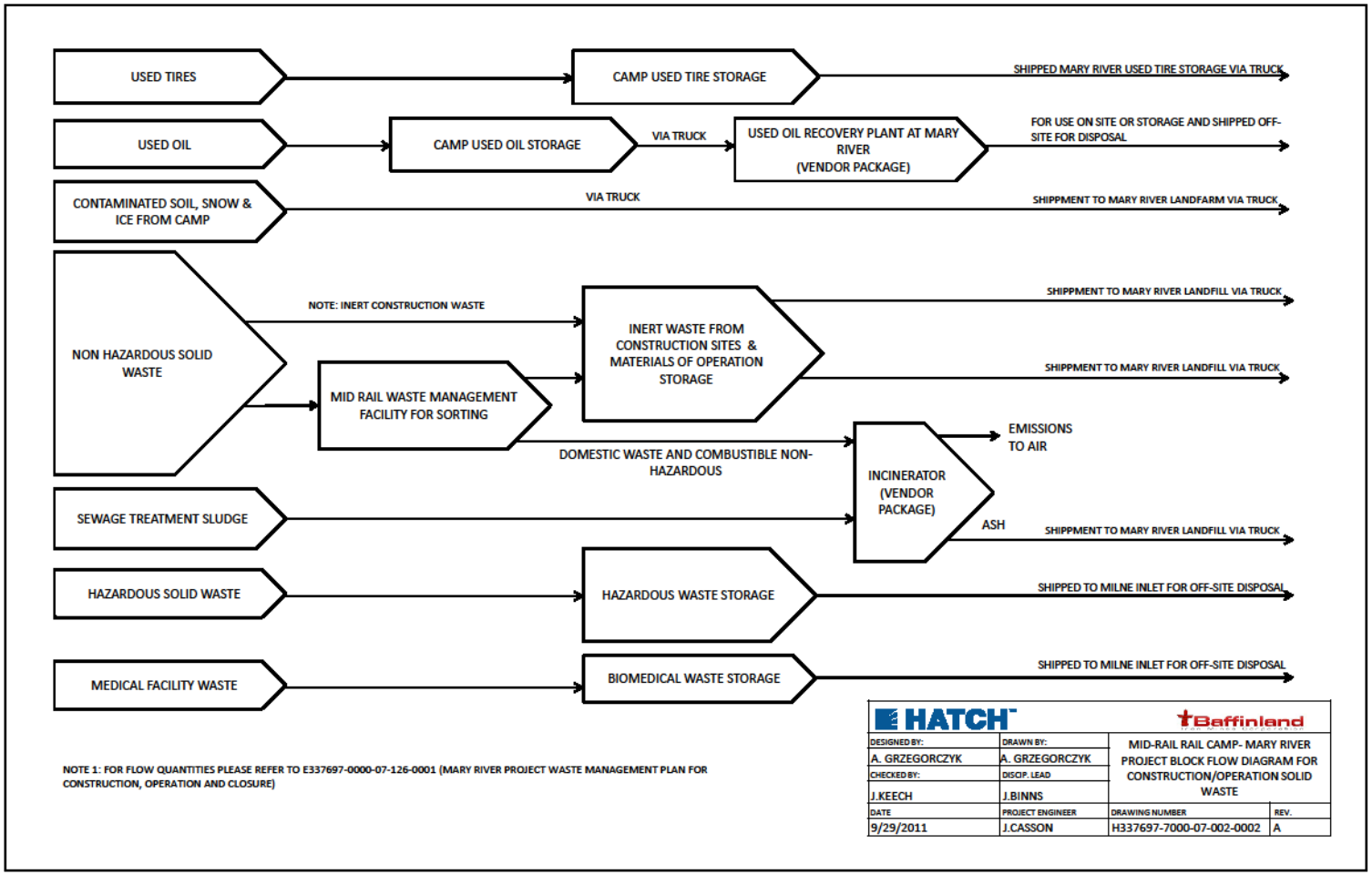
H337697-7000-07-002-0001	Milne Port Site Layout
H337697-4210-07-002-0001	Mine Site Layout
H337697-4510-07-002-0001	Steensby Port Site Layout
H337697-7000-07-002-0003	Ravn River Rail Camp Layout
H337697-7000-07-002-2002	Mid Rail Rail Camp Layout
H337697-7000-07-002-0004	North Cockburn Lake Rail Camp Layout
H337697-7000-07-002-0005	South Cockburn Lake Rail Camp Layout

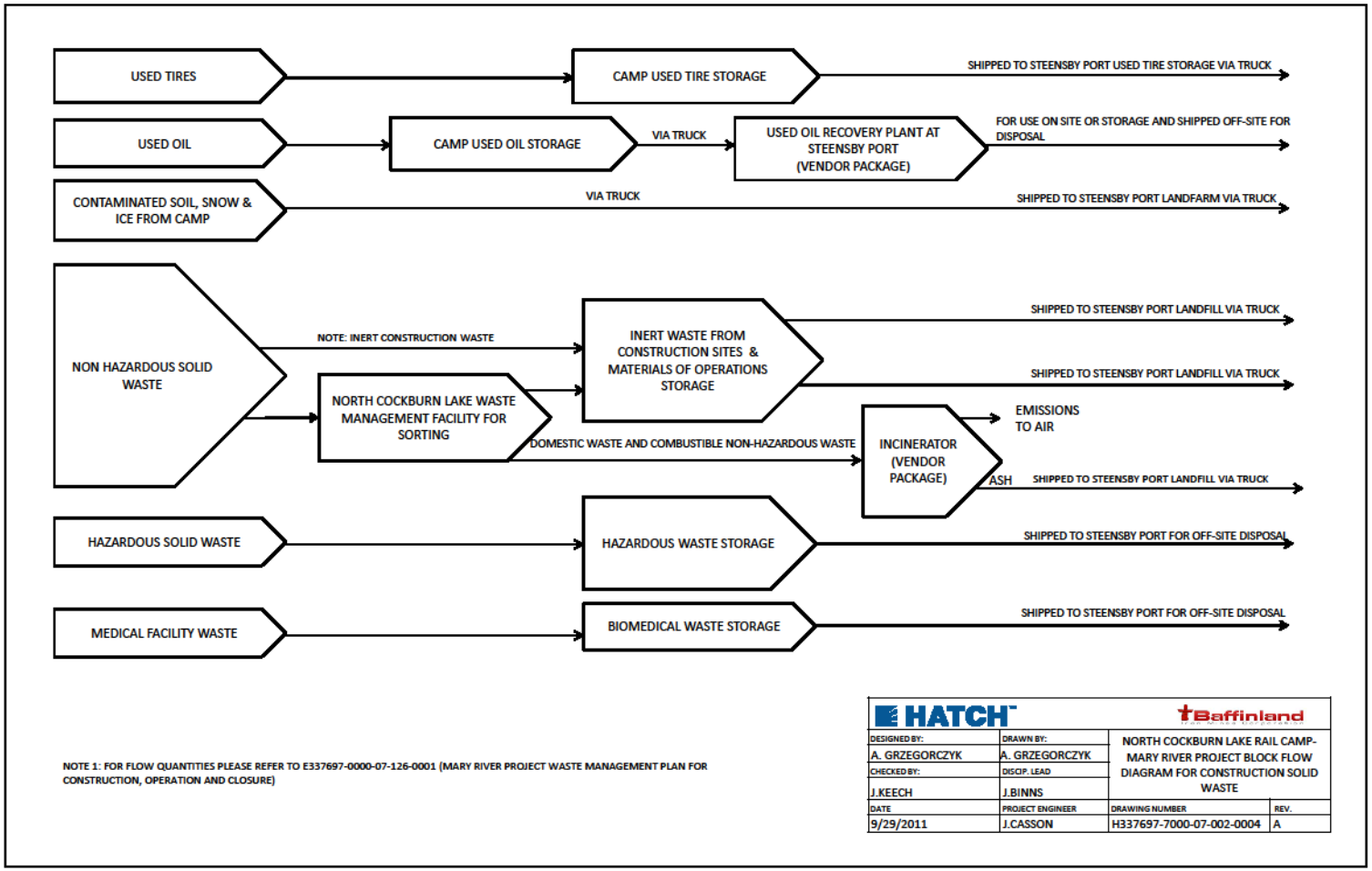

USED TIRES
USED TIRE STORAGE
USED OIL
USED OIL RECOVERY PLANT (VENDOR PACKAGE)
FOR USE ON SITE OR STORAGE AND SHIPPED OFF-SITE FOR DISPOSAL
CONTAMINATED SOIL, SNOW & ICE FROM MILNE INLET
MILNE INLET LANDFARM
NOTE: INERT CONSTRUCTION WASTE
NON HAZARDOUS SOLID WASTE
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
MILNE INLET WASTE MANAGEMENT FACILITY FOR SORTING
DOMESTIC WASTE AND COMBUSTIBLE NON-HAZARDOUS WASTE
EMISSIONS TO AIR
INCINERATOR (VENDOR PACKAGE)
SEWAGE TREATMENT SLUDGE
ASH
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
HAZARDOUS SOLID WASTE
HAZARDOUS WASTE STORAGE
SHIPPED OFF-SITE FOR DISPOSAL
LABORATORY
MEDICAL FACILITY WASTE
BIOMEDICAL WASTE STORAGE
SHIPPED OFF-SITE FOR DISPOSAL
NOTE 1: FOR FLOW QUANTITIES PLEASE REFER TO E337697-0000-07-126-0001 (MARY RIVER PROJECT WASTE MANAGEMENT PLAN FOR CONSTRUCTION, OPERATION AND CLOSURE)
HATCH
Baffinland
DESIGNED BY: A. GRZEGORCZYK
DRAWN BY: A. GRZEGORCZYK
CHECKED BY: J.KEECH
DISCIP. LEAD: J.BINNS
DATE: 9/29/2011
PROJECT ENGINEER: J.CASSON
MILNE INLET - MARY RIVER PROJECT BLOCK FLOW DIAGRAM FOR CONSTRUCTION/OPERATION SOLID WASTE
DRAWING NUMBER: H337697-7000-07-002-0001
REV.: A

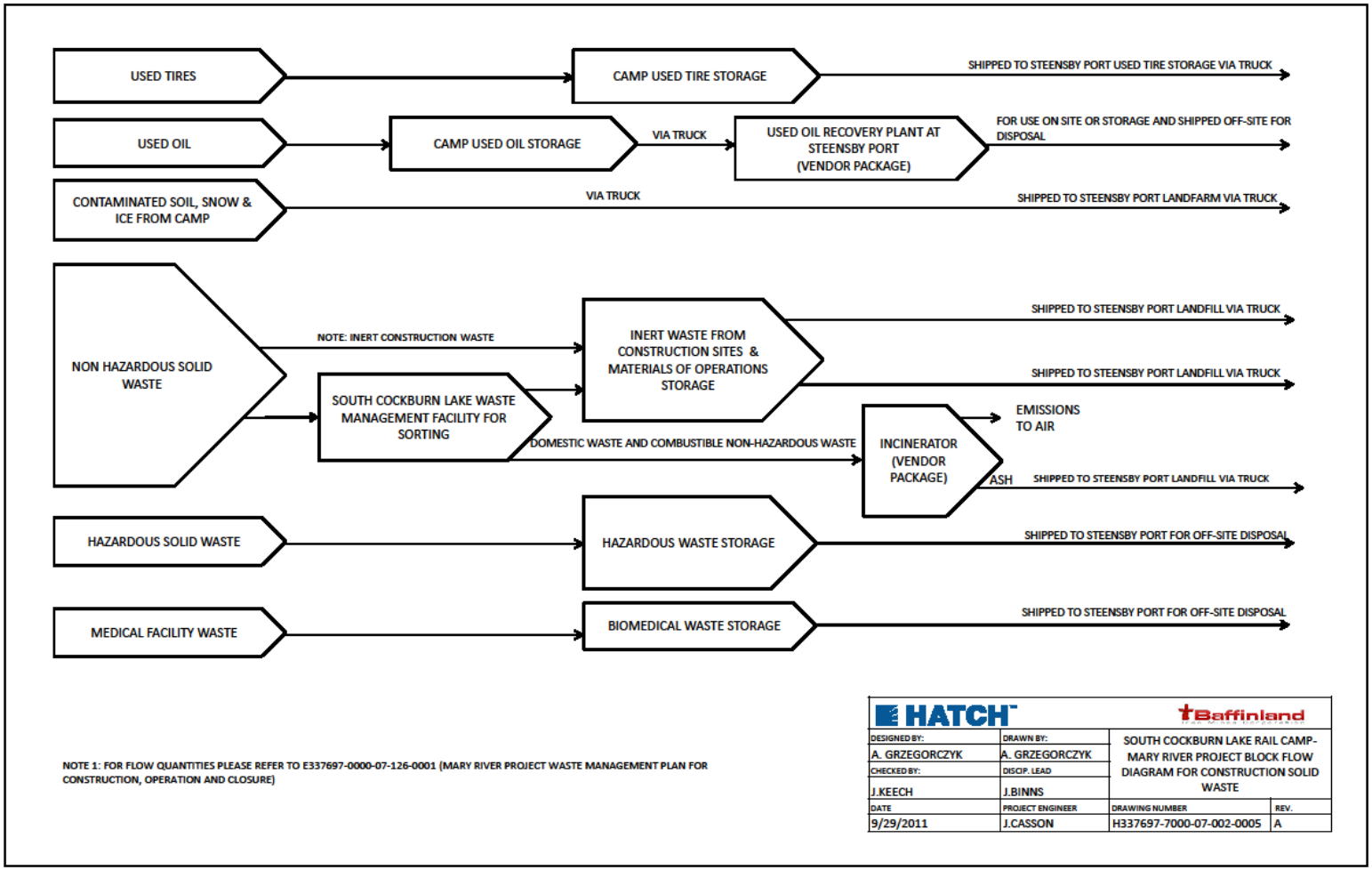

USED TIRES
USED TIRE STORAGE
USED OIL
USED OIL RECOVERY PLANT (VENDOR PACKAGE)
FOR USE ON SITE OR STORAGE AND SHIPPED OFF-SITE FOR DISPOSAL
CONTAMINATED SOIL, SNOW & ICE FROM RAVN RIVER & MID RAIL CAMPS
VIA TRUCK
MINE SITE LANDFARM
CONTAMINATED SOIL, SNOW & ICE FROM MINE SITE
INERT WASTE FROM RAVN RIVER & MID RAIL CAMPS
VIA TRUCK
NOTE: INERT CONSTRUCTION WASTE
NON HAZARDOUS SOLID WASTE
MINE SITE WASTE MANAGEMENT FACILITY FOR SORTING
INERT WASTE FROM CONSTRUCTION SITES & MATERIALS OF OPERATION
DOMESTIC WASTE AND COMBUSTIBLE NON-HAZARDOUS WASTE
MINE SITE LANDFILL
EMISSIONS TO AIR
INCINERATOR (VENDOR PACKAGE)
SEWAGE TREATMENT SLUDGE
ASH
HAZARDOUS SOLID WASTE
HAZARDOUS WASTE STORAGE
SHIPPED OFF-SITE FOR DISPOSAL
LABORATORY
MEDICAL FACILITY WASTE
BIOMEDICAL WASTE STORAGE
SHIPPED OFF-SITE FOR DISPOSAL
NOTE 1: FOR FLOW QUANTITIES PLEASE REFER TO E337697-0000-07-126-0001 (MARY RIVER PROJECT WASTE MANAGEMENT PLAN FOR CONSTRUCTION, OPERATION AND CLOSURE)
HATCH
Baffinland
DESIGNED BY: A. GRZEGORCZYK
DRAWN BY: A. GRZEGORCZYK
CHECKED BY: J.KEECH
DISCIP. LEAD: J.BINNS
DATE: 9/29/2011
PROJECT ENGINEER: J.CASSON
MINE SITE - MARY RIVER PROJECT BLOCK FLOW DIAGRAM FOR CONSTRUCTION/OPERATION SOLID WASTE
DRAWING NUMBER: H337697-4210-07-002-0001
REV.: A


USED TIRES
USED TIRE STORAGE
USED OIL
USED OIL RECOVERY PLANT (VENDOR PACKAGE)
FOR USE ON SITE OR STORAGE AND SHIPPED OFF-SITE FOR DISPOSAL
CONTAMINATED SOIL, SNOW & ICE FROM COCKBURN LAKE CAMP
VIA TRUCK
STEENSBY LANDFARM
CONTAMINATED SOIL, SNOW & ICE FROM STEENSBY
INERT WASTE FROM COCKBURN LAKE
VIA TRUCK
NOTE: INERT CONSTRUCTION WASTE
NON HAZARDOUS SOLID WASTE
STEENSBY PORT WASTE MANAGEMENT FACILITY FOR SORTING
INERT WASTE FROM CONSTRUCTION SITES & MATERIALS OF OPERATION
DOMESTIC WASTE AND COMBUSTIBLE NON-HAZARDOUS WASTE
STEENSBY LANDFILL
EMISSIONS TO AIR
INCINERATOR (VENDOR PACKAGE)
ASH
SEWAGE TREATMENT SLUDGE
HAZARDOUS SOLID WASTE
HAZARDOUS WASTE STORAGE
SHIPPED OFF-SITE FOR DISPOSAL
LABORATORY
MEDICAL FACILITY WASTE
BIOMEDICAL WASTE STORAGE
SHIPPED OFF-SITE FOR DISPOSAL
NOTE 1: FOR FLOW QUANTITIES PLEASE REFER TO E337697-0000-07-126-0001 (MARY RIVER PROJECT WASTE MANAGEMENT PLAN FOR CONSTRUCTION, OPERATION AND CLOSURE)
HATCH
Baffinland
DESIGNED BY: A. GRZEGORCZYK
DRAWN BY: A. GRZEGORCZYK
CHECKED BY: J.KEECH
DISCIP. LEAD: J.BINNS
DATE: 9/29/2011
PROJECT ENGINEER: J.CASSON
STEENSBY PORT- MARY RIVER PROJECT BLOCK FLOW DIAGRAM FOR CONSTRUCTION/OPERATION SOLID WASTE
DRAWING NUMBER: H337697-4510-07-002-0001
REV.: A


USED TIRES
CAMP USED TIRE STORAGE
SHIPPED MARY RIVER USED TIRE STORAGE VIA TRUCK
USED OIL
CAMP USED OIL STORAGE
VIA TRUCK
USED OIL RECOVERY PLANT AT MARY RIVER (VENDOR PACKAGE)
FOR USE ON SITE OR STORAGE AND SHIPPED OFF-SITE FOR DISPOSAL
CONTAMINATED SOIL, SNOW & ICE FROM CAMP
VIA TRUCK
SHIPPMENT TO MARY RIVER LANDFARM VIA TRUCK
NON HAZARDOUS SOLID WASTE
NOTE: INERT CONSTRUCTION WASTE
INERT WASTE FROM CONSTRUCTION SITES & MATERIALS OF OPERATIONS STORAGE
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
RAVN RIVER WASTE MANAGEMENT FACILITY FOR SORTING
EMISSIONS TO AIR
DOMESTIC WASTE AND COMBUSTIBLE NON-HAZARDOUS WASTE
INCINERATOR (VENDOR PACKAGE)
ASH
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
HAZARDOUS SOLID WASTE
HAZARDOUS WASTE STORAGE
SHIPPED TO MILNE INLET FOR OFF-SITE DISPOSAL
MEDICAL FACILITY WASTE
BIOMEDICAL WASTE STORAGE
SHIPPED TO MILNE INLET FOR OFF-SITE DISPOSAL
NOTE 1: FOR FLOW QUANTITIES PLEASE REFER TO E337697-0000-07-126-0001 (MARY RIVER PROJECT WASTE MANAGEMENT PLAN FOR CONSTRUCTION, OPERATION AND CLOSURE)
HATCH
Baffinland
DESIGNED BY: A. GRZEGORCZYK
DRAWN BY: A. GRZEGORCZYK
CHECKED BY: J.KEECH
DISCIP. LEAD: J.BINNS
DATE: 9/29/2011
PROJECT ENGINEER: J.CASSON
RAVN RIVER RAIL CAMP- MARY RIVER PROJECT BLOCK FLOW DIAGRAM FOR CONSTRUCTION/OPERATION SOLID WASTE
DRAWING NUMBER: H337697-7000-07-002-0003
REV.: A


USED TIRES
CAMP USED TIRE STORAGE
SHIPPED MARY RIVER USED TIRE STORAGE VIA TRUCK
USED OIL
CAMP USED OIL STORAGE
VIA TRUCK
USED OIL RECOVERY PLANT AT MARY RIVER (VENDOR PACKAGE)
FOR USE ON SITE OR STORAGE AND SHIPPED OFF-SITE FOR DISPOSAL
CONTAMINATED SOIL, SNOW & ICE FROM CAMP
VIA TRUCK
SHIPPMENT TO MARY RIVER LANDFARM VIA TRUCK
NON HAZARDOUS SOLID WASTE
NOTE: INERT CONSTRUCTION WASTE
INERT WASTE FROM CONSTRUCTION SITES & MATERIALS OF OPERATION STORAGE
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
MID RAIL WASTE MANAGEMENT FACILITY FOR SORTING
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
EMISSIONS TO AIR
DOMESTIC WASTE AND COMBUSTIBLE NON-HAZARDOUS
INCINERATOR (VENDOR PACKAGE)
SEWAGE TREATMENT SLUDGE
ASH
SHIPPMENT TO MARY RIVER LANDFILL VIA TRUCK
HAZARDOUS SOLID WASTE
HAZARDOUS WASTE STORAGE
SHIPPED TO MILNE INLET FOR OFF-SITE DISPOSAL
MEDICAL FACILITY WASTE
BIOMEDICAL WASTE STORAGE
SHIPPED TO MILNE INLET FOR OFF-SITE DISPOSAL
NOTE 1: FOR FLOW QUANTITIES PLEASE REFER TO E337697-0000-07-126-0001 (MARY RIVER PROJECT WASTE MANAGEMENT PLAN FOR CONSTRUCTION, OPERATION AND CLOSURE)
HATCH
Baffinland
DESIGNED BY: A. GRZEGORCZYK
DRAWN BY: A. GRZEGORCZYK
CHECKED BY: J.KEECH
DISCIP. LEAD: J.BINNS
MID-RAIL RAIL CAMP- MARY RIVER PROJECT BLOCK FLOW DIAGRAM FOR CONSTRUCTION/OPERATION SOLID WASTE
DATE: 9/29/2011
PROJECT ENGINEER: J.CASSON
DRAWING NUMBER: H337697-7000-07-002-0002
REV.: A


USED TIRES
CAMP USED TIRE STORAGE
SHIPPED TO STEENSBY PORT USED TIRE STORAGE VIA TRUCK
USED OIL
CAMP USED OIL STORAGE
VIA TRUCK
USED OIL RECOVERY PLANT AT STEENSBY PORT (VENDOR PACKAGE)
FOR USE ON SITE OR STORAGE AND SHIPPED OFF-SITE FOR DISPOSAL
CONTAMINATED SOIL, SNOW & ICE FROM CAMP
VIA TRUCK
SHIPPED TO STEENSBY PORT LANDFARM VIA TRUCK
NON HAZARDOUS SOLID WASTE
NOTE: INERT CONSTRUCTION WASTE
INERT WASTE FROM CONSTRUCTION SITES & MATERIALS OF OPERATIONS STORAGE
SHIPPED TO STEENSBY PORT LANDFILL VIA TRUCK
SHIPPED TO STEENSBY PORT LANDFILL VIA TRUCK
NORTH COCKBURN LAKE WASTE MANAGEMENT FACILITY FOR SORTING
DOMESTIC WASTE AND COMBUSTIBLE NON-HAZARDOUS WASTE
INCINERATOR (VENDOR PACKAGE)
EMISSIONS TO AIR
ASH
SHIPPED TO STEENSBY PORT LANDFILL VIA TRUCK
HAZARDOUS SOLID WASTE
HAZARDOUS WASTE STORAGE
SHIPPED TO STEENSBY PORT FOR OFF-SITE DISPOSAL
MEDICAL FACILITY WASTE
BIOMEDICAL WASTE STORAGE
SHIPPED TO STEENSBY PORT FOR OFF-SITE DISPOSAL
NOTE 1: FOR FLOW QUANTITIES PLEASE REFER TO E337697-0000-07-126-0001 (MARY RIVER PROJECT WASTE MANAGEMENT PLAN FOR CONSTRUCTION, OPERATION AND CLOSURE)
HATCH
Baffinland
DESIGNED BY: A. GRZEGORCZYK
DRAWN BY: A. GRZEGORCZYK
CHECKED BY: J.KEECH
DISCIP. LEAD: J.BINNS
DATE: 9/29/2011
PROJECT ENGINEER: J.CASSON
NORTH COCKBURN LAKE RAIL CAMP- MARY RIVER PROJECT BLOCK FLOW DIAGRAM FOR CONSTRUCTION SOLID WASTE
DRAWING NUMBER: H337697-7000-07-002-0004
REV.: A


USED TIRES
CAMP USED TIRE STORAGE
SHIPPED TO STEENSBY PORT USED TIRE STORAGE VIA TRUCK
USED OIL
CAMP USED OIL STORAGE
VIA TRUCK
USED OIL RECOVERY PLANT AT STEENSBY PORT (VENDOR PACKAGE)
FOR USE ON SITE OR STORAGE AND SHIPPED OFF-SITE FOR DISPOSAL
CONTAMINATED SOIL, SNOW & ICE FROM CAMP
VIA TRUCK
SHIPPED TO STEENSBY PORT LANDFARM VIA TRUCK
NON HAZARDOUS SOLID WASTE
NOTE: INERT CONSTRUCTION WASTE
INERT WASTE FROM CONSTRUCTION SITES & MATERIALS OF OPERATIONS STORAGE
SHIPPED TO STEENSBY PORT LANDFILL VIA TRUCK
SHIPPED TO STEENSBY PORT LANDFILL VIA TRUCK
SOUTH COCKBURN LAKE WASTE MANAGEMENT FACILITY FOR SORTING
EMISSIONS TO AIR
DOMESTIC WASTE AND COMBUSTIBLE NON-HAZARDOUS WASTE
INCINERATOR (VENDOR PACKAGE)
ASH
SHIPPED TO STEENSBY PORT LANDFILL VIA TRUCK
HAZARDOUS SOLID WASTE
HAZARDOUS WASTE STORAGE
SHIPPED TO STEENSBY PORT FOR OFF-SITE DISPOSAL
MEDICAL FACILITY WASTE
BIOMEDICAL WASTE STORAGE
SHIPPED TO STEENSBY PORT FOR OFF-SITE DISPOSAL
NOTE 1: FOR FLOW QUANTITIES PLEASE REFER TO E337697-0000-07-126-0001 (MARY RIVER PROJECT WASTE MANAGEMENT PLAN FOR CONSTRUCTION, OPERATION AND CLOSURE)
HATCH
Baffinland
DESIGNED BY: A. GRZEGORCZYK
DRAWN BY: A. GRZEGORCZYK
CHECKED BY: J.KEECH
DISCIP. LEAD: J.BINNS
DATE: 9/29/2011
PROJECT ENGINEER: J.CASSON
SOUTH COCKBURN LAKE RAIL CAMP-MARY RIVER PROJECT BLOCK FLOW DIAGRAM FOR CONSTRUCTION SOLID WASTE
DRAWING NUMBER: H337697-7000-07-002-0005
REV.: A