	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 1 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	


Baffinland Iron Mines Corporation

Open Burning of Untreated Wood, Cardboard and Paper Products Procedure

BAF-PH1-300-PRO-0001


Rev 1

Prepared By: Trevor Myers
Department: Environment
Title: Environmental Coordinator
Date: October 30, 2014
Signature: 



Approved By: Bikash Paul
Department: Site Services
Title: Manager – Site Services
Date: October 30, 2014
Signature: 

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 2 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 3 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

TABLE OF CONTENTS

1	PURPOSE AND SCOPE.....	4
2	REQUIREMENTS.....	4
2.1	Hazards/ Personal Protective Equipment (PPE)/ Special Equipment.....	4
2.1.1	Hazards.....	4
2.1.2	Personal Protective Equipment (PPE)	4
2.1.3	Safety Equipment Requirements	4
2.2	Permits/ Training and/or Qualification Requirements	4
3	RESPONSIBILITIES	4
3.1	MSC/PSC Manager or his Designate	5
3.2	MSC/PSC Site Services Supervisor	5
3.3	Site Services Operator	5
3.4	Environmental Manager or Designate	5
4	DEFINITIONS.....	6
5	PROTOCOL.....	6
5.1	Source Segregation And Waste Management Programs	6
5.2	Clean Wood And Cardboard Open Burning Operations.....	7
5.2.3	Open Burn Permit.....	8
5.2.7	Ignition	9
5.2.9	Disposal Of Open Burn Ash	9
6	REFERENCES AND RECORDS	10

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 4 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

1 PURPOSE AND SCOPE

The purpose of this procedure is to provide a set of operational requirements for the safe controlled burning of untreated clean wood waste and cardboard in an environmentally-acceptable manner at the Mary River Project. The open burning of untreated wood waste is one of a number of elements of the Mary River Project source segregation and waste management program.

2 REQUIREMENTS

2.1 HAZARDS/ PERSONAL PROTECTIVE EQUIPMENT (PPE)/ SPECIAL EQUIPMENT

2.1.1 HAZARDS

There are numerous specific hazards associated with the management of open burning. They include:

- Puncture or slivers from handling broken wood or wood containing nails & screws
- Smoke inhalation from working in the smoke plume of the fire
- Burns from direct contact with the flames or indirect burns from clothing coming in to contact with flame.
- Burns or fire from handling embers (un-combusted wood) in the ash

2.1.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Wear Standard P.P.E. - Safety glasses, hard hat with reflective tape, safety boots, reflective vest, clothing in good condition, gloves or mitts in good condition
- Do not wear loose flammable clothing such as an unbuttoned work shirt when working around the burn container

2.1.3 SAFETY EQUIPMENT REQUIREMENTS

- Skid Steer/Bob Cat will be used to stockpile the clean wood and cardboard in the burn container
- A spade or shovel should be used to turn over & inspect the residual ash.

2.2 PERMITS/ TRAINING AND/OR QUALIFICATION REQUIREMENTS


Any person who may be burning untreated wood at a Baffinland work site shall complete the documented training in this procedure and demonstrate their understanding of the hazards and controls. Verification of training will be kept by the Training Department.

3 RESPONSIBILITIES

The following roles have specific accountabilities that must be met to ensure the **Mine Site Complex (MSC)** and **Port Site Complex (PSC)** clean wood waste open burnings are operated in compliance with this procedure and its permit. The following roles and responsibilities shall be followed to safely and

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 5 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

successfully operate the open burns. Area Superintendents/Supervisors are responsible for ensuring that all personnel are fully trained and competent to meet the expectations of this procedure.

3.1 MSC/PSC MANAGER OR HIS DESIGNATE

The Site Services Manager or designate is accountable for the overall operation of the open burning. Specifically, he or she shall:

Organize, oversee and administer the operation of the burn in accordance with current permits, regulations and this procedure.

Evaluate the burn permit requirements and monitor and direct the wood and cardboard waste open burn activities

3.2 MSC/PSC SITE SERVICES SUPERVISOR

The Site Services Supervisor, under general supervision of the Site Services Manager or designate, is responsible for supervising the operation of the open burning in accordance with this procedure. Specifically, the Site Services Supervisor shall:

Supervise the Open Burn Operator in the safe execution of this procedure

Inspect the burn container residual ash to ensure it contains no hot embers prior to transport to the landfill

3.3 SITE SERVICES OPERATOR

The Site Services Operator, under the general supervision of the Site Services Supervisor is responsible for executing the following tasks at the burn container. Specifically the Operator shall:

Work in conjunction with the Site Services Supervisor in executing this procedure. Conduct the burn in compliance with this procedure.

Know how to respond appropriately to all emergencies described in this procedure.


Complete report forms as required. The approximate quantity and general types of waste (based on visual estimation of volume to nearest cubic meter) will be noted on a form to be filled out daily whenever open burning occurs. The completed forms are to be submitted to the Environment Department on a monthly basis.

3.4 ENVIRONMENTAL MANAGER OR DESIGNATE

The Environmental Manager or Designate will issue the approval to open burn (Open Burn Permit) for a specified period and will work with Site Services Manager, Supervisors, and Operators to ensure that the

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 6 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

open burn activities are comply with applicable environmental permits and in accordance with directives provided by responsible regulators and agencies. Environmental monitors, under the direction of the Environmental Manager or Designate will conduct periodic inspections of the designated open burn areas and operations to ensure compliance with permits and this SOP. If environmental non-compliances are identified, the Open Burn Permit can be revoked and a request for specified corrective actions to be implemented. The quantity and types of waste being open burned are summarized and reported in the Annual NWB and QIA Reports submitted by March 31 of each year.

4 DEFINITIONS

MSC: Mine Site Complex

PSC: Port Site Complex

SOP: Standard Operating Procedure

Open Burning: Burning of any material or substance in the ambient air in an open topped burn container.

Permit: A paper or electronic form that documents the approval of open burning at one of the two approved open burn sites. This permit will cover a specified period when open burning would be allowed under the conditions specified in this SOP.

Clean Untreated Wood Waste: Clean untreated wood waste includes wood or timber, not suitable for recycling or reuse that is substantially free of glue, petroleum based materials, other chemicals, or contains other non -wood products

Cardboard, Paper Products and other packaging: Clean paper products and paperboard packing material including boxboard and cardboard, as well as natural fibre textiles (i.e. cotton, wool).

5 PROTOCOL


5.1 SOURCE SEGREGATION AND WASTE MANAGEMENT PROGRAMS

It is Baffinland's policy to minimize material and packaging purchased and shipped to Mary River to reduce the amount of waste produced at the site, reuse and recycle waste, and maximize diversion from the landfill.

The Mary River source separation program consists of a series of ongoing activities to separate reusable and recyclable waste materials from other wastes at the point of origin. The purpose of the source separation program is to separate the waste into its material categories as well as from other wastes so that wastes that can be reused or recycled, are diverted from the landfill. The execution of the source segregation program at the Mary River Project serves to:

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 7 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

- Ensure hazardous material is segregated, packaged and shipped to licensed facilities in the South
- Promote the diversion of waste away from the non-hazardous solid waste landfill
- Direct domestic kitchen, office and camp waste to incinerators
- Reduce, reuse and recycle wood products to the extent practicable
- Divert non-reusable/non-recyclable clean wood waste and cardboard from the non-hazardous solid waste landfill for open burning

5.2 CLEAN WOOD AND CARDBOARD OPEN BURNING OPERATIONS

Open burning shall strictly be operated in an open top sea container. This shall help to prevent waste and ash from blowing around and allow easy removal and disposal of ash.

5.2.1 OPEN BURNING CONTAINER LOCATIONS AND ACCESS CONTROL

There are only two approved open burn locations at the Mary River Project. Both sites are signed and as identified at the following locations:

- MSC: N 71° 19' 56.4" W 79° 24' 33.2"
- PSC: N 71° 52' 30.571" W 80° 53' 27.874"

The burn area will be restricted access. Gates must be kept closed and locked when the burn area is not occupied by trained operators. The burn area locations are located a distance greater than 30 metres from any water body and are far enough from camp facilities to prevent impact to personnel from airborne emissions. Signage at gate needs to be in place and maintained to be visible upon approach.

5.2.2 ACCEPTABLE CLEAN WOOD WASTE

Acceptable clean wood waste permitted for open burning includes the following products that are not suitable for re-use or recycling:


- Lumber
- Timber
- Pallets
- Paper products & paperboard packaging

Non-clean wood wastes are not permitted for open burning. This includes the following wood products:

- Treated or painted wood
- Plywood
- Petroleum-based materials
- Materials contaminated with petroleum or petroleum derivatives
- Petroleum products used as accelerants
- Plastics, electrical wire, Styrofoam or asbestos

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 8 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

5.2.3 OPEN BURN PERMIT

Prior to ignition of the wood pile the Open Burn Operator shall ensure that all conditions of this SOP are met that the Burn Permit for the dedicated burn locations is in good standing.

Open burning shall occur only with a permit that is current and in good standing and that covers the period required. In the event of non-compliance of this SOP or in the event of an environmental or safety infraction, the permit may be revoked for a specified period of time until corrective action is implemented to the satisfaction of the Site Services and Environmental Managers. The Open Burn Permit is provided by the Environmental Manager or his designate and will be valid for a set period of time.

5.2.4 WEATHER CONDITIONS

Mild to moderate winds provide for the best smoke dispersal. Extreme winds create a potential uncontrollable fire condition. Ignition of waste pile is not permitted in winds greater than 20 km/h

The burn shall be temporarily stopped if the burn has the potential to:

- Create a condition in which a fire hazard is created or a condition in which the open burning can cause a fire to spread beyond its initial area
- Cause air pollution that creates a health hazard, a public nuisance or directly impacts wildlife

To ensure a “hot burn” is maintained to create an efficient burn, start the fire during dry conditions (i.e. Not during wet, rain conditions).

5.2.5 OPEN BURN SUPERVISION

The designated MSC/PSC Manager is responsible for ensuring the conditions as required by this procedure are complied with.

5.2.6 BURNING GUIDELINES


The wood will be kept as dry as possible before burning.

The primary goal in operating the open burn pit is to maintain a “hot burn” to create an efficient burn. To that end, the burning shall be managed as follows:

- The size of the burn pile will be contained within the container using consistent/constant feed rates to avoid over feeding and damping the fire
- A “hot burn” should be maintained to create an efficient burn using consistent/constant feed rates to avoid over-feeding and damping the fire.
- Construct piles loosely, with spaces to allow adequate oxygen to reach the burning material. Create a “heart” of fine, flammable paper or fine wood waste and light it down low on the side the wind is coming from

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 9 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

- Construct piles in a dome or teepee shape that allows heat to build so that flames can be maintained and the wood can be consumed rapidly. Flat, sprawling piles rarely burn well.
- Make sure your pile is clean, the arch enemy of a good burn pile is dirt
- The Open Burn Operator shall monitor the pile to make sure it burns hot and clean.

5.2.7 IGNITION

The only authorized methods for igniting the wood waste in the open burning container are:

- Propane burners provide a safe ignition. All propane bottles are to be stored in the vehicle when not immediately being used for ignition and are to be disposed of in an authorized recycling container for pressurized or hazardous material.
- Paper and matches can be used as a safe method of ignition.

No fuel or other petroleum based product or other chemical is permitted as an accelerant

5.2.8 EXTINGUISHING REQUIREMENTS

Fires will be extinguished under the following conditions:

- When any condition as required by this procedure is not met.
- To ensure smouldering of material does not persist upon completion of the open burn.

5.2.9 DISPOSAL OF OPEN BURN ASH

All residual waste and ash will be collected and disposed of in the MSP approved non-hazardous material solid waste landfill or a designated area approved by the Inspector. The following conditions must be met prior loading and transport of the ash to the landfill:


- Upon completion of the open burn and subsequent extinguishing, ash will be allowed to cool for 48 hours.
- Fill shall be mixed with the ash in the burn container to confirm the ash is extinguished and to prevent loss of ash during transport to the landfill.
- ALL ash and debris in the vicinity of the burn container shall be cleaned up prior to subsequent burns.

5.2.10 OPEN BURN AREAS

- The gates which control access to the open burn areas shall remain locked at all times when the area is not in use or is unattended and only authorized personnel shall have access to the area.
- Signage shall be clearly posted at the open burn locations in both English and Inuktituk and shall include but is not limited to the SOP for Open Burning, the general Waste Segregation Guidelines as well as the Waste Segregation Guidelines for Open Burning.

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	Open Burning of Untreated Wood, Cardboard and Paper Products Procedure	Issue Date: October 30, 2014 Rev.: 1	Page 10 of 10
	Site Services	Document #: BAF-PH1-300-PRO-0001	

6 REFERENCES AND RECORDS

- Nunavut Mine Health and Safety Act and Regulations
- Canadian Standards Association
- Nunavut Water Board Type A Water Licence No: 2AM-MRY1325
- Commercial Lease No.: Q13C301
- Baffinland Iron Mines Corporation Mary River Project Waste Management Plan for Construction, Operation and Closure, dated April 19, 2013
- Waste sorting Guidelines
- Waste Sorting Guidelines – Open Burning
- Form for recording approximate volumes and types of wastes to be open burned.

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