APPENDIX E.7.3

WSCC INSPECTION REPORTS AND BAFFINLAND RESPONSE

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

MHSA 29. (1) The manager shall, within 30 days after receiving an inspection report, submit a written report to the chief inspector outlining the remedial measures taken and the remedial measures still to be taken in respect of the inspection report.

Mine:	**Milne Inlet**
Operator:	BAFFINLAND IRON MINES CORPORATION
Mine Manager:	Michael Anderson
Date of Inspection:	January 20, 2015
Address:	300 - 2275 Upper Middle Road East
	Attn: Annu Sira
	Oakville, Ontario, L6H-0C3
Reference Number:	PR 2015-LL-00009

Accompanied by:
Dale Wales, Richard Church,

Observations:
Initial kick-off meeting with Hal Finley, Dale Wales and Richard Church was conducted at Mary River on Thursday January 14, 2015. The inspection/audit is to confirm that Dale Wales is eligible as an instructor for Mine Rescue in Nunavut as well as an audit of training and preparedness of the emergency response team. Dale will receive his certification as an instructor for mine rescue. Several issues regarding emergency response and preparedness were revealed during the inspection.
An order was issued by Martin van Rooy, on October 22, 2013, Inspection #2013-MvR-01101, to ensure that 60 persons at Milne were trained in mine rescue and that a team of 20 are available on shift. The nearest mutual aid is at Mary River (~2.5 hours travel). At the time of the current inspection, considerably less than 20 persons are available for response. As work here is conducted on two shifts and some of the crew works on opposite shifts, personnel may be working too far from the site to be available for response.
Members of the emergency response that are not released from regular duties to receive legislated training cannot be considered active and although they might be looked upon as resources, cannot be counted as available response personnel.

The rescue truck is being equipped but not all of the equipment has been mounted or stored on this unit. At the time of this inspection there were mechanical deficiencies with both ERT trucks at Milne Inlet. There was a failure with the pump on the ARFF truck when a door on the equipment bay did not close properly and valves in the pump compartment froze. As well, the battery on the rescue truck had discharged and the vehicle would not start. Similar concerns were identified in 2014 (Inspection #2014-LL-0069.

A number of prevention and fire code issues were identified. Fire doors should not be propped open (dining room) and the devices that hold the doors open should release and close the doors when the fire alarm sounds. Separations between occupancies that require fire separation as at the fire hall that are fitted with fire doors should have door closers. The closers need to be adjusted so that the doors close completely. In the accommodations areaSprinklers are located in the main hallway from the foyer to the kitchen and its adjoining rooms but not the Arctic Corridor branches (offices, laundry, accommodations wings or the rooms within). There is a large fire load in the Fire Hall however, the area is has no fire suppression system.

There was a discussion regarding the ability of the site to meet the suppression requirements at the tank farm. The tank farm consists of three 12,000,000 litre diesel tanks, two 10,000,000 litre diesel tanks and three 750,000 litre tanks of jet fuel. The information regarding fire protection and fire code would be available in the Plan Review from the Fire Marshall of Nunavut.

Order

#001	**Status:**	Open
	Sub-Location:	Emergency Response
	Observation:	Members of the emergency response that are not released from regular duties to receive legislated training cannot be considered active and although they might be looked upon as resources, cannot be counted as available response personnel.
	Jurisdiction:	Nunavut
	Legislation:	Mine Health & Safety Regulations
	Section:	8.56.
	Legislation Text:	The manager shall ensure that a sufficient number of qualified persons are trained as mine rescue team members and are readily available at the mine when persons are normally at work in the mine.
	Legislation:	Mine Health & Safety Regulations
	Section:	8.58. (1)
	Legislation Text:	The manager shall ensure that every mine rescue team member practises for not less than eight hours during each two month period or for such other number of hours as is agreed to by the chief inspector.
	Officer/Inspector Order:	**Ensure that a sufficient number of employees are trained and qualified in mine rescue. To remain qualified and certified, members must meet training requirements of 8 hours in any two month period.**
	Req'd Compliance Date:	20/03/2015

#002	**Status:**	Open
	Observation:	A number of prevention and fire code issues were identified. Fire doors should not be propped open (dining room) and the devices that hold the doors open should release and close the doors when the fire alarm sounds. Separations between occupancies that require fire separation (as at the fire hall) that are fitted with fire doors should have door closers. The closers need to be adjusted so that the doors close completely. In the accommodations area, the rooms are sprinkled but the corridors are not. There is a large fire load in the Fire Hall however, the area is has no fire suppression system. There was a discussion regarding the ability of the site to meet the suppression requirements at the tank farm. The tank farm consists of three 12,000,000 litre diesel tanks and two 10,000,000 litre tanks of jet fuel.
	Jurisdiction:	Nunavut
	Legislation:	Mine Health & Safety Regulations
	Section:	12.19.
	Legislation Text:	The manager shall ensure that surface operations at a mine accord with the requirements of the National Fire Code of Canada 1995 issued by the National Research Council of Canada.
	Officer/Inspector Order:	**Ensure that surface operations at a mine accord with the requirements of the National Fire Code of Canada 1995 issued by the National Research Council of Canada. Please provide a Plan Review conducted by the Fire Marshall of Nunavut for the installations at the tank farm and the permanent camp at Milne Inlet.**
	Req'd Compliance Date:	20/03/2015

#003	**Status:**	Open
	Observation:	At the time of this inspection there were mechanical deficiencies with both ERT trucks at Milne Inlet. There was a failure with the pump on the ARFF truck when a door on the equipment bay did not close properly and valves in the pump compartment froze. As well, the battery on the rescue truck had discharged and the vehicle would not start. Similar concerns were identified in 2014 (Inspection #2014-LL-0069.
	Jurisdiction:	Nunavut
	Legislation:	Mine Health & Safety Act
	Section:	2. (2)
	Legislation Text:	The owner of a mine shall (a) implement and maintain work practices that are safe and that do not present undue risk to health; and (b) provide and maintain healthy and safe worksites.
	Jurisdiction:	Nunavut
	Legislation:	Mine Health & Safety Regulations
	Section:	8.75.
	Legislation Text:	The manager of a surface mine shall ensure that properly maintained equipment and trained personnel are available to respond to a fire, explosion, or dangerous incident while the mine is in operation.
	Officer/Inspector Order:	**Parts that are essential to ensure that emergency response equipment is properly maintained must be available.** **Ensure that overhead doors have a positive control (dead man switch) installed so that overhead doors are closed with a worker in attendance to ensure that the door closes safely and completely.**
	Req'd Compliance Date:	19/02/2015

This report has been discussed and a copy left with: X Anthony Wooldridge for M. Anderson

Inspector: X

Baffinland

April 2, 2015

Mr. Lex Lovatt
Centre Square Tower, 5th Floor
5022 49 Street
Box 8888
Yellowknife, NT X1A 2R3

Dear Lex,

Please find below, the Baffinland response to your inspection report of January 20, 2015

1. ***Ensure that a sufficient number of employees are trained and qualified in mine rescue. To remain qualified and certified, members must meet training requirements of 8 hours in any two month period.***

Response

Baffinland is committed to ensuring a sufficient number of employees are trained and certified in mine rescue. As per our January 20, 2015 letter (Madsen to van Rooy), our commitment is to have at least 15 responders available at any one time at each site.

As noted by the recent point in time (PIT) assessments below the Mine site is generally achieving the on duty and able to response status of 15. However, we continue to have challenges with achieving the 15 members at the Port site. This is particularly evident on flight days when personnel are in transit to/from Mary River (eg. March 19, 25, 26).

Point in Time Assessment

Date	Time	Camp	On Duty	Day	Night	Able to Respond
19-Mar-15	1200hrs	MSC	28	24	4	**10**
19-Mar-15	1200hrs	PSC	14	12	2	**8**
21-Mar-15	1800hrs	MSC	27	23	4	**27**
21-Mar-15	1800hrs	PSC	12	10	2	**12**
25-Mar-15	1200hrs	MSC	28	26	2	**21**
25-Mar-15	1200hrs	PSC	14	12	2	**9**
26-Mar-15	1200hrs	MSC	20	20	0	**16**
26-Mar-15	1200hrs	PSC	12	10	2	**8**

As noted in your inspection, some members of the mine rescue team are not being released from regular duties to receive training. In order to address this, Managers and Superintendents of each department are being notified prior to training, with the names of their employees that require training to maintain currency. Those members that are still unable to achieve the legislated training are being placed on inactive status. While still able to contribute as a resource for the team, they are not considered active until they achieve required training hours.

However, the greater challenge in achieving the 15 member target has been that the number of active MRT members at the Port site is significantly less than the Mine site due to employee transfer from Port to the Mine site. As such, four (4) 5-day training sessions have been held at the Port site in 2015 in order to increase the number of active MRT members. As a result of this training, an additional 35 MRT members have been added to the Port site roster.

We propose to continue monitoring the MRT availability through the PIT assessments and report the results of these assessments to WSCC on a quarterly basis. In the event the PIT assessment continue to show available members at less than 15, Baffinland management will identify the actions that are being taken to achieve the target.

2. ***Ensure that surface operations at a mine accord with the requirements of the National Fire Code of Canada 1995 issued by the National Research Council of Canada. Please provide a plan review conducted by the Fire Marshal of Nunavut for the installations at the tank farm and the permanent camp at Milne Inlet.***

Response

The tank farm at the Port site was designed and constructed in accordance with all applicable codes and standards. The National Fire Code of Canada (NFC), CCME Environmental Code of Practice, National Building Code of Canada (NBC) and, where applicable, NFPA standards have been applied to the design.

With regards to the design, the layout of the tank farm, including the spacing of the tanks, conforms to the requirements of the National Fire Code of Canada (2010), Division B. Part 4, Flammable and Combustible Liquids 4.3.2.2 Spacing between Storage Tanks. Furthermore, as per NFC requirements, the design provides for no part of the containment wall to be less than 1.5m from the storage tanks, and provides an access route that permits the approach of emergency response vehicles to within 60 m travelling distance of any storage tank.

With regards to fire suppression, in accordance with NFC, section 4.3.2.5 Fire Protection Systems, as the diameter of the largest fuel tank is 31.8 m, less than 45 metres as specified in the NFC, fixed protection systems are not required. However, to ensure preparedness for a response to a tank farm fire, Baffinland developed BAF-PH1-810-P25-0001 r0 - Responding to Tank Farm Fire Emergencies Guideline. In addition, 4000 litres of AFFF were purchased to provide sufficient foam, plus reserve, to blanket the entire tank farm in addition to the purchase of 2000 gallon port-a-tanks for quick deployment along with Wajax pumps for extended firefighting.

With respect to the accommodations, as per the letter (Paddon to van Rooy) dated February 13, 2015, Baffinland commits to installation of sprinkler systems in each accommodation room at the Port Site Complex (PSC) and Mine Site Complex (MSC) by December 31, 2015. In designing this system, Baffinland will provide the plans and specifications of the PSC and MSC to the Fire Marshall of Nunavut for review prior to installation.

With regards to the observations noted in the inspection, the fire door closers were adjusted and/or installed following the inspection.

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3. ***Parts that are essential to ensure that emergency response equipment is properly maintained must be available. Ensure that overhead doors have a positive control (dead man switch)***

installed so that overhead doors are closed with a worker in attendance to ensure that overhead doors are closed safely and completely.

Response

Deficiencies associated with the ARFF and Rescue Truck were corrected after the inspection. Specifically the failed valves on the ARFF were repaired and additional critical spares of valves and switches were purchased while the Rescue Truck battery was charged. More frequent inspections of the equipment were implemented after this inspection to ensure the trucks are response ready. In addition, building checks are performed during the night to ensure adequate heat to the garage.

Baffinland will also be performing a complete review of the PM program for the ARFFs and the associated critical spare list to ensure the maintenance program is adequate, meets manufacturers specifications, and required spare parts are available in inventory. This is expected to be completed by May 31, 2015. During those times that the ARFF is not response ready due to breakdown and repairs the water truck will used as a backup fire fighting resource.

With respect to the roll up doors they have been repaired and adjusted along with training provided to the millrights on how to repair and adjust these doors. Dead man switches have also been made operational on all overhead roll up doors.

Should you have any questions regarding this submission please contact Michael Anderson by phone at 416.814.3163 or email at Michael.Anderson@Baffinland.com .

Best Regards,

Erik Madsen
Vice President
Sustainable Development, Health, Safety and Environment

cc. Michael Anderson
Tony Woodfine / Bikash Paul / Dwayne Chyz / Dale DeGagne / Jim Millard
Dick Matthews / Guy Laliberte / Dave McCann
Glen Hein / Hal Finley / Tony Noseworthy
Lex Lovatt - WSCC

WSCC Workers' Safety & Compensation Commission

20150321

email michael.anderson@baffinland.com

Michael Anderson
Vice President Operations
Baffinland Iron Mines Corporation
120 Adelaide Street West - Suite 1016
Toronto ON   M5H 1T1

Dear Mr. Anderson:

Further to the **Mine Health and Safety Act article 26** attached is my 20150321 Mary River project inspection report.

As per **MHSA article**

28. please post a copy of this inspection report in a conspicuous location, and

29. advise the chief inspector within 30 days of the remedial measures taken and the remedial measures still to be taken in respect of the inspection report.

32.(1) A person who is adversely affected by a decision or order issued by an inspector may appeal the decision or order, in writing, to the chief inspector within 30 days after its issue.

The WSCC is committed to service excellence. If you have any questions or concerns about this inspection report, please feel free to contact my supervisor Peter Bengts or myself. His phone number is 867 669 4412 or email peter.bengts@wscc.nt.ca.

Sincerely
Workers' Safety and Compensation Commission of the NWT and NU Mine Safety

Martin van Rooy
Engineer/Mines Inspector

cc OHSC c/o glen.hein@baffinland.com

WSCC Workers' Safety & Compensation Commission | ᐃᖅᑲᓇᐃᔭᕐᓂᓄᑦ ᐊᑦᑕᓇᖅᑐᓂᒃ ᐊᒻᒪ ᓇᖏᕐᕆᐅᑉᔪᒃᓯᓂᖅ ᖃᐅᔨᓴᖅᑏᑦ

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

Mine:	Mary River project	Location:	~950 km NW of Iqaluit
Operator:	Baffinland Iron Mines Corp.	Lat. 71-19'N	Long. 79-24'W
Manager:	Michael Anderson	Inspection Date:	20150312 to 17
Address:	120 Adelaide Street West - Suite 1016 - Toronto ON M5H 1T1		

Mr. Martin van Rooy (engineer/mine inspector) performed a general site safety inspection of Baffinland's Milne Inlet and Mary River sites, from March 12 to 17, 2014.

At Milne Inlet, the Anmar shop, reclaim conveyor drive room, sample tower, ship loader #2 tower, truck shop, welding shop, Toromont's shop, heated and unheated warehouse and incinerator building were checked.

At Mary River the crushing and screening plant B, crushing plant A, mining level 675, PAG stockpile, emulsion plant, E-house #7, incinerator building, mobile maintenance shop, welding shop, new warehouse and batch plant building were checked.

Data was collected on site occupancy from 1 October 2014 to 31 March 2015, supervisor first aid list, emergency response training and the location of blast hole collars in the pit.

Richard Bourque, Dwayne Chyz, Yvan Deslauriers, Raymond Gale, Scot Klingmann, Yves Laflamme, William MacNeill, Mike Peters, Shawn Parry, Bruce Salo, Paul Scott, Danny Vallis and Mario Vottero, accompanied Hal Finley and Martin van Rooy for parts of this inspection.

Noticed in the various shops at the port and at the mine i.e. Anmar's shop, welding shop, mobile equipment shop, incinerator building... electric cables and or hoses lying indiscriminately and without protection across the floor. The practice of allowing cables and or hoses to lie indiscriminately and without protection across the floor is of concern as this is a potential trip hazard and or they could be cut or damaged by a falling object.

1 This is a repeat infraction see inspection report 29 March 2014, please ensure no electrical cords, hoses and other items... are allowed to lie indiscriminately and without protection over the ground or

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REPORT OF AN INSPECTOR OF MINES

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across a floor where they are a potential trip hazard and or other hazard if un-intentionally cut or damaged.

MHSR sect 9.04. *The manager shall develop and implement an effective housekeeping program to ensure that*
(a) all worksites and travelways are maintained in a safe condition;
(b) materials and equipment are stored in a manner so as not to endanger persons; and
(c) appropriate action is taken whenever necessary to maintain a hazard-free environment.

Noticed extension cords, run through various doors in buildings at Milne and at Mary River, used to provide power to equipment parked or used outside the building i.e. reclaim conveyor drive building, mobile maintenance shop, batch plant... However, this practice must stop, as it is an Electric Code violation for extension cords to pass through a door, window or other opening in a structure.

2 This is a repeat infraction see inspection reports 28 May and 29 March 2014, please ensure sufficient 120V outdoor receptacles are installed on the outside of the buildings where vehicles are parked and or electrical tools or other devices are used outdoors.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed there was no safety latch in the hook of a come-a-long/chain-fall hanging in the top of the sample tower. The Anwar men using the equipment were advised to remove it from service until repaired.

3 Please ensure all persons authorized to use any miscellaneous hoisting, pulling and lifting devices such as tuggers, chainfalls, come-a-longs, turfers, slings, rigging, snatch blocks... are trained in its use and instructed not to use the equipment if a safety device is missing or defective.

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MHSR sect 10.126.(4) *A lifting device, pulling device, or utility hoist and its support or anchorage system shall be maintained by a qualified person so that it does not endanger the safety of workers.*

Noticed a cutting torch at the top of the sample tower however, the oxygen/acetylene cylinders for the torch, were not near it but were located on the ground away from the operator. The Anwar men using it were advised they would need a person stationed at the cylinders while the torch was in use.

4 Please ensure a second person is present and attends to the oxygen and acetylene cylinder's high-pressure shut-off valves and regulators when these are set up in a position that is not readily accessible to the person using the cutting torch.

MHSR sect 10.135.(2) *The hot work procedure required by subsection (1) shall provide that*
(h) a second person is present and attends to the oxygen and flammable gas high pressure shut-off valves and regulators when the cylinders are set up
(i) in a position that is not readily accessible to the person welding, cutting, brazing or heating, or

Noticed the oxygen and acetylene cylinders in use at the sample tower, were not equipped with flashback arrestors at the regulators. The Anwar men using the cylinders were advised to install the flashback arrestors at the regulators before using the equipment.

5 This is a repeat infraction see inspection report 26 July 2014; please ensure all persons authorized to perform hot work, check their oxygen and acetylene cylinders and ensure flashback arrestor are installed at the regulator, before they use the equipment.

MHSR sect 10.135.(2) *The hot work procedure required by subsection (1) shall provide that...*
(c) before any gas welding, cutting or heating equipment is used, the person using the equipment shall ensure that it is free from defects and leaks and that...
(ii) flashback arrestors are installed on each regulator to prevent reverse gas flow,

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Inspector [signature]

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Noticed the high-pressure airlines, used in the Milne truck shop and the mine's mobile maintenance shop, are equipped with a Chicago type quick release coupling however, their safety pin was not installed. Without the safety pin installed, the coupling can disengage allowing the high-pressure hose to whip back and forth from the discharging air jet.

6 Please ensure all high-pressure air hoses equipped with Chicago type quick release couplings are suitably pinned to prevent unintended disconnection of the coupling.

MHSA art 10.(1) *The manager shall take every reasonable measure and precaution to protect the health and safety of employees and other persons at a mine.*

Noticed a person working on a service truck in the garage, the unit was locked out with a lock and tag however, there was no name or other data recorded on the tag.

7 Please ensure all persons locking out equipment record on their tag their name, the type of work, the date and time started and the name of their supervisor.

MHSR sect 10.22.(2) *Tags issued to individual persons shall contain space for the recording of the person's name, the type of work being performed, the date and time the work was started and the name of the supervisor in charge.*

Noticed there is no clear access, to the electrical disconnect switches on the wall of the welding shop at Milne, as materials stored in front of them obstruct these. Clear and unobstructed access must be maintained at all times to electrical equipment, in case of an emergency requiring a shutdown of the power.

8 This is a repeat infraction see inspection reports 31 October 2014, 26 July 2014... Please ensure all supervisors in their area of responsibility, enforce the requirement for clear access to electrical equipment in case of an emergency and for service of the equipment.

MHSR sect 5.07. *Every shift boss or supervisor shall, within his or her area of responsibility and*

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authority,
(a) carry out the duties set out in the Act and these regulations;
(b) give precedence to the health and safety of persons in his or her charge over any other duties and at the end of his or her shift, communicate with the next shift boss or supervisor all necessary information relating to health and safety concerns;
(c) ensure that all persons in his or her charge are adequately trained and given clear instructions regarding the work they are to perform;
(d) ensure compliance with the relevant provisions of the Act and these regulations;
(e) be knowledgeable about essential safeguards against hazards and about safe working procedures at the worksites for which he or she is responsible so that he or she can routinely assess the safety of the environment and operations affecting persons in those worksites;
(f) by thorough supervision, protect the health and safety of all persons in the area for which he or she is responsible;
(g) make himself or herself familiar with all parts of the area for which he or she is responsible including those parts where persons do not normally work and with safe escape routes, refuge stations and other mustering points;
(h) ensure that there is sufficient safety equipment of appropriate standards for the work being performed;
(i) expeditiously investigate and address health and safety matters drawn to his or her attention;
(j) record before the end of every shift in a log-book kept for that purpose, all matters affecting health and safety, making special notes of any unusual or hazardous conditions or deficiencies found during the shift and of any remedial actions taken; and
(k) read and countersign all reports of the previous shift and discuss any health and safety matters of concern and any unusual or hazardous conditions or deficiencies with persons under his or her control before deploying them to their worksites.

Noticed the long extension cords installed in the laundry room at Milne, used to supply power to the Aquanomic equipment.

9 Please install electrical outlets at the Aquanomic equipment and remove the long extension cords.

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MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed a Hotsy steam cleaner, (water pressure ~3000 psi with temperature up to 250 deg F) installed on a trailer parked in the small maintenance shop at Milne. The high-pressure hose and wand were lying unprotected on the deck of the trailer and there are signs of wear on the high-pressure hose, where it has rubbed and or chaffed on parts of the trailer damaging it. Structural damage to the wand and or hose is of concern as a pin hole leak in this equipment could spray 3000 psi water and if set at its maximum temperature of 250 deg F, the superheated water would flash into steam.

10 Please review the trailer's Hotsy installation and check the hose and wand for structural damage and ensure the hose and wand are arranged in a manner to protected them from damage.

MHSR sect 10.97.(1) *Boilers, compressors and pressure vessels and associated piping and fittings shall be installed and maintained in accordance with CSA Standard B51-95, Boiler, Pressure Vessel and Pressure Piping Code, and the heated or refrigerated fluid plant shall comply with the requirements of the Boiler and Pressure Vessels Act and the regulations under that Act.*

(2) *A boiler, compressor or pressure vessel to which the Boiler and Pressure Vessels Act and the regulations under that Act do not apply shall be maintained in a proper and safe condition by a qualified person.*

Noticed the Telehandler TLH001 parked in the heated warehouse building at Milne. The rear window is smashed and it has two operating logbooks from which the white maintenance copies are not removed. The failure to submit the white maintenance copies to the maintenance department after using this equipment is of concern, as the routine maintenance of the safety devises, required by the manufacturer, may be exceeded presenting a safety hazard.

11 The failure to submit the equipment's maintenance copies to the maintenance department after use is a repeat infraction see inspection report 31 October 2014. Please remove all maintenance copies

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from the Telehandler's logbooks and ensure the equipment's operating hours have not exceeded the manufacturer's maintenance requirements. Comply with the manufacturer's maintenance requirements for the equipment and remove one of the logbooks from the unit.

MHSR sect 10.04.(3) *The procedure referred to in subsection (1) shall be based on the manufacturer's recommendations and shall*
(a) specify the safety inspection and testing to be performed before the equipment or system is first used by any person on a shift to confirm the proper operation of the service brakes, emergency brakes, parking brakes, retardation system, steering systems, lights, fire extinguishers, tire pressures, accumulator pressures, fluid levels, communication systems, fall arrest systems and other safety devices and systems;
(b) schedule the equipment or system for routine inspection and maintenance;
(c) itemize the tests to be conducted before the equipment or system is first used or following maintenance work on the equipment or system;
(d) ensure that a written record of each test, inspection and maintenance work carried out on each unit of equipment or system is entered into a maintenance record specific to each unit of equipment or system and as required in the equipment's or system's log-book; and
(e) provide for the testing, inspection and maintenance work to be performed by qualified persons.

Noticed a rope used to tie open the incinerator door at Milne and at Mary River. However, the inside of the incinerator is a confined space and a person entering it must apply their lock to prevent closure of the door until they have removed their lock.

12 Please remove the rope and install a suitable mechanism for locking the incinerator door in the open position to prevent a person from being trapped inside the incinerator.

MHSA art 10.(1) *The manager shall take every reasonable measure and precaution to protect the health and safety of employees and other persons at a mine.*

Noticed an overload has deformed the grating cover on the sump of the Milne incinerator building floor.

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13 Please replace the deformed grating cover and check the grating covers over the floor sumps in all other buildings. Ensure that where the cover is exposed to equipment travel, the grating is reinforced to prevent deformation from overload.

MHSR sect 10.01.(1) *All mechanical equipment used at mines shall be*
(a) designed in accordance with good engineering practice;
(b) constructed in accordance with a design and plans that have been certified by a professional engineer; and
(c) acceptable to the chief inspector.

Noticed the dust in the crusher operator's control room. The bearded crusher operator confirmed when he blew his nose; dust was present in the tissue. It was explained to the operator that the dust in the tissue is a sign it is going into his lungs and therefore he must wear a respirator for protection. It is noted the crusher control room pressurizing system is scheduled for installation before the end of April 2015.

14 This is a repeat infraction see inspection report 28 May 2014. Please update the dust monitoring of the crusher control room and ensure the crusher supervisors enforces the use of a respirator by a person working at the crusher and or in the control room, when the crusher is running.

MHSR sect 5.07. *Every shift boss or supervisor shall, within his or her area of responsibility and authority,*
(a) carry out the duties set out in the Act and these regulations;
(b) give precedence to the health and safety of persons in his or her charge over any other duties and at the end of his or her shift, communicate with the next shift boss or supervisor all necessary information relating to health and safety concerns;
(c) ensure that all persons in his or her charge are adequately trained and given clear instructions regarding the work they are to perform;
(d) ensure compliance with the relevant provisions of the Act and these regulations;
(e) be knowledgeable about essential safeguards against hazards and about safe working procedures at the worksites for which he or she is responsible so that he or she can routinely assess the safety of the environment and operations affecting persons in those worksites;
(f) by thorough supervision, protect the health and safety of all persons in the area for which he or she is responsible;

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(g) make himself or herself familiar with all parts of the area for which he or she is responsible including those parts where persons do not normally work and with safe escape routes, refuge stations and other mustering points;
(h) ensure that there is sufficient safety equipment of appropriate standards for the work being performed;
(i) expeditiously investigate and address health and safety matters drawn to his or her attention;
(j) record before the end of every shift in a log-book kept for that purpose, all matters affecting health and safety, making special notes of any unusual or hazardous conditions or deficiencies found during the shift and of any remedial actions taken; and
(k) read and countersign all reports of the previous shift and discuss any health and safety matters of concern and any unusual or hazardous conditions or deficiencies with persons under his or her control before deploying them to their worksites.

Noticed the crusher and screening plant B, (airport side) was shut down for repairs. The men working on it were using a lockbox however, there was no information at the lockbox of the keys inside the box, and the person that had locked out the equipment and that this person tried to start the equipment to verify it was locked out. The men were advised to stop work until the proper lockout procedure was in-place and followed.

15 This is a repeat infraction see inspection report 20 December 2014. Please ensure when a lockbox is used, a clear legible list is maintained at the lockbox of
(i) all the keys inside the box of the equipment locked-out,
(ii) the signature of the person that locked out the equipment, and
(iii) the verification by that person that all hazards present have been neutralized.

Noticed the motor and drive were removed from the 100 ft. stacker conveyor at crushing and screening plant B however, the terminal ends of the electrical power cable to the motor were left lying on the ground bare without tape on the ends. The electrical supervisor was notified to have the ends capped.

16 Please ensure electrical cables left in place are capped and identified at each end of the other end's location.

Date of Report 2015 03 21 **Inspector** [signature]

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed the perimeter berms in the pit at the 675 level, are low and less than ¾ the height of the largest vehicle tire, working in the area.

17 Please ensure the perimeter berms around the pit area are maintained to at least ¾ height of the largest vehicle tire, working in the area.

MHSR sect 1.143.(1) *The manager shall ensure that surface haulage roads are designed, constructed and maintained to provide*
(a) a travel width where dual lane traffic exists, of not less than three times, or where single lane traffic exists, of not less than two times the width of the widest haulage vehicle used on the road; and
(b) a shoulder barrier
(i) at least 3/4 the height of the largest tire on any vehicle using the road,
(ii) of a construction or a specification that is acceptable to the chief inspector

Noticed the carpenters are using the incinerator building at Mary River as a carpenter shop however, they have not maintained a hazard free floor by removing the sawdust and wood debris in their work area. The supervisor was advised to arrange for clean-up of the work area.

18 This is a repeat infraction see inspection report 20 December 2015 and as previously noted ensure a daily housekeeping program is implemented in all work and or access areas, to maintain a hazard free environment.

MHSR sect 9.04. *The manager shall develop and implement an effective housekeeping program to ensure that*
(a) all worksites and travelways are maintained in a safe condition;
(b) materials and equipment are stored in a manner so as not to endanger persons; and

Date of Report 2015 03 21 **Inspector** [signature]

(c) appropriate action is taken whenever necessary to maintain a hazard-free environment.

Noticed a freestanding tall and wide tire left standing unsupported and unguarded on the floor of the mobile maintenance shop at Mary River. The supervisor was advised to restrain the tire and prevent it from unintended movement.

19 Please ensure vertical standing objects i.e. tires, cylinders, other... are secured from falling and or rolling to prevent it from becoming a hazard.

MHSA art 10.(1) *The manager shall take every reasonable measure and precaution to protect the health and safety of employees and other persons at a mine.*

Noticed the fibrous material inside the SCR unit of an ore haul truck's Detroit diesel exhaust system, pulled apart in Mary River's welding shop.

20 Please review with the supplier the specification of this fibrous material used in the construction of the exhaust system.

MHSR sect 10.25.(1) *Before a unit of mobile equipment is introduced at a mine, the manager shall ensure that the design of its electrical system, braking system, exhaust system, steering system, fire suppression system, roll over or fall on protection system and any other system design specified by the chief inspector is submitted to the chief inspector for review.*

Notice the emergency exit lights are missing from above the doors of the Mary River warehouse.

21 Please ensure building exit doors are equipped with emergency lights and install missing emergency exit lights.

MHSR sect 9.56.(1) *The manager shall ensure that there is a separate and independent emergency source of illumination at all places on the surface where a hazard could be caused by a failure of the*

Date of Report 20150321   Inspector [signature]

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

normal lighting system.

(2) *The emergency lighting system referred to in subsection (1) shall*
(a) turn on automatically when the normal lighting fails;
(b) provide illumination of at least 50 lux to allow employees to initiate emergency shutdown procedures and to leave their work areas safely; and
(c) be tested as frequently as necessary to ensure that it will function when required.

Date of Report 2015 03 21 **Inspector**

20150520

email michael.anderson@baffinland.com

Michael Anderson
Vice President Operations
Baffinland Iron Mines Corporation
120 Adelaide Street West - Suite 1016
Toronto ON M5H 1T1

Dear Mr. Anderson:

Further to the **Mine Health and Safety Act article 26** attached is my 20150520 Mary River project electrical inspection report.

As per **MHSA article**

28. please post a copy of this inspection report in a conspicuous location, and

29. advise the chief inspector within 30 days of the remedial measures taken and the remedial measures still to be taken in respect of the inspection report.

32.(1) A person who is adversely affected by a decision or order issued by an inspector may appeal the decision or order, in writing, to the chief inspector within 30 days after its issue.

The WSCC is committed to service excellence. If you have any questions or concerns about this inspection report, please feel free to contact my supervisor Peter Bengts or myself. His phone number is 867 669 4412 or email peter.bengts@wscc.nt.ca.

Sincerely
Workers' Safety and Compensation Commission of the NWT and NU Mine Safety

Martin van Rooy
Engineer/Mines Inspector

cc OHSC c/o glen.hein@baffinland.com

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

Mine:	Mary River project	Location:	~950 km NW of Iqaluit		
Operator:	Baffinland Iron Mines Corp.	Lat.	71-19'N	Long.	79-24'W
Manager:	Michael Anderson	Inspection Date:		20150512 to 14	
Address:	120 Adelaide Street West - Suite 1016 - Toronto ON			M5H 1T1	

Mr. Jeff Fuller (WSCC's electrical consultant) and Martin van Rooy (engineer/mine inspector) performed a general electrical safety inspection of Baffinland's Milne Inlet and Mary River sites, from May 12 to 14, 2015. Mr. Fuller's report is attached for information.

At Milne Inlet the reclaim conveyor substation and drive room, ship loader #1, ship loading area electrical room and Masaba feeder were checked.

At Mary River E-house #7, fresh water pump station, E-house #9, the crushing plant E-house #8, crushing and screening plant A and B, emulsion plant were checked.

Sarah Canning, Mike Christie, Joe Driscoll, Pat Driscoll, Terry Gobbo, Guy Laliberte, Kevin McDonald, Bikash Paul, Bruce Salo, Paul Scott, Riccardo Schiavone, Mario Vottero and George Wilcox, accompanied Jeff Fuller, Hal Finley and Martin van Rooy for parts of this inspection.

Noticed the bonding conductors, in some sections of vertical cable tray at the reclaim conveyor substation, are not electrically connected to the cable tray.

1 Please attach bonding conductors to cable tray using approved connectors. Ensure that cable tray systems are electrically continuous throughout and that bonding is in accordance with CEC 12-2208. Where cable tray systems are part of high voltage stations, the bonding must also meet the requirements of CEC 36-308.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Date of Report 20150520 **Inspector** [signature]

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

Noticed the relays, for the reclaim conveyor substation, are mounted on the side of the transformer enclosure however, these are inaccessible from the ground. These relays have indicating devices and reset pushbuttons.

2 Please install a permanent access platform and stairs for access to these relays. Alternatively, if all indicating features and reset capability of the relays are brought out to the E-house such that access to the relays is only required for calibration, then other suitable means of temporary access may be used.

MHSR sect. 13.01.(1) *The electrical system and electrical equipment at a mine shall be (a) designed in accordance with good engineering practice; and*

Noticed the signage, prohibiting access by unauthorized personnel and warning of the highest voltage in use, is missing from the access to the reclaim conveyor and ship loader E-houses and electrical enclosures.

3 Please install signage on the reclaim conveyor and ship loader E-houses and electrical enclosures in accordance with CSA M421-11 sub-clause 4.2.7.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed the electrical panel "D", Milne Inlet's accommodation walkway, is missing the fire seal around the floor penetrations below the panel and it has a flexible cord passing from the panel through the floor in violation of CEC 4-012 (3) (a).

4 Please install the fire seal around the cables passing through the floor below panel "D" and remove or replace the flexible cord with suitable permanent wiring.

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REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed the three heat trace controllers, past Dorm BB at the end of Milne Inlet's accommodation walkway, have cables entering the enclosure however, there are no connector installed.

5 Please install the appropriate connectors for the cables.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed the electrical panel "C", Milne Inlet's accommodation walkway, is missing the fire seal around the floor penetrations below the panel.

6 Please install the fire seal around the cables passing through the floor below panel "C".

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Noticed the cable penetrations, through the corridor's double-door firewall either side of the Milne Inlet cafeteria, are missing their fire seals.

7 Install appropriately rated fire seals in the cable openings through the corridor's firewalls.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

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Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

Noticed ground conductor taps, exiting through the lifting holes of the underground cable duct covers, running from the ship loader area's electrical room along the reclaim conveyor to the ship loaders. These ground conductor taps are lying on the surface above ground and are subject to physical damage.

8 Please consult with the design engineer from Hatch to determine if these ground taps are necessary and if they are not required, remove or store them inside the duct. If they are required then determine some other means of exiting the duct other than using the cover's lifting hole.

MHSR sect. 13.01.(1) *The electrical system and electrical equipment at a mine shall be (a) designed in accordance with good engineering practice; and*

The Masaba feeder, conveyor and stacking equipment is described as movable equipment that is required to be moved and reconfigured possibly on a per shift basis. The conveyors are provided with quick connect couplers to facilitate this process. As per CSA M421-11 4.4.1.2, this installation requires ground fault protection in accordance with CSA M421-11 sub-clauses 4.5.6 & 4.5.7.

9 Ensure that the generators feeding these Masaba feeder, conveyor and stacking equipment are equipped with NGR's, NGR monitoring, and ground fault protection meeting the requirements of CSA M421. Ensure that circuits feeding quick connect couplers are provided with ground fault/ground monitoring protection meeting the requirements of CSA M421.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Noticed the pull-cord E-stop switch on the Masaba equipment, does not comply with M421-11 4.4.3.2 (b) (i) which requires the emergency stop to activate for all directions of pull on the cord.

10 As previously noted inspection report 20 December 2014, please ensure a pull-cord's E-stop trips, for

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all directions of pull on the cord

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Noticed the Novec fire suppressant bottle in Mary River E-House #7, is empty. It was explained that temperature extremes are causing problems in maintaining pressure and that an investigation is underway to determine how to prevent ongoing pressure loss problems with E-House fire suppression systems.

11 As previously noted inspection report 29 March 2014, please ensure the fire suppression system will work in case of a fire in the E-House and advise how the pressure loss problem of the suppressant bottle, will be resolved.

MHSR sect 12.15.(1) *The manager shall ensure that fire fighting equipment is provided and maintained at all crusher stations, electrical installations, conveyor drives, pump stations, shaft stations, explosive storage areas, service garages and fuelling stations, and stationary diesel engines*

Noticed up-to-date single line diagrams posted in the E-Houses at Milne Inlet and Mary River however, the Mary River drawings are printed half-size and text is very difficult to read.

12 Please post full size single line diagrams mounted such that they can easily be removed for mark-up or replaced as updated prints are produced.

MHSR sect 13.01.(1) *The electrical system and electrical equipment at a mine shall be*
(a) designed in accordance with good engineering practice; and

Noticed a portable power cable cut off flush with the connector on the outdoor panel of Mary River's fresh water pump station, leaving exposed conductors. CSA M421-11 4.2.4.1 requires out-of-service

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wiring to have bare conductors guarded.

13 Please remove the cable stub and plug the hole with a NEMA 4 knock-out plug.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Noticed the disconnect switches inside the fresh water pump station, are behind piping and other obstacles preventing clear access to them.

14 Please provide and maintain at least one-meter clear working space about this electrical equipment as required by CEC 2-308 (1).

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Noticed there is no support provided for liquid-tight flexible conduit power supply to the fresh water pumps.

15 Please provide support for the flexible conduit within 300mm of each fitting and at intervals not exceeding 1.5m as required by CEC 12-1010 (3).

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Noticed there is no support for the electrical cables entering and exiting Mary River's E-House #9.

16 Please install cable trays to support the cables as per CEC Rule 12-618.

Date of Report 2015 05 20 **Inspector** ____________

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REPORT OF AN INSPECTOR OF MINES

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MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Notice the I-Gard DSP ground fault relay in E-House #9, is out of service. The system is no longer M421 compliant and is not to be used to feed any equipment that requires ground fault protection in accordance with M421 such as submersible pumps, mobile, or moveable equipment.

17 Please

a) verify no existing ground faults on the system. If faults exist, isolate and clear them immediately.
b) provide an explanation from the BIM electrical engineer as to why it is acceptable to operate in this fashion on an interim basis. There should be discussion around back-up protection and status of the distribution system. E.g. no existing ground faults on the system, regular checks for ground faults, back-up protection, status of ordered equipment, and schedule for complete repair.
c) ensure restoration of ground fault protection is treated as highest priority.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines*

Noticed Mary River's crusher E-House #8 and crushing plant control room are very dusty.

18 Please check and clean switchgear and transformer on a periodic basis as required.

MHSR sect 9.09. *In a building where dust or other material could, by becoming airborne, result in a hazard by restricting vision causing a fire or explosion, or if the material could be potentially hazardous if inhaled or ingested, the material*
(a) shall be removed without delay by suitable means such as vacuuming, wet sweeping or wet shovelling; or
(b) shall be suppressed, if it is not practicable to remove the material.

Date of Report 20/50520 **Inspector** [signature]

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Noticed the emulsion plant's diesel generators are not equipped with a fire suppression system to protect from an engine failure.

19 Please install a suitable fire suppression system to protect these stationary diesel engines from an engine failure.

MHSR sect 12.15.(1) *The manager shall ensure that fire fighting equipment is provided and maintained at all crusher stations, electrical installations, conveyor drives, pump stations, shaft stations, explosive storage areas, service garages and fuelling stations, and stationary diesel engines*

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REPORT OF AN INSPECTOR OF MINES

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Baffinland Iron Mines – Mary River and Milne Inlet Electrical Inspection

By: Jeff Fuller – J.A. FULLER ENGINEERING LTD Insp. Date: May 12 - 14, 2015

1) It was observed that bonding conductors in some sections of vertical cable tray at the Reclaim Conveyor substation were not electrically connected to the cable tray. Attach bonding conductors to cable tray using approved connectors. Ensure that cable tray systems are electrically continuous throughout and that bonding is in accordance with CEC 12-2208. Where cable tray systems are part of high voltage stations the bonding must also meet the requirements of CEC 36-308.

2) Relays for the Reclaim Conveyor substation mounted on the side of the transformer enclosure are inaccessible from the ground. These relays have indicating devices and reset pushbuttons. Install a permanent access platform and stairs for access to these relays. Alternatively, if all indicating features and reset capability of the relays are brought out to the E-house such that access to the relays is only required for calibration, then other suitable means of temporary access may be used.

3) Signage prohibiting access by unauthorized personnel and warning of the highest voltage in use must be posted at access to e-houses and electrical enclosures accessible to unauthorized persons in accordance with CSA M421-11 sub-clause 4.2.7. Areas visited other than the reclaim conveyor and ship loader were observed to be in compliance. An excellent effort has been made in this regard since the last inspection.

4) Milne Port Accommodations Walkway Panel "D"

a) Fire seal missing around floor penetrations below. Seal around cable.

b) Flexible cord connected to Panel "D" passes through a hole in the floor in violation of CEC 4-012 (3) (a) (ii). Remove or replace the flexible cord with suitable permanent wiring.

5) Milne Port Accommodations - Three heat trace controllers at the end of the corridor past Dorm BB have cables entering the enclosure with no connector. Install the appropriate connectors.

6) Milne Port Accommodations Walkway Panel "C" – Fire seal around cable penetration at the floor below the panel.

7) Milne Port Accommodations - Cable penetrations through the firewalls at the double doors either side of the cafeteria have no fire seal. Install appropriately rated fire seals around openings through fire separations.

Date of Report 20150520 **Inspector** ______

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8) Ground conductor taps are exiting through lifting holes in underground cable duct covers along the reclaim conveyor. These are subject to physical damage and are not acceptable. Consult with Hatch engineers to determine whether these taps are necessary. If not cut them off inside the duct. If they are required then some other means of exiting the ducts must be provided.

9) Masaba Feeders – These feeders are described as movable equipment that is required to be moved and reconfigured possibly on a per shift basis. The conveyors are provided with quick connect couplers to facilitate this process. As per CSA M421-11 4.4.1.2, this installation requires ground fault protection in accordance with CSA M421-11 sub-clauses 4.5.6 & 4.5.7. Ensure that the generators feeding these Masaba reclaim feeders are equipped with NGR's, NGR monitoring, and ground fault protection meeting the requirements of CSA M21. Ensure that circuits feeding quick connect couplers are provided with ground fault/ground monitoring protection meeting the requirements of CSA M421.

10) Masaba Feeders – E-stop switches are not in compliance with M421-11 4.4.3.2 (b) (i) which requires the emergency stop to activate if the pull cord is pulled in any direction. A proposed system utilizing lever arms interconnecting the pull cords on both sides of the conveyor was observed and found to meet this requirement.

11) Mary River E-House #7 – Novec fire suppressant bottle was found empty. It was explained that temperature extremes are causing problems with maintaining pressure and that an investigation is underway to determine how to prevent ongoing pressure problems with E-House fire suppression systems. Please advise as the status of this investigation.

12) Up-to-date single line diagrams have been posted in the E-Houses. The drawings have been printed half-size and text is very difficult to read. Please post full size prints of the single lines mounted such that they can easily be removed for mark-up or replaced as updated prints are produced. Just as a suggestion for future drafting standards, if minimum text size for full size prints is 3/32" then half size prints will be legible.

13) Mary River Jetty Water Pump Station

a) A portable power cable has been cut off flush with the connector on the outdoor panel leaving exposed conductors. CSA M421-11 4.2.4.1 requires out-of-service wiring to have bare conductors guarded. Remove the cable stub and plug the hole with a NEMA 4 knock-out plug.

b) Disconnect switches inside are behind piping and other obstacles. Provide and maintain one meter clear working space about this equipment as required by CEC 2-308 (1).

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c) No support is provided for liquid-tight flexible conduit to the pumps. Provide support for the flexible conduit within 300mm of each fitting and at intervals not exceeding 1.5m as required by CEC 12-1010 (3).

14) Mary River E-House #9

a) Cables entering and exiting the E-House have no support. Sections of cable tray are waiting to be installed. Install the cable tray and provide support as per CEC Rule 12-618.

b) The I-Gard DSP ground fault relay is out of service. The system is no longer M421 compliant and is not to be used to feed any equipment that requires ground fault protection in accordance with M421 such as submersible pumps, mobile, or moveable equipment.

i) Verify no existing ground faults on the system. If faults exist isolate and clear them immediately.

ii) Provide an explanation from the BIM electrical engineer as to why it is acceptable to operate in this fashion on an interim basis. There should be discussion around back-up protection and status of the distribution system. E.g. no existing ground faults on the system, regular checks for ground faults, back-up protection, status of ordered equipment, and schedule for complete repair.

iii) Restoration of ground fault protection is to be treated as highest priority.

15) Mary River E-House #8 – Crushers – very dusty. Check and clean switchgear and transformer on a periodic basis as required.

The following individuals participated in electrical inspections: Hal Finley – safety, Joe Driscoll – electrical, Terry Gobbo – Hatch electrical, Riccardo Schiavone – Anmar Elec Eng, Bikash Paul – BIM, Pat Driscoll – electrical, Mike Christie – Dyno Nobel, Kevin McDonald – Dyno Nobel

Date of Report 20150520 **Inspector** [signature]

March 21, 2016

Mr. Martin van Rooy
Mines Inspector
Worker's Safety and Compensation Commission
PO Box 669
Iqaluit, Nunavut
XOA OHO

Dear Martin,

Please find below the Baffinland response to your 20150520 inspection report.

1 ***Please attach bonding conductors to cable tray using approved connectors. Ensure that cable tray systems are electrically continuous throughout and that bonding is in accordance with CEC 12-2208. Where cable tray systems are part of high voltage stations, the bonding must also meet the requirements of CEC 36-308.***

Response

Bonding conductors of the vertical cable tray at the reclaim conveyor substation will be electrically connected to the cable tray during the pre-commissioning works. Target date for completion is July 15, 2015.

---

2 ***Please install a permanent access platform and stairs for access to these relays. Alternatively, if all indicating features and reset capability of the relays are brought out to the E-house such that access to the relays is only required for calibration, then other suitable means of temporary access may be used.***

Response

While indicating is available via the PLC in the e-house, reset is required locally. As such, a platform will be installed and completed by August 15, 2015.

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3 ***Please install signage on the reclaim conveyor and ship loader E-houses and electrical enclosures in accordance with CSA M421-11 sub-clause 4.2.7.***

Response

Signage installations on the reclaim conveyor and ship loader E-houses and electrical enclosures will be installed during pre-commissioning activities. This is scheduled to be completed by July 15, 2015.

---

4 ***Please install the fire seal around the cables passing through the floor below panel "D" and remove or replace the flexible cord with suitable permanent wiring.***

Response

Fire seals were installed for the cables passing through the floor below panel "D" at MSC. Inspections were performed for other areas and verified fire seals were present.

---

5 ***Please install the appropriate connectors for the cables.***

Response

Connectors for the heat trace controllers were installed. Similar installations were reviewed and deficiencies corrected.

---

6 ***Please install the fire seal around the cables passing through the floor below panel "C".***

Response

After the inspection, fire seals were installed around the cables passing through the floor below panel "C" at PSC.

---

7 ***Install appropriately rated fire seals in the cable openings through the corridor's firewalls.***

Response

Fire seals were installed in cafeteria. Other areas were inspected and corrected as required.

---

8 ***Please consult with the design engineer from Hatch to determine if these ground taps are necessary and if they are not required, remove or store them inside the duct. If they are required then determine some other means of exiting the duct other than using the cover's lifting hole.***

Response

The ground conductor tap, exiting through the lifting holes, was not necessary and was removed a few days after the inspection.

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9 ***Ensure that the generators feeding these Masaba feeder, conveyor and stacking equipment are equipped with NGR's, NGR monitoring, and ground fault protection meeting the requirements of CSA M421. Ensure that circuits feeding quick connect couplers are provided with ground fault/ground monitoring protection meeting the requirements of CSA M421.***

Response

The quick couplers have been removed and a separate 4/0 external bond conductor installed from the ground bar on the generator to the frames on the conveyors.

---

10 ***As previously noted inspection report 20 December 2014, please ensure a pull-cord's E-stop trips, for all directions of pull on the cord***

Response

One pull cord has been moved to bottom of the safety switch lever on the main conveyor such that it works in both directions as required by code. Toromont will correct the two other units as per the sample shown to WSCC during the inspection.

---

11 ***As previously noted inspection report 29 March 2014, please ensure the fire suppression system will work in case of a fire in the E-House and advise how the pressure loss problem of the suppressant bottle, will be resolved.***

Response

Baffinland will be implementing a preventive maintenance program on all E-houses to ensure the fire suppression is working and maintained in a condition of readiness. This PM program will be in place by June 30, 2015.

Cylinders loose pressure in extreme cold conditions. We have two electrical heaters installed in each e-house.

---

12 ***Please post full size single line diagrams mounted such that they can easily be removed for mark-up or replaced as updated prints are produced.***

Response

Full size single line drawings were installed in all electrical switch rooms and e-houses. These single line diagrams are easily removed for markup or replaced as needed.

---

13 ***Please remove the cable stub and plug the hole with a NEMA 4 knock-out plug.***

Response

The cable stub was removed and hole was plugged.

---

14 ***Please provide and maintain at least one-meter clear working space about this electrical equipment as required by CEC 2-308 (1).***

Response

Clearance in front of disconnect switches now meet MHSR 13.01(2). Two (2) disconnects have been moved while the other two have been confirmed to meet code. Floor demarcation will be installed in front of this location by June 24th 2015.

---

15 ***Please provide support for the flexible conduit within 300mm of each fitting and at intervals not exceeding 1.5m as required by CEC 12-1010 (3).***

Response

Proper support was installed as per CEC 12-2010 for the liquid tight flexible conduit power supply to the fresh water pumps.

---

16 ***Please install cable trays to support the cables as per CEC Rule 12-618.***

Response

Cable trays have been installed and electrical cables entering E-house #9 have been properly supported.

---

17 ***Please***

a) Verify no existing ground faults on the system. If faults exist, isolate and clear them immediately.

b) Provide an explanation from the BIM electrical engineer as to why it is acceptable to operate in this fashion on an interim basis. There should be discussion around back-up protection and status of the distribution system. E.g. no existing ground faults on the system, regular checks for ground faults, back-up protection, status of ordered equipment, and schedule for complete repair.

c) Ensure restoration of ground fault protection is treated as highest priority.

Response

The system has been verified and there are no ground faults present.

All our E-houses were supplied by Enerquest and were manufactured to meet or exceed the requirements of CSA C22.1 In order to meet the requirements of M421-11 we had them install an I-Guard DSP ground fault relay in the event that the E-house was used to power any mobile or movable equipment in accordance with 4.4.1 of CSA M421-11.

The I-Guard DSP relay has to have 120V power before it would allow the main breaker to close. In our installation, there is no auxiliary power available and hence the ground fault monitoring relay had to be powered by an Uninterruptable Power Supply *UPS). The drawing attached herewith will illustrate the situation.

Original UPS systems supplied with E-houses are not designed for industrial applications. The UPS in E-house 9 failed in late March. Spare UPS was not available at site and replacement was ordered with a promised delivery time of 8 - 10 weeks.

In order to save Weather Haven camp from freezing, the decision was made to bypass ground fault protection relay on E-house 9 after following considerations:

1. The troubleshooting was completed and no ground fault was detected. Loss of power (UPS failure) to I-Guard DSP ground fault relay was confirmed as the main cause for main 600V breaker trip.
2. E-house 9 does not supply power to any mobile or moveable equipment.
3. E-house 9 does not supply power to any submersible pumps.

We are still awaiting the delivery of the ordered industrial grade UPS and in the meantime we have found and installed a new non-industrial style UPS on May 23rd which allowed the I-Guard DSP ground fault relay to be energized and the breaker to close manually.

We have ordered sufficient numbers of industrial style UPS systems (in late March) in order to replace the Non-industrial system UPS systems at all the E-houses both a the Mine and Port sites.

18 ***Please check and clean switchgear and transformer on a periodic basis as required.***

Response

The switch gear and transformer is currently being checked on a weekly basis during shutdowns. By September 30, 2015, the schedule for inspection and maintenance will be setup in the SAP maintenance module. To reduce the quantity of dust entering the crusher control room, positive pressure units will be installed by July 31, 2015.

---

19 ***Please install a suitable fire suppression system to protect these stationary diesel engines from an engine failure.***

Response

Baffinland has provided the inspection finding to DynoNobel as they are the owner and operator of the emulsion plant under contract by Baffinland. DynoNobel is currently evaluating the actions required. Baffinland proposes to provide a further response on this action by August 30, 2015.

Should you have any questions regarding this submission please contact Michael Anderson by phone at 416.814.3163 or email at Michael.Anderson@Baffinland.com.

Best Regards,

Erik Madsen
Vice President
Sustainable Development, Health, Safety and Environment

cc. Michael Anderson
Tony Woodfine / Bikash Paul / Dwayne Chyz / Dale DeGagne / Jim Millard
Guy Laliberte / Dave McCann
Glen Hein / Hal Finley / Tony Noseworthy

Attachments:

October 22, 2015

Mr. Martin Van Rooy
Mine Inspector
Worker's Compensation Commission
PO Box 669
Iqaluit, Nunavut
XOA OHO

Dear Martin,

Please find below, the Baffinland response to Item 1 of your electrical inspection report from May 20, 2015.

1. ***Please attach bonding conductors to cable tray using approved connectors. Ensure that cable tray systems are electrically continuous throughout and that bonding is in accordance with CEC 12-2208. Where cable tray systems are part of high voltage stations, the bonding must also meet the requirements of CEC 36-308.***

Response

Please find attached supporting documentation with this email regarding the above directive.

Should you have any questions regarding this submission please contact Bernard Laflamme by phone at 647-253-0596 or email at Bernard.Laflamme@Baffinland.com

Best Regards,

Bernard Laflamme
Chief Operating Officer
Baffinland Iron Mines

cc. Erik Madsen/Bikash Paul / Tony Woodfine
Dwayne Chyz / Dale DeGagne / Anant Minhas / Maurice Despres / Scot Klingmann
Dave McCann
Tony Noseworthy / Hal Finley / Jim Millard

WSCC Workers' Safety & Compensation Commission

20150525

email michael.anderson@baffinland.com

Michael Anderson
Vice President Operations
Baffinland Iron Mines Corporation
120 Adelaide Street West - Suite 1016
Toronto ON M5H 1T1

Dear Mr. Anderson:

Further to the **Mine Health and Safety Act article 26** attached is my 20150525 Mary River project geotechnical inspection report.

As per **MHSA article**

28. please post a copy of this inspection report in a conspicuous location, and

29. advise the chief inspector within 30 days of the remedial measures taken and the remedial measures still to be taken in respect of the inspection report.

32.(1) A person who is adversely affected by a decision or order issued by an inspector may appeal the decision or order, in writing, to the chief inspector within 30 days after its issue.

The WSCC is committed to service excellence. If you have any questions or concerns about this inspection report, please feel free to contact my supervisor Peter Bengts or myself. His phone number is 867 669 4412 or email peter.bengts@wscc.nt.ca.

Sincerely
Workers' Safety and Compensation Commission of the NWT and NU Mine Safety

Martin van Rooy
Engineer/Mines Inspector

cc OHSC c/o glen.hein@baffinland.com

WSCC Workers' Safety & Compensation Commission | ᐃᖃᓇᐃᔭᖅᑎᓄᑦ ᐊᑦᑕᓇᖅᑐᓂᒃ ᐊᒻᒪ ᓇᓪᓕᐅᒃᑯᒥᓂᒃ ᖃᐅᔨᓴᖅᑏᑦ

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

Mine:	Mary River project	Location:	~950 km NW of Iqaluit		
Operator:	Baffinland Iron Mines Corp.	Lat.	71-19'N	Long.	79-24'W
Manager:	Michael Anderson	Inspection Date:	20150512 to 14		
Address:	120 Adelaide Street West - Suite 1016 - Toronto ON		M5H 1T1		

Mr. Michael Cullen (WSCC's geotechnical consultant) and Peter Bengts (chief inspector of mines) performed a general geotechnical safety inspection of Baffinland's ore stockpile and dock facility at Milne Inlet and the open pit and waste dump at Mary River site, from May 12 to 14, 2015. Mr. Cullen's report is attached for information.

Sarah Canning, Tige Collins, Scot Klingmann and Mario Vottero accompanied Peter Bengts and Michael Cullen for all or parts of this inspection.

No significant unmanaged worker safety hazards related to geotechnical aspects of design and operation were noted during the site review. For the most part the intent of the Mine Health and Safety Regulation as it relates to ground stability and worker safety is being met at the Mine. The Mine is following the recommendations of their geotechnical engineers and consultants, whose designs are considered to be consistent with accepted engineering practices.

1 Please submitted for WSCC's review:
   a) 2015 Geotechnical Inspection Review report for the pit.
   b) Ground Control Management Plan
   c) As built reports for Milne dock pile construction
   d) As built reports for Milne dock causeway and fill construction with verification that the stability considers the weak subsurface conditions determined by the pile driving.

   MHSR sect 1.03.(1) *The owner of a surface mine or an underground mine shall maintain a mine design, acceptable to the chief inspector, assessing the ground stability of the active and proposed workings of the mine*

Date of Report 20150525 **Inspector** [signature]

2282 Seabank Road
Courtenay, B.C. V9J 1Y1
Phone (250) 339-2633
michaelcullen@shaw.ca

May 24, 2015

Workers' Safety and Compensation Commission
PO Box 8888
Yellowknife, NT
X1A 2R3

Attn: Peter Bengts P.Eng., Chief Inspector of Mines

Subject: Geotechnical Review of Mary River Project: May 2015

Introduction

As requested Michael Cullen Geotechnical Ltd (MCG) completed a geotechnical review of Baffinland Iron Ore Mines Corporation Mary River Project on May 12, 13, 14, 2015. The purpose of this inspection was as follows:

1. To assess if the operation is meeting the intent of the Mine Health and Safety Regulation (MHSR) as it applies to geotechnical stability.
2. To review if the operation is following generally accepted engineering practices for geotechnical design, construction, and operation that may affect health and safety.
3. To provide general comment on geotechnical conditions at the mine that may affect health and safety.
4. To provide direction to the Mines Inspectors on geotechnical issues potentially affecting health and safety.

Site inspections were made at the pit, waste rock dump, ore load out dock, and temporary ore stock pile. A close out meeting with Mine Management and OHS personal was held following the inspection.

As part of this review we received and have reviewed the following documents:

- "Mine Operations Technical Summary 2014" by Baffinland Iron Mines Corporation dated August 2014.
- "Addendum Mine Operations Technical Summary" by Baffinland Iron Mines Corperation, September 2014.
- "Feasibility Design for Deposit 1 Open Pit" by Knight Piesold, dated December 2007.
- "Open Cell Warf Structure Final_1" PND
- Email from Stephen Ranger (Baffinland) dated April 24 2015 with subject Milne Inlet Dock Geotechnical Review - Mine Inspector Request
- "Geotechnical Design Criteria" by Hatch, dated August 2013

- "Geotechnical Soils Parameters for Design Milne Inlet Dock" by PND dated December 22, 2014.
- "Backfill Friction Angle" by PND dated December 2, 2014.
- "Ore Stock-Pile Wet Commissioning" by PND dated February 27, 2015.
- "Baffinland Iron Mines Milne Ore Dock Design Criteria" by Hatch dated March 24, 2013.
- "Baffinland Iron Mines Milne Ore Causeway Design Criteria" by Hatch dated March 21, 2014.
- "Baffinland Iron Mines Milne Ore Dock Geotechnical Investigation Report" by Hatch dated Feb 21, 2014.
- "Basis of Design for the Pipe Pile Foundations " by PND, dated June 4 2014
- "Milne Inlet Ore Dock Construction Design-Build Specifications" by PND, dated Sept 26 2014
- "Milne Inlet Ore Dock Construction Drawings" by PND, dated Sept 26 2014

Pits

The pit review was completed with Peter Bengts of WSCC, along with Scot Klingmann, Sarah Canning, and Tige Collins of Baffinland.

The current mine plan for the Early Revenue pit (ERP) is based on geotechnical recommendations developed by Knight Piesold in a feasibility level report (stamped draft). The proposed pit design calls for the use of a multi bench mining system that will employ two 7.5m benches resulting in 15m overall bench height. The following table presents the proposed bench design (the present plan is to drill vertical pre-shear holes with the expectation that the crest will break back to the bench face angles presented in the table):

Table 1: Summary of Slope Angles

SECTOR	BENCH WIDTH	BENCH FACE ANGLE	INTER-RAMP ANGLE
UNITS	m	deg	deg
1	9.5	70	45
2 & 3	8.0[1]	60	42
4	9.5	60	40
5	8.0[1]	60	42
6 & 7	9.5	70	45
8	9.5	60	40
9 & 10	9.5	70	45

Notes:

1. Minimum as required by NWT Mine Health and Safety Act and Regulations, 2008, section 1.137.(1)(a) (Mines Act).

Knight Piesold make the following recommendations in the feasibility design report:

The pit slope investigations and analyses undertaken at Deposit No. 1 suggest that additional data is required prior to finalizing the pit design and mine extraction sequence. The data collected from these further investigations may provide an opportunity to steepen some sectors of the pit.

Rock mass strengths assigned in the Fold Axis area are currently conservative due to the variability in rock mass quality and lack of diamond drill information within the HW and FW domains.

- *Additional lab testing will be undertaken on the Ore in order to better define its intact strength characteristics. This will also provide an opportunity to investigate the relation between the percent Magnetite and strength of the intact rock and rock mass. Additional information on the frictional characteristics of the South Limb discontinuities would also be beneficial.*

- *The influence of stress-induced disturbance on the deeper pit configurations needs to be reviewed in more detail with the most up-to-date mining sequence.*

- *The significance of the large-scale feature passing through the north end of the pit needs to be investigated, including its position relative to the East Wall of the Ultimate pit.*

- *The depth of overburden will have a substantial impact on mine design and mine operations for most of the mine's life. As such, overburden depths should be evaluated.*

- *Surface geomechanical mapping should be undertaken within the bulk-sample pit area to provide an enhanced understanding for the local variations in rock mass quality and for the bench-scale characteristics of the encountered discontinuities. This information will be especially relevant early in mine life. These initial pits will also provide some early feed-back on the impact of frost action and the influence of creating a seasonal active layer in the pit walls.*

- *Other than operational considerations, the performance of the pit slopes at Deposit No. 1 will be most dependent upon the spatial variability of rock mass characteristics. The collection and analysis of geomechanical information from the continuing exploration program will help define the key rock mass characteristics and allow for a refined slope design. Of particular interest will be: i) the characteristics of the encountered faults and shears, ii) the position and characteristics of the HW waste stringers, iii) the make-up and 3D distribution of the HW rock units and iv) the dip of JSA within the South Limb.*

- *In order to provide comments on the Ultimate Pit, it was assumed that the same rock mass conditions encountered around the walls of the Payback Pit continued with depth. In order to upgrade the Ultimate Pit recommendations to a more detailed level of design, it will be necessary to validate these assumptions.*

- *Pro-active Geomechanical monitoring should be carried out.*

- *Bench inspections and scaling should be carried out.*

- *Controlled blasting measures should be used.*

We concur with all of the above recommendations although note that implementation of some of them is not critical at this stage of pit development. We consider that the feasibility level designs proposed by Knight Piesold are reasonable and consistent with the requirements of the MHSR. It is understood that Golder Associates will be taking over as the geotechnical consultant to the Mine, and that personal from Golder will be making a site inspection during 2015.

Only the first 7.5m bench has been developed on the top of the mountain, see Photo 1. Rock conditions exposed in the bench face range from fair to poor. Based on experience in other northern mines conditions should improve once out of the frost damaged cap rock zone which is typically 10 to 30m thick. Face stability appears to be controlled by geologic structure; we noted the following:

- The dominant geologic structure is sub-parallel to the bench face. This structure has the potential to result in slabbing type failures. The presence of other structure perpendicular to the bench face has the potential to create the side release surfaces for the slabs. We note that were the perpendicular structures are closely spaced a columnar type failure scenario may develop.
- A shallow structure dips into the face. This structure has the potential to result in undercutting, see Photo 1.
- Several structures cross cut the bench face and appear to have potential to create wedges with kinematic potential for failure.

We expect that rock fall will be an ongoing safety issue in the pit. Rockfall can be best managed by implementing the following practices:

- Controlled blasting of all final walls and internal walls that will be exposed for more than 12 months. It is understood that the Mine is carrying out studies to determine the most effective method of controlled blasting.
- Ensure that all faces are scaled when access is still available.
- Ensure benches are cleaned of accumulated rockfall prior to access being lost.
- Routine mapping of geologic structure to verify assumptions and to project structures into future benches to allow time to modify layout if required.

It is understood that the Mine has a standard operating procedure in place to restrict access to the danger zone below a face, and that faces are inspected by a shift boss prior to any person approaching or working under a face.

Based on this review we consider that the ERP pit is being designed, constructed and operated in general conformance with the requirements of the Mine Health and Safety Regulation as well as accepted engineering practices. No areas of unmanaged geotechnical concern affecting safety were identified.

Waste Rock Dump

The waste rock dump review was completed with Peter Bengts of WSCC, along with Scot Klingmann, Sarah Canning, and Tige Collins of Baffinland. At the time of our inspection dump construction had just commenced and most slopes were less than 4m high.

The dump is being constructed by conventional end dumping. The underlying tundra has a slope less than 20%. The dump for the early revenue phase will be built with the following configuration and the expectation that the core will freeze.

- Setback distance of 100 m from resources pit shell crest.
- 2H:1V overall effective slopes
- 1.5H:1V individual bench slopes
- 15 m berms between benches
- 22 m final height

Section 1.147 of the MHSR requires that a monitoring and surveillance program be developed. For low hazard dumps the minimum acceptable program would include documented inspections by persons familiar with dump design and stability. It is understood that operations staff complete daily inspections of the dump during dumping operations, and that Technical Services complete periodic inspections.

Based on this review we consider that the ERP waste rock dump is being designed, constructed and operated in general conformance with the requirements of the Mine Health and Safety Regulation as well as accepted engineering practices. No areas of geotechnical concern affecting safety were identified.

Milne Inlet Dock and Load Out

The Milne ore stockpile and dock facility review was completed with Peter Bengts of WSCC, along with Scot Klingmann, Sarah Canning, and Mario Vottero of Baffinland. At the time of our inspection the dock facility was nearing completion and ore stockpiles were present.

It is understood that the ore stock piles will be placed at angle of repose to a maximum height of approximately 8m. It is also understood that operations staff complete daily inspections of the stock piles during dumping and recovery operations, and that Technical Services complete periodic inspections. Based on this review we consider that the stockpiles are being designed, constructed and operated in general conformance with the requirements of the Mine Health and Safety Regulation as well as accepted engineering practices. No areas of geotechnical concern affecting safety were identified.

It is understood that the pile driving for the dock encountered softer soils than expected and some pore water issues. It is understood that the piles were modified to suit conditions and that the modifications were reviewed and approved by Baffinland's Engineer (Worley Parsons) and a third party engineer (Stantec). Based on the information presented it appears that the dock piles have been designed and constructed in general conformance with the geotechnical requirements of the Mine Health and Safety Regulation as well as accepted engineering practices. For assurance we request that the as built report for the piles be submitted to WSCC for review.

It was not verified if an engineering review of the dock causeway and fill was completed to verify stability in light of the discovery of soft material during pile driving. For assurance we request that the as built report for the causeway and dock fill be submitted to WSCC for review, and that this document should verify that it considered the subsurface conditions as determined by the pile driving.

Compliance with the Mine Health and Safety Regulation

Table 1 lists the relevant ground control requirements of the Mine Health and Safety Regulation. The table provides comment on if the Mine is meeting the intent of the Regulation, and if not what is required. Sections in the Table left blank were not assessed during this review or are not applicable at this time.

Conclusions and Recommendations

No significant unmanaged worker safety hazards related to geotechnical aspects of design and operation were noted during our site review. For the most part the intent of the Mine Health and Safety Regulation as it relates to ground stability and worker safety is being met at the Mine. The Mine is following the recommendations of their geotechnical engineers and consultants, whose designs are considered to be consistent with accepted engineering practices.

When available we request that the following documents be submitted to WSCC for review:

- 2015 Geotechnical Inspection Review report for the pit.
- Ground Control Management Plan
- As built reports for Milne dock pile construction
- As built reports for Milne dock causeway and fill construction with verification that the stability considers the weak subsurface conditions determined by the pile driving.

Limitations and Closure

Michael Cullen Geotechnical Ltd. prepared this report for the use of the WSCC. This report provides comments and opinions only based on limited observations and review of the work of others; it is not intended to be used in engineering design. Michael Cullen Geotechnical Ltd. does not accept liability for any damages suffered where a third party uses this report, or where it is used for purposes other than intended.

We trust that this report satisfies your present requirements. Should you have any questions or comments, please do not hesitate to contact us.

Sincerely
Michael Cullen Geotechnical Ltd.
Per:

Michael Cullen, P.Eng.
Cc Martin van Rooy, Lex Lovatt, Fred Bailey

Photo 1: First 7.5m highwall exposed on top of mountain. Rock conditions are expected to improve once away from the surficial cap rock zone. It is understood that pre-shear holes were used on the left side of the photo but not on the right.

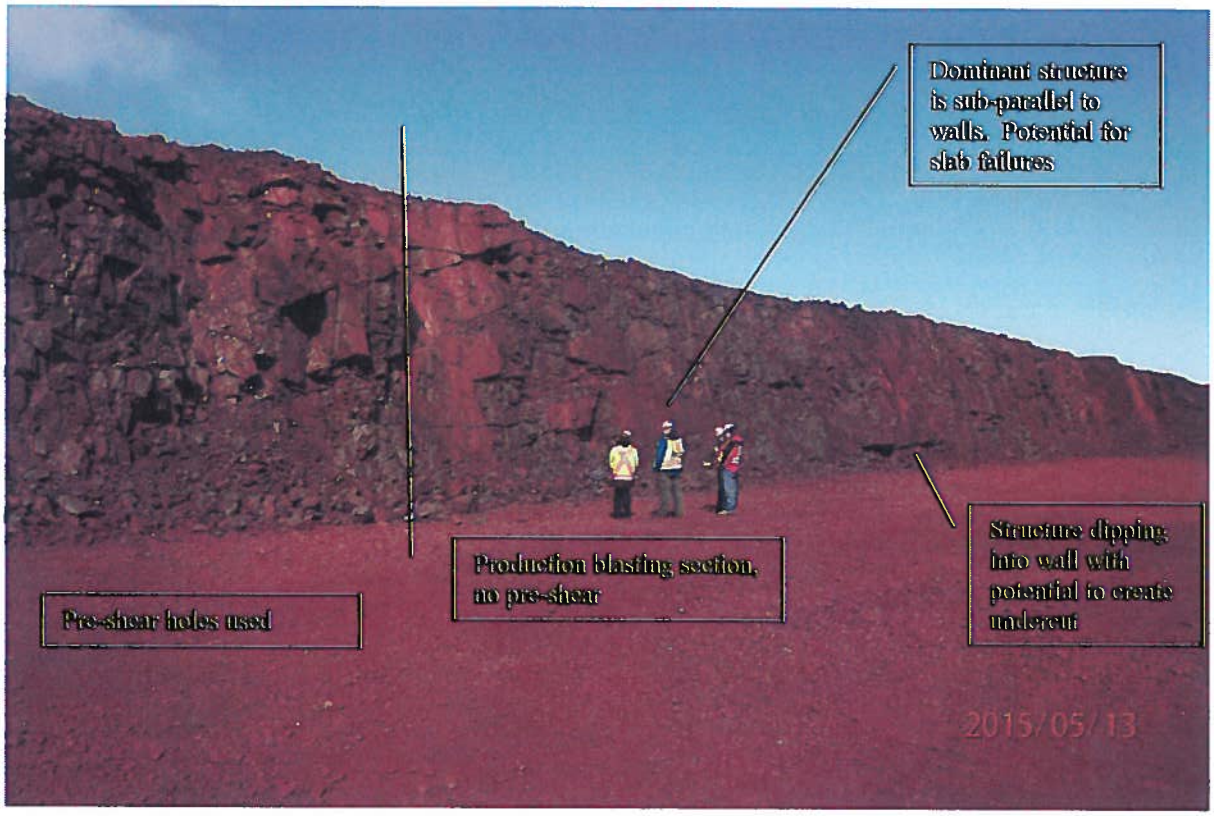

Table 1: Relevant Geotechnical Requirements of the Mine Health and Safety Regulation

Section of Regulation	Comments	Recommended Action
1.03.(1) The owner of a surface mine or an underground mine shall maintain a mine design, acceptable to the chief inspector, assessing the ground stability of the active and proposed workings of the mine. (2) The mine design that the owner is required to maintain shall be prepared by or under the direction of a professional engineer experienced in ground stability design and shall bear the engineer's seal and signature.		Mine is in general conformance with the regulation. No action is required at this time.
1.04. The mine design shall consist of drawings, plans, calculations, specifications and written descriptions and shall (a) describe the geology of the mine; (b) outline the geometry of existing excavations, if any, and proposed excavations; (c) provide the rock mass characteristics that are representative of the ore, footwall and hanging wall rock that will be encountered most frequently and identify the orientation of the most common joint sets; (d) describe the hydrological features that may affect the working of the mine; (e) describe previous occurrences of ground instability and include recommendations from reports of investigations; (f) describe, for surface mines, expected climate conditions, the presence of permafrost, if any, and average monthly precipitation; (g) describe the mining method including bench or stope sequencing and blasting methods; (h) specify ground support systems, including pillars, backfill, timber support, tendon support and any other type of support, the criteria used concerning their selection, dimension, spacing and extent; (i) describe measures used and planned to assess potential ground instability; (j) include specific precautions to be taken concerning parts of the mine where bodies of water, overburden, tailings, gas, low oxygen or water soaked material may inrush or flood the workings; and (k) include such other information as the chief inspector may require.	The reviewed documents contain most of the required information. It is understood that a ground control management plan is being developed that is expected to present the information in a single document.	Mine is in general conformance with the regulation. Review the GCMP when available.
1.05. The mine design shall be assessed and updated by an authorized person annually and before any major change is made to the mining method or the equipment used.	It is understood that Golder Associates will be completing review of geomechanical conditions and assessing pit design this year.	Mine is in general conformance with the regulation. No action is required at this time.

Table 1: Relevant Geotechnical Requirements of the Mine Health and Safety Regulation

Section of Regulation	Comments	Recommended Action
1.24. A ground control logbook shall be maintained for surface and underground mines (a) the time, date and location of all tests relating to the requirements of the quality control program for ground support systems specified in section 1.13; (b) if there is any ground movement in the mine, details of the records of the ground monitoring devices in the area affected before the ground movement; (c) details of uncontrolled falls of ground; (d) details of working ground, tension cracks or other signs of instability; (e) details of rockburst and seismic events; (f) damaged supports; and (g) measurements taken from monitoring devices.	It was brought to attention of Mine that a ground control log book is required. The Mine indicated that one would be put in place immediately.	Confirm that a dedicated ground control logbook is in place during next inspection.
1.26. The shift boss shall convey the information contained in the ground control logbook referred to in the paragraphs 1.24(c) to (f) to every employee, worker and any other person working in the area under the shift boss' supervision before the employee, worker or other person begins working in the area.	See 1.24	See 1.24
1.27. The ground control logbook shall be read and signed each day by the shift boss and by the mine engineer designated by the manager.	See 1.24	See 1.24
1.135. All trees and other vegetation, clay, earth, sand, gravel, loose rock or other unconsolidated material lying within 2 m of the rim of a working face or wall in a surface mine shall be removed and beyond this distance all unconsolidated material shall be sloped to an angle less than the natural angle of repose.	Very little unconsolidated material is present around crest of the proposed early revenue pit. Thick deposits are expected to be encountered around the pit in the future.	Mine is in general conformance with the regulation. No action is required at this time. Better characterization of the nature, location, and thickness of the unconsolidated material will be required in the future.
1.136. (1) No work shall be conducted at or below a face or wall of a surface mine until that face or wall has been examined and declared safe by the shift boss. (2) Nothing in subsection (1) shall prevent the shift boss from being accompanied by other persons who may be required to make the face or wall safe.	It is understood that the shift boss completes inspections of pit walls prior to crews commencing work and that the inspection is documented.	Mine is in general conformance with the regulation. No action is required at this time.
1.137. (1) Where a surface mine is worked in benches, (a) each catchment berm shall be designed so that its final width will not be less than 8 m; and (b) loose rock shall not be allowed to accumulate on a bench or catchment berm in a manner that endangers any person working on a lower bench. (2) The manager shall, in consultation with the Committee, develop a procedure acceptable to the chief inspector that provides for the safety of workers should loose rock accumulate on a catchment berm and access to clean it not be possible.	No benches have been developed to date. Geotechnical analysis indicates that the minimum bench width after consideration of crest break back will be 8m.	Mine is in general conformance with the regulation. No action required at this time.

Table 1: Relevant Geotechnical Requirements of the Mine Health and Safety Regulation

Section of Regulation	Comments	Recommended Action
1.138. No person shall allow any part of a face or wall of a surface mine to overhang.	A pervasive joint set dips into the pit wall which has the potential to result in unstable overhangs. This will need to be assessed as the pit develops.	Mine is in general conformance with the regulation. No action is required at this time, but needs to be assessed as pit develops.
1.139. At a surface mine where unconsolidated material is being worked or removed and could collapse onto the loading equipment, the vertical face shall not be higher than the reach of the loading equipment.	Ore stockpile will be up to 8m high which is less than the height of the loading equipment.	Mine is in general conformance with the regulation. No action is required at this time.
1.140. Except where the working face is sloped at an angle acceptable to the chief inspector, the height of the working face shall not be more than 2 m higher than the reach of the loading equipment.	A multi bench mining system is being proposed.	
1.141. Sections 1.139 and 1.140 do not apply (a) where material is removed by backhoe, excavator, dragline or similar equipment operating from above the face that it is excavating; or (b) where a multiple bench system of mining is being carried on in accordance with conditions approved by the chief inspector.	A multi bench mining system is being proposed that includes controlled blasting of all final walls, scaling final walls and maintaining clean benches to extent possible. The proposed system is consistent with accepted practice.	Mine is in general conformance with the regulation. No action is required at this time.
1.147. The manager shall implement and maintain a surveillance and instrumentation program recommended in a waste dump design approved by the chief inspector.	It is understood that dumps are inspected daily by Operations, and periodically by Technical Services. The dump is small at this time with low hazard rating. Inspection only is considered adequate for the ERP dump.	Mine is in general conformance with the regulation. No action is required at this time.
1.150. A dump shall be designed by a professional engineer where required by the chief inspector or where it has one or more of the following characteristics: (a) a planned volume that exceeds one million cubic m; (b) a height of dump in excess of 50 m; (c) an area to be covered by the dump exceeding 5 ha; (d) it is founded upon natural or trimmed slopes which are sometimes steeper than 20 from a horizontal plane; (e) where waste material is dumped or placed in a water course having a potential peak flow greater than 1 cubic m per second, once in every 200 years, (f) it is situated in such a way that it may be a potential menace to a building, a road, a domicile, a prominent power transmission line, a pipeline or a major water course.	The ERP WRD is considered low hazard and does not meet criteria. MCG previously reviewed designs and does not have any concerns. When expanding to the ultimate the dump size will be much larger. At this time a more rigorous geotechnical assessment would be expected.	

Table 1: Relevant Geotechnical Requirements of the Mine Health and Safety Regulation

Section of Regulation	Comments	Recommended Action
1.161. (1) The manager shall prepare procedures for the examination of open pit workings including (a) accumulations of loose rock on catchment berms which may endanger persons working below; (b) the height of working face in relation to reach of machine digging it; (d) the condition of roads to working area; (h) the presence of overhangs, face slips and faults in the face. (2) The manager shall prepare procedures for the examination of waste rock dumps including (a) irregularities noted in the dump platform; (b) the adequacy of mixing of rock being dumped; (c) the drainage and water problems; (d) any over-steepening in dump face; (e) the adequacy of berms; (g) the gradient of dump platform; and (h) any safety concerns beyond the toe of the dump. (3) The manager shall prepare procedures for the examination of tailings ponds including (a) the condition of the face of the embankment; (b) signs of seepage; (c) sloughing; (d) the condition of beach; (e) the width of top of embankment; and (f) the depth of water.	Mine is in process of developing a ground control management plan.	Review GCMP when available

March 21, 2016

Mr. Martin van Rooy
Mines Inspector
Worker's Safety and Compensation Commission
PO Box 669
Iqaluit, Nunavut
XOA OHO

Dear Martin,

Please find below the Baffinland response to your 20150525 inspection report.

1 ***Please submit for WSCC's review:***
a) 2015 Geotechnical Inspection Review Report for the pit
b) Ground Control Management Plan
c) As built reports for Milne dock pile construction
d) As built reports for Milne dock causeway and fill construction with verification that the stability considers the weak subsurface conditions determined by pile driving.

Response

A) Marc Rougier from Golder Associates will be on-site August 11 to 13, 2015. Mr. Rougier will provide a summary of key observations and recommendations from this inspection following this visit. A final report of the 2015 Geotechnical Inspection Review will be sent to the WSCC by September 18, 2015

B) Baffinland will submit the Ground Control Management Plan by August 28, 2015

C) As-built reports for the dock pile construction will be submitted upon completion of work, with an estimated date of August 15, 2015

D) Please see the attached two files which analyze the stability of the ore dock as a result of observed field conditions. The first document are the WorleyParsons meeting minutes from a January 05, 2015 geotechnical meeting which includes the GeoEngineers/PND presentation. The second document is a PND memo which states that the long term stability of the dock is not affected by observed conditions.

Should you have any questions regarding this submission please contact Michael Anderson by phone at 416.814.3163 or email at Michael.Anderson@Baffinland.com.

Best Regards,

Erik Madsen
Vice President
Sustainable Development, Health, Safety and Environment

cc. Michael Anderson
Tony Woodfine / Bikash Paul / Dwayne Chyz / Dale DeGagne / Jim Millard
Guy Laliberte / Dave McCann
Glen Hein / Hal Finley / Tony Noseworthy

Attachments:

WSCC Workers' Safety & Compensation Commission | ᐃᖅᑲᓇᐃᔭᖅᑎᓄᑦ ᐊᑦᑕᓇᖅᑐᓂᒃ ᐊᒻᒪ ᓇᓪᓕᐅᒃᑯᓪᓗᓂᒃ ᖃᐅᔨᓴᖅᑏᑦ

20151012

email Bernard.Laflamme@baffinland.com

Bernard Laflamme
Chief Operating Officer
Baffinland Iron Mines Corporation
120 Adelaide Street West - Suite 1016
Toronto ON M5H 1T1

Dear Mr. Laflamme:

Further to the **Mine Health and Safety Act article 26** attached is my 20151012 Mary River project inspection report.

As per **MHSA article**

28. please post a copy of this inspection report in a conspicuous location, and

29. advise the chief inspector within 30 days of the remedial measures taken and the remedial measures still to be taken in respect of the inspection report.

32.(1) A person who is adversely affected by a decision or order issued by an inspector may appeal the decision or order, in writing, to the chief inspector within 30 days after its issue.

The WSCC is committed to service excellence. If you have any questions or concerns about this inspection report, please feel free to contact my supervisor Fred Bailey or myself. His phone number is 867 669 4430 or email fred.bailey@wscc.nt.ca.

Sincerely
Workers' Safety and Compensation Commission of the NWT and NU Mine Safety

Martin van Rooy
Engineer/Mines Inspector

cc OHSC c/o glen.hein@baffinland.com

WSCC Workers' Safety & Compensation Commission | ᐃᖃᓇᐃᔭᕐᑎᓄᑦ ᐊᑦᑕᓇᖅᑐᓂᒃ ᐊᒻᒪ ᓇᓚᑦᑐᐃᒃᑯᒪᓂᒃ ᖃᐅᔨᓴᖅᑏᑦ

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

Mine:	Mary River project	Location:	~950 km NW of Iqaluit
Operator:	Baffinland Iron Mines Corp.	Lat. 71-19'N	Long. 79-24'W
Manager:	Bernard Laflamme	Inspection Date:	20151002 to 06
Address:	120 Adelaide Street West - Suite 1016 - Toronto ON	M5H 1T1	

Martin van Rooy (engineer/mine inspector) performed a general safety inspection from October 2 to 06, 2015 of Baffinland's Milne Inlet and Mary River sites.

At Milne Inlet the ore storage pad, reclaim conveyor drive room, ship loaders, Anmar's shop, heavy equipment shop, mobile maintenance shop, Toromont's shop, welding shop, Fountain tire's shop, warehouse and incinerator building were checked.

At Mary River crusher C's MCC room, maintenance shop, welding shop, crushing plants A and B, quarry, explosive magazines, power plant electrical switch rooms 1 and 2 and E-house #10 were checked.

Steven Alcott, Len DiBiagio, Paul De Haan, Tige Collins, Alexandre Guindon, Matthew Johnson, Yves Laflamme, Ambrose Maher, Kenneth Mullen, Noel O'Brian, Mario Vottero and Dean Weedmark accompanied Hal Finley and Martin van Rooy for parts of this inspection.

Noticed a sign at the main entrance to the ore stockpile at Milne Inlet advising restricted area and contact the loader operator before entering however, not all access roads to the stockpile area have a warning sign.

1 Please install a STOP sign at all entrances and exits to the ore storage stockpile area and as required a restricted area sign advising the driver to contact the loader operator before entering the restricted area. Submit a work procedure for persons working in this restricted area.

MHSR sect 17.01.(2) *The plan shall include...*
(f) for surface mines, a traffic control plan showing the maximum allowable speeds for the vehicles in use, rules for passing, "stop" and "yield" locations, priority rules for various vehicles, rules for night operation, maximum operating grades, emergency run-off protection, shoulder barriers; and

Date of Report 20151012 **Inspector** [signature]

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REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

(g) any other information required by the chief inspector.

Noticed there is approximately 240 meters of inclined conveyor belt feeding the ship loaders. The gradient of this section changes from zero to 13.2 degrees and in the event of a belt break failure, the belt and its ore content would slide down to the bottom of the incline.

2 Please submit the mechanism(s) in place in the event of a belt break failure, to prevent the belt and load from sliding down the incline.

MHSR sect 10.01.(1) *All mechanical equipment used at mines shall be*
(a) designed in accordance with good engineering practice;
(b) constructed in accordance with a design and plans that have been certified by a professional engineer; and
(c) acceptable to the chief inspector.

Noticed a) there are wide gaps between some guards at the reclaim conveyor take-up tower and b) not all the guards, surrounding the reclaim conveyor belt drive arrangement in the drive house, are installed.

3 Please review the guard arrangement at the reclaim conveyor drive house and take-up tower and ensure all guards are installed and the gaps between guards are closed to prevent access.

MHSR sect 10.16. *Every*
(a) drive belt, chain, rope or cable,
(b) pulley, sprocket, flywheel or geared wheel,
(c) opening through which any belt, pulley or wheel operates,
(d) bolt, key or set screw,
(e) revolving, reciprocating or relative motion part,
(f) item projecting from a surface, and
(g) counter or tension weight unit and travel path,
and every other item that has motion or relative motion or is hot or electrically energized shall, unless it is so situated as to prevent a person from coming into accidental contact with it, be effectively enclosed, covered or guarded.

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REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

MHSR sect10.17. *No person shall operate any equipment unless all guards are in place.*

Notices the 105 dBA hearing protection sign on the reclaim conveyor drive house door however, if the noise level is that high, double hearing protection should be used instead of single protection noted on the sign.

4 Please check the noise level in the reclaim conveyor drive house and change the sign to double hearing protection required, if the noise level is 105 dBA or higher.

MHSR sect 9.20.(1) *The manager shall ensure that a noise level survey is conducted at all worksites.*

(2) *The results of every noise level survey shall be given to the Committee and made available to an inspector.*

(3) *Where the noise is constant and measurements show noise levels in excess of 85 dBA, the area shall be clearly marked by signs indicating that hearing protection is required.*

(4) *In any area where the noise level may exceed 85 dBA, the manager shall ensure that effective procedures are provided to protect employees from any harmful effects of the noise and copies of the procedures are sent to the chief inspector and given to the Committee.*

Noticed there is no load limit restriction noted on the monorail beams installed in the reclaim conveyor's drive house.

5 Please ensure all monorail and similar hoisting devices have their maximum safe working load limit clearly and conspicuously posted on or near the hoisting system.

MHSR sect. 10.126(3) *The maximum load that a lifting device, pulling device or utility hoist and its support or anchorage system can carry shall be posted in a location visible to the operator and, except during testing, shall not be exceeded.*

Date of Report 20151012 **Inspector** [signature]

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Noticed the drive shafts on the ship loader shuttle conveyor, are not guarded.

6 Please install guards over the ship loader shuttle conveyor drive shafts.

MHSR sect 10.16. *Every*
(a) drive belt, chain, rope or cable,
(b) pulley, sprocket, flywheel or geared wheel,
(c) opening through which any belt, pulley or wheel operates,
(d) bolt, key or set screw,
(e) revolving, reciprocating or relative motion part,
(f) item projecting from a surface, and
(g) counter or tension weight unit and travel path,
and every other item that has motion or relative motion or is hot or electrically energized shall, unless it is so situated as to prevent a person from coming into accidental contact with it, be effectively enclosed, covered or guarded.

Noticed electrical cables and hoses lying indiscriminately and without protection on shop floors i.e. Anmar`s shop, heavy equipment shop, welding shop at Milne and maintenance shop and welding shop at Mary River. The practice of allowing cables and or hoses to lie indiscriminately and without protection across the floor is of concern as they are a potential trip hazard and or they could be cut or damaged by a falling object.

7 This is a repeat infraction see inspection reports 21 March 2015 and 29 March 2014. Please ensure no supervisor allows electrical cords, hoses and other items... to lie indiscriminately and without protection over the ground or across a floor where they are a potential trip hazard and or other hazard if un-intentionally cut or damaged.

MHSR sect 9.04. *The manager shall develop and implement an effective housekeeping program to ensure that*
(a) all worksites and travelways are maintained in a safe condition;

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REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

(b) materials and equipment are stored in a manner so as not to endanger persons; and
(c) appropriate action is taken whenever necessary to maintain a hazard-free environment.

Noticed the pedestal grinder in the heavy equipment shop at Milne Inlet and the welding shop at Mary River did not have a face shield and did not have a sign directing the use of a face shield while grinding. These grinders are not equipped with a vacuum exhaust system to extract the grinding dust, while grinding.

8 Please check all grinders and ensure
a) a face shield is provided at the grinder complete with a sign to use it while grinding, and
b) a suitable vacuum system is installed to capture and remove the dust generated by the grinding process.

MHSR sect 10.122.(7) *Powered grinding wheels, other than portable hand held machines, shall be equipped with an exhaust system or other means for removing dust produced during the grinding operation.*

Noticed Telehandler 001 and 006 parked however, the operator had not blocked a wheel on the equipment, to prevent its unintended movement.

9 This is a repeat infraction see inspection report 26 July 2014. Please ensure each equipment operator before leaving their equipment in a parked position, blocks one of the unit's wheels with wheel chocks, to prevent unintended movement.

MHSR sect 10.29.(1) *All rubber tired mobile equipment having a gross weight exceeding 7,000 kg and any other piece of equipment specified by the chief inspector, shall have a minimum of two wheel chocks that shall be used when the operator leaves the equipment in a stationary position.*

Noticed in the mobile maintenance shop at Milne, a hydraulic hose assembly station blocking access to a wall mounted electrical disconnect switch. As previously reported, clear and unobstructed access must

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REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

be maintained at all times to electrical equipment, in case of an emergency requiring a shutdown of the power.

10 This is a repeat infraction see inspection reports 21 March 2015, 31 October 2014, 26 July 2014... Please ensure all supervisors in their area of responsibility, enforce the requirement for at least one meter of clear access to electrical equipment in their area. This is required to service the equipment and enable unobstructed access in case of an emergency.

MHSR sect 5.07. *Every shift boss or supervisor shall, within his or her area of responsibility and authority,*
(a) carry out the duties set out in the Act and these regulations;
(b) give precedence to the health and safety of persons in his or her charge over any other duties and at the end of his or her shift, communicate with the next shift boss or supervisor all necessary information relating to health and safety concerns;
(c) ensure that all persons in his or her charge are adequately trained and given clear instructions regarding the work they are to perform;
(d) ensure compliance with the relevant provisions of the Act and these regulations;
(e) be knowledgeable about essential safeguards against hazards and about safe working procedures at the worksites for which he or she is responsible so that he or she can routinely assess the safety of the environment and operations affecting persons in those worksites;
(f) by thorough supervision, protect the health and safety of all persons in the area for which he or she is responsible;
(g) make himself or herself familiar with all parts of the area for which he or she is responsible including those parts where persons do not normally work and with safe escape routes, refuge stations and other mustering points;
(h) ensure that there is sufficient safety equipment of appropriate standards for the work being performed;
(i) expeditiously investigate and address health and safety matters drawn to his or her attention;
(j) record before the end of every shift in a log-book kept for that purpose, all matters affecting health and safety, making special notes of any unusual or hazardous conditions or deficiencies found during the shift and of any remedial actions taken; and

Date of Report 2015/01/2 **Inspector** [signature]

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

(k) read and countersign all reports of the previous shift and discuss any health and safety matters of concern and any unusual or hazardous conditions or deficiencies with persons under his or her control before deploying them to their worksites.

Noticed the lid on the 40-gallon solvent cleaning tank, in the mobile maintenance shop at Milne Inlet and the maintenance shop at Mary River did not have its restraining devise connect to prevent the lid from opening 90 degrees or more.

11 Please install the lid restraining device in the solvent tank as per the manufacturer's instructions to ensure the lid will automatically fall closed, in case of a fire in the solvent tank.

MHSR sect 10.01.(1) *All mechanical equipment used at mines shall be*
(a) designed in accordance with good engineering practice;
(b) constructed in accordance with a design and plans that have been certified by a professional engineer; and
(c) acceptable to the chief inspector.

Noticed there was a computer technician working on truck #30. The equipment was not locked-out, as he required the vehicle's power to check the system.

12 Please review the lockout procedure and ensure where equipment must be energized for testing and or operating adjustments, the lockout procedure addresses these instances so that the work is performed safely.

MHSR sect 10.21.(1) *The manager shall develop a lock-out procedure for each mechanical or electrical equipment system, and the procedure shall*
(a) include the requirements of subsections (2) to (6) and sections 10.22 and 10.23;
(b) address the sources of all hazards that may be presented when a person is working on the equipment or system; and
(c) specify, before the work starts, how the equipment or system is to be checked to verify that all hazards have been neutralized and that the equipment or system is safe to work on.

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Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

(2) *The manager shall ensure that each person required to operate or work on any equipment or system is adequately trained in the lock-out procedure and that a written copy of the procedure is made available to each person*

Noticed a screw type hose clamp used on a high-pressure air hose in the mobile maintenance shop. This type of clamp must not be used on high-pressure air service, as the flat screw surface of these clamps could become a potential cutting hazard, when the fitting lets-go under pressure and the hose flips back and forth from the discharging air jet

13 Please check all high-pressure air hoses and replace any gear or screw type hose clamp with a crimping device.

MHSA art 10.(1) *The manager shall take every reasonable measure and precaution to protect the health and safety of employees and other persons at a mine.*

Noticed there are still some electrical panels that are missing their maximum voltage warning sign. i.e. mobile maintenance shop and incinerator building at Milne, the ventilation panel in the welding shop at Milne and Mary River...

14 Please check all electrical panels installed at Milne Inlet, Tote Road and Mary River and ensure clear signage is attached to warn of the highest voltage hazard present inside the cabinet.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed there are some electrical cable coils lying on the ground below the mobile maintenance office at Milne Inlet. The ends of the cables are not capped and there is no signage attached to the cable end to advise where the other end is located.

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15 Please ensure the cut-off end of an electrical cable left in place is capped and identified at each end of the other end's location.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed an acetylene cylinder stored with the oxygen cylinders in the seacan located inside Toromont's shop. Toromont's employee was advised to move either the oxygen or the acetylene cylinder, as they have to be separated by a minimum space of six meters.

16 Please note this is a repeat infraction see inspection report 26 July 2014. As previously noted, ensure full and empty oxygen and flammable gas cylinders are stored with at least a 6 m space between the oxygen and flammable gases cylinders.

MHSR sect 10.136.(2) *Stored oxygen cylinders shall be kept separate from the flammable gas cylinders by*
(a) a space of at least 6 m; or
(b) a 1.5 m high non-combustible barrier with a fire resistant rating of at least 30 minutes.

Noticed there is a damaged stepladder in Toromont's shop. Toromont's employee was advised to dispose of this damaged stepladder.

17 Please implement a routine ladder control/inspection program to ensure the unit is in good condition.

MHSR sect 10.04.(1) *The manager shall ensure that a procedure is established for the safe operation, maintenance, inspection and testing of mechanical equipment and any system considered to be hazardous by the Committee.*

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MHSR sect 10.05. *The manager shall ensure that the procedure referred to in section 10.04 requires that*
(a) the equipment or system be locked out or tagged after a person has discovered a defect, fault, malfunction, or any other condition that could affect the safe operation of the equipment or system; and
(b) the equipment or system not be used until it is safe to operate.

Noticed the fuel shut-off valve, for the heaters in the Milne Inlet and Mary River welding shop, is about 40 feet above the ground and not readily accessible in case of an emergency.

18 Please review the heater's fuel line installation and ensure a readily accessible shut-off arrangement is provided to shut-off the fuel supply to the heater.

MHSR sect 10.01.(1) *All mechanical equipment used at mines shall be*
(a) designed in accordance with good engineering practice;
(b) constructed in accordance with a design and plans that have been certified by a professional engineer; and
(c) acceptable to the chief inspector.

Notice the electrical schematic on the wall in Fountain Tire's Milne Inlet shop, is faded and dated 15 February 2014.

19 Please check the as-built electrical installation versus the electrical schematic and provide an up-to-date electrical schematic on the wall of the shop.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed a number of electrical cords run through seacan doorways in the Milne Inlet warehouse.

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20 Please remove the electrical cords run through doorways in the warehouse, as it is a Code violation to run cords through doors, windows or other openings in structures.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed a welding trailer stored in Milne Inlet incinerator building however, the unit is not equipped with a fire extinguisher.

21 Please install a suitable fire extinguisher on the welding trailer

MHSR sect 10.135. (9) *The manager shall ensure that each welding machine and each set of oxygen and flammable gas cylinders in use is equipped with a fire extinguisher that*
(a) has a capacity for extinguishing a fire that is equal to or greater than a minimum Underwriters' Laboratories of Canada classification of 1A, 10B; and
(b) is suitable for class A and B fires.

Noticed access to the incinerator door at Milne Inlet is about 3 feet above the ground however, there are no steps or ramp provided to access this level.

22 Please review the incinerator operations and provide suitable access to the incinerator door.

MHSR sect 1.90. *Where workers are required to work, operate, maintain or service equipment, a safe means of access shall be provided as required by section 1.89.*

Noticed further to 31 October 2014 inspection report, corrective work to remove the potentially hazardous areas along the Tote road are in progress however, the hazardous section along the lake approximately km 33 to 35 is not addressed.

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23 Please

a) review with the haul truck drivers their view of the potentially hazardous sections of the Tote haul road, and

b) provide an up-to-date schedule for correcting these hazardous areas along the road, i.e. the drop-off into the lake km 33-35...

MHSA art 10.(1) *The manager shall take every reasonable measure and precaution to protect the health and safety of employees and other persons at a mine.*

Noticed the potential fall hazard from the steep access ladder to the top of jaw crusher A, B and C.

24 Please review the ladder installation and provide suitable fall protection.

MHSR sect 1.90. *Where workers are required to work, operate, maintain or service equipment, a safe means of access shall be provided as required by section 1.89.*

Noticed a new crushing and screening plant installed known as crusher C however, the electrical design for C has not been provided and the electrical switch gear is not CSA or equivalent approved.

25 Please submit the certified single line electrical schematic and grounding for this crushing and screening plant installation and ensure the electrical equipment is CSA or equivalent approved.

MHSR sect 13.02.(1) *Prior to the introduction of electrical energy at a mine site and before a major alteration to an existing installation, the manager shall submit an application to the chief inspector for permission to do so, and the electrical system shall not be energized until written permission has been obtained from the chief inspector.*

Noticed a semi-trailer fuel tanker parked in Mary River's maintenance shop, for maintenance work.

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Inspector ____________

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26 Please review the procedure to be followed for performing maintenance work on a fuel tanker inside a building and submit a copy of the procedure.

MHSR sect 10.04.(1) *The manager shall ensure that a procedure is established for the safe operation, maintenance, inspection and testing of mechanical equipment and any system considered to be hazardous by the Committee.*

Noticed there is a large pool of water on Mary River's maintenance shop floor. The floor's sump has no drain line or sump pump to remove the water and therefore it overflows and accumulates on the floor creating a hazard.

27 Please install a sump pump in the sump and ensure a building's sump does not overflow onto the floor area creating a hazard.

MHSR sect 9.04. *The manager shall develop and implement an effective housekeeping program to ensure that*
(a) all worksites and travelways are maintained in a safe condition;
(b) materials and equipment are stored in a manner so as not to endanger persons; and
(c) appropriate action is taken whenever necessary to maintain a hazard-free environment.

Noticed sections of the concrete block wall beam in Mary River's maintenance shop are used for pigeonhole storage racks however, the section next to the storage rack is cluttered with pipe or hose parts, other items...

28 Please implement a housekeeping program to ensure items are placed/replaced in their pigeonholed storage racks to minimize the potential hazard from a cluttered work area.

MHSR sect 9.04. *The manager shall develop and implement an effective housekeeping program to ensure that*
(a) all worksites and travelways are maintained in a safe condition;
(b) materials and equipment are stored in a manner so as not to endanger persons; and

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(c) appropriate action is taken whenever necessary to maintain a hazard-free environment.

Noticed the welder, working on a bucket in the Mary River welding shop, had some soot on his face. He was not wearing a respirator however; he should for protection from the welding fumes.

29 Please review the welding operations in the welding shop at Milne and Mary River and ensure all persons working in the welding shops are protected from breathing harmful fumes.

MHSR sect 10.135.(10) *The manager shall ensure that persons are protected from fumes, gases, dust, vapours and noise produced during a welding, cutting, brazing or heating operation and that*
(a) where general ventilation at the work is not sufficient a local exhaust system is used to minimize the exposure by persons to airborne contaminants produced by the operation; and
(b) procedures are established to reduce noise levels for persons using welding, burning, cutting, brazing or heating equipment and for persons working in the vicinity.

Noticed some of the conveyor pull cords at crusher A would not trip the emergency stop.

30 This is a repeat infraction see inspection reports 20 May 2015 and 20 December 2014. Effective immediately check all pull cord installations on all conveyors at Milne Inlet and at Mary River and ensure each conveyor's emergency stop trips for all directions of pull on the cord, i.e. to or from the emergency stop switch.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed at crusher A damaged heater electrical cord, damaged extension cord(s), redundant cord(s), cords draped over emergency stop switch pull cord lever...

31 Please implement an over-all inspection and clean-up of crusher A and crusher B electrical cords and

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remove redundant electrical cords and equipment from the crusher.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed there are indoor electrical distribution panels installed outdoors for crusher A and B. These indoor panels are located in a wooden enclosure however, the doors were open and cables hung on the doors leaving the indoor panel exposed to the elements.

32 Please remove the indoor electrical panels used at crushing plants A and B (and C?) and replace them with an outdoor panel suitable for crushing plant service.

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed crusher A has a roof-covered walkway below a conveyor for access from one side of the crushing plant to the other side however, crusher B does not have such an arrangement.

33 Please ensure a roof-covered walkway(s) is provided where people are exposed material falling from the conveyor belt.

MHSR sect 10.118.(5) *Guards shall be provided beneath a conveyor where*
(a) a person may contact the conveyor when he or she passes under it; or
(b) materials or parts falling from the conveyor may endanger a person.

Noticed the fresh air ventilation system of generator 4 at Mary River, carried in moist air over the generator causing water drops to precipitate on the generator.

Date of Report 20151012 **Inspector** [signature]

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REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

34 Please review the power plant generator's ventilation system at Milne Inlet and Mary River and ensure the ventilation air does not cause moisture precipitation on the electrical equipment

MHSR sect 13.01.(2) *Except where otherwise required by these regulations, the electrical system and electrical equipment shall meet or exceed the requirements of CSA Standard CAN/CSA-M421-93, Use of Electricity in Mines.*

Noticed some of the bird screen panels on the underside of the power plant generator air intakes, are hanging down with potential to fall from its frame.

35 Please check the generator air intake arrangement at Milne Inlet and Mary River power plant and ensure each bird screen panel is positively prevented from falling.

MHSR sect 10.01.(1) *All mechanical equipment used at mines shall be*
(a) designed in accordance with good engineering practice;
(b) constructed in accordance with a design and plans that have been certified by a professional engineer; and
(c) acceptable to the chief inspector.

Noticed there is approximately a six-inch gap between the access landing and the entrance to generator 4 module. The gap could trap a person's foot and is a potential hazard.

36 Please check Milne Inlet and Mary River power plant generator access landings at the module's entrance to ensure the gap is covered to prevent entrapment.

MHSR sect 1.90. *Where workers are required to work, operate, maintain or service equipment, a safe means of access shall be provided as required by section 1.89.*

Noticed the single line diagrams posted in Mary River powerhouse switch room 1 and 2, are printed half-size and text is very difficult to read. The single line diagram is not up-to-date as the crushing plant C

Date of Report 20151012 **Inspector** [signature]

REPORT OF AN INSPECTOR OF MINES

Issued pursuant to Section 26(2) of the *Mine Health and Safety Act*

installation is not included.

37 Please note this is a repeat infraction see inspection report 20 May 2015. Please ensure up-to-date full size single line diagrams are posted in electrical switch room. They must be mounted such that they can easily be removed for mark-up or replaced as updated prints are produced.

MHSR sect 13.01.(1) *The electrical system and electrical equipment at a mine shall be*
(a) designed in accordance with good engineering practice; and
(b) constructed in accordance with a design and plans that have been certified by a professional engineer.

Date of Report 20151012

Inspector [signature]

October 14, 2015

Mr. Martin Van Rooy
Mine Inspector
Worker's Compensation Commission
PO Box 669
Iqaluit, Nunavut
XOA OHO

Dear Martin,

Please find below, the Baffinland response to the site inspection dated 20151012.

---

1. Port Site Inspection – Fixed Plant Superintendent

Date Due -

Noticed a sign at the main entrance to the ore stockpile at Milne Inlet advising restricted area and contact the loader operator before entering however, not all access roads to the stockpile area have a warning sign.

a. *Please install STOP sign at all entrances and exits to the ore storage stockpile area and as required a restricted, area sign advising the driver to contact the loader operator before entering the restricted area.*

b. *Submit a work procedure for persons working in this restricted area.*

Response

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2. Port Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed there is approximately 240 meters of inclined conveyor belt feeding the ship loaders. The gradient of this section changes from zero to 13.2 degrees and in the event of a belt break failure, the belt and its ore content would slide down to the bottom of the incline.

Please submit the mechanism(s) in place in the event of a ship loader belt break failure, to prevent the belt and load from sliding down the incline.

Response

3. Port Site Inspection – Fixed Plant Superintendent
Date Due -

Noticed a) there are wide gaps between some guards at the reclaim conveyor take-up tower and b) not all the guards, surrounding the reclaim conveyor belt drive arrangement in the drive house, are installed.

Please review the guard arrangement at the reclaim conveyor drive house and take-up tower and ensure all guards are installed and the gaps between guards are closed to prevent access.

Response

4. Port Site Inspection - Safety Superintendent

Date Due -

Noticed the 105 dBA hearing protection sign on the reclaim conveyor drive house door however, if the noise level is that high, double hearing protection should be used instead of single protection noted on the sign.

Please check the noise level in the reclaim conveyor drive house and change the sign to double hearing protection required, if the noise level is 105 dBA or higher.

Response

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5. <u>Port Site Inspection</u> – Fixed Plant Superintendent

Date Due -

Noticed there is no load limit restriction noted on the monorail beams installed in the reclaim conveyor's drive house.

Please ensure all monorail and similar hoisting devices have their maximum safe working load limit clearly and conspicuously posted on or near the hoisting system.

Response

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6. Port Site Inspection – Fixed Plant Superintendent

Date Due -

Noticed the drive shafts on the ship loader shuttle conveyor, are not guarded.

Please install guards over the ship loader shuttle conveyor drive shafts.

Response

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7. Port Site Inspection – All Site Department Managers

Date Due -

Noticed electrical cables and hoses lying indiscriminately and without protection on shop floors i.e. Anmar's shop, heavy equipment shop, welding shop at Milne and maintenance shop and welding shop at Mary River. The practice of allowing cables and or hoses to lie indiscriminately and without protection across the floor is of concern as they are a potential trip hazard and or they could be cut or damaged by a falling object.

This is a repeat infraction see inspection reports 21 March 2015 and 29 March 2014. Please ensure no supervisor allows electrical cords, hoses and other items to lie indiscriminately and without protection over the ground or across a floor where they are a potential trip hazard and or other hazard if un-intentionally cut

or damaged.

Response

---

8. Port Site Inspection - Fixed Plant and Mobile Maintenance Managers

Date Due -

Noticed the pedestal grinder in the heavy equipment shop at Milne Inlet and the welding shop at Mary River did not have a face shield and did not have a sign directing the use of a face shield while grinding. These grinders are not equipped with a vacuum exhaust system to extract the grinding dust, while grinding.

Please check all grinders and ensure

a) a face shield is provided at the grinder complete with a sign to use it while grinding, and

b) a suitable vacuum system is installed to capture and remove the dust generated by the grinding process.

Response

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9. Port Site Inspection - All Department Managers

Date Due -

Telehandler 001 and 006 parked but the operator had not blocked a wheel on the equipment, to prevent its unintended movement. This is a repeat infraction see inspection report 26 July 2014.

Please ensure each equipment operator before leaving their equipment in a parked position, blocks one of the unit's wheels with wheel chocks, to prevent unintended movement.

Response

---

10. Port Site Inspection - All Department Managers

Date Due -

Noticed in the mobile maintenance shop at Milne, a hydraulic hose assembly blocking access to a wall mounted electrical disconnect switch.

This is a repeat infraction see inspection reports 21 March 2015, 31 October 2014,26 July 2014. Please ensure all supervisors in their area of responsibility, enforce the requirement for at least one Meter of clear access to electrical equipment in their area. This is required to service the equipment and enable unobstructed access in case of an emergency.

Response

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11. Port Site Inspection - Mobile Maintenance Manager

Date Due -

Noticed the lid on the 40-gallon solvent cleaning tank, in the mobile maintenance shop at Milne Inlet and the maintenance shop at Mary River did not have its restraining devise connected to prevent the lid from opening 90 degrees or more.

Please install the lid restraining device in the solvent tanks as per the manufacturer's instructions to ensure the lid will automatically fall closed, in case of a fire in the solvent tank.

Response

12. Port Site Inspection - Mobile Maintenance and Site Services Managers

Date Due -

Noticed there was a computer technician working on truck #30. The equipment was not locked-out, as he required the vehicle's power to check the system.

Please review the lockout procedure and ensure where equipment must be energized for testing And or operating adjustments, the lockout procedure addresses these instances so that the work is performed safely.

Response

13. Port Site Inspection - Mobile Maintenance and Site Services Manager

Date Due -

Noticed a screw type hose clamp used on a high-pressure air hose in the mobile maintenance shop.This type of clamp must not be used on high-pressure air service.

Please check all high-pressure air hoses and replace any gear or screw type hose clamp with a crimping device.

Response

14. Port Site Inspection – Fixed Plant Superintendent

Date Due -

Noticed there are still some electrical panels that are missing their maximum voltage warning sign. i.e. mobile maintenance shop and incinerator building at Milne, the ventilation panel in the welding shop at Milne and Mary River.

Please check all electrical panels installed at Milne Inlet, Tote Road and Mary River and ensure clear signage is attached to warn of the highest voltage hazard present inside the cabinet.

Response

15. Port Site Inspection – Fixed Plant Superintendent

Date Due -

Noticed there are some electrical cable coils lying on the ground below the mobile maintenance office at Milne Inlet. The ends of the cables are not capped and there is no sign attached to the cable end to advise where the other end is located.

Please ensure the cut-off end of an electrical cable left in place is capped and identified at each end of the other end's location

Response

16. Port Site Inspection - Fixed Plant and Mobile Maintenance Managers

Date Due -

Noticed an acetylene cylinder stored with the oxygen cylinders in the sea can located inside the Toromont's shop.

Please note this is a repeat infraction see inspection report 26 July 2014. As previously noted, ensure full and empty oxygen and flammable gas cylinders are stored with at least a 6 m space between the oxygen and flammable gas cylinders.

Response

17. Port Site Inspection - Safety Superintendent

Date Due -

Noticed there is a damaged stepladder in Toromont's shop.

Please implement a routine ladder control/inspection program to ensure the unit is in good condition.

Response

18. Port Site Inspection - Mobile Maintenance Manager

Date Due -

Noticed the fuel shut-off valve, for the heaters in the Milne Inlet and Mary River welding shop, is about 40 feet above the ground and not readily accessible in case of an emergency.

Please review the heater's fuel line installation and ensure a readily accessible shut-off arrangement is provided to shut-off the fuel supply to the heater.

Response

19. Port Site Inspection - Fixed Plant Superintendent

Date Due -

Notice the electrical schematic on the wall in Fountain Tire's Milne Inlet shop, is faded and dated 15 February 2014.

Please check the as-built electrical installation versus the electrical schematic and provide an up-to-date electrical schematic on the wall of the shop.

Response

20. Port Site Inspection - Port and Logistics Manager

Date Due -

Noticed a number of electrical cords run through sea can doorways in the Mine Port Warehouse

Please remove the electrical cords run through doorways in the warehouse, as it is a Code Violation to run cords through doors, windows or other openings in structures.

Response

21. Port Site Inspection – Fixed Plant Superintendent

Date Due -

Noticed a welding trailer stored in Milne Inlet incinerator building however, the unit is not equipped with a fire extinguisher.

Please install a suitable fire extinguisher on the welding trailer

Response

22. Port Site Inspection – Fixed Plant Superintendent

Date Due -

Noticed access to the incinerator door at Milne Inlet is about 3 feet above the ground however, there are no steps or ramp provided to access this level.

Please review the incinerator operations and provide suitable access to the incinerator door.

Response

23. Tote Road Inspection - Mine Operations Manager

Date Due -

Noticed further to 31 October 2014 inspection report, corrective work to remove the potentially hazardous areas along the Tote road are in progress however, the hazardous section along the lake approximately km 33 to 35 is not addressed. Please

a) review with the haul truck drivers their view of the potentially hazardous sections of the Tote haul road, and

b) provide an up-to-date schedule for correcting these hazardous areas along the road, i.e. the drop- off into the lake km 33-35 ...

Response

24. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed the potential fall hazard from the steep access ladder to the top of jaw crusher A, B and C.

Please review the ladder installation and provide suitable fall protection.

Response

25. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed a new crushing and screening plant installed known as crusher C however, the electrical design for C has not been provided and the electrical switch gear is not (SA or equivalent approved.

Please submit the certified single line electrical schematic and grounding for this crushing and screening plant installation and ensure the electrical equipment is (SA or equivalent approved.

Response

26. Mine Site Inspection - Mobile Maintenance Manager

Date Due -

Noticed a semi-trailer fuel tanker parked in Mary River's maintenance shop for repair.

Please review the procedure to be followed for performing maintenance work on a fuel tanker inside a building and submit a copy of the procedure.

Response

27. Mine Site Inspection - Mobile Maintenance Manager

Date Due -

Noticed there is a large pool of water on Mary River's maintenance shop floor. The floor's sump has no drain line or sump pump to remove the water and therefore it overflows and accumulates on the floor creating a hazard.

Please install a sump pump in the sump and ensure a building's sump does not overflow onto the floor area creating a hazard.

Response

28. Mine Site Inspection - Mobile Maintenance Manager

Date Due -

Noticed sections of the concrete block wall beam in Mary River's maintenance shop are used for pigeonhole storage racks however, the section next to the storage rack is cluttered with pipe or hose parts, other items ...

Please implement a housekeeping program to ensure items are placed/replaced in their pigeon holed storage racks to minimize the potential hazard from a cluttered work area.

Response

29. Mine Site Inspection - Mobile Maintenance Manager

Date Due -

Noticed the welder, working on a bucket in the Mary River welding shop, had some soot on his face. He was not wearing a respirator however; he should for protection from the welding fumes.

Please review the welding operations in the welding shop at Milne and Mary River and ensure all persons working in the welding shops are protected from breathing harmful fumes.

Response

30. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed some of the conveyor pull cords at crusher A would not trip the emergency stop.

This is a repeat infraction see inspection reports 20 May 2015 and 20 December 2014. Effective immediately check all pull cord installations on all conveyors at Milne Inlet and at Mary River and ensure each conveyor's emergency stop trips for all directions of pull on the cord, i.e. to or from the emergency stop switch.

Response

31. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

*Noticed at crusher **A**, damaged heater electrical cord, damaged extension cord(s), redundant cord(s), cords draped over emergency stop switch pull cord lever ...*

Remove redundant electrical cords and equipment from the crusher.

Response

32. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed there are indoor electrical distribution panels installed outdoors for crusher A and B. These indoor panels are located in a wooden enclosure however, the doors were open and cables hung on the doors leaving the indoor panel exposed to the elements.

Please remove the indoor electrical panels used at crushing plants A and B (and C?) and replace them with an outdoor panel suitable for crushing plant service.

Response

33. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed crusher A has a roof-covered walkway below a conveyor for access from one side of the crushing plant to the other side however, crusher B does not have such an arrangement.

Please ensure a roof-covered walkway(s) is provided where people are exposed material falling from the conveyor belt.

Response

34. Mine Site Inspection - Site Services Manager

Date Due -

Noticed the fresh air ventilation system of generator 4 at Mary River, carried in moist air over the generator causing water drops to precipitate on the generator.

Please review the power plant generator's ventilation system at Milne Inlet and Mary River and ensure the ventilation air does not cause moisture precipitation on the electrical equipment

Response

35. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed some of the bird screen panels on the underside of the power plant generator air intakes, are hanging down with potential to fall from its frame.

Please check the generator air intake arrangement at Milne Inlet and MarY River power plant and ensure each bird screen panel is positively prevented from falling.

Response

36. Mine Site Inspection - Fixed Plant Superintendent

Date Due -

Noticed there is approximately a six-inch gap between the access landing and the entrance to generator 4 module. The gap could trap a person's foot and is a potential hazard.

Please check Milne Inlet and Mary River power plant generator access

landings at the module's entrance to ensure the gap is covered to prevent entrapment.

Response

37. Mine Site Inspection - Site Services Manager

Date Due -

Noticed the single line diagrams posted in Mary River powerhouse in switch rooms one (1) and two (2) are printed half- size and text is very difficult to read. The single line diagram is not up-to-date for crushing plant C

Please note this is a repeat infraction see inspection report 20 May 2015. Please ensure up-to-date full size single line diagrams are posted in electrical switch room. They must be mounted such that they can easily be removed for mark-up or replaced as updated prints are produced.

Response

Should you have any questions regarding this submission please contact Bernard Laflamme by phone at 647.253.0596 ext.6091 or email at bernard.laflamme@baffinland.com .

Best Regards,

Erik Madsen
Vice President
Sustainable Development, Health, Safety and Environment

cc. Bernard Laflamme
Tony Woodfine / Bikash Paul
Dwayne Chyz / Dale DeGagne / Scot Klingmann / Maurice Despres / Anant Minhas
Glen Hein / Hal Finley / Tony Noseworthy
Yves Laflamme / David McCann
Peter Bengts – WSCC
Lex Lovatt - WSCC