

Appendix 25: 2020 Toolbox Presentations

Toolbox Topic	Presentation Total
Waste Segregation and Wildlife Attractants	49
Spill Prevention and Mitigation	14
Wildlife	8
Caribou Migration Protocol	17

Table 1 – 2020 Toolbox Presentation Totals

ENVIRONMENTAL TOPIC – LANDFILL WASTE AND WILDLIFE ATTRACTANTS

Meliadine Landfill What should go in it? What should not?

Acceptable items that are disposed of in the landfill are those that are solid, non-salvageable, non-hazardous, inert, and non-putrescible with a low leachate and low heat generation potential.



- ❖ Grey and Red Roll Off Bins located around site should be utilized and Landfill access should be limited to site service personal
- ❖ Site Services will not remove bins if segregation issues are recognized by the roll-off truck operator



Waste Acceptable for Placement in Landfill

- ❖ Plastic (except expanded polystyrene)
- ❖ White goods
- ❖ Wood
- ❖ Wire
- ❖ Fiberglass Insulation
- ❖ Roofing
- ❖ Asphalt
- ❖ Concrete
- ❖ Carpet
- ❖ Bricks
- ❖ Ceramics
- ❖ Rubber
- ❖ Empty Caulking tubes



Waste Acceptable for Placement in Landfill

- ❖ Clothing
- ❖ Air Filters
- ❖ Gyproc (Drywall)
- ❖ Vehicles and machinery provided all liquids, grease, batteries, and electronics have been removed
- ❖ Glass, including light bulbs (**Fluorescent lights are considered hazmat**)





Waste Unacceptable for Placement in Landfill

Wild Life Attractants

- ❖ Food, coffee cups, food wrappers, sewage sludge
- ❖ Violating this rule attracts foxes, which are trapped by GN wildlife officers as they pose a rabies risk to staff.





Waste Unacceptable for Placement in Landfill

Prevent Leachate

- ❖ Hazardous wastes including mercury, aerosols, batteries, solvents, reagents, glues, ethylene glycol antifreeze, adhesives, Cyanide Bags





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Waste Unacceptable for Placement in Landfill

Prevent Leachate

- ❖ Electronics
- ❖ Materials that can be recycled economically
- ❖ Petroleum products, including materials contaminated with petroleum products
- ❖ Expanded polystyrene (Styrofoam)



Waste Unacceptable for Placement in Landfill

- ❖ If there is any product or item you are unsure of please contact the environment department or check the MSDS **Example:** Sodium Metabisulfite was disposed of in a garbage can (potentially harmful to wildlife and people)



Let's work together to minimize our foot print



- ❖ If you have questions regarding waste management, contact the environment department;
- ❖ or consult the waste management plan <I:\Environment Department\04 - Management Plans - Type A Licence\Landfill Mngt Plan>



Meliadine Waste Management

Hazardous Waste

- Oil Filters
- Oily Solids
- Oily Water
- Waste Oil
- Grease
- Waste Fuel
- Glycol Waste
- Paint and Paint Waste
- Aerosols
- Compressed Foam Cylinders
- Batteries
- Compressed Gas Cylinders
- Electronic Waste
- Fluorescent Lights



Shipped Offsite

Construction Waste

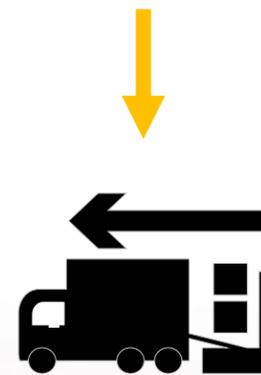
- Plastic
- Wire
- Wood
- Fiberglass
- Fiberglass Insulation
- Roofing
- Asphalt
- Concrete
- Carpet
- Bricks
- Ceramics
- Rubber
- Hardened Caulk
- Empty Caulking Tubes
- Glass
- Clothing
- Small Appliances
- Ash



Landfill

Recycled Waste

- Scrap Metal
- Scrap Tires
- Beverage Cans

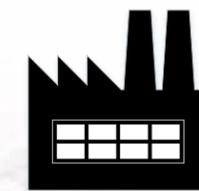


Shipped Offsite

Domestic Waste

- Organic matter including food
- Food containers and wrappings
- Medical Waste
- Plastic and Styrofoam
- Paper Products

- Cardboard



Incinerator



=

Sorted into a separate container

Meliadine Waste Management: Construction Waste

- Plastic
- Wire
- Wood
- Fiberglass
- Fiberglass Insulation
- Roofing
- Asphalt
- Concrete
- Carpet
- Bricks
- Ceramics
- Rubber
- Hardened Caulk
- Empty Caulking Tubes
- Glass
- Clothing
- Small Appliances
- Ash



Landfill

It is important to ensure **no food garbage** is mixed with construction waste. Food garbage in the landfill attracts wildlife.

Meliadine Waste Management: Recycled Waste



- Scrap Metal
- Scrap Tires
- Beverage Cans



Shipped Offsite

 = Sorted into a separate container

Meliadine Waste Management: Domestic Waste

Organic matter including food
Food containers and wrappings
Medical Waste
Plastic and Styrofoam
Paper Products



Incinerator



Cardboard

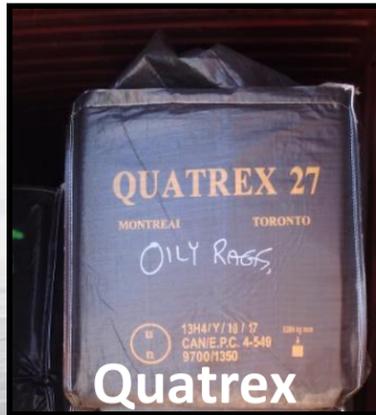


Cardboard Burn Area

 = Sorted into a separate container

Meliadine Waste Management: Hazardous Waste

- Oil Filters
- Oily Solids
- Oily Water
- Waste Oil
- Grease
- Waste Fuel
- Glycol Waste
- Paint and Paint Waste
- Aerosols
- Compressed Foam Cylinders
- Batteries
- Compressed Gas Cylinders
- Electronic Waste
- Fluorescent Lights



Shipped Offsite

 = Sorted into a separate container

When a tote, drum or quatrex bag is full, ensure it is **labelled and closed properly**. Then contact site services for pick up, the item will be brought to the hazardous waste laydown.

Meliadine Hazardous Waste Management Individual Item Pick Up

1

Ensure the outside of the container is clearly **labelled** with its:

- **Contents** (what is in the container)
- **Source** (where the waste was created, ex. Mill, Power Plant, Maintenance)



2

Ensure container is closed properly:

- **Quatrex Bags:** the yellow bag is zip-tied and the black bag is tied with the string
 - **Drums:** the lid is closed, sealed and all caps are secured
 - **Totes:** the screw cap must be secured with a zip-tie or wire
- *When filling totes and drums leave 6" of space at the top to prevent container damage from liquid expansion in the winter

3

Ensure the container is NOT leaking or damaged

4

Call site services on CAMP channel. Let them know the type and number of hazardous waste items that need to be picked up.

Site Services **WILL NOT pick up any hazardous waste unless it is labelled and properly closed**



1

Ensure the hazardous waste seacan complies with the following:

- Only **one type** of hazardous waste per seacan;
- Containers (quatrex bags, totes and drums) are **closed properly**;
- Every container is **labelled** with its contents and source;
- Containers are **not leaking or damaged**;
- Containers are **not stacked**;
- There are **10 pallets/ totes per seacan**;
- The **seacan doors close properly**.

2

Contact environment to request a seacan inspection.

- meli.environment@agnicoeagle.com
- CAMP channel on the radio
- Ext. 4603925, 4603903, 4603202

3

Environment personal will certify your seacan is packed correctly. The seacan door will be sealed with a zip tie and an environment approval tag.

 Hazardous Waste Seacan Approved by Environment	
Seacan #	_____
Waste Producer	_____
Seacan Contents	_____
Inspector	_____
Approval Date	_____

4

Once approved; environment will contact site services for seacan movement to the long-term storage area.



ENVIRONMENTAL TOPIC – PROPER USE OF ROLL OFF BINS

Roll-off bins

Types of roll off bins on the Meliadine site



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- **Green roll-off bins** = Non-treated wood (wood pallets that don't contain paint/chemicals)
- **Grey roll-off bins**= construction waste (landfill material)
- **Red with yellow stripes** roll-off= cyanide roll-off bin (Only for the Mill to use)
- **Red roll-off bins**= temporary construction waste (landfill material)



Grey/Red roll-off bins



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What is considered construction waste?

- Plastic (except expanded polystyrene)
- White goods
- Wood (**Only chemically treated wood such as compressed wood, chemically glued wood and painted pallets**)
- Wire
- Fiberglass Insulation
- Roofing
- Asphalt
- Concrete
- Carpet
- Bricks
- Ceramics
- Rubber
- Empty Caulking tubes
- Clothing
- Air Filters
- Gyproc (Drywall)
- Glass, including light bulbs (Fluorescent lights are considered hazmat)



Domestic food waste can not go in these bins!





Green roll-off bins

What is considered “clean” wood?

- Non-painted oak pallets
- Any non-chemically treated wood
- Broken pieces wood (any non-treated soft/hard wood- 2X4)



What is considered “non-clean” wood?

Treated wood- Compressed woods that contain glue or chemicals

Painted wood- Wood that contains paint (often has a chemical product named Methyl bromide)

Contaminated wood- Wood that has become contaminated with a dangerous chemical or petroleum product



ENVIRONMENTAL TOPIC – MANDATORY SPOTTER TRANSPORT OF TOTES, DRUMS, AND CHEMICAL BAGS

Spills Overview



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- Some spills must be reported within 24hrs to the Government of Nunavut. In the Environment Department, we refer to these as “reportable spills”.
- Environment must be notified of any spill, regardless of quantity or material, so we can determine if it is “reportable”.

	2019	2020	2021
Reportable Spills	24	24	1
Fork-related Spills	5 (21%)	7 (29%)	?

The goal is to reduce the number of reportable, fork related spills in 2021.



We need your help to work towards reducing fork related spills in 2021



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- Procedure has been updated to include the **mandatory use of a spotter** when using forklifted equipment to transport totes, drums, chemical bags, etc.
- Forklift training has been adjusted to put more focus on spill prevention
- Toolbox meetings will be held to review the procedure, and discuss other solutions/ideas with operators and supervisors.

**DON'T LET IT HAPPEN TO YOU. USE A SPOTTER. INSPECT YOUR WORK AREA.
TAKE YOUR TIME.**



Procedure Review

Handling Totes & Barrels With Forked Equipment



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General Information

A spotter is **MANDATORY** for the movement of all totes, drums, chemical bulk bags, or any product transported by forked equipment, which has the potential to be spilled, when the transport is occurring outside of a building or secondary containment area.



[I:\Environment Department\01 - Meliadine Environmental Protocols\Spill Prevention\Mandatory Use Of A Spotter](#)



Procedure Review Summary



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- Ask yourself “Is it a spillable substance? (liquid, powder, hazardous)”
 - If yes, call for a spotter to assist – This could be someone from your department, someone nearby or your supervisor.
- Use appropriate forks
 - If forks extend past the back of the load, either change to 42” forks, or ensure you do not puncture material behind the load.



- Inspect surroundings
 - Look for obstacles, snow drifts, know your route from Point A to Point B.
- Secure the load
 - Use straps to secure drums on a pallet before transport.
- Take your time
 - Don't rush to pick up a tote. Make sure you are properly aligned.



Spill Action Plan



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Developing ideas and conducting trials for different methods to reduce fork related spills.

We want worker input for ideas on reducing these spills! Has anyone used other methods/products at other work sites?

Fork Cameras



Rubber Covers?



Laser Alignment?



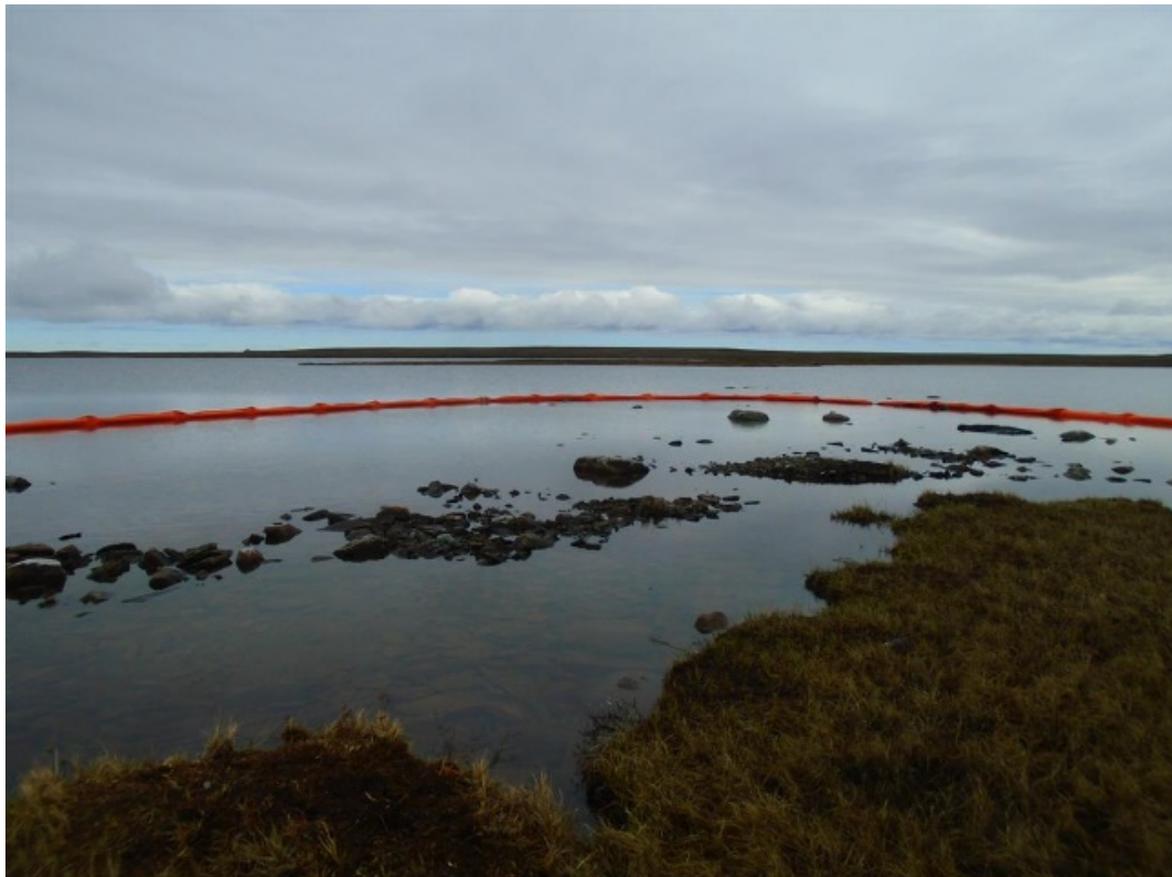
Send your ideas, suggestions, comments to meli.environment@agnicoeagle.com, or come chat on the 3rd floor MSB!





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SPILL MITIGATION



What is a spill?

- ▶ A spill is defined as, an accidental release of product into the environment that has the potential for adverse impacts to the receiving environment, Agnico Eagle property, or human health. This can include potential impacts to water, surface and groundwater, land, equipment, buildings, human health and the atmosphere.



Why do we need to report?

▶ Water License

- ▶ The Licensee shall, subject to Section 16 of the Regulations, report any unauthorized deposits or foreseeable unauthorized deposits of waste and/or discharges of Effluent, and:
 - ▶ a. Employ the Spill Contingency Plan;
 - ▶ b. Report the incident immediately via the 24-Hour Spill Reporting Line (867) 920-8130 and to the Inspector at (867) 975-4295; and
 - ▶ c. For each spill occurrence, submit a detailed report to the Inspector, no later than thirty (30) days after initially reporting the event, which includes the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.

- ▶ **Spill Contingency Plan** - "all staff will be trained to call the Environment Department in the event of a major spill and to notify their supervisor in the event of a minor spill...Upon arriving and inspection of the spill site, if potential hazards are present, call ERT or initiate a Code 1"

- ▶ **NIRB - Condition 77** - The Proponent shall ensure that it maintains the necessary equipment and trained personnel to respond to all sizes of potential spills associated with the Project in a self-sufficient manner.

Legislation

- ▶ *Nunavut Environmental Protection Act:*
- ▶ *Arctic Waters Pollution Prevention Act:*
- ▶ *Nunavut Waters and Nunavut Surface Rights Tribunal Act:*
- ▶ *Storage Tank Systems For Petroleum Products and Allied Petroleum Products Regulations:*
- ▶ *Storage Tank Systems For Petroleum Products and Allied Petroleum Products Regulations:*
- ▶ *Fisheries Act:*
- ▶ *1994 Migratory Birds Convention Act:*



Preventing spills

- ▶ Complete routine inspections on equipment (hydraulic oil, engine oil, radiator, washer fluid leaks)
- ▶ Complete regular servicing on equipment
- ▶ Inform supervisors of equipment needing repairs (e.g. broken gas boy fuel nozzles, loose pipe fittings, tank valve leaks)
- ▶ Adhere to proper work methods and procedures
- ▶ Take care when transferring fuel or sewage
- ▶ Use portable secondary containments when refueling
- ▶ Use portable secondary containments for small containers (110% capacity)
- ▶ Install lined secondary containment for large fuel tanks and chemical storage areas



Contain the spill

- ▶ Contain the spill to avoid spreading the contamination (e.g.. use secondary containment, build a berm or dig a trench, repair the leak, etc..)



Decontaminate

- ▶ Decontaminate the area (e.g.. dig out the contaminated soil, pump out the contaminated liquid, etc..).



Segregate

- ▶ Segregate the material, put rags and booms in a container (quatrex or drum) and take contaminated soil to the appropriate location.



Report

- ▶ Complete the spill report, providing as much detail as possible, and send it to the environment department.
- ▶ The environment department will determine the next steps and record the incident in intellex.
- ▶ If the spill has been cleaned up, the report will be closed.
- ▶ If the spill has not been cleaned up, the report remains open until the spill is cleaned up.

Spill >100 L need to be declared
to Env. Dept. Immediately

**Meliadine Gold Project
Internal Spill Report Form**

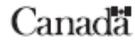
Everyone is responsible of cleaning
their spills

 AGNICO EAGLE	Date of spill	
	Date of spill report	
	Date at the end of cleanup/incident	
Reported by / Unreported		Select one Cause for the incident
Contractor Involved		In the selection under :
Employee Involved		<input type="checkbox"/> Check Equipment Breakdown
Supervisor Involved		<input type="checkbox"/> Check Equipment malfunction
Equipment Involved		<input type="checkbox"/> Check Human error
Nature of Contaminant		<input type="checkbox"/> Check Improper storage
Quantity of Contaminant		<input type="checkbox"/> Check Act of god
Exact Location : Easting / Northing		<input type="checkbox"/> Check Non respect of procedure
Environmental Personnel Contact		<input type="checkbox"/> Check Other
Description of the incident		
Immediate Corrective Action		
Action to be taken to reduce/eradicate risk of similar incident in the future		
Volume (in m3 - cubic meter) of soil transferred to the landfarm		
Report Completed by		
For Environmental Department Purpose Only		
Incident Investigation Recommended		
Government agency notified		
Date of notification to government agency		
Comment :		
Environment Personnel Signature		

Reportable spills

- ▶ If the spill is severe, the environment department may need to report to regulatory agencies (e.g. Government of Nunavut, INAC/AANDC, NIRB, KIA, ECCC, Transport Canada).
- ▶ If the spill is not remediated it can lead to warnings, fines, damage to public image.
- ▶ Remediation of spills very expensive (cost of initial clean up, landfarms, hazmat shipping, lost time).
- ▶ Spills are reportable, regardless of quantity, if they discharge to a waterbody.
- ▶ **Spill Contingency Plan**
- ▶ **2.2 Materials and Reportable Spills on-Site**
- ▶ **To ensure compliance with Section 36 (3) of the Fisheries Act, all spills and non-authorized releases of effluent, fuel or hazardous materials, regardless of quantity, into a waterbody or onto ice are reported immediately to the NT-NU 24-Hour Spill Report Line1.**





NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH - DAY - YEAR		REPORT TIME		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER
	OCCURRENCE DATE: MONTH - DAY - YEAR		OCCURRENCE TIME			
B						
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION				REGION	
					<input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE			LONGITUDE		
	DEGREES	MINUTES	SECONDS	DEGREES	MINUTES	SECONDS
F	RESPONSIBLE PARTY OR VESSEL NAME			RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED			CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES		U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES		U.N. NUMBER	
I	SPILL SOURCE		SPILL CAUSE		AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY		DESCRIBE ANY ASSISTANCE REQUIRED		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS					
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE	
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE	
REPORT LINE USE ONLY						
N	RECEIVED AT SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLED	REPORT LINE NUMBER	
		STATION OPERATOR		YELLOWKNIFE, NT	(867) 920-8130	
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> COG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> LA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS		
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						

Reportable spill quantity - examples

TDG Class	Substance	Compulsory Report Qty
1	Explosives	Any amount from 100L tank
2.3	Compressed gas	Any amount from 100L tank
3	Hydrocarbons (diesel, petrol)	100L
6.1	Poisons	5L or 5kg
8	Corrosives (acids)	5L or 5kg
Other	Saline Discharge Water	100 L

Major Spills at Meliadine



April 2017 - 30,000L Diesel Fuel Spill



July 2017 - Hyster roll-over -
150L Hydraulic Oil, 100L Diesel Fuel



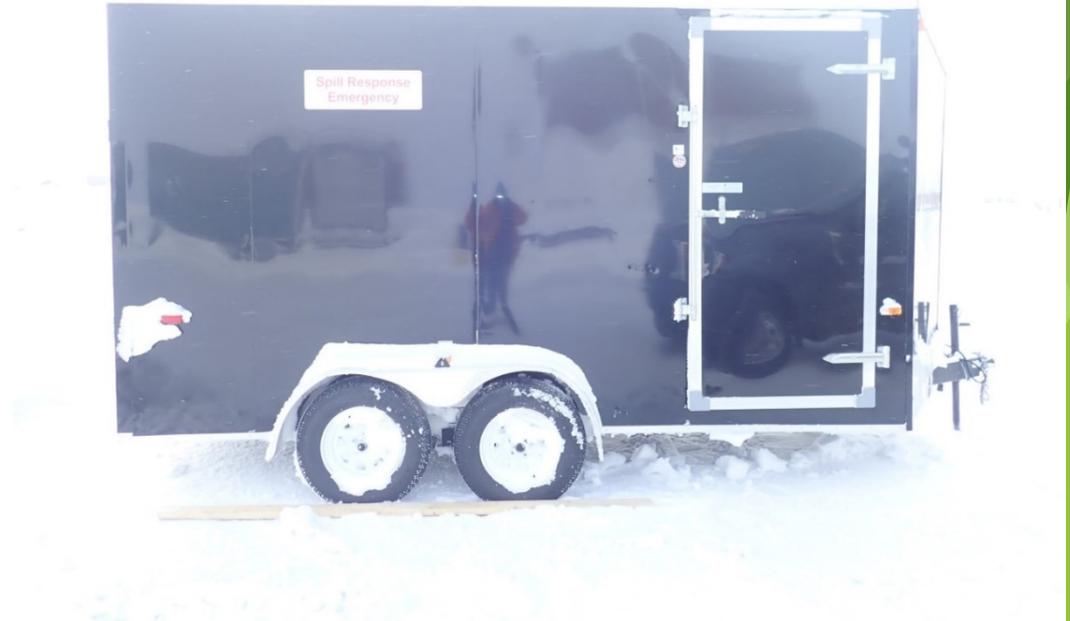
February 2018 - New Fuel Farm - 6500L Diesel Spill



December 2017 - Explo Gen set - 7500L Diesel Fuel

Emergency Spill Response

- ▶ “a major spill is defined as an accidental release of a large or small quantity of material into the environment that has the potential for adverse impact, and cannot be handled safely without the assistance of the Emergency Response Team (ERT), including all events where a person is injured or contaminated. The ERT must be notified immediately of a major spill or emergency and will respond accordingly.”
- ▶ Code 1
- ▶ Phone extension: 4603903, 4603925, 4603996
- ▶ Radio: Channel 1



Saline Water Spill

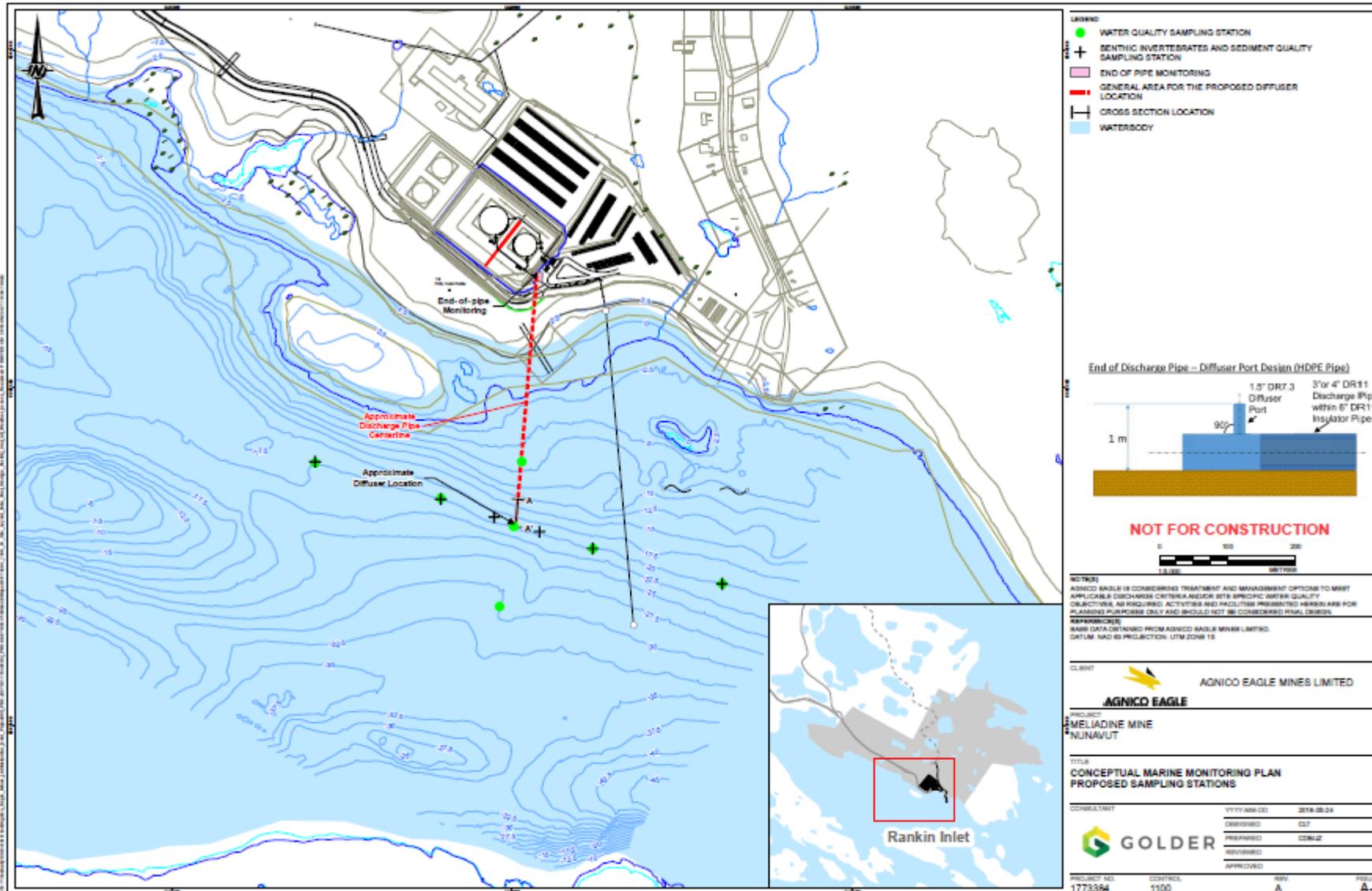
- ▶ In the event of a saline spill notify the environmental department. There are three general locations of spills.
- ▶ Spills at Meliadine mine
 - ▶ Evaluate the quantity and location of the spill. If possible spilled water should be picked up and discharged to saline pond if reasonable.
 - ▶ Each spill location is to be monitored and evaluated on an individual basis as to the extent of the cleanup.
- ▶ Spills at AWAR/Bypass Road
 - ▶ Evaluate the quantity and location of the spill. If possible spilled water should be picked up and brought back to Meliadine Site for disposal.
 - ▶ Small spills which can not be cleaned up are to be marked and monitored.
 - ▶ If a spill of saline water is going to fresh water the saline water is to be mitigated such that the spill does not enter the water.
 - ▶ Any spill of Saline water which goes directly into fresh water is considered a reportable spill and the Environmental Department is to be notified immediately.
 - ▶ If the spill enters the environment outside of the road, the area is to be investigated and evaluated if a cleanup will cause more environmental damage than leaving it in place and monitoring the area.

Saline Water Spill continued

▶ Spills at Itivia

- ▶ Evaluate the quantity and location of the spill. If possible spilled saline water should be picked up and brought back to Meliadine Site for disposal if required.
- ▶ In the event that spilled saline water is going to Melvin Bay, berms, dyke, booms etc. are to be used to stop the flow of saline water to the ocean. As the water flows it may pick up Total Suspended Solids which may cause an adverse impact to the environment.
- ▶ To cleanup a saline water spill which has occurred at Itivia, the area is to be evaluated to see if a cleanup will cause a greater environmental impact than not cleaning up the spill. This will have to be reviewed on a case-by-case basis and decided by the Environmental Superintendent or designate. This refers to larger spills which cannot be easily cleaned up.
- ▶ Any spill of Saline water which goes directly into Melvin Bay is considered a reportable spill and the Environmental Department is to be notified immediately.

Saline Water Spill



Questions





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Meliadine Spill Mitigation

In event of a spill follow these steps:

- Consult SDS and WHMIS for the spilled substance
- Ensure you are wearing the proper PPE for the spilled substance
- If any of these steps put you or another person in danger, DO NOT PROCEED and contact your supervisor.

- 1 Stop the Spill →** Stop the activity causing the spill. Shut down the equipment, close the valve, plug a leak or turn off the power.
- 2 Contain the Spill →** To avoid the contamination from spreading contain the spill. Build a berm, dig a trench, use secondary containment, set up absorbent booms or pads.
- 3 Contact your Supervisor →** Inform your supervisor of the situation. In the event of a large spill the supervisor will contact the environment department immediately, as certain spills must be reported to the government within 24 h.
- 4 Decontaminate →** Remove all contaminated material from the area. Pump out contaminated liquid, dig up contaminated soil or use absorbent pads.
- 5 Segregate →** Segregate all contaminated material. Put used absorbents in a quatrex bag or drum, pump contaminated liquid into totes or drums and bring contaminated soil to the appropriate location. ***Ensure all hazardous waste containers are labelled with their contents, then call E&I Operations to have it moved to the hazardous waste laydown at the incinerator.**
- 6 Submit a Spill Report →** The supervisor will submit a spill report on intelx detailing the event.
- 7 Re-stock Spill Kit →** In the event a spill kit was used, order warehouse items to re—stock it.

If assistance is required the Environment Department can be contacted on the **WATER MANAGEMENT** channel

Spill Response Material	JDE Description	JDE #
Spill Pads - Oil Only	Pads, Oil White Spill	128057
Spill Pads - Universal	Pads, Universal Spill	128059
Spill Pad Roll - Oil Only	Absorbent, Roll Non-laminated	230283
Quatrex Bag	Bulk Bag Hard Wall	145679
Empty 45 Gallon Drum	45 gallon empty drum	128093
Drip Pan	Miniberm, Capacity 22.5 US Gal	230284
Vehicle Spill Kit - Oil Only	Spill, Kit	236610

For more information on intelx spill reporting and other environmental information visit the Environmental Protocols folder on the public drive: I:\Environment Department\01 - Meliadine Environmental Protocols

ENVIRONMENTAL TOPIC – RAPTORS OF NUNAVUT

Raptors of Nunavut

- What are 'Raptors'?
 - Not the dinosaurs or basketball team
 - **Raptor** is the term used to refer to **birds of prey**
 - Raptors include eagles, hawks, falcons, and owls
 - Please report any raptor sighting to the Environment Department right away



Raptor nesting and breeding period

- In the Meliadine region, raptors typically begin nesting in late April/early May

Table 13. Critical breeding period for RLHAs in NWT level III ecoregions. The egg incubation period is designated with E's while the nestling period is indicated by N's.

Ecoregion	May	June	July	August	September
High Arctic (ESTIMATED)		E E E E	N N N N N N		
Mid-Arctic (ESTIMATED)		E E E E	N N N N N N		
Low Arctic North (ESTIMATED)		E E E E	N N N N N N		
Low Arctic South (ESTIMATED)		E E E E	N N N N N N		
High Subarctic (ESTIMATED)		E E E E	N N N N N N		
Low Subarctic (ESTIMATED)		E E E E	N N N N N N		
High Boreal (ESTIMATED)	E E E E	N N N N N N			
Mid-Boreal (ESTIMATED)	E E E E	N N N N N N			

Table 21. Critical breeding period for PEFAS in NWT level III ecoregions. The egg incubation period is designated with E's while the nestling period is indicated by N's.

Ecoregion	April	May	June	July	August	September
High Arctic (ESTIMATED)			E E E E	E E N N N N N N		
Mid-Arctic			E E E E	E E N N N N N N		
Low Arctic North			E E E E	E N N N N N N N		
Low Arctic South			E E E E	E N N N N N N N		
High Subarctic			E E E E	E N N N N N N N		
Low Subarctic			E E E E	E N N N N N N N		
High Boreal (ESTIMATED)		E E E E	E N N N N N N N			
Mid-Boreal		E E E E	E N N N N N N N			

If you think you have seen these birds in the area, please inform the Environment Department on the 'CAMP' radio channel

Reporting Raptor Sightings

- We want to prevent nesting within our active pits and ponds
- Steeps walls/ledges are ideal nesting locations
- If eggs are laid we will need to avoid disturbing the nest, and this could affect mine production and surface activities
- The Environment Department should be notified if there are any potential sightings of raptors, so we can act now to prevent nesting



Types of deterrent methods

Noise Deterrents

Propane Noise Cannons



Electronic Sirens



Pen Launcher 'Bangers'



Visual Deterrents

Bright 'Large Eye' Balloons



Reflectors



Kites



Predator Decoys



Common Raptors of Nunavut



Peregrine Falcon



Rough-legged Hawk



Snowy Owl



Gyre Falcon



Can you spot the nest in SP2?



Can you spot the nest in SP2?



ENVIRONMENTAL TOPIC – ARCTIC FOXES

Protecting the Artic Fox and Yourself

Fast Facts:

1. You are most likely to encounter foxes during breeding season (Feb-Mar)
2. During this period they are looking for food and partners
3. Foxes are keen hunters, but they will eat human food if available
4. Human food is deadly to foxes because they become dependent on it
5. The local fox population is infected with Rabies (Rage)
6. Rabies is fatal to humans if left untreated
7. Leaving food waste outside is bad for foxes and you

How to help:

- Tell your supervisor if you need garbage bins in your work area
- Keep food waste indoors (lunch rooms and buildings)
- Close building doors so foxes don't enter to find food
- Close seacan doors so foxes don't shelter in them
- Using the wrong bin means food goes outside
- Use correct garbage bins to segregate waste
 - Do not pour coffee on the ground
 - Do not feed wildlife

Wildlife Observation:

- If you see a fox, note the location and behavior and record it on the wildlife observation sheet.
- This data is used to monitor our impact on the local fox population and the effectiveness of wildlife management.

Safety:

- Be aware of your surroundings and do not approach foxes.
- If you see someone leaving food waste outside, report it to your supervisor.
- If the fox is acting aggressively, notify the environment department, or security if during night-shift.

Contact: Environment (day-shift) or Security (night-shift) - Camp Channel



Procedure: MEL-ENV-Problem Wildlife



AGNICO EAGLE



MELIADINE CARIBOU MIGRATION PROTOCOL



Meliadine

June 2019



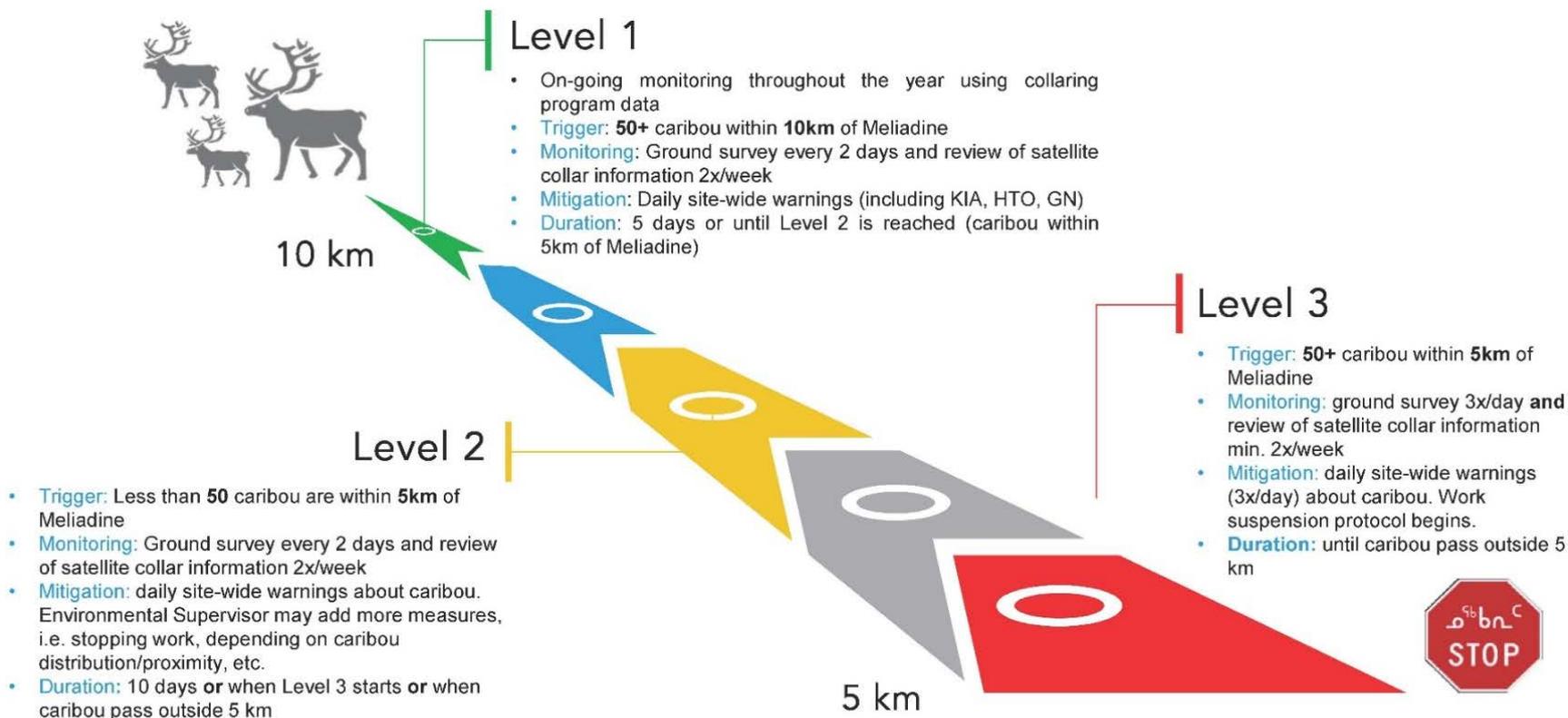


INTRODUCTION

- During the migration period on site, which normally occurs near the end of June and beginning of July, groups of 1000 to 5000 animals (or greater) can cross the area of Meliadine mine, and remain in the area for a period of approximately 3 to 10 days.
- During this period AEM will report any sightings and prevent human activities that could disturb the herd. Caribou will have the “right-of-way”, and will not be blocked or deterred from moving through the Project or the AWAR area.
- AEM must take all possible measures to avoid disturbance to the caribou herd.
- Decision trees and work/traffic suspension protocols have been developed to manage monitoring, mitigation and activities during the migration.



CARIBOU MONITORING



MELIADINE SITE WORK SUSPENSION PROTOCOL

FOR LEVEL 3: In accordance with the IIBA/TEMMP, all off-site and on site-related activities must be stopped once the herd is within 5 km radius of the Meliadine Site. The related activities include:

- Helicopter flights and drill operations off site* (*when herd is within 5 km of their locations*).
- Surface mining/operations activities such as transportation to mining areas, hauling of material, and non-essential refueling of equipment. Non-essential light vehicle traffic will be suspended.
- Surface activities related to underground mining such as surface stockpiling of ore or waste with heavy equipment.
- Surface construction activities: outdoor construction development, earthworks, road construction, structural work, non-essential waste deposition, refueling, transportation of equipment.
- Water management activities, such as unauthorized pumping, piping installation and outdoor unapproved maintenance of water management facilities.
- Outdoor unapproved camp activities.
- Use of evaporators.
- **Only essential light vehicle traffic (for crew changes and Env. wildlife survey) will be authorized.**

* - Inform all employees at the drill sites that are in the direction of the caribou during migration, and within 5 km radius of the migration, that they will need to shut down the operations such that the drills and associated helicopter flights can cease as quickly as possible.

- Shutdown will include removal of drill rods from the holes and securing of the drill station.

- Organize transport of the affected personnel to the camp. Personnel that do not require air or road transportation will be requested to walk back.

- During helicopter transport of personnel the Air Traffic Management Plan (in appendix A) will be applied to protect the caribou herd (avoidance distance of 1,000 m vertical and 1,500 m horizontal).

PERMITTED ACTIVITIES DURING A WORK SUSPENSION

➔ Only essential activities to the site function and health and safety will be allowed:

- Refueling of essential generator and power supplies;
- Operation/maintenance of water treatment systems;
- Critical inspections required in case of a malfunction;
- ERT deployment in case of a Code 1;
- Intervention in case of a reportable spill;
- Medical treatment or site evacuation of employee;
- Activity intended to prevent a health and safety or environmental risk.

All activities, not previously approved by the Environment Dept., during a Migration Level 3 will require approval by the Mine Manager or acting Manager.

WORK SUSPENSION PROTOCOL – LIGHT DUTY WORK

➔ Some light duty work can continue during a Migration Level 3 if:

>50 caribou within the 5 km protection zone, but not within visual contact of the specific work area

➔ *Work activities not-permitted:*

- All heavy equipment travelling on surface

➔ *Work activities permitted:*

- When caribou are not within visual of the two portals, waste and ore can be placed in the immediate vicinity of the portals, but no transport to Ore or Waste Stockpiles.
- Surface activities using the following equipment: man lift, scissor lift, sucker truck, fuel truck, boat
- Manual power tools can be used outside building (ex. Carpentry, welding, painting, etc...)
- Concrete pouring can occur only after receiving permission from the Environment Department.
- Moving one piece of heavy equipment to a garage for maintenance purposes ONLY.
- All work inside building can be performed with closed doors (including maintenance, Anfo plant, Emulsion plant, warehouse, movement of tailing with loader inside the Mill, etc.)
- A loader inside the church with the doors closed is acceptable in order to maximize storage of dry tailings.
- A trial of a visual/noise barrier to allow transport of ore to the crusher/ore silo shall go ahead. It was discussed that a wall of seacans could be temporarily built to create that barrier. KIA will come and assist with monitoring in this area.

➔ If in doubt, contact the Environment Department prior to proceeding with any light-duty work!



CARIBOU SAFETY



AGNICO EAGLE

SAFETY PRACTICES DURING CARIBOU MIGRATION

Agnico Eagle is sensitive to the concerns about the caribou and believes in working together toward a long lasting partnership; we recognize that caribou are an integral part of the Inuit culture and need to be protected.

Agnico has developed a Wildlife Management and Response Plans for both Meadowbank and Melladine. These Plans were reviewed and approved by the NIRB, KIA, GN and local HTO's. The Plans are implemented by Agnico's Environment department at both sites.

-  **AS PART OF AGNICO EAGLE'S PROTOCOL, CARIBOU HAVE THE RIGHT-OF-WAY ON ALL ROADS;**
-  **SPEED LIMIT ON THE ALL WEATHER ACCESS ROAD (AWAR) IS:**
 - > 50 Km / hr
 - > Traffic is suspended when 1-50 caribou are within a 100m of the road;
-  **TRAFFIC AND MINING ACTIVITIES ARE SUSPENDED WHEN CARIBOU ARE IN CLOSE PROXIMITY TO THE AWAR AND THE MINE SITE;**
-  **WEEKLY WILDLIFE SURVEYS ARE COMPLETED ALONG THE AWAR AND THE RESULTS ARE REPORTED YEARLY TO AUTHORITIES AND COMMUNITIES;**
-  **THE AWAR IS NOT A PUBLIC ROAD AND PUBLIC TRAFFIC IS NOT ALLOWED WITHIN MINING AREAS;**
-  **HUNTING IS PROHIBITED WITHIN 1 KM OF THE AWAR AND THE PROJECT**
 - > All hunting activity must avoid shooting directly across the road;
 - > Shooting around the work area is strictly forbidden.

The safety of our employees and members of the community is our priority. Please, be safe!
FOR ALL WILDLIFE SIGHTINGS AND INCIDENTS, PLEASE CONTACT THE MINE SITE ENVIRONMENT DEPARTMENT:
Meadowbank: 819-759-3555 ext 6747, 6759 or 6744
Meliadine: 819-759-3555 ext 3925 or 3928.



MELIADINE AWAR TRAFFIC SUSPENSION PROTOCOL

- **FOR LEVEL 3:** In accordance with the IIBA/TEMMP, traffic will be suspended or stopped on the AWAR, when 50 caribou or more are within 100 m from the AWAR road:
 - All vehicle traffic for transport to and from the site will be suspended (road closure) and /or stopped (for wildlife right-of-way) to allow caribou herds to cross the road;
 - Wildlife has the right-of-way and vehicles must wait without disturbing their movements.
 - The use of the road for operations, mining or construction related activities will cease until caribou herds have moved outside the 5 km radius stop work buffer zone around the Meliadine Site (ex. Fuel delivery from M&T will not go on the AWAR if the site is closed).

CREW CHANGE:

- Crew change will be performed when no caribou herds (50 or more) are present within 100 m from the AWAR;
- Wildlife surveys completed on the AWAR by Env. staff and monitoring data (collaring, observation from gate house, community information) will confirm if a crew change can be performed;
- Crew change will be authorized by the Mine Manager or Acting Manager, in consultation with Env.;
- Notifications will be sent by the Environment department to KIA, GN, and the local HTO to inform that a crew change will be performed;
- Busses will be escorted by Env. to ensure wildlife right-of-way;



GROUND SURVEY PROCEDURE

- Environment technicians will perform ground surveys at several locations on site, including the AWAR, 3 times per day (6:00 am, 12:00 pm, 6:00 pm) during the migration period, or as required.

- All locations will be visited to determine if caribou herds (>50) are within any of the three protection zones. The AWAR will be driven to determine if caribou herds (>50) are within 100 m of the road.
 - Surveys can take up to 2 hours to complete depending on the number of caribou in certain areas

- The information collected will be presented on a map and provided to the Environmental Coordinator who will prepare the “Caribou Migration Alert”, and send out a site-wide email notification.

Stations to be completed:

Survey Stations	GPS Location	
	Easting	Northing
Tank 3 (explo camp Gen Set)	542044	6989089
Tank 9 (Fuel Farm)	541254	6988463
Ind. Pad (Com. Platform)	539161	6990402
Powder Mag Deflector	539230	6988409
Quarry B5	540680	6985933

“CARIBOU MIGRATION ALERT” NOTIFICATION

- Following the ground surveys, a “Caribou Migration Alert” will be issued to all of Meliadine employees and contractors, as well as the HTO, GN, CIRNAC and KIA.

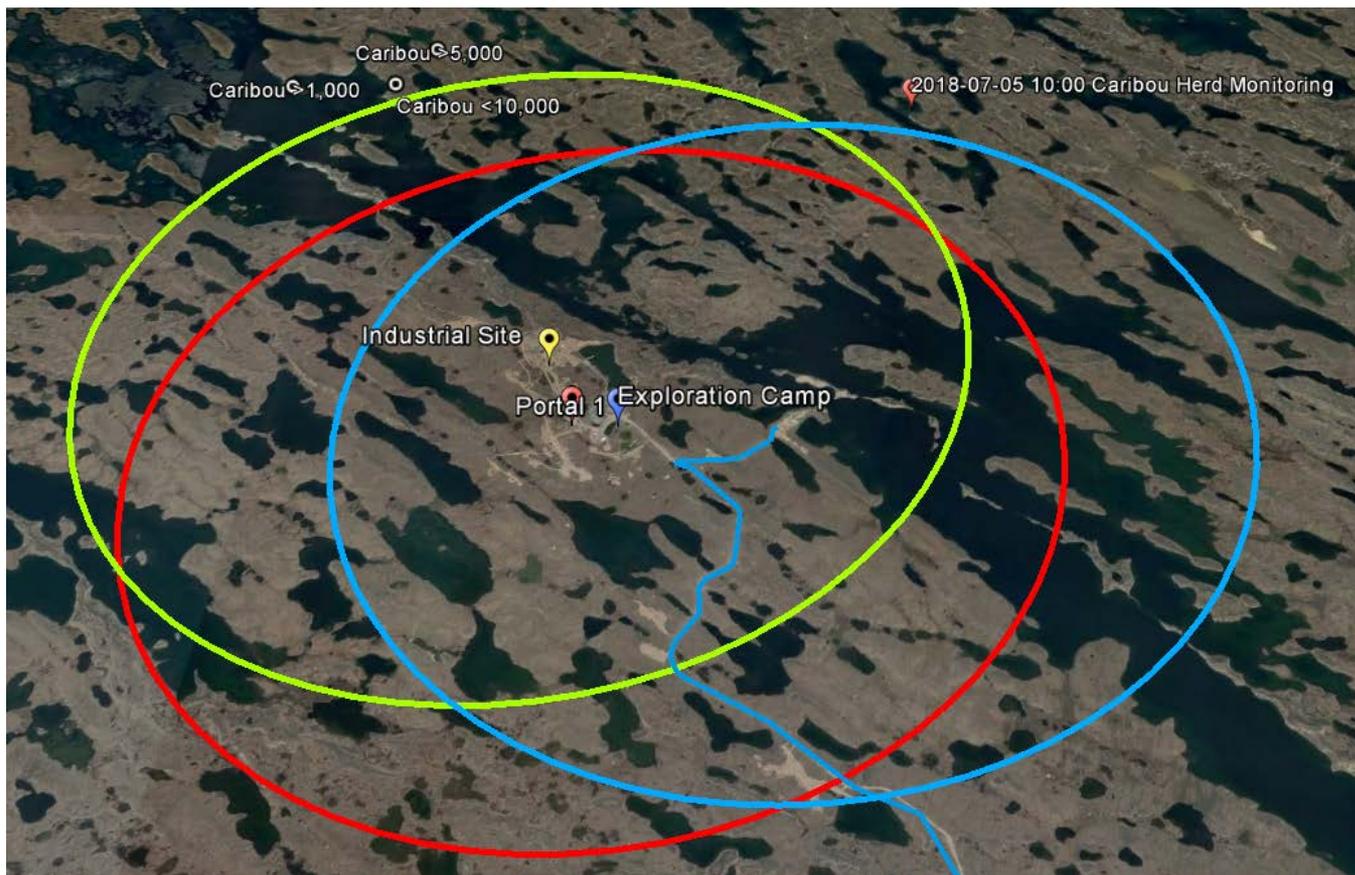
- The information contained within the notification will include:
 - A map showing where the herd(s) have been observed
 - Estimated number of caribou in each separate herd in the area
 - Where activities are suspended
 - Where activities can resume, if possible
 - Road restrictions (closed/open, speed restrictions)
 - Additional restrictions (light duty in effect?)

- The site restrictions will be based on three distinct protection zones on site: Exploration Camp; Industrial Site; and Portal, as well as the AWAR.
 - Pay attention to the restrictions in your specific work area!

- Itivia is excluded as this is not part of the typical caribou migration route.

MELIADINE PROJECT PROTECTION ZONES

- Meliadine Site – 5 km radius around the Project, main work locations include Exploration Camp, Portal 1, and the Industrial Pad.
- AWAR – 100 m within the road



Example of caribou map format for daily maps

“CARIBOU MIGRATION ALERT” NOTIFICATION



Sun 7/8/2018 12:48 PM

Nancy Duquet Harvey

Caribou Migration Survey July 8 2018 (12h00)

To Meliadine; Meliadine Contractors; Jeff Tulugak; Jeff Hart; Rankin Inlet HTO; JCooutu; Kaludjak, Daniel; Russel Toolooktook

Cc Dale Coffin; Suzanne Ledair

Good afternoon,

The midday survey was completed. **The entire site remains under full work suspension and the AWAR remains closed as per the level 3 migration protocol.**

Only essential services and the environmental dept will be circulating around the site

The ongoing collaboration from all the departments is greatly appreciated.



Nancy Duquet Harvey
Environmental Superintendent - NU

nancy.harvey@agnicoeagle.com

T: 819.759.3555 x 6980 (Meadowbank)

T: 819.759.3555 x 3175 (Meliadine)

M: 819.856.4385

CARIBOU MANAGEMENT STRATEGY FOR 2019

- As in 2018, the KIA has been invited to participate in the caribou migration management at Meliadine.
 - Two members of the KIA will be invited to stay at the camp and will partake in ground surveys with the Environment Technicians.
- During the migration period, a morning meeting (6:45 CST) will be held with representatives from each of the main groups to discuss the caribou migration impact on the day's activities.
 - The KIA will participate in this meeting
 - A representative from Mine operations, Mill, and Environment must attend the meeting
- The Environment Superintendent and/or Coordinator will be the main point of contact for any questions regarding caribou migration.
- The movement of caribou herds are tracked weekly through collaring data. This frequency will be increased to twice weekly starting in June.
- Helicopter flights will be completed mid to late June to assess herd general proximity to Meliadine.

SOCIAL MEDIA TIPS FOR AGNICO EAGLE EMPLOYEES



YOU ARE RESPONSIBLE FOR YOUR ACTIONS AND POSTS

Every post is a permanent record. Don't expect privacy.



CHOOSE DISCUSSIONS WISELY

Use common sense and exercise good judgement in what you disclose or post.



USE DISCLAIMERS

Clearly state personal opinions posted via your personal social media accounts as your own and not attributable to Agnico Eagle - *"The views expressed here are my own and do not reflect the views of my employer."*



CHECK YOUR FACTS

Be accurate. Fix mistakes immediately.



ANONYMOUS POSTS

do not excuse a breach of Agnico Eagle's Social Media Policy.



YOUR FACEBOOK, LINKEDIN, TWITTER, INSTAGRAM, SNAPCHAT

and any personal blogs should be consistent with your professional image.



BE AWARE

of the Terms of Service and Privacy for each social media site on which you participate.



AVOID POSTING OUT OF FRUSTRATION

commenting on controversial topics and joining negative conversations.



DON'T POST CONTENT THAT COULD EASILY BE VIEWED AS OBSCENE, threatening, intimidating, harassing or bullying.



DON'T RESPOND TO QUESTIONS OR NEGATIVE COMMENTS on official company social media pages. Only the delegated social media spokesperson is permitted to respond.



DON'T POST INCORRECT, CONFIDENTIAL, NON-PUBLIC, PERSONAL OR EMPLOYMENT INFORMATION about the company, or our employees, business partners and contractors; including documents, maps, survey data, operational or performance information and statistics.



DON'T POST PHOTOS OR VIDEOS THAT INCLUDE IMAGES OF THE COMPANY'S SITES, facilities, security or equipment that show sensitive or non-public information.



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socialmedia@agnicoeagle.com or 1-647-260-3760.

September