Meliadine Gold Project

WILDLIFE PROTECTION AND RESPONSE PLAN

Prepared by:

Agnico-Eagle Mines Limited

Exploration Division

July 2013

Document Control

Version	Date (YMD)	Revised by	Section	Page	Revision
August 2012	2012/08/30	David Frenette	2.2.5, 2.2.9.4	7,12	Typo errors (page 7 and 12),
August 2012	2012/08/30	David Frenette	2.2.9.1	11	Precision on the report to send to the authorities during the caribou migration.
November 2012	2012/11/12	David Frenette	2.2.9.1	10	Removal of the 3 monitoring stations as requested by the GN.
June 2013	2013/06/12	David Frenette	App. A	31	Update of the Air Traffic Management Plan

Table of content

SECTION 1 – INTRODUCTION 6
SECTION 2 – HUMAN-WILDLIFE CONFLICTS 7
2.1 Overview 7
2.2.1 General Restrictions for Wildlife Protection 7
2.2.2 Wildlife Attractants 8
2.2.3 Garbage Management 9
2.2.4 Wildlife Health 9
2.2.5 Wildlife and Vehicles 10
2.2.6 Wildlife and Buildings 10
2.2.7 Reporting Wildlife Observations and Incidents 11
2.2.7.1 Reporting Requirements of Project Workers and Contractors 11
2.2.7.2 Reporting Requirements of Wildlife Occurrences 11
2.2.8 Protocol for Dealing with Problem Wildlife 12
2.2.9 Protocol for Dealing with Caribou and Muskoxen during their migration 13
Figure: 1 Map of Historical Wildlilfe Presence in the region of the Meliadine Project 14
2.2.9.1 Far-field caribou herd monitoring protocol during the migration season 14
2.2.9.2 Caribou and muskox sighting reporting and protection protocol 15
2.2.9.3 Work suspension protocol 16
2.2.9.4 Road utilisation 16
2.2.9.5 Activity restart protocol 16
SECTION 3 – SPECIES-SPECIFIC RESPONSE PLANS 18
3.1 Purpose 18
3.2 Species Groups Addressed 18
3.2.1 Ungulates 18
3.2.1.1 Seasonal Activity in the Project Area 18
3.2.1.2 Response to Encounters 19
3.2.2 Predatory Mammals 20
3.2.2.1 Seasonal Activity in the Project Area 20

3.2.2.3 Environment Department Protocols for Managing Problem Predatory Mammals..... 21
SECTION 4 – WILDLIFE AWARENESS INFORMATION AND ENCOUNTER STRATEGIES..... 24
4.1 Factors that Influence a Predatory Mammal's Reaction..... 24
4.2 Animal Encounters..... 25
4.3. How to React to Animal Encounters..... 25
4.3.1 Specific situations : Animal Encounters..... 26
4.4 Wildlife Deterrents..... 29
4.4.1 Noise..... 29
4.4.2 Wildlife chemical Deterrents..... 29
SECTION 5 – TRAINING PROTOCOL..... 30
5.1 Scope..... 30
5.2 Assumptions and Key Considerations..... 30
5.3 Training..... 31
5.3.1 Wildlife-Human Conflict..... 31
5.3.2 Wildlife Awareness Training..... 31
5.3.3 Environment Department..... 31
APPENDIX A..... 33
AIR TRAFFIC MANAGEMENT PLAN..... 33

SECTION 1 – INTRODUCTION

This plan proposes mitigation measures and monitoring initiatives to lessen the likelihood that wildlife will become habituated to the Meliadine site and its infrastructure. The plan identified measures to deter wildlife from obtaining food rewards, finding shelter around the site, gaining access to harmful substances present on the project site, being injured as a result of vehicle collisions, and damaging mine property.

Despite these mitigation measures, personnel may occasionally come into contact with wildlife that inhabits the Meliadine area. Incidents must be managed to keep both humans and wildlife safe while using only humane control methods.

Furthermore, all staff must be familiar with the standard operating procedures and best practices aimed at ensuring human-wildlife conflicts are minimized during the advanced exploration program. All personnel, including contractors, on site have a role to play in ensuring human safety, conservation of wildlife and documenting wildlife activities in the mine area.

The following plan provides information on general human-wildlife conflicts policies and regulations, species-specific response plans for ungulates and predatory mammals, and wildlife awareness.

SECTION 2 – HUMAN-WILDLIFE CONFLICTS

2.1 Overview

Wildlife encounters can take many forms. A conflict occurs when either human or wildlife health, and/or safety are put at risk. Human health and safety can be affected by contact or conflict with wildlife in several ways, including direct or indirect physical injury, and exposure to animal diseases that can infect humans (i.e., known as zoonotic diseases).

The most common conflict faced by wildlife is the increased risk of mortality from human encounters, which most often occurs when wildlife become habituated to human activity and lose their natural fear of people. The most serious form of habituation is directly correlated to the animal obtaining food, which is known as food conditioning. Food-conditioned animals become dependent on humans as sources of food. Because these human-induced habits become engrained in the animal, attempts to deter the habituated behavior generally fail with the end result usually the death of the animal. Loss of habitat effectiveness (how the animal uses its available habitat), and effects to wildlife movement (how the animal travels through its available habitat) can also result from wildlife in conflict with human development. Ultimately, this will affect both the health and safety of the wildlife species involved. While it is impossible to remove all risk to both human and wildlife health and safety, approaches to minimize the risk do exist. Reactive measures do have their place in stopping the conflicts when they occur, but proactive strategies are the most effective means of preventing potential conflicts.

2.2 AEM Policies and Regulations

The following summarizes the general rules regarding wildlife on the site and will form the basis of the Wildlife Awareness Orientation and Courses (see below).

Employees and contractors are advised to report all unauthorized activities in the vicinity of the Meliadine site to the Environmental Department.

2.2.1 General Restrictions for Wildlife Protection

- The following are general restrictions for site workers and contractors, intended to minimize the potential for negative project-related effects (e.g., increased mortality risk) on wildlife in and around the site.
- Wildlife shall have the right-of-way except where it is judged to be unsafe to do so. All species of wildlife (i.e., from small mammals to large carnivores, songbirds to raptors) when encountered by personnel on foot or in vehicles will be given the right-of-way,
- Non-mine-registered firearms are not permitted on site,

- Feeding wildlife is prohibited at all times,
- Harassment[1] of wildlife is prohibited at all times at the Meliadine site,
- The deliberate destruction or disruption of wildlife nests, eggs, dens, burrows, and the like, is prohibited at all times at the Meliadine site,
- Hunting and fishing is prohibited at all times at the site,
- Pets are prohibited at all times at the site,
- Maximum speed limit on all site roads is 50 km/h (30 mph).
- Traffic (including ATVs and snowmobiles) is restricted to designated roads and trails.

The site refers to any facility present during the advanced exploration program, including but not limited to, outbuildings (e.g., machine shop, offices), the portal and waste rock pads, parking areas, drill sites and borrow pits.

2.2.2 Wildlife Attractants

A list of potential wildlife attractants is provided below. The list is intended as a general summary of attractants but may not be comprehensive of all potential attractants.

- Food wastes and garbage;
- Chemicals (e.g., salt for drilling) and refuse (e.g., empty fuel containers);
- Wildlife carcasses (e.g., road kills, hunter kills);
- Human activity moving around the site; and
- Roads, which may create preferential travel corridors for wildlife, can lead to vehicle collisions and increased exposure to wildlife encounters at the site.

General recommendations directed at minimizing wildlife concerns related to food wastes and garbage is presented under Section 2.2.3 (Garbage Management).

Protocols for dealing with chemical storage, disposal and spills are presented in Meliadine's Waste Management Plan and Spill Contingency Plan. These protocols will minimize the potential for adverse wildlife effects, and are referenced under Section 2.2.3 (Garbage Management) and Section 2.2.4 (Wildlife Health).

Requirements related to the reporting and removal of wildlife carcasses are presented under Section 2.2.7 (Reporting Wildlife Observations and Incidents).

[1] defined as to kill, injure, seize, capture or trap, pursue and includes to stalk, track, search for, or lie in wait for all purposes not authorized by the Environmental Department

2.2.3 Garbage Management

General recommendations directed at minimizing wildlife concerns related to food wastes and garbage is provided below.

- Littering is prohibited on and in the vicinity of the site and along access roads. All garbage (e.g. lunch bags) must be returned to temporary storage containers. Note: organic wastes (e.g., orange peels, apple cores, left over coffee, tea or fruit drinks) are included.
- Food related waste (including packaging) will be incinerated on a daily basis and general waste will be stored for eventual disposal in proposed landfill[2] and then buried.
- Wastes associated with mechanical maintenance and repairs (e.g., motor oil and antifreeze) will be disposed of as per the Hazardous Materials Management Plan.
- All temporary (small) storage containers for food waste garbage (yellow bin) will be wildlife protective (i.e. have bear proof lids).
- No open top buckets or anything similar will be tolerated outside buildings.
- Feeding wildlife is prohibited at all times on or in the vicinity of the site, including during travel to and from the site on workdays.
- Wildlife incidents related to garbage or human food attractants will be reported as soon as possible. See Section 2.2.7 (Reporting Wildlife Observations and Incidents) for more information.
- Improperly disposed of garbage, particularly food wastes, will be reported as soon as possible.
- See Section 2.2.7 (Reporting Wildlife Observations and Incidents) for more information.

While arctic fox tend to be the greatest concern with respect to access to garbage, other animals (e.g., wolverines, wolves and grizzly bears) may be attracted to uncontained garbage sources. Problem wildlife data at the Meliadine mine to date indicate that Arctic fox and wolves are the most likely species to be attracted to the site

2.2.4 Wildlife Health

The following recommendations are intended to reduce potential mine-related effects on wildlife health (including non-vehicle related accidents and consumption of toxic substances).

- Feeding wildlife is prohibited at all times on or in the vicinity of the site, including during travel to and from the site. If caught feeding wildlife, an employee can occur suspension and/or dismissal.
- Company procedures on the safe and prompt clean-up of any chemical spills will be followed.
- See Meliadine Gold Project's Fuel Transportation and Spill Contingency Plan – October 2012 for a more detailed protocol.

[2] The KIA and the NWB hava approved a landfill on the commercial

- Any observations of wildlife in and around potential sources of contaminants (e.g., fuelling sites) will be reported. See Section 2.2.7 (Reporting Wildlife Observations and Incidents) for details.

2.2.5 Wildlife and Vehicles

The following recommendations are intended to reduce the incidence of wildlife-vehicle collisions and near misses.

- Wildlife has the right-of-way except where it is judged to be unsafe to do so.
- Obey all traffics signs.
- Maximum speed limit on all access roads is 50 km/h (30 mph).
- Verbally report wildlife carcasses observed on and in the vicinity of the site, and along access roads, as soon as possible. See Section 2.2.7 (Reporting Wildlife Observations and Incidents) for more information.
- Restrict traffic (including ATVs and snowmobiles) to designated access roads and trails.
- Push the snow with a dozer when clearing the road to avoid build-up snow banks on the side of the road
- Report all wildlife-vehicle collisions that results in the death or injury of wildlife as soon as possible. See Section 2.2.7 (Reporting Wildlife Observations and Incidents) for details.
- A near miss between a vehicle and an animal should be reported as a wildlife ‘incident’. See
- Section 2.2.7 (Reporting Wildlife Observations and Incidents) for details.

2.2.6 Wildlife and Buildings

The following recommendations are intended to reduce the risk of close encountering situations between wildlife and people

- Skirting will be add around the building to avoid having wildlife under the buildings
- Under building access ways must be closed at all time
- Keep sea-can doors closed at all time to avoid wildlife using them as shelter
- Open top bins and containers for food waste will not be permitted outside buildings.

2.2.7 Reporting Wildlife Observations and Incidents

2.2.7.1 Reporting Requirements of Project Workers and Contractors

- Workers and contractors are required to verbally notify the Environmental Department of the following wildlife observations or incidents as soon as possible.
- Signs of animal presence (e.g., tracks, scat, nests, burrows) in close proximity (visible to the eye from within the site footprint frequented by workers).
- Sightings of animals in close proximity (visible to the eye from within the site footprint frequented by workers).
- Aggressive or unusual wildlife behavior around site facilities.
- Instances of workers feeding wildlife.
- Instances of improper disposal of garbage or other waste materials.
- Observed maintenance issues (e.g., improper placement or maintenance of garbage containers).
- Instances of workers not following vehicle use guidelines (e.g. speed limits).
- Vehicle collisions with wildlife or near misses.
- Observations and locations of dead (e.g., road kill) or injured animals.

Following the verbal report of a wildlife incident or observation, completion of a Wildlife Incident

Report form by the environment department will be done.

2.2.7.2 Reporting Requirements of Wildlife Occurrences

Wildlife Incident Reports provide essential information that may identify:

- potentially dangerous situations requiring intervention (e.g., problem wildlife);
- situations that require notification of the Nunavut Department of Environment;
- weaknesses in garbage-handling and problem wildlife prevention measures; and
- areas that may require warning signs (e.g., poor visibility road corners).

The Environmental Coordinator or designate(s) should ensure that records of wildlife observations and incidents are thoroughly documented. Reports should attempt to include the following information wherever possible:

- Identification and number of wildlife observed;
- Specific timing and location of the observation(s);
- Details regarding the animal behavior, including direction of approach and departure, what it was doing, any aggressive behavior, etc.
- Assessment of local attractants, such as garbage, odors, movement of people, other wildlife, etc.;
- If local attractants are identified as a factor, determination of what steps were or will be taken to address/remove potential attractants;
- Identification of any potential mitigation measures available to deter wildlife or limit access and how they will be implemented (refer to Section 2.2.8 for additional information on dealing with problem wildlife); and
- If an animal is destroyed, a description of the lethal measures deployed (e.g., rifle), statement of the rationale for use of lethal measures (e.g., proximity to workers, repeated incidents, observed condition of the animal, etc.), and indication of what previous non-lethal measures were employed (e.g., deterrents, hazing, trapping and relocating (with permission from GN) etc.).

2.2.8 Protocol for Dealing with Problem Wildlife

A problem wildlife situation may arise where animal acts in an aggressive manner and/or is a repetitive nuisance or threat to worker safety. The following protocols should be used to deal with problem wildlife:

- Immediately notify the Environmental Coordinator or designate(s) of any problem wildlife issue.
- Reporting wildlife incidents as they occur will ensure that proactive rather than reactive measures can be taken to prevent a serious outcome (e.g., human injury, destruction of the problem animal). See Section 2.2.7 (Reporting Wildlife Observations and Incidents) for details.
- Notify the Conservation Officer in the Hamlet of Site or other designated Government of Nunavut representative, inform them of the problem wildlife encountered on site, discuss appropriate aversive and mitigation actions, and determine timing when lethal methods should be implemented, if necessary.
- The Environmental Coordinator or designate(s) will initiate the appropriate actions in response to a problem wildlife issue, Recommended actions include:
- Assess potential local attractants and address or remove all those identified, where practical;
- Utilize non-lethal deterrents (e.g., aversive conditioning, hazing, trapping and relocating), projectiles (e.g., rubber bullets. (refer to Sections 3 and 4 for species-specific deterrents); and
- Use lethal measures. Lethal measures should only be considered as a last resort in the event of aggressive animal behavior and/or repeated nuisance animals that pose a threat to worker safety and/or site facilities.

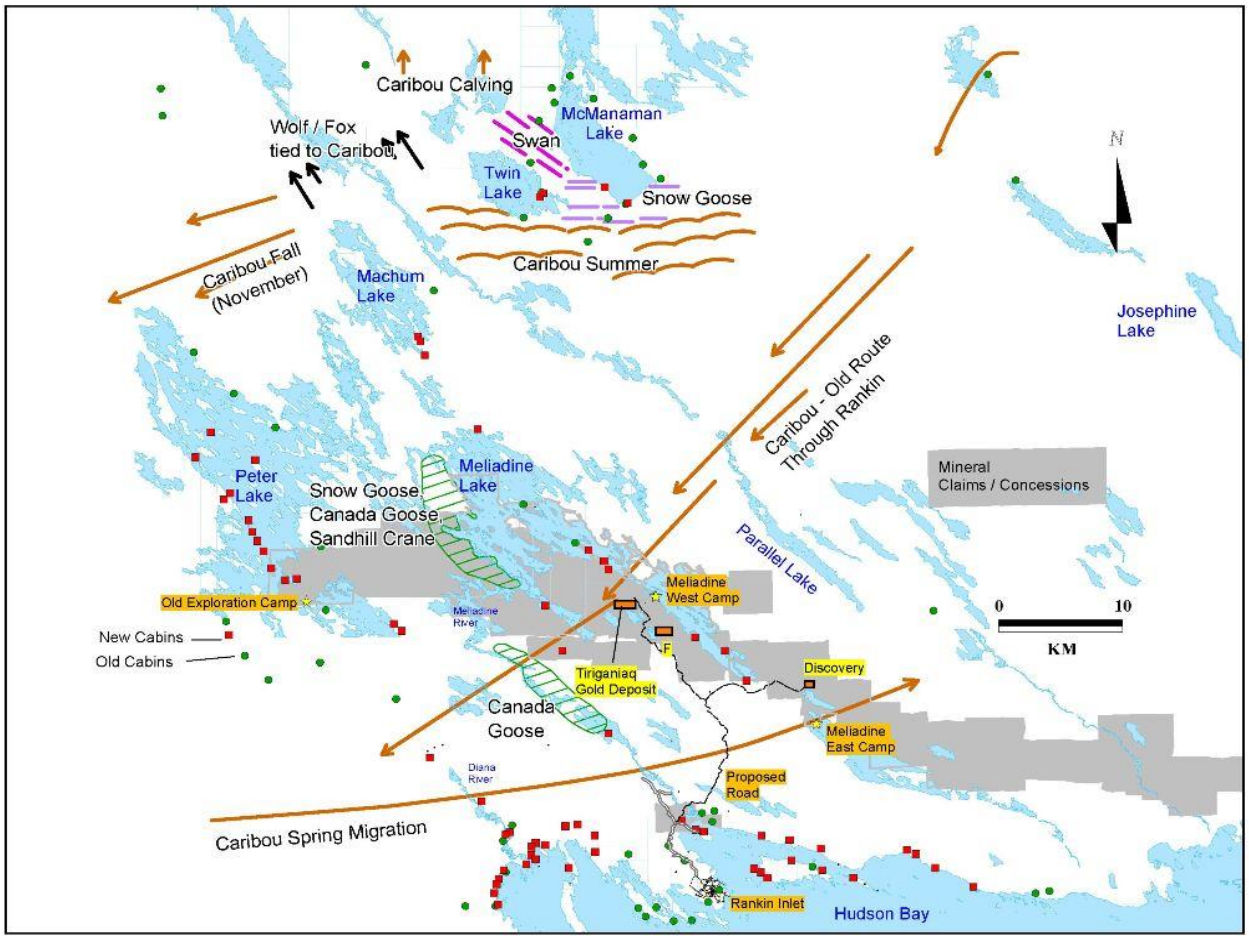
- Only authorized personnel (Environment Department) are permitted to use lethal and non-lethal projectiles (e.g., rubber bullets) or deploy traps for problem wildlife interventions.
- Do not attempt to deal with a problem wildlife issue on your own. Problem wildlife can be dangerous.
- Conform to recommendations regarding predator safety. All staff should have received a predatory mammal (i.e., grizzly and polar bear, wolverine, wolf and fox) awareness training orientation. See Section 5.

2.2.9 Protocol for Dealing with Caribou and Muskoxen during their migration

Results from baseline surveys indicate that caribou and, only recently, muskoxen are present in the Meliadine Area for part of the four seasons, but caribou are observed in greatest abundance between May and September.

The baseline study established a map of historical wildlife presence in the region of the Meliadine project, including historical migration routes for the caribou. This map is shown in Figure 1.

Figure: 1 Map of Historical Wildlilfe Presence in the region of the Meliadine Project



The protocol will have 4 components:

- A far-field caribou herd monitoring protocol during the migration season
- A caribou and muskox herd sighting and protection protocol
- An activity shutdown protocol including crew change and helicopter flight control
- An activity restart protocol

2.2.9.1 Far-field caribou herd monitoring protocol during the migration season

It is difficult to predict the exact path of the caribou migration or its timing. For this reason, the first part of this protocol will be the establishment of a far-field caribou herd monitoring protocol during the migration period.

Between mid-June to mid-August the helicopter pilots will verify for caribou herd sighting during their usual flights (as drill crew change or travels to Rankin Inlet).

If a caribou herd is seen, a report will be sent to the Kivalliq Inuit Association (KIA), Hunters and Trappers Organization (HTO) and Government of Nunavut (GN) Environmental Department by email.

This information will be processed by the environmental technicians at site and discussed with our biologist.

Communication will be established with the HTO, the GN and the KIA to assess the potential movements of any detected herd.

2.2.9.2 Caribou and muskox sighting reporting and protection protocol

In the migration time starting about the end of June, herds of 1000 to 5000 animals can cross the area of Meliadine camp. For a period of 3 to 5 days the caribous can therefore be present around the site for the annual migration.

Studies of woodland caribou have demonstrated avoidance of up to 1 km for well sites and 250 m for roads and seismic lines (Dyer et al. 2001). Data from the Ekati Diamond Mine suggests that the instantaneous negative response (alert, stop feeding) of barren-ground caribou to stressors (e.g., truck traffic) increases within 1 km of the source (BHPB 2004).

Therefore during this period we need to report any sighting 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 area.

AEM must take all possible measures to avoid disturbance to the caribou or muskox herd.

At all times, it’s **strictly forbidden to harass wildlife**. This includes persistently worrying or chasing animals, or disturbing large groups of animals.

When observing herds of caribou or muskox:

We must report immediately the presence of the caribou (50 or more) or muskox (10 or more) herd to the Meliadine Environmental Department which will immediately contact the Kivalliq Inuit Association (KIA), Hunters and Trappers Organization (HTO) and Government of Nunavut (GN) Environmental Department. When reporting the presence of the herd, specify the location and the numbers.

When to activate the work suspension protocol:

During migration of Muskox (10 or more animals) or Caribou (50 or more animals) herds AEM must start implementing the work suspension protocol when the caribou herd is moving in the direction of the

activities and crosses the 5 km mark from the site activities (the activities include the road construction, drilling, camp operation, etc).

2.2.9.3 Work suspension protocol

Work that could interfere with the caribou herd migration will be suspended:

- helicopter flight
- drill operation
- circulation of vehicules

Upon activation of the work suspension protocol, the following steps will be taken:

- Inform all employees at the drill sites that are in the direction of the caribou migration that they will need to shutdown their operation so that these operations are down before the caribou herd reaches the 3 km^2 boundary.
- Remove drill rods from the holes and secure the drill station.
- Organize transport of the affected personnel to the camp. Personnel that do not require air transportation will be requested to walk back.
- During helicopter evacuation 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). Use of helicopter for emergency evacuation of personnel for medical reason will still be allowed.

2.2.9.4 Road utilisation

- For a group of caribou (≥50) or muskoxen (≥10) within 100 m from a road :
    - Vehicle traffic is suspended
    - Wildlife has the right of the way and vehicles must wait without disturbing their movements.

2.2.9.5 Activity restart protocol

Through ground based monitoring, the AEM wildlife monitor will determine when caribous are outside the 3 km^2 buffer, and report the information to the Meliadine Site Manager or designate. The observations will also be shared with the KIA, GN and HTO by email. Activities can resume when caribous are outside the 5 km mark or if the caribou herd is outside the 3 km^2 area for more than 2 days and if an agreement is reached with the KIA, GN and HTO to resume activities. The decision and time to resume activities will be communicated to the KIA, GN and HTO by email.

SECTION 3 – SPECIES-SPECIFIC RESPONSE PLANS

3.1 Purpose

Response plans specific to species groups (i.e., ungulates and predatory mammals) are required to ensure that all personnel at the Meliadine site are provided guidance on how to respond in a manner that is safe to both humans and wildlife should they encounter wildlife on or around the project site.

3.2 Species Groups Addressed

Ungulates (caribou and muskoxen) and predatory mammals (polar and grizzly bears, wolverine, wolf and Arctic fox) have the highest potential for interactions with humans during the life of the mine, and thus require specific response plans. If other wildlife are encountered, adaptive management strategies will be implemented if mitigation techniques and the mine policies and regulations mentioned in this document are not effective for these species. The proposed wildlife monitoring program will be the best measure of identifying potential areas in need of new mitigation strategies, or changes in policies or regulations.

For each of the species groups described below, the seasonal activity in the project area is discussed, as well as the protocol in the event of an encounter.

3.2.1 Ungulates

3.2.1.1 Seasonal Activity in the Project Area

Results from baseline surveys indicate that caribou and, only recently, muskoxen are present in the Meliadine area for part of the four seasons, but caribou are observed in greatest abundance in the fall (e.g., October) when 1,000's of animals may be present in the vicinity of the Meliadine site. This only occurs anecdotally only once every 5 or 6 years. Calving or post-calving aggregations or movements of caribou have not been observed within the Meliadine study areas since baseline studies were initiated in 1998.

3.2.1.2 Response to Encounters

3.2.1.2.1 Caribou

It is extremely rare for humans to have physical altercations with caribou. Caribou do rut in the fall when relatively high numbers can be found from time-to-time on the site and the levels of aggression displayed, particularly by males, increases substantially. There is some anecdotal information suggesting that a bull caribou may attack a person or vehicle during the rut. Therefore, a close encounter with caribou (during the fall) or muskoxen could be dangerous.

If you encounter a single or herds of caribou, the following actions should be taken:

- Back away slowly;
- Ensure animal(s) have an escape route;
- Do not make sudden movements;
- Do not make loud noises or attempt to scare the animal(s);
- Use radio/satellite phone to report presence of the animal(s) to the Environmental Department;
- Stay in radio/phone contact until the animal(s) moves away or you have returned to a safe area
- (e.g. inside vehicle or building); and
- Wait for the animal(s) to pass before continuing work in the area

3.2.1.2.2 Muskox

Although considered rare, muskoxen will charge humans if they are threatened (especially lone bulls). Being a sedentary species, the muskoxen will have the tendency to stand their ground when threatened, defending their territory or their young

If you encounter a single or herds of muskoxen the following actions should be taken:

- Back away slowly;
- Ensure animal(s) have an escape route;
- Do not make sudden movements;
- Do not make loud noises or attempt to scare the animal(s);
- Use radio/satellite phone to report presence of the animal(s) to the Environmental Department;
- Stay in radio/phone contact until the animal(s) moves away or you have returned to a safe area
- (e.g. inside vehicle or building); and
- Leave the area and wait for the animal(s) to go away before continuing work in the area

3.2.2 Predatory Mammals

3.2.2.1 Seasonal Activity in the Project Area

Polar and Grizzly Bear

Baseline surveys indicated limited use of the Meliadine study area by grizzly bears, which are consistent with what would be expected for grizzly bears in the north, given their wide-ranging habits and low densities. Polar bears are more commonly seen of late. **These are extremely dangerous under all circumstances as they are known to prey on humans. Get help immediately if you see a polar bear.**

Wolverine

Wolverines are thought to occur in the project area on an infrequent basis. Records of wolverine sightings or their sign were not found since baseline studies began in 1998. Similar to grizzly bears, the limited evidence for wolverine in the area is not surprising given their wide-ranging movements and characteristically low population densities.

Wolf

A single wolf was seen one time during the years of baseline studies. They are not common in the study area.

Arctic Fox

Camp personnel have regularly observed Arctic foxes in and around the Meliadine site during most months of operation, including winter. Arctic foxes are the most common predatory mammal species to be encountered at the Meliadine mine.

3.2.2.2 Response to Encounters

Predatory mammals such as wolves, wolverine, arctic fox and grizzly bears rarely attack people; however, they are extremely strong and vicious, and should be given respect. **Polar bears are known to attack humans.** Members of the dog family (such as wolves and foxes) are more at risk of carrying rabies, and other zoonotic diseases, and therefore should be avoided. Arctic fox in particular is easily tamed, quickly losing their fear of humans and often approaching very close. Sick or injured animals may no longer be able to feed themselves, and could be in a state of starvation. Often they show few physical signs that

something may be wrong, but typically act more aggressively or even 'friendly' towards humans. Therefore, a close encounter with a predatory mammal could be dangerous. All bites and scratches from wildlife should be reported immediately to Health & Safety since animals can be vectors for rabies.

If you encounter a predatory mammal, the following actions should be taken:

- Back away slowly and do not turn your back on the animal;
- Do not make sudden movements;
- Do not make loud noises or attempt to scare the animal if it is simply traveling through the area;
- Use radio/satellite phone to report the presence of the animal to the Environmental department;
- Stay in radio/phone contact until the animal moves away or you have returned to a safe area. (e.g. inside vehicle or building); and
- Wait for the animal to pass before continuing work in the area.

If the predatory mammal does not back away, or shows interest in you:

- Continue to back away slowly and ensure a 10 m distance between yourself and the animal;
- Make sure the animal has a safe route of escape;
- Make noise to alert the animal of your presence or to scare it off;
- Avoid provoking it;
- Return to a safe area as soon as possible (e.g. inside a building or vehicle); and
- Keep the Environmental department informed of situation using the radio/phone.

If the predatory mammal still does not back away, call for deterrent action by the Environment Department

The Environment Department is to treat all predatory mammals that are threatening or aggressive as they would treat a grizzly bear or polar bear, which are perceived to be most dangerous. All predatory mammals that are showing interest in a person or site facilities must be aggressively deterred to prevent habituation to the site. Detailed response recommendations are provided in Section 3.2.2.3 below. If an animal is not of an immediate safety concern, the Wildlife Response team should discuss options to deter or remove the animal with Government of Nunavut conservation personnel.

3.2.2.3 Environment Department Protocols for Managing Problem Predatory Mammals

As part of the detailed response plan, the Environment Department will follow the procedures included here when responding to predatory mammal sightings and encounters. It is assumed that the reporting

person(s) has followed procedures for predatory mammal incidents, and has requested the Environment Department to be dispatched due to the failure of human presence to deter the predatory mammal. If an animal is not of an immediate safety concern, the Environment Department should discuss options to deter or remove the animal with Government of Nunavut conservation personnel. All wildlife problems are to be recorded in the wildlife database.

The Environment Department will:

- Collect all deterrent equipment and receive briefing from the Environmental Coordinator or delegate (s) on location and circumstances of the call.
- When firearms are to be used there will always be two individuals, one person with a firearm (12 gauge) for deterrent use, the other as back up having a rifle with lethal force. No lethal force will be taken without consent from the Environmental Coordinator in conjunction with the consultation of the Government of Nunavut Wildlife Officer unless the situation is deemed to be life threatening.
- The appropriate action, usually less than lethal deterrent, will be chosen and used in an effort to scare the predatory mammal away.
- If the deterrent is successful, the incident will be recorded in the Wildlife database and should detail the type and level of deterrent used, information on the predatory mammal involved, and all information on the circumstances leading up to the incident.

If the deterrent is not effective and the predatory mammal continues to approach or doesn't move away from the area of human activity or project footprint.

- Increase deterrent efforts to less than lethal projectile (rubber bullet) if not already being employed.
- Ensure the animal has an open escape route.
- Continue aggressive use of less than lethal projectile deterrents to try and chase the animal away.

All but the most aggressive animals should have been deterred at this point. The situation is now extremely dangerous and the Environment Department must be ready to use lethal force.

The risk to human life or property is imminent since the predatory mammal has not responded to non-lethal deterrent options and the safety of the team or site property is now compromised.

- Shoot with the intention of stopping the threat, using the buckshot or 1-ounce lead slugs, as appropriate, to kill the animal.
- Shots should be aimed at the chest area, not the head or hind quarters
- If lethal force has been used, the Environment Department must complete a full report detailing the event immediately.

- The GN conservation officers will be notified by phone. Direction will then be given to properly dispose of the carcass.
- Any wildlife showing signs of rabies will be killed (never shot in the head) and reported.

SECTION 4 – WILDLIFE AWARENESS INFORMATION AND ENCOUNTER STRATEGIES

This section deals with general predatory mammal (ie. Wolves, wolverines, grizzly bears and polar bears) awareness information and encounter strategies. It does not replace the need for all personnel to take a recognized wildlife awareness course.

4.1 Factors that Influence a Predatory Mammal's Reaction

Wolverines, wolves, grizzly bears and polar bears will react differently to chance encounters with humans, depending upon many factors, including each animal's past experience with humans. Their reaction is difficult to predict because of the variability of factors with each encounter.

- Female mammals may aggressively defend her young (for example, female bears with cubs are more likely to attack than to flee).
- Wolverines or bears may defending a food cache (for example, a bear's main objective is to eat from the time it leaves its den to the time it returns to a winter den. Hunting bears will cache food after eating part of it by covering the food with dirt, branches or leaves. They will often establish a daybed nearby and return later for another meal). Animals will aggressively defend their food cache.
- Individual Space: All predatory mammals have a minimum distance surrounding them within which any intrusion is considered a threat. A cornered or surprised predatory mammal may be dangerous. If there is no cover to retreat to, their usual response to danger is to attack or to stand its ground.
- Old, wounded or predatory mammals with teeth malformations can be dangerous because they are very hungry or starving (e.g.wolves observed at the Meadowbank site in 2009)
- Wolverines, wolves, artic fox and bears are easily attracted to human food sources and may become aggressive to obtain it. Predatory mammals that have obtained food from humans become "human food habituated." These mammals are accustomed to humans and link people as sources for obtaining food.
- Young animals which are inexperienced hunters and/or recently weaned are also at a greater risk to take advantage of human food source opportunities.

4.2 Animal Encounters

Most of animal safety is prevention – avoiding an encounter is the best way to stay safe while working in the home ranges of artic fox, wolverines, wolves, and grizzly bears. Polar Bears are incidental to Meliadine as they wander inland from the shoreline in search of food. **Polar bears are extremely dangerous and help should immediately be sought.**

4.3. How to React to Animal Encounters

Your reaction should depend on circumstances and the behavior of the mammal.

1. Stop and assess the situation before you act.
2. Does the wolverine, wolf or bear know you are there?
3. How is the animal reacting to the nearby activity?
4. Remain calm.
5. Do not turn your back on the animal.

DO NOT RUN – You will trigger the animal's natural response to chase you. Wolverines, wolves and bears are extremely fast and you cannot outrun them.

Some Simple Rules:

- Respect them – they can kill you
- Be alert at all times
- Watch for sign
- Make noise – don't surprise animals
- Travel in groups when possible
- Be cautious in noisy areas (streams)
- Know the types of areas animals use during the year
- Do not approach them
- Never feed them
- Get trained and carry deterrents
- Remember carcass equals danger – look for ravens, strong odours
- Mentally rehearse encounters

4.3.1 Specific situations : Animal Encounters

Wolverine, wolf, or bear is not aware of you:

- Leave the area quietly in the same direction that you came from.
- Move while the predatory mammal is not aware of you and stop moving when the mammal lifts its head to check its surroundings.
- Stay downwind so the wolverine, wolf or bear will not pick up your scent.
- When you have moved a safe distance away and preferably to your truck or shop where you can watch and wait until the predatory mammal leaves.
- Report event to Environmental department immediately

If the wolverine, wolf or bear is unaware of you and approaching:

- Allow the mammal the right of way. Make sure there is a safe escape route and that you are not in the way.
- Return to vehicle or building when available or allow animal a wide berth.
- Report event to Environmental department immediately

If you cannot leave undetected:

- Move upwind so animal can pick up your scent; this will help them identify you as human.
- If possible, try to keep the predatory mammal in your sight.
- Watch to see if the predatory mammal leaves when it smells that a person is nearby.
- Report event to Environmental department immediately

If the wolverine, wolf or bear is aware of you but in the distance:

- Continue walking at the same general pace and towards a safe area (vehicle or building)
- **DO NOT RUN.**

The wolverine, wolf or bear is aware of you and close:

- A predatory mammal will feel threatened in a close confrontation. Generally their natural tendency will be to reduce or to remove the threat. Assist the wolverine, wolf or bear by acting as non- threatening as possible.
- Do not make direct eye contact.
- Do not make any sudden moves.
- Do not run.
- In the case of a bear, they need to identify you as a person, so talk in low tones and slowly wave your arms over your head.
- Attempt to give the wolverine, wolf or bear an opportunity to leave. Be sure they have an open escape route.
- Try to back away slowly.
- If the mammal begins to follow you, drop your jacket, or pack or some other article (not food) to distract the wolverine, wolf or bear. This may distract the bear long enough for you to escape.
- Report to Environmental department immediately

The wolverine, wolf or bear is close and threatening:

- If you have a deterrent such as a bear banger or bear spray be prepared to use it depending on how close the predatory mammal is.
- If you do not have a deterrent, or if using the deterrent is not successful, act as non-threatening as possible.
- Talk to the predatory mammal in a calm authoritative tone of voice.
- Do not startle or provoke the predatory mammal by making sudden moves.
- Back slowly away from the wolverine, wolf or bear and drop a pack, jacket, or some other article in order to distract the mammal momentarily.
- Remember that the wolverine, wolf or bear may be defending their cubs that you have not yet seen or they may have a food cache nearby. Attempt to look as non-threatening as possible.
- Report to Environmental department immediately

The wolverine, wolf or bear is very close and approaching:

A distance of less than 50 meters in an open area is considered very close.

- If the predatory mammal continues to approach use your deterrent when in range.
- If the predatory mammal does not respond to the deterrent you must now **STAND YOUR GROUND**!
- Report to Environmental department immediately

The wolverine, wolf or bear charges:

In the case that you have done something that has provoked the wolverine, wolf or bear into showing signs of aggression towards you. It is often not clear to the person what they have done to provoke the mammal until after the attack. It is important that you act passively, humble your posture and do not look directly at the wolverine, wolf or bear. Always keep the mammal in sight. Never yell or throw things as these are obvious signs of aggression

When faced with a charging wolverine, wolf or bear :

- First use your deterrent, either a banger or pepper spray. If authorized (only Environment Department representatives or local security personnel) to carry a firearm, shoot the predatory.
- **DO NOT PLAY DEAD IF THE PREDATORY MAMMAL CONSIDERS YOU FOOD**.
- You must defend yourself with whatever means are available, act aggressively towards the bear.
- Stand up on something high and try to make yourself look bigger. Try to appear dominant. Try to frighten it. Yell, scream, shout and wave your arms. Jump up and down and fight back.
- Hold your jacket or backpack over your head to make yourself look bigger
- If being aggressively attacked in a predatory attack, fight back. Concentrate your efforts on the face, eyes and nose of the bear. Use whatever means you have, rocks, sticks, tools, hardhat, or simply kick and punch with all the strength you can muster.
- Report to Environmental department immediately

There are two types of bear attacks

Provoked Attacks:

- You have done something that has provoked the bear into showing signs of aggression towards you. It is often not clear to the person what they have done to provoke the bear until after the attack.
- It is important that you act passively, humble your posture and do not look directly at the bear. Always keep the bear in sight.
- Lie down on the ground in the prone position (i.e. play dead as this is a sign of submission to the bear and shows the bear that you are no longer a threat to them).
- Never yell at the bear or throw things at the bear, these are obvious signs of aggression towards the bear.
- Report to Environmental department immediately

Predatory Attacks:

- The bear is hunting or stalking you! You are being treated as potential food. DO NOT PLAY DEAD IF THE BEAR CONSIDERS YOU FOOD
- You must defend yourself with whatever means are available, act aggressively towards the bear. Stand up on something high and try to make yourself look bigger.
- Try to appear dominant. Try to frighten the bear. Yell, scream, shout and wave your arms. Jump up and down and fight back. Hold your jacket or backpack over your head to make yourself look bigger.
- Use your deterrent; either a banger or pepper spray. If authorized to carry a firearm, shoot the bear.
- Report to Environmental department immediately

4.4 Wildlife Deterrents

4.4.1 Noise

- Pencil Flare Guns are highly portable but many people have received injuries from this type of deterrent as the pen explodes while they are holding it. This deterrent is still sold and is not recommended. Canadian Conservation Officers no longer using pencil flares.
- Pyrotechnics, including bangers, screamers, whistlers and flares. Requires a magazine launcher.
- These launchers look like a small handgun. There are different types available, some carry only a single shot, and some will carry multiple cartridges. The bangers, screamers and whistlers are charges that will explode and emit a variety of different noises. The name of the device indicates the noise it will make.

4.4.2 Wildlife chemical Deterrents

Bear Sprays are highly effective but they must be used correctly to be effective. As with all deterrents they have their good points and their bad points.

- The main ingredient in bear spray is “Capsicum” an extract from hot peppers.
- Capsicum needs to strike the eyes, nose or mouth of the mammal, (open membranes) to be effective.
- These sprays can only be used at very close range, 3 to 8 m or 10 to 25 ft.
- You cannot discharge the bear spray too early – or it will be completely ineffective.
- If the predatory mammal comes within the range of the bear spray – aim directly into their face and spray.
- You must be aware of the wind direction. If you the wind is blowing towards you, the spray will be carried by the wind into your face.

- Bear spray may not be effective in sub-zero weather. (Spray cans do not fire well in very cold temperatures.) In colder weather you need to keep the can of bear spray warm in order for it to fire effectively.
- Bear spray will not be effective in the rain. When you fire a can of bear spray, the spray will create a billowing cloud of capsicum and propellant. Rain can/will wash the spray right out of the air before it strikes the bear in the face.
- If you have used your can of bear spray to deter a mammal, wash the nozzle off with soap and water to remove the scent. Replace your can of spray as soon as possible. You do not want to have another bear encounter with a half a can of spray left.
- Bear sprays have a shelf life. Always replace your bear spray when you are nearing the end of the shelf life. The Capsicum does not deteriorate over time; it is the canister seals that deteriorate over time.
- Do not test your can of spray before going out into the field. You need to take a full can of spray into the field, not a partially used one.

Wildlife chemical deterrents are only to be used for the purpose they are intended for. Misuse of wildlife deterrents such as chemical sprays, bangers, and pyrotechnics is considered a criminal offence.

SECTION 5 – TRAINING PROTOCOL

5.1 Scope

The Wildlife Training Protocol outlines recommended levels of training that specific groups of people at the Meliadine division site should receive. It is important that human activity at the site does not result in wildlife encounters that put people or wildlife at risk. All personnel on site have a role to play in ensuring human safety, conservation of wildlife, and documenting wildlife activities in the project area.

5.2 Assumptions and Key Considerations

Meliadine must assign overall accountability, recording and reporting responsibility to the Environmental Coordinator or designate(s) if the various wildlife response plans and training initiatives are to be effective.

The Environmental Coordinator or designates (s) will be responsible for ensuring that all employees, contractors and visitors at the Meliadine Division receive wildlife training appropriate to their roles and responsibilities.

The Environment Department will be responsible for all deterrent action whenever it is necessary to deter wildlife from mine infrastructure or personnel. All members of the Environment Department will receive

specialized training in various levels of deterrent use. Security personnel and the Environment Department will be the only onsite personnel to have access to a firearm.

5.3 Training

Mandatory wildlife awareness orientation for all staff will include the following:

5.3.1 Wildlife-Human Conflict

- General restrictions for wildlife protection
- Wildlife Attractants
- Garbage Management
- Wildlife Health
- Wildlife and Vehicles
- Preventing Problem Wildlife
- Dealing with Problem Wildlife
- Reporting Wildlife Observations and Incidents

5.3.2 Wildlife Awareness Training

This orientation will be aimed at providing awareness of potential wildlife encounters that may occur at the Meliadine Mine. The course should review:

- Wildlife that commonly occur near the site
- Behavior of wildlife that may be encountered near the site
- Wildlife encounters
- Wildlife Deterrents

5.3.3 Environment Department

In addition to the required site orientation, the Environment Department may require additional training. The following training is recommended, especially for those without experience in situations where wildlife occurrences are common.

Bear Safety Training

Provided by qualified contractor or Territorial, Provincial or Federal Wildlife Officer, this course will provide:

- Instruction on the use of lethal and non-lethal deterrents for emergency response to bear incidents;
- Techniques for euthanizing bears during an emergency response;
- Other types of deterrent options available in non-emergency situations;
- In depth aversive conditioning techniques;
- Necropsy techniques, and biological sampling; and
- Practicum.

Carnivore Safety Training

Provided by qualified contractor or Territorial, Provincial or Federal Wildlife Officer to include:

- Biology, ecology and behavior of wolverine, wolf, Arctic fox;
- Rabies and other zoonotic diseases;
- Detailed deterrent and aversive conditioning techniques;
- Instruction on the use of lethal and non-lethal deterrents for emergency response to incidents involving large carnivores;
- Necropsy techniques and biological sampling; and
- Practicum.

APPENDIX A

AIR TRAFFIC MANAGEMENT PLAN

DATE: June 12, 2013

TO: All Pilots of Helicopter and Fixed Wing Aircraft Operating Near the Meliadine Site

RE: Air Traffic Management Plan – Meliadine Project

FROM: Environment Department

Please be advised that AEM is required to implement an air traffic management plan in the immediate vicinity of the Meliadine Project. The primary objective of this Air Traffic Management Plan is to minimize to the greatest extent possible all potential impacts to wildlife from low flying aircraft and helicopters.

Under this Air Traffic Management Plan asks that all pilots of helicopter and fixed wing aircraft abide by the guidelines set forth in this memorandum when flying to/from the Meliadine Project or in the vicinity of the project area wherever possible (from a safety perspective).

- For long-range transportation flights (i.e. to and from Rankin Inlet), we ask all pilots to follow a practice that sees the aircraft fly at a minimum of 600 m above ground level. Exceptions may exist during take off and landing, low-level ceiling conditions, high winds, or other risks to flight safety.

- For relatively shorter transportation flights (e.g., movement of staff and equipment between camp and ore bodies within the Meliadine lease), we ask that all pilots follow a practice that sees all aircraft (including helicopters) flying at a minimum of 300 m above ground level. Exceptions may exist during take off and landing, low-level ceiling conditions, high winds, or other risks to flight safety.

- The Environment Department must be notified if caribou, muskox or other animals are within 1 km of the heli pad. The pilot should radio the Meliadine designated camp aircraft frequency and request that the camp radio operator call out the wildlife team to herd animals away from the strip before landing.

- At remote landing areas, we ask that helicopters not land within 1 km of individual or large aggregations of wildlife.

- We ask that when flying over large concentrations of caribou (50 or more individuals in close proximity to one another), a 1,000 m vertical and 1,500 m horizontal distance from the herd is observed whenever possible. We ask that all pilots avoid helicopter flights over known areas of raptor nests and waterfowl and shorebird staging areas during critical seasons (when birds are present –spring and summer months). The Environment Department can inform pilots of these areas.

- Harassment of wildlife (flying below 300 m), especially grizzly bear, muskoxen, caribou, wolves, and wolverine, is expressly forbidden. Exceptions exist only in the rare instance the animal(s) poses an immediate danger to a person in the field.

- The Iqalugaarjuup Nunanga park is located between the Meliadine camp and Rankin Inlet. To minimize impact on the wildlife and the park's visitors, the pilots shall avoid to flight over or to land in the vicinity of the park.

Thank you for helping AEM protect the natural resources of Nunavut and for helping demonstrate that mineral exploration and mining can co-exist with the wildlife and population without causing a significant adverse impact.

Agnico Eagle Mines Ltd. – Meliadine Project

Air traffic path between Rankin Inlet and Meliadine camp