Spill Contingency Management Plan

Angilak Property

ATHA Energy Corp. and its wholly owned subsidiaries

December 2025

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1. Introduction

This Spill Contingency Management Plan (SCMP) applies specifically to the Angilak Property (the Property or the Project) operated by ATHA Energy Corp. (ATHA) through its wholly owned subsidiaries. The SCMP is in effect as of January 1st, 2026. This Plan shall be in effect from the date of issue of applicable land use licenses until the expiry of such licenses.

All employees and contractors working on the Property are to be aware of and follow this Plan. A copy of this SCMP will be posted in the office on the Project. In addition, this Plan is available digitally on ATHA's internal network. The Project Manager can be contacted for a copy of this SCMP. The purpose of the SCMP is to provide response procedures in the event of a spill and detail the procedures for proper storage, handling, transportation and disposal of fuels, hazardous materials and hazardous waste.

The Angilak Property hosts a remote, early-stage uranium exploration project covering both Crown land and Inuit Owned Land in the Kivalliq Region of Nunavut. The Property is located at an approximate latitude 62° 31' North and longitude 98° 49' West or Universal Transverse Mercator (UTM) coordinates 508596mE and 6933106mN, North American Datum (NAD 83, Zone 14). Additionally, the Property is approximately 225 kilometres south-southwest of Qamani'tuaq (Baker Lake) and 350 kilometres west of Kangiqtiniq (Rankin Inlet). Authorizations for the use of land and water for the purpose of exploration have been granted by the Kivalliq Inuit Association (KIA), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and the Nunavut Water Board (NWB). ATHA's proposed exploration programs are of limited scope and will be operated seasonally due to weather limitations. Further information on potential exploration activities undertaken at the Angilak Property can be found in the Non-Technical Summary.

2. Hazardous Materials On-site

2.1. Fuel Inventory

A main fuel cache has been established at the Nutaaq Camp; fuel is stored in both drums and 125,000L fuel bladders. Small amounts (2-3 drums each) of diesel and gasoline are stored at the active drill sites as needed for drilling. Small remote fuel caches (< 4,000 L or 19 drums) may be established temporarily to support the other exploration activities.

2.2. Chemicals

Chemicals to be used on site may include household-strength cleaning supplies such as Javex, ammonia-based sprays, wash soaps, hand sanitizer, degreasers, etc. In addition, limited miscellaneous items such as insect repellent in aerosols will be available.

2.3. Lead-Acid Batteries

Lead-acid batteries are present on the drill rigs and on any other internal combustion engines in camp. In addition, a small number of lead-acid batteries may be needed for other portable items. Secondary containment measures are not contemplated given the small number of batteries in storage. At no time will any batteries be disposed of in the garbage.

2.4. Radioactive Materials

Due to the nature of uranium exploration, mineralized (radioactive) drill cuttings and core may be generated during operations. Please refer to the Radiation Hazard Control Plan for more information regarding the handling of radioactive materials on-site.

2.5. Other Hazardous Materials

Table 1 outlines other hazardous materials that may be used and stored on the Angilak Property.

Table 1. Other Hazardous Materials Used in Mineral Exploration Activities

Product	Quantity	Storage Location
Chain oil	Limited quantity	Generator Shed
Antifreeze	Limited quantity	Generator Shed
Calcium Chloride – CaCl2	Limited quantity	Quanset
Motor Oil	Limited quantity	Generator Shed
Snowmobile Motor Oil	Limited quantity	Generator Shed
Hydraulic Fluid	<100L	Drill Shack
Moly Grease	Limited quantity	Drill Shack
Portland Cement	<500 lbs	Drill Shack
Tool Joint Compound	Limited quantity	Drill Shack
Drill Rod Grease	<100L	Drill Shack
Gear Lubricant	<100L	Drill Shack
Poly-Drill	Limited quantity	Drill Shack
Drill Grease	<10L	Drill Shack
Fuel Line Treatment Oil	<1L	Drill Shack

An average of approximately 40 L of motor, hydraulic and gear oils will be maintained at the drill site. The products will be supplied in 1 L or 20 L plastic containers. This inventory will be maintained during operations and resupplied as needed. These products will be used as crankcase oils in the diesel engines that power the electrical generators, diesel engines on the drill rigs and gasoline engines in small equipment such as portable electrical generators and water pumps.

Diamond drills may require the use of drill additives depending on rock conditions. All drill additives will be non-toxic and biodegradable, whenever possible. When drilling is underway, the required drilling muds, additives, oils and lubricants will be stored in their original containers within a bermed fly basket, once drilling has been completed, these containers will be flown back to camp for proper storage. The empty plastic containers will be gathered, put into a lidded, marked drum, ready for backhauling off site. The drill additives will be utilized according to the manufacturer's guidelines and the operating procedures of the drill contractor.

As much as possible, drilling will utilize hot water, but if required $CaCl_2$ will be used as an antifreeze. To ensure drill fluids cannot directly flow into a water body, all drill cuttings will be captured, put through a

centrifuge, classified into benign or mineralized cuttings and disposed of in an appropriate natural depression located at a distance of at least 31 m from the ordinary high-water mark of any adjacent water body. All hazardous materials, including $CaCl_2$, will be stored in secondary containment. Storage, use and transport will follow the recommendations of the Safety Data Sheets.

2.6. Hazardous Waste

At the Angilak Property, hazardous waste is recognized as a contaminant or dangerous good that is no longer used for its original purpose, and is therefore intended for treatment, disposal or storage (Guideline for the General Management of Hazardous Waste, 2010). Hazardous waste often requires specific management measures to ensure the health and safety of the workers and environment. Table 2 details the different types of hazardous waste that may be generated during exploration activities on the Angilak Property.

Table 2. Potential Hazardous Wastes Generated at Angilak

Waste Type	Source
Contaminated or Expired Fuel – Arctic Diesel; Jet Fuel; Gasoline	Operation of generators (diesel), flying helicopters (jet fuel), and operating other motorized equipment (gasoline)
Used Oil and Lubricants	Operation of motorized equipment including drills
Used Hydraulic Fluid	Operation of motorized equipment including drills
Used antifreeze	Operation of radiators on internal combustion engines
Solvents	Cleaning
Used rags and sorbents	Cleaning waste, spill clean up
Contaminated Soil	Product of spills
Contaminated Snow and Ice	Product of spills
Drilling Fluids	Additives and antifreeze
Used Batteries	Electronics such as GPS, computers, satellite phones, combustion engines
Empty Aerosol Cans	Various chemicals
Fluorescent Bulbs and Tubes	Illumination
Radioactive – Mineralized Drill Cuttings	Product of drilling within mineralization zone

3. Risk Assessment

ATHA recognizes that there are a number of risks associated with the use, storage, transfer and disposal of hazardous materials. The following summarizes several potential risks that may be present at the Angilak Project.

3.1. Potential Spill Hazards

- Containers, such as 205 L steel drums and 125,000L fuel bladders, have the potential to leak or rupture due to mishandling.

- Older or refilled drums and bladders are more prone to leaking around the bungs if the seals are not properly maintained.
- Water and spills may collect in the secondary containment and overflow.
- Propane leaks may occur at the valves if not secured or stored in an upright position.
- Motorized equipment may experience fuel or oil leaks as a result of malfunctions, impacts, lack of maintenance, improper storage or faulty operation.
- Leaks or spills may occur during fuel transfer due to over-fueling, improper fueling procedure or faulty filling equipment.

3.2. Potential Environmental Impacts

All hazardous materials pose a threat to the environment if spilled. The following list outlines potential environmental impacts of hazardous materials stored on site:

- Gasoline may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Gasoline volatizes quickly and can be explosive and a fire hazard in the event of a spill.
- Diesel may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Diesel volatizes comparatively slowly but represents a fire hazard in the event of a spill.
- Jet fuel may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Jet fuel volatizes relatively quickly and represents a fire hazard in the event of a spill.
- Propane may be harmful to wildlife and the surrounding environment. Propane is highly volatile. In the event of a spill, it represents an extremely explosive hazard.
- Drilling additives and $CaCl_2$ may be harmful to wildlife and aquatic life.
- Oil and grease may be harmful to wildlife and aquatic life. They are not readily biodegradable; their volatility is low and they have the potential for bioaccumulation in the environment.

4. General Practices

Communication is essential when using isolated camps with aircraft support. Crew members must be taught how to use all the communication equipment in camp. There are three types of communication used at the Nutaaq Camp: Starlink digital satellite data with applications used to make phone calls, Iridium satellite phones and hand-held VHF radios.

Material handling and spill response training is provided to all personnel, with particular attention to those personnel who handle fuels and other petroleum products.

Regular and thorough inspections and maintenance of all equipment and storage sites/containers act as preventative measures to reduce the risks associated with the potential spill hazards as outlined in Section 3. The training and inspection standards for the Angilak Project are detailed below.

Despite best efforts, preventative measures can fail and spills may occur. Spill Kits will be located at all camps, fuel caches and drill shacks. A description of the contents in a standard spill kit is listed in Section 4.4.

ATHA understands the failure of a full fuel bladder (125,000L) has a large potential for environmental damage. In addition to secondary containment with the capacity to contain such a leak, ATHA will maintain empty fuel bladders on site to be fully prepared to transfer the fuel in the event of such catastrophic failure.

4.1. Communications

All workers should ensure that they know how to operate all three communication systems as well how to summon assistance on each different piece of equipment in the event of an emergency. A summary of communication equipment procedures is given below.

To use the **Starlink** digital satellite data connection:

- Ensure that your cell phone has a suitable phone application installed to make a phone call.

To use an **Iridium satellite phone**:

- Press power button to turn unit.
- Unfold antenna and allow it to stand vertically, be sure to outside any building.
- Ascertain 3 to 5 bar signal strength once satellite phone has secured a link.
- Dial as for a regular push button telephone using the prefix “+1”.
- Press send.

To call an Iridium satellite phone from a land line or cell phone:

- Follow the satellite phone’s service provider procedure as indicated on the Medical Evacuation Plan back page.

Handheld VHF radio: (personal communication with appropriate channels preprogrammed)

- Channels will be established and designated during field operations.
- Ensure that you know when to use the Repeater channel once away from camp to call for assistance.
- Press transmit button on side of unit to talk.
- Remove pressure from transmit button to receive.

4.2. Training

All employees and contractors of ATHA will be trained in internal policies, management plans, standard operating procedures and made familiar with the Terms and Conditions of the Project’s licences and permits. Every person arriving at the Angilak Property will undergo an orientation session which includes information on health, safety, and environmental responsibilities and stewardship.

All employees and contractors will be familiar with this Spill Contingency Management Plan and its containment procedures, all spill response resources at hand, and will also be trained for initial spill response methods. Involvement of other employees may be required, from time to time. Annual refreshers will be conducted to review the procedures within this plan.

Site and job-specific training will be provided to all personnel who are required to handle waste materials. ATHA will have an Emergency Medical Technician on site while drilling or a Level 3 First Aid Attendant present during other activities. The Camp Manager is required to oversee the handling of hazardous wastes and must have a valid First Aid and WHMIS certificates. On-site management is responsible for the transportation of hazardous wastes and will have Transportation of Dangerous Goods (TDG) certification. All employees and contractors will receive training in the use, storage, transportation and disposal of fuel, hazardous materials and hazardous waste as per this SCMP.

Personnel responsible for operating or maintaining the incinerator will receive hands on training to ensure the equipment is operated safely and efficiently in accordance with applicable regulations and guidelines.

4.3. Monitoring and Inspection

The Project Supervisor is responsible for supervising the monitoring and inspection program and keeping a detailed inventory of all hazardous wastes on site.

Inspections of the storage areas housing hazardous materials and hazardous waste will be conducted weekly to ensure the hazardous waste inventory is up to date, secondary containment is in place and in good condition and spill kits are fully stocked. Secondary containment berms will be inspected for signs of punctures, failures, leaks, etc. Berms, bladders and drums will be inspected for proper storage, leaking bungs, cracks, and punctures. Any issues noted will be rectified immediately. The Camp Manager will be responsible for daily inspections of the fuel berms and the monitoring, tracking, and recording of fuel inventories while operations are active. Daily monitoring of the hazardous waste storage area and the contained wastes will include an assessment of the condition of waste receptacles and storage containers, checking for any damaged or leaking containers or berms, and ensuring that waste is collected and stored in the correct containers and safely placed in the storage area. Any leaks or spills will be treated as outlined in this SCMP.

4.4. Resource Inventory

4.4.1. Spill Kits

Complete spill kits are kept on hand at all camp fuel transfer sites and at each drill shack. Spill kits contain:

1 – 360 litre/79 gallon polyethylene over-pack drum
4 – Oil sorbent booms (5” X 10’)
100 – Oil sorbent sheets (16.5” X 20” X 3/8”)
1 – Drain cover (36” X 36” X 1/16”)
1 – Caution tape (3” X 500’)
1 – 1 lb. plugging compound
2 – Pairs Nitrile gloves

2 – Pairs Safety goggles
2 – Pairs Tyvek coveralls
1 – Instruction booklet
10 – Printed disposable bags (24" X 48")
1 – Shovel

A minimum of 30 containment bags (megabags) (1m^3 each) will be kept on site to ensure adequate containment of any material (e.g., soil or snow) that requires removal due to a spill.

In addition, at least one empty fuel drum will be located at each fuel cache in the event of damaged or leaking drums. Extra absorbent pads will be kept with the helicopter, drill and any area where re-fueling, transferring and/or handling is done.

4.4.2. Fire Extinguishers

Appropriate fire extinguishers and other firefighting equipment will be strategically located near any hazardous materials are used, stored or transferred, including at drill site and in vehicles.

4.5. Bladder Management

ATHA will meet regulatory requirements outlined in the Canadian Standards Association (CSA) published the standard: CAN/CSA-B837-14 - Collapsible Fabric Storage Tanks (bladders) and Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (SOR/2008-197). Installation will be completed by trained and certified professionals. Fuel bladders and associated engineered secondary containment berms with 110 percent volume capacity, will be subject to thorough daily inspections to ensure that any concerns are caught in a timely manner. Fuel volume reconciliation logs and visual inspections of mechanical components will be daily. In addition to 110 percent volume capacity secondary containment, empty bladders will be maintained on site to be available in the unlikely event of a leak in a full fuel bladder. In that unlikely case, fuel will be transferred into the spare bladder. Empty fuel barrels will also be maintained on site as backup containment in the event of failure.

5. Hazardous Material Protocols

5.1. Storage and Secondary Containment

- All fuels and other hazardous materials will be stored in secondary containment ("berms").
- A spill kit will always be stored in areas of hazardous material storage.
- All secondary containment will be capable of holding 110 percent of the volume of the largest fuel reservoir that is housed within the secondary containment.
- All secondary containment will be of sufficient height and depth to hold any potential spill or failure.
- Secondary containment berms will be made of material (Arctic Grade) that is sufficiently durable to withstand Nunavut's climate and the natural terrain.
- Secondary containment berms will be equipped with hydrocarbon filtration systems (rain drains) to safely remove water that is collected inside the berms. Berms without covers will be replaced

with covered berms to keep rain and snow out.

- Secondary containment berms will be inspected daily during operations.
- Within the secondary containment berms fuel, drums will be stored in rows on their sides with bungs facing at the 3:00 and 9:00 position.
- All bladders, drums, tanks and hoses will be regularly inspected for deterioration, corrosion and leaks.
- Propane cylinders will be stored and secured upright in certified containers and away from any potential sources of ignition.
- Propane cylinders will be equipped with a pressure release valve that opens to prevent a buildup of excessive internal pressure.
- All fuel storage sites will be located a **minimum** of 31 metres from the normal high-water mark of any water body and will be inspected regularly.
- Spill Kits will be placed and will be easily identifiable with clear signage at each fuel storage site.
- Smoking, open flame and any potential sources of ignition are prohibited within 100 metres of any fuel storage site.
- "NO SMOKING" signs will be erected at each fuel storage area.
- Empty fuel drums will be removed from site regularly.

Other hazardous materials that may be located on the Angilak Property, as outlined in Section 2, are often used in limited quantities. Such materials will be stored in their original containers. Products such as motor oil and hydraulic oil typically come in 4 litre jugs or 20 litre pails and stored in a drip tray with a spill kit nearby. All batteries will be protected from damage by fastening them into the space designed for them when used with various power equipment and stored safely when not in use.

The protocols for handling hazardous waste can be found in Section 6. For more information regarding the handling of radioactive materials, refer to the *Radiation Hazard Control Plan.*

5.2. Handling, Transfer and Transportation

5.2.1. Handling

All personnel responsible for the handling and use of hazardous materials will be familiar with the Workplace Hazardous Materials Information System (WHMIS). Personnel are expected to review the Safety Data Sheets in Appendix IV prior to commencing field work to familiarize themselves with the types of materials present on the Property. **Appendix IV is not an accurate, updated or exhaustive list of the materials present on the Property and should not be relied upon in the event of an emergency.** An up-to-date record of all safety data sheets will be available to staff on-site for use in the event of an emergency.

All hazardous materials, including drummed fuel, will be clearly labelled in accordance with WHMIS and other applicable legislation. Labels will include, but are not limited to, the type of material, safe handling procedures, reference to SDS/MSDS, company name, and the date of delivery to site. Signs with the same information, along with SDS/MSDS for each material type will be posted at each storage or transfer site. Additionally, "No Smoking" signs will be posted at all locations where hazardous materials are stored or transferred.

5.2.2. Transfer and Transportation

The following list outlines the expectations for the transfer of hazardous materials, including refueling:

- Manual and automatic pumps are used for the transfer of all petroleum products.
- Smoking, sparks, open flames or any potential source of ignition are **prohibited** in fueling areas at all times.
- "NO SMOKING" signs will be erected at each fueling area.
- A spill kit will always be stored in areas of re-fueling.
- All transfers, including refueling, will be completed within designated areas within secondary containment or drip trays, whenever possible. When secondary containment is not practical (e.g. adding hydraulic oil to the helicopter), absorbent pads will be used to catch drips and spills.
- Fuel transfer hoses with cam lock mechanisms will be used to prevent leakage.
- Personnel will carefully monitor fuel content in the receiving vessel during transfer and always have absorbent pads available while transferring fuel.
- Fuel absorbent pads will be placed appropriately to protect from drips and spills.
- Any drips or leakages will be cleaned immediately.
- All operating personnel will be trained in proper handling and spill response procedures.
- Equipment maintenance and servicing will be conducted in designated areas. Equipment will be underlain by absorbent pads and spill trays for lubricant changes.
- Funnels will be used where appropriate to reduce the potential for spillage.
- For any solid products, the bags will be opened directly over the intended use tanks into which the product will be placed.

The drill company will have their own spill response procedures and the Project Manager will review all policies and procedures to ensure they align. Fuel and other hazardous materials will be brought to site by helicopter or fixed wing aircraft, and then slung by helicopter from camp, as required. Prior to transport to site, all fuel drums, bladders, tanks or other containers will be inspected to identify any defects (i.e. torn, punctured, missing, or twisted gaskets, punctures, etc.). A second inspection will be performed upon arrival at the camp, fuel cache or drill site. Regulations outlined in the Transportation of Dangerous Goods Act, and other relevant legislation, will be observed at all times during transport.

6. Hazardous Waste

All hazardous wastes will be placed in sealed containers and stored within "Arctic Insta-Berms", or similar, for secondary containment until they can be backhauled for recycling or disposal. A hazardous waste storage area will be established adjacent to the main fuel cache.

6.1. Contaminated or Expired Fuels

Contaminated or expired fuels should remain clearly labeled and tightly sealed in their original containers within the fuel storage area. These fuels will be moved to the hazardous waste storage area for backhaul to a registered hazardous waste receiver.

6.2. Used Oil and Lubricants

Waste oils and lubricants, from vehicles, generators, pumps, or other equipment will be collected and stored in labeled 205 L steel drums and backhauled to a registered hazardous waste receiver.

6.3. Used Hydraulic Fluid

Whenever possible, hydraulic fluids will be filtered and reprocessed for reuse. Hydraulic fluid that cannot be reprocessed will be sealed in labeled 205 L steel drums and stored in the hazardous waste storage area until the product can be backhauled to a registered hazardous waste receiver.

6.4. Solvents

Whenever possible, non-toxic alternatives will be used in place of petroleum-based solvents. Excess or waste solvents will be packaged in clearly labeled, original, tightly sealed containers, or manufactured containers designed for solvent transport. Waste solvents will be stored in the hazardous waste storage area until backhauled to a registered hazardous waste receiver.

6.5. Used Rags and Sorbents

Used rags and sorbents will be placed in clearly labeled, tightly sealed containers, such as 205 L steel drums and stored in the hazardous waste storage area until disposal or backhaul is possible. Granular sorbent will be stored in drums and backhauled to a registered hazardous waste receiver.

6.6. Contaminated Soil, Snow, and Ice

Any contaminated soil, snow, or ice will be cleaned up immediately in accordance with this SCMP. All contaminated soil, snow, and ice will be sealed in 205 L steel drums and stored in the hazardous waste storage area to await backhaul to a registered hazardous waste receiver. If appropriate, bioremediation may be undertaken.

6.7. Empty Hazardous Material Containers and Drums

Empty hazardous material containers will be stored in a designated area and returned to the supplier. Drums may alternatively be drained, air dried, backhauled to a recycling facility. Any residual fuels drained will be consolidated into drums and backhauled to a registered hazardous waste receiver.

6.8. Used Batteries

Generation of waste batteries will be reduced by properly maintaining batteries to prolong life and by replacing non-rechargeable batteries with rechargeable alternatives whenever possible. Even with proper maintenance, all batteries will eventually deteriorate and reach the end of their useful life. Waste batteries will be handled to avoid spillage of corrosive materials and the release of metals into the environment. Specific containers will be set up in the office, common spaces and drill sites to collect dry cell batteries. The batteries will be placed in appropriate shipping containers and backhauled to an off-site recycling facility.

Waste lead-acid batteries and rechargeable batteries will be temporarily stored in a 205 L plastic drum, within the hazardous waste storage area. These types of batteries can only be stored in this manner in

quantities of 1000 kg or less and for periods of less than 180 days. All waste lead acid and rechargeable batteries will be backhauled from site as necessary to conform to regulations.

6.9. Empty Aerosol Cans

Use of aerosol cans at the Property will be limited. Whenever possible, alternatives, such as spray bottles, will be used in place of aerosol cans. Any waste aerosol cans will be collected in specific containers around camp and at drill sites. It is also important to sort the aerosol cans out of combustible garbage to prevent explosions in the incinerator. The cans will be stored in the hazardous waste storage area until backhauled for disposal.

6.10. Fluorescent Bulbs and Tubes

Waste fluorescent bulbs and tubes will be packaged in their original (or equivalent) containers and stored in a watertight enclosure in the hazardous waste storage area until backhauled to a hazardous waste recycling or disposal company. Fluorescent bulbs and tubes are considered hazardous waste if broken and should be handled accordingly.

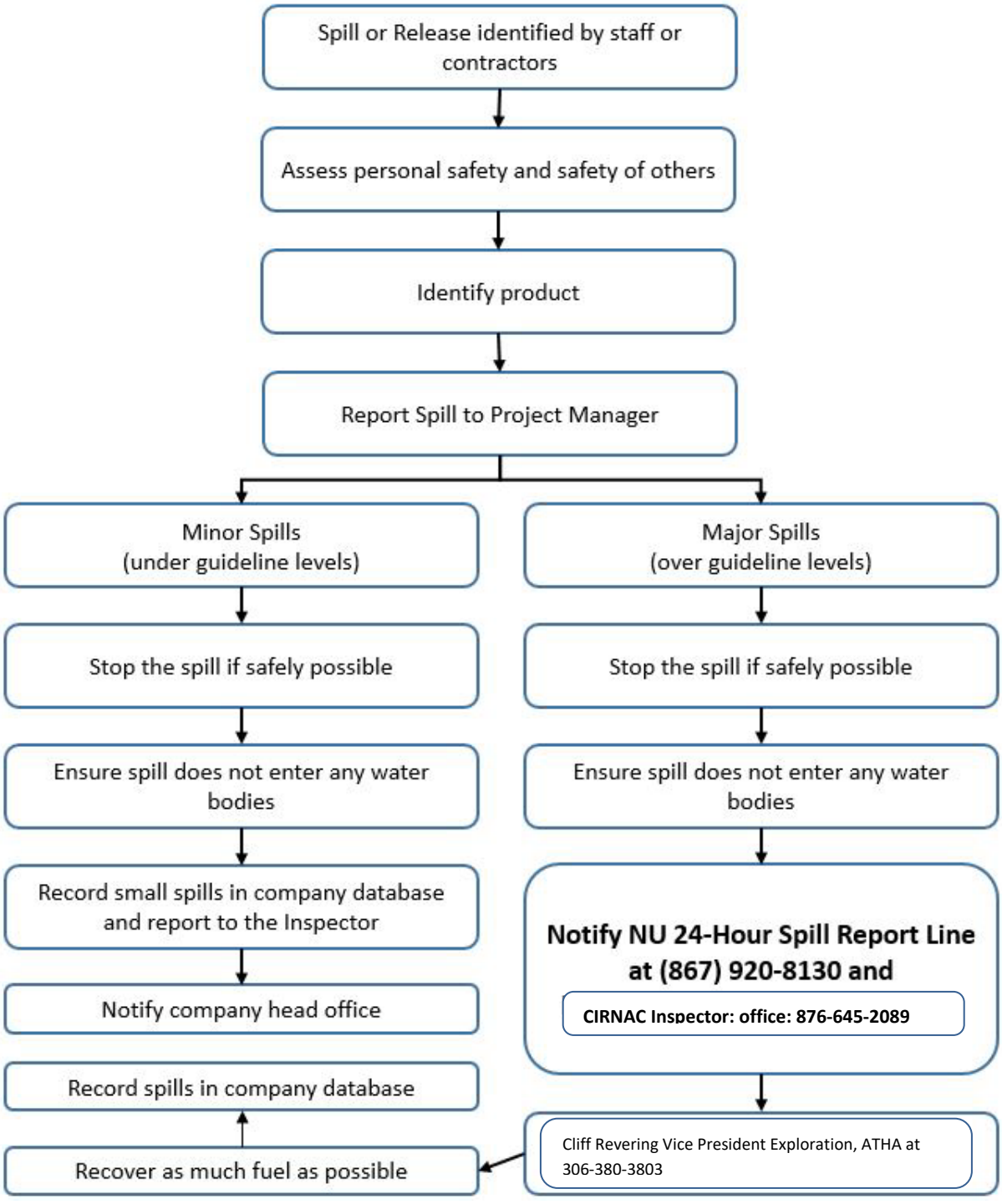
6.11. Radioactive Material

Radioactive (mineralized) drill cuttings that have been collected during exploration activities will be stored in sealed 205 L drum, temporarily staged on a flat, dry, outcropping ridge on the east side of the Lac 50 Main Zone drill area (UTM coordinates 519615 mE, 6939955 mN, NAD 83 Zone 14). Further information on radioactive material management can be found in the *Radioactive Hazard Control Plan*.

7. Response Organization

In the case of any spill or other environmental emergency, it is necessary to react in the most immediate, safe and environmentally responsible manner. No spill or incident is so minor that it can be ignored and every spill that meets the guideline threshold must be reported. Communication is essential when located in a remote area. A summary of available communication equipment is provided in Section 4.1.

The following flow chart depicts spill response organization, as well as the chain of command for responding to a spill or release. A copy is provided in Appendix II to print and post on-site.


Spill or Release identified by staff or contractors
Assess personal safety and safety of others
Identify product
Report Spill to Project Manager
Minor Spills (under guideline levels)
Major Spills (over guideline levels)
Stop the spill if safely possible
Stop the spill if safely possible
Ensure spill does not enter any water bodies
Ensure spill does not enter any water bodies
Record small spills in company database and report to the Inspector
Notify NU 24-Hour Spill Report Line at (867) 920-8130 and
CIRNAC Inspector: office: 876-645-2089
Notify company head office
Record spills in company database
Cliff Revering Vice President Exploration, ATHA at 306-380-3803
Recover as much fuel as possible

7.1. Basic Steps - Spill Procedure

The basic steps of the response plan are as follows:

1. ***Assess*** safety hazards and risks.
2. **Ensure** the safety of all persons at all times.
3. **Identify** the spilled substance and its source.
4. **Eliminate** ignition source(s), if safe to do so.
5. **Stop** the flow of the spill (shut off valve, stand up drum, etc.), if safe to do so.
6. **Contain** the spill or environmental hazard, if safe to do so.
7. **Inform** the Project Field Supervisor.
8. **Request** assistance (if required).
9. **Implement** any necessary cleanup/remedial action.
10. **Photograph** if and where possible, during and after cleanup.
11. **Report** to the Spill Line as soon as possible.

7.2. Basic Steps - Chain of Command

1. **Angilak Project Field Supervisor(s)**
2. **NT/NU 24-Hour Spill Report Line** at 867-920-8130 (Fax: 867-873-6924).
    a. Before or after contacting the 24-Hour Spill Report Line, a Spill Report Form (Appendix III) is to be filled out.
3. **Any other agencies** as instructed by the NT/NU 24-Hour Spill Report Line
4. **KIA** at 867-645-5734, if on IOL.
5. **Cliff Revering**, Vice President Exploration, ATHA at 306-380-3803.

Additional Contact information that may be needed in the event of a spill is available in Appendix I.

8. Containment Procedures

The following sections describe the appropriate containment procedure according to the spill substance involved. Each section outlines the following, where applicable:

- Applicable substances
- Appropriate landform-dependent response actions
- Storage and transfer of the spill
- Disposal of contaminated materials or bioremediation

8.1. Spill Response Actions – Diesel Fuel, Jet Fuel, Hydraulic Oil & Lubrication Oil

Take action only if safety permits – stop the source flow if safe to do so and eliminate all ignition sources. **Never smoke** when dealing with these types of spills.

On Land

- Build a containment berm using soil material or snow down slope of the seepage or spill.
- Place a plastic tarp at the foot of the berm to allow the fuel to pool for collection and removal. If there is a large volume of spilled product, pump the liquid into empty drums for sealing and disposal.
- Remove the spill by using absorbent pads or excavating the soil, gravel or snow. Remove spill splashed on vegetation using particulate absorbent material.
- Contact regulatory agencies for approval before commencing removal of any soil, gravel, or vegetation. Contaminated soil and saturated material will be placed in empty drums or containment bags and shipped from the site for proper disposal.

On Muskeg

- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled hydrocarbon with sorbent pads and/or skimmer.
- Flush with low pressure water to herd hydrocarbon to collection point. Burn only in localized areas, e.g., trenches, piles or windrows. Do not burn if root systems can be damaged (low water table). Minimize damage caused by equipment and excavation.

On Water

- Deploy hydrophobic (water repellent) absorbent pads on the water to capture small spills. Hydrophobic pads readily absorb hydrocarbons. Alternatively, an ultra-dry absorbent designed for use on water based spills may be deployed.
- For larger spills, prepare several empty drums to act as refuge containers for the spill.
- Contain spill as close to release point as possible.
- Use containment boom to capture spill for recovery and to prevent the spill for spreading. Use absorbent pads to capture small spills.
- Use skimmer for larger spills. Once captured, the product should be pumped to the empty fuel drums and prepared for proper disposal.

On Ice and Snow

- Build a containment berm around spill using snow.
- Remove spill using absorbent pads or particulate sorbent material.
- The contaminated ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, and/or containment bags.

Storage and Transfer

All contaminated water, ice, snow, soil, and clean up supplies will be temporarily stored in closed, labelled containers. All containers will be stored in a well-ventilated area away from incompatible materials.

Disposal

Any contaminated material will be shipped from site to an appropriate and approved facility. The DOE monitors the movement of hazardous wastes from generators, carriers to receivers, through a tracking document (Waste Manifest). A Waste Manifest will accompany all movements.

Bioremediation

At the advice, discretion and approval of land use inspectors and the permitting agencies, bioremediation or land farming may be implemented to treat certain contaminated soils temporarily contained in sealed drums on the property. Bioremediation is performed in the upper soil zone or in biotreatment cells. Contaminated soils, sediments, or sludges are incorporated into the existing soil surface and periodically turned over or tilled to aerate the mixture.

This technique has been successfully used for years in the management and disposal of oily sludge and other petroleum refinery wastes. In situ systems have been used to treat near surface soil contamination for hydrocarbons. The equipment employed in land farming is typical of that used in agricultural operations. These land farming activities cultivate and enhance microbial degradation of hazardous compounds.

Land treatment of petroleum products has been successfully utilized at numerous contaminated sites. It has been demonstrated that gasoline, jet fuel, and heating oil are extensively degraded when affected soils were treated with fertilizer, lime, and simulated tilling.

8.2. Spill Response Actions – Propane

Take action only if safety permits – stop the source flow if safe to do so and eliminate all ignition sources. **Never smoke** when dealing with these types of spills.

On Land

Do not attempt to contain the propane release.

On Water

Do not attempt to contain the propane release.

On Ice and Snow

Do not attempt to contain the propane release.

General

- It is not possible to contain vapours when released.
- Water spray can be used to knock down vapours if there is no chance of ignition. Small fires can be extinguished with dry chemical or CO_2.
- Personnel should withdraw immediately from area unless a small leak is stopped immediately after it has been detected.
- If tanks are damaged, gas should be allowed to disperse, and no recovery attempt should be made. Personnel should avoid touching release point on containers since frost forms very rapidly.
- Keep away from tank ends.

Storage and Transfer

It is not possible to contain vapours when released.

8.3. Spill Response Actions – Chemical Spills

- Assess the hazard of the spilled material. REFER TO THE SDS SHEETS.
- Assemble the necessary safety equipment before response.
- Apply absorbents to soak up liquids.
- Place plastic sheeting over solid chemicals, such as dusts and powders, to prevent their disbursement by wind or investigation by birds or other mammals.
- Neutralize acids or caustics. Place spilled material and contaminated cleanup supplies in an empty refuge drum and seal for disposal.
- Contact the 24-Hour Spill Line.

8.4. Spill Response Actions – Loss of External Load

The loss of external loads of fuel, oil or chemicals from aircraft may result in the failure of the container that held the product. Immediate response is required.

- Mark the loss target with GPS coordinates and relay to the base of operations immediately. Include the quantity and type of load lost.
- Note whether the load was dropped onto soil, rocks, water or snow and from what height. Determine if the container failed.
- Base of operations will contact the 24-Hour Spill Line.
- Administer appropriate procedure for Spills on Land, Water, Ice or Snow.

APPENDICES

Appendix I: Spill Response Contact Information

Appendix II: Spill Response Procedure Poster

Appendix III: NU Spill Report Form and Instructions

Appendix IV: Safety Data Sheets

Appendix V: Fuel Bladder Design, Layout and Specifications

APPENDIX I

Spill Response Contact Information

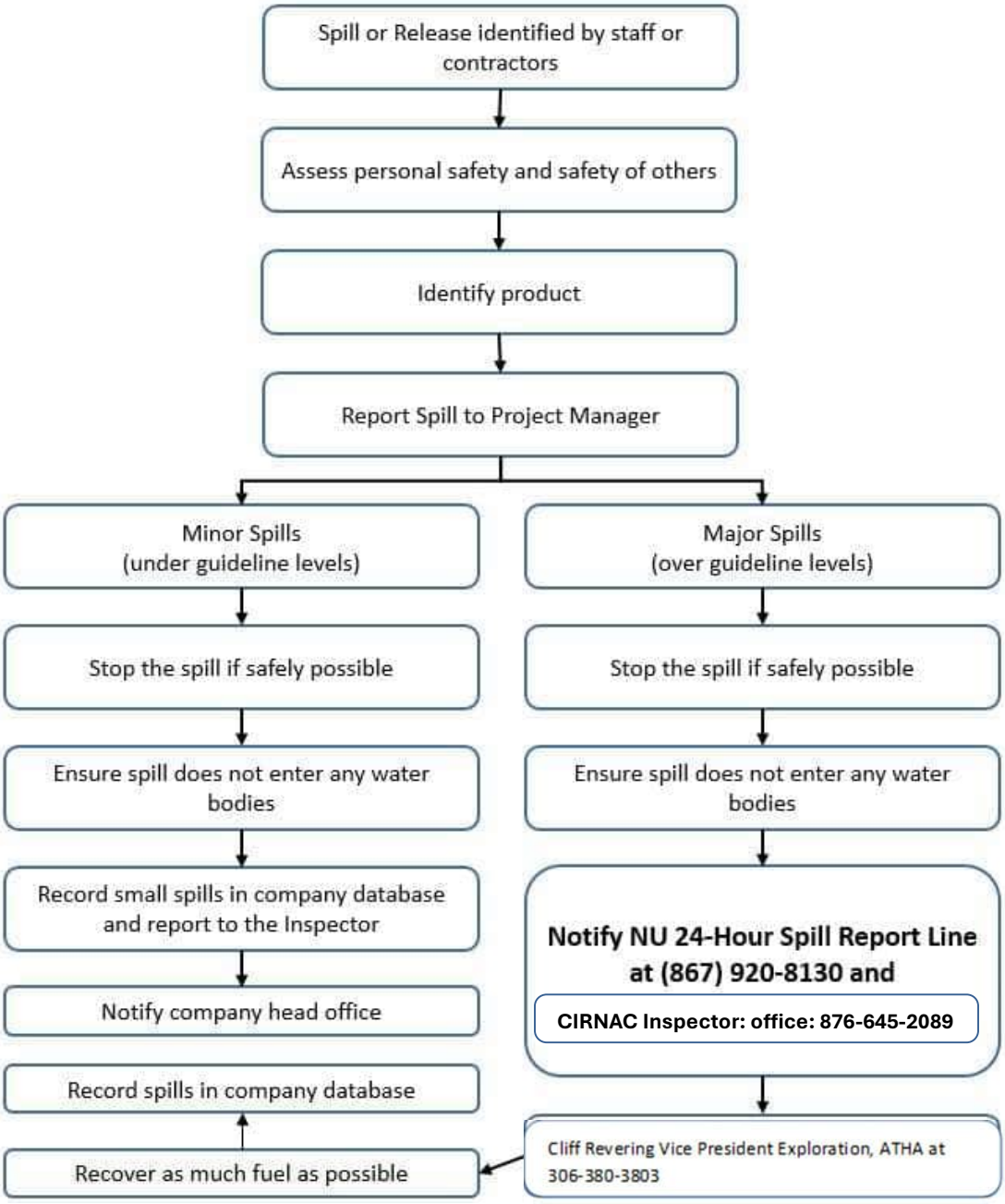
CONTACT	TELEPHONE NUMBER
24 Hour Spill Report Line	(867) 920-8130
Cliff Revering, Vice President, ATHA Energy Corp.	(306) 380-3803
CIRNAC Water Resource Officer, Rankin Inlet or CIRNAC Resource Management Officer, Rankin Inlet	(867) 645-2830 (867) 645-2831
Government of Nunavut-Department of Environment	(867) 975-7700 (Iqaluit)
Environmental Protection, GN	(867) 975-7729
Kivalliq Inuit Association	(867) 645-5725
Department of Fisheries and Oceans (Iqaluit)	(867) 979-8000
RCMP	(867) 793-0123 (Baker Lake)
Baker Lake Health Centre	(867) 793-2816
Discovery Mining Services	(867) 920-4600
Nunavut Water Board	(867) 360-6338
Fisheries & Oceans Canada Habitat Impact Assessment Biologist	(867) 979-8007

A Project Manager will be on site and available 24 hours a day at the camp during operations

APPENDIX II

Spill Response Procedure Poster

SPILL RESPONSE PROCEDURE



APPENDIX III

NU Spill Report Form and Instructions

Instructions for Completing the NT-NU Spill Report Form

This form can be filled out electronically and e-mailed as an attachment to spills@gov.nt.ca. Until further notice, please verify receipt of e-mail transmissions with a follow-up telephone call to the spill line. Forms can also be printed and faxed to the spill line at 867-873-6924. Spills can still be phoned in by calling collect at 867-920-8130.

A. Report Date/Time	The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. **Please do not fill in the Report Number**: the spill line will assign a number after the spill is reported.
B. Occurrence Date/Time	Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).
C. Land Use Permit Number /Water Licence Number	This only needs to be filled in if the activity has been licenced by the Nunavut Water Board and/or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.
D. Geographic Place Name	In most cases, this will be the name of the city or town in which the spill occurred. For remote locations – outside of human habitations – identify the most prominent geographic feature, such as a lake or mountain and/or the distance and direction from the nearest population center. **You must include the geographic coordinates** (Refer to Section E).
E. Geographic Coordinates	This only needs to be filled out if the spill occurred outside of an established community such as a mine site. Please note that the location should be stated in degrees, minutes and seconds of Latitude and Longitude.
F. Responsible Party Or Vessel Name	This is the person who was in management/control/ownership of the substance at the time that it was spilled. In the case of a spill from a ship/vessel, include the name of the ship/vessel. Please include full address, telephone number and e-mail. Use box K if there is insufficient space. **Please note that, the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.**
G. Contractor involved?	Were there any other parties/contractors involved? An example would be a construction company who is undertaking work on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and/or is responding to the spill.
H. Product Spilled	Identify the product spilled; most commonly, it is gasoline, diesel fuel or sewage. For other substances, avoid trade names. Wherever possible, use the chemical name of the substance and further, identify the product using the four digit UN number (eg: UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B)
I. Spill Source	Identify the source of the spill: truck, ship, home heating fuel tank and, if known, the cause (eg: fuel tank overfill, leaking tank; ship ran aground; traffic accident, vandalism, storm, etc.). Provide an estimate of the extent of the contaminated/impacted area (eg: 10 m^2)
J. Factors Affecting Spill	Any factors which might make it difficult to clean up the spill: rough terrain, bad weather, remote location, lack of equipment. Do you require advice and/or assistance with the cleanup operation? Identify any hazards to persons, property or environment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.
K. Additional Information	Provide any additional, pertinent details about the spill, such as any peculiar/unique hazards associated with the spilled material. State what action is being taken towards cleaning up the spill; disposal of spilled material; notification of affected parties. If necessary, append additional sheets to the spill report. Number the pages in the same format found in the lower right hand corner of the spill form: eg. "Page 1 of 2", "Page 2 of 2" etc. **Please number the pages to ensure that recipients can be certain that they received all pertinent documents.** If only the spill report form was filled out, number the form as "Page 1 of 1".
L. Reported to Spill Line by	Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.
M. Alternate Contact	Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.
N. Report Line Use Only	**Leave Blank**. This box is for the **Spill Line's use only**.

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	☐ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER ____-_____
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME		

C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE 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 ENVIRONMENT
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 STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

Environmental Management Plan

Angilak Property

ATHA Energy Corp. and its wholly owned subsidiaries

December 2025

Appendices

Appendix I: Reporting Contact Information

Appendix II: Bear Safety Resources

Appendix III: Caribou Mitigation Measures

Appendix IV: Applicable Guidelines and Legislation

Appendix V: Wildlife Mitigation Procedures

APPENDIX I

Reporting Contact Information

In the event of an archaeological or paleontological find, contact:

Nunavut Department of Cultural Heritage (CH)	**Phone:** 867-975-5500 **OR** 867-934-2046 **Fax:** 867-975-5504
CIRNAC Lands Administration	**Phone:** 867-975-4283 **OR** 867-975-4285 **OR** 867-975-4280
KIA Office	**Phone:** 867-645-5734 **Email:** LandsAdmin@kivalliqinuit.ca

For wildlife communication or in the event of a kill on IOL, contact:

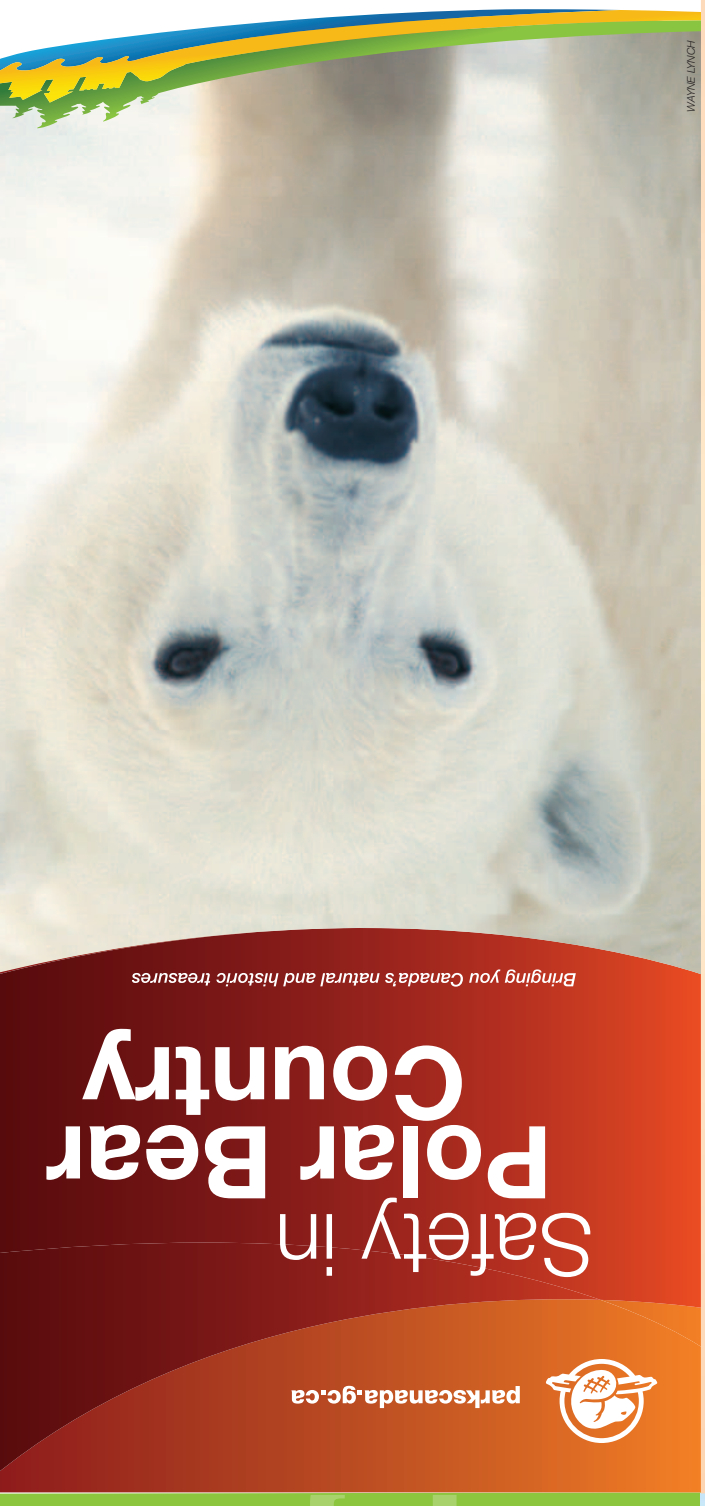
Baker Lake HTO	**Phone:** 867-793-252 **Fax:** 867-793-2034 **Email:** bakerlake@kivalliqhto.ca
Aqiaggiag HTO	**Phone:** 867-645-2350 **Fax:** 867-645-3257 **Email:** ranking@kivalliqhto.ca
KIA Office	**Phone:** 867-645-5734 **Email:** LandsAdmin@kivalliqinuit.ca

For interactions with carnivores and other problem wildlife, contact:

GN, Department of Environment Local Conservation Office – Baker Lake	**Phone:** 867-793-2944

APPENDIX II

Bear Safety Resources



Bringing you Canada's natural and historic treasures

Safety in Polar Bear Country

parkscanada.gc.ca

WAYNE LYNCH

Parks Canada Parcs Canada

Canada

ISBN: 978-1-100-16418-2 R62-342/2010E

Polar Bear CONSERVATION

Nanuq, the great white bear, is found in many of Canada's northern national parks and in some national historic sites. Wherever bears and people occupy the same area, conflict can arise. Polar bears and people have coexisted for thousands of years but contact between the two must be minimised to continue this legacy. Successful polar bear conservation requires your co-operation.

For your safety, and the safety of the bears, learn about safe travel in polar bear country and take precautions. By choosing to travel in polar bear country you not only accept the associated risks, but also the responsibility to alter your plans, actions and attitudes to accommodate these magnificent animals.

Report all polar bear sightings and signs to park staff, as soon as possible.

FOR MORE INFORMATION:

Auyuittuq National Park and Quttinirpaaq National Park
Box 353
Pangnirtung, NU X0A 0R0
PHONE: **867-473-2500**
E-MAIL: nunavut.info@pc.gc.ca

Sirmilik National Park
Box 300
Pond Inlet, NU X0A 0S0
PHONE: **867-899-8092**
E-MAIL: sirmilik.info@pc.gc.ca

Ukkusiksalik National Park
Box 220
Repulse Bay, NU X0C 0H0
PHONE: **867-462-4500**
E-MAIL: ukkusiksalik.info@pc.gc.ca

Torngat Mountains National Park
Box 471
Nain, NL A0P 1L0
PHONE: **1-800-922-1290** or **709-458-2417**
E-MAIL: torngats.info@pc.gc.ca

Wapusk National Park
Box 127
Churchill, MB R0B 0E0
PHONE: **204-675-8863**
E-MAIL: wapusk.np@pc.gc.ca

Western Arctic
Ivvavik National Park
Aulavik National Park
Tuktut Nogait National Park
Pingo Canadian Landmark
Box 1840, Inuvik, NT X0E 0T0
PHONE: **867-777-8800**
E-MAIL: inuvik.info@pc.gc.ca

Margo Supplies
A supplier of bear deterrents and warning devices.
www.margosupplies.com

SUGGESTED READINGS

Bromley, Marianne. 1996. *Safety in Polar Bear Country.* Northwest Territories Renewable Resources, Yellowknife. 24 pp.

Canadian Wildlife Service. *Hinterland Who's Who.* http://www.hww.ca/hww2.asp?id=99

Stirling, I. 1988. *Polar Bears.* University of Michigan Press. Available in soft cover from Fitzhenry and Whiteside, Markham, ON. 220 pp.

Safety in Bear Country Society. 2006. *Polar Bears: A Guide To Safety.* Available from Distribution Access, 1-866-999-5292. DVD.

CREDIT: *Bromley, Marianne. 1996.* Safety In Polar Bear Country. *Northwest Territories Renewable Resources, Yellowknife, NWT. 24 pp.*

This pamphlet was developed for national parks in the Arctic. Polar bears and bear encounters are more numerous in Ukkusiksalik and Wapusk National Parks than other Arctic national parks. Independent travelling in these parks is not recommended, but guided trips are available. Contact Ukkusiksalik or Wapusk National Parks for further information.

MORE about Polar Bears

Polar bears are the largest land carnivore in North America. An adult male typically weighs 300-450 kg, stretching 3 metres from nose to tail. They are strong, fast, agile on land or ice, and are expert swimmers and divers. Their sense of smell is exceptional, their eyesight comparable to a human's. Polar bears are naturally curious, not fearless as they have been labelled. They are shy and prefer to avoid confrontations with humans and other polar bears. Their primary prey is the ringed seal but they will also prey on birds, eggs, small mammals, and even humans. They also scavenge anything from beached whales to human garbage. In the heat of summer, polar bears may appear slow and docile, but they are capable of moving swiftly and with purpose.

SAFETY in Polar Bear Country

Each encounter with a polar bear is unique. Good judgement, common sense and familiarity with polar bear behaviour are required in all situations. This pamphlet provides guidelines for avoiding and dealing with polar bear encounters. For your safety and the safety of the bears, please read this pamphlet carefully and seriously consider the risks involved with travel in polar bear country. Further information is available in the DVD *"Polar Bears: A Guide to Safety"* developed by Parks Canada and the Safety in Bear Country Society.

After a *polar bear attack* or *encounter* follow this emergency check list:

1. **STAY CALM** and ensure you are safe.
2. Check that all people in your group are accounted for.
3. Call for help by radio or satellite phone. (Get contact numbers at your orientation to the park.)
4. Report location and time of incident.
5. Report number of people involved.
6. Report extent of injuries and property damage.
7. Report numbers and last locations of all polar bears involved in the incident.
8. Report reason for the attack if known (female protecting cubs, surprise, defending food source, etc.)
9. Report description of bears (male or female, size, markings, etc.)
10. Stand by to provide additional information to rescuers.

Polar bear behaviour is **very different** from that of **grizzly** and **black bears**.

Polar bears are predators, primarily hunting seals, while grizzlies and black bears mostly eat plants. As predators, polar bears will investigate humans, their camps and may even consider humans as a food source.

AVOIDING an ENCOUNTER

Ask Parks Canada staff about current bear activity. Some areas may be closed due to bear activity; obey written and oral warnings.

Be alert and aware of your surroundings. Scan all around with binoculars at regular intervals. Be vigilant! Watch for signs such as tracks, droppings, diggings, wildlife carcasses and polar bear dens.

Travel in daylight and avoid areas of restricted visibility. Be especially careful in areas along the coast, where a polar bear may be hidden behind boulders, pressure ridges (pushed up sea ice), driftwood or vegetation.

Travel in groups and stay together to increase your safety. The larger the group the greater the chances of deterring a bear.



Never approach a bear for any reason. Every bear defends a "critical space", which varies with each bear and each situation: it may be a few metres or a hundred metres. Intrusion within this space is considered a threat and may provoke an attack. Approaching a bear could be considered disturbing wildlife which is an offence under the National Parks Wildlife Regulations.

Never approach a fresh kill or carcass as polar bears will defend their food. Adult polar bears will often only eat the fat of beached whales, seals and other kills, but other bears may scavenge from these carcasses.

Never feed bears. A bear that finds food from a human source begins to associate humans with food. This can result in the bear losing its natural tendency to avoid people and becoming persistent in its search for human food. The consequences for you and the bear can be serious. A bear that associates food with humans is more likely to injure people and these bears may have to be relocated or killed. It is also illegal to feed any wildlife in a national nark.

Use sealed bags and containers or bear-proof canisters to store food and garbage. Pack out all garbage.

Eliminate or reduce odours from yourself and your camp. Avoid using scented soaps and cosmetics and avoid bringing strong smelling foods.

Consider hiring a guide if you are uncertain about your ability to deal with polar bears. Ask about their experience, how they will avoid encountering a polar bear and about plans of action should you encounter a bear. A larger group can also increase safety, ask about the size of group.

CHOOSING a SAFE Campsite

Avoid bear feeding areas.
A polar bear's primary food source is seal so these species are often found in the same places.

- **In fall, winter and early spring** most polar bears are on the sea ice hunting seals by the floe edge, open water leads and along pressure ridges. Bears and seals can also be found in places where the ice is thin or cracked, such as tide cracks in land-fast ice or at toes of glaciers. Seals can more easily maintain breathing holes in these areas.
- **In early spring,** females with cubs tend to hunt along pressure ridges and cracks in land-fast ice (particularly in bays) where seal birthing dens are found.
- **During the ice-free summer season,** when polar bears are forced ashore, they can be found anywhere but they generally hunt and scavenge along coastlines, beaches and rocky islands. Keep an eye on the ocean, polar bears are often well hidden when swimming.

Stay away from polar bear den sites.
Unlike other bears, there is no time when all polar bears are inactive in dens.

- **Maternity dens** are excavated by pregnant females in snow drifts on leeward (wind protected) slopes of coastal hills and valleys. In the Baffin Region, dens can be found at high elevations on snowfields and glaciers. Maternity dens are occupied from fall to early spring. The dens are inconspicuous, however, bear tracks leading to and from the site in early autumn or late spring or ventilation holes can indicate their presence.
- **Temporary dens** are excavated in snow drifts or pressure ridges by polar bears (males, females and females with cubs) that are active over the winter. The dens can be used as resting places or as temporary shelter from bad weather. They can be used from a few days to several months.
- **Summer retreat dens** are excavated during the open water season in the remaining snow banks or into the permafrost. These can also be at higher elevations on snowfields and glaciers or the valleys leading up to them. Male and female bears of all age groups use them to keep cool and avoid insect harassment.

Avoid camping on beaches, islands, along coastlines and on obvious movement corridors.

- Before making camp, look around for tracks or other signs of bear activity.
- Polar bears often travel along coastlines using points of land and rocky islets near the coast to navigate.
- In the summer, blowing sea ice may transport polar bears into coastal areas. Avoid areas where the pack ice is blowing in to shore.
- Valleys and passes are often used to cross peninsulas or islands and to move from one area to another.
- Polar bears travel and hunt along the edges of ice floes.

Camp inland on a butte or bluff with a good view of surrounding terrain. Avoid areas where bears might hide, such as blind corners, snow banks, pressure ridges and other places with visual impediments.

Set up tents in a line rather than a circle and maintain at least 5 metres between them. If a bear comes into camp, it will not feel surrounded and will have an avenue of escape without feeling threatened. Keep watch 24 hours per day. Take turns keeping watch during sleeping periods.

Do not sleep in the open without a tent. You may look like a seal and polar bears are very curious. People sleeping in the open have been attacked.

Cook at least 50 metres from your sleeping area in a place visible from your tent. Strain food particles from dishwater and store with garbage. Dump dishwater at least 50 metres from your sleeping area, rivers, streams and lakes.

Store food and garbage in bear-proof containers or sealed bags and containers secured under rocks within view of your tent. A permit is required to set up a food cache.
Placing pots on top may serve as an alarm. If you have a warning system, store your food within its perimeter. DO NOT store food inside your tent.

HANDLING an ENCOUNTER

Before your trip, discuss possible plans of action for dealing with bears in a variety of circumstances and be sure everyone understands. The actions of each individual either contribute to or detract from the safety of everyone else.

Every attack or encounter is different. To find out more about bear behaviour, hire a guide or talk to knowledgeable people in the community.

Stay calm, notify everyone in the group, be aware of your surroundings and assess the situation. What is the bear doing? What is the bear's behaviour?

If a bear does not know you are there:

- **quietly back away and leave the area** either in the direction you came or make a wide detour around the bear. Do not run, move quickly or make motions that might attract the bear's attention.
- **stay downwind,** so the bear cannot smell you and detect your presence.
- **keep an eye on the bear.**

If a bear knows you are there and shows signs of being curious, such as:

- moving slowly with frequent stops,
- standing on hind legs and sniffing the air,
- holding its head high with ears forward or to the side,
- moving its head from side to side, or
- trying to catch your scent by circling downwind and approaching from behind.

THEN:

- **help it to identify you as a human,**
- **wave your arms over your head and talk in low tones,**
- **move slowly upwind** of the bear so it can get your scent.

If the bear has been surprised at close range or shows signs of being agitated or threatened, such as:

- huffing, panting, hissing, growling or jaw-snapping,
- stamping its feet,
- staring directly at a person, or
- lowering its head with ears laid back.

THEN:

- **act non-threatening.** Do not shout or make sudden movements, which might provoke the bear. Never huff or hiss as this can cause a polar bear to charge.
- **avoid direct eye contact.**
- **back away slowly.** DO NOT RUN.
- **be prepared to use deterrents.**

If the bear shows signs of stalking or hunting you, such as:

- following you or circling you,
- approaching directly, intently and unafraid,
- returning after being scared away, or
- appears wounded, old or thin.

THEN:

- **fight back!** Use any potential weapon, group together and make loud noises.
- **DO NOT RUN.**
- **be prepared to use deterrents.**

If a bear charges:

- **stand your ground and be prepared to fight!** Focus on hitting the bear in sensitive areas, especially the face and nose if possible. Bluff charges are rare.

Never get between a bear and her cubs.

If a female with cubs is surprised at close range or separated from her cubs she will likely attack to defend her cubs.

- **leave the area immediately.**
- **stay in a group.**
- **fight back if she attacks.**



WAYNE LYNCH

Always leave an escape route for the bear.

Carry deterrents and know how to use them.

Report all bear sightings and signs to park staff.

CONTACT PARKS CANADA FOR MORE INFORMATION.

DETERRENTS

Reducing the threat posed by a polar bear during an interaction may be difficult. Non-lethal deterrents cannot be depended on to ensure safety. The best way to live safely with bears is to avoid contact with them.

Any potential weapon must be considered, such as skis, poles, rocks, blocks of ice or even knives.

Stay together as a group. This can be a deterrent and actions, such as making noise, jumping, waving arms, throwing things, may help to drive a polar bear away.

COMMERCIAL deterrents

- **Noisemakers** including air horns, pistol and pen launched bear bangers may scare a bear away.
- **Pepper spray** is effective against polar bears, but has some limitations. It must be warm enough to atomize and it must be used at close range. Also be aware of wind direction to avoid having the spray blow into your face.
- **Know how and when to use these deterrents and practice beforehand.**
- **Availability of commercial deterrents is limited in the north,** most will have to be purchased elsewhere and transported as dangerous goods.
- **Portable solar electric fences** may deter a bear at your campsite if properly installed and maintained.
- Contact Parks Canada for more information.

In Canada's national parks it is unlawful to possess a firearm unless you are a licensed guide or bear monitor with a permit. Consider hiring a guide or a bear monitor for increased safety. If you operate a guiding or outfitting business and wish your guides to be considered for a firearms permit, please contact the National Park or Site or Field Unit Office.

The exception to this regulation is for beneficiaries of the Inuvialuit Final Agreement, the Nunavut Land Claim Agreement, the Labrador Inuit Land Claims Agreement, the Nunavik Inuit Land Claim Agreement and any future land claim agreements, who can carry firearms when engaged in traditional activities within national parks within their land claim area.

WARNING systems

Set up a portable trip-wire or motion detector alarm system around your tent to alert you if a polar bear approaches your camp. Before leaving home, contact Parks Canada for more information.

You may wish to take a dog, but only one that has proven experience with polar bears. Several dogs are better than one. Know how to handle them. Keep them staked so they cannot run to you for protection and stake them downwind from your sleeping area. Be sure to clean up any dog food leftovers. Dogs must be under control at all times within national parks to avoid wildlife harassment.

Designate a bear monitor to keep watch if a polar bear might be nearby. Consider moving your camp if there is a bear in the area.

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Building Nunavut Together
Nunavuliuqatigiingniq
Bâtir le Nunavut ensemble

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Department of Environment
Avatiliqiyikkut
Ministère de l'Environnement

BEAR SAFETY

Reducing Bear-People Conflicts in Nunavut

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Prepared By: Tyler Ross, Sarah Medill and Bob Hansen

Safety

Some equipment designed to prevent and reduce wildlife damage is hazardous. It is especially dangerous to use the equipment in an unsafe manner or contrary to the manufacturer's instructions.

Users must correctly install and use all equipment as per manufacturer's instructions and provide regular maintenance of the equipment.

Those acquiring detection/deterrent equipment must acknowledge they use the equipment at their own risk and may have to sign a waiver of liability before taking possession of certain equipment when applied for through the Wildlife Damage Prevention and/or Compensation Programs.

If possible, contact a Conservation Officer before using any of the detection and/or deterrent equipment described in this resource.

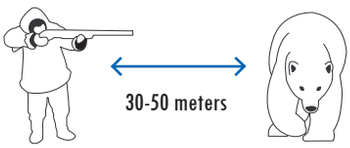
DETERRENTS

Rubber Bullets



Some bears are not deterred by noise. When noise is unsuccessful, rubber bullets are often the most effective alternative to lethal management. Less-lethal projectiles, such as rubber bullets, are used to inflict pain, creating a negative association with the situation and with humans. These rounds are designed to cause momentary discomfort and surprise; when used correctly they do not penetrate the hide or seriously injure the bear. Rubber bullets are effective between **30-50 meters (100-165 ft.).**

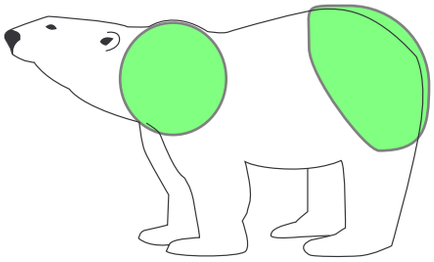
Load rubber bullets one at a time directly into the chamber of a shotgun with an open-choke (cylinder bore). Load the magazine with lead slugs (lethal ammunition) so you are prepared if the bear attacks. Do not use rubber bullets in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless. Use a pump-action shotgun with a chamber size of 2 ¾" or larger.



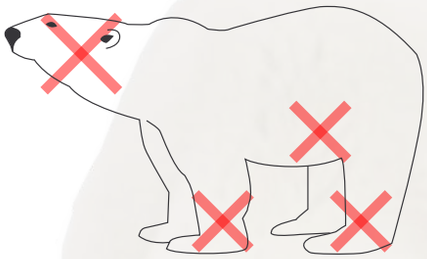
Call out to the bear before firing so that it associates you (humans) as the source of the pain. Make sure the bear has a clear path to escape.

Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- Do not shoot at wildlife closer than 30 meters
- Have a lethal firearm present and ready
- Use only in recommended firearm (12 gauge shotgun with open choke)
- Do not use rubber bullets in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless



- Load rubber bullets directly into the chamber of a shotgun with an open-choke (cylinder bore)
- Aim for a large muscle mass, such as shoulder or rump
- Let the bear know your location before firing
- Make sure the bear has a clear path to escape



- Do not shoot for the head, belly, hindquarters, or lower limbs. This could severely injure the bear.

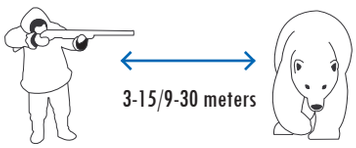
DETERRENTS

Bean-Bag Round

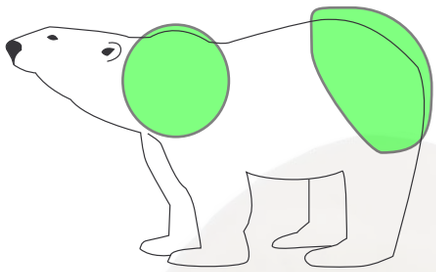


Similar to rubber bullets, bean-bag rounds are an effective alternative to lethal management. These less-lethal projectiles are used to inflict pain, creating a negative association with the situation and with humans. Bean-bag rounds are designed to cause momentary discomfort and surprise; when used correctly they do not penetrate the hide or seriously injure the bear. Bean-bag rounds can be used at close ranges: **3-15 meters (10-50 ft.).** A "standard round" is also available, which works at a longer range: **9-30 meters (30-100 ft.)**

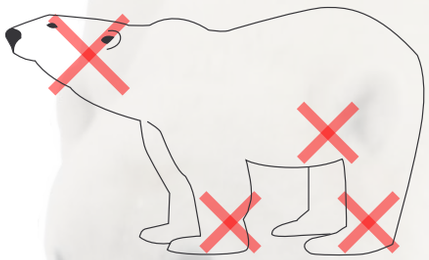
Load bean-bag shells one at a time directly into the chamber of an open-choke shotgun. Load the magazine with lead slugs (lethal ammunition) so you are prepared if the bear attacks. Do not use bean-bag rounds in semi-automatic shotguns, as the low powder loads in the shells do not work properly with the action - rounds can jam and render the firearm uses. Use either a hinge or pump-action shotgun with a chamber size of 2 ¾" or larger.



Call out to the bear before firing so that it associates you (humans) as the source of the pain. Make sure the bear has a clear path to escape.



- Load rubber bullets directly into the chamber of an open-choke shotgun
- Aim for a large muscle mass, such as shoulder or rump
- Let the bear know your location before firing
- Make sure the bear has a clear path to escape



- Do not shoot for the head, belly, hindquarters, or lower limbs. This could severely injure the bear

Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- Do not shoot at wildlife closer than recommended
- Have a lethal firearm present and ready
- Use only in recommended firearm (12 gauge shotgun with open choke)
- Do not use rubber bullets in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless

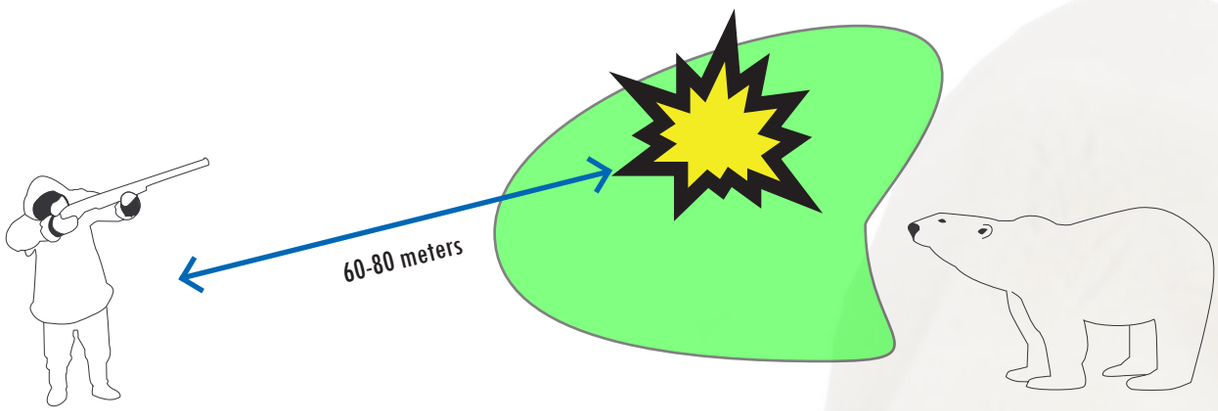
DETERRENTS

Cracker Shells

Bears dislike sudden loud noises. Cracker shells are fused projectiles that travel a certain distance before exploding. The abrupt loud noise creates a negative association with the situation and with humans. Most bears are scared off by cracker shells but others learn to ignore the noise, especially when there is nothing else to deter the bear or if there are attractants or food. 12 gauge Cracker shells are effective between **60-80 meters (165-ft.).**



When used properly, cracker shells cause no physical harm or discomfort to a bear. Load shells one at a time into an open-choke shotgun. Do not use cracker shells in semi-automatic shotguns, as the low powder loads in the shells do not work properly with the action - rounds can jam, making the firearm useless. Use either a hinge or pump-action shotgun with a chamber size of 2 ¾" or larger. Load the magazine with lead slugs (lethal ammunition) so you are prepared if the bear attacks.



- Do not shoot directly at the bear - **You want the shell to explode between you and the bear**
- Fire into the air at a **45 degree angle above the ground**, judging distance and wind speed/direction
- Judge your distance. **If the shell explodes behind the bear the blast may scare the bear towards you**
- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Make sure the bear has a clear path to escape

Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- Cracker shells pose a fire risk. Ensure that there are no flammables downrange
- Do not shoot at dry vegetation, gas products, or wildlife closer than 60 meters
- Have a lethal firearm present and ready
- Use only in recommended firearm (12 gauge shotgun with open choke)
- Do not use cracker shells in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless



DETERRENTS

Warning Shots

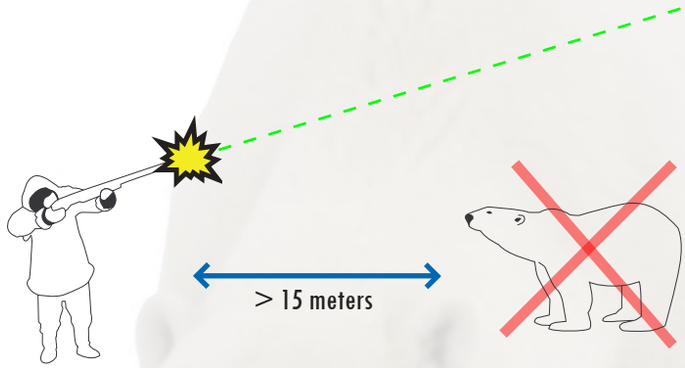


Warning shots create a loud abrupt noise at the gun's muzzle and a slight disturbance to the ground upon the bullet's impact. Shots fired from a firearm may scare a bear; however, some bears show little concern for warning shots and will continue to approach or remain in the area. Warning shots can also be a safety hazard for bears and people. Often bears are injured by ricocheting bullets intended to scare it away. Using a firearm to deter bears does allow for immediate use of lethal force.

Warning shots can be fired from any firearm that makes a loud noise when discharged. Keep track of the number of warning shots fired - each one fired means that there is one less shell or cartridge left in the firearm for you to use if you must shoot the bear.

Think about where you are shooting . Do not fire warning shots in the direction of people, communities, known campsites/ cabins, or other populated areas.

- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Do not shoot directly towards the bear. Shoot in the air and to the side of the bear
- Make sure the bear has a clear path to escape
- If the warning shots are not working switch to another technique (other deterrents, yelling and/ or throwing things at the bear) - you do have a firearm if the bear turns its attention to you



Safety Precautions

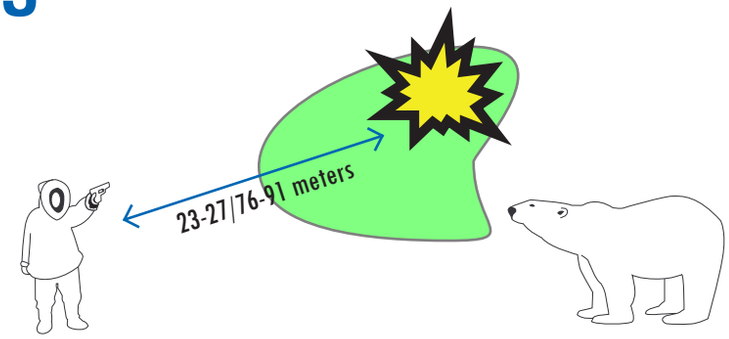
- Be conscious of where your warning shot will land - do not shoot at or near people, or objects off which a bullet may ricochet
- Do not shoot directly at wildlife
- Do not fire all rounds - you may need to shoot the bear if it turns its attention to you

DETERRENTS

15mm Scare Cartridges



Bear Scare Cartridges are 15mm projectiles that create loud noises when fired. The abrupt loud noise creates a negative association with the situation and with humans. Most bears are scared off by scare cartridges but others learn to ignore the noise, especially when there is nothing else to deter the bear or if there are attractants or food. 15mm cartridges are fired from a 'pistol launcher', which uses blanks to project the cartridge. There are three different types of bear scare cartridges:



Bangers - A flash bang cartridge that explodes, creating a sudden loud noise and flash of light. Bangers are effective between **23-27 meters (75-90 ft.)**

Screamers - Make a loud screeching sound while traveling through the air. In low light conditions they produce a strong visual effect. Screamers are effective between **76-91 meters (250-300 ft.)**

Flaming Whistles - Produce a loud whistling noise and a sparkling tracer effect as they travel through the air. Flaming Whistles are effective between **76-91 meters (250-300 ft.)**

Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- 15mm scare cartridges pose a fire risk. Ensure that there are no flammables downrange
- Do not shoot at dry vegetation, gas products, or wildlife closer than recommended
- Have a lethal firearm present and ready
- This ammunition must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before using this deterrent

- Fire into the air at a **45 degree angle above the ground**, judging distance and wind speed/direction
- Judge your distance. **If the shell explodes behind the bear the blast may scare the bear towards you**
- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Make sure the bear has a clear path to escape
- Do not shoot directly at the bear - **You want the shell to explode between you and the bear.**



DETERRENTS

Pen Launcher

A different style of 15mm Bear Scare Cartridges can be fired from a 'pen launcher'. The cartridges are screwed into the end of the launcher one at a time; the thumb lever is then drawn back and released to fire the cartridge. A variety of signal and safety flares can also be fired from pen-type launchers. There are two different types of bear scare cartridges that can be fired from the pen launcher.

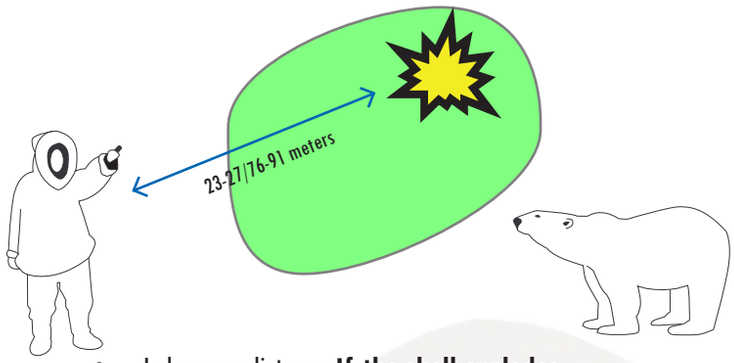


Salute Flares - Also known as Bear Bangers, these cartridges explode with an extremely loud bang after traveling approximately 125 ft. Salute Flares are effective between **23-27 meters (75-90 ft.)**

Siren Flares - Also known as Screamers, these cartridges make a loud high pitched screeching sound while traveling through the air. Siren Flares are effective between **76-91 meters (150-200 ft.)**







- Judge your distance. **If the shell explodes behind the bear the blast may scare the bear towards you.**
- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Make sure the bear has a clear path to escape

Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- 15mm scare cartridges pose a fire risk. Ensure that there are no flammables downrange
- Do not shoot at dry vegetation, gas products, or wildlife closer than recommended
- Have a lethal firearm present and ready
- This ammunition must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before using this deterrent



DETERRENTS

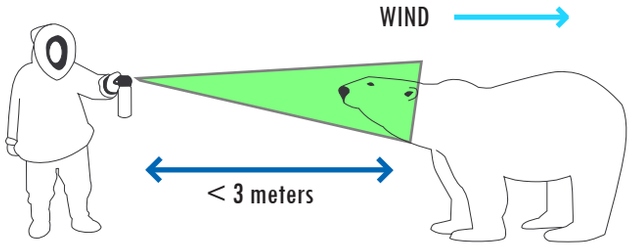
Pepper Spray



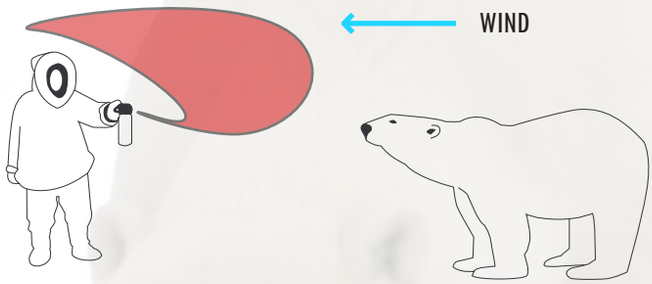
Pepper spray, also known as capsicum spray or bear spray, is a chemical deterrent that causes temporary burning, tearing and swelling in the eyes and nose, and inflammation of the throat and lungs, which restricts breathing to shallow gasps. It also causes severe irritation to the surface of the skin. These effects are only temporary and cause no permanent damage to bears, or people who accidentally come into contact with the spray. Unlike other projectile deterrents, pepper spray is only effective at short distances: **< 3 meters (165- ft.)** Therefore, it should only be used as a last resort.

Pepper spray does not work well in damp, rainy or cold weather. Keep the canister in a holster under your jacket to keep the canister at an effective working temperature.

Pepper spray is not a repellent - it will not keep bears from investigating or damaging property.



- Remove the "safety wedge"
- Discharge the pepper spray with the wind at your back
- Aim for the animal's face, specifically the eyes, nose and mouth
- Leave the area immediately after using the pepper spray



IMPORTANT

Judge wind direction - do not discharge the pepper spray into a head-wind, as it may blow back into your face

Safety Precautions

- Do not use on people; it may cause serious injury
- It is illegal to use pepper spray for any purpose other than defending yourself from an animal attack
- Do not use in cabins, tents, vehicles or other enclosed areas, as it will incapacitate the user(s)
- Effects are only temporary and a predatory bear may resume its approach once it has recovered
- This product must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before using this deterrent



Bear reacts to pepper spray - © Bob Saunders

DETERRENTS

Noisemakers

Noisemakers can be considered anything that makes loud, unfamiliar noise. Commercial products such as rattlers or air horns are available for purchase. However, simple home solutions are also effective; pots and pans, banging on the walls of a shed or cabin, etc. Use whatever is available to you.





Noisemakers are a simple, first level deterrent. However, bears quickly become accustomed to sounds when no other negative effect is present. Have other deterrents or a lethal firearm present and ready in case the noisemakers are ineffective.





Safety Precautions

- Do not use sirens or horns on/near people; it may result in hearing damage or loss
- Have a lethal firearm present and ready
- Use noise makers when bears show interest in your camp, cabins, or persons

DETERRENTS

Electric Fencing

Electric fences deliver a shock to bears that come into contact with the wires. The shock causes momentary surprise and discomfort. The effects are only temporary and cause no permanent damage to bears, or people who accidentally come into contact with the wires.

Alternating positive and negative charges between wires will deliver a shock even on dry ground or rocky conditions. Permanent fences can be erected to protect outpost camps, cabins, caches, etc. Portable fences can be used at temporary camps.

Fence charging units can be recharged either by generators or by solar power. Fences do require regular maintenance and monitoring to ensure that an appropriate level of charge is being delivered. When snow begins to accumulate they may become grounded out or buried.

Consult the manufacturer's guidelines for safety and installation instructions.



A permanent high tensile electric fence and a solar-powered charger



Temporary electric fencing around a camp site

Safety Precautions

- Have other deterrents and/or a lethal firearm present and ready in case the fence is damaged and/or ineffective
- Follow the manufacturors guidelines for instilation, operation and maintainance

DETERRENTS

Vehicles



Bears are less of a risk to people who are travelling by all-terrain vehicles (ATV), snowmobiles, on-road vehicles (cars and trucks), boats or aircraft. When chasing problem wildlife away from people and/or property, consider the following when traveling with a vehicle:

- Do not depend entirely on your vehicle for protection. If it breaks down you may be forced to stay on the land longer than you anticipated, or you may have to travel on foot
- If a bear is approaching, and it is safe to do so, start the engine of your ATV, boat, or snowmobile. The noise and/or movement may encourage the bear to leave
- Do not use your vehicle as an excuse to approach wildlife. This includes watching bears and other wildlife at garbage dumps The more experience a bear has with any deterrent the less effective it becomes.
- Do not use your vehicle to chase an animal if the terrain makes it unsafe to do so. Do not chase a bear with your vehicle while towing a trailer or sled. You may need to stop and turn abruptly.
- If using a helicopter stay 100m behind the bear and 30m above the ground, in this position, drive the bear towards an obvious, or desired escape route



Safety Precautions

- Never chase a bear if you are unarmed. If your vehicle breaks down you may be vulnerable
- Remain at a safe distance
- Do not chase a bear alone. Have a second person present, following in an additional vehicle if possible
- Vehicles must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before chasing any animal

WARNING

Bears, particularly during the summer, may overheat and die from the stress and overexertion caused by a fast and/or long chase

Wildlife Act - Section 74 - Pursuit of a wild animal

(1) No person shall chase, weary, harass or molest a wild animal

(2) A person does not contravene subsection (1) by lawful harvesting

(3) Notwithstanding anything else in the Act, a person may use a vehicle to chase a bear away from a dwelling, municipality, camp or settlement or its immediate vicinity if it is necessary to defend life or property and may avoid killing the bear

DETECTION

Dogs



A trained dog and an experienced handler can effectively detect and deter bears. Certain breeds of dogs, such as the Canadian Inuit Dog (sled dog), the Blackmouth Cur and the Karelian Bear Dog, are well known for their ability to avert bears and chase them from areas where they may come into contact with people. Regardless of the breed, it is important to know beforehand how your dog(s) will react to an approaching bear. An inexperienced dog, or one which fails to warn of an approaching bear, is more of a hazard than a help.

Dogs used to detect and deter bears should not be treated as pets and are best kept on a leash when travelling, or chained outside of tents and/or cabins. A loose dog may not be useful in you encounter a bear, as the dog could run away.

Dogs are naturally pack animals and may be more confident when two or more are kept together for bear detection and defense. A small group of dogs may be able to chase and scare a bear from the area, creating an unpleasant encounter that may discourage the bear from returning. A single barking dog may be enough to prevent a bear from approaching a camp. However, some dogs may not bark at bears when tied up because they may feel vulnerable to an attack.

Additional care must be taken when travelling on the land with a dog. Dog food can attract bears; uneaten food should not be left out overnight and care should be taken to ensure a dog does not cache uneaten food around camp.





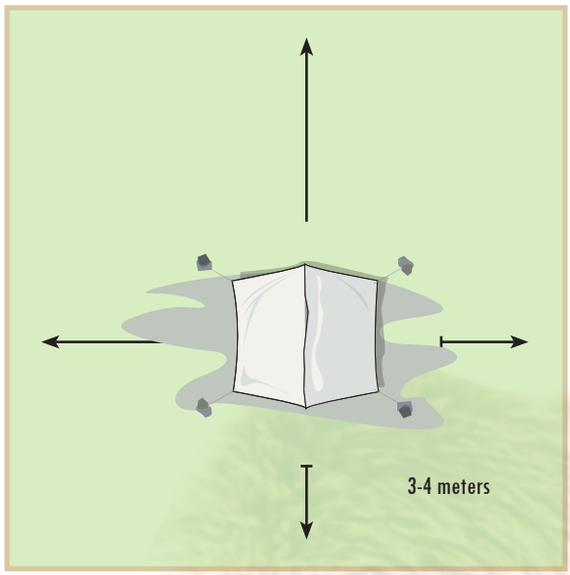


DETECTION

Tripwire Fences

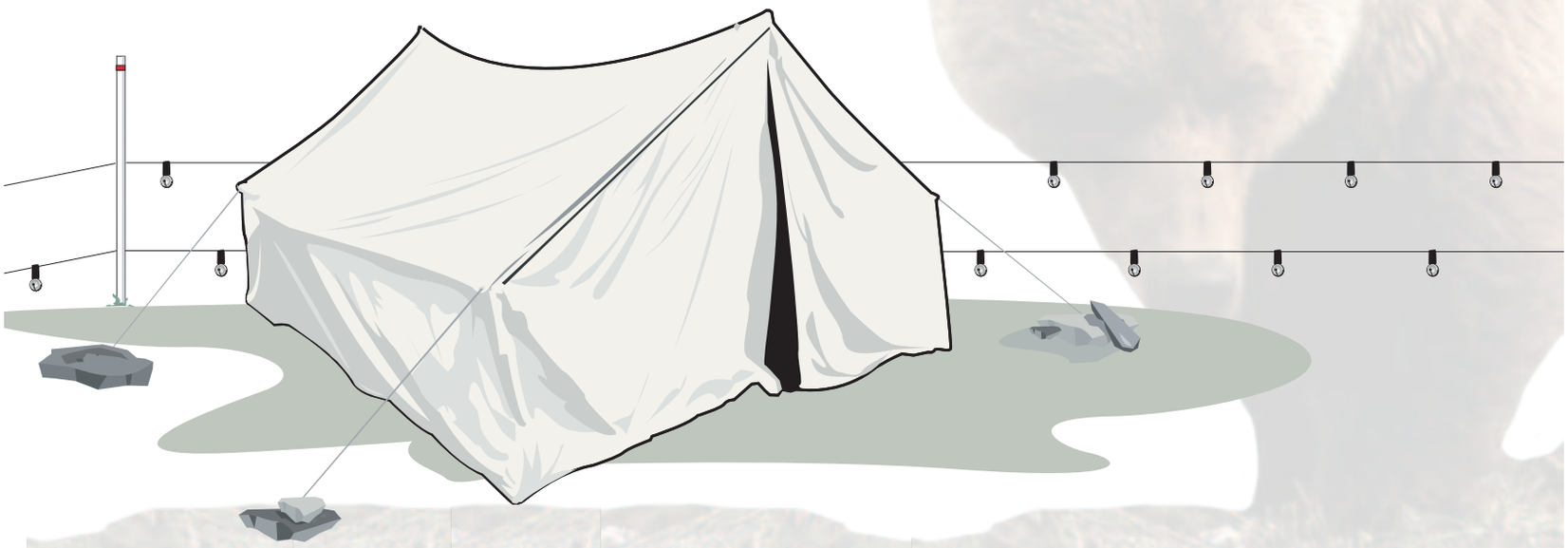
Tripwire fences can provide advanced warning of an approaching bear. In some cases the noise produced by a tripwire fence may be enough to deter a bear. However, they are intended to be a means of detection, and you should always carry additional deterrents or firearms. Tripwire fences can be as basic as setting up a rope with noisemakers (pots and pans, bells, etc.) attached at various points. There are also commercially available models that, when triggered, set off loud sirens and lights.





The fence should be set a height that cannot easily be stepped over, or passed under by a bear.

Tripwire fences, whether homemade or commercially purchased, should be placed at a distance of several meters around your camp in order to allow for easy movement and enough time to react to an approaching bear.

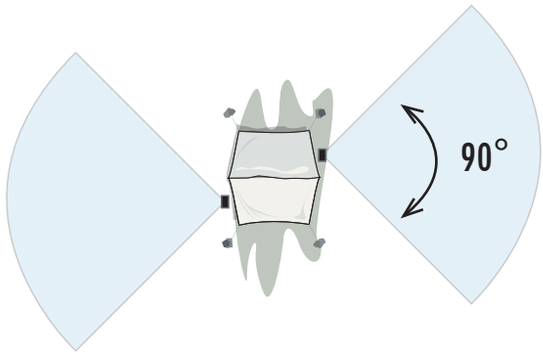


DETECTION

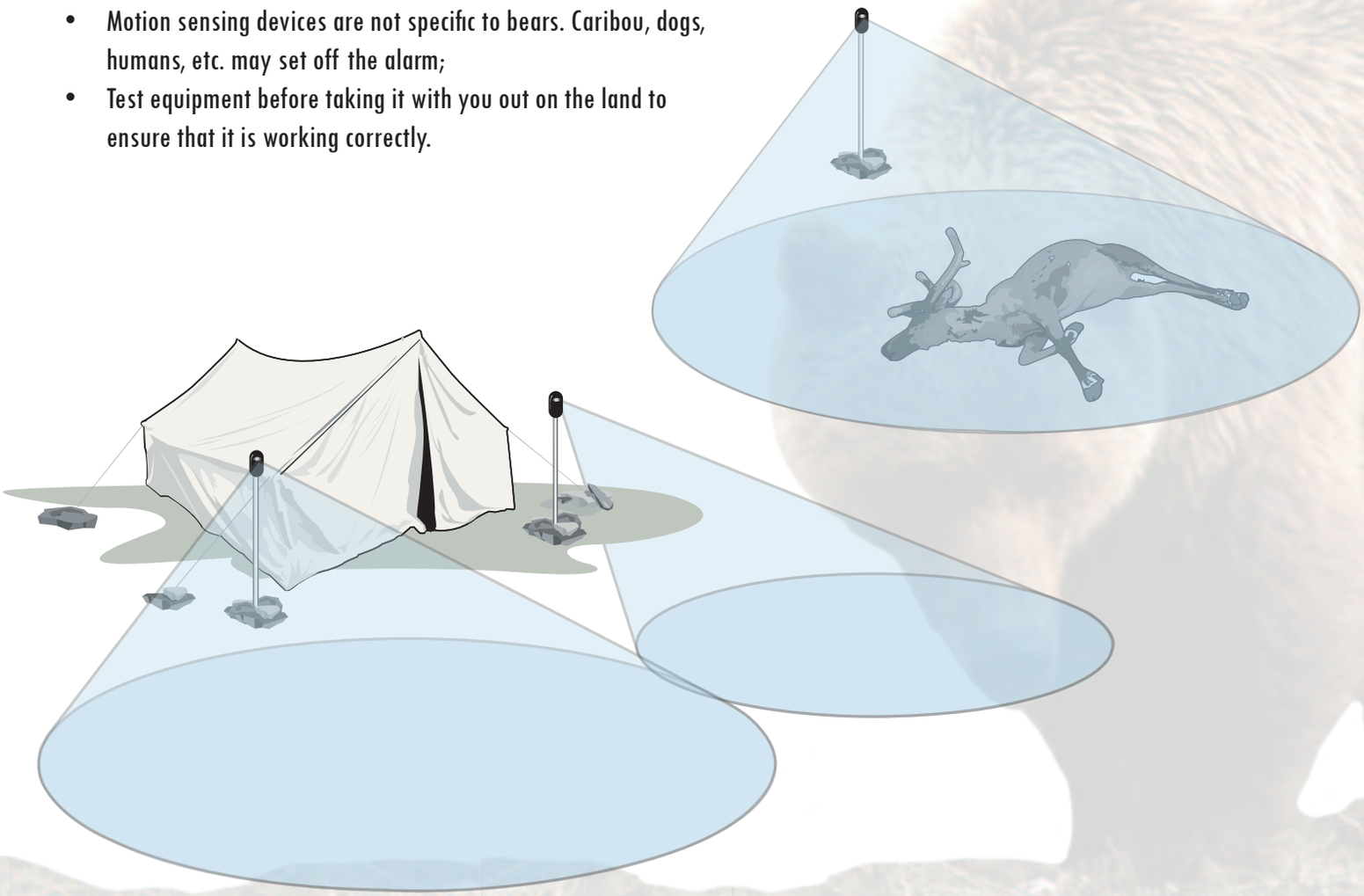
Motion Sensing Devices

Commercially-made devises are available that set off alarms and flashing lights when heat and movement are detected. Most motion sensors detect movement within 40 meters of the unit, but only in the direction in which the sensors face. There may be issues with short battery lifespan in periods of cold weather.





- Lights and sirens may be enough to scare away some curious animals but not all animals will be deterred;
- Detection systems are meant to alert you that animals have entered the protected area;
- You must be prepared to deter the animal with other methods;
- Motion sensing devices are not specific to bears. Caribou, dogs, humans, etc. may set off the alarm;
- Test equipment before taking it with you out on the land to ensure that it is working correctly.



CAMP SAFETY

Tent Camping

When choosing where to camp, safety should be your top priority. Regardless of whether you are in polar bear or grizzly bear habitat, you should choose campsites that meet the following criteria:

- Ensure that you have a clear view of the surrounding area;
- Avoid camping in areas with bear signs (scat, tracks, hair, daybeds, and kills);
- Avoid camping near rushing water and waterfalls - water features can make it difficult to hear approaching bears and may make it difficult for a bear to hear you and your deterrents;
- Place camps well back from any coast, river bank, flow edge, pressure ridge, or open water as these are likely travel/hunting routes for bears;
- Valleys and passes are also more frequently used and may contain more of the bear's natural food than higher ground
- In the summer, remnant snow banks can attract bears as it provides a cool place to rest and an escape from nuisance insects;
- Do not camp near animal carcasses or areas of recent whaling or havest;
- Avoid preexisting campsites if they are littered. Visitors before you may have allowed a bear access to food or garbage, which increases the likelihood of future bear problems in that area.



Tents surrounded by a temporary electric fence.



CAMP SAFETY

Cabins

When staying overnight in cabins the same care should be taken to reduce the chance of attracting a bear to the area; this means proper handling of food and garbage. Failure to maintain a clean cabin may result in a bear approaching the area looking for food.

- Cooking areas (inside or outside the cabin) need to be kept clean. Cooking stoves and other equipment must be kept free of grease;
- If possible, maintain seperate sleeping and food storage/cooking areas;
- Honey buckets should be emptied daily into the latrine;
- Bear deterrents should be at hand;
- Having a flashlight or other lights may be helpful. Remember that if you leave a lit building into the darkness it is difficult to see. Exterior lights can make working in and around the cabin safer in the dark season;
- Be careful when exiting the cabin and look around for bears;
- Consider using additional detection and deterrent systems to protect yourself and your cabin.



A cabin window covered by a bear board



(Above) Barrels with a metal ring and lever/bolt system provide reasonable resistance to bears. These containers are ideal for storing or transporting large quantities of food (or wastes) and other attractants for longer stays at camps or cabins.



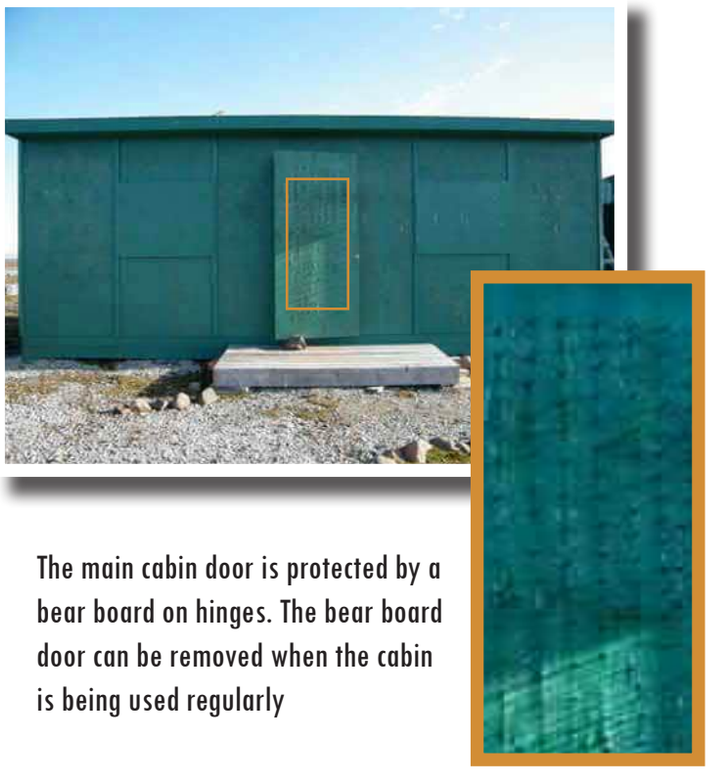
(Left) A metal, bear-proof box that can be used to secure country foods and waste from bears. These boxes are well-suited for use around homes and permanent camps.

CAMP SAFETY

Cabins

When cabins are unoccupied for a period of time, special considerations should be taken to prevent damage from bears.

- Treat grey water and latrines with lime and bury with earth;
- Remove any attractants (food, garbage, dirty clothes, oil, anti-freeze, fuels) or store them in a bear resistant or airtight container;
- Bears have been known to chew on inflatable boats, plastic gas cans, sleeping bags, tents, and snow machine seats. These should be made inaccessible;
- Board windows and doors for extra protection to prevent bears from breaking in. Bears often gain entry by pushing on the doors or windows;
- Build “bear boards” by driving plenty of nails or screws through plywood so that $1^{1/2}$ - 2 inch points are exposed on the outside of the board. This will discourage a bear from pushing on windows or doors;
- To maintain year-round emergency access you can still secure a “bear board” on the doors and windows, allowing them to be opened by human hands only. The boards can be removed when staying at the camp to prevent injury or damage to clothing;
- When bear boards are placed on vertical surfaces you reduce the risk of severe injuries to bears. Also, they remain in place and work when snow buildup might make boards placed on the ground ineffective.

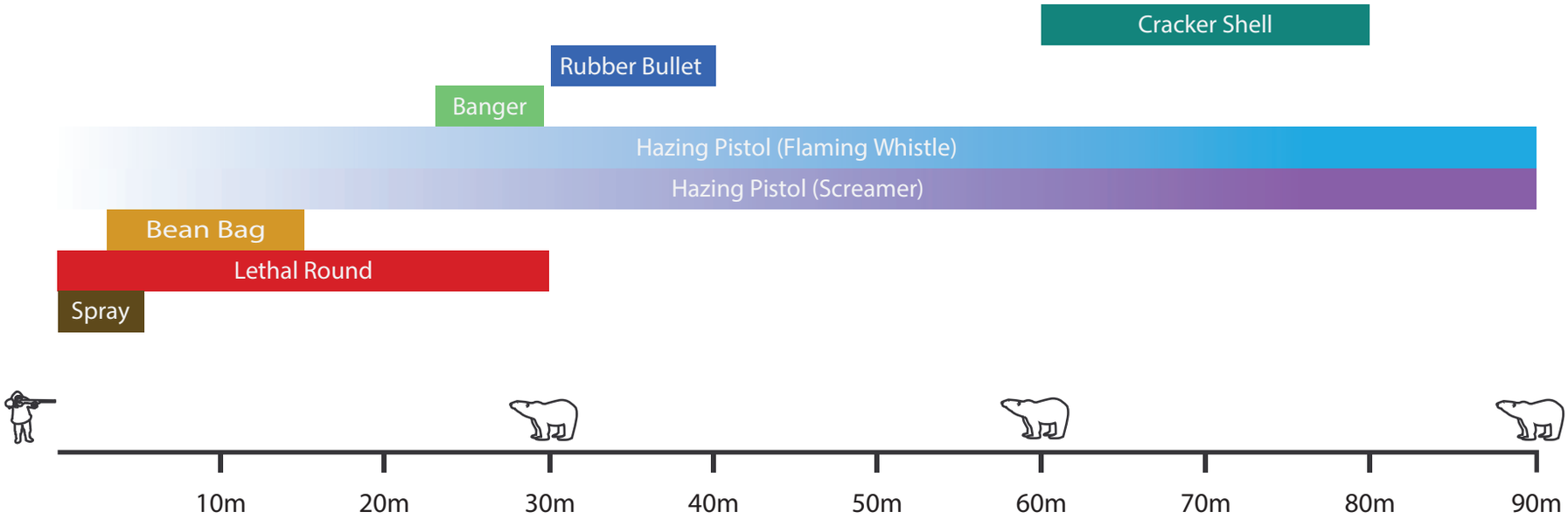


The main cabin door is protected by a bear board on hinges. The bear board door can be removed when the cabin is being used regularly



Properly-spaced nails on a bear board covering a cabin door

DETERRENT RANGES



Bear spray is an option of last defense, as its effective range is less than 3 meters.

A bean bag round should be used when the bear is 3-15 meters away; a "standard round" is also available, which is effective between 9 and 30 meters (consult the manufacturer's guidelines). A bean bag round fired from closer than the prescribed range could penetrate the bear's hide and severely wound the bear.

The explosive screamer round makes a continuous noise right from the muzzle of the pistol to a maximum distance of 90 meters. Bears typically flee from the source of the noise, so the screamer can be used throughout its range of travel.

The flaming whistle round makes a continuous noise right from the muzzle of the pistol to a maximum distance of 90 meters. Bears typically flee from the source of the noise, so the screamer can be used throughout its range of travel.

The explosive noise of the banger must occur between the shooter and the bear. A banger can travel 23-27 meters before exploding, so they are not to be used on a bear closer than 30 meters.

A rubber bullet should be used when the bear is 30-50 meters away. A rubber bullet fired from closer than 30 meters could penetrate the bear's hide and severely wound the bear.

The explosive noise of the cracker shell must occur between the shooter and the bear. A cracker shell can travel 60-80 meters before exploding, so they are not to be used on a bear closer than 60 meters.

MAKE SURE THE BEAR HAS A CLEAR AND OBVIOUS ESCAPE PATH BEFORE FIRING DETERRENTS

Nunavut

APPENDIX III

Caribou Mitigation Measures

APPENDIX H

DIAND Caribou Protection Measures

1. (a) The Permittee shall not, without approval, conduct any activity between May 15 and July 15 within the Caribou Protection Areas depicted on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.

   (b) A Permittee may, upon approval by the Land Use Inspector, operate within the said Caribou Protection Areas beyond the May 15 deadline set out in 1(a), provided that, when monitoring information indicates that caribou cows are approaching the area of operation, the Permittee will implement 1(c).

   (c) On cessation of activities pursuant to 1(a) or 1(b), the Permittee will remove from the zone all personnel who are not required for the maintenance and protection of the camp facilities and equipment, unless otherwise directed by the Land Use Inspector.

   (d) The Permittee may commence or resume activities prior to July 15 within those parts of the Caribou Protection Areas released by the Land Use Inspector for the reason that caribou cows are not expected to use those parts for calving or post-calving (note 1).

2. (a) In the event that caribou cows calve outside of the Caribou Protection Areas, the Permittee shall suspend operations within the area(s) occupied by cows and/or calves between May 15 and July 15.

   (b) In the event that caribou cows and calves are present, the permittee shall suspend:
   (i) blasting;
   (ii) overflights by aircraft at any altitude of less that 300 meters above ground level; and
   (iii) the use of snowmobiles and ATVs (all-terrain vehicles) outside the immediate vicinity of the camp.

NOTE

1. The Land Use Inspector's decision will be based on the existing caribou information.
2. Concentrations of caribou should be avoided by low-level aircraft at all times.

3. (a) During migration of caribou, the Permittee shall not locate any operation so as to block or cause substantial diversion to migration.
   (b) The Permittee shall cease activities that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.

4. (a) The Permittee shall not, between May 15 and September 1, construct any camp, cache any fuel, or conduct any blasting within 10 kilometres of any "Designated Crossing" as outlined on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.
   (b) The Permittee shall not, between May 15 and September 1, conduct any diamond drilling operation within 5 kilometres of any "Designated Crossing" as outlined on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.

KIA Sample Land Use Permit Caribou and Muskox Protection Conditions

35. The Permittee is given permission to conduct the approved land use operations between May 15 and July 15, provided that when caribou and muskox cows are approaching the area of operation, the Permittee shall cease blasting, overflights by aircraft at any altitude less than 300 meters above ground level, and the use of snowmobiles and ATVs (all-terrain vehicles) outside the immediate vicinity of the camp. Other activities shall also be suspended if caribou approach the immediate vicinity of the specific operation and the monitoring work (described in another clause) indicates that there is stress on the animals.

36. During the presence of caribou and muskox within sight and sound of a camp, all personnel will remain quietly in camp.

37. The Permittee may resume activities prior to July 15 if the caribou and muskox cows have ceased to use the area for calving and post-calving.

39. The Permittee shall not locate any operation so as to block or cause substantial diversion to migration of caribou.

40. The Permittee shall cease activities that may interfere with migration or calving, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.

41. The Permittee shall not conduct any operation within 5 km of any "Designated Crossing" as outlined on the map annexed to this Land Use Permit.

From KIA Land Use Permit BHP 197C141

MOBILE CARIBOU CONSERVATION MEASURES

Introduction

The Lessee shall comply with the measures set out herein. The Lessee shall immediately report to the Landlord any deviation from these measures, including the reason for the deviation.

The Landlord reserves the right, based on the presence of caribou within the area of the Property in any year, to vary the dates set out herein and shall provide notice to the Lessee of any such variation.

Wildlife Monitoring Personnel

The Lessee shall have wildlife monitoring personnel present at the Property during any season when caribou are reasonably expected to be present. The names of such personnel shall be sent to the Landlord and they shall maintain communication at all reasonable times. The Lessee shall monitor and immediately report the presence of caribou to the Landlord in accordance with the following directives. The report shall specify the location and estimated numbers.

A. IOL within designated calving grounds

Section 1. On IOL within designated calving grounds (as designated by the Government of Nunavut) between May 1st and July 31st (the closure period):

1) No activities shall occur except as authorized by the Landlord.

Section 2. On IOL within designated calving grounds between August 1st and September 30th, the Lessee shall conduct monitoring and mitigation as follows:

2i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within the thirty (30) km early warning zone from the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).

2ii) If monitoring indicates that there are twenty-five (25) or more caribou within five (5) km of the Property boundary, then the Lessee shall monitor within a five (5) km buffer zone around the Property on a daily basis, and shall immediately suspend work that has the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure, until caribou numbers are below the threshold within the buffer zone.

Section 3. On IOL within designated calving grounds between October 1st and April 15th, the Lessee shall conduct monitoring and mitigation as follows:

(3i) If collar data or observations indicate that there are one (1) or more collared caribou or fifty (50) or more caribou observed within thirty (30) km of the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).

(3ii) If monitoring indicates that there are fifty (50) or more caribou within two and a half (2.5) km of the Property, then the Lessee shall immediately reduce above-ground activities that have the potential to disturb caribou, including non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), until caribou numbers are below the threshold within the buffer zone.

Section 4. On IOL within designated calving grounds between April 16th and April 30th, the Lessee shall conduct monitoring and mitigation as follows:

(4i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou within fifty (50) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).

(4ii) If monitoring indicates that there are an estimated twenty-five (25) or more caribou within the five (5) km buffer zone for the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations, and camp closure, until caribou numbers are below the threshold within the buffer zone.

B. IOL within other seasonal caribou ranges

Section 5. On IOL between June 1st and July 15th outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

(5i) If collar data or observations indicate that there are one (1) or more collared caribou or ten (10) or more caribou observed within the fifty (50) km early warning zone for the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land, road surveys, snow track counts (if appropriate), remote camera surveys).

(5ii) If monitoring indicates that there are an estimated ten (10) or more caribou within the five (5) km buffer zone for the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m

above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure until caribou numbers are below the threshold within the buffer zone.

Section 6. On IOL between July 16th and September 30th outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

(6i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within thirty (30) km of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).

(6ii) If monitoring indicates that there are twenty-five (25) or more caribou within five (5) km of the boundary of the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities, non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), and camp closure until caribou numbers are below the threshold within the buffer zone.

Section 7. On IOL between October 1st and April 15th outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

(7i) If collar data or observations indicate that there are one (1) or more collared caribou or fifty (50) or more caribou observed within thirty (30) km of the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).

(7ii) If monitoring indicates that there are fifty (50) or more caribou within 2.5 km of the boundary of the Property, then the Lessee shall immediately reduce above-ground operations that have the potential to disturb caribou, including non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), and suspension of above ground operations, until caribou numbers are below the threshold within the buffer zone.

Section 8. On IOL between April 16th and May 31st, the Lessee shall conduct monitoring and mitigation as follows:

(8i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within fifty (50) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).

(8ii) If monitoring indicates that there are an estimated twenty-five (25) or more caribou within the five (5) km buffer zone for the Property, then then the Lessee shall conduct

monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure, until caribou numbers are below the threshold within the buffer zone.

C. Freshwater crossings

Section 9. On IOL between May 15th and September 30th, the Lessee will not construct camps or other permanent structures or conduct blasting within ten (10) km of designated caribou freshwater water crossings. Exploration activities will not be permitted within 5 km of water-crossings between May 15th and September 30th. Between May 15th and September 30th, the Lessee shall conduct monitoring and mitigation as follows:

(9i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within twenty-five (25) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone around the water crossing shall be conducted every second day (e.g., height of land surveys, remote camera surveys).

(9ii) If monitoring indicates that there are fifty (50) or more caribou within five (5) km of the boundary of the Property that appear to be moving in the direction of the water crossing, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations, camp closure, and removal of all non-essential personnel, until caribou numbers are below the threshold within the buffer zone.

D. Aircraft

Section 10. The Lessee shall ensure that aircraft (fixed-wing and helicopter) flights over occupied calving and post-calving areas shall be at least 610 m above ground level and avoid areas of known caribou concentrations (subject to pilot discretion regarding aircraft and human safety). In other seasons aircraft shall be at least 300 m above ground level.

APPENDIX IV

Applicable Guidelines and Legislations

Exploration activities at the Angilak Property is conducted according to the following Regulations, Guidelines and Recommendations including, but not limited to:

Federal

- Aeronautics Act
- Canada-Wide Standards for Dioxins and Furans (Canadian Council of Ministers of the Environment)
- Canada Wildlife Act
- Canadian Environmental Protection Act (Environment Canada)
- Department of Fisheries and Oceans Operational Statements and Guidelines
- Draft Fuel Storage and Handling Guidelines, April 2009, Indian and Northern Affairs Canada - Nunavut
- Fisheries Act (Fisheries and Oceans Canada; DFO)
- Guidelines for Spill Contingency Planning (INAC)
- Migratory Birds Convention Act and Migratory Birds Regulations
- National Fire Code of Canada (Federal)
- Nunavut Land Claims Agreement
- Public Health Act
- Species at Risk Act
- Territorial Lands Act
- Transportation of Dangerous Goods Act (Transport Canada)
- Workers' compensation Board
- Workplace Hazardous Materials Information System (WHMIS)
- Technical Document for Batch Waste Incineration (ECCC)

Territorial

- Caribou Protection Plan/Caribou Protection Measures
- Draft Recommended Best Practices For The Storage And Handling Of Petroleum And Allied Petroleum Products on Federal Crown Lands in Nunavut
- Environmental Guidelines for the Burning and Incineration of Solid Waste
- Fire Prevention Act (Territorial)
- Nunavut Environmental Protection Act
- Nunavut “Guideline for the General Management of Hazardous Waste”
- Nunavut Waters Act and Nunavut Surface Rights Tribunal Act
- Nunavut Wildlife Act
- The Mine, Health and Safety Act and Regulations (Nunavut)
- The NWT and Nunavut Safety Act, the Occupational Health and Safety Regulations

APPENDIX V

Wildlife Mitigation Procedures Poster

Wildlife Mitigation Procedures

If individual or small groups of caribou (<50) are encountered

- Move calmly and slowly away from the animal(s).
- Do not divert movement of the animal(s) or disrupt feeding.
- Do not scare the animal(s) with loud noises or sudden movements.
- Allow animal(s) to pass safely beyond the work area before resuming activities.

If muskox are encountered

- Move calmly and slowly away from the animal(s).
- Do not divert movement of the animal(s) or disrupt feeding.
- Do not scare the animal(s) with loud noises or sudden movements.
- Leave the area animal(s) are occupying.
- Allow animal(s) to pass safely beyond the work area before resuming activities.

If wolves or wolverines are encountered

- Move calmly and slowly away from the animal(s).
- Do not turn your back to the animal.
- Do not block the animal(s) route or exit path.
- Do not scare the animal(s) with loud noises or sudden movements.
- Inform a Wildlife Monitor of the presence of the animal.
- Allow animal(s) to pass safely beyond the work area before resuming activities.

If the animal shows interest in you

- Continue to move away slowly and avoid provocation.
- Contact the helicopter pilot for a pick-up.
- Do not block the animal(s) route or exit path.
- Alert the animal to your presence by making noise.
- Deploy wildlife deterrents if necessary (bear spray, bear bangers).
- Leave the area and return to camp.

If a grizzly bear or polar bear is sighted

- Move calmly and slowly away from the animal(s).
- Do not turn your back to the animal.
- Contact the helicopter for an immediate pick-up.
- Deploy wildlife deterrents if necessary (bear spray, bear bangers).
- Leave the area and return to camp.
- Report sightings to required agencies.