



# ENVIRONMENT & WILDLIFE MANAGEMENT PLAN

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January 2011

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## **1.0 EXPLORATION INTERNAL ENVIRONMENTAL POLICY**

Shear Diamonds Ltd. is committed to the protection of the environment during its exploration activities, through the application of the following principles:

- Identify and evaluate all environmental aspects and possible impacts of exploration activities, and develop procedures for minimizing, as much as reasonably achievable, the environmental impacts while carrying out these activities;
- strictly adhere to and comply with all applicable environmental legislation and regulations and the Terms and Conditions of the licenses and permits;
- Facilitate clear and effective communication of Shear's environmental requirements to employees and contractors to encourage their participation and compliance;
- Provide effective training, conduct internal assessment/inspections and periodically review procedures during weekly meetings;
- Deal pro-actively with environmental issues by identifying potential impacts and implementing preventative actions, measures to mitigate and effective contingency plans.

## 2.0 GENERAL

Environmental awareness and a good knowledge of environmental protection measures help to avoid or reduce adverse exploration impacts. Ultimate responsibility for environmental protection rests with the company having authorization (i.e. permit, license, letter, etc.) from the environmental regulatory agencies to conduct exploration activities (this includes all field personnel and contractors). Accordingly, field personnel and contractors must know and follow the applicable work conditions established by the environmental regulatory agencies. All contractors will be required to adhere to the standards that Shear Diamonds Ltd. has developed for its field operations.

Shear expects that all personnel and contractors operating on its behalf will recognize and respect the rights of other land users. This may require that other land users, if identified by regulatory agencies, will be duly consulted prior to the start of work.

Shear requires:

- The use of environmentally friendly (i.e. non-toxic and / or biodegradable) agents where readily available, and discourages the use of non-environmentally friendly products except when absolutely necessary (i.e. no efficient alternative exists, safety / health considerations, etc.);
- All garbage and litter to be removed from all field sites. If litter is seen lying around it is everyone's responsibility to make sure that it is cleaned up. A rule of "If you see it, pick it up" will ensure a tidy and safe workplace;
- That all personnel, contractors, consultants and visitors to site respect the land, the waters and the wildlife and that we all remember that we are guests on these lands;
- The rules, regulations, Terms and Conditions of the applicable laws, licenses, permits, etc. are strictly followed; and
- Preventive maintenance activities will reduce the likelihood of failure resulting in an environmental impact.

## 2.1 Authorizations

Shear Diamonds must apply and comply with the terms of a number of authorizations in order to conduct exploration activities. These authorizations include:

- INAC (Indian and Northern Affairs Canada) – Land Use Permit (LUP). This allows us to conduct approved activities on the Crown portions of land that comprise the project. Activities include; prospecting, mapping, geophysics (ground and airborne), till sampling, fuel caches, trenching and drilling. All aspects of these activities are covered under our LUP.
- KITIA (Kitikmeot Inuit Association) – Land Use Permit (LUP). This allows us to conduct approved activities on the Inuit Owned Land (IOL). Activities approved under IOL's include; prospecting, mapping, geophysics (ground and airborne), till sampling, fuel caches, trenching and drilling. All aspects of these activities are covered under our LUP.
- KITIA – Right of Way (ROW). This allows Shear Minerals to transport overland (under snow conditions) equipment and supplies along an approved route over IOL on the Jericho Project.
- NWB (Nunavut Water Board) – Water License. This allows Shear Diamonds to use water for drilling and domestic purposes and deposit waste. The waste includes drill sumps, grey water sumps, combustible and non-combustible wastes, etc.

The Terms and Conditions of each of these licenses/permits are the rules that Shear Diamonds must abide by when conducting all activities. In addition to these there are a number of Acts, Regulations, Guidelines and Recommendations that we must also follow. These include (but are not limited to):

- *Fisheries Act*
- Department of Fisheries and Oceans Operational Statements and Guidelines
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act*
- *Territorial Lands Act*
- Territorial Land Use Regulations
- *Nunavut Land Claims Agreement*
- *Environmental Protection Act*
- *Canadian Environmental Protection Act*
- *Species At Risk Act*
- *Nunavut Wildlife Act*
- Guide to Spill Contingency Planning and Reporting
- *Public Health Act*
- *Transport Canada - Transportation of dangerous goods act*
- *CCME Canada-wide Standards for Dioxins and Furans*

### 3.0 WILDLIFE

**Approaching and feeding wildlife is strictly prohibited.** Shear Diamonds Ltd. has made commitments to communities and regulatory agencies that wildlife will not be harassed or disturbed. These commitments are also part of the Terms and Conditions provided by regulatory authorities in our LUPs and Water License.

**Harassment of all wildlife is strictly forbidden by all individuals conducting business on behalf of Shear Minerals.** Immediate and appropriate measures will be taken to penalize any individual(s) who have been involved in such activities. These include but are not limited to

**Sightings of wildlife are to be recorded on the wildlife sheets provided.** This is a requirement for our conducting exploration in the Kitikmeot Region. This information is reported by Shear Diamonds to all regulatory agencies in annual reports. Wildlife sighting sheets will be posted at the drill sight, camp kitchen and in the camp office. Field crews will also carry wildlife sighting sheets with them in their field books. This information will be entered in to a master spreadsheet which will comprise part of the annual report.

**Firearms may be carried for safety reasons,** but only if such firearms are properly registered (to be verified by the Contract Administrator) and stored in accordance with applicable legislation. A secure lock & key gun case is kept by the Project Manager for storage of all firearms at camp. Carrying a firearm must first be acknowledged by the Project Manager and Camp Manager. All such firearm discharges must be reported to the Project Manager and the Camp Manager.

**Hunting of wildlife, while conducting business on behalf of Shear Diamonds, is strictly forbidden by ALL Shear employees.** The regulatory agencies have made this a Term and Condition as part of our LUPs. There are NO exceptions to this rule.

**Low-level aircraft and helicopter flights must make efforts to avoid areas which are crucial nesting and denning habitats.** Prior to conducting any low-level airborne geophysical surveys the Environment Manager must be contacted.

Helicopters will not land in any area where wildlife are present unless under an emergency situation. Should an emergency situation arise this will be documented and reported to the appropriate regulatory agencies and will be noted in the annual report.

**Nuisance wildlife is to be reported immediately.** Proper food storage and handling of cooking wastes will prevent problems with attracting wildlife. All wastes will be stored such that they are not accessible to any wildlife until such time that they can be appropriately disposed of. Should any wildlife become a nuisance, the GN Wildlife Biologist and the KITIA will be notified immediately. There is a table of emergency contact numbers below.

**The Jericho Project is within the range of the Bathurst Caribou herd so special considerations are required** so as to avoid disturbance of migrating and calving herds. Shear will cease all activities when caribou are present and will not resume activities until the caribou have moved safely out of the area. This includes drilling, driving of snowmobiles and/or ATV's, low-level airborne surveys, mapping, prospecting, sampling, etc. Absolutely no activities will be conducted that will obstruct or divert caribou. No drilling will be conducted within 5 km of a

designated caribou crossing and no camp will be constructed or blasting occur within 10 km of a designated caribou crossing, DURING ACTIVE MIGRATION TIMES.

**All human-bear interactions are to be reported immediately** to the Environment Manager, who will then contact the KITIA, The Government of Nunavut- Department of Environment, Environment Canada, HTO's and the Government of Nunavut Wildlife Biologist. A copy of the Bear Safety material is located in the office at the camp and in the office in Edmonton. Employees and contractors are given an orientation when they arrive at site which includes information on working safely in bear country. See Appendix II for one of the documents which is located in the offices, "Territorial Safety in Bear Country Manual." Shear Diamonds has worked closely with Andy McMullen of BEARWISE, Yellowknife, NWT for expert advice on Bear Safety training materials and as a resource during field operations.

### 3.1 Wildlife Emergency Contact Information

Mathieu Dumond	GN, Biologist, Kugluktuk	867 982-7444
Jorgen Bolt	GN, Wildlife Technician II Kugluktuk	867 982-7446
Sarah Medill	GN Wildlife Deterrent Specialist, Igloolik	867-934-2075
Geoff Clark	KITIA Director, Lands, Environment and Resources	867 982-3310
Stanley Anablak	KITIA Senior Lands Officer	867 645 2800 1867 982 3310
Pamela Strand	Shear Minerals, President	780-903-0820 or 780-435-0045
Andy McMullan	BEARWISE	(867) 766-4847

**No eggs or nests are to be disturbed by any activities.** If an employee or contractor comes across any active nests, they are to cease all activities immediately to ensure that the nest is not disturbed. Coordinates are to be recorded on the wildlife sighting sheets. These coordinates are to be reported to the Environment Manager who will contact Environment Canada. Work will not resume until the nest is no longer occupied, mid to late July. Moving or disturbing the nest of a migratory bird is in contravention of the *Migratory Birds Convention Act*.

**Den sites will be avoided.** All den sites are to be avoided. If a den site is discovered, the GPS coordinates will be recorded so that the site can be avoided. These coordinates will be provided to the appropriate regulatory authorities. No dens are to be disturbed. Any exploration activities will cease immediately.

The following buffers are provided (by the Government of the Northwest Territories) for active dens between the den and all exploration activities between May 1<sup>st</sup> and July 15<sup>th</sup>:

Wolves	800m buffer
Grizzly Bear	300m buffer
Wolverine	2km buffer
Fox	150m buffer

**Species at Risk.** Environment Canada and Cosewic has indicated that there may be Species at Risk within the Jericho Diamond Project. These species include: the eskimo curlew, the peregrine falcon, and the grizzly bear . If any of these species are sighted the information will be recorded using the wildlife sighting sheets and will be reported.

**The predicted impacts to wildlife due to the presence of the Jericho project include:**

- **attracting wildlife,**
- **habitat disturbance**
- **unintentional disturbances**

| -Wildlife can be naturally curious and some species are attracted to areas that are occupied by humans. Shear will discourage this by minimizing the attractants. All waste will be stored such that it is not accessible until such time as it can be appropriately disposed of. Combustible waste, including food wastes from the kitchen will be incinerated frequently so that there are no scents and smells attracting hungry wildlife. At no time will it be permitted by any personnel, contractors, consultants or anyone else visiting the camp and property to feed wildlife or try to entice wildlife closer to any activities. The drills will be kept clean and tidy and lunches will be stored such that they are not accessible to wildlife. No beverages will be poured out on the tundra and no food or food wastes/wrappers will be left lying around. While the incinerator is in use, it will not be left unattended at any time.

Habitat disturbance at exploration programs is temporary. Shear has a policy of progressive reclamation, meaning as we prepare to leave a site, we make sure that it is clean, tidy and reclaimed as needed before moving to the next site. Habitat disturbance at the Jericho Diamond Project results from drilling, infrastructure and bulk sampling. The habitat disturbance effects from drilling are very temporary and in most cases it would be highly unlikely for an individual brought to the exploration site to discern the previous season's drill hole and sump.

Despite best efforts and practices, unintentional disturbances can occur. For example, every effort will be made to avoid nest and den sites. However, should a field crew happen upon nests or dens, the coordinates will be recorded (of where the field crew was when the discovery is made) and the crew will immediately vacate the area. These areas will be avoided until they are no longer being inhabited. These encounters will be reported immediately to the GN and to the KITIA. All unintentional disturbances, no matter what the nature, will be reported immediately and will be documented in the annual report.

**Monitoring** is an important part of any activity. Exploration is dynamic and continually changing. Every field season is different and work is conducted in different areas each year. The only constant location known for an exploration program is the camp location. Drill sites, sampling locations and prospecting changes from year to year. All drill sites, the camp and field crews will have wildlife sighting sheets that they are required to fill in. The locations of the monitoring program will change from year to year based on the locations of the activities. These locations will be provided each year as part of the Work Plan that is submitted annually by January 31.



## 4.0 AQUATIC LIFE

Working in and around water bodies must be done in such a way that prevents disturbance to aquatic life and habitat.

**Fishing while conducting business on behalf of Shear Diamonds is strictly forbidden.** There are no exceptions to this rule.

**The drill contractor is responsible for proper testing of ice-thickness prior to moving heavy equipment across water bodies and prior to drilling on ice.** Until testing is done so, any activities on the ice will be suspended.

**Waterlines must be properly placed and screened** in accordance with the “Freshwater Intake End-of-Pipe Screen Guideline” (DFO).

**No wastes are to enter any water bodies.** This includes any discharge from the camp facilities.

**All sumps, fuel caches and camps must be located at least 31 metres from the high water mark** of any water body unless otherwise approved by the appropriate regulatory authority.

Shear Diamonds provides environmentally friendly laundry detergent, shampoo, conditioner, shower gel and soap for all employees and contractors. They are to be used while staying at Shear Diamonds' camps.

## 5.0 Archaeology

**No work is to occur in any areas of known archaeological sites.** If any employee or contractor finds an archaeological site, they are to cease activity in the area, record the GPS coordinates and report the finding immediately to the Camp Manager and Project Manager. The Camp Manager will notify the Environment Manager who will contact the Government of Nunavut, DIAND and the KITIA. See Appendix V.

**Handling of any archaeological finds is prohibited.**



Tent Rings, as shown in the example photograph above are one of the most commonly recognized archaeological sites. Along eskers it is common to find stones that have been shaped to form tools and weapons.

## 6.0 INTERNAL INSPECTIONS

Internal inspections are to be conducted by the Environment Manager on a monthly basis. In addition to the monthly internal inspections, daily inspections are to be conducted by the Camp Manager. This is a requirement as outlined in our LUPs. The Camp Manager will look for drips, spills, leaks and damaged drums.

**The Camp Manager is not the only person responsible for maintaining a clean and safe workplace.** All employees and contractors should do their part to keep the camp tidy and to prevent garbage and other waste from littering the tundra.

Some points to consider when going about your daily business are:

- When flying in to the camp, look at it from an Inspector's point of view or a community visitor's point of view.
  - Does the camp look tidy overall?
  - Is there any garbage lying around?
  - Has any garbage blown away and can it be seen on the tundra?
  - Are items stored in a neat and tidy fashion?
- Drips and leaks
  - While going about your daily tasks, think about whether or not a drip or a leak is a potential
  - In areas where you identify a potential, place a drip pan or some sort of collection device underneath the area. You can hold a pan in place with a rock.
  - In areas where drips and leaks are a potential, keep spare absorbent pads in a pail with a lid so that they are easily accessible
  - Report all potential leaks and drips to the Camp Manager.
- To do list
  - It will not always be safe or timely to clean up areas, for example items that are on thinning ice. Having a "To Do List" somewhere visible in the office will show any potential visitors that you are aware of the issue and that you will address it when it is safe or timely to do so.
- Fuel storage areas
  - Make sure that fuel drums are stored according to code and best practices
  - Keep propane tanks pointing away from the camp
  - Keep the fuel storage area tidy and neat

- Visually inspect the fuel storage area at camp every day to be sure that there are no leaks or damaged drums and that all barrels are stored in the 3:00 and 9:00 position.
- Burn areas
  - Do not let garbage pile up
  - Food waste should be incinerated frequently
  - Ensure that only burnable waste is burned in camp. Metal, batteries and all other non-burnable waste will be flown out of camp.
- Make sure that the storage areas, generator shack and all other areas are neat and tidy. Be sure that chemicals are stored on shelves or at least on a wooden floor. Do a visual inspection whenever you are in these areas.

Any concerns, issues or potential problems should be reported to the Camp Manager and Project Manager immediately.