Environmental Protection Plan

Doris North Project, Nunavut

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TABLE OF CONTENTS

Page

LIST OF APPENDICES

1.0 INTRODUCTION

Environmental protection planning is an important component of overall life-of-project environmental management planning. Environmental Protection Plans provide a practical way for a company to communicate to its employees and other interested stakeholders an understanding of environmental regulations, practices, and procedures required to minimize or eliminate potential environmental impacts resulting from a project, such as the Doris North Mine.

MHBL has committed to the development and implementation of a comprehensive EPP as an important component of its Environmental Health and Safety Management System (EHSMS) to help ensure and sustain a high level of environmental stewardship throughout its work areas and activities associated with the Doris North gold mine.

2.0 PURPOSE OF THE EPP

The Environmental Protection Plan (EPP) is intended to provide a guide to the protection measures for the Construction and Operational phase activities associated with the Doris North Project. The EPP forms an integral part of the overall Environmental Health and Safety Management System. An EPP is a "living" document intended to be used at the mine site by both management and operational personnel to:

1. Communicate environmental commitments, obligations and compliance standards that the company is intent upon meeting in its day to day operations during the construction, operational and reclamation phases of the Project;

2. As a training tool to communicate how the mine's components are to be operated and maintained to ensure that corporate objectives, expectations and commitments are met in the day to day operations;

3. As a tool to be used by the site management team as well as at the corporate level for ensuring commitments made in policy statements are implemented, monitored, and reported on; and

4. As a guide for project personnel to monitor their own compliance with commitments and corporate expectations and to make constructive suggestions for continual improvement.

The Environmental Protection Plan for the Doris North Project is a work in progress that will be updated and expanded through the construction phase of the project and as MHBL hires the management and operational personnel for the mine. The current version of the EPP has been prepared by the MHBL staff and its consultants who have been involved in the environmental assessment process conducted under the auspices of the Nunavut Impact Review Board and under the Canadian Environmental Assessment Act. It provides continuity on the commitments that have been made by MHBL in the assessment process so that they are communicated to the mine operating and management personnel. The EPP currently consists of the following 13 management plans addressing the key operational areas of the proposed project:

S10a Emergency Response and Contingency Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10b Air Quality Management Plan, prepared by Golder Associates Limited, October 2006
S10c Noise Abatement Plan, prepared by Golder Associates Limited, April 2007
S10d Waste Rock Management Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10e Hazardous Materials Management Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10f Explosives Management Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10g Landfill Management Plan, prepared by Miramar Hope Bay Ltd., April 2007

S10h Landfarm Management Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10i Tailings Management Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10j Water Management Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10k Quality Assurance/Quality Control Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10l Mine Closure and Reclamation Plan, prepared by Miramar Hope Bay Ltd., April 2007
S10m Monitoring and Follow-Up Plan prepared by Miramar Hope Bay Ltd., April 2007

In addition to the above, the Doris North EPP includes the following two management plans which do not form part of the water license application support documentation as they do not directly affect water, but nevertheless are a key component to environmental management at the Doris North Project:

- Final Report on Wildlife Mitigation and Monitoring Program for the Doris North Gold Mine Project. Prepared by Golder Associates, December 2006 and
- Doris North (Hope Bay) Heritage Resource Protection Plan. Prepared by Points West Heritage Consulting Ltd., November 2003.

3.0 REVIEW OF THE ENVIRONMENTAL PROTECTION PLAN

These Management Plans are a key component of the Doris North Environmental Management System and will be updated after the water license has been issued to incorporate any new commitments made by MHBL during the license process and to incorporate any conditions contained within the water license relating to environmental management and performance monitoring. All of these Management Plans are to be reviewed annually during the first quarter of each calendar year by the mine's environmental staff and updated as needed to reflect changes in operating procedures. The revised Management Plans are to be made available to the appropriate mine operating staff with appropriate refresher training and sent to the Nunavut Water Board for inclusion in the public registry.

4.0 OTHER ENVIRONMENTAL PROCEDURES

There are a number of existing environmental protection procedures in place at the Hope Bay exploration camps at both the Windy and Boston Camps. These procedures are included here and are intended to form part of the Doris North environmental protection procedures. These procedures are included as Appendix A to the EPP and include the following:

- Grubbing and Disposal of Related Debris
- Solid Waste Management
- Equipment Movement & Supply
- Maintenance of Buffer Zones from Water Bodies and Archaeological Sites
- Erosion Prevention
- Exploration Drilling
- Dust Control
- Working In or Near Water Mitigation Measures
- Dewatering of Work Areas
- Marine Vessels
- Use of Gasoline/Diesel Powered Pumps and Generators
- Noise Control
- Blasting on Surface
- Use of Winter Trails
- Wildlife Encounters
- Discovery of Heritage Resources

This report, “Environmental Protection Plan, Doris North Project, Nunavut, April 2007”, has been prepared by Miramar Hope Bay Ltd.

Prepared By

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Lawrence J. Connell, P.Eng.
General Manager, Environment

APPENDIX A

Existing Environmental Procedures

Environmental Concerns

The principle concern associated with any surface grubbing activity and the disposal of related debris are:

- Potential effects on water quality caused by erosion and sedimentation; and
- Disturbance of the permafrost leading to ground failure (slumping, erosion, etc.).

Miramar Hope Bay Ltd. (MHBL) is committed to meeting regulatory standards for maximum allowable concentrations of total suspended solids (TSS) (also may be measured as turbidity). Prevailing regulatory standards for TSS applicable to the Doris North and Hope Bay sites are contained within the following permits and regulations:

- Water License for the Doris North Project (anticipated issue in 2007);
- Metal Mining Effluent Regulation under the Fisheries Act (TSS – monthly mean of 15 mg/L; Maximum grab of 30 mg/L); and
- Water Licenses 2BB-BOS0106 and 2BE-HOP0207 issued by the Nunavut Water Board for the Boston and Windy exploration camps.

Environmental Protection Procedures

All grubbing and disposal of related debris near watercourses will comply with approvals from the Department of Fisheries and Oceans (DFO) and the Kitikmeot Inuit Association (KIA). At a minimum, the measures to be undertaken to minimize potential effects on aquatic habitat and resources are as follows:

a) Grubbing of the organic vegetation mat and/or the upper soil horizons will be minimized, and left in place where possible due to the sensitivity of arctic soils.

b) If needed, the organic vegetation mat and upper soil horizon material, which has been grubbed, will be spread in a manner that attempts to cover exposed areas. Any surplus of such material will be stored or stockpiled for site rehabilitation and re-vegetation purposes elsewhere in the project area. Topsoil will be stockpiled separately from the overburden. The location of the stockpiles will be recorded and accessible for future rehabilitation purposes.

c) The length of time that grubbed areas will be left exposed to the natural elements will be minimized to prevent unnecessary erosion.

d) During grubbing, care will be taken to ensure that grubbed material will not be pushed into areas which are to be left undisturbed.

Environmental Concerns

- Attraction of wildlife to the mine site or exploration camps.
- Release of contaminants into local waters.
- Unsightly spread of garbage due to poor housekeeping or wind.

Environmental Protection Procedures

a) The solid waste management system will comply with the requirements set out in:

- Water License for the Doris North Project (expected to be issued in 2007).
- Water Use Permit Numbers 2BB-BOS0106 and 2BE-HOP0207 for the Boston and Windy exploration camps.

b) Non-hazardous combustible solid wastes will be disposed of by periodic burning within the designated landfill area at the Doris North site or at designated burn pits at the exploration camps.

c) Putrescible kitchen waste will be burned on a daily basis using incinerators to reduce the risk of attracting wildlife. The incinerators will be operated in accordance with regulatory guidance provided by the Nunavut Department of Environment (see the Site Environmental Coordinator for a copy of this published guidance). Incinerator air emissions must meet the Canada Wide Standards for Dioxins and Furans.

d) Incinerator ash will be mixed with hydrocarbon contaminated soil in the on-site landfarm facility. This soil/ash mix will be sampled and only removed for use in site reclamation when the Nunavut Contaminated Site Remediation Guidelines for remediated soil is met (remediated to industrial standards). Soil/ash mix that does not meet these standards will be placed underground in the mine for permanent disposal.

e) Non-Combustible non-hazardous solid wastes (e.g. metal, electrical cable, machine damaged parts, computer parts, etc) will be collected, and disposed of in the onsite landfill at the Doris North site. This waste will be buried under rockfill on an annual basis.

f) No solid waste material will be deposited in a body of water or stored within 30 meters of any water body.

g) Other hazardous wastes apart from contaminated topsoil or snow from petroleum products that can not be treated safely on site will be collected, placed in appropriate containers and shipped off-site for recycling or disposal at a licensed waste disposal site.

Environmental Concerns

Doris North and the Hope Bay exploration sites are located in a fragile Arctic environment. Permafrost prevails with a summer active layer of approximately 1 meter. The vegetative cover (the tundra) is very susceptible to damage by any vehicle movement across the surface. Summer travel across the tundra by any vehicle will result in severe damage to the vegetation. This damage can take many decades to naturally recover. Damage to the tundra surface will cause permafrost degradation and is likely to result in ground instability such as localized slumping and increased erosion. This in turn leads to increased release of sediment which has the potential to harm nearby lakes, creeks, streams, rivers, etc.

Environmental Protection Procedures

a) At the Doris North site all equipment movement is to be restricted to the all-weather roads unless special authorization is obtained from the Environmental Manager. Such authorization is to be withheld without good cause and only following consultation with the landowner (the KIA).

b) At Doris North all quarrying and earthwork construction will be done under winter conditions to minimize disturbance of the natural ground to prevent permafrost degradation and resultant generation of mud and sediments that could affect surface waters.

c) The use of ATVs will be restricted to designated trails, thus minimizing ground disturbance.

d) During winter when the ground is covered with snow, all weather track vehicles and snow machines will be used for equipment movement and supply. Where possible, snow machines will use established pathways, also minimizing disturbances to vegetation (via compaction). Snow machines will use established pathways covered in KIA issued Licence Number KTL306F007, which covers the winter track from Cambridge Bay via Windy Lake to Boston Camp.

e) The use of heavy equipment in and near watercourses is not permitted without prior approval from the site's Environmental Manager. Where it is necessary to do so, in stream work will be performed under the following conditions:

    1. With approval from the Site's Environmental Manager who will not give such authorizations until a detailed work plan has been prepared.

    2. The proposed activity must meet all requirements under the Fisheries Act (require consultation with DFO) and must be approved by the landowner (the KIA).

    3. Approved in-stream work must minimize the time that the vehicle is in the water, and include provisions for ensuring no transfer of hydrocarbons (fuel, hydraulic fluid,

lubricating oil) into the stream and provisions to minimize and mitigate against release of sediment.

Environmental Protection Procedures

a) Where possible, a buffer zone of undisturbed natural vegetation is to be maintained between work areas and all water bodies. Any use or storage of hazardous materials should not take place within 30 meters of any water body.

b) Silt runoff control fences should be constructed at the toe of the slope outside the buffer zone when required to control runoff from areas of exposed soils towards water bodies. The Environmental Manager will inspect silt fences and buffer strips on a regular basis. Any accumulations of silt witnessed should be removed and disposed of in an area where it will not re-enter any water body. Also, repairs and replacement of damaged silt fences must be addressed immediately.

c) A minimum buffer zone of 25 m will be maintained around any archaeological site within which no construction or operational activity is to take place. Where available space poses constraints; this width may be reduced and supplemented by other protective measures.

Environmental Concerns

Erosion prevention practices will be applied throughout all work areas on exposed or erodible soils.

Environmental Protection Procedures

General

The primary means of erosion control is to avoid or minimize activities that may contribute to erosion.

All areas of exposed erodible soils are to be stabilized by back-blading or grading to meet engineered slope requirements followed by the placement of an armour material such as geotextile matting, rock or a combination thereof. Where erosion along exposed erodible slopes is a potential, natural buffer zones must be maintained and a silt fence, or other erosion control measures, must be constructed to control silt runoff.

Environmental Concerns

The environmental concerns with exploration drilling are surface disturbances, water usage, disposal of drilling fluids and cuttings, generation of dust, noise, and the potential effects on terrestrial habitats, air quality, aquatic ecosystems, and historic resources.

All exploration drilling operations must comply with Part D of the Water Use Permit Number 2BE-HOP0207 for Hope Bay.

Environmental Protection Procedures

a) All materials and personnel are to be transported to drill site locations via helicopter or along designated approved trails using snow machines.

b) Waste oil is to be transported back to the Camp and stored for burning in the waste oil burner or for disposal in an approved off-site facility.

c) For non-submersible pumps that use a hydrocarbon based fuel, the pump must be placed in a secondary containment tray to capture any unexpected fuel/oil leaks or spills.

d) Water used throughout the drilling process must remain at the drill site. Every effort is to be made to prevent any turbid water from drilling entering any watercourse. This is a legal requirement.

e) Cuttings from drill activities are to be captured at the drill site; the water decanted from the cuttings and the cuttings then placed into super sacs and moved to an approved storage area on the property. These cuttings can be used as fine crushed rock material in an opportunistic fashion, such as bedding or liner protection but only under the approval of the on-site Environmental Coordinator. Cuttings are not placed back down the hole.

f) All garbage and solid waste will be removed from the drill site and disposed of in an appropriate manner at the Doris North site.

g) Due to the nature of drilling activities oil drops and leaks sometimes occur. Every attempt possible is to be made to clean up this oil. All drill rigs are equipped with oil absorbent material in the event of a leak or spill. If drilling is done on land, peat moss will be applied to the drill site to absorb any contaminants after the drill has been relocated. Photos of the drills sites are to be taken after clean up for reporting purposes.

h) During the winter season, snow machines are to be used to transport drill materials, core, and personnel to and from the drill sites. Helicopters are to be used during summer months.

i) If drilling is done underground, water used for drilling will be recycled. The same water will be used to control dust over muck.

j) Potential exists for the disturbance of archaeological resources during exploration drilling activities. This is to be avoided. Disturbance of any archaeological or culturally significant site without appropriate authorization from government is illegal. All site workers should be familiar with the contents of the MHBL contingency plan for the Discovery of Historic Resources (see Environmental Coordinator for a copy).

k) Casing at the abandoned drill site is to be removed once further drilling at this specific site is not required. All holes are to be sealed with a plug.

Dust Control

The environmental concerns associated with dust include human health effects and potential effects on aquatic ecosystems and vegetation.

Environmental Protection Procedures

Water will be used to control dust from surface operational activities during the summer months. Waste oil will not be used for dust control. No other chemical agents are to be applied to roads, airstrip, etc for dust control.

Water for drilling and dust suppression underground will be supplied from sumps and re-cycled to them. Due to the freezing conditions, a brine solution will be used.

Environmental Concerns

Silt refers to fine grained sediment particles which are sometimes transported in the water column. Turbidity is a term used to refer to the "cloudiness" created in the water column by the suspended sediment (silt) particles. Sediment can settle on the bottom of a stream, river or lake, covering areas where fish feed, hide from predators or lay eggs. It can also smother and kill fish eggs. Sediment suspended in the water can clog fish gills and also obscure vision, making it difficult for fish to find food and see predators. If enough sediment enters a body of water, the aquatic environment can change permanently, harming fish, wildlife and people.

The federal Fisheries Act provides for the protection of fish habitat. Under this Act, no one may carry out any work that harmfully alters, disrupts or destroys fish habitat, unless authorized by Fisheries and Oceans Canada. The Act also states that no one is permitted to deposit a deleterious (harmful) substance into water containing fish. Sediment is considered a harmful substance under the Fisheries Act. Violations can result in substantial fines, imprisonment and a requirement to cover the costs of returning the site to its original state.

Get an expert to help you assess the risk of erosion at your site and to develop a plan for erosion control when:

- You don't have the knowledge and skills to plan and implement erosion control measures.
- Steep slopes, highly erodible soils or other factors make your site vulnerable to erosion.
- Working in or near water.
- The project is large.

Environmental Protection Procedures

1. The use of heavy equipment in and near watercourses is not permitted without prior approval from the site's Environmental Manager. Where it is necessary to do so, in stream work will be performed under the following conditions:

    a) With approval from the Site's Environmental Manager who will not give such authorizations until a detailed work plan has been prepared;

    b) The proposed activity must meet all requirements under the Fisheries Act (require consultation with DFO) and must be approved by the landowner (the KIA);

    c) Approved in-stream work must minimize the time that the vehicle is in the water, and include provisions for ensuring no transfer of hydrocarbons (fuel, hydraulic fluid, lubricating oil) into the stream and provisions to minimize and mitigate against release of sediment.

2. Plan ahead to ensure that your project does not harm the environment or violate the *Fisheries Act* or other laws. Before you work, determine exactly how you will reduce soil erosion and sedimentation. Base your plan on sound engineering practices used by experts in the construction industry.

3. Respecting the natural contours of a site can reduce the risk of erosion and often the cost. If possible, work on level ground rather than slopes. The steeper the slope, the greater the chance of soil erosion. If you must work on a slope, make sure the work site is at a stable angle.

4. When working around water, avoid using sand or other materials to fill in uneven ground or to change the angle of a slope. Fill materials are often unstable and vulnerable to erosion. If you must fill, use erosion-resistant materials such as coarse gravel or rock.

5. Gravity will carry water and sediments downhill. Determine where your slopes are and what paths the water will take as it flows toward water bodies. Plan your project to keep construction away from drainage areas and to reduce the amount of sediment carried away.

6. Grasses, shrubs and other plants stabilize the soil and trap sediments. Map your vegetation and plan how best to preserve it. If you must disturb vegetation, restore it quickly by seeding or planting. Keep a buffer of undisturbed vegetation at least 30 meters wide between the construction area and a water body to slow down the water draining from the site and to trap sediments.

7. Exposure -

- Consider the degree to which the site is sheltered or exposed to wind, rain or other eroding forces.
- Disturb the smallest area possible. The less soil you disturb, the better, so keep your work area as small as possible.
- Work quickly. The faster you get the job done, the better. The longer the ground is exposed to wind and rain, the greater the risk of erosion.

8. Whenever possible, undertake construction in the late spring or early summer. This will enable vegetation to re-establish. During the spring freshet, avoid working in areas that are vulnerable to erosion. There are timing restrictions if the activity will potentially deposit sediment in water so fish spawning and egg incubation periods are not effected.

9. Straw bales can be installed as barriers to trap sediment and slow water flow. They should be in a trench, staked and backfilled. When straw bales are installed as a filter fence to trap sediment coming off a slope, they should be placed away from the top for increased holding capacity. When used as a barrier in a ditch or gully, they allow water to flow through, rather than over the barrier and no apron is required.

10. An erosion blanket is usually made of natural fibers such as straw or coconut fiber. It acts as a protective barrier between the soil and the rain or the wind. You can buy erosion-control blankets at building-supply stores. Place erosion blankets:

    a. In high-risk places such as steep slopes or areas with highly erodible soil.
    b. While vegetation is establishing in areas you have seeded.

11. Wherever possible in-stream works should be carried out in the dry. Construction should be carried out in such a manner that silt does not enter watercourses/ water bodies. A no-grub buffer zone (recommend 30 meters) should be maintained adjacent to all watercourses; there should be no grubbing within this zone.

12. Only clean, non-erodible materials should be used for infilling water bodies (e.g., blasted rock containing no, or a minimum of fines).

13. Stabilization of stream crossing areas should be carried out as soon as possible after the crossing structure has been installed and certainly within the same construction season.

Work areas, during site development and operational phases, may require dewatering.

Environmental Concerns

The major concern associated with dewatering is siltation and direct fish mortality and/or habitat lost by smothering action for freshwater and marine species.

Environmental Protection Procedures

a) Filtration or other suitable measures, such as settling ponds, silt fences and dykes, must be provided to remove silt from, and reduce the turbidity of water pumped from work areas before discharging.

b) Where possible, filtered water should be land applied onto stable vegetated surfaces to further reduce any potential impacts on watercourses.

c) If settling ponds are required, the area of settling ponds must be gauged to accommodate the anticipated volume of discharged water.

d) Released treated water must be released to follow natural surface drainage patterns.

e) Proper precautionary measures must be employed to prevent the alteration, disruption, and smothering of fish habitat. Damage to fish habitat is illegal.

f) Water pumped from excavations or work areas, or any runoff or effluent directed out of the project site must have silt removed by filtration or other suitable treatment before releasing to the tundra. Effluent release must meet water quality requirement under the Water Use License issued by the NWB and the MMER limits.

Supply vessels, barges, and tugs will be transporting goods, and equipment to Roberts Bay, Nunavut.

Environmental Concerns

The potential exists for vessels to collide, run aground, and/or sink. Such events may lead to the accidental release of fuel and other hazardous materials to the marine environment.

Environmental Protection Procedures

a) The contracting company providing such a service for MHBL is responsible to ensure that the barge (s) assigned to this task comply with all regulatory requirements.

b) The delivery of hazardous materials has to comply with the Canadian Transportation of Dangerous Goods Code.

c) Project vessel masters will observe the following basic rules:

- The shipping company will be required to have an Emergency Response and Spill Contingency Plan that includes adequate training in place covering transport of hazardous materials on their vessels.
- All project vessels are required to advise the MHBL logistics of their time of departure from their port of origin and their estimated time of arrival at Roberts Bay, Nunavut.
- Project vessels must notify the MHBL logistics of their progress at sea or, if stopping at other ports en-route if they depart from their expected schedule, i.e. to update their ETA.

Environmental Concerns

A variety of fuel driven water pumps, generators are in frequent use in many areas of exploration and mining operations away from the main camp power supply. Environmental concerns are associated with any accidental spills or chronic leaks contaminating topsoil and water bodies.

Environmental Protection Procedure

a) All oil, grease, gasoline, diesel, or other fuels will be stored at least 50m from any surface water.

b) Secondary containment trays must be placed underneath fuel driven portable pumps and generators at all times.

c) All hoses and connections on equipment are to be inspected routinely for leaks and drips (every 4 hours at a minimum).

d) All leaks/spills should be cleaned and reported immediately to the Surface/Maintenance Superintendent and the Environmental Manager.

Environmental Concerns

Noise associated with exploration, construction and mine operational activities can cause negative effects on wildlife resources in terms of their distribution and abundance. Noise associated with surface blasting are temporary in nature and noises associated with drilling are considered long term, but localized. Even though drilling noise is considered to be localized, it has been observed to attract wildlife, especially caribou.

Environmental Protection Procedures

Measures must be implemented wherever possible to minimize potential effects arising from a variety of noise sources.

a) Surface blasting plans must be developed that include provision to conduct wildlife surveillance prior to blasting and to adjust blasting times accordingly to occur when wildlife are not present.

b) All fuel powered equipment must have exhaust systems (mufflers) to reduce noise. These systems must be inspected and maintained.

c) Stationary equipment such as the mill and power generators will be placed indoors to muffle noise.

Environmental Concerns

Surface blasting will be conducted during the construction phase of the Doris North Project to extract construction rockfill materials from the site quarries. Trench blasting will be periodically conducted during the exploration activity associated with the Project.

The principle environmental concerns associated with surface blasting include the following:

- Destruction of vegetation around the outcrop or outside the quarry limits.
- Release of nitrogen compounds and dust to air and residual blasting agents (ammonia and other nitrogen compounds) to local water.
- Noise disturbances to wildlife.
- Disturbance of archaeological resources.

All blasting must be done in compliance with the appropriate permits and approvals. All blasters will have a Blasters Safety Certificate from the regulatory authorities. Magazine storage and disposal must comply with regulatory requirements.

Environmental Protection Procedures

The handling, transportation, storage, and use of explosives and all other hazardous materials must be conducted in compliance with all applicable laws and regulations. The following measures must be implemented to minimize the impact of the use of explosives and blasting.

a) Explosives must be used in a manner that will minimize damage or defacement of landscape features, trees, and other surrounding objects by controlling through the best methods possible, the scatter of blasted material beyond the limits of activity.

b) Blasting pattern and procedures must be used which minimize shock or instantaneous peak noise levels.

c) Time delay blasting cycles must be used where necessary, to control the scatter of blasted material.

d) The amount of explosives used (powder factor) must be minimized to prevent potential release of ammonia to local watercourses.

e) Blasting must not occur in the vicinity of fuel storage facilities.

f) Use of explosives must be restricted to authorized personnel who have been trained in their use.

g) There will be separate magazines on site, a magazine for explosives and a smaller cap magazine for dynamite blasting caps.

h) Site personnel must survey the immediate area of the blasting site within three hours prior to a blast and curtail operations if sensitive animals (e.g. grizzly bears, caribou, and other mammals) are observed within 500 m.

i) If blasting is necessary within the vicinity of an archaeological site, precautions must be taken to ensure that blasted material and shock waves do not disturb any part of the site. Blasting shall not be undertaken in these areas without notifying the Surface/Maintenance Superintendent and the Environmental Manager.

Environmental Concerns

The principle concerns associated with winter trails are the potential effects on marine and freshwater ecosystems and water quality as well as the terrestrial ecosystem (snow compaction). Any activities on the winter trails must conform to KIA permit number KTL306F007.

Environmental Protection Procedures

a) Winter vehicles must be confined to properly prepared and groomed trails.

b) Vehicle use on these trails is for the winter season only. To the extent, possible trails should be located on frozen water bodies.

c) Maintenance and refuelling of vehicles shall be restricted to designated areas.

d) Only streams or water bodies that are frozen shall be traversed.

e) Any debris or materials placed upon the ice surface of any water body shall be removed prior to spring break up.

f) A good snow cover is required for all trails with no ground disturbance.

g) All known archaeological sites must be avoided.

Environmental Concerns

Wildlife encounters pose a risk for stress or injury to both site personnel and wildlife. Control measures and environmental protection procedures have been put in place to minimize this risk to wildlife and humans. Of particular importance is the proper handling of kitchen waste.

As a protection measure, hunting and trapping by all MHBL personnel and contractors is not permitted at the exploration sites or at the Doris North Project site.

Environmental Protection Procedures

Prevention

The Surface/Maintenance Superintendent and Camp Manager are responsible to see that the following procedures relating to food preparation, storage and waste disposal are implemented:

- Accommodation area and all work sites must be kept clean of food scraps and garbage.
- Combustible kitchen waste must be collected daily for incineration in the approved incinerator at Doris North.

Inspections of all surface workshops and accommodation areas must be carried out by the Surface/Maintenance Superintendent in addition to regular inspections by the Camp Manager.

Response Actions

All project personnel must abide by the following rules in cases of wildlife encounters:

a) Report and record all wildlife sighting to the Environmental Manager or Environmental technicians.

c) No attempt to chase, catch, divert, follow or otherwise harass wildlife by any form of motorised mode of transportation will be made by any person at the MHBL project sites. The only exception is when a bear is sighted in close proximity of the camp or work areas; in which case attempts will be made to scare off the bear with a motorised form of transportation.

d) Equipment and vehicles will yield the right-of-way to wildlife.

e) No personal pets, domestic or wild, will be allowed at Doris North Project site.

f) When nuisance animals (e.g. grizzly bear, wolverine, or wolf) are identified at the Doris North Mine site or exploration camps, and pose an immediate danger to the safety of the employees, the General Manager will be notified and will take further responsibility for all subsequent actions. The General Manager in consultation with the Senior MHBL

management personnel will determine responsive actions, including consultation with government wildlife officials and the KIA. All actions must comply with the regulative requirements and directives.

g) The Camp Manager will first use deterrent measures that include crackers and rubber bullets.

h) Based on the ongoing risk posed to the safety of the employees or camp residents, the General Manager will determine if an animal is to be put down and will designate a qualified person to shoot the animal. This action will only be taken after all other deterrent measures have been tried or the risk is too high by not proceeding.

i) The only firearm(s) allowed at the Doris North Project site or at the MHBL exploration camps are those under the control of the General Manager (Camp Manager at the exploration camps) (or his/her designate). Anytime an animal is put down, the regulatory authorities and the land owner (the KIA) will be notified by phone.

j) Any bear that has been put down will have the head removed, skinned, and preserved. The carcass will be provided to the local community or in an event where transportation is difficult to arrange, the carcass will be incinerated on site.

k) An internal incident report will be completed by the General Manager within 72 hours of the putting down of a bear. A copy of this report shall be sent to the following people:

    a. GN – Department of the Environment.

    b. Kitikmeot Inuit Association.

    c. General Manager, Environment – Miramar Mining Corporation.

This section of the EPP has to be implemented in conjunction with the MHBL Heritage Protection Plan, 2005.

Environmental Concerns

There is always the possibility that undiscovered archaeological sites such as remnants of structures, tools, butchered animal bones, and graves may be discovered or disturbed during the operational and exploration activities at the Doris North Project site.

The Environmental Manager upon notification from the Surface/Maintenance Superintendent will contract a qualified archaeologist to examine the sites. This will be done to determine whether the location of such activities is in an area of high archaeological potential, and to identify any site-specific practical precautions, which should be taken. Development and construction activities proposed for that specific location will not proceed until recommended precautions are implemented by MHBL.

If there is a need to conduct a detailed investigation, a permit application to conduct a staged archaeological assessment must be submitted by the contractor/consultant to regulatory authorities, including the following details on procedures to conduct a field survey:

- Area defined.
- Nature of survey, documentation.
- Report to be produced.
- People/agencies that must be advised.

A report of the detailed investigation must be submitted to MHBL within 60 days at the completion of the field investigations. MHBL will provide the KIA with copies of the field report as per obligations stipulated in the Hope Bay Land Use Permit.

Environmental Protection Procedures

All employees and contractors will be informed of the historic resources potential of the area, of their responsibility to report any unusual findings, and to leave such findings undisturbed. Information will be provided in the form of the "Historic Resources Contingency Plan" included as reference material. In the event of the discovery of a historic or prehistoric artefact or archaeological site, the following procedures will apply:

a) No archaeological sites and artefacts must be disturbed. MHBL or the Contractor will take all reasonable precautions to prevent employees in their care or other persons from removing or damaging any such articles or sites.

b) Personnel working in the vicinity will be advised of the find and the site area will be flagged for protection and avoidance.

c) Depending on the nature of the find, all work will be scaled down or cease in the immediate area of the discovery until MHBL advises the authorities of the discovery. In consultation with the regulating authorities, resumption of the work will resume accordingly.

d) Archaeological materials encountered will be reported initially to the immediate supervisor. The following information is required initially:

   i. Nature of activity.

   ii. Nature of the material discovered.

   iii. Precise location of the find.

e) Following an assessment of the significance and mitigation needs, a report will be made to MHBL. MHBL will provide copies of the report to the regulating authorities. The MHBL senior management will first approve any proposed mitigation.

f). The followed actions must be adhered to for already identified archaeological sites on MHBL properties:

   - No site personal shall alter or deface these sites or site markers.
   - The location of these site markers shall be reported to the Environmental Manager who shall keep a log of all reports.
   - Out of respect for the aboriginal cultures, no personnel shall construct or emulate these structures. Survey monuments should be marked in a way to make them distinct from historic structures (e.g., with paint, flagging tape, survey stakes). Survey monuments should be dismantled when they are no longer required.

g) Regular monitoring will be conducted by the Environmental Manager to ensure that site protection measures are adequate and that the terms and intent of this EPP and its Historic Resources Contingency Plan are being met. Photographs of the sites will be taken and filed electronically.