CLOSURE AND RECLAMATION PLAN

For the
BOSTON ADVANCED EXPLORATION PROJECT
NUNAVUT

BOSTON CAMP
BOSTON DECLINE
BOSTON EXPLORATION DRILLING

NWB WATER LICENSE 2BB-BOS0712

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September 2007

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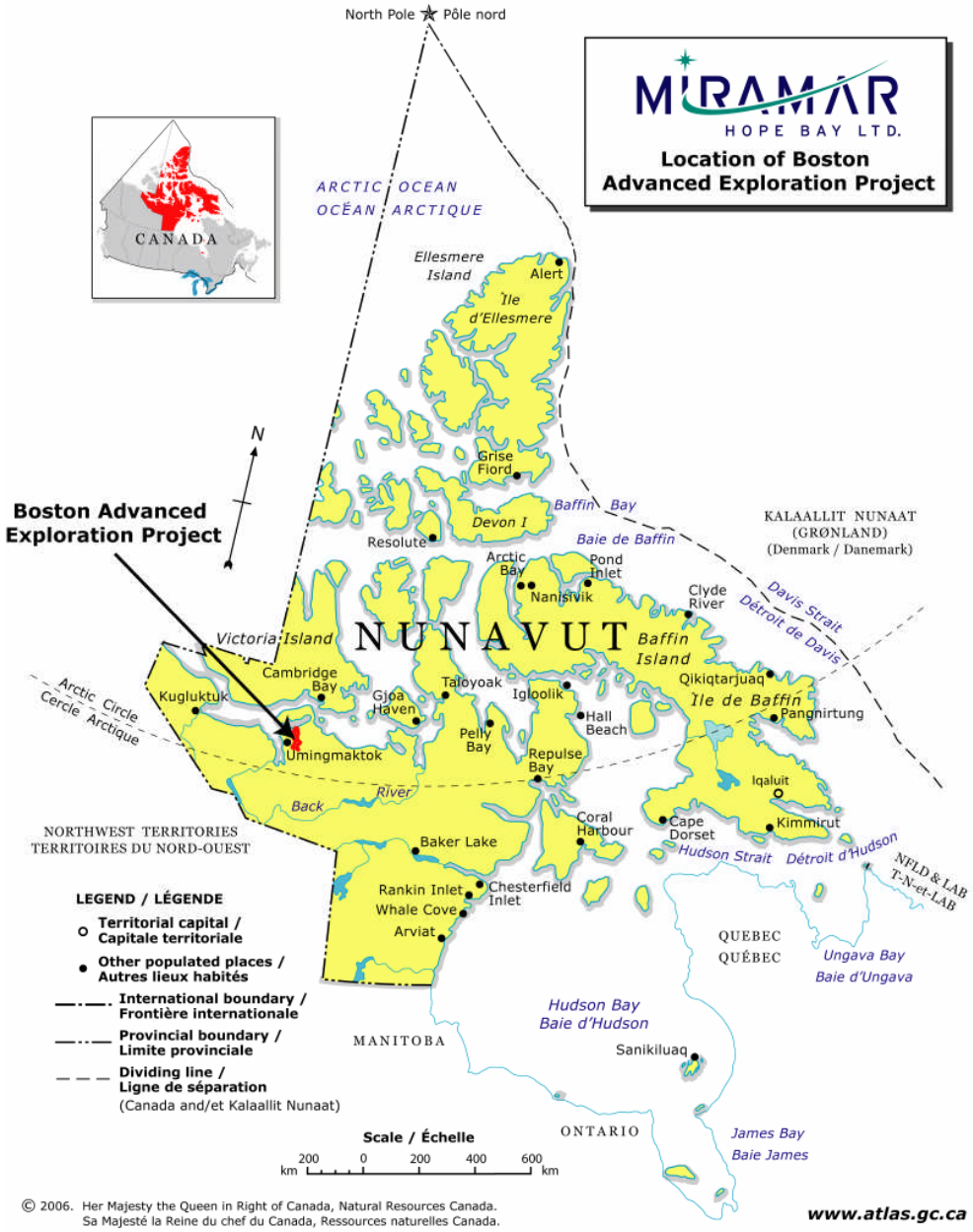
1.0 BACKGROUND

1.1 Scope

Miramar Hope Bay Ltd. (MHBL), owner and operator of the Boston Advanced Exploration Project, is conducting mineral exploration at the Boston resource area on the Hope Bay greenstone belt from a base at Spyder Lake known as Boston Camp. The Boston Camp (Boston) is located within the Kitikmeot Region of Nunavut, approximately 170 km southwest of Cambridge Bay and approximately 60 km south of the Arctic Ocean, at latitude 67° 39' N and longitude 106° 22' W, (see Figure 1.1).

Figure 1-1: Location of Boston Advanced Exploration Project



Boston Camp is located above the high water mark on the southeast shore of Spyder Lake. The camp provides support services directed towards the MHBL exploration activity in and around the Boston mineral resource area, in particular servicing of exploration drills operating within and around the Boston resource area (south end of the Hope Bay Greenstone Belt).

Boston Camp is located on a peninsula with Spyder Lake to the north and west of the camp and Stickleback Lake to the east and south. The camp sits on an esker that is slightly higher than the surrounding water bodies. There is an elevation drop of less than 6° slope gradient towards the west into Spyder Lake and a slope gradient of slightly greater than 6° to the east extending into Stickleback Lake.

The camp is serviced by a short all weather airstrip (~500 meters in length), located immediately to the south of the camp. The airstrip is too short for large aircraft and is limited to Twin Otters and Dornier type aircraft. In a situation where a larger aircraft is required, an ice strip has previously been constructed on Spyder Lake. The Boston Camp is located on Inuit Owned Land (administered by the KIA).

MHBL has prepared this Closure and Reclamation Plan (Closure Plan) in accordance with Part I of Water License No. 2BB-BOS0712 for submission to the Nunavut Water Board (NWB). This Closure Plan is intended to outline how the Boston Advanced Exploration Project will be closed and reclaimed once there will be no further planned use of the site. The Plan also includes reclamation of the underground exploration decline (currently flooded and frozen) and reclamation of the regional drilling sites disturbed as part of the Boston regional exploration activity.

The objective of this Plan is to ensure that issues associated with the effective closure and reclamation of all of these sites are considered in sufficient detail at the earliest possible stage. The Closure Plan is considered to be a “living” document and as such, is anticipated to undergo annual review and further revision as needed to address any changes in the site conditions. The level of detail of closure and reclamation planning contained within the Plan will continue to increase with subsequent revisions. Those revisions will incorporate the lessons learned from ongoing operation and progressive reclamation completed at this site. Moreover, the revisions will also reflect the input from the Kitikmeot Inuit Association (KIA) as representative of the land owner (the Inuit), local communities, the Nunavut Water Board (NWB) and other stakeholders who have an interest in how the Boston Advanced Exploration Project facilities are ultimately reclaimed. This document provides a basis for continuing discussions with stakeholders regarding closure and reclamation at this site.

1.2 Objectives

The Mine Reclamation Policy for Nunavut was developed by DIAND in 2002 for the protection of the environment and the disposition of liability relating to mine closures. The policy states that all mines in Nunavut should be planned, operated, closed and decommissioned in an environmentally sound manner in accordance with current mine closure and reclamation practices.

These practices include:

- Submission of a mine reclamation plan to regulators and landowners, approval of the plan before the commencement of mine production, regular plan updates, and annual progress reclamation reports;

- Progressive mine reclamation, consistent with the approved plans and current mine reclamation practices;

- Financial assurance that fully covers the outstanding liabilities at any period of the mine operations; and

- Sites are reclaimed and monitored at the financial expense of the mining company.

Mining and mineral exploration is considered to be a temporary use of the land. At closure, the mine site, mineral exploration camp and the land affected by the mining or exploration activities are to be reclaimed to achieve the following objectives (listed in order of priority):

- Protection of public health and safety through the use of safe and responsible reclamation practices;

- Reduction or elimination of environmental effects once the mine ceases operation;

- Re-establish conditions that permit the land to return to a similar pre-mining land use; and

- Reduce the need for long-term monitoring and maintenance by establishing physical and chemical stability of disturbed areas.

These broad reclamation objectives are drawn from the Mine Site Reclamation Guidelines for the NWT that were issued by Indian and Northern Affairs Canada (INAC) in January 2006 to assist proponents of mining and mineral exploration projects in understanding the expectations of DIAND for closure and reclamation planning in the Northwest Territories and Nunavut. MHBL has adopted these objectives as the basis for establishing site specific reclamation objectives for the Boston Advanced Exploration Project.

The goal of reclamation is to prevent progressive degradation of a closed mining and/or mineral exploration site, and to enhance natural recovery of areas affected by mining or mineral exploration. Landscape reclamation is driven by the following specific objectives:

- To establish stable landforms;

- To protect the water resources in the local area;

- To facilitate natural recovery of areas affected by mining, mineral exploration and related activities at the Project site; and

- To re-establish productive use of the land and water in the vicinity of the Boston Advance Exploration Project site for future generations in a manner that is consistent with the pre-development use of the land and water. In this case, productive use refers to use of the area by wildlife and for traditional activities as practised by the local communities and First Nations prior to exploration activities.

This does not mean that the exploration and mining related activity will not result in a permanent change to the landscape. Certain features, such as the underground decline, will become permanent changes to the current landscape. Other features, such as roads, airstrips and building pads, will alter the landscape for many years (perhaps centuries) until natural forces obliterate or disguise their presence even after they are reclaimed. In other words, reclamation cannot totally remove the entire disturbance caused by the mineral exploration activity associated with the Boston Advanced Exploration Project.

Reclamation cannot return the disturbed sites to a pristine condition. Reclamation can however ensure that these disturbances are not causing degradation of the surrounding water, air and land after the mineral exploration activity no longer continues.

The establishment of stable landforms (primarily establishment of stable slopes and drainage pathways) through proper engineering practises will reduce the requirements for prolonged maintenance of the disturbed sites after reclamation is complete. It is MHBL's objective that reclamation be completed at the Boston Advanced Exploration Project in a manner where future maintenance requirements are minimal, limited to periodic site visits, inspections and periodic maintenance of erosion damage and cleaning of drainage pathways. The objective is to get as close as possible to a "maintenance free" site through proper reclamation techniques, in other words to strive for a "walk away" reclaimed site. This means that drainage pathways, such as drainage swales and ditches, will be designed wherever possible and practical to be self-cleaning or immune to erosion problems that could otherwise require an ongoing maintenance requirement.

The targeted post-closure land use for the Boston Advanced Exploration Project is wildlife habitat. This end land use is a reflection of the current use of the tundra area surrounding the Project site by wildlife (both resident and migratory). It is acknowledged that local communities and First Nations have made use of the surrounding area for traditional activities and reclamation of the Boston Advanced Exploration Project will target leaving a reclaimed site that is protective of the surrounding water, air and land to enable such traditional activities to continue.

It is also recognized that aesthetics (how a reclaimed site looks) is of concern to the Inuit, local communities, and other stakeholders. This concern is acknowledged by MHBL and aesthetics have been considered in the design of the specific reclamation activities to be applied at the Boston Advanced Exploration Project site. The first and foremost approach in this respect is to leave a "clean" site. In other words, all remaining potentially hazardous materials (chemicals, reagents, hydrocarbons, explosives, etc.) will be removed from the site after exploration activity ceases. These products will be transported south for use elsewhere (recycling) or for

appropriate disposal in a licensed disposal facility. All non-hazardous materials such as buildings, demolition debris, steel, vehicles, general garbage and debris will be removed from the surface and disposed of in the appropriate non-hazardous landfill site to be constructed at the Doris North Mine within Quarry 2. This landfill will then be closed out and covered with a layer of quarried rock. It is expected that permafrost will become established within the closed out landfill in a short time frame after closure. Precipitation runoff will be directed away from the reclaimed landfill by a series of upslope berms. There will be visual changes to the pre-development landscape primarily associated with the remaining remnants of the site roads, airstrip and building and laydown pads. Roads will be reclaimed to allow restoration of natural drainage pathways in a low maintenance fashion (i.e., no culverts, bridges or berms) but the disturbed ground will be evident for many years before natural processes obliterate or disguise their presence.

1.2 Rationale and Approach

MHBL has incorporated, where applicable, the guiding principles, objectives and standards set out in the INAC guiding documents discussed in Section 1.2 in the preparation of the Closure and Reclamation Plan for the Boston Advanced Exploration Project.

The Closure and Reclamation Plan will comply with the conditions of all permits, regulations, and industry standards that are applicable to this Project, such as the land use license issued by the Kitikmeot Inuit Association and the water license issued by the Nunavut Water Board. The following principles have been established to guide the development of the overall closure plan:

- Plan and implement in accordance with all applicable regulations;
- Apply cost effective and appropriate closure and reclamation practices to reduce environmental risks and allow traditional use of the land;
- Conduct studies to predict post-closure environmental effects;
- Maintain a program of progressive closure and reclamation as an integral part of project operations; and
- Incorporate new reclamation methods and procedures where practical under northern specific conditions.

MHBL is committed to reducing the residual environmental effects at the site upon closure. Consequently, exploration activity is planned in conjunction with reclamation planning. Reclamation work forms an integral part of the exploration plan, for example the closeout and reclamation of all drill sites is included as an integral part of the exploration budget, schedule and plan. Furthermore, reclamation will be carried out progressively during the life of the Project where practical.

Project decommissioning and reclamation will be carried out using conventional state-of-the-art, northern mine construction and reclamation techniques where practical. MHBL plans to select

closure technologies and design elements that not only comply with accepted protocols and standards, but will also use best available technologies that are practical for use at this site.

This Plan provides a description of the anticipated decommissioning and reclamation activities for all of the sites disturbed through mineral exploration at the Boston Project. This Closure and Reclamation Plan describes the areas of disturbance that require reclamation, summarizes the proposed strategy and schedule for decommissioning and reclamation of each area, and outlines the work to be carried out. The specific details of the reclamation plan are likely to evolve as exploration activity progresses. Consequently, this plan will be updated during the Project life.

Key closure and reclamation issues for this Project are summarized as follows:

1. All buildings and equipment will be demolished and/or removed from the site as part of final reclamation. Demolition debris with no salvage value will be buried in the Doris North Mine non-hazardous waste landfill. All buildings and equipment will be cleaned of potentially hazardous materials prior to demolition. All remaining inventory of petroleum products, reagents, chemicals, etc. will be removed from the site as part of final reclamation. Consequently, no buildings, equipment, hydrocarbons or chemicals will remain at the site once reclamation has been completed; and

2. All exploration drill sites will be cleaned up as soon as practical following completion of the drilling activity. This will involve removal of all equipment, potentially hazardous materials and drill cuttings. The drill casing protruding from the drill hole will be cut flush with the natural ground and capped. The disturbed area will be backfilled with drill cutting where necessary and then hand contoured using shovels and rakes to prevent ponding of water and remove all potential drainage barriers.

1.3 Land Use Objectives and Alternatives

The key objectives of the reclamation plan are to:

- Protect public health and safety through the use of safe and responsible reclamation practices;

- Reduce or eliminate environmental effects once the mineral exploration activity ceases;

- Re-establish conditions that permit the land to return to a similar pre-exploration land use; and

- Reduce the need for long-term monitoring and maintenance by establishing physical and chemical stability of disturbed areas.

The Boston Advanced Exploration Project is a remote site in an Arctic setting. Pre-development land use can be classified as wildlife habitat with occasional use by Inuit people for subsistence hunting and fishing. MHBL's closure objectives are to return the land after mineral exploration

and reclamation have been completed to healthy, self-sustaining wildlife habitat suitable for use by Inuit people for subsistence hunting and fishing.

Alternative land use objectives considered include:

- Use of the site as a continued base for mineral exploration in the region. This may be viable in the short term but not sustainable over the long term. The viability of a local exploration base will diminish as the area is explored and the distance between prospective properties and the base camp becomes greater.

This closure and reclamation plan is predicated upon the objective of removing all facilities from the Boston Advanced Exploration Project sites and leaving the sites in a chemically and physically stable condition so that wildlife and fish can safely reside in and use this area as habitat without adverse health impacts to themselves or to the Inuit people who may use this wildlife for subsistence purposes.

The present reclamation guidelines for Nunavut (Mine Site Reclamation Guidelines for the NWT, INAC 2006) provide direction on methodologies and reclamation procedures and provide broad reclamation objectives and criteria but there is still a need to establish site specific reclamation criteria for each mineral exploration site against which reclamation progress can be measured. In other words, there is need to develop site specific criteria that can be used by the mineral exploration company, the land owner (Kitikmeot Inuit Association), regulatory agencies, the Inuit of the West Kitikmeot, local communities, and other stakeholders to know when each disturbed area has been successfully reclaimed to an acceptable standard (i.e., to provide a benchmark to allow all parties to know when reclamation has been successfully completed). To date, these site specific criteria have not been developed by the regulatory agencies.

MHBL acknowledges that such site specific reclamation criteria need to be developed in consultation with the Kitikmeot Inuit Association, local communities, and other stakeholders including the regulatory agencies. This section is intended to provide a starting point for the development of these site specific reclamation criteria for the Boston Advanced Exploration Project. For this phase, MHBL has put forward suggested site specific reclamation criteria for use at the Boston Advanced Exploration Project that can act as a basis for future dialogue and consultation.

Reclamation criteria will be used to assess the final reclamation obligations for closure of the Boston Advanced Exploration Project. These criteria will establish benchmarks that will be used to determine when decommissioning, reclamation and monitoring programs have been completed and remaining liability has been removed. The objective is to reach a “maintenance free” reclaimed site where minimal active management or maintenance is required.

Completion of reclamation is the time at which all reclamation criteria have been met. To facilitate this process, MHBL have adopted an approach similar to that used at EKATI$_{TM}$ that looks at three stages of reclamation:

- **Stage 1: Decommissioning Stage** – removal of contaminants, removal of buildings and structures, creation of a stable water management or drainage system across the reclaimed site and the creation of geotechnically safe landforms;

- **Stage 2: Reclamation Stage** – the return of the disturbed site to a form and productivity level that conforms to the defined end land use for each component of the mine site. Enhancement of natural revegetation and post-closure environmental monitoring programs are in place, as and where required; and

- **Stage 3: Completion Criteria Conformance** – reclamation is complete and environmental monitoring is in place to measure for reclamation success and to demonstrate that the site specific reclamation criteria have and will continue to be achieved in a sustainable fashion. At this phase the land owner (the KIA) and other regulatory agencies will be asked to confirm that the reclamation criteria have been met.

The proposed site specific reclamation criteria for the Boston Advanced Exploration Project are set to ensure that closure and reclamation of the site meets the overall objectives for mine site reclamation in Nunavut as established in the Mine Site Reclamation Guidelines for the NWT. The objectives of the site specific reclamation criteria can be considered under the following four categories:

- Physical stability;

- Chemical stability;

- Ecological sustainability; and

- Climate and geographic stability.

1.3.1 Physical Stability

Physical stability is ensured by protecting the surface against wind and water erosion, providing for surface drainage, minimizing hazardous conditions, and contouring the surface to meet land capability objectives. Physical structures such as laydown areas, roadways, the airstrip, rock excavations, sedimentation ponds, drainage ditches, and rock pads will meet the following requirements:

- Be physically stable and designed in accordance with acceptable design criteria;

- Pose minimal hazard to the public and wildlife health and safety as a result of failure or physical deterioration;

- Continue to perform the function for which they were designed; and

- Have stable land surfaces with minimal surface erosion.

1.3.2 Chemical Stability

The reclaimed mine site at the Boston Advanced Exploration Project site will be chemically stable. This means surface waters will be protected against significant adverse environmental effects resulting from discharges. In addition, discharges will not endanger public and wildlife health and safety, nor result in unacceptable deterioration of environmental resources.

Aspects to be monitored closely will include short-term and long-term changes in the geochemistry of any soil materials used in the construction of roads and building pads, seepage and runoff from these facilities, and the chemistry of surface water draining from the site. Potential effects due to any acid rock drainage, metal leaching and flushing of other chemicals via surface runoff will be mitigated. Control and mitigation measures will be specific to the source and contaminant types. The success of physical reclamation at the Boston Advanced Exploration Project site will influence chemical and physical stability.

1.3.3 Ecological Sustainability

The ecological sustainability of the reclaimed site and potential effects on the surrounding environment are closely related to methods of reclamation, the end land use, and the physical and chemical characteristics of the site. Ecological sustainability at Boston Advanced Exploration Project is reached when mineral exploration related physical or chemical impediments to the establishment of natural ecological processes are removed thereby allowing the establishment of self-sustaining and productive ecosystem (including progressive natural changes in habitats) vegetation, aquatic and wildlife habitats to establish. Vegetation, aquatic and wildlife habitats would be stable, self-sustaining, and productive, and meet the agreed stakeholder requirements.

1.3.4 Climate and Geographic Stability

Regional and local climatic information will be used to resolve questions concerning aspects such as hydrology and permafrost growth. The effects of climate on reclamation measures include: precipitation and extreme events such as floods, freeze-thawing and aggradation of permafrost into mineral exploration infrastructure. Precipitation affects the overall water balance of the site and hence influences the chemical and physical stability of the site together with its contaminant transport parameters. Extreme events influence erosion and subsequently the physical stability of the site.

The effects of geography on reclamation include proximity of local populations and resource users downstream of the Project sites, the proximity of surface water which will influence their susceptibility to contaminants of concern released from the reclaimed Project components and the geographic location of reclaimed Project components in relation to watersheds.

1.4 Land Reclamation Units and Proposed Site Specific Reclamation Criteria

It is convenient to separate facilities into components (land reclamation units) to design and plan reclamation work. For the Boston Advanced Exploration Project, facilities have been divided into the following four land reclamation units:

- Boston Camp;

- Boston underground decline;
- Boston airstrip; and
- Exploration drill sites.

Proposed site specific reclamation criteria for each of the four land reclamation units at the Boston Advanced Exploration Project are presented in Table 1.1.

Table 1.1: Proposed Site Specific Reclamation Criteria for the Boston Advanced Exploration Project

Land Reclamation Unit	Proposed Site Specific Reclamation Criteria			
	Physical Stability Requirements	**Chemical Stability Requirements**	**Ecological Sustainability Requirements**	**Climatic and Geographic Stability Requirements**
Boston Exploration Camp	1) All potentially hazardous materials removed from the site and shipped south for recycling or proper disposal. 2) Buildings and equipment cleaned prior to demolition and all hazardous materials recovered, packaged and removed prior to demolition. 3) All equipment and buildings demolished and the demolition debris encapsulated within an appropriate landfill within the Doris North landfill. 4) Site cleaned of all equipment, steel, containers and debris. All removed and buried within the Doris North landfill. 5) All fuel storage facilities cleaned of hydrocarbons then demolished and removed for encapsulation within the Doris North landfill. 6) No significant erosion of roadways, laydown areas and building pads after removal of buildings.	1) All hazardous materials removed. 2) All chemical/hydrocarbon spills remediated in-situ or removed. 3) No significant adverse water quality in drainage across former building pads and areas. 4) All liners and berms from within fuel tank farms removed and buried within the Doris North landfill. 5) All identified contaminated soils will be excavated and dependent on their level of contamination they will be either remediated on site, removed from site for off-site disposal in a licensed facility or landfill so that no significant contaminant release occurs with future site drainage from these sources.	1) No contact of wildlife or humans with contaminated soils due to removal and/or placement of separation barriers. 2) No significant health risks to wildlife or humans from the reclaimed roadways, laydown and building areas.	1) Site drainage restored across the remaining roadways, laydown and building pads through creation of permanent no maintenance swales or drainage channels to meet all precipitation events including extreme events without causing ponding or significant erosion in these areas.

Table 1.1: Continued

	Proposed Site Specific Reclamation Criteria			
Land Reclamation Unit	**Physical Stability Requirements**	**Chemical Stability Requirements**	**Ecological Sustainability Requirements**	**Climatic and Geographic Stability Requirements**
Boston Underground Decline and Workings	1) Salvageable equipment removed. All other equipment cleaned of hydrocarbons and other hazardous contaminants. 2) All mine entries sealed to prevent any future inadvertent access by humans or large wildlife using a combination of engineered concrete caps and/or backfill for raises and a backfilled rock plug in the adit portal.	1) All potentially hazardous materials removed from the UG mine. 2) All chemical/hydrocarbon spills and contaminants remediated in-situ or removed. 3) All potentially acid generating ore and waste rock stored on surface removed for processing at the Doris North Mill or for placement UG as backfill within the Doris North mine. 4) Should future global warming trends cause permanent thawing of the permafrost, allow subsequent natural flooding of the closed mine workings to minimize ARD generation.	1) Wildlife unable to enter or come into contact with UG mine workings to protect wildlife health and safety.	1) Permafrost is not required to be sustained within the closed out underground mine workings. 2) Dry underground mine conditions are not required in the event of global warming.

Table 1.1: Continued

	Proposed Site Specific Reclamation Criteria			
Land Reclamation Unit	**Physical Stability Requirements**	**Chemical Stability Requirements**	**Ecological Sustainability Requirements**	**Climatic and Geographic Stability Requirements**
Boston Airstrip	1) All potentially hazardous materials removed from the site and shipped south for recycling or proper disposal. 2) Equipment cleaned prior to demolition and all hazardous materials recovered, packaged and removed prior to demolition. 3) All salvageable equipment shipped off-site. Non salvageable equipment removed with the demolition debris encapsulated within an appropriate landfill at Doris North. 4) Site cleaned of all equipment, steel, containers and debris. All removed and buried within the landfill at Doris North. 5) No significant erosion of airstrip after removal of equipment.	1) All hazardous materials removed. 2) All chemical/hydrocarbon spills remediated in-situ or removed. 3) No significant adverse water quality in drainage across former airstrip. 4) All identified contaminated soils will be excavated and removed from site for off-site disposal in a licensed facility so that no significant contaminant release occurs with future site drainage from these sources.	1) No contact of wildlife or humans with contaminated soils due to removal and/or placement of separation barriers. 2) No significant health risks to wildlife or humans from the reclaimed area.	1) Site drainage restored across the remaining area through creation of permanent no maintenance swales or drainage channels to meet all precipitation events including extreme events without causing ponding or significant erosion in these areas.

Table 1.1: Continued

	Proposed Site Specific Reclamation Criteria			
Land Reclamation Unit	**Physical Stability Requirements**	**Chemical Stability Requirements**	**Ecological Sustainability Requirements**	**Climatic and Geographic Stability Requirements**
Exploration Drill Sites	1) All material, piping and equipment removed. 2) All drill cuttings removed. 3) All other hazardous materials packaged and removed from site for appropriate disposal. 4) Hand contouring of each drill site using shovels and rakes to prevent ponding of water and to remove potential drainage barriers. 5) Cut all protruding drill casing flush with ground and cap drill holes.	1) No adverse drainage from the drill site area into the surrounding water courses. 2) All chemical spills and contaminants remediated in-situ or removed.	1) No contact of wildlife or humans with contaminated soils due to removal and/or placement of separation barriers. 2) No significant health risks to wildlife or humans from the reclaimed drill sites.	1) Site drainage restored across the drill sites through creation of permanent no maintenance swales or drainage channels to meet all precipitation events including extreme events without causing ponding or significant erosion in these areas.

1.5 Proponent Information

The Boston Advanced Exploration Project, a resource component of the Hope Bay Belt, is owned by Miramar Hope Bay Ltd., a wholly owned subsidiary of Miramar Mining Corporation (MAE-TSX).

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2.0 PRE-DEVELOPMENT ENVIRONMENTAL BASELINE

The following section provides a short summary description of the pre-development environmental condition and land use of the Boston Advanced Exploration Project area[1]. It is intended to provide the reader with an understanding or "snap shot" of:

(i) the physical conditions at the Project site;

(ii) of the aquatic, terrestrial and wildlife resource condition, use and habitat in the Project area;

(iii) a description of how the land and its resources are currently being used prior to project development.

2.1 Physical Environment

Environmental baseline studies in the Hope Bay Belt were carried out from 1995 to 1998 by the Project's previous owner, BHP and from 2000 to present by MHBL.

2.1.1 Climate and Air Quality

MHBL, and others, have been collecting climate data at Doris North and Boston Camp since 1993. This site-specific climate data has been combined with data from three longer-term regional weather stations operated by Environment Canada (Lupin, Cambridge Bay, and Kugluktuk) to develop annual climate profiles for the Project planning process.

The Hope Bay Belt has a low arctic ecoclimate with a mean annual temperature or –12.1°C with winter (October to May) and summer (June to September) mean daily temperature ranges of -50°C to +11°C and -14°C to +30°C, respectively; and mean annual precipitation ranges from 94 mm to 207.3 mm. Annual lake evaporation (typically occurring between June and September) is estimated to be 220 mm. A precipitation and temperature profile for the area is taken from the baseline meteorology data compiled for the Doris North Project[2]. The average monthly air temperature is typically above 0°C between June and September with the peak in July, and below freezing between October and May with the coldest temperatures usually occurring in February. The mean annual precipitation adjusted for under-catch is approximately 207 mm with 41% occurring as rain between May and October and 59% as snow through the remainder of the year.

Air quality monitoring was initiated in May 2003. Total suspended particulate (TSP) measured in August 2003 indicated that ambient TSP concentrations were consistently low, ranging from 3.9 to 5.5 µg/m³, which is less than 5% of the federal objective (120 µg/m³) for TSP. These results are consistent with other particulate monitoring data gathered at remote sites in northern Canada. Concentrations of sulphur dioxide, oxides of nitrogen and fine particulates are also expected to be low in the Project Area.

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[1] For additional information on the pre-development environmental conditions at the Boston Advanced Exploration Project site, the reader is referred to the Final Environmental Impact Statement for the Doris North Project (located 50 km to the north) that was submitted to the Nunavut Impact Review Board in October of 2005 and available on the NIRB ftp site. http://ftp.nunavut.ca/nirb/NIRB_REVIEWS/PREVIOUS_REVIEWS/02MN134-DORIS_NORTH_2004/118%20Final%20EIS/

[2] AMEC, 2003. Meteorology And Hydrology Baseline, Doris North Project, Nunavut, Canada, prepared for Miramar Hope Bay Ltd. November 2003, p.D-iii.

2.1.2 Climate Change

The Department of Indian and Northern Affairs Canada (INAC) commissioned a technical report on the "*Implication of Global Warming and the Precautionary Principle in Northern Mine Design and Closure*" (BGC 2003). The Intergovernmental Panel on Climate Change (IPCC) concluded that the temperature trends indicate that some global climate change has already occurred (IPPC 1995). Their predictions for the year 2100 estimate a global mean temperature increase between 1.5^0C and 4.5^0C, with a "best estimate" of 2.5^0C. This translates into a predicted increase of up to 6^0C in the winter, 4.2^0C in the spring and about 1^0C in the summer and fall. These increases would raise the mean ambient temperature by 3.1^0C. The predictions advanced by IPCC show that climate change would eventually modify the thermal regime that currently exists in the Project area. Continuous permafrost in the Project area will remain, but the surface "active" layer (the surficial layer that thaws annually) may deepen in response to the milder mean annual temperature predicted. Inuit elders report longer summers and milder winters in recent years.

2.1.3 Surficial Geology, Permafrost Conditions and Seismic Risk

Bedrock ridges, oriented north-south parallel with the dominant strike of bedrock units, show the erosive effects of the northward flowing Pleistocene (Keewatin Lobe) continental glacier ice over 10,000 years ago.

Continuous permafrost extends to -560 m. (Heginbottom *et. al.*, 1995). Ground temperature measurements in the Project area indicate an active zone thickness ranging between 1.5 to 2.6 m and the depth of zero annual amplitude varying between 11 and 17 m (Golder 2001; EBA 1996). The geothermal gradient measured at the Boston Camp is approximately 18^oC km^{-1}, which also indicates a depth of continuous permafrost of approximately –560 m.

The Project area occurs in the seismically "Stable" zone of Canada. This region has too few earthquakes to define reliable seismic source zones.

2.1.4 Bedrock Geology

The Hope Bay Belt occurs in the Slave Structural Province, a geological sub-province of the Canadian Shield. The region is underlain by the late Archean Hope Bay Greenstone Belt. This geological formation ranges from 7 - 20 km in width and over 80 km in length. It is oriented in a north-south direction. The late Archean Hope Bay Greenstone Belt lies entirely within the faulted Bathurst Block forming the northeast portion of the Slave Structural Province. The belt is mainly comprised of mafic metavolcanic (mainly meta-basalts) and meta-sedimentary rocks that are bound by Archean granite intrusives and gneisses. Archean volcanic greenstone hosts many of Canada's precious and base metal mines (*e.g.*, Yellowknife, Timmons, Rouyn-Noranda).

2.1.5 Groundwater Conditions

The permafrost underlying the area is generally impervious to groundwater movements. Groundwater movement will only occur in the shallow active layer (to a depth of between 1.5 to 2.6 m) during its seasonal thaw period.

2.1.6 Hydrology

The Project area drains to the North into the Arctic Ocean at Roberts Bay. Peak flows typically occur in June during snowmelt. A second smaller peak may occur from rainfall in late August or early September. The streams in the study area are usually frozen with negligible flow from November until May.

2.1.7 Water Quality

Water quality samples were collected from Project area lakes, streams, and the nearby marine environment between 1995 and 2006. The lakes in the area are soft water lakes with neutral to slightly acid pH and low to moderate acid sensitivity. Total phosphorous levels were low, indicating oligotrophic to mesotrophic conditions. Chloride, sodium, and potassium concentrations were elevated compared to typical lakes in the Slave Structural Province. Some metal levels (*i.e.*, total aluminum, iron, copper, cadmium, chromium, lead and manganese) in certain lakes exceed Canadian Water Quality Guidelines (CWQG) on a seasonal basis. Metal concentrations were generally representative of lakes in undisturbed northern regions. In summer, the lakes were generally well mixed. Wind likely played an important role in maintaining well-mixed conditions. In shallow lakes, wind appeared to cause complete lake turnover. Winter data generally indicated a shallow upper layer of water at or near 0°C, with constant temperatures, not exceeding 2 to 3°C, throughout the remaining water column. The lakes were typically well aerated during the summer; depressed dissolved oxygen (DO) concentrations were recorded near-bottom in winter. With the exception of Ogama Lake, this DO depression occurred in lakes with relatively high total organic carbon (TOC) levels in sediments. This suggested that sediment oxygen demand (SOD) was the underlying cause.

Sediment samples were collected in the lakes in the Project area. Metal concentrations in sediments were compared with the Canadian Interim Sediment Quality Guidelines (CISQG) for the Protection of Aquatic Life (CCME 1999). The CISQG recommends using two guidelines in assessing sediment quality: the Threshold Effect Level (TEL) – the concentration below which adverse effects are rare; and the Probable Effect Level (PEL) - the concentration above which adverse effects are likely. Most lake sediment metal levels fell below the CISQG. The exceptions were total chromium, total copper, total arsenic and total cadmium. Of these, total chromium values exceeding the guidelines were the most widespread geographically and temporally, with concentrations exceeding the CISQG PEL in three of the eight lakes (Doris, Tail and Patch). Overall sediment metal concentrations remained within the range of natural variability for the Slave Structural Province. Sediment TOC levels varied between lakes. For lake sediments with relatively elevated TOC (Doris and Tail Lakes), colour and mineralogy indicated that reducing conditions were predominant in the surface layer as well as underlying sediments. For lake sediments with relatively low to moderate TOC concentrations, colour and mineralogy indicated a strong redox gradient between an oxic surface layer and reducing underlying upper layer.

2.2 Biological Environment

2.2.1 Freshwater Biota and Habitat

Seven fish species occur in the Project area: Arctic Char, broad whitefish, cisco, lake trout, lake whitefish, least cisco, and ninespine stickleback. Lake whitefish and cisco accounted for approximately 90% of the fish sampled in Doris, Ogama and Pelvic Lakes. Lake trout were more dominant in Patch and Windy Lakes. Only lake trout and ninespine stickleback inhabit Tail Lake. Fish populations in Little Roberts Lake included Arctic char, broad whitefish, least cisco, cisco, lake trout, lake whitefish, and ninespine stickleback. A waterfall (approximately 4.3 m in height) between Doris and Little Roberts lakes prevents passage of diadromous fish species such as Arctic char and broad whitefish into the Doris Lake drainage. Little Roberts Lake is used by Arctic char during their movements between Roberts Lake and the ocean.

Fish assemblages in streams in the Project area were dominated by Arctic char, ninespine stickleback and lake trout. Arctic char were the most common (61% of total catch); most of these fish were captured at a fish fence installed in Roberts Outflow during 2002 and 2003 to monitor the number of migratory Arctic char from Roberts Bay to Roberts Lake. Ninespine stickleback was second in abundance (23%) and was the most widely distributed species and encountered in each of the 14 streams sampled. Lake trout was third in abundance (13% of the total catch) and second in distribution (encountered in 10 of 14 streams). Juveniles and adults were present in the catch, suggesting that the larger streams provide both rearing and feeding habitat.

None of the fish species that occur in the Project area are designated as endangered or threatened by COSEWIC (2004).

2.2.2 Vegetation

Vegetation in the Project area is characteristic of sub-arctic tundra vegetation. Plant species identified include 19 shrubs, 92 herbs, 18 grasses, 32 sedges and rushes, 21 mosses and 8 species and/or genera of lichen. Inuit traditionally use many local plant species and understand the relationship between plants and caribou habitat requirements including the early showing of plants in snow free areas and the importance of such areas to caribou calving locations in the region. None of the local plants identified during the course of baseline studies are designated as endangered or threatened (COSEWIC, 2004).

2.2.3 Wildlife

The Project area provides habitat for a variety of mammals including: shrews, voles and lemmings, hares, ground squirrels, weasels, wolves and foxes, grizzly bears, caribou, and muskox. Many are year-round residents, while others such as caribou and musk-ox, are nomadic or migratory. Some large predators/scavengers such as grizzly bear, wolverine and wolf may have large ranges that extend across or beyond the Project area. The small mammal species present, including ground squirrels and Arctic hare, spend their entire life in a small area. Vole and lemming populations are cyclic affecting the abundance and productivity of both bird and mammal predators. Weasel populations will cycle in synchrony with vole and lemming populations. The dominant wildlife species in the Project area is caribou. Three herds occur in

the region that could possibly interact with the Project activities. They include the Dolphin-Union herd, the Ahiak herd and the Bathurst herd. The Dolphin-Union herd is a herd that has special interests from a resource management and conservation perspective. The Project is generally situated on the fringes of all three herds.

The Project area also provides breeding habitat for a wide range of resident and migratory birds including songbirds, upland birds, shorebirds, waterfowl, seabirds and raptors. There is an abundance of raptors in the area including peregrine falcon, gyrfalcon and golden eagle. The Project area provides foraging and nesting habitat for a wide range of cliff nesting and ground nesting raptors. Some birds such as peregrine falcon have been the focus of special conservation and management efforts since the 1970s.

2.3 Land/Water Use

The Boston Advanced Exploration Project is situated entirely on Inuit Owned Lands administered by the KIA with minerals development authority vested with Nunavut Tunngavik Inc. (NTI). Mineral rights are also held by Crown on select areas of the Hope Bay Belt, which include Boston, part of Windy camp, the Madrid exploration area and the drill shop.

2.4 Protected Areas

There are no protected areas in, or adjacent to the Project area. The closest designated land use restriction is the Queen Maud Gulf Bird Sanctuary located approximately 40 km east of the Hope Bay Belt.

2.5 Archaeology

The West Kitikmeot has a diversity of archaeological and historic resources, and such resources comprise an important aspect of Inuit culture, spirituality and perspectives with respect to relationships with the land. MHBL has completed comprehensive baseline surveys for historic and cultural resources in the Project area and has identified over 100 sites with some being in close proximity to Project features.

3.0 PROJECT DESCRIPTION

3.1 Project Summary

Mineral exploration on the Hope Bay greenstone belt has been ongoing since the early 1990's. MHBL has been exploring for commercial mineral deposits in the area since 2000 when it acquired the right to conduct such exploration from BHP Minerals Ltd. MHBL acquired complete control in 2002, prior to that it was a joint venture (Hope Bay Joint Venture) between Miramar Mining Corporation and Hope Bay Gold (previously known as Cambiex). Since then a number of prospective gold deposits have been found, from which three significant mineralized areas have been identified: the Boston area, the Doris North area (includes Doris North, Doris Connector and Doris Central) and the Madrid area (includes the Naartok and Suluk mineralized resource areas) (Figure 3.1). The Boston Advanced Exploration Project and all of its components are on Inuit owned land. The Hope Bay property comprises an area of 1,078 km^2 and forms one large contiguous block that is approximately 80 km long by up to 20 km wide. The entire land package at Hope Bay has been maintained in good standing.

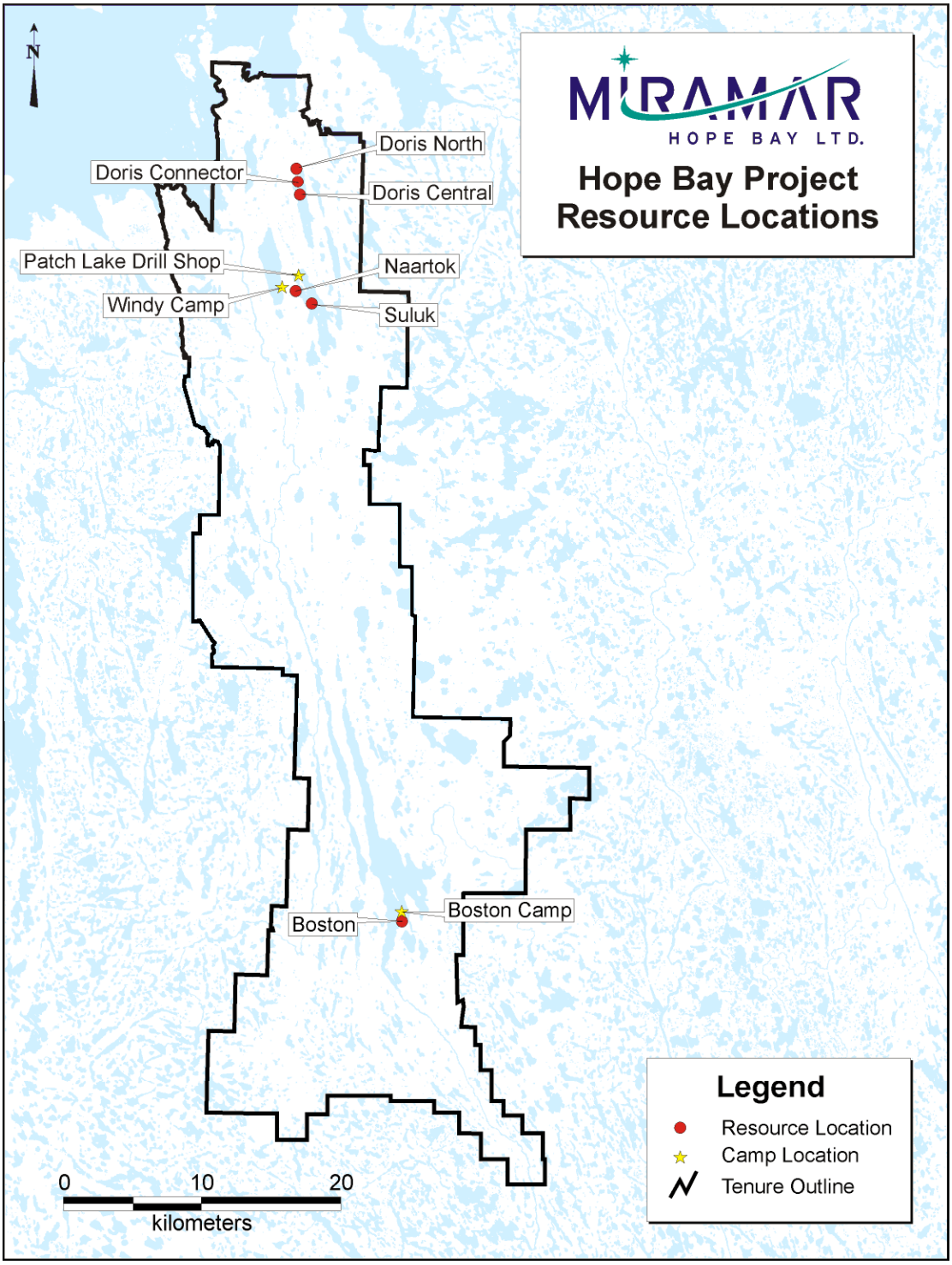


Figure 3-1: Hope Bay Greenstone Belt Resource Location Map

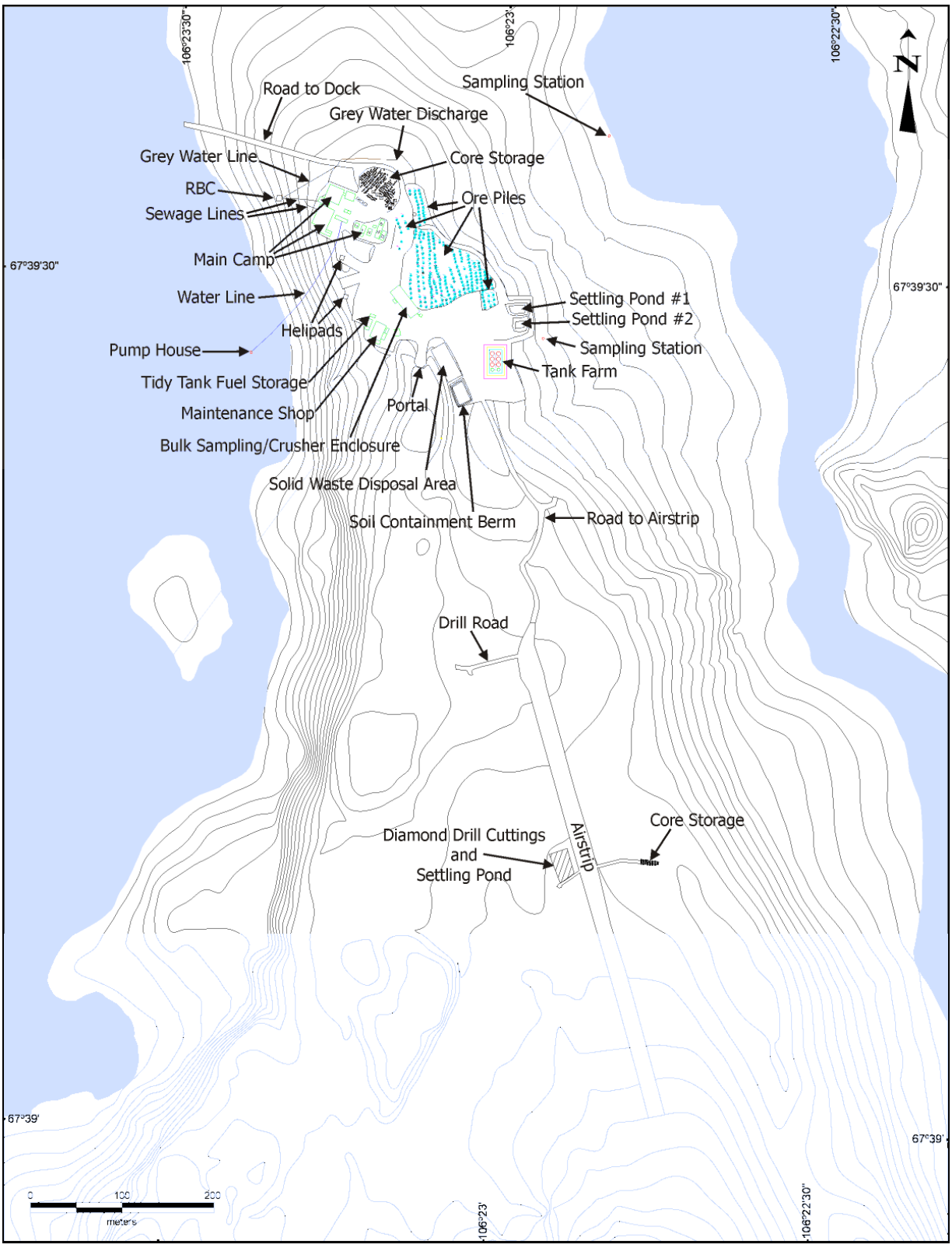
Miramar Hope Bay Ltd. is conducting ongoing mineral exploration on the Hope Bay Belt. This activity consists of basic grassroots exploration, exploration drilling, chip sampling, geophysics, outcrop mapping, etc. and is supported from two exploration camps, one (Windy Camp) on the east shore of Windy Lake at the north end of the Hope Bay Belt and the other (Boston Camp) located on a peninsula at the south end of Spyder Lake at the south end of the Hope Bay Belt. This closure plan addresses the Boston Camp and its associated facilities. Windy Camp is covered by a separate Closure and Reclamation Plan.

Specifically this Plan covers the closure and reclamation of:

- The Boston exploration camp;
- The Boston airstrip;
- The underground decline and exploration drifts at Boston and the ore and waste rock materials stored on surface at the Boston Camp; and
- Exploration drill sites located throughout the regional exploration area.

The location of the fixed facilities (the first three bullet items above) covered by this Plan are shown in Figure 3.2.

Figure 3-2: Boston Advanced Exploration Project – Facility Location Map



3.2 Boston Camp

Boston Camp is located above the high water mark on the south east shore of Spyder Lake on a peninsula with Spyder Lake to the north and west of the camp and Stickleback Lake to the east and south. The camp sits on an esker that is slightly higher than the surrounding water bodies. There is an elevation drop of less than 6° slope gradient towards the west into Spyder Lake and a slope gradient of slightly greater than 6° to the east extending into Stickleback Lake.

The camp is serviced by a short all weather airstrip (~500 m in length), located immediately to the south of the camp. The airstrip is too short for large aircraft and is limited to Twin Otters and Dornier type aircraft. The camp has a capacity for approximately 40 persons.

The camp is a typical advanced exploration camp constructed from pre-fabricated trailer units (brought in by sealift and winter road) combined with tents and small wood buildings constructed from materials brought to site by small plane. Access to the camp is by air.

Bulk supplies are transported to Roberts Bay by annual sea lift using NTCL (Northern Transportation Company Limited) barges that come from Hay River. Up until 2007, the barges were beached and then off-loaded using a ramp. The supplies were placed in a laydown area built directly on the tundra at a location along the west shore of Roberts Bay and left in storage until the following winter. From 2007 forward, the barges are being off-loaded at the new Doris North Project jetty at the south end of Roberts Bay. In winter, once the Bay has frozen over, a winter road is constructed between the Roberts Bay laydown area, Windy Camp (~15 km) and Boston Camp (approximately 60 km). Supplies are then transported to the Windy and Boston exploration camps using this winter road.

Outside of the camp and airstrip, there are no all–weather roads at this Project site. All regional exploration transport is by tracked vehicle in winter and by helicopter in summer months. Within the camp area there is a road of approximately 200 m in length to Spyder Lake to a float plane dock and a road of approximately 250 m in length to the airstrip (see Figure 3.2).

The following is a listing of the main components of infrastructure and facilities currently at the Boston Camp site that must be reclaimed once all exploration activity has been completed:

- 2 x Maintenance shops;
- 2 x Generator sheds with generator units;
- 2 x Helipad areas (constructed on esker material);
- 2 x Lay down areas designated for temporary storage of non-hazardous solid waste (non-putresicble waste) pending off-site shipment;
- 1 x Incinerator unit for burning of putresicble waste and clean combustible waste;
- 6 x 80,000 litre capacity upright above ground fuel storage tanks;
- 2 x 50,000 litre capacity upright above ground fuel storage tanks;
- 4 x Self contained horizontal fuel storage tanks (Envirotanks) (1,045 L capacity each);
- 1 x HDPE lined secondary containment berm for the fuel tank farm;
- 1 x 500 m long airstrip constructed of esker material and mine waste rock;
- An all weather road from the camp to the airstrip (~250 m long) constructed of esker material and mine waste rock;

- An all weather road from the camp to the float plane dock (~200 m long) constructed of esker material and mine waste rock;
- Fresh water pump house;
- Potable water pipeline;
- Accommodation facilities (prefabricated trailer units and tents);
- Kitchen, recreational, office complex (prefabricated trailer units);
- 1 x RBC packaged sewage treatment plant;
- Grey water and potable water lines;
- An underground decline;
- A ventilation raise (1.5 m x 2.1 m);
- Waste rock and ore stock piles;
- Diamond drill core storage area;
- Emergency response equipment;
- Core logging / splitting shacks (wood frame and tents);
- Bulk sampling and crusher building (tent);
- Float plane dock (floating wood platform); and
- HDPE hydrocarbon landfarm treatment area.

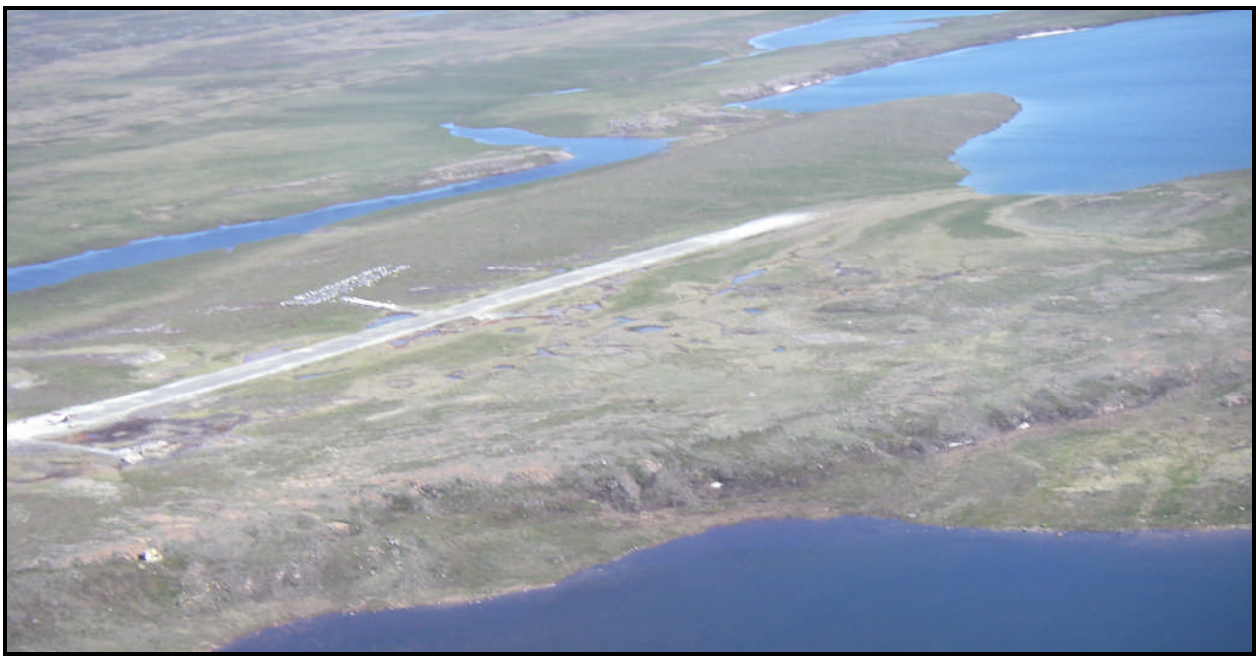
It should be noted that there is no landfill at this site. All waste is either incinerated or transported off-site for disposal at other licensed disposal or recycling facilities.

Figures 3.3 through 3.5 provide a series of aerial photographs of the Boston Camp and airstrip taken in July of 2007.

Figure 3-3: Aerial Photo of the Boston Exploration Camp Looking West to East

Figure 3-4: Aerial Photo of the Boston Exploration Camp Looking Southeast

Figure 3-5: Aerial Photo of the Boston Camp Airstrip Looking West to East



3.3 Drill Sites

Exploration drilling has taken place along the Hope Bay Belt with the majority of holes clustered at the Doris North, Madrid/Naartok and Boston mineralized zones. Each drill hole site is reclaimed as soon as practical following the completion of drilling activity at each site.

3.4 Current Waste Management Practices

MHBL currently applies the following operating procedures at the Boston Advanced Exploration Project to manage waste materials generated by its ongoing exploration activities.

3.4.1 Recycling of Contaminated Diesel Fuel

All contaminated diesel fuel generated on-site is currently used as an accelerant in the on-site garbage incinerator. Contaminated Jet A and Jet B fuel is recycled into the incinerators of heating fuel tanks. To date, the full inventory of contaminated fuel has been consumed by this means. Should the amount of contaminated fuel increase, other options include use of this contaminated fuel oil to generate heat for the maintenance shops at Boston Camp or removal from site for reuse or recycling elsewhere.

3.4.2 Contaminated Soil

All hydrocarbon contaminated soils generated by accidents/incidents associated with the exploration activity at the Boston Advanced Exploration Project are currently excavated and then transported to the Landfarm Treatment Area (LTA) on-site. In areas where it is difficult to remove the contaminated soil or where removing the contaminated soil will pose other

environmental hazards, a pre-packaged organic fuel absorbent product (made of ground corncobs) is spread over the area that is contaminated, either directly or indirectly by the spilled fuel. The objective is to utilize a proven environmentally safe product to adsorb the spilled hydrocarbon material that remains trapped in the soil particles. The ground corncobs are used after standard adsorbent pads have been applied and are no longer effective. Once the individual pieces of the ground corncobs are saturated, then new corncobs are spread over the same impacted area until the corncobs are no longer visibly saturated with hydrocarbons. Where practical, the saturated corncobs are then collected and disposed of in the approved incinerator installed at the Boston Camp. Alternatively, the corncobs can be placed inside the LTA at Boston Camp until they decompose.

3.4.3 Non Combustible – Non Hazardous Solid Waste

Non-combustible, non-hazardous solid wastes generated from ongoing exploration activity are collected, segregated and packaged for shipment off-site during winter months when larger aircraft are available to backhaul this material to Yellowknife. In the future (starting in the winter of 2008/2009), non-hazardous waste generated at Boston Camp will be hauled during the winter to the Doris North Mine and disposed of in the non-hazardous landfill to be constructed within the footprint of Quarry 2 at the Doris North project site.

3.4.4 Hazardous Waste

Hazardous waste such as waste antifreeze, batteries and waste solvent are collected and packaged in appropriate labelled containers pending removal from site. These wastes are either shipped south for disposal or recycled at licensed disposal facilities for the specific waste types.

3.4.5 Drill Cuttings

Drill cuttings are used to backfill depressions around each drill hole collar area that are caused by drilling and/or deposited in natural depressions or in fractures in the outcrop whenever possible. When drilling in winter, or when a suitable natural sump is not available, all drill cuttings are collected by the Polydrill system and transferred to an approved sump site. The water from the drill sumps is recycled back to the diamond drills.

4.0 INTERIM RECLAMATION MEASURES

Interim reclamation planning has been developed for two scenarios:

(i) temporary shutdown; and
(ii) indefinite shutdown.

Both scenarios are based on the full intention of resuming operations once the source or reason for the shutdown has been rectified.

4.1 Temporary Shutdown

For the purposes of reclamation planning, a temporary shutdown is defined as a cessation of mineral exploration for a finite period, generally two to twelve months, with the intention of resuming operations as soon as possible after the reason for the shutdown has been resolved. Exploration is typically suspended at the end of each summer period between late October and mid January when weather and short daylight conditions make helicopter supported exploration activity difficult and ice forming on Spyder Lake makes it unsafe to transport personnel to and from camp using a float plane. During this period, no care and maintenance team remains on site. However, periodic visits are scheduled to check on the status of the camp and facilities. Other possible causes for a temporary shutdown could be a major mechanical equipment failure, late delivery of critical equipment or supplies, or labour conflict.

During a temporary shutdown, such as the annual winter shutdown, the following actions are taken to secure the Boston Camp facilities and to hold them under care and maintenance pending resumption of exploration activity.

4.1.1 Site Buildings and Content

The camp facilities are secured and prepared for the winter. All computers, key electronic equipment and files are shipped off-site for maintenance and backup. All water and sewer lines are drained and then winterized. All fresh food materials are removed and either incinerated or shipped off-site. Dry and canned food goods are packaged and then secured. Shop equipment and other mobile heavy equipment is winterized and left secured at site.

4.1.2 Portable Water Pumps

Portable water pumps, water lines and any other equipment associated with the water pumping system are drained, winterized, and secured.

4.1.3 Combustible Waste Incinerator

The fuel remaining in the incinerator fuel tank is reduced through consumption thereby minimizing the amount of fuel left in the tank. The power source is disconnected and the cord is stored in the workshop. The incinerator is secured by removing all the ash, which is then packed in drums.

4.1.4 Electrical System

All electrical equipment is de-energized. The generator shed and the surrounding area is inspected for signs of hazardous spills and remaining wastes such as oil and grease. All such waste is removed. Each generator unit is shut down and the fuel filter valve at the return fuel line to the tank is turned off, the engine is winterized and then secured. Electrical wires, plugs and sockets remain in their installed locations. All electrical cords temporarily connected to a building or machinery during summer work program are unplugged and stored.

4.1.5 Camp and Workshop Heating Systems

The fuel tanks connected to the tent, office, camp and workshop heating units are secured as follows:

- The fuel remaining in the small 200 litre drum style fuel tanks is reduced through consumption thereby minimizing the amount of fuel left in these tanks. The tanks are then left within their secondary containment systems (generally drip trays);

- The fuel remaining in the small (< 1,000 litres) double walled, self-contained fuel tanks connected to heating units and small generators is similarly reduced through consumption and then left inside their integral containment systems; and

- The larger fuel tanks (with capacity >1,000 litres) are secured by locking both the drain valves and fill hatches.

4.1.6 Petroleum Products and Storage Facilities

Each year the exploration team will plan accordingly to have the onsite fuel inventory reduced to a minimal level by the end of each exploration season. The MHBL Exploration Manager will determine the minimum level of Jet B and diesel fuel required for emergencies and the coming year's start up.

All fuel will be placed within the secondary containment facilities at the Boston Camp. The inventory of all hydrocarbon products to be left on-site during this temporary shutdown will be recorded. All AST tanks (Envirotanks and Tidy Tanks) will be dipped and the respective inventories recorded on a tank by tank basis. All Envirotanks and Tidy Tanks containing fuel will be secured by locking all drain valves and filling hatches.

All fuel containers (both full and empty) at remote drill sites are returned back to Boston Camp for storage with the other petroleum products within secondary containment. Empty drums are counted and secured for shipment to Yellowknife to be recycled.

The lined fuel tank farm secondary containment area will be cleared of any debris. All standing water will be transferred by pump into the lined landfarm treatment area and subsequently treated through an oil water adsorption system. The treated water will then be co-disposed with the treated greywater through land application. The treated water will be sampled and analyzed for Total Oil and Grease and for benzene, toluene, ethyl benzene, and lead to confirm that the

water quality meets the limits as set out in Part D, Item 21 of Water License No. 2BB-BOS0712.

During the temporary shutdown the actual fuel inventory will be checked against the recorded fuel inventory at monthly intervals to confirm that no fuel has been lost.

All full propane cylinders are counted and secured with a chain. Empty propane cylinders are stacked and prepared for off site shipment for re-filling.

4.1.7 Chemicals

All chemicals stored at the Boston Camp (including drill additives, oil, grease, drill salt (sodium chloride and calcium chloride) and household biodegradable cleaners) will be returned to the respective secure storage area for each item and then inventoried. Drill additives and remaining salt are stored in impermeable bags and stored on pallets in a designated storage area. All other chemicals are stored inside seacan containers or within secure areas within the shop facilities. These facilities will be locked up during the temporary shutdown period.

4.1.8 Spill Response Kits

An inventory list of all the emergency spill kits and their contents will be completed and the kits relocated into the workshop for storage over the winter months.

4.1.9 Drilling Equipment

All diamond drills will be dismantled and secured along with ancillary equipment and rods. The drills are transported by helicopter and left at a designated area until the next drilling season (typically the Boston Camp drill maintenance shop). Catalogued drill cores and core boxes are stored at a designated area on property.

4.2 Indefinite Shutdown

For the purposes of reclamation planning, an indefinite shutdown is defined as a cessation of exploration activity for an indefinite period with the intention of resuming operations in the future. In this scenario, the site must be placed into a mode of minimal operating expense while maintaining safety and environmental stability. Possible causes for such a shutdown could be prolonged adverse economic conditions or extended labour disputes. Procedures during indefinite shutdown will be as follows:

4.2.1 Site Buildings and Content

The camp facilities will be secured. All electronic equipment (computers, etc.) will be packed up and shipped off-site. All key files will be similarly removed. Tents and cabins will be cleared and all material stored in the main section of the camp (within the trailer units). All fuel tanks feeding the camp, tent and office heating furnaces will be drained and the fuel placed in labelled containers and then placed with all other petroleum products within an area of secondary containment. Shop equipment and other mobile heavy equipment will be winterized and left secured at site.

4.2.2 Portable Water Pumps

Portable water pumps, water lines and any other equipment associated with the water pumping system will be removed from the lake, drained, winterized, and placed in secure storage in the camp buildings.

4.2.3 Combustible Waste Incinerator

The incinerator fuel tank will be drained. Any remaining fuel will be stored in an approved container, labelled with an appropriate WHMIS label and stored together with all other petroleum products for future use within an area of secondary containment. The power source will be disconnected. All ash will be removed from the incinerator and packed in labelled drums pending off-site disposal.

4.2.4 Electrical Systems

The generator shed and the surrounding area will be secured. The generator and its day fuel tanks will be drained, winterized with any remaining fuel, oil and grease being stored in labelled containers and stored with all other petroleum products for future use within an area of secondary containment. The generator shed will then be secured for winter. Permanent electrical wiring will remain in their installed locations. All electrical cords temporarily connected to a building or machinery during summer work program will be unplugged, removed and stored.

4.2.5 Workshop Heating System

The Tidy tank connected to the workshop heating system will be drained and secured. All remaining fuel will be placed in labelled containers and then placed with all other petroleum products for future use within an area of secondary containment. The remaining fuel in the fuel lines will be drained into the burner unit and combusted.

4.2.6 Petroleum Products and Storage Facilities

All fuel tanks (other than the main self-contained aboveground storage tanks located in the Boston Camp fuel containment areas) will be drained and left empty. All remaining diesel fuel will be consolidated within the self-contained storage tanks located within the secondary containment liner at Boston Camp. The inventory of these tanks will be recorded and periodically checked during site inspections. These fuel tanks will then be secured using locks to prevent the drain valves or supply hatches being opened without proper authorization.

An inventory list of the remaining fuel will be compiled and secured off-site. Periodic monthly visits will check actual fuel inventory against this initial inventory to verify that no fuel is lost.

All full and empty fuel containers at remote drill sites will be returned to Boston Camp. Full drums will be placed inside secondary containment and included in the inventory list. Empty drums will be secured for shipment off-site.

The lined fuel tank farm secondary containment area at Boston Camp will be cleared of any debris. All standing water will be treated through an oil water adsorption system. The treated water will then be co-disposed with the treated greywater through land application. The treated water will be sampled and analyzed for Total Oil and Grease, benzene, toluene, ethyl benzene,

and lead to confirm that the water quality meets the limits as set out in Part D, Item 21 of Water License No. 2BB-BOS0712.

All full propane cylinders will be counted and removed from site. Empty propane cylinders will similarly be removed from site.

4.2.7 Chemicals

All chemicals remaining at Boston Camp such as drill additives, oil, grease, drill salt (sodium chloride and calcium chloride) and household biodegradable cleaners will be transferred into areas of secondary containment in the shop facilities or into seacan containers that will then be locked. All of these materials will be inventoried. Periodic checks will be conducted to compare actual inventory against this original inventory to ensure that these materials are not lost.

4.2.8 Spill Response Kits

An inventory list of all the spill kits and their contents will be completed. All of these kits will be relocated into the workshop.

4.2.9 Drill Sites

All drills, along with ancillary equipment and rods, will be dismantled as per the drilling contractor procedure and then packaged and secured. The drills will be transported by helicopter and secured at the Boston Camp site.

5.0 FINAL RECLAMATION MEASURES

The following sections present a summary of the final reclamation measures that will be implemented once all exploration activity on the Boston Advanced Exploration Project has been completed and no further exploration activity is planned.

5.1 Non-Hazardous Solid Materials

All Inert solid waste and non-hazardous demolition debris will be disposed of in the landfill at the Doris North project site. Materials destined for burial in the landfill will be dismantled as safely and efficiently as possible and stacked in a stockpile within the exploration camp site area. The materials will then be cut by flame, hydraulic shears or saw, into manageable sizes for safe transport during the following winter season and to facilitate placement in the landfill.

5.2 Hazardous and Salvageable Materials

All potentially hazardous materials will be removed from equipment and all buildings prior to disposal. This will typically involve draining and removal of all remaining fuels, hydraulic fluid, engine oil, antifreeze, batteries and other lubricating fluids (transmission fluid, grease, etc.). Hazardous materials will be transferred into and stored in sealed containers and drums and loaded into shipping containers pending removal from site on the next sealift and/or by air. These materials will be packaged and shipped off-site for disposal at an appropriate licensed disposal site. The only potential exception to off-site disposal will be the use of recovered fuel in other mobile equipment used for reclamation related activities and the use of waste oil to generate heat during the reclamation period.

Given the remote location of Boston Camp, the salvage value of most pieces of equipment and buildings materials is likely to be insufficient to cover the cost of removal and transport. Consequently, for the purposes of this Plan it has been assumed that no salvage credits will be obtained and that most equipment and building materials will be disposed of at the Doris North non-hazardous material landfill However, some of the larger pieces of equipment may have economic salvage value, such as the pre-fabricated trailers and the generator. This Plan includes an allowance for one shipment south during the post-closure period to facilitate the removal of hazardous materials for off-site disposal. Removal of the higher value pieces of equipment from site will be done at the same time, dependent on longer term plans for mineral activities on the Hope Bay Belt.

5.3 Underground Decline

The Boston underground exploration decline and associated workings were cleared of all equipment and hazardous materials over five years ago. The workings subsequently flooded and the water in the decline has frozen solid due to the presence of permafrost in the area.

Prior to flooding, all potentially hazardous materials were removed from the underground workings and brought to surface for disposal. These included all hydrocarbon products such as fuel, hydraulic fluid and other lubricants, explosives, vehicle batteries, glycol, transformer fluids, antifreeze, other chemicals, etc. All of the underground mobile equipment was brought to surface and cleaned of any potentially hazardous materials such as fuel, hydraulic fluids, glycol,

batteries, etc. These materials were placed in appropriate containers and shipped off-site for disposal.

The decline access to the underground (the portal) will be permanently closed by the placement of a 15 m thick rock fill plug.

There is a single ventilation raise that comes to surface to the west of the north end of the airstrip. The raise is 1.5 m by 2.1 m and is founded in bedrock with a concrete collar at surface. There is a wood structure over the opening which houses the ventilation fan. This raise will be either capped with a reinforced concrete cap or backfilled. The Plan assumes that this vertical mine opening will be closed off and permanently sealed by the placement of a concrete cap. The fans, fan housings and associated ducting will be removed from the surface over top of the raise and disposed of at the Doris North landfill. The collars for the raise will be capped with a reinforced concrete cap founded on solid rock. The concrete cap will be designed and constructed for a uniformly distributed load of 12 kPa and a concentrated load ranging from 24 to 54 kN as suggested in the Mine Site Reclamation Guidelines for the NWT. Provision for the venting of gas accumulation under the concrete cap will be provided as part of the cap design.

Following installation of the concrete cap, low-profile warning signs will be installed at each location.

The concrete raise cap will be designed and constructed in accordance with the regulations established in Ontario for that purpose (with the exception that the uniform and point load specifications contained in the Mine Site Reclamation Guidelines for the NWT will be substituted). Schedule 1, Part 1 of Ontario Regulation 240/00 under the Ontario Mining Act provides a standard for the installation of a reinforced concrete cap to seal mine openings, specifically:

Concrete Cap:

1) Before installation of a concrete cap to stop shafts, raises and stopes,
- *a) A qualified professional engineer shall examine the competency of the rock at the supports and no construction shall be undertaken unless the engineer approves the rock as competent;*
- *b) All loose rock shall be removed from the rock anchorages leaving only competent rock;*
- *c) All concrete work shall meet or exceed the minimum standards set out in the CAN/CSA-A23.1-M90 or latest revision;*
- *d) The formwork for the concrete, shoring and temporary support shall be designed by a qualified professional engineer.*

2) The concrete cap may be left exposed to the elements or may be buried.

3) Where the cap is to be left exposed, consideration shall be given to providing a slope to the surface of the cap to prevent the collection of water on the surface.

4) All reinforced concrete caps shall meet or exceed the following specifications:

The reinforced concrete cap shall be designed for the following minimum design live loads:

- *1.4 metres cover of saturated soil uniformly distributed with a unit weight of 19 kN/cubic metre, and*
- the greater effect of either,
  - *an 18 kPa uniformly distributed load, or*
  - *an 81 kN concentrated load applied over an area 300 mm by 300 mm anywhere on the cap, and*
- *the weight of the cap as the dead load.*

5) The 28-day concrete strength shall be a minimum of 30 Mpa.

6) The reinforcing bars yield strength shall be a minimum of 400 Mpa.

7) The concrete cap minimum thickness shall be,
- *450 mm as per MNDM Drawing No. 94103-M1: "Monolithic Concrete Cap Typical Plan and Section" and Drawing No. 94103-M2: "Typical Monolithic Concrete Cap Reinforcement Schedule", or*
- *300 mm if an alternate design with all calculations is provided.*

8) All supports shall be founded on sound rock having a minimum bearing capacity of 600 Kpa.

9) All concrete design shall be as per CAN3-A23.3-M84 or it most recent revision.

10) The reinforced concrete cap shall be vented with a stainless steel pipe that is at least 75 mm in diameter and extends above the cap or soil cover to permit airflow.

11) The reinforced concrete cap shall be securely attached to the bedrock or to the concrete collar if one exists.

12) Appropriate reinforcing steel bars and concrete shall be used in areas where corrosive conditions may exist.

Reinforced Concrete

1) The concrete design shall meet the following specifications:
- *The minimum 28-day concrete strength shall not be less than 30 MPa.*
- *The maximum slump shall not be greater than 75 mm +/- 25 mm.*
- *The maximum aggregate size shall not be greater than 20 mm.*
- *The air entrainment content shall be 6 percent +/- 1 percent.*
- *The maximum water/cement ratio by weight shall not be greater than 0.50.*
- *The aggregates used in the concrete mix shall be non-alkali-silica reactive type.*

2) The concrete cover shall be as follows:

- *75 mm thick on the top of reinforcing bars.*
- *50 mm thick on the bottom of reinforcing bars.*
- *40 mm thick on the stirrups.*

2) *The concrete shall be cured as per CSA-A23.1-M90 or its latest revision. Curing compounds shall be clear liquid conforming to Canadian General Standards Board (CGSB) Standard 90-GP-1a, Type 1 or latest revision and applied as directed by the manufacturer.*

Inspection and Testing

1. *Before the placement of concrete, a qualified professional engineer shall inspect and approve any reinforcing steel bars that have been installed.*
2. *The concrete shall be tested for air content and slump in the field.*
3. *A minimum of one set of four cylinders shall be cast and tested for compressive strength.*
4. *The cylinders shall be cured under the same field conditions as the shaft cap and seat support (if applicable).*
5. *The testing shall be done in accordance with CAN/CSA-A23.2-M90 or its latest revision*.

A qualified professional engineer shall certify all test results obtained and the certified results submitted to the Director no later than 30 days after testing.

Since the ground in the mine will remain frozen, there will be no anticipated movement of groundwater into or out of the mine and therefore no water treatment of minewater will be required. The frozen ground combined with the lack of groundwater movement will retard any sulphide mineral oxidation and prevent the transport of any contaminants away from the mine workings.

5.4 Ore and Waste Rock Stockpiles

The majority of the underground rock material stored on surface at the Boston Camp is ore grade material taken from the exploration decline. All of the stockpiled ore at Boston Camp will be transported over the winter road to the Doris North Project site and milled through the Doris North mill to recover the contained gold.

There is also a small amount of waste rock from the exploration decline stockpiled on surface. This waste rock has been previously characterized by Rescan Environmental Services for BHP and reported to the NWB. The waste rock was found to be non-acid generating and will be used to backfill the underground decline.

5.5 Underground Settling Ponds #1 and #2

There are two HDPE lined water settling ponds that were used during the underground exploration decline development for settling suspended solids from water pumped from the decline and from drainage from the ore stockpiles. Settling Pond #1 was used to settle drilling mud from regional diamond drilling. At final closure, the pond will be decanted and the solids

allowed to dry out. The residual mud is rock flour from drilling and will be extracted and buried within the two settling pond areas once the HDPE liners have been removed. Settling Pond #2 is currently being used to temporarily hold non-putresicble non-hazardous solid waste materials pending packaging for off site disposal. At final closure all of these materials will be transferred to the non-hazardous landfill at the Doris North site for permanent disposal. The settling pond HDPE geomembrane liners will be hand cleaned (using brooms and shovels), cut up into manageable pieces and disposed of in the non-hazardous landfill at the Doris North mine site. The excavations will then be backfilled by grading the side slope of the camp berm at this location ensuring that the dried drilling solids are fully buried.

5.6 Site Infrastructure and Buildings

Specific materials will be dealt with as follows:

- Each building will be inspected and a list of potentially hazardous material prepared. These hazardous materials will then be removed, packaged in appropriate labelled containers and shipped off-site via the next season's sealift. The hazardous material will be shipped to Hay River and then transported by truck under appropriate waste manifests to licensed waste recycling and/or disposal facilities in the south;

- Each building will be inspected and material/equipment with proven salvage value will be inventoried. This equipment/material will then be removed and packaged for shipment off-site either for use elsewhere on the Hope Bay Belt by MHBL or shipped off-site to a third party who has made arrangements to purchase this equipment/material for other use (this could be a northern community that has made an arrangement with MHBL to take over ownership of this equipment/material);

- Non-hazardous equipment and debris from the demolition of the site buildings/tents will be transferred in winter to the non-hazardous landfill site at the Doris North site for permanent disposal. The volume of non-hazardous waste to be transferred in this manner has been estimated to be 5,000 m^3 when cut up and compressed (estimated to be 50 truckloads);

- All piping will be flushed to remove the contents, then cut up and removed with the resultant non-hazardous demolition debris buried in the Doris North solid waste landfill; and

- All above ground electrical cables will be removed and buried in the Doris North solid waste disposal facility (there are no buried cables at the Boston Camp);

The potential for soil contamination at facility sites will be assessed. This will include fuel storage pads, fuel storage tank areas, the generator shed, accommodations tents and cabins, service shops and drill core cutting shop, waste management facilities and storage facilities. Soils in these areas will be sampled during decommissioning and analyzed for contaminants such as hydrocarbons and metals. A soil remediation plan will be developed to address such contamination assuming that some contamination is discovered. Best available practice and research studies for contaminant remediation in Arctic soil will be assessed and used in the design and development of the soil remediation plan. Typically remediation plans will involve either:

- The in-situ treatment of some soils, such as lightly hydrocarbon contaminated soils;

- The excavation and treatment of some soils using conventional land farming techniques using biologically enhanced treatment techniques, such as more heavily hydrocarbon contaminated soils. This land farming would be done at the Doris North landfarm facility; and

- The excavation and placement of some soils in drums and sent offsite to a licensed disposal facility.

Risk Assessment techniques will be applied in determining which, and to what degree, soils will to be remediated. Regulatory agencies and representatives of the KIA will be involved in this process. Regulatory limits such as those contained in Part D, Item 18 of Water License No. 2BE-HOP0712 and regulatory guidelines such as such as the CCME's Canada-wide Standards for Petroleum Hydrocarbons in Soil, and soil quality guidelines for the protection of environmental and human health; as well as Nunavut standards for industrial soils in place at the time of final closure will be consulted on an individual chemical basis.

5.7 Mobile and Stationary Equipment and Buildings

Unless useable at other project sites on the Hope Bay Belt, all surface mobile equipment and stationary equipment (generators etc.) are assumed to have no off-site salvage value. Consequently, the equipment will be cleaned, decontaminated to remove all potentially hazardous materials such as batteries, process residues, hydrocarbons, glycol, fuel, etc. and then be disposed of in the Doris North landfill.

The main camp at Boston consists of pre-fabricated trailer units mounted on skids. These are in good condition and consequently will be disconnected into their separate trailer components and then removed over the winter road to the Doris North Project site for use elsewhere on the Hope Bay Belt by MHBL or shipped off-site to a third party who has made arrangements to purchase this equipment/material for other use (this could be a northern community that has made an arrangement with MHBL to take over ownership of this equipment/material).

For the purposes of reclamation planning, all of the other site buildings are assumed to have no-off site salvage value. Consequently, all of these buildings will be checked to identify and create a listing of all potentially hazardous materials that need to be removed. The buildings will then be cleaned to remove all potentially hazardous materials such as chemicals, reagents, hydrocarbons and then dismantled and/or demolished with the debris being disposed of in the landfill at Doris North. The buildings to be removed in this manner include:

- The bulk sampling/crusher enclosure (a large tent unit);
- The maintenance shop;
- The remaining tent units used as offices, core logging and storage units; and
- Seacan storage units (5 units in total).

5.8 Portable Water Supply System

The water pumps, filtering systems, water lines and any other equipment associated with the water supply system will be removed and disposed of in the Doris North landfill.

5.9 Waste Incinerator

Once the camp is entirely dismantled, all remaining combustible waste stored will either be burned in the incinerator or transported to the Doris North landfill. The camp incinerator will then be cleaned and demolished with the debris place in the Doris North landfill. The incinerator ash will be placed in drums and placed underground at the Doris North Mine with the backfill.

5.10 Maintenance Shop Heating System

The drill maintenance shop heating system will be removed as follows:

- The fuel tank (Tidy Tank) attached to the workshop will be drained. The tank will then be removed (portable tanks) over the winter road to the Doris North Project site for use elsewhere on the Hope Bay Belt by MHBL or shipped off-site to a third party who has made arrangements to purchase this equipment/material for other use (could be a northern community who have made an arrangement with MHBL to take over ownership of this equipment/material).

- The area around the tank will be inspected for visual contamination and sampled where staining is evident to determine the extent and depth of contaminated soil. If a spill or contamination is evident, the area will be reclaimed as discussed previously in Section 5.6.

- All propane cylinders will be removed from site to be recycled.

5.11 Petroleum Products and Storage Facilities

All remaining hydrocarbon fuels and lubricants will be consumed on site during the reclamation period. Any remaining inventory not used during this period will be removed from site.

5.11.1 Empty 45 Gallons drums

All empty 45 gallon drums will be drained, cleaned and then crushed and buried in the Doris North landfill. The drums will be drained by allowing them to fully drain into a containment tank set up for that purpose within a section of the fuel storage tank containment liner. The residual drained fuel will be drummed and sent off-site for appropriate recycling at a re-refining facility or used to generate heat through the waste oil burner at the Doris North Project site. The empty drums will then be power washed using a recycled wash water system set up for this specific purpose. The clean drums will then be crushed using a drum crusher with the crushed drums then transferred to the Doris North landfill for final disposal.

5.11.2 Tidy Tanks

All tidy tanks from the workshop and other facilities will be drained, cleaned as above and shipped off-site for use elsewhere.

5.11.3 Above Ground Storage Tanks (AST)

All of the AST at the Boston camp (8 tanks) will be drained and then removed. The tanks will be shipped over the winter road to the Doris North Project site for use elsewhere on the Hope Bay Belt by MHBL or shipped off-site to a third party who has made arrangements to purchase this equipment/material for other use (this could be a northern community that has made an arrangement with MHBL to take over ownership of this equipment/material).

If the six vertical storage tanks cannot be used elsewhere, then these tanks will be steam cleaned and the residual oil recovered through an oil-water separator unit either brought to site for that purpose or constructed out of one of the Envirotank units already on-site. The wash water will be recycled until all the tanks are cleaned. The tanks will then be dismantled with the non-salvageable material to be transported to the Doris North non-hazardous landfill site.

5.11.4 Fuel Tank Farm Containment

The fuel tank farm containment area will be permanently decommissioned once Boston Camp is taken out of service. Once the tanks have been removed, the HDPE geomembrane will be hand cleaned (using brooms and shovels), cut up into manageable pieces and disposed of in the non-hazardous landfill at the Doris North mine site. Bedding soil and the containment berm soil (below the geomembrane) will be tested for presence of petroleum hydrocarbons. If contaminated (based on the GN Soil Remediation Guidelines – Industrial Standard) these soils will be treated in-situ or excavated and moved to the landfarm facility at the Doris North Mine. The site will then be levelled consistent with the drainage plan for the site. The containment berms will be pushed inward and levelled. The excavation will be backfilled by grading the underlying esker material. The area will then be contoured to match the surrounding landscape and to shed snowmelt and precipitation runoff.

5.12 Solid Waste Disposal Area

There is no permanent landfill at Boston Camp. All non-putresicble non-hazardous solid waste is held in temporary storage either within the defined solid waste disposal area or within the old Settling Pond #2 pending packaging and shipment off-site. Starting in the winter of 2008/2009, this waste will be transferred annually over the winter road to the non-hazardous landfill at the Doris North Project site. Consequently, at final closure there should be no stockpile of material to be removed from either of these sites.

5.13 Land Treatment Area (LTA)

The landfarm will be permanently decommissioned once Boston Camp is taken out of service. Remediated soils that test clean (based on the Nunavut Environmental Guideline for Site Remediation - Industrial guideline) will be used for reclamation. Soils that remain contaminated will be relocated to the landfarm facility at the Doris North Mine site for further remediation. The HDPE geomembrane will be hand cleaned (using brooms and shovels), cut up into manageable

pieces and disposed of in the non-hazardous landfill at the Doris North mine site. Bedding soil (below the geomembrane) will be tested for presence of petroleum hydrocarbons. If contaminated (regulatory limits such as those contained in Part D, Item 18 of Water License No. 2BB-BOS0712 and regulatory guidelines such as such as the CCME's Canada-wide Standards for Petroleum Hydrocarbons in Soil, and soil quality guidelines for the protection of environmental and human health; as well as Nunavut standards for industrial soils in place at the time of final closure will be applied) these soils will be treated in-situ or excavated and moved to the landfarm facility at the Doris North Mine. The site will then be levelled consistent with the drainage plan for the site. The containment berms will be pushed inward and levelled. The area will then be contoured to match the surrounding landscape and to shed snowmelt and precipitation runoff.

5.14 Chemicals

At final closure all unused chemicals and additives will be removed from the Boston Camp site.

5.15 Helipads

The helipads will be dismantled and the area graded to match the surrounding landscape and to shed snowmelt and precipitation runoff.

5.16 Floatplane Dock

The Spyder Lake floatplane dock is a floating wood structure that is anchored in place each exploration season. Once no longer needed to support the ongoing reclamation activity, the floatplane dock will be removed from the lake, disassembled with the demolition debris transferred to the Doris North landfill site for final disposal. The anchors are removal anchors and will be removed off in the same manner.

5.17 Sewage Treatment Plant (WWTF or RBC)

The sewage treatment plant (wastewater treatment facility or Rotary Biological Contactor) consists of a pre-packaged, skid mounted treatment plant. At final closure, the RBC unit will be washed down using high pressure water with the sludge from the plant placed in drums and transferred to the Doris North sewage treatment plant for filtration and bagging. The bagged sludge will then be placed underground at Doris North with the backfill. The RBC unit will then be shipped over the winter road to the Doris North Project site for use elsewhere on the Hope Bay Belt by MHBL or shipped off-site to a third party who has made arrangements to purchase this equipment/material for other use (this could be a northern community that has made an arrangement with MHBL to take over ownership of this equipment/material).

The sewage collection piping, discharge piping and lift station will be flushed with water during the final decommissioning phase. The pipes, pump box and pumps will then be removed and disposed of in the Doris North landfill.

5.18 Communications Equipment

When no longer needed, the satellite dishes and communications equipment will be dismantled and packaged for shipment to the Doris North Project site for use elsewhere on the Hope Bay Belt by MHBL or shipped off-site to a third party who has made arrangements to purchase this equipment/material for other use (this could be a northern community that has made an arrangement with MHBL to take over ownership of this equipment/material).

5.19 Final Grading of the Boston Camp Site

Once all equipment, buildings and materials have been removed the Boston Camp area will graded to match the surrounding landscape and to shed snowmelt and precipitation runoff. The camp is constructed on an esker and thus can be readily regarded to prevent ponding. The surface area will be scarified to loosen up the surface area to promote in-growth of natural vegetation. The road to the airstrip and floatplane dock will be similarly reclaimed. There are no bridges or culverts to be removed at this site.

5.20 Boston Airstrip

At final closure, all material and equipment will be removed from the airstrip area and either removed from site for recycle or disposed of in the Doris North landfill. There are no fuel tanks or de-icing systems at this airstrip. No chemical de-icing fluids were used at this site. All lighting systems and wind socks will be removed. The airstrip will then be marked as an unserviceable airstrip by placing large white X's across the strip at each end. A notice that the airstrip has been taken out of service will be placed in the appropriate local newspapers and communicated to the regional airstrips including Yellowknife. The airstrip will then be left so that it can be used in the event of an emergency.

5.21 Airstrip Drill Cuttings and Settling Pond

There is an HDPE lined settling pond to the west of the airstrip that is used to settle out the drill cuttings from regional diamond drilling. These drill cuttings are placed into one tonne capacity maxi-bags (jute bags with lifting straps) at each drill site and the water recycled through the drill sump. Once full the bags of wet drill cuttings are lifted by helicopter and transferred to the airstrip settling pond. The bags are emptied into the settling pond where the solids are allowed to settle. The water is released through evaporation. At final closure the pond will be decanted and the solids allowed to dry out. The residual mud is rock flour from drilling and will be extracted and buried within the Settling Ponds #1 and 2 areas once the HDPE liners have been removed. The airstrip settling pond HDPE geomembrane liner will be hand cleaned (using brooms and shovels), cut up into manageable pieces and disposed of in the non-hazardous landfill at the Doris North mine site. The excavation will then be backfilled by grading the side slope of the berm into the excavation at this location. The dried drilling solids will be fully buried under the backfilled Settling Ponds #1 and #2 at Boston Camp.

5.22 Airstrip and Drill Core Storage

Drill core is stored at two locations at the Boston Camp site:

- At the northwest corner of the Boston Camp area; and
- At a core storage area to the east of the Boston all-weather airstrip.

At final closure, drill core at both sites will be sorted and core deemed worthy of storage will be relocated and stored in a secure fashion at the core storage area at the Boston Camp site. All other core will be dumped out of the wood storage boxes and buried in a trench dug within the Boston Camp site. The wood boxes will be transferred to the non-hazardous landfill at the Doris North mine site. The core boxes to be left will be stacked on timbers at cross angles and then strapped together to keep them secured. An inventory of the stored core will be prepared and retained for future reference.

5.23 Exploration Drill Sites

Exploration drill sites are inspected and closed out on an ongoing basis as part of progressive reclamation. The majority of drill holes will be reclaimed before the camp is decommissioned.

5.23.1 Drill Site Reclamation

All drilling equipment will be removed from site by the drilling contractor. Each drill site will be visually inspected for general housekeeping, erosion damage and hydrocarbon contamination. Peat moss or ground corncobs will be applied to areas contaminated with petroleum products to adsorb residual hydrocarbon from the contaminated soil. All other garbage and wastes will be removed from the drill sites for appropriate disposal either within the Doris North landfill (non-hazardous) or transported off-site (hazardous) for disposal at an appropriate disposal facility. Depressions around the drill hole collar caused by thawing of the permafrost during drilling will be backfilled using drill cutting. The drill sites will then be hand graded and levelled to repair ground damage and to conform to the surrounding landscape profile to shed precipitation runoff and snowmelt. The drill sites will then be seeded (with native plant species where practical).

5.23.2 Drill Casing Removal

All drill casings protruding above ground will be cut to a level that will not pose a hazard. The cut portion will be disposed off in the Doris North landfill. Drill holes that encounter artesian water flow or those drilled under the lake will be plugged with cement. GPS positions for all drill holes will be recorded.

5.23.3 Drill Core

All drill core is removed to the Boston Camp during drilling and will be dealt with as addressed in Section 5.22 above.

6.0 ENVIRONMENTAL EFFECTS ASSESSMENT

6.1 Assumptions

This section provides an assessment of the predicted environmental conditions in the area surrounding the Project in the post-closure time period. The assessment assumes that the following physical reclamation activities have been completed:

- All major equipment and hazardous materials have been removed from the underground decline; the openings into the underground decline have been physically sealed;
- All equipment and hazardous materials have been removed from the Project site. All facilities have been cleaned out; the equipment and structures have been demolished; non-salvageable material disposed of in the Doris North solid waste disposal facility;
- All remaining hazardous materials, chemicals, reagents, hydrocarbons, etc., have been removed or disposed of in a manner approved by the appropriate regulatory agencies; and the facilities used to store these materials have been decontaminated, demolished and disposed of in the Doris North solid waste disposal facility;
- The site roads and the laydown areas have been decommissioned; all associated signs and drainage culverts have been removed; natural drainage across the roads and laydown areas has been restored, with adequate erosion protection provided; and the roads and laydown areas have been graded to shed surface runoff and scarified to promote in-growth of natural vegetation; and
- All other surface infrastructure including above-ground piping and power distribution lines has been demolished and disposed of; all building pads, parking areas, laydown areas, etc., have been re-graded and scarified; and all contaminated soils have been removed and treated.

6.2 Underground Decline

It is expected that the underground decline and associated workings will remain frozen due to the presence of permafrost throughout this region. In the highly unlikely event that global warming causes a loss of this permafrost, it is likely that water will infiltrate from the nearby Spyder Lake causing the mine workings to naturally flood. The rate of flooding will be determined by the amount of water that can enter the underground workings through the natural fractures in the rock and the relative difference in hydraulic head between Spyder Lake and the underground workings. Ultimately, the water level within the decline would be expected to reach equilibrium with the water level in Spyder Lake (which appears to be the current condition).

All sources of hazardous materials (hydrocarbons, chemical, and reagents) were removed from the underground workings as part of the previously completed reclamation activity. The decline opening will have been sealed. Potentially acid generating rock contained in the walls will remain frozen reducing the relative rates of future sulphide mineral oxidation. Thus there will no

groundwater flow that could mobilize or transport acidity and/or metal contaminants away from the underground workings.

In the unlikely event that at some future point permafrost is lost, then natural future flooding of the underground workings would significantly reduce any oxidation of sulphide minerals exposed in the wall rock by eliminating contact with the air (limiting the availability of oxygen to oxidize the sulphide mineralization). In this unlikely event, the material would probably be flooded before thawing thus minimizing the potential for release of any surface oxidation products into the ground water.

6.3 Boston Camp and Airstrip

The proposed removal and reclamation of the site infrastructure facilities will eliminate any requirement for long-term maintenance, and no substantive adverse effects are expected in the post-closure period. The infrastructure in this category includes Boston Camp and the Boston airstrip area.

The Boston Advanced Exploration Project will not result in the creation of any surface overburden or waste rock piles that will remain at the end of the mine life. No overburden will be stockpiled.

The reclamation plan will encourage a natural succession of indigenous plant species within disturbed areas, but re-establishment of vegetation can be expected to take several decades. The resultant effect on terrestrial wildlife and bird habitat associated with the reclaimed Boston Advanced Exploration Project will be relatively minor in a regional context, given the vast surrounding area of land and water providing suitable alternatives for wildlife species.

6.4 Biophysical Environment

6.4.1 Air Quality

All stationary and vehicle exhaust emissions (sulphur dioxide, oxides of nitrogen, greenhouse gases) associated with the Project will cease following the closure and reclamation of the site facilities. The only emissions in the post-closure period will be those associated with periodic trips into the site for the purpose of environmental monitoring and maintenance. These will be minimal and should have no adverse effect.

Dust emissions associated with the Project will also decrease substantially after closure and reclamation. Cessation of road and air traffic, removal of all site buildings and facilities will eliminate or substantially reduce potential dust sources. Because it will take several decades for natural in-growth of indigenous vegetation after reclamation, some dusting could occur in areas of exposed ground on the laydown and building pads during periods of strong winds. The only other dust emissions in the post-closure period will be those associated with periodic trips into the site for environmental monitoring. These dust sources are expected to be minimal and have little to no adverse effect.

6.4.2 Noise and Light

Noise and light effects associated with the Project will cease with the completion of closure and reclamation. No operating equipment or power sources will be left on site in the post-closure period. Some minor noise will be associated with post-closure environmental monitoring trips to the site, but this is expected to be minimal and have no adverse effect.

6.4.3 Terrain

Because of the extremely harsh growing conditions and lack of soil, re-establishment of natural vegetation will take many years, probably decades. At closure, natural re-vegetation of surfaces used for project facilities at site will be encouraged through scouring of surfaces and seeding where possible. Arctic environment re-vegetation research will be reviewed and implemented where practical to ensure that best available mitigation and management re-vegetation practices are implemented during reclamation.

6.4.4 Wildlife

The potential for human-wildlife interactions will greatly diminish in the post-closure period, and the risks of contact with equipment, vehicles and aircraft will cease once closure and reclamation activities are complete. Areas used for project facilities will essentially be lost to wildlife for the duration of the Project life and for several decades after closure while natural vegetation becomes re-established. Little to no effect on wildlife abundance and use is expected in the post-closure period.

6.4.5 Water Quality and Aquatic Resources

It is projected that the reclaimed Boston Advanced Exploration Project site will not significantly add any additional contaminant loadings into the surface water bodies of the Project area. Sediment loading from post-closure runoff is not expected to differ from existing natural concentrations. Water quality will not be adversely affected by the Project in the post-closure time period. Consequently, no adverse effect to the overall aquatic community in the receiving waters is anticipated.

In summary, the immediate area of Boston Camp will be physically altered due to project development, and changes will remain evident in the site roads and laydown areas after closure. However, the reclamation work will help blend these sites into the surrounding landforms over the long term. The re-establishment of natural vegetation will be slow. The reclaimed project will have minimal effect on the biodiversity and sustainability of the natural renewable resources of the region and have no lasting effect on traditional and non-traditional land use activities in the area.

7.0 POST - CLOSURE MONITORING

MHBL is committed to minimizing the residual environmental effects associated with project development. The closure and reclamation phase of the Project will commence once the Boston Camp is no longer required. Based on current planning, this date is unknown. It is anticipated that this site will ultimately become a working mine. If this does not occur, then reclamation is expected to take place in the first winter season following final closure of the Project. The post-closure period would then commence immediately afterwards and continue until it can be demonstrated that reclamation objectives have been achieved and no further environmental degradation is occurring.

Monitoring and maintenance programs will be implemented during the closure and post-closure phases of the project to prevent environmental degradation and measure the performance of the closure and reclamation procedures. The data collected through post-closure monitoring will allow the planned procedures and activities to be adjusted and/or modified as necessary to ensure optimal environmental protection. The monitoring and maintenance programs discussed in this section are inherently generic at this stage of planning and will be developed in more detail in consultation with communities and regulators as the project approaches final closure.

7.1 Short-Term Monitoring

It is anticipated that during the reclamation period programs to monitor soil contamination will be required as previously discussed under Section 5.6. In addition, environmental monitoring of the following streams will continue under the same frequency and conditions as outlined in Water License No. 2BB-BOS0712:

- Monitoring of all discharges from the decline, waste rock and ore stockpiles as collected through the containment pond;
- Monitoring of all discharges from the WWTF (sewage treatment plant);
- Monitoring of all discharges from the oil water separator unit used to treat standing precipitation runoff collected in the fuel containment area sumps at Boston camp and in the LTA at Boston Camp; and
- Monitoring of soil within the LTA at Boston Camp.

7.2 Long-term Monitoring

Once reclamation is fully complete, it is anticipated that extensive post-closure monitoring will not be required for the Boston Camp site. This is because the nature of the exploration and associated activities at the site do not have a long term environmental impact and do not leave a source of contaminant such as tailings or waste rock behind that could contribute contaminants in the future.

However, it will be necessary to carry out visual inspections to ensure that reclaimed sites are managing runoff water as intended and not creating erosion sources. It will also be necessary to conduct periodic inspections to monitor re-establishment of native vegetation in the reclaimed areas.

7.3 Documentation and Final Inspection

Photographs of the Boston Camp, airstrip and drill sites will be taken at every stage of the decommissioning and reclamation process. MHBL will document what the reclamation objectives were, what is being done, what is the outcome, and develop objectives for the next phase.

7.4 Land Relinquishment

Once the reclamation process is complete and has been approved by the KIA and NWB water license inspector, MHBL will invite and organize a final site inspection visit with community representatives, Land Inspectors, the Nunavut Water Board and the Kitikmeot Inuit Association. Visits by Environment Canada and the Department of Fisheries and Oceans personnel are welcome. A written submission will be send to the regulatory authorities requesting close out and termination of the land leases.

7.5 Post-Closure Revegetation Considerations

The pre-development terrain is covered with characteristic sub-arctic tundra vegetation. It is unlikely that this type of vegetation can be restored in the short term using conventional revegetation techniques. There are no stockpiles or areas at the Project site where growth media can be obtained in sufficient quantity to realistically provide a suitable growth media to be placed over the building pads, roadways, etc. to allow for revegetation using conventional seeding techniques. There are no readily available sources for seed stock for the native plant species common to this area. It may be possible to plant commercially available grass mixes that use native northern plant species (use of native plants in revegetation is now required in Nunavut). One potential source is Arctic Alpine Seed Ltd. Of Whitehorse, Yukon (website: http://www.aaseed.com/). It may be possible to use grasses indigenous to the north to get a quick vegetative cover start on the building pads and roadways. However, without a good organic substrate, establishing vegetation of the reclaimed site will be difficult. MHBL does not have the technology to assure successful revegetation of the site.

However, MHBL will take action during reclamation designed to encourage a natural succession of indigenous plant species within disturbed site areas. Where appropriate, re-grading, contouring and scarification of surfaces will be done to loosen up the surface on building pads and roadways to provide for moisture retention and to promote natural revegetation and to increase the chance of success using the seed mixes applied during reclamation. MHBL will continue to monitor revegetation work at other sites in the Northwest Territories and Nunavut with the intent of applying successful revegetation techniques as they may become available.

8.0 IMPLEMENTATION SCHEDULE AND RECLAMATION COST ESTIMATE

8.1 Introduction

In accordance with DIAND's *Mine Site Reclamation Policy for Nunavut* (Reclamation Policy), the reclamation implementation schedule and liability cost estimates described in this section were developed based on the worst case scenario of third-party management and execution of all closure and reclamation activities, for the purpose of establishing reclamation security. Reclamation liability estimates are presented both exclusive of progressive reclamation and potential salvage credits.

8.2 Implementation Schedule

As indicated in Section 7.1, the closure and reclamation phase of the Project will commence once Boston Camp is no longer required. Based on current planning, this date is unknown. It is anticipated that this site will ultimately become a working mine. If this does not occur then reclamation is expected to take place in the first winter season following final closure of the Project. The post-closure period would then commence immediately afterwards and continue until it can be demonstrated that reclamation objectives have been achieved and no further environmental degradation is occurring.

8.3 Cost Estimate

MHBL retained Nuna Logistics in 2002 to estimate the reclamation liability to reclaim the Boston exploration camp. Nuna provided an estimated cost of $1.4 million to complete the reclamation activity as outlined in this C&R Plan. MHBL has not updated the Nuna Logistics estimate. MHBL believes that this remains a valid estimate of the reclamation liability at this site at the current time; given that there have been no significant changes in the infrastructure or facilities at this site.

9.0 POST – CLOSURE ENVIRONMENT AND LAND USE

The key objectives of the reclamation plan are to:

- Protect public health and safety through the use of safe and responsible reclamation practices;
- Reduce or eliminate environmental effects once the mineral exploration activity ceases;
- Re-establish conditions, where practical, to pre-mineral exploration land use; and
- Reduce the need for long-term monitoring and maintenance by establishing physical and chemical stability of disturbed areas.

The following provides a brief description of the post-closure environment and land use potential.

9.1 Traditional Land Use

The Project is located within a region that was used in the past by Inuit people for hunting and fishing and as a travel route. Once the Project is reclaimed, there should be no effects on traditional land use patterns.

9.2 Non-Traditional Land Use

Potential non-traditional land uses within the area affected by the Project include extraction of subsurface minerals, domestic hunting and trapping, recreational fishing and tourism. However the area immediately surrounding the Project is currently not subject to these land uses. Few human activities are common at present because of the isolation of the area.

9.3 Aesthetic Quality

After closure, the only visible reminders of the site's presence will be the airstrip, the regarded camp site are and the backfilled decline. All other surface infrastructure will be removed. Site roads and the outlines of laydown areas will remain readily apparent for several decades until native vegetation becomes re-established.

9.4 Biophysical Environment

Emissions of gases from the combustion of fossil fuels, dust and noise from project facilities will cease after the reclamation period. Noise from air and road traffic will be substantially eliminated.

At closure, the surface disturbed by project facilities will remain visible for several decades until native revegetation becomes fully re-established.

The Project area currently provides habitat for a variety of terrestrial wildlife and birds. None of these species, including caribou, is heavily dependent on resources within the Project footprint and similar habitat is prevalent throughout a wide region surrounding the Project site. The loss of habitat during Project operations and after closure (while vegetation becomes re-established) is expected to have a relatively minor impact on wildlife in a regional context.

In summary, although the Project will induce lasting physical changes to the local topography, the proposed reclamation plan will minimize these effects and assure the biodiversity and sustainability of the natural renewable resources of the region.

10.0 GLOSSARY

ARD	Acid rock drainage
CCME	Canadian Council of Ministers of the Environment
$^{\circ}C$	degrees Celsius
DIAND	Department of Indian and Northern Affairs Canada
EA	Environmental Assessment
EMS	Environmental Management System
ha	hectare
ISO	International Standards Organization
kg	kilogram
KIA	Kitikmeot Inuit Association
km	kilometre
km^2	Square kilometres
L	litre
LSA	Local study area (project footprint, surrounded by 500 m buffer)
m	metre
m/s	metres per second
m^2	square metre
m^3	cubic metre
masl	metres above sea level
ML	million litres
Mt	million tonnes
MTVC	Metavolcanic
NIRB	Nunavut Impact Review Board
NLCA	Nunavut Land Claims Agreement
NWB	Nunavut Water Board
PAG	Potentially acid generating
ppm	parts per million
RSA	Regional study area (31 km radius from project site)
SHE	Safety, health and environmental
t	tonne (1,000 kg)
t/d	tonnes per day
TDS	Total dissolved solids
t/m^3	tonnes per cubic metre
TSS	Total suspended solids
TSP	Total suspended particulates
$\mu g/m^3$	micrograms per cubic metre

This report, “Closure and Reclamation Plan, Boston Advanced Exploration Project, Nunavut, September 2007”, has been prepared by Miramar Hope Bay Ltd.

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