Hope Bay Mining Ltd.

Boston Advanced Exploration Project: Operation and Maintenance Manual for the Waste Water Treatment Facility

Hope Bay, Nunavut, Canada

Prepared for:

Hope Bay Mining Ltd.

Prepared by:

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Project Reference Number
SRK 1CH008.008.200

April 2009

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SRK Project Number 1CH008.008.200

April 2009

Executive Summary

Hope Bay Mining Limited (HBML) currently operates the Boston site facilities under Nunavut Water Board (NWB) issued License 2BB-BOS0712 for, among other things, the use of water, disposal of waste and the treatment of grey water and sewage at the Boston Site. Some of the key components of the Boston Site include camp accommodations and the associated water intake and sewage treatment works for the camp.

The current Boston Project sewage treatment facility is described in the *Waste Water Treatment Facility Operation and Maintenance Manual - Boston Advanced Exploration Project & Hope Bay Regional Exploration Project, Nunavut* issued by Miramar Hope Bay Ltd. in October 2007.

The sewage treatment facility at the Boston Camp currently consists of an S-40 ROTORDISK® Full Steel Packaged sewage treatment plant complete with 5,421 square feet of combined bio-support media with a rated capacity of 28,000 litres per day and designed to serve a camp population of 60 people. Current performance issues with the treatment facility at the camp restricts accommodation to 45 people.

Due to performance issues with the current sewage treatment plant and in anticipation that the Boston camp will be up-graded in the future to house 100 people, the system needs replacement. HBML intends to replace the current S-40 ROTORDISK® Full Steel Packaged sewage treatment plant at the Camp with a more efficient and increased 180 person capacity SaniBrane® Sewage Treatment Plant. As a result, HBML has revised the previous Plan and is submitting this, the *Boston Advanced Exploration Project: Operation and Maintenance Manual for the Waste Water Treatment Facility, Hope Bay, Nunavut, Canada* is provided to address the sewage management facilities, including the SaniBrane® Sewage Treatment Plant facilities at the Boston Camp.

This plan, the *Boston Advanced Exploration Project: Operation and Maintenance Manual for the Waste Water Treatment Facility, Hope Bay, Nunavut, Canada* is being submitted for review by the NWB prior to the commissioning of the sewage treatment plant. In this document the planned new facilities are presented along with operational descriptions of how the plant will be managed and waste water emission compliance achieved. This document also contains the plan for the decommissioning and removal of the old sewage plant.

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1 Introduction

Hope Bay Mining Limited (HBML) replacing the existing Boston Camp Sewage Treatment Plant in the Hope Mining Project in Hope Bay, Nunavut, Canada. This updated Operation and Maintenance Manual for Waste Water Treatment Facility is being submitted in compliance with Part E Item 5 of Water Licence 2BB-BOS0712.

HBML intends to replace the current S-40 ROTORDISK® Full Steel Packaged sewage treatment plant at its Boston Camp with a more efficient and increased capacity SaniBrane® Sewage Treatment Plant (STP). As a result, HBML is submitting this plan to address the associated changes to the sewage treatment facilities at the Boston Camp. This plan is required for review by the NWB 60 days prior to the commissioning of the sewage treatment plant. This *Boston Advanced Exploration Project: Operation and Maintenance Manual for the Waste Water Treatment Facility, Hope Bay, Nunavut, Canada* addresses the proposed changes to the sewage treatment facilities at Boston Camp.

1.1 Objectives

The objectives of managing sewage are numerous. Consistent with HBML's intent to be a responsible operator these objectives are described as follows:

- Compliance with regulatory and permit requirements
- Prevention of public health risk
- Protection of surface water
- Protection of groundwater
- Protection of land
- Protection of local species
- Conservation of resources
- Protection of community amenity.

This Sewage Treatment Management Plan has been developed to ensure these factors are built into the HBML operational approach to working at Hope Bay.

1.2 History of Sewage Treatment Management Plan Revisions

This, the *Boston Advanced Exploration Project: Operation and Maintenance Manual for the Waste Water Treatment Facility, Hope Bay, Nunavut, Canada* submitted in compliance with Part E Item 5 of Water Licence 2BB-BOS0712 will be reviewed on a regular basis (at least once per calendar year) and revised as required. Each revision will be recorded in Table 1.

Table 1: History of Sewage Treatment Management Plan Revisions

Revision Number	Review Date	Description of Revisions	Revised By
0	October 2007	*Waste Water Treatment Facility Operation and Maintenance Manual - Boston Advanced Exploration Project & Hope Bay Regional Exploration Project, Nunavut*	Miramar Hope Bay Ltd.
01	April 2009	*Boston Advanced Exploration Project: Operation and Maintenance Manual for the Waste Water Treatment Facility, Hope Bay, Nunavut, Canada*	SRK Consulting (Canada) Inc.

1.3 Responsibility

The HBML Exploration Manager has overall responsibility for this management plan and will be the party to provide the resources to operate and maintain the Sewage Treatment Plant (STP).

The Exploration Site Superintendent will have site responsibility at the Boston Camp to:

- Implement this Management Plan
- Provide the on-site resources to operate, manage and maintain the Waste Water Treatment facilities in accordance with the manual
- Conduct regular inspections of the STP facilities
- Provide input on modifications to design and operational procedures to improve operational performance of the facilities
- Provide daily supervision to site operational personnel on the operation of the STP through his Foremen.

The Manager Environmental Compliance has responsibility to:

- Keep this management plan updated
- Provide technical expertise, as required, to the site operational personnel on the operation and maintenance of the STP
- Sampling of the treated waste water, reporting on the performance of the waste water treatment facilities and assessment of whether the treated waste water has met applicable regulatory standards
- Provide operational personnel with direction as to where sewage sludge should removed from the unit and ensuring it is managed in accordance with the terms of Water Licence 2BB-BOS0712.
- Provide for annual audits of the facility
- Provide an audit report to the Exploration Site Superintendent and Exploration Manager.