NWB Annual Report **Year being reported:** 2012

License No: 2BB-BOS1217 **Issued Date:** August 2, 2012
Expiry Date: July 31, 2017

Project Name: Boston Advanced Exploration Project

Licensee: Hope Bay Mining Ltd.

Mailing Address:
75 Con Road, Box 2000
Yellowknife, NT
X1A 2M1

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):
The licence was reassigned in 2008 from Miramar Hope Bay Limited to Hope Bay Mining Ltd.

General Background Information on the Project (*optional):
The Boston site supports advanced mineral exploration in the south end of the Hope Bay Greenstone Belt.

Licence Requirements: the licensee must provide the following information in accordance with
Part B | Select

A. A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s): Aimaokatalok (Spyder) Lake for domestic use and drilling purposes. The total quantity of water allowable by the licence is 36,500 m^3/yr or 100 m^3/day. There is no differentiation between quantities to be used domestically or for drilling.

Water Quantity:

not specified	Quantity Allowable Domestic (m^3)
0	Actual Quantity Used Domestic (m^3)
not specified	Quantity Allowable Drilling (m^3)
0	Total Quantity Used Drilling (m^3)

Waste Management and/or Disposal

- [x] Solid Waste Disposal
- [x] Sewage
- [x] Drill Waste
- [x] Greywater
- [x] Hazardous
- [x] Other: Fuel Farm Berm and Mine Portal discharges

Additional Details:

Water for domestic use at Boston Camp is obtained from Aimaokatalok Lake via a 2 inch diameter submerged pipe with a DFO compliant fish screen. This intake pipe is linked to a pumphouse located approximately 30 metres from shore. In winter, the pumphouse is moved onto the ice to decrease the length of heat-traced line required to reach the location where the water is open under the ice. Boston camp was not operational in 2012..

Waste produced on site is treated according to Part D of the licence.

-Food waste, paper waste and untreated wood waste is burned in the incinerator as per Part D Item 3.
-Solid waste that cannot be burned is transfered to the Roberts Bay waste management facility for packaging and is taken offsite for disposal.
-Drill cuttings produced under this licence are disposed of in depressions as per Part F Item 2.
-Sewage and greywater produced on site is processed in the sewage treatment plant as per Part D Item 11. No Sludge was removed from the sewage treatment plant because it was not operational in 2012.
-Waste hazardous materials such as waste oil, glycol, and contaminated soil are shipped to Doris North either to be reclaimed or shipped offsite for disposal in an approved facility as per Part D Item 6. Contaminated soil is also located at the Boston Landfarm.
-Fuel berm effluent is sampled for water quality against the discharge criteria of the licence. Effluent that meets the standards for discharge is released in accordance with the licence following a notification to the Inspector; effluent that does not meet the licence criteria is treated onsite until it is remediated to acceptable levels for discharge, or it is removed offsite for treatment/disposal.
-Effluent from the landfarm is sampled in accordance with the licence criteria for discharge - no dicharges occured from the facility in 2012.
- Effluent from the mine portal/decline is sampled in accordance with the criteria specified for Monitoring Station BOS-2 (Containment Pond). Approximately 515 cu.m.

B. A list of unauthorized discharges and a summary of follow-up actions taken [see Part B Item 7(ix)].

Spill No.: (as reported to the Spill Hot-line)
Date of Spill:
Date of Notification to an Inspector:

Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Please see Item 11 of attached supplement for a list, including details, of all unauthorized discharges that occured in 2012 under licence 2BB-BOS1217.

C. Revisions to the Spill Contingency Plan [see Part B Item 7(x)]

Other: (see additional details)

Additional Details:

The Spill Contingency Plan was approved by the NWB in October 2010 and has since been revised several times. This most recent revision includes details on changes made to reflect care and maintenance. Updates were made to roles and responsibilities, phone numbers, fuel storage, spill response procedures. Non-hydrocarbon chemicals were also added to this most recent revision. No changes have been made since this last version was submitted in October 2012.

D. Revisions to the Abandonment and Restoration Plan [see Part B Item 7(x)]

Other: (see additional details)

Additional Details:

A revised Closure Plan for this licence was submitted to the NWB in July 2012. The plan is under review by the NWB.

E. Summary of Drilling Activities and Progressive Reclamation Work Undertaken of Drill Sites [see Part B Item 7(xii)

Additional Details (i.e., work completed and future works proposed)

See the attached supplement at Item 14 for details.

F. Results of the Monitoring Program including [see Part B Item 7(vii)]

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Details attached

Additional Details:

The coordinates for the freshwater intake (BOS-1) are in the attached coordinates file.

Drilling water source coordinates are maintained on file by the Geology Department for all water sources utilized proximal to the drill targets. No drilling occured in 2012 so there are no drill water sources to report.

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;

Details attached

Additional Details:

The coordinates for waste discharge locations (BOS-2, 3, 4, 5, 6) are in the attached coordinates file.

Results of any additional sampling and/or analysis that was requested by an Inspector or the Board (as per Part B Item 7(xvii))

Additional Details: (date of request, analysis of results, data attached, etc)

N/A

G. Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported [see Part B Item 7(xvii)].

Additional Details: (Attached or provided below)

N/A

H. Any responses or follow-up actions on inspection/compliance reports [see Part B Item 7(xi)]

Inspection Report received by the Licensee (Date):

Additional Details: (Dates of Report, Follow-up by the Licensee)

See Item 13 of attached supplement for details on inspection action items and how these were addressed.

I. Any additional comments or information for the Board to consider

Please see attached supplement for additional information requirements set out in Licence No. 2BB-BOS1217.

Date Submitted:	March 31, 2013	
Submitted/Prepared by:	Chris Hanks	
Contact Information:	**Tel:**	(720) 917-4489
	Fax:	
	email:	chris.hanks@newmont.com

GPS Coordinates for water sources utilized

Source Description	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "
BOS-1 - Raw water supply intake at Spyder Lake	67	39	34.7	106	23	39.9

GPS Locations of areas of waste disposal

Location Description (type)	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "
BOS-2 - Containment Pond Discharge	67	39	29.3	106	22	58.2
BOS-3 - Sewage Disposal Facility Final Discharge	67	39	33.9	106	23	10.5
BOS-4 - Treated sewage effluent point prior to entry into Aimaokatuk (Spyder) Lake	67	39	41.2	106	23	10.1
BOS-5 - Effluent from the bulk fuel storage facility prior to release	67	39	27.5	106	23	1.2
BOS-6 - Effluent from the landfarm treatment facility prior to release	67	39	29.3	106	23	3.5

2012 2BB-BOS1217 Type B Water Licence Annual Report Supplemental Document

Boston Camp

Nunavut Water Board

Prepared by
Hope Bay Mining Ltd.
North Vancouver, BC

Prepared for
Nunavut Water Board
Gjoa Haven, NU

March 2013

Executive Summary
2BB-BOS1217 Annual Report

Hope Bay Mining Ltd. ("HBML") has filed its Annual Report on its activities during 2012 under Water Licence No. 2BB-BOS1217 issued by the Nunavut Water Board. As set out in Part B, Item 6 of the Licence, the report includes information with respect to the following topics:

- a summary of water use and waste disposal activities
- a summary of data generated under the Monitoring Program
- a list of unauthorized discharges and a summary of follow-up actions taken
- a brief description of follow-up actions taken to address concerns detailed in inspection and compliance reports prepared by the Inspector
- up to date contact information with respect to the Spill Contingency Plan
- A description of all progressive and/or final reclamation work undertaken
- A summary of modification and/or major maintenance work carried out on the water supply and waste disposal facilities
- A summary of consultation with local organizations and residents of nearby communities
- A brief description of future studies currently planned or proposed

Aolapkaeyin Naetomik Okaohen
2BB-BOS1217 Ukeogoagaagan Unipkaak

Hope Bay Mining Ltd. (“HBML”) tonihihimaliktun Ukeotoagaagan Unipkamiknik havaamigun 2012-mi ukeommi ilagani Imaknik Atogeagani Laeseoyum Napaa 2BB-BOS1217 toniyaohimayok Nunavumi Imalikiyin katimayenin. Okakhimayumi Naonaepkun B-mi, Ilikuktok 6 Laeseoyumi, unipkak ilakaktok hivunikhiyotikhanik ukununa:

- naetomik okaoheoyonik imaknik atoknigagun ikagolikiyotilo
- naetomik okaoheoyonik hivunikhiyotikhan ilagani Amigiyotinun Havaam
- titigakhimayonik agiktaohimagitun kuvigaeyun naetomilo okaoheoyunik upiyotinik kigoagun
- naetomik okaoheoyonik upiyotinik ihoakhiyaagani ihomalutaoyun titigakhimayun ilitokhaeyutinin maligoateakmagaalunen makpigaagini ihoakhakhimayaeni Ilitokhaeyim
- nutaanik okakatikhanik hivunikhiyumanikan Kuveyokakan Havaagiyakhaenun Upalogaeyaonmik
- okateaklogin tamaeta hivumuginaktun kigolelo nunan utiktitpaleayagani ilitkuhenun havaagiyaovaleayun
- naetomik okaoheoyonik notaguktitiyutinik ihoakhaotiniklunen imiktakvikon havaoheoyun ikagukvelo pikotaoyunik
- naetomik okaoheoyonik okakatigegutinun nunalikni timeoyuni inoelo haneanetun nunalikni
- naetomik okaoheoyonik hivunikhami ilitokhaotikhanik taya ihoakhaktaoliktun atoktaoyumayolunen

ᓇᐃᓈᕐᓯᒪᔪᑦ ᑐᓴᒐᑲᓕᐅᕐᓯᒪᔪᑦ
2BB-BOS1217 ᐅᑭᐅᒧᑦ ᐊᑐᕐᑕᐅᔪᑦ ᑐᓴᖓᑲᓕᐅᕐᓯᒪᔪᑦ

Hope Bay Mining Ltd. ᐅᔾᕿᓯᐅᕐᑎᑦ ᐅᑭᐅᒧᑦ ᐊᑐᕐᑕᒥᓐᓂᒃ ᐅᓂᑳᓕᐅᕐᑐᑦ ᑐᓴᖓᑲᓕᐅᕐᑐᑦ ᐱᓕᕆᐊᕆᔾᔭᒥᓐᓄᑦ ᐅᑭᐅᒧᑦ 2012 ᐃᒪᕐᒧᑦ ᓚᐃᓴᙳᑕ ᓇᓴᐅᑖ 2BB-BOS1217 ᐊᖏᑕᐅᓚᐅᕐᑐᖅ ᓄᓇᕗᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᓐᓂᑦ. ᐊᖏᑕᐅᓯᒪᔪᖅ ᒪᓕᒃᓗᒍ Part B, ᓇᓴᐅᑎᖃᕐᑐᖅ 6 ᓚᐃᓴᒥ, ᑐᓴᒐᑲᓕᐅᕐᓯᒪᔪᖅ ᐅᓂᑳᓕᐅᕐᓯᒪᔪᖅ ᑐᕋᖓᔪᖅ ᑕᒃᑯᓇᖓ ᐊᑖᓂ ᑎᑎᕋᕐᓯᒪᔪᓄᑦ:

- ᓇᐃᓴᕝᓯᒪᐸᓗᑎᒃ ᐅᓂᑳᕐᓯᒪᔪᑦ ᐃᒪᐅᑉ ᐊᑐᕐᑕᐅᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐊᒃᑕᑰᖃᑦᑕᖅᓂᕐᒧᑦ
- ᓇᐃᓈᕐᓯᒪᐸᓗᑎᒃ ᐅᓂᑳᕐᓯᒪᔪᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᑕᐅᕙᑦᑕᐊᔪᓄᑦ ᐊᑐᕐᑐᑦ
- ᑎᑎᕋᕐᓯᒪᔪᑦ ᐊᖏᑕᐅᓯᒪᖏᑦᑐᑦ ᓴᕿᐊᑦᑕᐊᔪᑦ ᐊᒻᒪᓗ ᖃᓄᖅ ᐊᖏᑕᐅᓚᐅᕐᓂᖏᑦ ᑎᑎᖃᕐᓯᒪᐸᓗᑎᒃ
- ᓇᐃᓴᕝᓯᒪᐸᓗᑎᒃ ᑎᑎᕋᕐᓯᒪᔪᑦ ᖃᐅᔨᓴᕐᑕᐅᖃᑦᑕᕆᐊᖃᕐᑐᑦ ᓱᓇᑐᐃᓐᓇᐃᑦ ᖃᐅᔨᓴᕐᑕᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐃᓱᒫᓗᑦᔭᐅᔪᓄᑦ ᑭᐅᔪᑕᐅᔪᑦ ᑕᑯᔾᑐᕐᑕᐅᖃᑦᑕᕐᑐᓄᑦ ᐅᖃᐅᓯᐅᓚᐅᕐᑐᑦ
- ᐅᐸᓗᒥᒧᑦ ᐊᖏᑕᐅᓯᒪᔪᑦ ᑯᕕᔪᖃᕐᐸᑦ ᐊᑐᕐᑕᐅᔪᒃᓴᑦ ᐊᖏᐅᒪᔪᑦ ᐊᑐᐃᓐᓇᐅᔪᑦ
- ᐊᑐᕐᑕᐅᔪᑦ ᓱᓇᑐᐃᓐᓇᐃᑦ ᐊᒻᒪᓗ ᓴᓕᒃᑕᐅᓂᕐᒧᑦ ᓄᑖᙰᕐᑎᕐᑕᐅᓂᐊᕐᓂᖓᓄᑦ ᓄᓇᐸ ᓴᓇᔾᔭᐅᓯᒪᔪᑦ
- ᓇᐃᓈᕐᓯᒪᐸᓗᑎᒃ ᑎᑎᕋᕐᓯᒪᔪᑦ ᓄᑖᙰᕐᑎᕐᑖᖓᐅᔪᑦ ᐊᒻᒪᓗ ᐊᖏᕆᐊᕐᑕᐅᔪᑦ ᐊᖏᓱᕐᑕᐅᔪᑦ ᓴᓇᔾᔭᐅᓂᖓᓄᑦ ᐃᒥᕐᑕᕝᕕᒃᒧᑦ ᐊᑐᕐᑐᑦ ᐊᒻᒪᓗ ᐃᒪᕐᒧᑦ ᕝᑯᐱᕋᐃᑎᑦ
- ᓇᐃᓇᕐᓯᒪᐸᓗᑎᒃ ᑎᑎᕋᕐᓯᒪᔪᑦ ᓯᕗᓂᒃᓴᒥ ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᑐᑦ ᒪᓐᓇᒧᑦ ᐸᕐᓇᒃᑕᐅᕙᑦᑕᐊᔪᑦ ᐅᕙᓗᓐᓂᑦ ᑐᒃᓯᕋᕐᑕᐅᔪᑦ

Table of Contents

1. The monthly and annual quantities in cubic meters of all freshwater obtained from Aimaokatalok (Spyder) Lake at Monitoring Station BOS-1 [as per Part B Item 6 (a)]

Boston Camp was not open during 2012. No water was obtained from monitoring station BOS-1 in Aimaokatalok (Spyder) Lake for domestic or drilling use.

2. The monthly and annual quantities in cubic meters of Mine water pumped from the underground [as per Part B Item 6 (b)]

No minewater was pumped from the underground in 2012.

3. The monthly and annual quantities in cubic meters of treated Mine water and surface drainage discharged at Monitoring Station Number BOS-2 [as per Part B Item 6 (c)]

A total of 515 m^3 of surface water accumulation was discharged from the Boston portal in July 2012. The water was discharged onto the tundra to the west of the portal at UTM 7505312 N, 441358 E as approved by the Inspector.

Approximately 4.5 m^3 of water from BOS-2 was treated through the oil water separator in July and discharged immediately beside the containment pond. Water discharged from BOS-2 came from BOS-5 only. Therefore, in table 1 of Appendix A, results from samples taken prior to discharge of BOS-2 are compared to the BOS-5 discharge criteria.

4. The monthly and annual quantities in cubic meters of treated Sewage effluent discharged at Monitoring Station Number BOS-3 [as per Part B Item 6 (d)]

Boston Camp was not open during 2012. No treated sewage effluent was discharged at monitoring station BOS-3.

5. The monthly and annual quantities in cubic meters of Sludge removed from the Sewage Disposal Facility [as per Part B Item 6 (e)]

No sludge was removed from the sewage disposal facility during 2012.

6. The annual quantities in cubic meters of all soil and types of contaminants from all locations that are placed within the Land farm facility [as per Part B Item 6 (f)]

In 2012, no new material was deposited in the landfarm facility at Boston Camp. All drums of waste temporarily stored on the landfarm were removed in 2012 to Doris Camp for proper categorization prior to their backhaul to an approved waste handling facility for disposal/treatment.

7. Report all artesian flow occurrences as identified under Part F, Item 3 [as per Part B Item 6 (g)]

No artesian flow occurrences were encountered in 2012.

8. Report all drilling activity that has penetrated below the permafrost as identified under Part F, Item 4 [as per Part B Item 6 (h)]

Drilling activity did not occur in 2012. For areas where exploration is carried out, depth of permafrost is calculated using thermistor strings that measure ground temperature, installed in geotechnical drill holes (thermistor strings are not installed in all drill holes). The thermistor stings are used because it is not possible to visually assess when a drill hole has passed through the permafrost layer. Results obtained from the thermistor strings are used to extrapolate the lower depth of permafrost using thermal gradient. There are several such thermistor strings throughout the Hope Bay Belt and measurements are taken on an on-going basis. The depth of permafrost extrapolated from data collected at thermistor string SRK-50 (200 m in length) is 570 m. The depth of permafrost extrapolated from data collected at thermistor string 08TDD632 (350 m in length) is 435 m. Results collected from all thermistor strings are presented in the 2AM-DOH0713 2012 Annual Geotechnical Inspection Report filed with the NWB on March 31, 2013.

9. Tabular summary of all data generated under the Monitoring Program [as per Part B Item 6 (i) and Part J Item 21]

Tables setting out data generated under the Monitoring Program appear at Appendix A of this document.

10. A summary of modifications and/or major maintenance work carried out on the Water Supply and the Waste Disposal Facilities, including all associated structures, and an outline of any work anticipated for the next year [as per Part B Item 6 (j)]

No changes were made to the water supply or waste disposal facilities in 2012. No work is anticipated for 2013.

11. A list of unauthorized discharges and follow-up action taken [as per Part B Item 6 (k)]

Date of Spill: March 14, 2012
Spill No: N/A
Date of Notification to an Inspector: N/A
Product Spilled: Hydraulic Oil

Details of Spill: A spill of approximately 5 L of hydraulic oil occurred inside the large weather haven on the HDPE lined gravel floor as a result of a blown hose on a skid steer. The contaminated gravel was shoveled up and placed in a 45 gallon drum which was backhauled to Roberts Bay for proper offsite disposal. The skid steer was repaired and returned to service.

12. Updates or revisions to the Abandonment and Restoration Plan, QA/QC, Waste Rock and Ore Storage Plan, Spill Contingency Plan, and Landfarm Plan [as per Part B Item 6 (l)]

In 2012, revisions were made to the QA/QC Plan and the Spill Contingency Plan to include a care and maintenance phase within the plans. The revised QA/QC Plan was submitted to the NWB in November 2012 and no changes have been made to this plan since then. The revised Spill Contingency Plan was submitted to the NWB in October 2012. This revision includes details on changes made to reflect care and maintenance. Updates were made to roles and responsibilities, phone numbers, fuel storage, spill response procedures. Non-hydrocarbon chemicals were also added to this most recent revision. No changes have been made since this last version was submitted.

13. A brief description of follow-up action taken to address concerns detailed in inspection and compliance reports prepared by the Inspector [as per Part B Item 6 (m)]

Two inspections were conducted by the inspector in 2012 for licence 2BB-BOS1217.

The first inspection occurred July 10, 2012. Concerns listed by the inspector in the inspection report are listed below with the corresponding HBML action:

- Drill sites around Boston to be assessed in upcoming assessment for remediation. Draft of plan for progressive reclamation to be submitted to the inspector by Dec. 31, 2012.
    - The general drill site reclamation plan is included in the Boston Closure Plan and the Windy and Patch Closure Plan submitted to the NWB in the summer of 2012. HBML completed an inventory of all drill holes on the Hope Bay Property during the 2012 season and is currently preparing a reclamation plan for these drill holes.

The second inspection occurred October 2-3, 2012. Concerns listed by the inspector in the inspection report are listed below with the corresponding HBML action:

- The on-going issue with the salt burn extending from the drill platform to a localized water body remains outstanding. The licensee indicated during this and the previous inspection that a plan was being developed in conjunction with a review of all drill holes throughout the property. This plan has not been submitted to the inspector at this time.
    - The general drill site reclamation plan is included in the Boston Closure Plan and the Windy and Patch Closure Plan. HBML had completed an inventory of all drill holes on the Hope Bay Property during the 2012 season. HBML is currently monitoring the Orbit 25 salt burn, and working with consultants to develop an appropriate reclamation plan. The report for the July 2012 Orbit 25 monitoring program was

submitted on December 21, 2012. The detailed reclamation plan for the other drill holes on the property is under development.

- Soils from the Boston land farm remain on site. The integrity of the berm is in serious doubt. A detailed inspection including soils sampling around the perimeter of the facility as well as to depth below the facility are on-going to determine the extent of any migration from the facility. It is the recommendation of the inspector that soils be taken off-site for disposal or treatment as part of the on-going Care and Maintenance of the Hope bay project.
    - In August 2012, EBA completed a Phase 3 site assessment at Boston Camp; additional sampling using an excavator will be required to complete the assessment. As part of the 2012 assessment, EBA sampled the land farm. Based on the lab results for these samples, HBML will not attempt to remediate the soils on-site but will package the soils for offsite disposal. EBA sampled the area immediatly surrounding the landfarm and found no evidence of hydrocarbon contamination.
- Monitoring is to be completed by the Cambridge bay HTO. A schedule of inspection has not been provided; however an outline of inspection locations was submitted in draft form during the inspection.
    - HBML submitted the Winter Inspection Plan to AANDC on December 6, 2012, and received approval by Ms. Paul on December 10, 2012.
- No evidence of Open Burning was noted on site at the time of the inspection. The Field Operations unit does not endorse the use of open burning and recommends that as closure activities proceed these wastes are back hauled to Doris North Camp
    - The Boston Water Licence does not include permission to open burn without Board approval (Part D Item 2), and as such, HBML has never conducted open burning at the Boston Camp. All burnable and non-burnable waste is transported to the Roberts Bay Waste Management Facility for handling and proper disposal as per the Hazardous and Non-hazardous Waste Management Plans, which have been submitted to the NWB previously.
- It is unclear in the closure plan what activities will be untaken during the 2013 freshet to manage water within and moving off the footprint of the camp. This is to be provided specifically for the Boston camp as an addendum to the 2012 Annual report.
    - HBML will continue to manage, and monitor, water as per the requirements of the Water Licence. HBML has included the water sampling plan in the revised Monitoring and Follow-up plan (submitted on December 21, 2012). The Water, Waste Rock and Ore Management Plan is still applicable during Care and Maintenance. The Boston Water Licence does not require HBML to have a separate water management plan addressing containment facilities such as the fuel berm.
- Double walled fuel tanks were placed throughout the camp. One such unit had a pump and nozzle still attached. Tanks should be secured and locked to prevent access during the period of closure. The pump was to be removed.
    - The bulk fuel storage facility was locked out. The gas tank with the pump and nozzle is unpowered; gasoline from that tank is available for use by the winter check crews, but only if they power it with the generator left inside of the survival shelter for them.

14. A summary of drilling activities and progressive reclamation of drill sites [as per Part B Item 6 (n)]

No drilling activities occurred in 2012.

A comprehensive inventory of all historical drill holes was completed during 2012 to identify reclamation requirements. A progressive reclamation plan for mitigation and remediation of the holes is under development.

15. An updated estimate of the current Boston restoration liability based upon the results of the restoration research, project development monitoring, and any modifications to the site plan [as per Part B Item 6 (o)]

On January 14, 2013, HBML submitted an updated estimate of the Boston closure costs to the NWB for consideration. This update stated that closure costs for Boston are estimated to be $5,988,000. This amount is different from the previous value calculated by BHP in 1998 and includes cost escalation, management of mineralized rock management, reclaiming drill sites and other areas of permafrost degradation, indirect costs, and a contingency. A revised Boston Closure Plan is currently under review with the NWB and was submitted July 10, 2012. No changes to the site plan have been made.

16. An estimate of both the current and anticipated volume of waste rock and ore stockpiled on site [as per Part B Item 6 (p)]

It is estimated that there are approximately 47,400 m^3 of ore stockpiled on site at Boston Camp based on digital models of the ore removed historically from the underground workings at Boston. There is no estimate for the anticipated waste rock and ore to be stockpiled, because there is no mining activity occurring or currently planned for Boston.

17. A public consultation/participation with local organizations and residents of the nearby communities, if any were conducted [as per Part B Item 6 (q)]

Community consultations continued in accordance with the Community Relations Plan, which is a responsibility of the Environment and Social Responsibility department of Hope Bay Mining Ltd.

Alex Buchan, Manager of Community and External Relations based in Cambridge Bay is primarily responsible for implementing this Plan, with support from his Director, Chris Hanks, and supported by Ikey Evalik, Inuit Impact and Benefit Agreement Coordinator.

Community relations in 2012 focused on the addressing the impacts of, and explaining the reasons behind, the decision to place the Doris North Project under Care and Maintenance, and the scope and extent of on-site Care and Maintenance activities.

HBML vacated the Expediting Warehouse at the Cambridge Bay airport during the first quarter of 2012 previously leased from Kit-Nuna Corporation. The level of activity under Care and Maintenance did not necessitate the continued use of this space. However, throughout 2012 HBML continued to occupy and use the main office at #4 Omingmak which represents our Community Relations Storefront in Cambridge Bay.

HBML maintained two staff members in Cambridge Bay in 2012. Alex Buchan continued in his role as Manager of Community Relations while Ikey Evalik sustained the IIBA Coordinator role. HBML continues to participate in key Nunavut organizations aligned to support community relations functions including the NWT/Nunavut Chamber of Mines, the Nunavut Mine Training Roundtable, and the Cambridge Bay Canadian High Arctic Research Station Committee.

Cambridge Bay Logistics Hub

Cambridge Bay continues to be the logistics hub for HBML in the Kitikmeot. Employees from across the region are flown to Cambridge Bay via commercial airline service, and are transported to and from Site utilizing a charter aircraft stationed at Doris Mine, or flown from Yellowknife, NWT. The option of operating a region wide charter flight that would bypass the need for overnight stays in Cambridge Bay was not implemented in 2012. The number of workers required for Care and Maintenance work was too low to make such an arrangement cost effective.

Other Communications

In 2012, HBML continued our practice of providing email notifications of company updates amongst key stakeholders. Under Care and Maintenance, there were few notifications to make due to reduced project activity. HBML Community Relations personnel regularly facilitated monthly teleconferences or in person meetings between the President of KIA and HBML in accordance to direction. These calls were intended to provide for direct and open communication regarding project related matters between the parties.

Community Relations Monthly Summary

January

- The Nunavut Mine Training Society held a meeting in Rankin Inlet. The purpose of this meeting was to establish a new organization that could be the recipient of Government of Canada support for mine training. HBML attended this meeting along with other Nunavut developers, training agencies, and the KIA.
- A new Hope Bay Project Site guide was developed and was circulated to career development professionals in the Kitikmeot region to promote understanding of working conditions amongst potential new hires.
- Assistance was provided to Heidi Swanson, a private fisheries biologist sponsored in her work by KIA and HBML, to conduct IQ, or traditional knowledge, workshops in Cambridge Bay and Kugluktuk. These workshops were intended to share and gather information on lake trout that choose to live in the ocean.

- Translations of site signage into Inuktitut and Inuinnaqtun were completed in accordance with the Inuit Language Protection Act.
- A number of Class A and Class B contract notifications were made for the 2013 field season to the Kitikmeot business community.
- In cooperation with the Arctic Closet, a Cambridge Bay Arts and Crafts business, we began to make Inuit arts and crafts available for sale at Doris Mine. This was done in response to requests from HBML staff wishing to purchase such items. The initiative was well received by HBML staff and also provided more sales to a local business and artists regionally.
- HBML made a presentation during a KIA Board meeting in Cambridge Bay. This presentation outlined a number of project challenges that were jeopardizing further Newmont investment in the project including geology, land tenure and project costs. HBML announced short term cash conservation measures that would limit project spending during the first quarter of 2012. The same project status details were communicated to key stakeholders immediately after the KIA Board of Directors meeting.
- As details of short term cash conservation measures on the Hope Bay project were ascertained, community relations staff worked with human pesource staff to inform directly hired staff about potential employment impacts, and in some cases, lay-off notices.
- We coordinated one KIA Site visit in January.
- At the end of the month, HBML attended the Cordilleran Roundup in Vancouver. Meetings were held with the KIA on IIBA related matters, and several Kitikmeot Based Businesses were introduced to HBML Supply Chain staff to discuss contracting opportunities. Additionally, a follow-up meeting of the Nunavut Mine Training Society was held with HBML participation.
- One media contact was handled in relation to a story to appear in a North of 60 Construction Magazine.
- At the end of the month, HBML formally notified KIA of its intention to place the Hope Bay Project under Care and Maintenance pending further project evaluation.

February

- During the first part of the month, community relations activity centered on informing project stakeholders about the decision to place the Hope Bay project under Care and Maintenance. Specific communication took place with government department heads, local and territorially elected officials, contractors, territorial and northern media outlets, and directly hired staff. Communications included a news release, notice of intent to cancel contracts, and lay-off notices. Communications continued to stress that three reasons existed for the HBML decision; geological challenges, land tenure status and project economics. When asked, HBML community relations staff clearly indicated that the status of negotiations between HBML and KIA related to securing long term surface land tenure were a factor in the decision to place the project under Care and Maintenance, although other factors existed. At no time did HBML Community Relations staff indicate that Land Tenure was the sole or overriding factor leading to this decision.
- As part of the lay-off process for directly hired workers, HBML community relations and human resources staff undertook the following actions:
    - Determining if a laid off worker was interested in working at another remote exploration camp or mine, or training.

    - Assisting the laid off worker in updating or creating a resume to use in securing employment alternatives.
    - Liaising with employment and training agencies such as the Department of Education, Service Canada, Nunavut Arctic College and the Kitikmeot Inuit Association to highlight the services and support these agencies could provide to impacted workers.
    - Contacting NWT/Nunavut Chamber of Mines members, and in particular those active in the Kitikmeot region, to ascertain whether they required skilled labor, and thereafter referring impacted workers to these potential job opportunities.
    - Community relations staff also worked with the Kitikmeot Corporation Human Resource Specialist to identify alternative job opportunities for affected Kitikmeot Corporation subsidiary workers formerly on staff at Hope Bay.
- HBML organized a site tour for KIA Lands Division staff including the newly hired Senior Hope Bay Project Officer, and participated in the KIA Employment and Training Strategic Planning sessions held in Cambridge Bay.
- Despite the announcement of Care and Maintenance, some work was completed this month on Phase II socio-economic studies and a country foods baseline report.
- HBML community relations personnel were active participants in the Nunavut Mining Symposium Society program committee, and some work was conducted in preparation for the 2012 NMS to be held in Iqaluit in April. Work included identifying potential presenters and scheduling.
- HBML sponsored and participated in the 2012 Kitikmeot Trade Show held in Cambridge Bay. Participation included individual meetings with current suppliers and contractors to discuss the impact of the Care and Maintenance decision, discussing limited scopes of work for the remainder of 2012, and also delivering the 2012 Hope Bay business forecast.
- HBML Community Relations delivered a presentation on the Hope Bay project to the Nunavut Economic Developers Association meeting held in Cambridge Bay. The audience consisted of governmental community relations staff and community economic development officers, including those from the Kitikmeot region. The presentation reviewed some of the economic and social impacts derived from the Hope Bay project, and discussed the reasons for the decision to shut the project down.
- HBML also began work, with Community Relations and Supply Chain involvement, in the development of a Right of First Refusal process to govern the sale of surplus equipment and supplies from the Hope Bay Project to Inuit consistent with the Doris North IIBA.
- Sales of Arts and Crafts at Doris Mine continued. This was well received by both HBML staff and the Arctic Closet.
- Prior to the end of the month, HBML community relations staff participated in internal Ethics Advocacy training aimed at ensuring fair, clear and transparent mechanisms for dispute resolution within the company.

March

- The month began with a recruitment drive to employ as many former seasonal workers and summer students in a reduced but better defined 2012 Hope Bay Scope of Work. A particular effort was made this month to identify Kitikmeot Environmental Technology Program students that could be employed undertaking site compliance monitoring and field studies.

- Work also continued this month to secure presenters for the Nunavut Mining Symposium Community Engagement sessions, including the KIA.
- HBML Supply Chain and Community Relations worked together this month to implement the protocols set out to provide the KIA with a Right of First Refusal to purchase surplus equipment. Initial inventories of surplus materials were generated and provided to the KIA and Kitikmeot Corporation.
- A significant effort was made this month to adapt onsite management and operational plans to a Care and Maintenance scenario. Community Relations focused on the Wildlife Mitigation and Monitoring Program.
- Initial planning work was conducted this month in preparation for a community consultation tour to be held in May. Planning and preparation included initial contact and scheduling with community representatives and identification of venues.
- The Arts and Crafts sales initiative was cancelled due to Care and Maintenance.
- During the Prospectors and Developers Association of Canada Conference held in Toronto, HBML was presented an award by the KIA for Environmental Leadership.
- Assistance was provided this month to Inuit employees who were members of the site wildlife response team to obtain and/or renew their firearms PAL licences to allow them to legally use firearms in the course of their work.
- Work continued this month to assist laid off Hope Bay and contract workers in obtaining alternative employment including regular and repeated contact with other developers to identify suitable employment opportunities and refer employees, and accessing the Hope Bay training database to demonstrate skills and abilities obtained on the job.
- One KIA site inspection was facilitated by HBML Community Relations this month.
- During this month, logistics support provided in Cambridge Bay by Braden Burry Expediting Ltd. was discontinued due to low volumes of passengers and freight.
- HBML Community Relations staff made a presentation to the Kilinik High School senior high class this month on workplace readiness and attitudes.
- At the end of the month, HBML participated and presented at the Kitikmeot Socio-Economic Monitoring Committee meeting held in Cambridge Bay. During this event HBML provided information on project status, details on what Care and Maintenance means, and also reported on the socio-economic indicators required under Condition 28 of the NIRB Project Certificate.

April

- The month began with HBML indicating to Nunavut and NWT training partners that the company could not support the pan territorial mine training initiative that had been developed earlier in 2012. The reason for this decision was directly related to our project status. Related to this, HBML stopped sponsoring the Canadian Aboriginal Minerals Association due to project status.
- HBML assisted in a Search and Rescue operation this month. HBML contracted aircraft and personnel were used over several days to look for Johnny Kaosoni, a missing hunter from Cambridge Bay. Unfortunately, he was subsequently found deceased north of Doris Mine.
- Work also continued this month on selling surplus supplies and equipment to the Kitikmeot Inuit Association and Kitikmeot Corporation. During this month, a number of items were declared exempt from the Right of First Refusal, and communication was initiated with

Kitikmeot municipalities, the Government of Nunavut and Kitikmeot Based Business to highlight these sales opportunities.

- HBML sponsored and attended the 2012 Nunavut Mining Symposium this month. A project update and community engagement presentation was made to delegates. A number of sidebar meetings and symposium highlights were noted including discussions with key regulators regarding Care and Maintenance planning and permitting, participating in the Nunavut Mine Training Roundtable, meetings with other Kitikmeot developers to share operating practices, and being the emcee for the Symposium banquet.
- Work was completed on an internal cross cultural training presentation to be used for all HBML management in cooperation with human resource personnel this month.
- Radio and public announcements were made this month in Cambridge Bay, in concert with Kit-Nuna Corporation, related to the operation of a winter road from the community to Doris Mine. Additionally, a multilingual sign and telephone was setup at Roberts Bay for use by potential visiting vehicles. The focus of these notices was to provide safety information to potential road users.
- Editing work was completed this month on the 2011 Tail Lake Fish Out report, inserting details related to the distribution and use of harvested fish in Cambridge Bay.
- Hope Bay contract spending information was compiled and provided to the Kitikmeot Corporation this month for use during their Board of Directors meeting.

May

- Logistical support was provided this month to the Women in Action overland trek from Bay Chimo to Cambridge Bay in support of breast cancer research. Women participating in the walk included the Mayor of Cambridge Bay and the Commissioner of Nunavut.
- The first in person meeting between NTI Lands and HBML occurred this month, facilitated by Community Relations personnel to discuss the renewal or extension of Inuit Owned Lands mineral concession agreements scheduled to expire in 2014 and 2015. The meeting was general in nature and allowed for the establishment of a framework for further talks and negotiations. Concurrently, another meeting was held in Edmonton between HBML and KIA management aimed at restarting talks on surface land tenure.
- Mid-month, a community consultation tour was conducted throughout the Kitikmeot region including public meetings and radio talk show presentations. The purpose of the tour was to reach out to laid-off HBML employees in the Kitikmeot to provide assistance to them in obtaining alternative employment, and also explain to the public the status of the project. Community concerns expressed ranged from the loss of jobs and training opportunities, to questions related to the future of the project. A public meeting was not held in Taloyoak due to a death in the community. Instead, a radio talk show was conducted. The Kugluktuk public meeting was rescheduled due to weather interruption in flights.
- As the spring melt progressed, HBML consulted with Environment Canada on the use of deterrents for waterfowl landing at the Doris airstrip.

June

- At the beginning of the month, further consultation with Environment Canada occurred over the disposition of a songbird nest on project infrastructure that needed to be moved.

- Work progressed early in the month on the annual Socio-Economic Monitoring Report for the Doris North project with committee participation by government parties.
- Mid-month HBML presented at the KIA Board of Directors meeting held in Kugaaruk. A project update was provided along with details on the Care and Maintenance program. A copy of this presentation was provided to the KIA. Questions from the Board ranged from environmental management matters, how surplus equipment was being sold, and how and when the Hope Bay project could be restarted.
- A KIA site tour was facilitated this month involving the entire KIA Lands Department Hope Bay Capacity Agreement supported team.
- As Care and Maintenance planning progressed in the summer, HBML identified this month the need to continue site monitoring during the period in which HBML sites would be unoccupied in the winter. A series of options were considered, and a decision made to work with local hunters to have site checks completed on behalf of the company during the period that HBML sites would be unmanned.
- Towards the end of the month, work was done with the NTI Lands Department to further the drafting of new Mineral Exploration Agreements for the Hope Bay project.
- HBML also consulted with the GN DOE on the potential destruction of an Arctic Ground Squirrel burrow at Windy Camp as a result of progressive reclamation activities.
- A quantity of surplus mobile equipment not subject to the KIA Right of First Refusal was offered to HBML direct hired staff for sale this month. HBML Community Relations staff circulated information on this equipment across the region. Additionally, a quantity of surplus computer equipment was distributed to Nunavut Arctic College from Doris Mine.

July

- Early in the month, HBML staff facilitated the distribution of a quantity of surplus winter clothing originating from Nuna Logistics.
- This month, a complaint was received from a number of Inuit employees regarding access to country foods at Hope Bay sites. HBML Community Relations staff researched this complaint and identified options for allowing the provision of country food while maintaining food safety. HBML consulted with other Nunavut remote camp operators, our food services contractor, and the GN Department of Health to develop a Country Foods Standard Operating Procedure by the end of the month, when a Country Foods kitchen was opened at Doris Mine.
- Midmonth, HBML presented the final 2011 Tail Lake Fish Out report to the Ekaluktutiak Hunters and Trappers Organization. Comments and questions centered on the findings related to the life history of the fish, and also the status of Tail Lake under Care and Maintenance.
- In June, a barren ground caribou was found entangled in traffic markers at Doris Mine and eventually became free, dragging a traffic marker with it. In consultation with the GN DOE, HBML attempted first to remove the marker from the caribou without success. Finally, the caribou was destroyed and the valuable parts saved for distribution to Inuit in Cambridge Bay. HBML subsequently discontinued the use of rope strung between markers to delimit site spaces. Later, the KIA was compensated for the loss of this animal. Similarly, Environment Canada was consulted on the discovery this month of a number of young songbirds apparently drowned in rain filled pails at Boston Camp. HBML undertook site

inspections to ensure that empty pails were not left to accumulate with water creating a risk for young birds.

August

- During this month, Alex Buchan undertook Leading For Results supervisory training in preparation for being part of a smaller Care and Maintenance team going forward.
- Some work was conducted this month by Community Relations in concert with Human Resources staff on the completion of a HBML Employee Handbook. This document outlines the full range of policies and procedures necessary to orient new staff and guide existing staff in their duties and responsibilities.
- Additional work was also completed this month in reviewing term sheets and negotiation protocol submissions to the KIA on surface land tenure on behalf of HBML. Additionally this month, blanked out versions of NTI subsurface Mineral Exploration Agreements were received by HBML and Community Relations staff undertook a review of these documents as part of the HBML negotiation team.
- By the end of the month, the Annual Doris North Socio-Economic Monitoring Report was completed for submission to the Committee.
- HBML undertook to destroy a quantity of surplus explosives by open blasting. A number of Inuit complained about noise and other impacts related to this activity. HBML Community Relations staff developed a series of internal communications including meeting with staff on site to explain the need for the explosives destruction, the safeguards being used to undertake this work, and the regulatory framework that was being followed.

September

- Work continued this month by HBML Community Relations staff in concert with Environmental Management and Health and Safety staff to develop procedures in order to inspect Hope Bay facilities during the winter months. This month, the Ekaluktutiak Hunters and Trappers Organization was first approached to determine if this group was interested in undertaking this work, as the Bay Chimo or Umingmaktok HTO appeared to be non-functioning.
- HBML presented to the Kitikmeot Mayor's Meeting held in Cambridge Bay this month. HBML provided information on project status, surplus equipment sales opportunities, and information on the number of persons laid off under Care and Maintenance. Comments and Feedback focused on the economic impact of shutting down Hope Bay on Kitikmeot communities, and requesting further information on potential future outcomes for the project.
- HBML presented at the KIA Board of Directors meeting held in Taloyoak this month. A project update was provided in addition to providing details on the status of land tenure negotiations between the Parties, and the status of various permits, licenses and environmental reviews related to the Hope Bay Project.
- Towards the end of the month, HBML facilitated a NIRB annual site visit. A number of NIRB staff participated in a trip to Doris Mine to gather information for a future site tour report on compliance with the Project Certificate.
  HBML coordinated another KIA Site Inspection this month.

October

- During the first part of the month, HBML conducted winter site check training for 5 Ekaluktutiak HTO selected members at Doris Mine and Boston Camp in preparation for site shut down. The training consisted of a visual review of all site infrastructures requiring inspection, training in how to read fuel gauges on tanks, and the use of safety equipment and winter camping quarters.
- Just prior to camp shutdown, over 10,000lbs of surplus food, mainly dry goods were donated to needy families across the Kitikmeot region with assistance from the Department of Health and Social Services. Over 30 surplus flat screen televisions were also donated to Kitikmeot communities.
- HBML Community Relations staff also audited the KIA Annual General Meeting held in Cambridge Bay early in the month to ascertain whether Hope Bay related concerns were expressed.
- At mid-month, a public notice and radio announcement was released in Cambridge Bay to inform the public that the Hope Bay project was vacant, in good order, and would be periodically inspected during the winter.
- This month, the Department of Economic Development and Transportation requested support from HBML for their 2013 Kitikmeot carving-stone assessment work. Some potential exists for soapstone quarrying at Hope Bay, and this will be examined by GN Geologists next year utilizing HBML camp space.
- The NIRB conducted public scoping meetings regarding the Hope Bay Phase II Project Description this month. HBML staff audited the meetings. Details on the Environmental Assessment of the Phase II project can be viewed at: http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/12MN001-HBML%20PHASE%202%20HOPE%20BAY%20BELT/2-REVIEW/
- Near the end of the month, HBML Community Relations staff participated in the KIA labour market Stakeholders Meeting during which regional scale employment and training opportunities were discussed.
- Additionally this month, HBML Community Relations staff participated in a KIA/HBML land tenure negotiation session held in Yellowknife. During this meeting it was noted that the Hope Bay project could be subject to a sale, and that securing land tenure would be very helpful in renewing investment in the project.

November

- During this month, HBML staff worked with NTI Lands to obtain a final version of a Mineral Exploration Agreement to allow for the renewal of subsurface tenure at Hope Bay. During these discussions, HBML identified the need for KIA to quickly and efficiently approve of such agreements to the proponent.
- As a result of potential delays in renewing subsurface tenure, and how this could potentially affect the sale of the Hope Bay Project, HBML Community Relations staff reached out to Key Stakeholders to provide them with a critical update on the situation.
- Later in the month, HBML Community Relations staff participated in a KIA sponsored Kitikmeot Economic Development Program Delivery meeting held in Cambridge Bay. The

purpose of this meeting was to solicit input into how the KIA could deliver Can-Nor programming in the region.
- During this month, more work was conducted to further refine term sheets and protocols for negotiation with the KIA on surface land tenure.
- This month saw the start of a report writing and revision process for Hope Bay by which key Hope Bay environmental reports for 2012 were generated for submission to regulators.
- At the end of the month, HBML participated in and presented at the 2012 Kitikmeot Socio-Economic Monitoring Committee meeting held in Cambridge Bay. The proceedings of this meeting can be viewed at: http://www.nunavutsemc.com/Kitikmeot

December

- During the first part of the month, work was conducted in the review of NTI Lands generated draft Mineral Exploration Agreements.
- HBML attended a KIA Board of Directors Special meeting this month in order to discuss surface land tenure. During this meeting, HBML staff introduced representatives from TMAC, a company identified to acquire and operate the Hope Bay project.
- The first winter site check was completed by HBML Community Relations staff before the end of the month. No problems or incidents were reported.

18. Summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year [as per Part B Item 6 (r)]

In 2012, HBML relocated core, removed the v-notch weir, removed waste drums from the landfarm, and removed the remaining drilling materials from the Orbit 25 site.

19. An update on the status of the v-notch weir located at Stickleback Lake, an item transferred through the amalgamation of Licence NWB4WEI0002 with 2BB-BOS0106 (now the current Licence) and addressed through Part E, Item 9 [as per Part B Item 6 (s)]

The v-notch weir at Stickleback Lake was removed on August 9, 2012. A report on the removal of the weir was submitted to the NWB on September 6, 2012.

20. Summary of any specific studies or reports requested by the Board, and a brief description of any future studies planned or proposed [see Part B Item 6 (t)]

No specific studies or reports were requested by the Board in 2012 and no studies are planned or proposed for 2013.

21. Any other details on Water use or Waste disposal requested by the Board by November 1st of the year being reported [see Part B Item 6 (u)]

No other details on water use or waste disposal were requested by the Board by November 1, 2012.

Appendix A

Annual Monitoring Report – 2BB-BOS1217

a) Tabular Summary of Monitoring Information

The following section summarizes the results of sampling undertaken in 2012 as part of the monitoring program detailed in Part J of licence 2BB-BOS1217.

Monitoring was not undertaken at the following stations because the camp was not operational in 2012: BOS-1 (raw water supply intake at Aimaokatalok Lake), BOS-3 (sewage disposal facility final discharge), and BOS-4 (treated sewage effluent point prior to entry to Aimaokatalok Lake).

Water from BOS-5 (effluent from the bulk fuel storage facility) and all of the small fuel containments on-site were transferred to BOS-2 (containment pond) for treatment and sampling prior to discharge to the tundra. Table 1 shows the sampling results for this effluent. Note that the discharge criteria used to determine whether the water in BOS-2 could be discharge was that of BOS-5 because BOS-2 was simply used to hold water from BOS-5.

Mine water was not pumped from underground during 2012. The surface water accumulated at the portal was sampled against criteria for BOS-2 (Containment Pond) discharged directly to the tundra at UTM 7505312 N, 441358 E as approved by the AANDC Inspector. Table 2 shows the sampling results for this effluent. A notification of the discharge was provided to the Inspector June 14, 2012.

Water was not discharged from BOS-6 (landfarm) in 2012.

No landfill exists at Boston. Instead of sampling “landfill leachate” at BOS-7, HBML opportunistically sampled seeps originating from under the unlined sedimentation pond formerly used as an inert waste storage area. Table 3 shows sampling results for this effluent. The water sample, called “landfill leachate”, taken at monitoring station BOS-7, was taken to ensure that general site run-off water quality was meeting licence requirements.

During June 2012, HBML opportunistically sampled at three locations where seepage was observed during periods of runoff near the waste rock and ore storage pad (BOS-8). The seepage locations are considered subsets of BOS-8 and have been categorized into individual monitoring stations BOS-8A, BOS-8B, and BOS-8C. Geographical references for each of the sampling locations are maintained on file. Table 4 shows sampling results of this effluent.

Table 1 – Results of 2012 water quality sampling from containment pond monitoring station BOS-2, in mg/L, unless specified otherwise

HBML Sample		BOS5-30JUN12A (Pre-treatment)	BOS5-30JUN12B (Post-treatment)	BOS5-17JUL12 (During Discharge)	Licence 2BB-BOS1217
ALS ID		L1171264-1	L1171264-2	L1182174-1	Part D Item 19
Date/Time Sampled		6/30/2012 @ 12:47	6/30/2012 @ 14:12	7/17/2012 @ 13:15	Max Allowable Grab Sample Conc
Parameters	**Units**	**Results**			
Hardness (as $CaCO_3$)	mg/L	458	371	431	
pH	pH	7.88	9.12	9.03	
Alkalinity, Total (as $CaCO_3$)	mg/L	76.9	68.4	215	
Chloride (Cl)	mg/L	28.4	26	18.2	
Conductivity (EC)	uS/cm	844	720	757	
Hardness (as $CaCO_3$)	mg/L	366	316	338	
Hydroxide (OH)	mg/L	<5.0	<5.0	<5.0	
Nitrate and Nitrite (as N)	mg/L	<0.071	<0.071	<0.071	
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	
TDS (Calculated)	mg/L	538	459	487	
Sulfate (SO4)	mg/L	315	262	186	
Aluminum (Al)-Total	mg/L	0.0456	0.0266	0.0579	
Antimony (Sb)-Total	mg/L	0.00722	0.0109	0.0405	
Arsenic (As)-Total	mg/L	0.141	0.201	0.554	
Barium (Ba)-Total	mg/L	0.0188	0.0748	0.289	
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	0.224	0.314	0.165	
Cadmium (Cd)-Total	mg/L	0.000015	<0.000010	0.000022	
Calcium (Ca)-Total	mg/L	114	83.4	98.6	
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	0.002	
Cobalt (Co)-Total	mg/L	0.006	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	0.018	<0.0010	<0.0010	
Iron (Fe)-Total	mg/L	0.304	0.086	0.23	
Lead (Pb)-Total	mg/L	0.00252	0.00086	<0.0003	0.001
Lithium (Li)-Total	mg/L	0.015	0.016	0.068	
Magnesium (Mg)-Total	mg/L	42.3	39.5	44.8	
Manganese (Mn)-Total	mg/L	0.0114	0.0078	<0.0050	
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	
Molybdenum (Mo)-Total	mg/L	<0.0050	0.0156	0.0238	
Nickel (Ni)-Total	mg/L	0.0687	0.0101	0.0054	
Potassium (K)-Total	mg/L	13.8	12.7	17.6	
Selenium (Se)-Total	mg/L	0.00048	0.00053	0.0018	
Silver (Ag)-Total	mg/L	0.000026	<0.000020	0.000027	
Sodium (Na)-Total	mg/L	15.7	14.2	22.6	
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	
Titanium (Ti)-Total	mg/L	<0.0010	<0.0010	<0.0010	
Uranium (U)-Total	mg/L	0.00026	0.0106	0.0892	

HBML Sample		BOS5-30JUN12A (Pre-treatment)	BOS5-30JUN12B (Post-treatment)	BOS5-17JUL12 (During Discharge)	Licence 2BB-BOS1217
ALS ID		L1171264-1	L1171264-2	L1182174-1	Part D Item 19
Date/Time Sampled		6/30/2012 @ 12:47	6/30/2012 @ 14:12	7/17/2012 @ 13:15	Max Allowable Grab Sample Conc
Parameters	**Units**	**Results**			
Vanadium (V)-Total	mg/L	<0.0010	0.124	0.061	
Zinc (Zn)-Total	mg/L	0.0086	<0.0040	0.089	
Calcium (Ca)-Dissolved	mg/L	90.8	71.6	76.2	
Oil and Grease	mg/L	<1.0	<1.0	<1.0	15
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen	no visible sheen
Phenols (4AAP)	mg/L	0.0066	<0.0010	<0.0010	
Benzene	mg/L	<0.00050	<0.00050	<0.00050	0.37
Ethylbenzene	mg/L	<0.00050	<0.00050	<0.00050	0.09
Toluene	mg/L	<0.00050	<0.00050	<0.00050	0.002

Table 2 - Results of 2012 water quality sampling from Boston Portal, in mg/L, unless specified otherwise

HBML Sample		BOSP-17JUL12	Licence 2BB-BOS1217	
ALS ID		L1182174-2	Part D Item 9	
Date/Time Sampled		7/17/2012 @ 13:15	Max Avg Conc	Max Conc of any Grab Sample
Parameters	**Units**	**Results**		
Conductivity (EC)	uS/cm	1100		
Hardness (as $CaCO_3$)	mg/L	347		
pH	pH	7.96		
Total Suspended Solids	mg/L	<3.0		
Aluminum (Al)-Total	mg/L	0.0511		
Antimony (Sb)-Total	mg/L	0.0019		
Arsenic (As)-Total	mg/L	0.117	0.5	1
Barium (Ba)-Total	mg/L	0.008		
Beryllium (Be)-Total	mg/L	<0.0010		
Boron (B)-Total	mg/L	0.067		
Cadmium (Cd)-Total	mg/L	0.00017		
Calcium (Ca)-Total	mg/L	107		
Chromium (Cr)-Total	mg/L	<0.0010		
Cobalt (Co)-Total	mg/L	0.0668		
Copper (Cu)-Total	mg/L	0.0065	0.3	0.6
Iron (Fe)-Total	mg/L	0.245		
Lead (Pb)-Total	mg/L	<0.00020	0.2	0.4
Lithium (Li)-Total	mg/L	0.023		
Magnesium (Mg)-Total	mg/L	24.6		
Manganese (Mn)-Total	mg/L	0.169		
Mercury (Hg)-Total	mg/L	<0.000020		
Molybdenum (Mo)-Total	mg/L	<0.0050		
Nickel (Ni)-Total	mg/L	0.222	0.5	1
Potassium (K)-Total	mg/L	6		
Selenium (Se)-Total	mg/L	0.00075		
Silver (Ag)-Total	mg/L	<0.000020		
Sodium (Na)-Total	mg/L	55.6		
Thallium (Tl)-Total	mg/L	<0.00010		
Tin (Sn)-Total	mg/L	<0.050		
Titanium (Ti)-Total	mg/L	0.0013		
Uranium (U)-Total	mg/L	0.00268		
Vanadium (V)-Total	mg/L	<0.0010		
Zinc (Zn)-Total	mg/L	0.0323	0.5	1
Calcium (Ca)-Dissolved	mg/L	101		
Magnesium (Mg)-Dissolved	mg/L	23.2		
Oil and Grease	mg/L	<1.0		
Oil And Grease (Visible Sheen)		no visible sheen		no visible sheen

Table 3 – Results of opportunistic sampling at the landfill leachate monitoring station BOS-7, where flow was observed in 2012, in mg/L, unless specified otherwise

HBML Sample		BOS7-12JUN12
ALS ID		L1163278-1
Date/Time Sampled		6/12/2012 @ 18:00
Parameters	**Units**	**Results**
Hardness (as $CaCO_3$)	mg/L	283
Aluminum (Al)-Total	mg/L	0.0552
Antimony (Sb)-Total	mg/L	0.00859
Arsenic (As)-Total	mg/L	0.083
Barium (Ba)-Total	mg/L	0.0148
Beryllium (Be)-Total	mg/L	<0.0010
Boron (B)-Total	mg/L	0.13
Cadmium (Cd)-Total	mg/L	0.00003
Calcium (Ca)-Total	mg/L	85.6
Chromium (Cr)-Total	mg/L	0.0012
Cobalt (Co)-Total	mg/L	0.0657
Copper (Cu)-Total	mg/L	0.0018
Iron (Fe)-Total	mg/L	0.136
Lead (Pb)-Total	mg/L	0.00014
Lithium (Li)-Total	mg/L	0.016
Magnesium (Mg)-Total	mg/L	16.9
Manganese (Mn)-Total	mg/L	0.0176
Mercury (Hg)-Total	mg/L	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050
Nickel (Ni)-Total	mg/L	0.107
Potassium (K)-Total	mg/L	6.44
Selenium (Se)-Total	mg/L	0.00065
Silver (Ag)-Total	mg/L	0.00005
Sodium (Na)-Total	mg/L	21
Thallium (Tl)-Total	mg/L	<0.00010
Tin (Sn)-Total	mg/L	<0.050
Titanium (Ti)-Total	mg/L	<0.0010
Uranium (U)-Total	mg/L	<0.00010
Vanadium (V)-Total	mg/L	<0.0010
Zinc (Zn)-Total	mg/L	0.0057
Oil and Grease	mg/L	<1.0
Oil And Grease (Visible Sheen)		no visible sheen
Phenols (4AAP)	mg/L	0.0025
Benzene	mg/L	<0.00050
Ethylbenzene	mg/L	<0.00050
Toluene	mg/L	<0.00050
o-Xylene	mg/L	<0.00050
m+p-Xylene	mg/L	<0.00050
Xylenes	mg/L	<0.00071
F1(C6-C10)	mg/L	0.11
F1-BTEX	mg/L	0.11

HBML Sample		BOS7-12JUN12
ALS ID		L1163278-1
Date/Time Sampled		6/12/2012 @ 18:00
Parameters	**Units**	**Results**
F2 (>C10-C16)	mg/L	<0.25
F3 (C16-C34)	mg/L	<0.25
F4 (C34-C50)	mg/L	<0.25
Acenaphthene	mg/L	<0.000020
Acridine	mg/L	<0.000020
Anthracene	mg/L	<0.000010
Benzo(a)anthracene	mg/L	<0.000010
Benzo(a)pyrene	mg/L	<0.0000050
Benzo(b&j)fluoranthene	mg/L	<0.000010
Benzo(g,h,i)perylene	mg/L	<0.000020
Benzo(k)fluoranthene	mg/L	<0.000010
Chrysene	mg/L	<0.000020
Dibenzo(a,h)anthracene	mg/L	<0.0000050
Fluoranthene	mg/L	<0.000020
Fluorene	mg/L	<0.000020
Indeno(1,2,3-cd)pyrene	mg/L	<0.000010
Naphthalene	mg/L	<0.000050
Phenanthrene	mg/L	<0.000050
Pyrene	mg/L	<0.000010
Quinoline	mg/L	<0.000020
2-Fluorobiphenyl	%	77.2
Nitrobenzene d5	%	76
p-Terphenyl d14	%	92.7
B(A)P Total Potency Equivalent	mg/L	<0.000010

Table 4 – Results of opportunistic sampling at the Boston waste rock and ore storage pad monitoring station BOS-8, where flow was observed in 2012, in mg/L, unless specified otherwise

HBML Sample		BOS8A-10JUN12	BOS8B-10JUN12	BOS8C-10JUN12
ALS ID		L1160693-1	L1160693-2	L1160693-3
Date/Time Sampled		6/10/2012 @ 15:20	6/10/2012 @ 15:10	6/10/2012 @ 15:00
Parameters	**Units**	**Results**		
Conductivity (EC)	uS/cm	394	462	358
Hardness (as $CaCO_3$)	mg/L	149	168	124
pH	pH	7.78	7.73	6.4
Total Suspended Solids	mg/L	3	<3.0	<3.0
Ammonia, Total (as N)	mg/L	0.127	0.142	<0.050
Sulfate (SO_4)	mg/L	90.1	128	116
Aluminum (Al)-Total	mg/L	0.132	0.122	0.181
Antimony (Sb)-Total	mg/L	0.00884	0.00287	0.00179
Arsenic (As)-Total	mg/L	0.253	0.03	1.23
Barium (Ba)-Total	mg/L	0.0075	0.0119	0.0077
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	0.067	0.079	0.128
Cadmium (Cd)-Total	mg/L	0.000015	0.000026	0.000054
Calcium (Ca)-Total	mg/L	42.3	43.9	34
Chromium (Cr)-Total	mg/L	0.0014	0.001	<0.0010
Cobalt (Co)-Total	mg/L	0.0618	0.0138	0.123
Copper (Cu)-Total	mg/L	0.0044	0.0028	0.0014
Iron (Fe)-Total	mg/L	0.199	0.214	0.097
Lead (Pb)-Total	mg/L	0.00032	0.00027	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	12.8	19.3	8.26
Manganese (Mn)-Total	mg/L	0.0573	0.146	0.063
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	0.129	0.0305	0.592
Potassium (K)-Total	mg/L	3.73	5.38	5.95
Selenium (Se)-Total	mg/L	0.00072	0.00054	0.00074
Silver (Ag)-Total	mg/L	0.00002	0.000038	0.00002
Sodium (Na)-Total	mg/L	11.9	16	9.1
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L	0.0029	<0.0010	0.0011
Uranium (U)-Total	mg/L	0.00011	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.0042	0.0057	0.0099
Calcium (Ca)-Dissolved	mg/L	40.3	39.7	35.9
Magnesium (Mg)-Dissolved	mg/L	11.7	16.7	8.32