NWB Annual Report **Year being reported:** 2016

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

Project Name: Boston Advanced Exploration Project

Licensee: TMAC Resources Inc.

Mailing Address:
95 Wellington St. W.
Suite 1010, PO Box 44
Toronto, Ontario M5J 2N7

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

Licence 2BB-BOS1217 was issued Aug 2, 2012 to Hope Bay Mining Ltd. Effective June 18, 2013, the NWB authorized the assignment of Licence 2BB-BOS1217 from Hope Bay Mining Ltd. to TMAC Resources Inc.

General Background Information on the Project (*optional):

The Boston site supports advanced mineral exploration in the south end of the Hope Bay Greenstone Belt. This site is currently in Care and Maintenace.

Licence Requirements: the licensee must provide the following information in accordance with

Part B | Select | Item 6

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 m3/yr or 100 m3/day. There is no differentiation between quantities to be used domestically or for drilling.

Water Quantity:

not specified	Quantity Allowable Domestic (cu.m)
0	Actual Quantity Used Domestic (cu.m)
not specified	Quantity Allowable Drilling (cu.m)
0	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- ☐ Solid Waste Disposal
- ☐ Sewage
- ☐ Drill Waste
- ☐ Greywater
- ☐ Hazardous
- ☑ Other: Fuel Farm Berm, Containment Pond and Mine Portal discharges

Additional Details:

Activities in 2016 at the Boston Camp were limited to water management and licence compliance as the camp was not operational.

When the camp is open, the following applies:
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.

Waste produced on site will be treated according to Part D of the licence, and in accordance with the relevant Management Plans *(Incineration Management Plan, Non-Hazardous Waste Management Plan, and Hazardous Waste Management Plan*). Some specifics are as follows:
-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 2016.
-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 within the BOS-2 containment until it is remediated to acceptable levels for discharges from BOS-2 and BOS-5, or it is removed offsite for treatment/disposal.
-Effluent from the landfarm is sampled in accordance with the licence criteria for discharge when water is available - no discharges occurred from the facility in 2016.
- Effluent from the mine portal/decline is sampled in accordance with the criteria specified for Monitoring Station BOS-2 (Containment Pond). Approximately 207 cu.m. of water was pumped from the mine portal to the tundra in 2016. 14 cu.m. of water was discharged from BOS-2 to the tundra in 2016.

A list of unauthorized discharges and a summary of follow-up actions taken.

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)

No unauthorized discharges occurred in 2016 under licence 2BB-BOS1217.

Revisions to the Spill Contingency Plan

Other: (see additional details)

Additional Details:

See Item 12 of attached Annual Report Supplement for details.

Revisions to the Abandonment and Restoration Plan

Other: (see additional details)

Additional Details:

See Item 12 of attached Annual Report Supplement for details

Progressive Reclamation Work Undertaken

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

See Item 14 of the attached Annual Report Supplement for details.

Results of the Monitoring Program including:

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 Exploration Department for all water sources utilized proximal to the drill targets. No drilling occurred in 2016 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

Additional sampling requested by an Inspector or the Board (See below)

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

No additional sampling or analysis was requested. For actions identified by the Inspector and TMAC responses see Item 13 of this report.

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

Select

Additional Details: (Attached or provided below)

N/A

Any responses or follow-up actions on inspection/compliance reports

Inspection Report received by the Licensee (Date):

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

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

Any additional comments or information for the Board to consider

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

Date Submitted:	March 31, 2017	
Submitted/Prepared by:	John Roberts	
Contact Information:	**Tel:**	416-628-0216 ext 109
	Fax:	
	email:	john.roberts@tmacresouces.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

2016 2BB-BOS1217 Type B Water Licence Annual Report Supplemental Document

Boston Advanced Exploration Project

Nunavut Water Board

Prepared by
TMAC Resources Inc.
Toronto, ON

Prepared for
Nunavut Water Board
Gjoa Haven, NU

March 2017

Executive Summary
2BB-BOS1217 Annual Report

TMAC Resources Inc. ("TMAC") is filing this Annual Report pursuant to 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
- updates or revisions to the Abandonment and Restoration Plan, QA/QC Plan, Waste Rock and Ore Storage Plan, Spill Contingency Plan, and Landfarm 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, and an outline of any work anticipated for the next year
- a summary of drilling activities and progressive reclamation
- any updates with respect to the Boston restoration liability and any modifications to the site plan
- an estimate of both the current and anticipated volume of waste rock and ore stockpiled on site
- a summary of public consultation/participation with local organizations and residents of nearby communities, if any were conducted
- a summary of abandonment and restoration work completed
- an update on the status of the V-notch weir at Stickleback Lake
- a summary of any specific studies or reports requested by the board, and a brief description of future studies currently planned or proposed
- any other details on water use and waste disposal requested by the board

Atanguyan Naetomik Okaohen
2BB-BOS1217 Ukeotoagaagan Unipkaak

TMAC-kon Oyagakheoktin ("TMAC-kon") titigakhimaliktun Ukeotoagaagan Unipkaamik havaamigun 2016-mi ilagani Imaknik Atoknigagun laeseoyum Napaa 2BB-BOS1217 tuniyaohimayok Nunavumi Imalikiyin Katimayenin. Okaotaoyomi Ilagani B, Okaohik 6 Laeseoyomi, unipkaak ilakaktok hivonikhiyutikhanik ukuniga okaoheoyonik:

- naetomik okaohik imaknik atoknigagun atakugutiniklo
- naetomik okaohik naonaepkotink pihimayonik ilagani Amigiyotinun Havaani
- titigaknigin agiktaohimagitun kuvigaeyotinik naetomilo okaohik kigoagun havaanik
- naetomik okateagun kigoagun havaanik ihoakhiyaagani ihomalutaoyun okateakhimayun ihivgeokhikmata maligoateakmagalo unipkaagini Ihivgeokhiyum
- kanogilivaleanigin nutaguktiknigilo Kimaktaokpan Utiktitaaganilo Ilitkoheanun Opalogaeyaon, Haohiven Opalogaeyagaoyok okateagun tamaenik atoenaktun kiguliklunen nunan utiktitaagani ilitkohenun havaagiyaoyun
- naetomik okaohik ihoakhakniginik hanakiyotiloalunen Imiktakviknik Anagukvikniklo, kanoklo havaohikhaenik nahogiyaoyonik atoktukhami ukeomi
- naetomik okaohik ikutaktun havaaginik atoenaktomiklo nunan utiktitaagani ilitkohenun
- kanogilivaleayotin Boston-mi nunan utiktiniganik ilitkohenun maneyaotaoyok ihoakhaotikakalunelo iglukpakakvikmi opalogaeyaon
- nalaotaknigin tamaknik taya nahogiyaoyulo ikagun oyakan oyagaktaaniklo katitigivik iglukpakakvikmi
- naetomik okaohik kitulikaa okakatiginikun nahogiyaoyulunen nunagiyaoyoni timeoyonik inukniklo kanitoani nunagiyaoyoni, pihimanikata
- naetomik okaohik kimaliktaokpan nunalo utiktiniginik ilitkohenun havaan inikhiayun
- kanogiliniganik V-tun itomik hapotinik Stickleback-mi Tatimi
- naetomik okaohik hunaniklikaa ilitokhaotinik unipkaaniklo tukhigaoyun katimayinin, naetomik okateagun hivunikhami ilitokhaotikhanik taya opalogaeyagaoyonik atoktaoyomayoniklo
- ahenik okateagutinik imaknik atoknigagun atakuknikulo tukhigaoyun katimayinin

ᑐᓴᐅᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ
2BB-BOS1217 ᐊᕐᕌᒍᑕᒫᑦ ᑐᓴᐅᒃᓴᑦ

ᐅᑯᐊ TMAC Resources Inc.−ᑯᑦ (“TMAC”) ᑎᑎᕋᖅᓯᒪᓕᖅᑐᑦ ᐊᕐᕋᒍᓕᒫᖅᓯᐅᑎᒥᓐᓂᒃ ᐊᐅᓚᑕᒥᓃᑦ ᐅᑭᓂ 2016 ᐊᑑᑎᑎᓪᓗᒋᑦ ᐃᒪᓕᕆᔾᔪᒑ ᓚᐃᓴᑦ No. 2BB-BOS1217 ᑐᓂᔭᐅᔪᔪᑦ ᓄᓇᕗᑦ ᐃᒪᓕᕆᓘᑦ ᑲᑎᒪᔨᖏᑦᑕ. ᐅᑯᐊ ᐃᓚᖓᓅᖓᔪᑦ B, ᐱᔾᔪᑦ 6 ᓚᐃᓴᖃᕈᑎᖓᑦ, ᑐᓴᐅᒃᓴᑦ ᒪᑯᓂᖓ ᐃᓚᖁᑦ:

- ᑐᓴᐅᒃᓴᑦ ᐃᒥᖅ ᖃᓄᖅ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᖓ ᐊᒻᒪᓗ ᐊᒃᑐᖅᑕᐅᖃᑦᑕᕐᓂᖓ ᐊᐅᓚᑦᓯᔪᓄᑦ
- ᑐᓴᐅᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᑎᑎᖅᑕᐅᕙᒃᑐᑦ ᖃᐅᔨᒪᔾᔪᑕᐅᓂᐊᕐᒪᑕ ᓄᐊᑕᐅᓪᓗᑎᒃ ᒪᓕᒃᑐᑦ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐱᓕᕆᔾᔪᑎᓂᒃ
- ᐊᑑᑎᒍᑎᖃᓐᓂᖏᑦᑐᑦ ᐱᔪᓐᓇᐅᕈᑎᓂᒃ ᐊᓯᐊᓅᖅᐸᒃᑐᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐊᒻᒪᓗ ᓇᐃᓈᖅᓯᒪᔪᑦ ᑐᓴᐅᒃᓴᑦ ᖃᓄᖅ ᐊᑑᑕᐅᕐᑯᔭᑦ ᑲᒪᕐᑯᔭᐅᓪᓗᑎᒃ
- ᐅᓂᒃᑳᑦ ᓇᐃᑦᑑᒐᓗᐊᑦ ᖃᓄᖅ ᐊᑑᑕᐅᕐᑯᔭᓂᒃ ᒪᓕᒃᑐᑦ ᐅᔾᔨᑐᑦᓯᐊᕐᑯᔭᐅᓪᓗᑎᒃ ᐃᓱᒫᓗᖓᖅᑐᓂᒃ ᖃᐅᔨᓴᖅᑕᒥᓂᕐᓂᒃ ᐊᒻᒪᓗ ᒪᓕᒃᑐᑦ ᐊᑑᑕᐅᕐᑯᔭᐅᓯᒪᔪᓂᒃ ᐱᕐᑯᔭᖅᑎᒍᑦ ᑐᓴᐅᒃᓴᑦ ᐋᕐᑭᒃᓯᒪᔭᖏᑦ ᖃᐅᔨᓴᖅᑎᐅᑉ ᓇᐅᑦᓯᑐᖅᑎᐅᑉ
- ᒫᓇᕐᓂᑕᑦ ᑐᓴᐅᒃᓴᑦ ᐅᖅᑲᓗᑭᐊᖅ ᐋᕐᑭᖏᐊᖅᓯᒪᔭᑦ ᕿᒪᒃᑕᐅᓖᑦ ᐊᒻᒪᓗ ᓴᓗᒪᖅᓴᐃᒍᑎᑦ, ᕿᑭᖅᑕᓂ ᑲᑐᔾᔨᖃᑎᒋᑦ/ᕿᑭᖅᑕᓂ ᑯᐊᐳᓃᓴᓐ, ᐅᔭᖃᑦ ᐊᒃᑕᑯᑦ ᐊᒻᒪᓗ ᓯᕐᓗᐊᖅ ᓄᐊᑕᒥᓂᖅᑕᓕᒃ ᐅᔭᖃᓂᒃ, ᓄᓇᓕᕆᓯᓯᓂᖅ ᖃᓄᖅ ᐊᐅᓚᑕᐅᑌᔭᕐᓂᖏᑦ ᐅᓂᒃᑳᑦ ᐃᓘᓐᓇᐃᓐᓂᒃ ᐱᔾᔪᑎᓖᑦ ᐱᕙᓪᓕᐊᔭᓕᒫᓂᒃ ᐅᖅᑲᓗᑭᐊᖅ ᑭᖑᓪᓕᖅᐸᓂ ᓴᓗᒪᖅᓴᕋᒃᓴᑦ ᐱᓕᕆᐊᖑᓕᖅᑐᑦ
- ᑐᓴᐅᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᐱᔾᔪᑎᓕᒃ ᖃᓄᖅ ᐋᕿᒋᐊᕆᐊᓕᖕᓂᒃ ᐅᖅᑲᓗᑭᐊᖅ ᐊᖏᔫᑎᓂᒃ ᓴᓇᔭᑦ ᐃᒪᖃᕈᒻᒨᖓᔪᑦ ᐊᒻᒪᓗ ᐊᒃᑕᑯᓄᑦ ᐃᒥᕐᒨᖓᔪᑦ, ᓇᓗᓇᐃᔭᖅᓯᒪᔭᑦ ᖃᓄᐃᑦᑐᑦ ᓱᓕ ᑲᒪᒋᔭᐅᒋᐊᓖᑦ ᐊᕐᕌᒍᖁᖅᑐᑦ
- ᑐᓴᐅᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᐃᑰᑕᕐᓂᓕᕆᔪᑦ ᐊᐅᓚᑕᑦ, ᐱᕙᓪᓕᐊᔭᑦ ᓴᓗᒪᓴᖅᑕᐅᒋᐊᖁᓪᓗ
- ᖃᓄᑐᐃᓐᓇᖅ ᒫᓇᕐᓂᑕᑦ ᑐᓴᐅᒃᓴᑦ ᐅᕗᖓᖓᔪᑦ Boston ᓴᓇᒋᐊᕈᑏᑦ ᐱᕐᑯᑎᒋᔭᒥᒃ ᐊᒻᒪᓗ ᐋᕐᑭᒃᑕᐅᒋᐊᕈᑎᖏᑦ ᓄᓇᐅᑉ ᖃᓄᐃᓕᖓᓂᖓᑕ
- ᒥᒃᓴᐅᓴᒃᑐᑦ ᑕᒪᒃᐿᓐᓅᖓᔪᑦ ᒫᓇ ᐊᒻᒪᓗ ᖃᓄᐃᓕᖓᓕᖅᑐᑦ ᐅᔭᖃᑦ ᐊᑐᖅᑕᐅᓂᐊᖏᑦᑐᑦ ᐊᒃᑕᑯᑦ ᐊᒻᒪᓗ ᐅᔭᕋᓐᓂᐊᖅᑕᒥᓃᑦ ᓄᐊᑕᐅᓯᒪᔪᑦ ᐃᓂᒥᓐᓃᑦᑐᑦ
- ᑐᓴᐅᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᐅᖃᖃᑕᐅᕙᖕᓂᖏᑦ ᐃᓄᐃᑦ ᑲᑎᒪᑎᑕᐅᓪᓗᑎᒃ ᐃᓚᐅᔪᓪᓗ ᓄᓇᓕᖕᓂ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐊᒻᒪᓗ ᓄᓇᓖᑦ ᖃᓂᒋᔭᖏᑦ, ᐱᑕᖃᕈᕈᑕ ᖃᓄᖅ ᐊᐅᓚᑕᓂᒃ
- ᑐᓴᐅᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᕿᒪᒃᑕᐅᓕᖅᐸᑦ ᐊᒻᒪᓗ ᓄᓇ ᐅᑎᖅᑎᑕᐅᓕᖅᐸᑦ ᓴᓗᒪᓴᖅᑕᐅᓗᓂ ᐃᖃᓇᐃᔾᔪᑦ ᐱᔭᕇᐸᑕ
- ᒫᓇᕐᓂᑕᑦ ᑐᓴᐅᒃᓴᑦ ᐱᔾᔪᑎᓖᑦ ᐃᖃᓗᓕᖕᒥᒃ ᓴᐳᑏᑦ ᑕᓯᖓᓂ Stickleback Lake−ᒥ
- ᑐᓴᐅᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᖃᓄᑐᐃᓐᓇᖅ ᐃᓕᓴᕆᑕᐅᓯᓐᓈᑦ ᖃᐅᔨᓴᖅᑕᑦ ᐅᖅᑲᓗᑭᐊᖅ ᑐᓴᐅᒃᓴᑦ ᑐᒃᓯᕌᕆᓯᒪᔭᖏᑦ ᑲᑎᒪᔩᑦ, ᐊᒻᒪᓗ ᐅᓂᒃᑳᑦ ᐱᔾᔪᑎᓖᑦ ᓇᐃᓈᖅᓯᒪᔪᓂᒃ ᓯᕗᓂᒃᓴᒧᑦ ᐊᑑᑕᐅᖃᑦᑕᕈᖅᑐᑦ ᐃᓕᓐᓂᐊᕈᑕᐅᓯᓐᓇᖅᓱᑎᒃ ᒫᓇ ᐸᕐᓇᑕᑦ ᐅᖅᑲᓗᑭᐊᖅ ᑐᒃᓯᕌᖑᓯᒪᔪᑦ
- ᖃᓄᑐᐃᓐᓇᖅ ᐊᓯᖏᑦ ᐅᓂᒃᑳᑦ ᐱᔾᔪᑎᓖᑦ ᐃᒥᖅ ᖃᓄᖅ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᖓᓂᒃ ᐊᒻᒪᓗ ᐊᒃᑕᖅᑕᐅᖃᑦᑕᕐᓂᖓ ᐊᑐᖅᑕᐅᓂᑯ ᑐᒃᓯᕌᖏᑦ ᑲᑎᒪᔩᑦ

Résumé opérationnel
2BB-BOS1217 Rapport annuel

TMAC Resources Inc. (« TMAC ») a déposé son rapport annuel sur ses activités au cours de l'année 2016 en conformité avec le Permis no 2BB-BOS1217 émis par l'Office des eaux du Nunavut (Nunavut Water Board), tel qu'énoncé dans la partie B, point 6, du permis. Le rapport comprend des renseignements sur les sujets suivants :

- un aperçu de l'utilisation et du traitement de l'eau et de l'évacuation des rejets
- un aperçu des données générées dans le cadre du programme de surveillance
- une liste des déversements non autorisés et un résumé des mesures de suivi prises à la suite de ces incidents
- une brève description des mesures de suivi prises pour régler les problèmes décrits dans les rapports d'inspection et de conformité établies par l'inspecteur
- des mises à jour et révisions du plan d'abandon et de restauration « Abandonment and Restoration Plan », du plan d'assurance/contrôle de la qualité (AQ/CQ), du plan de gérance des haldes de stériles et des piles de stockage de minerai « Waste Rock and Ore Storage Plan », plan d'urgence en cas de déversement « Spill Contingency Plan » et du plan de restauration du site par bio-remédiation « Landfarm Plan »
- une description des travaux de remise en état progressive et des travaux de remise en état terminé
- un aperçu des travaux d'entretien mineurs ou des travaux majeurs effectués sur les réserves d'eau potable, les installations de l'évacuation des rejets et de toutes leurs composantes s'y rattachant, ainsi qu'un aperçu des travaux prévus l'année suivante
- un aperçu des activités de forage et des travaux de remise en état progressive
- toute mise à jour du dépôt de garantie relatif aux travaux de remise en état en accord avec le « Boston restoration liability » et toute modification effectuée au plan du site
- une estimation du volume actuel et prévu des haldes de stériles et piles de stockage de minerai sur le site
- un aperçu décrivant la participation et la réalisation de consultations avec les organisations locales et les habitants des communautés voisines, si elles ont été menées
- un aperçu des travaux d'abandon et de restauration effectués
- une mise à jour sur l'état de la barrière de dénombrement (V-notch weir) au Lac de l'épinoche « Stickleback Lake »
- un aperçu des rapports ou études scientifiques exigés par l'Office et une brève description des éventuelles recherches ou celles prévues par l'Office
- tout autre détail en lien avec l'utilisation et du traitement de l'eau et de l'évacuation des rejets

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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 2016. 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 mine water was pumped from the underground in 2016.

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 207 m^3 of surface water accumulation was discharged from the Boston portal in 2016 (68 m^3 on July 16, 93 m^3 on August 14, and 46 m^3 on September 15). The compliant water was discharged onto the tundra to the west of the portal at UTM 7505316 N, 441197 E as approved by the Inspector. Prior notification of the planned discharge was provided May 4, 2016.

Historically, the BOS-2 Containment Pond has been used to contain water pumped from the Bulk Fuel Storage Facility BOS-5 as a water management strategy pending analytical water quality results. Water was transferred in June to BOS-2 from BOS-5 to facilitate prompt evacuation of water from the fuel farm berm (8 m^3 on June 10). While in BOS-2 this water was treated though an oil/water separator in preparation for discharge. A total of 14 m^3 was discharged from BOS-2 in 2016 (3 m^3 on July 16, 8 m^3 on August 14, and 3 m^3 on September 15). The water was discharged onto the tundra east of the Containment Pond as approved by the Inspector. Prior notification of the planned discharge was provided May 4, 2016. Details of the water quality testing are provide in Appendix A.

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 2016. 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 2016.

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 2016, no new material was deposited in the Landfarm facility at Boston Camp.

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 2016. No drilling occurred pertaining to the Licence.

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 2016 in the Boston area. 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 strings 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.

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 are provided in 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 2016.

On January 31, 2017, TMAC submitted an application to the Nunavut Water Board to renew the existing Type B Water Licence which is set to expire on July 31, 2017. Details for this application can be found on the NWB Website at this location: ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2B/2BB%20-%20Bulk%20Sampling/2BB-BOS1217%20TMAC/1%20APPLICATION/2017%20Renewal/

In the renewal application TMAC requested a renewal of the scope provided for in the current licence 2BB-BOS712. Subject to approval of the renewal application, in 2017 TMAC intends to

undertake a surface diamond core drilling program which will be supported from the existing Boston Camp. As such, the camp will be re-opened in the spring of 2017 and all terms and conditions in the existing licence will be adhered to while gradually bringing the site out of care and maintenance. In conjunction with the drill program at Boston, TMAC will utilize the camp to support regional exploration programs in the south and central portion of the Hope Bay Property. In order to maintain access to the Boston Site, TMAC plans planning to create overland access to the Boston site during April and May of 2017 by way of a winter track/road.

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

No unauthorized discharges occurred pertaining to this licence in 2016.

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)]

TMAC has an approved Hope Bay Project Spill Contingency Plan (April 2016). The Spill Contingency Plan will be utilized to safeguard against accidental spills of harmful substances that may negatively affect the environment. This plan was developed in accordance with the Spill Contingency Planning and Reporting Regulations developed under Section 34 the Government of Nunavut's *Environmental Protection Act* (RSNWT Nu1988), and was developed specifically to address the requirements of Water Licences 2AM-DOH1323, 2BE-HOP1222 and 2BB-BOS1217, and Project Certificate Number 003. This provides a consistent spill response framework that is available to all site personnel so they can effectively and efficiently respond to a spill of petroleum products and/or hazardous materials regardless of where on the Hope Bay site they are encountered.

The approved Abandonment and Restoration Plan (2014), QA/QC Plan (2012) and the Water and Ore/Waste Rock Management Plan (2009), and the Boston Land Treatment Area Management and Monitoring Plan (2012) are still considered operationally valid for Care and Maintenance and were therefore not updated in 2016

It should be noted that on January 31, 2017, TMAC submitted an application to renew the existing Type B Water Licence which is set to expire in July 31, 2017. Along with this application TMAC provided updates to the following Management Plans which are subject to approval:

Hope Bay Project Boston Camp Interim Closure Plan. January 2017
Hope Bay Landfarm Management and Monitoring Plan. January 2017
Hope Bay Project Water and Ore/Waste Rock Management Plan for Boston Site. January 2017
Hope Bay Project Spill Contingency Plan. January 2017
Hope Bay Quality Assurance and Quality Control Plan. January 2017
Hope Bay Project Interim Non-Hazardous Waste Management Plan. November 2016

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)]

An inspection of Boston Camp and area was not conducted by INAC in 2016.

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

No drilling activities occurred in 2016 in the Boston water licence area and no drill hole reclamation was undertaken.

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)]

The existing and approved Boston Interim Closure Plan (2014) submitted to the NWB May 26, 2014. This plan includes a current closure cost estimate of $5,988,000. This amount includes cost escalation, management of mineralized rock, reclaiming drill sites and other areas of permafrost degradation, remediation of hydrocarbon contaminated soils, indirect costs, and a contingency. A copy of this plan can be found on the NWB Website.

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 report describing consultation with local organizations and residents of the nearby communities, if any were conducted [as per Part B Item 6 (q)]

TMAC Resources Inc. in consideration of the amended 2016 Doris North NIRB Project Certificate, amended and updated the existing *Community Relations Plan* governing community engagement activities, to create a new *Community Involvement Plan*.
This Plan integrates and includes a number of TMAC policies that related to community engagement under one document, and makes distinctions between engagement activities and those related to human resource management covered under another Plan. Further, the new Plan organizes engagement activities into functional areas consistent with the Mining Association of Canada *Towards Sustainable Mining - Community Engagement Protocol*, and generally updates activities based on the most current communications practices utilized in the Kitikmeot region. Going forward into 2017, the *Community Involvement Plan* will be the basis by which TMAC Resources Inc. informs, seeks feedback and responds to the public in Nunavut.

Julia Micks VP of Human Resources for TMAC heads the community involvement team. Alex Buchan, Director of Community Relation, based in Cambridge Bay is primarily responsible for delivering community involvement activities. The Community Relations team includes and is

supported by Ikey Evalik, Inuit Impact and Benefit Agreement Coordinator, and Nicole Magsagak, HR Coordinator, both also based in Cambridge Bay.

Community relations in 2016 focused on public discussion on the amended Doris North mine plan under consideration by both the Nunavut Impact Review Board and Nunavut Water Board, supporting the deliberations of the Inuit Environmental Advisory Committee pursuant to Schedule I of the 2015 Hope Bay IIBA, and acting as a resource for the region and TMAC in beginning to recruit and staff a permanent mine production workforce for Doris Mine.

TMAC continued to maintain a Kitikmeot office, located on the 2nd floor of the Kitikmeot Center, above the Northern Store at #18 Mitik Street. TMAC maintains an open door policy and Cambridge Bay residents and Inuit regularly visit the TMAC office for their own interest.

TMAC continued to participate in territorial, regional and community organizations and groups aligned to support community relations and consultation efforts. These groups include the NWT/Nunavut Chamber of Mines, the Nunavut Mining Symposium Society, the Nunavut Mine Training Roundtable, the KIA regional ASETS Stakeholder group, Kitikmeot Socio-Economic Monitoring Committee and the Cambridge Bay Canadian High Arctic Research Station Committee. TMAC also participated and financially supported the 40th Anniversary celebrations for the Kitikmeot Inuit Association in 2016.

TMAC involvement in the Chamber of Mines and Mining Symposium promotes industry awareness and advocacy and mine focused dialogue at a territorial level. Participation in the Mine Training Roundtable and ASETS Stakeholder group promotes understanding and coordination of training and education initiatives in the region and territory Participation in the Kitikmeot Socio-Economic Monitoring Committee supports discussion on the effects of major development on Kitikmeot communities and residents.

TMAC Resources undertook a regional tour of the Kitikmeot region in 2016 to consult with the public, and actively participated in regulatory hearings held within the region related to our activities.

During the course of community engagement activities, TMAC notes a measured degree of support for our mining and exploration operations, and a strong and growing interest in permanent employment and training opportunities related to mine production.

Cambridge Bay Logistics Hub

Cambridge Bay continues to be the logistics hub for TMAC in the Kitikmeot. However, several changes occurred in the routing of employees to and from work in 2016. During the early part of the year, direct air charter flights were extended to Kugluktuk from Cambridge Bay and the Hope Bay site on a bi monthly basis. The decision to do so was based growth in the Kugluktuk workforce. Later in 2016, air charter service was again extended this time to the eastern Kitikmeot communities. These easterly flights alternating with westerly flights bi-monthly This change was made in response to growth in the eastern Kitikmeot workforce. With all such routing adjustments, TMAC aims to transport workers to and from Hope Bay in the most

effective and efficient manner possible, avoiding Yellowknife and overnight accommodations, to and from all Points of Hire.

Other Communications

TMAC continues the use of a project/company Facebook page to provide information on Hope Bay primarily to northern stakeholders. Content of this page includes permitting information, meeting notices, job advertisements, and pictures of site activities linked to Kitikmeot community news pages. Feedback from TMAC information from this social media source is growing and it may be surmised that many younger Kitikmeot residents make better use of this information source than Elders or others more typically reliant on information received during public meetings. The page can be viewed at the following link: https://www.facebook.com/tmacresources.

Community Relations Monthly Summary

January

Received one request from Kitikmeot Inuit business wishing to meet with TMAC during the Cordilleran Roundup. Given current planned TMAC attendance at event, alternative meetings now planned.
Provided Inuinnaqtun place name options for Doris Lake Exploration Target area.
Assist Environmental staff in finalizing visiting hunter poster, for use in public communications on procedures to use when in the Hope Bay area. Maps currently being revised; final product to be translated into Inuinnaqtun.
Delivered Hope Bay project update presentation to KIA Board of Directors meeting January 13th with slides provided by Mr. Morrison.
Facilitated 3rd Inuit Environmental Advisory Committee meeting per Schedule J of the 2015 Hope Bay IIBA. Meeting held primarily to solicit Fish habitat compensation ideas in relation to Doris Lake drawdown issue.
Attended Nunavut Water Board (NWB) community session in Cambridge Bay regarding our Type A Water License amendment application. Session was poorly attended by the public due to lack of local advertising by the NWB. Community member comments on our application focused on caribou and socio-economic matters not considered as part of the water licensing process.

February

Provided project update to Minister Keith Peterson.
Attended the 2016 Kitikmeot Trade Show in Cambridge Bay with Mr. McCreadie. Highlights included:
-Meeting with Premier Taptuna to provide a project update.
-Meeting with Minister Tootoo to provide a project update and request a future meeting between the Minister and TMAC Executive.
-Delivered career awareness presentation to Kitikmeot Trade Show Youth delegates.
-Delivered project update and contract forecast presentation to KTS delegates in main session.

-Met with attending Kitikmeot Qualified Business during the Trade Show to discuss inclusion on the KIA Registry and verbally review 2016 contract opportunities in support of Schedule F, IIBA implementation.
Attended Cambridge Bay Community Readiness Meeting; reviewed initial results of Conference Board of Canada work to compile socio-economic baseline information, and discussed timeline for Hamlet of Cambridge Bay to compile results of community survey.
Met with Polar Knowledge Canada staff to discuss potential collaboration on Plant Traditional Knowledge study per KIA NTKP Report recommendation; PKC is engaged in broad based vegetation mapping project with NASA that includes a traditional knowledge component, which provides an opening for this.
Received inquiry from Gjoa Haven Inuit business inquiring about surplus equipment.

March

Community Relations staff on leave.

April

Attended 2016 Nunavut Mining Symposium in Iqaluit. Activities during conference included:
-Attended Nunavut Leaders Forum on behalf of Chamber of Mines. Attendees included Premier Taptuna, Minister Ell-Kanayok, Senator Patterson, Minister Tootoo, NTI President Cathy Towtongie, and KIA President Stanley Anablak as well as Nunavut developer representatives. Topics of discussion included Infrastructure, caribou protection and land use planning, and over bonding.
-Attended meeting with GN-DOE officials to reconcile draft wildlife commitment list for the Doris Amendment application.
-Attended meeting with INAC Nunavut officials to reconcile water and mine operations commitment list for the Doris Amendment application.
-Presented Hope Bay project update to delegates in front of full theater audience. Feedback provided indicated a high level of interest from delegates in TMAC news.
-Nunavut Mine Training Roundtable meeting prepared for but postponed at last minute due to weather delays affecting Kivalliq delegate attendance.
-Attended KIA Inuit Agreement lessons learned presentation delivered by Geoff Clarke relying heavily on TMAC negotiation experience.

Assisted in the Community Roundtable portion of the NIRB Doris Amendment Public Hearing including partially presenting a project summary and answering questions posed by the public.
Presented a project update to the 2016 Kitikmeot Mayors Meeting held in Cambridge Bay this week. As the event was severely behind schedule, only answered one question in relation to the expected timeline for a NIRB Board recommendation on the Doris Amendment application.
Attended an ECCC/GN-DOE joint Dolphin and Union caribou management planning public meeting in Cambridge Bay. Although some mining related comments were expressed, none were negative. GN-DOE acknowledged TMAC support in researching this herd during the meeting.

One media contact with Jane George of Nunatsiaq News. Intention of interview was to gather information on a newspaper article on the Doris Amendment Public Hearing.
Attended Nunavut Leadership Forum debrief session via teleconference with key other participants including Minister Ell-Kanayok and MAC representatives. Key discussion item was the Northern Infrastructure Bank concept and garnering support for Canada to consider this vehicle for northern development.
Chaired Nunavut Mine Training Roundtable 2016/17 funding allocation meeting via teleconference. The following projects were supported:

-Hamlet of Arviat – Heavy Equipment and Employee Counselling.
-Kitikmeot Corporation – Food Services training.
-Qikiqtaaluk Inuit Association – Financial management for mine employees.

May

On May 3rd, TMAC presented to the Kitikmeot Inuit Association (KIA) Board of Directors meeting held in Kugluktuk. The KIA clearly has an Inuit employment focus, as a number of employment related matters were voiced by Board members during the presentation. During this meeting, the KIA Board formally approved the 2015 IIBA Evaluation Report pursuant to Schedule A of the IIBA.
SR and Environment staff participated in a round of community consultations throughout the Kitikmeot region on Phase II (Madrid and Boston) plans in preparation for submitting a Draft Environmental Impact Statement (DEIS) within a year. Community sessions were well attended except for Cambridge Bay, which may be a result of consultation fatigue due to the number of recent public hearings held in that community. Public comment on our Phase II plans centred on employment and training and impacts to fish and wildlife. Signage used during the community sessions is being utilised at our Cambridge Bay office location to continue to provide information to the public on our future plans.
Facilitated and participated in an Executive meeting with Fisheries Minister Tootoo in Ottawa. A short project update was provided.
SR staff processed one complaint this month. A Government of Nunavut Environment employee attending Site in April expressed concern to the KIA that TMAC was disturbing caribou with unrestricted helicopter flights. SR staff reviewed Caribou sightings compiled by Site Environment staff. The results of this review was provided to the KIA in response to this complaint. This information demonstrated that air operations complied with our Wildlife Monitoring and Mitigation Plan guidelines. KIA has advised that the matter is closed.
Two local senior high school Social Studies classes attended the Cambridge Bay office to learn more about our company and our activities this month.

June

Attended Hamlet of Cambridge Bay 2016 Career Fair Planning Session; no new developments with Hamlet staff still reaching out to potential attendees.
Assisted in communicating a family emergency to an onsite Nuna West worker from information provided by KIA President Stanley Anablak. Subsequently the employee was airlifted to

Cambridge Bay to return to his home community. Hope Bay site telephone listing provided to senior KIA staff in order to facilitate possible emergency communications in the future.

July

Attended KIA 40th anniversary and Nunavut Day celebrations with TMAC Executive meeting with numerous members of the public and TMAC staff in Cambridge Bay.
Facilitated meeting between TMAC executive and Premier Taptuna; 2 takeaways include request for additional information on fish toxicity testing issue and asset description for temporary work camp stored in Quebec.
Provided communication support to site environment staff stemming from the use of bear deterrents at the Waste Management facility this week; GN DOE and KIA satisfied with our response to the juvenile bear, and provided minor recommended improvements for the future.
Received and forwarded to Site a request from local resident to purchase a weather haven shelter cover to replace wind-damaged equipment purchased as surplus from Hope bay in 2012.

Walk in visitation from Brent Else, Physical Geographer at University of Calgary involved with local bathymetric studies – referred to Roberts bay bathymetric studies with potential for DFO oceanography team to visit next week for additional information.
Responded to INAC regional geologist request for Nunavut employment and economic impact statistics for Hope Bay; INAC preparing summary of mineral exploration and development benefits for presentation to NPC Land Use Plan Final Hearing.
Daily communications with both GN-DOE and KIA on problem bear situation including decision to destroy the animal. Wildlife Compensation Claim from KIA pending and valuable parts of animal to be turned over to GN-DOE next week after NCC flight.

August

Provided grizzly bear meat to Cambridge Bay wellness center for distribution to the Food Bank.
Was approached by the Cambridge Bay Men's group for logistical support for their on the land camp at Naujaat this month. Provided request details to Operations staff for consideration. Also, attended Men's Group trip planning session to provide emergency contact information for Hope Bay.
Received email request from Nunavut Arctic College for a letter of support for the continuation of funding the Environmental Technology Program in Cambridge Bay. Drafted letter for VP of Environment signature and delivered to the College.
Courtesy meeting with Horizons North trainers in town to deliver Hope Bay focused hospitality training. Courtesy meeting with Kitikmeot Corporation with news shared on increased ownership of Nuna Logistics.
Liaison between Cambridge Bay Men's group and Site operations personnel regarding urgent need for gasoline in order to allow for return to Cambridge Bay from Parry Bay. Group was severely short of fuel due to poor planning, and operations indicated that we need to have gasoline replaced. Informed Men's Group organizers that repayment for gasoline required.
Attended Kitikmeot Catering Hospitality Training course graduation ceremony in Cambridge Bay. Provided training results summary to TMAC executive.

Participated in Killinik High School trip to Ovayok Territorial Part including geological interpretation.

September

Attended Kitikmeot Corporation Board of Directors meeting and provided a brief verbal project update. Questions from the Board included status of the TMAC sealift, review of KC group training initiatives and status of KCMD miner training proposal.
Reviewed TMAC project mention in future North of 60 mining overview article in draft from the Chamber of Commerce and made several corrections to suggested text.
Reviewed details of Nunatsiaq News article implicating TMAC in Cambridge Bay alcohol problems with TMAC staff; discussed with RCMP staff sergeant quoted in article and determined that he had been grossly misquoted.
Attended Doris Site visit with Nunavut Water Board public hearing bound regulators and Senator Patterson. Delivered a presentation on Employment and Training for Hope bay to portion of tour group at site during afternoon session.
Attended Nunavut Water Board Public hearing on Doris Type A water license amendment application, with support to permitting team in town for these proceedings. Was available for HR/SR questions during public presentation section of hearing, however no questions were made by the public.
Attended Cambridge Bay Career Fair event with HR staff. Adult public participation limited.
Assisted in 2016 Cambridge Bay Food Bank collection drive with request to Site for any surplus food to be sent back on next week's Northern Crew Change.
Participated and supported 2 day workshop on Caribou effects of Phase II development with IEAC and other Inuit advisors; a number of recommendations on further caribou monitoring and mitigation received by group and to be summarized in workshop report by next month.

October

Attended the Kitikmeot Inuit Association Annual General meeting held in Cambridge Bay October 4,5 and 6th. Highlights included:

-Kitikmeot Corporation CEO John Stevenson mentioned the potential of TMAC self-performing surface site operations instead of Nuna West. KIA Board member Andre Otokiak questioned whether Nuna West Inuit hires would be eligible for employment directly with TMAC if this function were self-performed. John Stevenson responded that Nuna staff at Hope Bay were highly skilled and would be well suited to this work, however this was a question better answered by TMAC. During break, Director Otokiak informed of the balance sought between poaching contract workers and recognizing site experience.
-Also during Kitikmeot Corporation presentation, delegate Jimmy Haniliak expressed the concern that Inuit employees have access to older Inuit in order to express any workplace concerns at remote camp workplaces. Nuna West representative Dan Kane responded generally that KC adheres to specific site practices put in place by project ownership, and that often there is provision for Elders and advisors to be present on site and accessible to staff.

-Met with Premier Taptuna and Minister Peterson to provide project update; note to executive on same.
-Informal discussions with many of the KIA community delegates to share project update information and encourage local Inuit to respond to our current job ads.
Chaired KIA ASETS Stakeholder Working Group Meeting, with a number of government training organizations and other industry representatives in attendance.
Reported Arctic Hare traffic mortality to NIRB, GN-DOE and KIA. GN-DOE advised to incinerate the carcass, and KIA advised that they will not be seeking wildlife compensation payment.

November

Attended Polar Knowledge Canada open house in Cambridge Bay. Research station on schedule for full operations mid-2017, with opening ceremony scheduled during Q3 2017.
Attended 2016 Geoscience Forum in Yellowknife with following highlights
Chamber of Mines Annual General Meeting
-Meeting with KIA Lands staff to discuss water licence security, Phase II DEIS review timelines and use of tracked miniature RC drill on Inuit Owned Lands.
-Meeting with CANNOR staff to discuss Community Readiness Initiative Cambridge Bay project follow up and water licence Ministerial approval.
-Met with representative of Canadian Professional Accountants association and was provided materials related to Financial Literacy outreach program that could be useful for TMAC northern hire delivery.
Responded to Facebook comment from a Kugaaruk resident expressing concern over potential arsenic contamination and our operation causing declines in caribou populations.

December

Attended Kitikmeot Socio-Economic Monitoring Committee (KitSEMC) meeting and Doris North Project Specific Committee (DNSEMC) meeting held in Cambridge Bay.
KitSEMC meeting included over 30 government and community representatives. Statistics, community, program information and departmental reports received from 3 Government of Nunavut groups, with additional presentations made by INAC Nunavut General Monitoring Program, Sabina Gold and Silver, KIA, and Gray's Bay Road and Port Project.
TMAC Hope Bay 2016 project specific socio-economic monitoring indicators were presented to the group with primarily technical and data collection related feedback. TMAC interpretation of indicator results accepted. The Doris project is progressing with social and economic impacts in line with TMAC predictions, with no issues of concern.
Attended Nunavut Economic Forum (NEF) public meeting in Cambridge Bay. NEF conducting consultations on update of Nunavut Economic Development Strategy for the Government of Nunavut, Government of Canada and Nunavut Tunngavik Inc. Provided Hope Bay related input to highlight the need to continue to support Nunavut mineral exploration and mining development. More information on the NEF can be seen at:
http://www.nunavuteconomicforum.ca/public/index.php

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)]

No abandonment or restoration work was completed in 2016 at Boston.

No fieldwork is planned for 2017, aside from opportunistic reclamation of historic drill holes if staff resources and site access limitations permit.

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 2016.

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, 2016.

Appendix A

Annual Monitoring Report – 2BB-BOS1217

a) Tabular Summary of Monitoring Information

The following section summarizes the results of sampling undertaken in 2016 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 2016: 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).

As in previous years, water from the Containment Pond (BOS-2) is sampled for and screened against, both BOS-2 and BOS-5 criteria. The Containment Pond (BOS-2) has been used to consolidate water from the smaller fuel containment berms, and occasionally from the bulk fuel farm BOS-5, to facilitate testing and treatment while allowing the fuel berms to be promptly vacated of water. Water was transferred from BOS-5 to BOS-2 on June 10 and treated through an oil/water separator with activated carbon. A sample from BOS-2 was collected on June 21 and analyzed. This sample was non-compliant with the BOS-5 discharge criteria for total lead outlined in Part D, Item 19 (0.001 mg/L); however, the sample was compliant with the adjusted discharge criteria for this parameter authorized by the Inspector on July 18, 2015 (0.01 mg/L). Water was discharged on July 16 (total of 3 m^3) through the discharge hose of the oil/water separator and samples collected during discharge were compliant with all discharge criteria.

On August 14 and September 15, water remaining in BOS-2 was discharged to tundra through an oil water separator (a total of 8 m^3 and 3 m^3 respectively). The water was compliant with discharge criteria in Part D, Item 19 in samples collected during discharge on August 14. Samples collected on September 15 during discharge were compliant with the adjusted discharge criteria authorized by the Inspector. Analytical results of all sampling are provided in Table 1.

Mine water was not pumped from underground during 2016. The surface water accumulated at the portal was sampled against criteria for BOS-2 (Containment Pond) and discharged to the tundra at UTM 7505316 N, 441197 E r. All samples were in compliance with BOS-2 discharge criteria. Table 2 shows the sampling results for this water.

Water from BOS-5 (effluent from the bulk fuel storage facility) was transferred into the Containment Pond BOS-2 in June. No water was discharged to tundra from this facility in 2016 and no water quality samples were collected.

Water was not discharged from BOS-6 (Landfarm) in 2016 because there was no water to sample at this location.

No landfill exists at Boston and the status of monitoring station BOS-7 is in-active.

During 2016, TMAC opportunistically sampled at locations where seepage was observed during periods of runoff near the waste rock and ore storage pad (BOS-8). Table 3 shows sampling results of this effluent.

Table 1 - Results of 2016 water quality sampling from containment pond monitoring station BOS-2, in mg/L, unless specified otherwise

	Sample ID	BOS2C-21JUN16	BOS2C-16JUL16	BOS2C-14AUG16A	BOS2C-14AUG16B^	BOS2C-15SEP16	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
	ALS ID	L1788426-1	L1800719-1	L1814245-1	L1814245-2	L1830338-1		
	Date Sampled	06/21/2016 15:45	07/16/2016 14:30	08/14/2016 13:30	08/14/2016 13:30	09/15/2016 15:00		
Parameter	Units	Results						
Conductivity	µS/cm	752	943	816	810	942		
Hardness (as CaCO3)	mg/L	421	500	434	430	521 [A]		
pH	pH	7.76	7.27	7.35	7.36	7.8	6.0 - 9.5	6.0 - 9.5
Total Suspended Solids	mg/L	3.4	<3.0	<3.0	<3.0	<3.0	25	50
Alkalinity, Total (as CaCO3)	mg/L	77.2	69.5	69.5	64.5	65.3		
Nitrate (as N)	mg/L	<0.025 [B]	<0.025 [B]	<0.025 [C]	<0.025 [C]	<0.025 [C]		
Nitrite (as N)	mg/L	<0.0050 [B]	<0.0050 [B]	<0.0050 [C]	<0.0050 [C]	<0.0050 [C]		
Sulfate (SO4)	mg/L	314	405	362	362	446		
Aluminum (Al)-Total	mg/L	0.0432	<0.0050	<0.0050	<0.0050	0.008		
Antimony (Sb)-Total	mg/L	0.00332	0.00331	0.00209	0.00234	0.00211		
Arsenic (As)-Total	mg/L	0.113	0.0445	0.0306	0.0296	0.0605	0.5	1
Barium (Ba)-Total	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020		
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Boron (B)-Total	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10		
Cadmium (Cd)-Total	mg/L	0.000042	0.0000136	0.0000093	0.0000116	0.0000077		
Calcium (Ca)-Total	mg/L	103	120	104	103	120		
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Cobalt (Co)-Total	mg/L	0.004	0.00529	0.00503	0.00412	0.00385		
Copper (Cu)-Total	mg/L	0.0015	<0.0010	<0.0010	<0.0010	0.0011	0.3	0.6
Iron (Fe)-Total	mg/L	0.261	0.037	<0.030	<0.030	0.092		
Lead (Pb)-Total	mg/L	0.00963	0.0006	<0.00050	<0.00050	0.00123	0.2/0.01**	0.4
Lithium (Li)-Total	mg/L	0.0078	0.0141	0.0142	0.0132	0.0118		
Magnesium (Mg)-Total	mg/L	39.8	48.6	42.6	42.1	53.5		
Manganese (Mn)-Total	mg/L	0.0166	0.0422	0.068	0.048	0.0238		
Mercury (Hg)-Total	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050		
Molybdenum (Mo)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	0.0012		
Nickel (Ni)-Total	mg/L	0.0307	0.0444	0.0411	0.0359	0.0374	0.5	1
Potassium (K)-Total	mg/L	8.2	11.2	9.4	9.4	9.9		
Selenium (Se)-Total	mg/L	0.000158	0.00014	0.000105	0.000087	0.000119		
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		
Sodium (Na)-Total	mg/L	6.1	8.4	6.5	6.5	7.8		
Thallium (Tl)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
Tin (Sn)-Total	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		
Titanium (Ti)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010		
Uranium (U)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
Vanadium (V)-Total	mg/L	0.00058	<0.00050	<0.00050	<0.00050	<0.00050		
Zinc (Zn)-Total	mg/L	0.0292	0.0692	0.0892	0.0745	0.0405	0.5	1
Oil and Grease	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0		15*
Oil And Grease (Visible Sheen)		No	No	No	No	No	No visible sheen	No visible sheen
Phenols (4AAP)	mg/L	0.0012	<0.0010	<0.0010	<0.0010	<0.0010		
Benzene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		0.37*
Ethylbenzene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		0.09*
Methyl t-butyl ether (MTBE)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		
Styrene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		
Toluene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		0.002*
ortho-Xylene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		
meta- & para-Xylene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		
Xylenes	mg/L	<0.00075	<0.00075	<0.00075	<0.00075	<0.00075		
TPH10-32	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0		

Acenaphthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Acenaphthylene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Acridine	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Anthracene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Benz(a)anthracene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Benzo(a)pyrene	mg/L	<0.000010	<0.000010	<0.0000050	<0.0000050	<0.0000050		
Benzo(b)fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Benzo(g,h,i)perylene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Benzo(k)fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Chrysene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Dibenz(a,h)anthracene	mg/L	<0.000010	<0.000010	<0.0000050	<0.0000050	<0.0000050		
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Fluorene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Indeno(1,2,3-c,d)pyrene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Naphthalene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050		
Phenanthrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		
Pyrene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Quinoline	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050		

Note: Bold indicates exceedance of applicable criteria (see footnotes)

^ Duplicate sample

** Part D, Item 19 for the Bulk Fuel Storage Facility. Water was pumped from the Bulk Fuel Storage Facility to the Containment Pond to ensure maximum freeboard.*

*** Discharge criteria of 0.01 mg/L for Total Lead authorized by the Inspector on July 18, 2015.*

[A] Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).

[B] Detection limit adjusted due to sample matrix effects.

[C] Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Table 2 - Results of 2016 water quality sampling from Boston Portal, in mg/L, unless specified otherwise

		Sample ID	**BOS2P-12JUN16**	**BOS2P-16JUL16A**	**BOS2P-16JUL16B***	**BOS2P-14AUG16**	**BOS2P-15SEP16**	**Maximum Average Concentration (mg/L)**	**Maximum Concentration in any Grab Sample (mg/L)**
		ALS ID	**L1783054-1**	**L1800740-1**	**L1800740-2**	**L1814241-1**	**L1830335-1**		
		Date Sampled	**06/12/2016 17:30**	**7/16/2016 15:00**	**7/16/2016 15:05**	**8/14/2016 14:00**	**9/15/2016 12:10**		
Parameter	**Units**		**Results**						
pH	pH		6.97	7.85	7.78	7.94	7.94	6.0 - 9.5	6.0 - 9.5
Total Suspended Solids	mg/L		<3.0	<3.0	<3.0	<3.0	3.8	25	50
Arsenic (As)-Total	mg/L		0.0112	0.0607	0.061	0.17	0.253	0.5	1
Copper (Cu)-Total	mg/L		0.0011	0.0045	0.0046	0.0102	0.0152	0.3	0.6
Lead (Pb)-Total	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.2	0.4
Nickel (Ni)-Total	mg/L		0.0063	0.101	0.102	0.232	0.423	0.5	1
Zinc (Zn)-Total	mg/L		<0.0050	0.0052	0.0059	0.0068	0.0112	0.5	1
Oil and Grease	mg/L		<5.0	<5.0	<5.0	<5.0	<5.0		
Oil And Grease (Visible Sheen)			No	No	No	No	No	No visible sheen	No visible sheen

Note: Bold indicates exceedance of criteria listed within Part D Item 9.

** Duplicate sample.*

A Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).

Table 3 - Results of opportunistic sampling at the Boston waste rock and ore storage pad monitoring station BOS-8, where flow was observed in 2016, in mg/L, unless specified otherwise

	Sample ID	BOS8A-12JUN16	BOS8C-12JUN16	BOS8D-12JUN16A	BOS8D-12JUN16B*
	ALS ID	L1783045-4	L1783045-3	L1783045-1	L1783045-2
	Date Sampled	06/12/2016 17:05	06/12/2016 16:50	06/12/2016 16:25	06/12/2016 16:25
Parameter	**Units**	**Results**			
Conductivity	µS/cm	951	1610	1470	1470
Hardness (as CaCO3)	mg/L	416	739	668	669
pH	pH	7.72	7.9	7.91	7.94
Total Suspended Solids	mg/L	<3.0	28	9.8	10.1
Ammonia, Total (as N)	mg/L	0.0308	0.0678	0.0383	0.017
Sulfate (SO4)	mg/L	359	468	4350	434
Aluminum (Al)-Total	mg/L	0.0401	0.541	0.116	1.24
Antimony (Sb)-Total	mg/L	0.00139	0.0353	0.03	0.0291
Arsenic (As)-Total	mg/L	0.0146	0.739	0.534	0.56
Barium (Ba)-Total	mg/L	<0.020	<0.020	<0.020	0.021
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.10	0.17	0.18	0.18
Cadmium (Cd)-Total	mg/L	0.0000295	0.0000366	0.0000159	0.0000261
Calcium (Ca)-Total	mg/L	91.5	210	188	186
Chromium (Cr)-Total	mg/L	<0.0010	0.0136	0.0026	0.0284
Cobalt (Co)-Total	mg/L	0.00817	0.82	0.431	0.436
Copper (Cu)-Total	mg/L	0.0049	0.0058	0.005	0.0091
Iron (Fe)-Total	mg/L	0.107	1.62	0.298	4.49
Lead (Pb)-Total	mg/L	<0.00050	0.00061	<0.00050	0.00174
Lithium (Li)-Total	mg/L	0.002	0.0425	0.0417	0.042
Magnesium (Mg)-Total	mg/L	45.6	51.9	48.3	49.3
Manganese (Mn)-Total	mg/L	0.325	0.312	0.131	0.257
Molybdenum (Mo)-Total	mg/L	<0.0010	0.0025	0.003	0.003
Nickel (Ni)-Total	mg/L	0.0279	1.03	0.523	0.536
Potassium (K)-Total	mg/L	7.4	11.8	11	10.9
Selenium (Se)-Total	mg/L	0.000389	0.00216	0.00167	0.00159
Silver (Ag)-Total	mg/L	0.000025	0.000163	0.000073	0.000221
Sodium (Na)-Total	mg/L	30	28.2	26.1	25.8
Thallium (Tl)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Tin (Sn)-Total	mg/L	<0.00050	<0.00050	<0.00050	<0.00050
Titanium (Ti)-Total	mg/L	<0.010	0.011	<0.010	0.02
Uranium (U)-Total	mg/L	0.00034	0.00025	0.00027	0.00027
Vanadium (V)-Total	mg/L	<0.00050	0.00394	0.00138	0.00691
Zinc (Zn)-Total	mg/L	<0.0050	<0.0050	0.0213	0.0322

** Duplicate sample.*