NWB Annual Report **Year being reported:** 2013

License No: 2AM-DOH1323 **Issued Date:** August 16, 2013
Expiry Date: August 15, 2023

Project Name: Doris North Project

Licensee: TMAC Resources Inc.

Mailing Address:
Suite 901 - 372 Bay Street
Toronto, Ontario
M5H 2W9

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

Licence 2AM-DOH0713 was assigned from Hope Bay Mining Ltd. to TMAC Resources Inc. on June 18, 2013. This licence was renewed on Aug. 16, 2013 and renamed 2AM-DOH1323.

General Background Information on the Project (*optional):

Doris North facilities have been used to support advanced exploration in the Hope Bay Greenstone Belt until early 2012 when the project was put into Care and Maintenance. The Doris North underground mine development began in October 2010 but was stopped in late 2011. The tailings impoundment facility has not been completed and the mill has not been constructed. The focus of activities in 2013 was water management, environmental compliance, and drill exploration.

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

Part B | Item 3

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): Doris Lake/Windy Lake

Water Quantity:

480,000 cu.m/yr	Quantity Allowable Domestic (cu.m)
1,626 cu. m/yr	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

- [x] Solid Waste Disposal
- [x] Sewage
- [x] Drill Waste
- [x] Greywater
- [x] Hazardous
- [x] Other: Containment Berm and Control Pond Effluent

Additional Details:

Water for domestic use at Doris Camp is obtained from Doris Lake via a 2 inch diameter submerged pipe with a DFO compliant fish screen. This intake is located approximately 30 metres from shore and linked to a pumphouse on the shore of Doris Lake. In 2013, water for domestic use at Doris Camp was obtained from Windy Lake.

Waste produced on site is treated according to Part G of the licence, and in accordance with the relevant Management Plans *(Incinerator Management Plan, Non-Hazardous Waste Management Plan, Hazardous Waste Management Plan, Ore and Waste Rock Management Plan, Landfarm Management Plan, Water Management Plan, Waste Water Treatment Managment Plan*).

Some specifics are as follows:

-Food waste is burned in the incinerator as per Part G Item 5.
-Paper products, paperboard packing, and untreated wood waste is open burned as per Part G Item 6.
-TMAC is authorized to dispose of all non-hazardous solid waste in a landfill on site as per Part G Item 9. To date, a landfill has not been built as discussions with the landowner, the Kitikmeot Inuit Association, are still ongoing. All waste that cannot be incinerated on site is backhauled to an approved facility off site. No waste was removed from site in 2013.
-Sewage and greywater produced onsite is processed in the sewage treatment plant as per Part G Item 3. Sludge produced by the treatment plant is burned in the incinerator.
-Hazardous materials such as waste oil, glycol, and contaminated soil are shipped offsite for disposal at an approved site as per Part G Item 11.
-All containment 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, and/or it is discharged to the TIA.

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)

Please see Item 9 of the attached Annual Report Supplement for a list, including details, of all unauthorized discharges that occurred in 2013 under licence 2AM-DOH1323.

Revisions to the Spill Contingency Plan

Select

Additional Details:

See attached Annual Report Supplement at Item 8 for details.

Revisions to the Abandonment and Restoration Plan

Other: (see additional details)

Additional Details:

See attached Annual Report Supplement at Item 8 for details.

Progressive Reclamation Work Undertaken

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

No reclamation work was undertaken in 2013.

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 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:

Results of any additional sampling and/or analysis that was requested by an Inspector

Select

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

N/A

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 18 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 supplement for additional information requirements set out in Licence No. 2AM-DOH1323.

Date Submitted:	March 31, 2014	
Submitted/Prepared by:	Lea-Marie Bowes-Lyon	
Contact Information:	**Tel:**	(416) 628-0216
	Fax:	
	email:	lea-marie.bowes-lyon@tmacresources.com

GPS Coordinates for water sources utilized

Source Description	UTM Easting	UTM Northing
ST-7 Doris Freshwater Intake	433598	7558710
ST-7a Windy Freshwater Intake	432529	7550500

GPS Locations of areas of waste disposal

Location Description	UTM Easting	UTM Northing
TL-1 (temp during dewatering)	434401	7559099
ST-4	432450	7559600
ST-5	432960	7559270
ST-6A	432910	7563340
ST-6B	432730	7563200
ST-8 STP Discharge	432933	7559057
ST-9 STP Tundra Discharge	430798	7559290

GPS Locations of Active Monitoring Stations not included above*

Monitoring Station	UTM Easting	UTM Northing
ST-1	7558923	433146
ST-2	7558921	432232
ST-10	various locations as required	
TL-2	434053	7559507
TL-3	434204	7559983
TL-10	434914	7558239

** Thermal monitoring locations are documented in the Annual Geotechnical Report*

2013 2AM-DOH1323 Type A Water Licence Annual Report Supplemental Document

Doris North Project

Nunavut Water Board

Prepared by
TMAC Resources Inc.
Toronto, ON

Prepared for
Nunavut Water Board
Gjoa Haven, NU

March 2014

Executive Summary
2AM-DOH1323 Annual Report

TMAC Resources Inc. ("TMAC") has filed its Annual Report on its activities during 2013 under Water Licence No. 2AM-DOH1323 issued by the Nunavut Water Board on August 16, 2013. Licence 2AM-DOH1323 is a renewal of licence 2AM-DOH0713 first issued to Miramar Hope Bay Mining Ltd. on September 19, 2007, then assigned to Hope Bay Mining Ltd. on January 23, 2008, and finally assigned to TMAC on June 18, 2013.

As set out in Schedule B, Item 1 to 19 of the Licence, the report includes information with respect to the following topics:

- summary of monthly monitoring data
- summary of the Construction Monitoring Report
- information with respect to Geochemical Monitoring and Waste Rock Storage Assessment
- summary of the results of monthly water balance and water quality model assessments
- a summary of the Geotechnical Inspection Report
- update on current capacity of the Tailings Impoundment Area
- a comparison of flows at monitoring stations TL-1, TL-2, TL-3, and TL-4
- annual review and any revisions of management plans and Emergency Response and Contingency Plan
- a list and description of all unauthorized discharges including volumes, spill report line identification number and summaries of follow-up actions taken
- results of the Aquatic Effects Monitoring Program
- annual adjustments to reclamation security
- annual incineration stack testing results
- annual Landfill Management Report
- a summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and an outline of any work anticipated for the next year
- a summary of any closure and reclamation work undertaken and an outline of any work anticipated for next year, including changes to implementation and scheduling
- a summary report describing consultation and participation with local organizations and residents of nearby communities, including a schedule of upcoming events/information sessions
- GPS locations of monitoring stations
- a summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector any other details on water use and waste disposal requested by the board

Atanguyan Naetomik Okaohen
2AM-DOH1323 Ukeotoagaagan Unipkaak

TMAC Resources Inc.-kon ("TMAC-kon") tunihihimaliktun Ukeotoagaagan Unipkaamik havaamigun 2013-mi ilagagun Imaknik Atogeagani Laeseoyum Napaani 2AM-DOH1323 toniyaohimayum Nunavumi Imalikiyin Katimayin August 16-mi 2013-mi. Laeseoyok 2AM-DOH1323 nutaguktigun laeseoyomik 2AM-DOH0713-mik tunihaolgaktok Miramar-konun September 19-mi 2007-mi, tuniyaovlonilo Hope Bay Mining-konun January 23-mi 2008-mi, kigoani toniyaohimayok TMAC-konun June 18-mi 2013-mi.

Okaotaoyomi Naonaepkotimi B-mi, Okaoheoyun 1-min 9-mun Laeseoyomi, unipkaak ilakaktok hivonikhiyutikhanik ukuniga okaoheoyun:

- naetomik okaohik tatkikheon naatkagan amigiyotinun naonaepkotin
- naetomik okaohik Hanayaolikan Amigiyotinun Unipkaak
- hivonikhiyutikhan Kuvilaaktonun Amigiyotin Ikaguniklo Oyakanik Tutkktigiveon Ihivgeoktaoniga
- naetomik okaohik kanogilinigagun tatkikheon naatkagan imakakniga imagiknigalo ilitokhaknigagun
- naetomik okaohik Nunameotanik Ihivgoekhiyotinik Unipkaak
- kanoginiga taya imiktoktaolaakniganik Atagukveom Nuna
- naonaeyaknigin kukniginik amigivikni TL-1-mi, TL-2-mi, TL-3-mi, TL-4-milo
- ukeotoagaagan ihivgoekniga nutaguktiniglo monagiyotinun oplaogaeyaotini Opaloknaktokageakalo Upiyotin Ihoakhaotilo Opalogaeyaon
- titigaknigin okateaknigilo tamaeta agiktaohimagitun kuktiyotin ila kanogaalok, kuviyomik unipkaak naonaepkun napaanik naetomiklo okaoeoyun kigoagun havaanik
- kanogilinigin Imakmeotan Aktokniginun Amigiyotinik Havaak
- ukeotoagaagan ihoakhakniga nunan otiktitaagani ilitkohenun akileotaoyaakekhimayok
- ukeotoagaagan ikulativikmin poyukniganik ilitokhaotin kanogilinigagun
- ukeotoagaagan Haohivikmik Monagiyotinik Unipkaak
- naetomik okaohik ihoakhakniginik hanaloagutiniklunen Imiktakvikmi Atagukvikmilo Pikotini, ukoalo tamaeta ilaoyun napayun kituniklo havaanik nahugikmagaa atoktukhami ukeomi
- naetomik okaohik hunamiklikaa umiktiknigagun nunalo utiktinigagun ilitkohenun havaan nahogiyaoyun atoktukhami ukeomi, ukoalo aalaguknigin atokpaleanigagun kagugulo pineaknigagun
- naetomik unipkaak okateaknigagun okakatigegutinik ilaoyotiniklo nunagiyaoyoni timeyonin inuknilo kanitomi nunagiyaoyoni, ukoalo pivikhakaknigin tikitukhan hulilogaakven hivonikhiyotiniklo okaohikaklotik katimavikhan
- GPS-mi humenigin amigiyotinun iglukpaen
- naetomik okaohik upiyotinik ihoakhiyaagani ihomalutaoyun ilakoenaelo titigakhimayun ihivgoekhonikun unipkaani maligoaknigagulo unipkaan Ihivgeokhiyomin
- anenik okateakhimayonik imaknik atoknigagun atagukveoyoniklo piyomayaenik katimayin

ᑐᓴᕐᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ
2AM-DOH1323 ᐊᕐᕌᒍᓕᒫᖅᓯᐅᑏᑦ ᑐᓴᕐᓴᑦ

ᐅᑯᐊ TMAC Resources Inc.–ᑯᑦ ᑐᓂᓯᕚᒪᑕ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐊᕐᒍᓕᒫᖅᓯᐅᑎᓂᒃ ᑐᓴᕐᓴᓂᒃ ᐱᔾᔪᑎᓕᖕᓂᒃ ᐊᐅᓚᕐᑲᑦᑕᔪᔪᓂᒃ 2013–ᒥ ᐅᑯᓂᖓ ᒪᓕᒃᓱᑎᒃ ᐱᔪᓐᓇᐅᑎᓂᒃ ᓚᐃᓴᓂᒃ No. 2AM-DOH1323 ᐱᔭᐅᔪᔪᓂᒃ ᓄᓇᕗᑦᒥ ᐃᒥᓕᕆᔩᑦ ᑲᑎᒪᔩᖏᓐᓂᒃ ᐊᐅᒡᒍᓯ 16, 2013–ᒥ. ᓚᐃᓴ 2AM-DOH1323 ᓄᑖᕈᕆᐊᖅᓯᒪᔭᖅ ᓚᐃᓴ 2AM-DOH0713 ᓱᕈᓪᓕᖅ ᑐᓂᔭᐅᔪᔪᖅ ᐅᑯᓄᖓ Miramar Hope Bay Mining Ltd.–ᑯᓐᓄᑦ ᐅᕙᓂ ᓯᑦᑕᑉᕙ 19, 2007–ᒥ, ᑐᕌᔪᔪᑦ Hope Bay Mining Ltd.–ᑯᓐᓄᑦ ᐅᕙᓂ ᔮᓐᓄᐊᕆ 23, 2008–ᒥ, ᐊᓯᐃᓪᓛᒃ ᐋᑐᑎᓕᔫᔭᖓᑦ ᐅᑯᐊ TMAC ᐅᕙᓂ 18, 2013.

ᐋᕿᒃᓯᒪᔭᖅ ᐅᕙᓂ Schedule B–ᒥ, ᐱᔾᔪᑕᐅᔪᖅ 1–ᒥᒃ ᑎᑭᑦᓱᒍ 19–ᒧᑦ ᐊᑐᖅᓱᒍ ᓚᐃᓴᖃᕈᑦ, ᑐᓴᕐᓴᑦ ᑖᒃᕗᖓᖓᔪᓂᒃ ᒪᑯᓂᖓ ᐃᓚᓖᑦ ᑐᓴᕐᓴᓂᒃ:

- ᑐᓴᕐᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᑕᕿᑕᒫᑦ ᖃᐅᔨᓴᖅᑕᐅᕙᒃᑐᓂᒃ ᐱᔾᔪᑎᓖᑦ ᓄᐊᑕᐅᕙᒃᑐᓂᒃ
- ᑐᓴᕐᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᐱᔾᔪᑎᓖᑦ ᖃᓄᖅ ᓴᓇᔭᐅᓯᒪᓂᖓᓂᒃ ᖃᐅᔨᓴᕈᑎᐅᑉ
- ᑐᓴᕐᓴᑦ ᐱᔾᔪᑎᓖᑦ ᓄᓇᒥᒃ ᖃᐅᔨᓴᕈᑏᑦ ᖃᓄᖅ ᓱᕐᕌᔪᖃᒻᒪᖔᖅ ᐊᒻᒪᓗ ᐊᒃᑕᑯᓂᒃ ᐅᔭᖃᓂᒃ ᖃᐅᔨᓴᕈᑏᑦ
- ᐱᔾᔪᑎᓖᑦ ᖃᓄᐃᑦᑐᑦ ᓱᕐᕋᕙᖓᖔᑕ ᑕᕿᑕᒫᑦ ᐃᒥᐅᑉ ᖃᓄᐃᑦᑑᓂᖓ ᓇᓕᒧᖕᓂᖓ ᐊᒻᒪᓗ ᐃᒥᓕᕆᔾᔪᑎᑦ
- ᓇᐃᓈᖅᓯᒪᔪᑦ ᐱᔾᔪᑎᓖᑦ ᓄᓇᒥᒃ ᕿᒥᕐᕈᒍᑏᑦ ᖃᐅᔨᓴᕈᑏᑦ ᑐᓴᕐᓴᑦ
- ᑐᓴᕐᓴᑦ ᒫᓐᓇᕐᓂᑕᑦ ᖃᓄᐃᓪᓗᐊᖅᑎᒋᔪᑦ ᐊᒃᑕᑯᑦ ᐅᔭᕋᒃᓯᐅᕈᑎᒥᓃᑦ ᐃᓂᒥᓃᑐᑦ
- ᖃᓄᖅ ᓱᕐᕌᒻᒪᖔᖅ ᑰᖓᓂᖓᑕ ᓴᖏᓂᖓ ᖃᐅᔨᓴᖅᑕᑦ ᖃᐅᔨᓴᖅᑲᖓᓂ ᐅᑯᓇᓂ TL-1, TL-2, TL-3, TL-4
- ᐊᕐᕌᖑᑕᒫᑦ ᕿᒥᕐᕈᔭᐅᕙᒃᑐᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓐᓇᖅ ᐋᕿᒋᐊᖅᑕᐅᕙᒃᑐᑦ ᐊᐅᓚᔪᒍᑎᑦ ᐸᕐᓇᐃᒍᑎᑦ, ᑐᐊᕙᕐᓇᕐᑐᕐᑲᓕᕐᓂᐸᓪᓗ ᐋᑐᑕᐅᒐᔭᖅᑐᑦ ᐊᒻᒪᓗ ᓇᓪᓕᐅᒃᑯᒫᑦ
- ᑎᑎᕋᖅᓯᒪᔭᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᔭᖅᓯᒪᔭᑦ ᑭᓱᐃᑦ ᐃᓗᓐᓇᑎᒃ ᖃᐅᔨᓴᔭᐅᓯᒪᖏᑦᑐᑦ ᑲᔪᓯᑦᓯᒍᑎᒃᑯᑦ ᒪᑯᐊ ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᖃᓄᐃᓪᓗᐊᖅᑐᑦ, ᑯᕙᔪᕙᓃᑦ ᑐᓴᕐᓴᑦ ᖃᓄᖅ ᓇᓗᓇᐃᒃᑯᑕᓖᑦ ᓈᓴᐅᑎᓖᑦ ᐊᒻᒪᓗ ᓇᐃᓈᖅᓯᒪᔪᓂᒃ ᐅᓂᒃᑳᑕᓖᑦ ᐱᓕᕆᐊᕐᒍᑎᐊᓖᑦ ᖃᓄᖅ ᐊᐅᓚᑕᐅᓗᑎᒃ
- ᖃᐅᔨᔭᐅᓂᑯᑦ ᑭᖑᕐᖓᒍᑦ ᐃᒪᕐᒥᐅᑕᑦ ᖃᓄᖅ ᓱᕐᕋᒃᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᕈᑏᑦ ᐱᓕᕆᔾᔪᑏᑦ
- ᐊᕐᕌᒍᓕᒫᖅᓯᐅᑎᑦ ᐋᕿᒋᐊᖅᑕᐅᓯᒪᔪᑦ ᓴᓗᒪᖅᓴᐃᒍᑎᑦ ᓇᓪᓕᐅᒃᑯᒫᑦ
- ᐊᕐᕌᒍᓕᒫᖅᓯᐅᑎᑦ ᐃᑭᑦᓯᕙᖕᒥ ᓄᐊᑕᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᑯᑦ ᑭᖑᕐᖓᒍᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑎᓪᓗᒋᑦ
- ᐊᕐᕌᒍᓕᒫᖅᓯᐅᑎᑦ ᓄᓇᒦᑦᑐᑦ ᐊᒃᑕᑯᑦ ᐊᐅᓚᔪᒍᑎᑦ ᑐᓴᕐᓴᑦ
- ᓇᐃᓈᖅᓯᒪᔪᑦ ᐋᕿᒋᐊᕈᑏᑦ ᐊᒻᒪᓗ ᐅᕙᓗᕿᐊᖅ ᐊᖏᔩᑎᑦ ᐋᕿᒋᐊᖅᑕᐅᓯᒪᔪᑦ ᑲᔪᓯᓯᒪᔪᑦ ᐃᒪᖃᕈᒨᖓᔪᖅ ᐊᒻᒪᓗ ᐊᒃᑕᕙᖏᑦᑐᑦ, ᐃᓚᖃᖅᓱᑎᒃ ᒪᑯᓂᖓ ᐃᓘᓐᓇᑎᒃ ᑖᒃᕗᖓᖓᔪᑦ ᓴᓇᔭᐅᓯᒪᓂᖓᓄᑦ ᐊᒻᒪᓗ ᖃᓄᖅ ᑭᒡᓕᖓᓅᖓᔪᑦ ᖃᓄᑐᐃᓐᓇᖅ ᐱᓕᕆᐊᕐᒍᑎᐊᓖᑦ ᐊᕐᕌᒍᖓᑐᖅ
- ᓇᐃᓈᖅᓯᒪᔪᑦ ᑐᓴᕐᓴᑦ ᖃᓄᑐᐃᑦᑐᐃᓐᓇᐃᑦ ᒪᑐᔭᐅᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᓴᓗᒪᓴᖅᑕᐅᒋᐊᓖᑦ ᐱᓕᕆᐊᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒪᔭᐅᕙᐅᖅᑐᑦ ᐱᓕᕆᐊᒃᓴᑦ ᓱᓕ ᖃᓄᑐᐃᓐᓇᖅ ᐊᕐᕌᒍᖓᑐᖅ, ᐃᓚᓖᑦ ᐊᓯᕈᖅᑎᕆᐊᓕᖓᓂᒃ ᐊᒻᒪᓗ ᖃᖓ ᑲᒪᒋᔭᐅᓚᖅᑐᑦ
- ᑐᓴᕐᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᐅᓂᒃᑳᑦ ᐱᒃᑯᔾᔭᐅᒍᑕᐅᕙᒃᑐᑦ ᐊᒻᒪᓗ ᐃᓚᐅᔾᔪᑕᐅᕙᒃᑐᑦ ᓄᓇᓖᑦ ᑲᑐᔾᔨᖃᑎᒌᑎᒍᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖓᓂᒃ ᖃᓂᒋᓛᖏᓐᓂᒃ, ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᖃᖓ ᐱᓕᕆᐊᕐᒍᓱᖁᑦ ᖃᓄᐃᓐᓇᖅ ᐱᔾᔪᑕᐅᒋᐊᓖᑦ ᐋᖀᕈᑕᐅᕙᒃᑐᑦ
- ᑕᒻᒪᕇᒃᑯᑎᒃᑯᑎᑦ (GPS) ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑦ ᓇᒥ ᖃᐅᔨᓴᖅᕙᒃᑕᓖᑦ
- ᑐᓴᕐᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᖅ ᖃᓄᖅ ᐊᐅᓚᑕᐅᖃᑦᑕᖅᓯᒪᔪᑦ ᐃᓱᒫᓗᒋᔭᑦ ᐅᕝᕙᓗᕿᐊᖅ ᑭᖑᓂᖅᑕᓖᑦ ᑎᑎᕋᖅᓯᒪᔭᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᒃᑯᑦ ᑐᓴᕐᓴᓃᑦᑐᑦ ᐅᕝᕙᓗᕿᐊᖅ ᒪᓕᒃᑐᑦ ᒪᓕᒃᑕᐅᒋᐊᓕᖕᓂᒃ ᐱᕐᑯᔭᖅᑎᒍᑦ ᑐᓴᕐᓴᓂᒃ ᑎᑎᕋᖅᕙᒋᓯᒪᔭᖏᑦ ᖃᐅᔨᓴᖅᑎᐅᕐᖃᓄᑐᐃᓐᓇᖅ ᐊᓯᖏᓐᓂᒃ ᐱᔾᔪᑎᓖᑦ ᐃᒥᕐᒥᒃ ᐊᑐᖃᑦᑕᕐᓂᖅ ᐊᒻᒪᓗ ᐊᒃᑕᑯᓕᕆᔪᑦ ᐋᑐᑕᐅᕐᑯᓯᒪᔩᖏᑦ ᑲᑎᒪᔩᑦ

Résumé opérationnel
2AM-DOH1323 Rapport annuel

TMAC Resources Inc. (« TMAC ») a déposé son rapport annuel sur ses activités au cours de l'année 2013 en conformité avec le Permis no 2AM-DOH1323 émis par l'Office des eaux du Nunavut (« Nunavut Water Board ») le 16 août 2013. Le Permis no 2AM-DOH1323 est le renouvellement du Permis 2AM-DOH0713 préalablement émis à Miramar Hope Bay Mining Ltd. le 19 septembre 2007, ce permis a par la suite été attribué à Hope Bay Mining Ltd., le 23 janvier 2008 et finalement cédé à TMAC, le 18 juin 2013.

Tel qu'énoncé à l'annexe B (« Schedule B »), point 1 à 19 du Permis no 2AM-DOH1323, le rapport comprend des renseignements sur les sujets suivants:

- un résumé des résultats mensuels du programme de surveillance
- un résumé du rapport de la surveillance des travaux de construction « Construction Monitoring Report »
- des renseignements sur les résultats du programme de surveillance géochimique et de la gestion de stockage des déchets rocheux
- un résumé des résultats mensuels du bilan hydrique et des modèles des évaluations de la qualité de l'eau et des modèles d'analyse de l'utilisation des eaux
- un résumé du rapport d'inspection géotechnique « Geotechnical Inspection Report »
- une mise à jour de la capacité de la zone du bassin d'accumulation de résidus de mine
- une comparaison des débits d'eau aux postes de surveillance TL-1, TL-2, TL-3 et TL-4
- une revue annuelle ainsi que tous ajustements des plans de gestion ainsi que du plan d'intervention en cas d'urgence et mesures exceptionnelles
- une liste et une description de tous les rejets non autorisés, y compris les volumes des rejets, les numéros de dossier attribués, ainsi que des résumés des mesures de suivi prises à la suite de ces incidents
- les résultats du programme de surveillance des répercussions sur le milieu aquatique
- l'ajustement annuel du dépôt de garantie relatif à la remise en état
- les résultats annuels de l'analyse des émissions de l'incinérateur
- un rapport annuel de gestion d'enfouissement
- un résumé des travaux d'entretien mineurs ou majeurs effectués sur les réserves d'eau potable et les installations d'élimination des déchets et de toutes leurs composantes s'y rattachant, ainsi qu'un aperçu des travaux prévus l'année suivante
- un résumé de toute fermeture et de travaux de remise en état entrepris ainsi qu'un aperçu des travaux prévus l'année suivante, y compris les modifications apportées à l'échéancier et la mise en œuvre de cette remise en état
- un aperçu décrivant la participation et la réalisation de consultations avec les organisations locales et les habitants des communautés voisines, y compris un calendrier des forums de discussion et séances d'information à venir
- les coordonnées GPS des stations de surveillance
- un résumé des mesures de suivi prises pour régler les problèmes décrits dans les rapports d'inspection et de conformité établies par l'inspecteur
- tout autre détail en lien avec l'utilisation et du traitement de l'eau et de l'évacuation des rejets, tel que demandé par l'Office

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1. Summary of monthly monitoring reporting [see Part J Item 21]

Doris Camp and all associated infrastructure was winterized and shut down October 12, 2012 by Hope Bay Mining Ltd. (HBML). Monthly site checks of the camp and infrastructure were conducted overland from Cambridge Bay during the winter when sea ice conditions allowed snow mobile access. The monthly inspection reports were provided to AANDC at their request. With the transfer of ownership of the project to TMAC Resources Inc. (TMAC), Doris Camp re-opened in March 2013 under a Care and Maintenance status with water management, and environmental compliance as the focus of activities. Exploration activities, permitted under 2BE-HOP1222 were also based out of Doris Camp in 2013.

During 2013, TMAC collected data from the following active or seasonally active monitoring stations: ST-1, ST-2, ST-4, ST-5, ST-6a, ST-6b, ST-7, ST-7a, ST-8, and ST-9. Daily runoff and turbidity observations were conducted during periods of melt along areas that had been constructed in 2012. No turbid runoff (ST-10) with the potential to reach a water body was noted.

Monitoring station ST-3 (Landfill Sump) was not sampled as this facility was not constructed as of 2013.

Monitoring station ST-11 (Reagent and Cyanide Storage Facility Sumps) was not sampled as this facility was not constructed as of 2013.

Dewatering of the Tailings Impoundment Area (TIA) occurred between June 21 and September 6, 2013. Monitoring was undertaken at the following TIA stations: TL-1, TL-2, TL-3, TL-4, and TL-10. In 2013, the mill had not yet been constructed so no ore processing occurred and no tailings were produced. As described in the Doris North Project Interim Water Management Plan, dated February 2012, the sedimentation pond (ST-1) was used as a collection pond for the water that accumulated in the pollution control pond (ST-2) and the two underflow sumps (ST2-S1 and ST2-S2). The water collected in ST-1 was then transferred to the TIA by pipeline, or vacuum truck, as necessary. Sampling for criteria specified under 2AM-DOH1323 was conducted prior to and during all dewatering activities.

All monitoring was conducted in accordance with the Hope Bay Mining Ltd. Quality Assurance and Quality Control Plan 2AM-DOH0713, 2BB-BOS1217, 2BE-HOP1222 HB-QA-ENV-MP-001, November 2012 (REV 7.1) that was found to be acceptable to an Analyst by letter dated November 27, 2012.

TMAC uses an external certified laboratory to carry out all analyses reported in the monthly and annual reports. The QA/QC data produced by ALS Canada Ltd. are used to determine the accuracy and precision of results in these reports.

Thermal monitoring was undertaken in 2013 at active ground temperature monitoring stations. Results of this monitoring are included in the annual Geotechnical Inspection report.

Visual assessments were made of suspended sediment along the perimeter of the TIA shoreline while carrying out inspections during Care and Maintenance.

Conditions of the Doris North Diversion Berm's effectiveness during spring freshet, major rain events, and periods of sustained (non-frozen) precipitation were monitored and documented.

Details of all monitoring follows.

ST-1 Sedimentation Pond

This facility was constructed and first used in 2011. During 2013, all discharges from the facility were made directly to the TIA via pipeline or vacuum truck. All discharges from the facility were metered, if moved via pipeline, or tracked by truck load volume, if moved by vacuum truck. Water quality samples were collected at a depth of 0.25 m below the water surface. Samples were taken prior to discharge, as per Part G Item 23b, and then monthly thereafter during periods of discharge for internal monitoring purposes.

As described in the Doris North Project Interim Water Management Plan, 2012, the sedimentation pond (ST-1) was used as a collection pond for the water that accumulates in the pollution control pond (ST-2) and the two underflow sumps (ST2-S1 and ST2-S2). Once enough water is accumulated for the pumps to operate effectively, the water in ST-1 is transferred to the TIA. Water was transferred from ST-1 to the TIA beginning in June and continued into October. During October, water management prior to seasonal decommissioning involved draining all pumping and piping systems and draining pond residuals. This water was then transferred directly to the TIA.

Volumes transferred to the TIA from ST-1 are summarized in Table 1. These results include water transferred from ST-2, ST2-S1, and ST2-S2 to ST-1. Results of water quality samples, collected monthly from ST-1, are summarized in Table 2. The water was found to be elevated for several parameters: ammonia, as well as iron and zinc, which are normally elevated background parameters within the Doris North project hydrological system. Because the water was discharged to the TIA and not to the tundra, the compliance criteria for ST-1 are not applicable; these parameters are highlighted bold in the table 2 for information only.

Table 1 – Summary of Monthly Water Management Volumes for Monitoring Station ST-1, June to October 2013

Month	Monthly Volume (m^3)	Cumulative Volume(m^3)
June	4,166	4,166
July	1,873	6,038
August	2,287	8,326
September	1,581	9,906
October	507	10,413
Total Volume of Water Transferred from ST-1 (includes water from ST-2, ST2-S1, and ST2-S2) to TIA in 2013		**10,413**

**values rounded to nearest whole cubic meter*

Table 2 – Water quality monitoring program results for ST-1, June 4 to October 5, 2013, in mg/L, unless specified otherwise

TMAC Sample ID		ST1-04JUN13	ST1-08JUL13	ST1-05AUG13	ST1-02SEP13	ST1-05OCT13A	ST1-05OCT13B	Part G Item 23(a)	
ALS ID		L1313624-1	L1329538-7	L1343243-1	L1356965-5	L1375228-1	L1375228-2	Maximum Average Concentration (mg/L)	Max Conc in any Grab Sample (mg/L)
Sample Date/Time		6/4/2013 14:36	7/8/2013 11:45	8/5/2013 13:45	9/2/2013 9:45	10/5/2013 16:12	10/5/2013 16:30		
Parameters	**Units**	**Results**							
Conductivity (EC)	uS/cm	2710	5130	6230	5650	1540	1530		
Hardness (as $CaCO_3$)	mg/L	705	1350	1900	1760	444	436		
pH	pH	7.64	7.74	7.91	7.77	7.96	7.97	Between 6.0 - 9.0	9.0
Total Suspended Solids	mg/L	11	9	5	<3.0	<3.0	<3.0	15	30
Alkalinity, Total (as $CaCO_3$)	mg/L	-	-	-	-	108	103		
Ammonia, Total (as N)	mg/L	**10.4**	**25.8**	**22.5**	**18.7**	**2.46**	**2.34**	2	4
Bicarbonate (HCO_3)	mg/L	-	-	-	170	132	126		
Carbonate (CO_3)	mg/L	-	-	-	<5.0	<5.0	<5.0		
Chloride (Cl)	mg/L	-	-	-	1510	323	321		
Hardness (as $CaCO_3$)	mg/L	-	-	-	-	-			
Hydroxide (OH)	mg/L	-	-	-	<5.0	<5.0	<5.0		
Ion Balance	%	-	-	-	96.3	100	102		
Nitrate and Nitrite (as N)	mg/L	-	-	-	68.7	17.8	17.9		
Nitrate (as N)	mg/L	32.7	79.5	91.9	68.7	17.8	17.9		
Nitrite (as N)	mg/L	0.205	<0.50	<0.50	<0.50	<0.050	<0.050		
TDS (Calculated)	mg/L	-	-	-	3130	839	836		
Sulfate (SO_4)	mg/L	54.6	151	185	190	83.8	83		
Cyanide, Total	mg/L	<0.0050	0.0109	<0.0020	0.007	<0.0050	<0.0050	1	2
Cyanide, Free	mg/L	<0.0050	-	-	-	-	-		
Aluminum (Al)-Total	mg/L	0.34	0.256	0.112	0.11	0.103	0.0927	1	2
Antimony (Sb)-Total	mg/L	<0.00050	<0.0010	<0.0010	<0.0010	<0.00040	<0.00040		
Arsenic (As)-Total	mg/L	0.0006	0.0011	0.001	0.0012	0.00056	0.00060	0.05	0.1
Barium (Ba)-Total	mg/L	0.0522	0.0984	0.11	0.0936	0.0260	0.0259		
Beryllium (Be)-Total	mg/L	<0.0025	<0.0050	<0.0050	<0.0050	<0.0010	<0.0010		
Boron (B)-Total	mg/L	0.102	0.47	0.39	0.42	0.171	0.173		
Cadmium (Cd)-Total	mg/L	0.000073	0.00025	0.00023	0.00018	0.000042	0.000040		
Calcium (Ca)-Total	mg/L	249	554	641	575	137	135		
Chromium (Cr)-Total	mg/L	0.0025	0.0013	0.0064	<0.0010	<0.0010	<0.0010		
Cobalt (Co)-Total	mg/L	<0.0020	0.0044	0.0047	0.004	<0.0020	<0.0020		
Copper (Cu)-Total	mg/L	0.0057	0.0080	0.0089	0.0098	0.0083	0.0082	0.02	0.3
Iron (Fe)-Total	mg/L	**0.594**	**0.53**	**0.67**	**0.54**	**0.502**	**0.466**	0.3	0.6
Lead (Pb)-Total	mg/L	0.00027	<0.00050	<0.00050	<0.00050	0.00017	0.00013	0.01	0.02
Lithium (Li)-Total	mg/L	0.032	0.063	0.066	0.06	0.015	0.015		
Magnesium (Mg)-Total	mg/L	34.2	87.5	84.4	78.3	24.5	24.2		
Manganese (Mn)-Total	mg/L	0.556	1.25	1.37	1.2	0.236	0.232		
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		
Molybdenum (Mo)-Total	mg/L	<0.0050	0.0052	0.0054	0.0052	<0.0050	<0.0050		
Nickel (Ni)-Total	mg/L	0.0036	0.0053	0.0054	0.0052	0.0030	0.0028	0.05	0.1
Potassium (K)-Total	mg/L	13.2	32.1	29.3	26.1	9.73	9.65		
Selenium (Se)-Total	mg/L	0.00074	0.0042	0.0036	0.0025	0.00125	0.00116		
Silver (Ag)-Total	mg/L	<0.000050	<0.00010	<0.00010	<0.00010	<0.000020	<0.000020		
Sodium (Na)-Total	mg/L	197	505	539	456	143	147		
Thallium (Tl)-Total	mg/L	<0.00025	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010		
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		

TMAC Sample ID		ST1-04JUN13	ST1-08JUL13	ST1-05AUG13	ST1-02SEP13	ST1-05OCT13A	ST1-05OCT13B	Part G Item 23(a)	
ALS ID		L1313624-1	L1329538-7	L1343243-1	L1356965-5	L1375228-1	L1375228-2	Maximum Average Concentration (mg/L)	Max Conc in any Grab Sample (mg/L)
Sample Date/Time		6/4/2013 14:36	7/8/2013 11:45	8/5/2013 13:45	9/2/2013 9:45	10/5/2013 16:12	10/5/2013 16:30		
Parameters	**Units**	**Results**							
Titanium (Ti)-Total	mg/L	0.0091	0.0122	0.0041	0.0039	0.0038	0.0038		
Uranium (U)-Total	mg/L	0.00057	0.00169	0.00161	0.00168	0.00051	0.00050		
Vanadium (V)-Total	mg/L	0.0016	0.0014	<0.0010	<0.0010	0.0012	0.0010		
Zinc (Zn)-Total	mg/L	**0.06**	**0.090**	**0.133**	**0.135**	**0.175**	**0.178**	0.01	0.02
Calcium (Ca)-Dissolved	mg/L	231	443	621	496	126	127		
Magnesium (Mg)-Dissolved	mg/L	31.1	59.8	84.1	78.3	24.2	23.6		
Potassium (K)-Dissolved	mg/L	-	-	-	26.4	8.75	8.42		
Sodium (Na)-Dissolved	mg/L	-	-	-	437	130	132		
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5	10
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen

Note: Bold text indicates that the value is above criteria for discharge to the tundra. All water from ST-1 was discharged to the TIA in 2013

ST-2 Pollution Control Pond

This facility was constructed in 2011. In 2013, it was active between June and October. Samples from ST-2 were collected from a depth of 0.25 m below the water surface. All water from the pollution control pond was directed to the sedimentation pond.

Monthly water quality monitoring sampling at ST-2 occurred from June to October 2013, as per Schedule J of the water licence. Results of the sampling are presented in Table 3.

Table 3 - Water quality monitoring program results for ST-2, June to October 2013, in mg/L, unless specified otherwise

TMAC Sample ID		ST2-04JUN13	ST2-08JUL13	ST2-05AUG13	ST2-02SEP13	ST2-05OCT13
ALS ID		L1313624-2	L1329538-8	L1343243-2	L1356965-6	L1375228-3
Sample Date/Time		6/4/2013 14:25	7/8/2013 11:30	8/5/2013 14:07	9/2/2013 9:55	10/5/2013 16:48
Parameter	**Unit**	**Results**				
Conductivity (EC)	uS/cm	4980	6770	7700	12100	5320
Hardness (as CaCO3)	mg/L	1380	1810	2510	3940	1450
pH	pH	7.58	7.78	7.84	7.48	7.95
Total Suspended Solids	mg/L	27	37	13	24	15
Alkalinity, Total (as CaCO3)	mg/L	-	-	-	136	155
Ammonia, Total (as N)	mg/L	32.6	38.6	27.3	55.1	10.7
Chloride (Cl)	mg/L	-	-	2150	3580	1310
Nitrate (as N)	mg/L	71.5	122	122	171	77.8
Nitrite (as N)	mg/L	<0.50	<0.50	<0.50	<1.0	<0.50
Sulfate (SO4)	mg/L	57.7	264	247	239	332
Cyanide, Total	mg/L	0.0185	0.0102	0.022	0.0409	<0.0050
Cyanide, Free	mg/L	0.007	-	-	-	-
Aluminum (Al)-Total	mg/L	0.686	0.160	<0.060	<0.30	0.056
Antimony (Sb)-Total	mg/L	<0.00050	<0.0010	<0.0020	<0.010	<0.00050
Arsenic (As)-Total	mg/L	0.00072	<0.0010	<0.0020	<0.010	0.00270
Barium (Ba)-Total	mg/L	0.0834	0.0934	0.0965	0.167	0.101
Beryllium (Be)-Total	mg/L	<0.0025	<0.0050	<0.010	<0.050	<0.0025
Boron (B)-Total	mg/L	0.198	0.34	0.49	<1.0	0.527
Cadmium (Cd)-Total	mg/L	0.000118	0.00014	0.00032	<0.0010	0.000151
Calcium (Ca)-Total	mg/L	484	466	745	1320	441
Chromium (Cr)-Total	mg/L	0.0025	<0.0010	<0.0020	<0.010	<0.0010
Cobalt (Co)-Total	mg/L	0.0029	0.0026	0.0058	<0.010	0.0056
Copper (Cu)-Total	mg/L	0.0065	0.0088	0.0077	<0.010	0.0178
Iron (Fe)-Total	mg/L	0.957	0.22	<0.20	<1.0	0.287
Lead (Pb)-Total	mg/L	0.00027	<0.00050	<0.0010	<0.0050	<0.00025
Lithium (Li)-Total	mg/L	0.069	0.059	<0.10	<0.50	0.058
Magnesium (Mg)-Total	mg/L	49.4	62.5	106	157	84.7
Manganese (Mn)-Total	mg/L	0.679	0.836	1.52	2.5	0.922
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	0.0081	0.0053	0.0083

TMAC Sample ID		ST2-04JUN13	ST2-08JUL13	ST2-05AUG13	ST2-02SEP13	ST2-05OCT13
ALS ID		L1313624-2	L1329538-8	L1343243-2	L1356965-6	L1375228-3
Sample Date/Time		6/4/2013 14:25	7/8/2013 11:30	8/5/2013 14:07	9/2/2013 9:55	10/5/2013 16:48
Parameter	**Unit**	**Results**				
Nickel (Ni)-Total	mg/L	0.0037	0.0038	0.0066	0.01	0.0074
Potassium (K)-Total	mg/L	26.2	25.9	35.4	52.8	28.1
Selenium (Se)-Total	mg/L	0.00086	0.0025	0.0042	<0.010	0.00504
Silver (Ag)-Total	mg/L	<0.000050	<0.00010	<0.00020	<0.0010	<0.000050
Sodium (Na)-Total	mg/L	348	398	649	953	496
Thallium (Tl)-Total	mg/L	<0.00025	<0.00050	<0.0010	<0.0050	<0.00025
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L	0.0384	0.0032	<0.0060	<0.030	0.0017
Uranium (U)-Total	mg/L	0.00059	0.00108	0.00228	0.0029	0.00337
Vanadium (V)-Total	mg/L	0.0026	<0.0010	<0.0020	<0.010	0.0014
Zinc (Zn)-Total	mg/L	<0.015	0.118	<0.060	<0.30	<0.015
Calcium (Ca)-Dissolved	mg/L	474	575	823	1230	469
Magnesium (Mg)-Dissolved	mg/L	47.8	89.4	110	155	92
Oil and Grease	mg/L	<1.0	1.2	<1.0	<1.0	<1.0
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen

ST-4 Landfarm

Construction of the Landfarm facility was completed in 2011 and has been in use since. The facility receives potentially contaminated material from site snow clearing at vehicle ready-lines, equipment staging areas, or from accumulation of effluent inside small secondary containment berms. In addition, any contaminated snow or soil resulting from spill incidents of hydrocarbon products amenable to on-site oil-water separator treatment or landfarm remediation is contained in cells within the Landfarm designated for those purposes.

Water from the Landfarm (ST-4) was sampled on May 28, 2013. The results were compliant with the water licence discharge criteria of Part G Item 24(c). A discharge notification was provided to the inspector May 21, 2013. Immediately prior to discharge, a slight sheen was detectable on the surface, so the effluent was discharged through an oil/water separator. Approximately 150 m^3 was discharged between June 22 and 25. Daily discharge samples were collected and the effluent sampled was compliant throughout the discharge for all parameters. Results of all sampling is presented in Table 4.

Table 4 - Water quality monitoring program results for ST-4, May and June 2013, pre-discharge and daily discharge, in mg/L, unless specified otherwise

Sample ID		ST4-28MAY13	ST4-22JUN13	ST4-23JUN13	ST4-24JUN13	ST4-25JUN13	Part G Item 24(c)	
ALS ID		L1308648-2	L1322373-5	L1322373-14	L1322373-12	L1324749-1	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Sample Date/Time		5/28/2103 17:40	6/22/2013 13:55	6/23/2013 10:15	6/24/2013 11:00	6/25/2013 16:49		
Parameter	Unit	Results						
pH	pH	7.93	8.34	8.4	8.34	8.20	6.0 - 9.0	9
Total Suspended Solids	mg/L	4.0	<3.0	<3.0	<3.0	<3.0	15	30
Total Ammonia-N	mg/L	0.291	0.107	0.057	0.061	<0.050	2	4
Lead (Pb)-Total	mg/L	0.000077	<0.000050	<0.000050	<0.000050	<0.000050	0.01	0.02
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	-
Toluene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.002	-
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	10.0
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen

ST-5 Doris Plant Site Fuel Storage and Containment

Water from the Doris tank farm (ST-5) was sampled on May 28, 2013. The water was compliant with discharge criteria. A discharge notification was provided to the inspector May 21, 2013. On June 8 and 9, 2013, approximately 120 m^3 of water was discharged to a location just north of the berm (13W 432960 7559270) as approved by the inspector. Daily samples were collected during discharge and results of pre-discharge and daily discharge sampling are presented in Table 5.

ST-6a Roberts Bay Bulk Fuel Storage Facility

Water from the Roberts Bay 5ML tank farm (ST-6A) was sampled on May 28, 2013 and was found to be compliant with discharge criteria. A discharge notification was provided to the inspector May 21, 2013. Discharge from the facility began June 10, 2013. Approximately 212 m^3 of water was used for dust suppression on the site roads in June. Results of daily discharge monitoring are presented in Table 6.

ST-6b Roberts Bay Bulk Fuel Storage Facility

Water from the Roberts Bay 3x5ML tank farm (ST-6B) was sampled on June 10, 2013 and was found to be compliant with discharge criteria. A discharge notification was provided to the inspector May 21, 2013. Discharge from the facility began June 20, 2013. Approximately 571 m^3 of water was used for dust suppression on the site roads. Results of daily discharge monitoring are presented in Table 7.

Table 5 - Water quality monitoring program results for ST-5, pre-discharge and daily discharge, in mg/L, unless specified otherwise

TMAC Sample ID		ST5-28MAY13	ST5-08JUN13	ST5-09JUN13	Part G Item 24(e)	
ALS ID		L1308648-3	L1314879-12	L1314879-15	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Sample Date/Time		5/28/13 11:00	6/8/2013 11:13	6/9/2013 9:23		
Parameter	**Unit**	**Results**				
pH	pH	8.07	8.16	8.18	6.0 – 9.0	9
Total Suspended Solids	mg/L	<3.0	5	<3.0	15	30
Lead (Pb)-Total	mg/L	0.000076	0.000127	0.00006	0.01	0.02
Oil and Grease	mg/L	<1.0	<1.0	<1.0	5	10
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen	-	-
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 6 - Water quality monitoring program results for ST-6a, pre-discharge and daily discharge, in mg/L, unless specified otherwise

TMAC Sample ID		ST6A-28MAY13	ST6A-10JUN13	ST6A-11JUN13	ST6A-16 JUN13	ST6A-20JUN13	Part G Item 24(e)	
ALS ID		L1308648-1	L1314879-19	L1314879-20	L1318661-2	L1320947-4	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Sample Date/Time		5/28/2013 18:00	6/10/2013 13:12	6/11/2013 9:57	6/16/2013 18:08	6/20/2013 17:46		
Parameter	**Units**	**Results**						
pH	pH	7.96	8.18	8.23	8.12	8.23	6.0 - 9.0	9
Total Suspended Solids	mg/L	4.0	15	19	11	6	15	30
Lead (Pb)-Total	mg/L	0.000099	0.000514	0.000469	0.000208	0.000082	0.01	0.02
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	10
Oil And Grease (Visible Sheen)		no visible sheen	no visible sheen	no visible sheen	no visible sheen	no visible sheen	-	-
Benzene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.37	-
Ethylbenzene	mg/L	<0.00050	<0.00050	<0.00050	0.00174	0.00085	0.09	-
Toluene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.002	-

Table 7 - Water quality monitoring program results for ST-6b, pre-discharge and daily discharge, in mg/L, unless specified otherwise

Sample ID		ST6B-10JUN13A (Pre-treatment)	ST6B-10JUN13B (Post-treatment)	ST6B-20JUN13	ST6B-22JUN13	ST6B-24JUN13	ST6B-29JUN13	Part G Item 24(e)	
ALS ID		L1314879-21	L1314879-22	L1320947-5	L1322373-6	L1322373-13	L1325440-5	Maximum Average Concentration (mg/L)	Maximum Concentration in any Grab Sample (mg/L)
Sample Date/Time		6/11/2013 14:15	6/11/2013 14:37	6/20/2013 18:05	6/22/2013 7:55	6/24/2013 11:25	6/30/2013 15:30		
Parameter	**Unit**	**Results**							
pH	pH	8.28	9.23	8.37	8.45	8.47	8.43	6.0 - 9.0	9
Total Suspended Solids	mg/L	<3.0	<3.0	10	4	18	<3.0	15	30
Lead (Pb)-Total	mg/L	0.000083	<0.000050	0.000212	0.000143	0.000418	0.000078	0.01	0.02
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5	10
Oil And Grease (Visible Sheen)		No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	-	-
Benzene	mg/L	<0.00050	<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	<0.00050	0.09	-
Toluene	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.002	-

ST-7 and ST-7a Freshwater Usage from Doris and Windy Lakes

Table 8 provides the volumes of water usage at the Doris North project area as required under Part E Item 1 of water licence 2AM-DOH1323. The water extraction pump for Doris Camp is located off the northwest shoreline of Doris Lake and the sampling station ST-7 is located within the Doris Lake pump house. In 2013, water from Doris Lake was not used for domestic consumption; all water for domestic consumption was obtained from Windy Lake at ST-7a. Water for dust suppression in 2013 was obtained from containment berm effluent when found to be compliant for discharge under the criteria established in Part G of Licence 2AM-DOH1323, and on approval of the Inspector. Additional water usage from Windy Lake for dust suppression on the Doris-Windy All-Weather Road is reported in the 2BE-HOP1222 water licence Annual Report.

Table 8 – Doris North water usage in 2013 measured at ST-7a, in cubic metres (m^3)*

Month	Water Source	Monthly Usage	Cumulative Usage
January	Camp Closed	-	-
February	Camp Closed	-	-
March	Windy Lake	42	42
April	Windy Lake	84	126
May	Windy Lake	126	252
June	Windy Lake	148	400
July	Windy Lake	265	665
August	Windy Lake	243	908
September	Windy Lake	227	1135
October	Windy Lake	253	1388
November	Windy Lake	142	1530
December	Windy Lake	96	1626

**values rounded to nearest whole cubic meter*

Table 9 provides the results of water quality sampling for monitoring station ST-7. The monitoring is intended to be compliant with the requirements set out in Schedule J of water licence 2AM-DOH1323. As the Doris Lake pumphouse was not operational in 2013, water samples from Doris Lake (ST-7) were taken monthly from raw lake water adjacent to the freshwater intake. Samples were also collected from ST-7 for enumeration of blue green algae as requested by AANDC (then INAC) in their comments of April 22, 2009, regarding modification to the licence to temporarily utilize domestic water from Windy Lake while improvements were being made to the Doris North drinking water treatment system. Samples from Windy Lake (ST-7a) were collected from the freshwater intake location established for the extraction of domestic water by truck for use at Doris Camp. Results of sampling at ST-7a (HOP-1) are provided in Table 10 and Table 11.

Table 9 - Water sampling monitoring program results for 2013 taken from ST-7, in mg/L, unless otherwise specified

TMAC Sample ID		ST7-20MAR13	ST7-28MAR13	ST7-11APR13	ST7-01MAY13	ST7-04JUN13	ST7-02JUL13	ST7-06AUG13	ST7-03SEP13	ST7-01OCT13	ST7-05NOV13	ST7-06DEC13
ALS ID		L1281174-1	L1283677-1	L1288838-1	L1296417-1	L1311314-6	L1325440-14	L1343243-12	L1356965-10	L1371632-3	L1388036-2	L1400885-7
Sample Date/Time		3/20/2013 10:00	3/28/2013 9:00	4/11/2013 9:20	5/1/2013 9:30	6/4/2013 9:42	7/2/2013 8:15	8/6/2013 9:10	9/3/2013 8:38	10/1/2013 9:00	11/5/2013 9:07	12/6/2013 14:00
Parameter	**Unit**	**Results**										
Conductivity (EC)	µS/cm	359	344	350	357	244	307	284	341	301	302	319
Hardness (as CaCO3)	mg/L	63.6	62.1	62.3	66.1	43.6	56.4	47.6	66.8	57.2	52.4	53.4
pH	pH	7.57	7.45	7.38	7.73	7.56	7.77	8.05	7.67	7.6	7.54	6.78
Total Suspended Solids	mg/L	<6.0	4	<3.0	4	<3.0	<3.0	<3.0	<3.0	8	<3.0	<3.0
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.056	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	<0.0010	<0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	0.0093	0.031	0.025	0.043	0.021	0.024	0.025	0.187	0.033	0.025	0.027
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aphanizomenon (Cyanophyceae)	cells/mL	-	-	-	72300	45400	26700	25200	41400	103000	36900	24600
Aphanothece (Cyanophyceae)	cells/mL	-	-	-	-	-	-	-	-	480	-	-
Total cyanobacterial cell count	cells/mL	-	-	-	82900	66900	52600	44400	57800	117000	50300	33600
Limnothrix (Cyanophyceae)	cells/mL	-	-	-	1510	4420	6910	7490	5020	3650	2300	1540
Planktolyngbya (Cyanophyceae)	cells/mL	-	-	-	9040	17100	18600	8060	11100	7100	9220	5950
Pseudoanabaena (Cyanophyceae)	cells/mL	-	-	-	-	-	384	3650	251	3070	1920	1540
Aluminum (Al)-Total	mg/L	<0.015	0.03	0.0117	0.0069	0.0113	0.0237	0.0362	0.0292	0.025	0.0144	0.0093
Antimony (Sb)-Total	mg/L	<0.00050	<0.00050	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00050	<0.00050	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	0.003	0.0037	0.0037	0.0032	<0.0030	0.0035	0.003	0.0039	0.0032	<0.0030	<0.0030
Beryllium (Be)-Total	mg/L	<0.0025	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000050	<0.000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	11.8	11.5	11.8	11.2	8.71	10.6	9.98	14.4	11.9	10.7	10.7
Chromium (Cr)-Total	mg/L	<0.0010	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.0024	0.0059	0.0020	0.0018	0.0013	0.0017	0.0013	0.0013	0.0015	0.0015	0.0015
Iron (Fe)-Total	mg/L	<0.050	0.07	0.040	0.021	0.031	0.189	0.121	0.102	0.075	0.027	0.020
Lead (Pb)-Total	mg/L	<0.00025	<0.00025	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.025	<0.025	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	8.48	8.11	8.02	7.65	6.25	6.88	6.73	7.73	7	6.78	7.58
Manganese (Mn)-Total	mg/L	0.0055	0.006	0.0055	0.0048	0.0083	0.0297	0.0282	0.036	0.0241	0.0085	0.0070
Mercury (Hg)-Total	mg/L	<0.000020	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	3.18	2.9	2.79	2.56	2.15	2.28	2.14	2.47	2.29	2.33	2.44
Selenium (Se)-Total	mg/L	<0.00050	<0.00050	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000050	<0.000050	<0.000010	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	43.5	40	39.3	35.4	29.7	33.4	33.1	36.4	37.7	33.7	34.4
Thallium (Tl)-Total	mg/L	<0.00025	<0.00025	0.00013	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L	<0.0015	<0.0015	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	0.0011	0.0016	<0.0010	<0.0010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	0.002	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.015	<0.015	<0.0040	0.0141	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L	11.7	-	11.4	12.3	7.65	11.4	8.55	13.9	11	9.62	9.83

TMAC Sample ID		ST7-20MAR13	ST7-28MAR13	ST7-11APR13	ST7-01MAY13	ST7-04JUN13	ST7-02JUL13	ST7-06AUG13	ST7-03SEP13	ST7-01OCT13	ST7-05NOV13	ST7-06DEC13
ALS ID		L1281174-1	L1283677-1	L1288838-1	L1296417-1	L1311314-6	L1325440-14	L1343243-12	L1356965-10	L1371632-3	L1388036-2	L1400885-7
Sample Date/Time		3/20/2013 10:00	3/28/2013 9:00	4/11/2013 9:20	5/1/2013 9:30	6/4/2013 9:42	7/2/2013 8:15	8/6/2013 9:10	9/3/2013 8:38	10/1/2013 9:00	11/5/2013 9:07	12/6/2013 14:00
Parameter	**Unit**	**Results**										
Magnesium (Mg)-Dissolved	mg/L	8.32	-	7.60	8.61	5.95	6.79	6.37	7.77	11	6.9	7.01
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.21	<1.0	<1.0
Oil And Grease (Visible Sheen)		No visible sheen	-	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen
Biological Oxygen Demand (BOD_5)	Mg/L	<2*	<2	<2**	3	4	4	<2	<2	<2	<2	<2.0
Fecal Coliform	CFU/100mL	<1*	<1	<1	***	<1	<1	<1	<1	<1	<1	<2

**Presence of ice in sample.*
*** Lab analyzed for the incorrect parameter (CBOD). This should be BOD_5.*
****Sample had exceeded hold time on receipt by laboratory and was not analyzed.*

Table 10 - Water sampling monitoring program results for 2013 taken from ST-7a (HOP-1), March to June, in mg/L, unless otherwise specified

TMAC SAMPLE ID		HOP1-20MAR13	HOP1-28MAR13	HOP1-11APR13	HOP1-01MAY13	HOP1-22MAY13	HOP1-04JUN13
ALS ID		L1281174-2	L1283677-2	L1288838-2	L1296417-2	L1305158-1	L1311314-10
Sample Date/Time		3/20/2013 10:00	3/28/2013 9:00	4/11/2013 8:45	5/1/2013 9:30	5/22/2013 8:40	6/4/2013 9:06
Parameters	**Units**	**Results**					
Conductivity (EC)	uS/cm	574	571	570	551	539	276
Hardness (as $CaCO_3$)	mg/L	92.6	86.6	92.7	87.6	88.8	64.1
pH	pH	7.73	7.84	7.78	7.98	8.02	7.74
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	4	<3.0	<3.0
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrate (as N)	mg/L	<0.0060	<0.050	<0.0050	<0.050	<0.050	0.116
Nitrite (as N)	mg/L	<0.0020	<0.050	<0.0050	<0.050	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L	0.0048	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	0.0095	<0.020	<0.0020	<0.020	<0.020	0.02
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	<0.030	<0.015	0.0079	0.0094	<0.0050	0.157
Antimony (Sb)-Total	mg/L	<0.0010	<0.00050	<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.0010	<0.00050	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	0.0035	0.0032	0.0031	<0.0030	<0.0030	0.0058
Beryllium (Be)-Total	mg/L	<0.0050	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.10	0.058	0.061	0.06	0.056	<0.050
Cadmium (Cd)-Total	mg/L	<0.00010	<0.000050	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	16.1	15.2	16.3	18.0	15.9	16.8
Chromium (Cr)-Total	mg/L	<0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.0042	0.0015	0.0013	<0.0010	0.0012	0.002
Iron (Fe)-Total	mg/L	0.12	<0.050	0.030	<0.010	<0.010	0.188
Lead (Pb)-Total	mg/L	<0.00050	<0.00025	<0.00010	<0.00010	<0.00010	0.00039
Lithium (Li)-Total	mg/L	<0.050	<0.025	<0.010	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	12.5	11.8	12.6	12.3	12.2	7.56
Manganese (Mn)-Total	mg/L	0.0028	<0.0020	<0.0020	<0.0020	<0.0020	0.0119
Mercury (Hg)-Total	mg/L	<0.000020	-	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

TMAC SAMPLE ID		HOP1-20MAR13	HOP1-28MAR13	HOP1-11APR13	HOP1-01MAY13	HOP1-22MAY13	HOP1-04JUN13
ALS ID		L1281174-2	L1283677-2	L1288838-2	L1296417-2	L1305158-1	L1311314-10
Sample Date/Time		3/20/2013 10:00	3/28/2013 9:00	4/11/2013 8:45	5/1/2013 9:30	5/22/2013 8:40	6/4/2013 9:06
Parameters	**Units**	**Results**					
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	5.51	4.88	5.21	4.98	4.89	3.07
Selenium (Se)-Total	mg/L	<0.0010	<0.00050	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.00010	<0.000050	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	72.8	66.5	68.1	<0.00010	<0.00010	31.9
Thallium (Tl)-Total	mg/L	<0.00050	<0.00025	<0.00010	<0.050	<0.050	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.0010	<0.0010	<0.050
Titanium (Ti)-Total	mg/L	<0.0030	<0.0015	<0.0010	4	<3.0	0.0072
Uranium (U)-Total	mg/L	0.00025	0.00021	0.00020	0.00021	0.00018	0.00011
Vanadium (V)-Total	mg/L	0.0032	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	<0.030	<0.015	<0.0040	<0.0040	0.0043	0.0076
Calcium (Ca)-Dissolved	mg/L	16.1	-	17.3	15.2	16.4	15
Magnesium (Mg)-Dissolved	mg/L	12.7	-	12.7	12	11.6	6.48
Biochemical Oxygen Demand (BOD_5)	mg/L	<2	<2	<2***	<2	4	4
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Oil And Grease (Visible Sheen)		No visible sheen	-	No visible sheen	No visible sheen	No visible sheen	No visible sheen
Fecal Coliforms	CFU/100mL	*	**	<1	****	<1	1

** Due to limited sample size collected, this parameter was not analyzed*

*** Due to lab omission, this parameter was not analyzed*

**** Lab analyzed for the incorrect parameter (CBOD). This should be BOD_5.*

***** Due to sampling error, this sample was not collected*

Table 11 - Water sampling monitoring program results for 2013 taken from ST-7a (HOP-1), July to December, in mg/L, unless otherwise specified

TMAC Sample ID		HOP1-09JUL13	HOP1-06AUG13	HOP1-03SEP13	HOP1-01OCT13	HOP1-05NOV13	HOP1-06DEC13
ALS ID		L1329538-9	L1343243-15	L1356965-9	L1371632-4	L1388036-1	L1400885-6
Sample Date/Time		7/9/2013 8:10	8/6/2013 13:40	9/3/2013 7:45	10/1/2013 8:30	11/05/2013 9:40	12/06/2013 14:00
Parameters	**Units**	**Results**					
Conductivity (EC)	uS/cm	435	433	445	437	475	486
Hardness (as $CaCO_3$)	mg/L	69.6	70.9	72.2	75.8	80.0	80.9
pH	pH	7.88	7.94	7.8	7.77	7.8	7.52
Total Suspended Solids	mg/L	<3.0	<3.0	12	<3.0	<3.0	<3.0
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0573	0.145	0.165	0.0247	0.0163	0.0139
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	<0.0030	0.0033	0.0034	<0.0030	<0.0030	<0.0030
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	0.053	0.058
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	13.1	13.5	12.7	12.9	13.9	14.1
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.001	0.0014	0.0012	0.0011	<0.0010	<0.0011
Iron (Fe)-Total	mg/L	0.045	0.193	0.232	0.027	0.011	0.010
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	10.3	10.1	10	9.72	9.97	11.1
Manganese (Mn)-Total	mg/L	0.002	0.0067	0.0056	0.0026	<0.0020	<0.0020
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	4.02	3.73	4.01	4.03	4.34	4.22
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	52.8	56.1	54.5	57.2	55.1	56.0
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L	0.0021	0.0064	0.0095	0.0016	<0.0010	<0.0010
Uranium (U)-Total	mg/L	0.00017	0.00018	0.00019	0.00016	0.00017	0.00019
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L	11.9	12.5	12.5	13.1	14.3	13.8
Magnesium (Mg)-Dissolved	mg/L	9.68	9.65	9.98	10.4	10.7	10.8
Biochemical Oxygen Demand	mg/L	<2.0	<2.0	<2	<2	<2	<2.0
Oil and Grease	mg/L	1	<1.0	<1.0	<1.0	<1.0	8.1
Oil And Grease (Visible Sheen)		No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen
Fecal Coliforms	CFU/100mL	<1	<1	<1	<1	<1	<2

ST-8 Discharge from Sewage Treatment Plant Bio-Membrane

From March to December 2013, TMAC operated only one of the tandem sewage treatment plants to support the Doris North camp facility. Each plant has the capacity to treat wastewater for up to 180 personnel. Operation of both plants was not required due to low camp occupancy under Care and Maintenance. A notification of initiation of discharge was submitted to AANDC and the NWB on March 20, 2013; however, camp loading remained low and the initial discharge only took place April 26 to the approved winter discharge location after receiving approval from the Inspector. Treated effluent samples were collected from a sampling port inside the plant (ST-8B) to test the quality of the effluent to be discharged to the tundra. In-plant sampling facilitates year-round compliance evaluation of plant performance.

At the request of the inspector, samples were collected weekly at ST-8B for 6 weeks from the start of discharge. Average concentrations met discharge criteria and no maximum allowable grab sample concentrations were exceeded. All monitoring results for ST-8B are provided in Table 12 and Table 13.

Table 12 - Water quality monitoring program results for ST-8B (Sewage Treatment Plant ST-8), April to May 2013, in mg/L, unless otherwise specified

	TMAC ID	ST8B-15APR13	ST8B-24APR13	ST8B-01MAY13	ST8B-08MAY13	ST8B-15MAY13	ST8B-22MAY13	ST8B-29MAY13	Part G Item 3 (b)	
	ALS ID	L1289894-1	L1293754-1	L1296417-3	L1299067-1	L1302235-2	L1305158-2	L1308596-1	Maximum Average Concentration	Maximum Allowable Grab Sample Concentration
	Sample Date/Time	4/15/2013 10:30	4/24/2013 11:45	5/1/2013 9:30	5/8/2013 9:00	5/15/2013 10:15	5/22/2013 9:00	5/29/2013 9:00		
Parameters	**Units**	**Results**								
pH	pH	8.50	7.95	7.68	6.38	7.6	6.63	7.48	6-9	9
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	100 mg/L	100 mg/L
Biochemical Oxygen Demand	mg/L	<2*	**	<2	7	3	4	11	80 mg/L	80 mg/L
Oil and Grease	mg/L	5.2	6.4	3.5	1.7	6.3	2.8	5.4	5	10
Oil And Grease (Visible Sheen)		No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Fecal Coliform	CFU/100mL	<10	<1	**	<1	<1	<1	<1	10,000 CFU/100mL	10,000 CFU/100mL

Note: Bold values indicate results above maximum average concentration criteria, but results did not exceed maximum allowable criteria for grab samples
** Lab analyzed for CBOD instead of BOD_5.*
*** Sample exceeded hold time for this parameter so no result is available.*

Table 13 - Water quality monitoring program results for ST-8B (Sewage Treatment Plant ST-8), June to December 2013, in mg/L, unless otherwise specified

	TMAC ID	ST8B-04JUNE13	ST8B-02JUL13	ST8-06AUG13	ST8B-03SEP13	ST8B-01OCT13	ST8B-05NOV13	ST8B-06DEC13	Part G Item 3 (b)	
	ALS ID	L1311314-8	L1325440-6	L1343243-13	L1356965-11	L1371632-5	L1388036-3	L1400885-8	Maximum Average Concentration	Maximum Allowable Grab Sample Concentration
	Sample Date/Time	6/4/2013 7:30	7/2/2013 7:40	8/6/2013 8:47	9/3/2013 8:15	10/1/2013 8:20	11/5/2013 10:10	12/6/2013 14:00		
Parameters	**Units**	**Results**								
pH	pH	7.28	6.62	7.13	6.98	7.23	7.09	6.78	6-9	9
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	100 mg/L	100 mg/L
Biochemical Oxygen Demand	mg/L	14	4	<2	6	2	<2	<2	80 mg/L	80 mg/L
Oil and Grease	mg/L	2.1	2.3	1.2	4.2	<1	1.6	1.8	5	10
Oil And Grease (Visible Sheen)		No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Fecal Coliform	CFU/100mL	<1	<1	<1	1	<1	<1	<2	10,000 CFU/100mL	10,000 CFU/100mL

Treated effluent volumes released from ST-8 are metered daily and summary volumes reported in the monthly monitoring reports. The volumes discharged in 2013 are presented in Table 14.

Table 14 – Treated effluent released from the Doris sewage treatment plant (ST-8), 2013, in cubic meters (m^3)

Month	Monthly Volume	Cumulative Volume
January	Camp closed	-
February	Camp closed	-
March	No discharge	-
April	37	37
May	96	133
June	167	300
July	259	559
August	277	836
September	237	1,073
October	237	1,310
November	119	1,429
December	50	1,479
Total Volume of Treated Effluent Released 2013		**1,479**

**values rounded to nearest whole cubic meter*

The sludge produced at the sewage treatment plant is pressed regularly to remove processed solids and to allow for proper functioning of the plant. Each press produces approximately 0.11 m^3 of sludge. Pressed sludge is promptly disposed of. In 2013, pressed sludge was sent to the incinerator for disposal when the ground was frozen and was otherwise buried in the overburden pile to minimize the amount of waste processed by the incinerator. Pressing commenced in June and the volume of pressed sludge produced in 2013 is presented in Table 15.

Table 15 – Volume of pressed sludge removed from the Doris sewage treatment plant, 2013, in cubic meters (m^3)

Month	Monthly Volume (m^3)	Cumulative Volume (m^3)
January	Camp closed	Camp closed
February	Camp closed	Camp closed
March	-	-
April	-	-
May	-	-
June	0.34	0.34
July	1.70	2.04
August	1.25	3.29
September	0.79	4.08
October	0.79	4.87
November	0.34	5.21
December	0.23	5.44
Total Volume of Sludge Produced in 2013		**5.44**

ST-9 Runoff from Sewage Treatment Plant Discharge

In consultation with (then) INAC during the 2009 inspection tour, the location of sampling point ST-9 was set at geographical coordinates 68°8'20" N, 106°39'55" W. This point is east of Glenn Lake and down slope from the ST-8 tundra discharge location. Monthly monitoring was conducted at ST-9 June through September 2013 in accordance with Schedule J of 2AM-DOH1323. The station is frozen during the remainder of the year. There is no water quality criteria specified in the licence for this monitoring station. Table 16 provides results of the 2013 seasonal monitoring.

Table 16 - Water quality monitoring program results for ST-9, June to September 2013, in mg/L, unless otherwise specified

TMAC Sample ID		ST9-25JUN13	ST9-02JUL13	ST9-06AUG13	ST9-03SEP13
ALS ID		L1322373-15	L1325440-12	L1343243-14	L1356965-12
Sample Date/Time		6/25/2013 9:03	7/2/2013 8:10	8/6/2013 9:45	9/3/2013 9:40
Parameters	**Units**	**Results**			
BOD_5	mg/L	3	4	<2	<2
TSS (mg/L)	mg/L	<3.0	6	<3.0	<3.0
Fecal Coliform	CFU/100mL	<1	2	<1	<1
pH (pH unit)	pH unit	8.07	7.77	7.7	7.9
Oil & Grease (Visible Sheen)		No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Oil & Grease (mg/L)	mg/L	<1.0	1.2	1.2	<1.0

ST-10 Site Runoff from Sediment Controls

Turbidity checks were conducted daily during periods of melt in May and June along areas that had been constructed in 2012. In 2013, these checks were conducted near the diversion berm, the sumps, the north dam and the vent raise. No turbid runoff with the potential to reach a water body was noted. No checks were conducted in July, August, September or October as there as there was no longer any runoff at these locations.

Tail Lake Dewatering and Doris Creek Monitoring - TL-1, TL-2, TL-3, TL-4 and TL-10

This section presents the results of the dewatering monitoring of the Tail Lake Tailings Impoundment Area (TIA) as per the applicable sections of Part G (Conditions Applying to Waste Management and Waste Management Plans) and Part J (Conditions Applying to General and Aquatic Effects Monitoring) of the water licence as they pertain to the Care and Maintenance phase and sampling prior to Operations.

- **TL-1 – TIA at the Reclaim Pump Barge:** The reclaim pump barge did not exist at the TIA during 2013 but representative monitoring for TL-1 was undertaken pre-discharge commencing June 5, 2013 from the lakeshore adjacent to the intake pump at the North Dam on Tail Lake and during discharge in open water season from a boat at the location

of the intake. The intake of the discharge pipeline at the TIA is submerged to a depth of 1.5m below the surface.

- **TL-2 – Doris Outflow Creek Upstream at the Flow Monitoring Station:** Monitoring during 2013 was undertaken from a point on Doris Creek established at UTM 7559507 N, 434053 E
- **TL-3 – Doris Outflow Creek 80m Downstream of Base of Waterfall:** Monitoring during 2013 was undertaken from a point on Doris Creek established at UTM 7559985 N, 434204 E
- **TL-4 – TIA Discharge End-Of-Pipe:** Monitoring during 2013 was undertaken from a valve established in the dewatering discharge line to Doris Creek at end-of-pipe.
  TL-10 – Water Column in Deepest Portion of Tail Lake and at a Location Away from the TIA Reclaim Water Floating Pump House, Sampled at Surface, Mid-depth and Near Bottom: Monitoring was undertaken from a point established at UTM 7558239 N, 434914 E.

Discharge from the Tailing Impoundment Area began June 21, 2013 with Inspector approval. A discharge notification was provided to the Inspector on June 14, 2013. Prior to the initiation of the discharge, sampling at TL-1, TL-2, and TL-3 was started June 4, 2013 and continued every two days after that for over two weeks. Following the start of discharge, sampling at TL-4 was initiated, and sampling at TL-1, TL-2, and TL-3 was continued every two days for two weeks, then monitoring at all stations was reduced to weekly. During the period of June 21 to September 6, the total discharge from Tail Lake to Doris Creek, as measured at TL-1 and TL-4, was 261,681 m^3 and 244,226 m^3, respectively. Table 17 shows the monthly and annual volumes discharged. During July, the meter on the discharge line from Tail Lake at TL-1 was found to have been installed incorrectly; this was repaired July 12 and noted in the monthly monitoring report.

During the discharge period, there were six occurrences where the discharge measured at TL-4 exceeded 10% of the volume of Doris Creek as measured at TL-2. These occurred on July 10, and August 11, 19, 24, 25, 2013, but the volume discharged was never greater than 11.5% of Doris Creek discharge. During 2013, the rating curve from which the hydrograph for Doris Creek is derived was revised due to changes in channel geometry at the TL-2 monitoring station. This resulted in adjustments to both the predicted volumes and recorded volumes for discharge from Doris Creek. All predicted and recorded discharge values, and a discussion of the revision of the Doris Creek rating curve are included in the 2013 Hydrology Compliance Report. A comparison of flows between TL-1, TL-2, TL-3 and TL-4 is provided in Table 37 and discussed in section 7 of this report.

In compliance with the requirements of Part G Item 29, acute lethality testing conducted at TL-1 on June 17 (prior to the initiation of discharge) indicated that this water was non-acutely toxic to trout and daphnia. Water collected at TL-1 on August 12 was also non-acutely toxic to trout and daphnia. Water collected from TL-4 was also shown to be non-acutely toxic to trout and daphnia on July 15, 2013. The sample taken at TL-4 on August 13, 3013, unfortunately leaked en route to the lab and only enough water was available to conduct the acute toxicity sampling for daphnia. The sample was non-acutely toxic to daphnia. All sampling results are provided in Table 18.

Sample results for TL-1 are provided in Table 19 and 20 and TL-4 monitoring results compared with discharge criteria at Part G Item 28 of Licence 2AM-DOH1323 are provided in Tables 21 to 24. As expected, discharged water was compliant with the discharge criteria.

Sample results for TL-2 (Doris Creek upstream) are presented in Tables 25 to 27 and are compared to the discharge criteria for TL-3. Sample results for TL-3 (Doris Creek downstream) are presented in Tables 28 to 30. As expected, the TL-3 water quality was similar to the TL-2 water quality. Water samples at TL-3 occasionally exceeded the discharge criteria for several parameters (aluminum, copper, iron, zinc – highlighted in the tables), but all were within natural background levels for water quality at the Doris North project. A single monitoring result for lead marginally exceeded licence criteria for TL-3 on June 24, 2013.

Samples at TL-10 (deepest portion of the TIA) were collected between June and September either through ice or by boat during open water season. Tables 31 through 34 present the TL-10 sampling results.

Table 17 - Monthly and annual volumes discharged from the TIA, at TL-1 and TL-4, June to September 2013, in m^3*

Month	Monthly Volume TL-1	Monthly Volume TL-4
June	64,765**	57,024
July	146,760**	137,588
August	46,823	46,238
September	3,332	3,373
Total Volume Dewatered from Tail Lake 2013	**261,681**	**244,226**

**Volumes rounded to the nearest cubic meter*
***Meter installed incorrectly and repaired July 12, 2013*

Table 18 - Acute Toxicity Bioassay at sampling stations TL-1 (June and August) and TL-4 (July and August), 2013

TMAC ID	TL1-17JUN13	TL4-15JUL13	TL1-12AUG13	TL4-13AUG13
ALS ID	**L1318661-1 / 3**	**L1333107-4**	**L1347018-1 / 6**	**L1374018-4**
Sample Date/Time	**6/17/2013 10:45**	**7/15/2013 10:21**	**8/12/2013 18:07**	**8/13/2013 7:57**
Trout				
LC50	>100%	>100%	Non-Lethal	*
Analyst Comment	No toxicity observed	No effect occurred	No toxicity observed	
Daphnia				
LC50	Non-Lethal	Non-Lethal	Non-Lethal	Non-Lethal
Analyst Comment	No toxicity observed	No toxicity observed	No toxicity observed	No toxicity observed

Note: LC50 = lethal concentration that results in mortality of 50% of the test organisms; a result of 100% indicates all organisms survived
**Sample container leaked en route to lab; analysis for trout toxicity could not be performed. A 24-hour LC50 was performed; no mortality was observed*

TL-1 TIA at the Reclaim Pump Barge

Table 19 - Water Quality from the Tailings Impoundment Area (TL-1), June 2013

TMAC Sample ID		TL1-05JUN13	TL1-06JUN13	TL1-10JUN13	TL1-08JUN13	TL1-12JUN13	TL1-14JUN13	TL1-16JUN13	TL1-18JUN13	TL1-20JUN13	TL1-22JUN13	TL1-24JUN13	TL1-26JUN13	TL1-28JUN13	TL1-30JUN13
ALS ID		L1313624-10	L1313624-13	L1314879-17	L1314879-23	L1317184-1	L1317184-4	L1318327-1	L1318327-4	L1320947-1	L1322373-1	L1322373-8	L1324749-2	L1324749-6	L1325440-1
Sample Date/Time		6/5/2013 13:56	6/6/2013 13:30	6/10/2013 9:40	6/8/2013 13:54	6/12/2013 10:20	6/14/2013 8:15	6/16/2013 14:30	6/18/2013 7:30	6/20/2013 7:45	6/22/2013 15:30	6/24/2013 9:38	6/26/2013 9:18	6/28/2013 7:50	6/30/2013 18:25
Parameter	**Units**	**Results**													
Conductivity (EC)	uS/cm	100	228	343	288	308	245	186	185	261	253	272	216	212	215
Hardness (as CaCO3)	mg/L	25.2	57.1	90.6	85.1	80.5	64.6	48.1	47.5	68.1	66.2	70.0	59.2	55.4	55.7
pH	pH	7.29	7.45	7.9	8.08	7.84	7.78	7.75	7.73	8.01	8.07	8.28	8.04	8	8.99
Redox Potential	mV	200	175	-	-	-	-	-	-	-	-	-	-	-	-
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	69	145	216	181	200	155	111	129	136	170	183	127	131	139
Ammonia, Total (as N)	mg/L	<0.050	0.26	0.121	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	14.9	38.6	62.9	50.1	56.5	45.1	34.9	35.6	48.3	48.2	50.6	37.2	36.1	39.8
Nitrate (as N)	mg/L	0.151	0.053	0.382	0.168	0.198	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Orthophosphate-Diss. (as P)	mg/L	0.0037	0.0012	<0.0010	0.0018	0.0034	0.0032	0.0075	0.003	0.0019	0.0014	<0.0010	0.0017	0.0011	<0.0010
Phosphorus (P)-Total	mg/L	0.05	0.048	0.028	0.037	0.047	0.076	0.038	0.024	0.026	0.021	0.027	0.023	0.023	0.026
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0634	0.0273	0.0124	0.0235	0.0391	0.0233	0.0128	0.0145	0.0108	0.0118	0.0145	0.0109	0.0149	0.0151
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	0.0036	0.0062	0.006	0.0059	0.0055	0.0049	0.0031	0.003	0.0039	0.0037	0.0036	<0.0030	<0.0030	<0.0030
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000019	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	5.86	14.4	20.5	17.6	18.5	14.3	11.1	11	16	13.8	15.4	12.8	12.2	12.9
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.0015	0.0013	0.0014	0.0015	0.0019	0.0016	0.0023	0.002	0.0023	0.0012	0.0015	0.0011	0.0013	0.0015
Iron (Fe)-Total	mg/L	0.4	1.47	0.229	0.668	0.227	0.22	0.237	0.176	0.209	0.217	0.22	0.233	0.246	0.206
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	2.38	6.33	9.02	8.06	8.48	7.04	4.86	4.89	7.52	6.77	7.26	5.93	6.04	6.21
Manganese (Mn)-Total	mg/L	0.0673	0.22	0.0396	0.0401	0.0274	0.0195	0.0163	0.0145	0.0151	0.0227	0.0204	0.0125	0.0212	0.0179
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	1.24	2.27	2.94	2.62	2.81	2.4	1.8	1.74	2.48	2.27	2.35	1.86	1.85	1.9
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	8.1	17.8	28.8	23.4	27.6	22.8	15.4	14.9	23.7	22.6	23.8	19.1	18.8	19.8
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L	0.0019	0.0013	<0.0010	<0.0010	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.0052	0.0259	0.0053	0.0103	0.005	<0.0040	<0.0040	<0.0040	0.0099	<0.0040	<0.0040	<0.0040	0.0113	<0.0040
Calcium (Ca)-Dissolved	mg/L	5.8	12.4	20.9	20.8	18	14	11	10.8	15.4	15.1	16	13.1	-	12.5
Magnesium (Mg)-Dissolved	mg/L	2.59	6.35	9.31	9.58	8.65	7.2	4.99	4.97	7.16	6.93	7.26	6.43	-	5.97
Dissolved Oxygen	mg/L	7.83*	-	-	-	-	-	-	-	-	-	-	-	-	-

**Field measurement*

Table 20 - Water Quality from the Tailings Impoundment Area (TL-1), July to September 2013

TMAC Sample ID		TL1-02JUL13	TL1-04JUL13	TL1-08JUL13	TL1-15JUL13	TL1-29JUL13	TL1-22JUL13	TL1-05AUG13	TL1-12AUG13	TL1-19AUG13	TL1-19AUG13A	TL1-26AUG13	TL1-02SEP13
ALS ID		L1325440-8	L1328047-1	L1329538-1	L1333107-1	L1340951-1	L1336695-1	L1343243-5	L1347018-1	L1350008-1	L1350008-8	L1354039-1	L1356965-1
Sample Date/Time		7/2/2013 7:45	7/5/2013 8:04	7/8/2013 9:54	7/15/2013 10:21	7/29/2013 8:05	7/22/2013 14:02	8/5/2013 17:53	8/12/2013 18:07	8/19/2013 9:35	8/19/2013 9:45	8/26/2013 9:00	9/2/2013 8:15
Parameter	**Units**	**Results**											
Conductivity (EC)	uS/cm	202	206	202	179	203	199	205	212	231	227	221	217
Hardness (as CaCO3)	mg/L	51.3	55.7	50.6	48.9	51.7	51.3	52.2	52.1	55.9	56.4	53.3	54.2
pH	pH	8.52	7.53	7.64	7.06	7.73	7.94	7.86	7.8	7.65	7.67	7.76	7.51
Redox Potential	mV	-	-	-	-	-	-	-	109	-	-	-	-
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	4	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	122	135	118	115	130	108	132	139	147	144	124	140
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	37.1	37.8	37.7	35.4	37.7	36.6	37.8	38.4	39.8	39.7	39.8	38.9
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Orthophosphate-Diss. (as P)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001
Phosphorus (P)-Total	mg/L	0.024	0.022	0.021	<0.020	0.024	0.022	<0.020	<0.020	0.02	<0.020	<0.020	0.021
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0123	0.0151	0.0131	0.0081	0.008	0.0108	0.0093	0.007	0.0118	0.0099	0.0737	0.0652
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	0.00052	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	<0.0030	<0.0030	0.003	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0038	<0.0030	0.0034	0.0035
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	11.9	12.2	11.4	10.4	12.1	11.4	12	11.7	14	14.2	12.6	11.6
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.0013	0.0014	0.0011	<0.0010	<0.0010	0.0018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	mg/L	0.271	0.248	0.243	0.172	0.254	0.169	0.167	0.298	0.342	0.341	0.185	0.23
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	5.87	5.9	5.92	5.2	5.54	6.22	5.58	5.94	6.2	6.37	5.76	5.92
Manganese (Mn)-Total	mg/L	0.019	0.0095	0.0279	0.0153	0.0208	0.0206	0.0085	0.0262	0.0298	0.0297	0.008	0.0148
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	1.82	1.91	1.85	1.78	1.82	1.81	1.74	1.86	1.89	1.92	1.81	1.91
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	18.3	17.5	16.9	16	16.8	17.2	18.1	19.4	19.4	20.2	19.4	18.2
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0034	0.0032
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	0.0044	<0.0040	<0.0040	<0.0040	<0.0040	0.0066	0.0053	<0.0040
Calcium (Ca)-Dissolved	mg/L	11.7	12.7	10.8	10.9	11.6	11	11.5	11.9	12.9	13.1	11.3	11.6
Magnesium (Mg)-Dissolved	mg/L	5.38	5.83	5.75	5.25	5.53	5.79	5.74	5.45	5.75	5.76	6.06	6.13
Dissolved Oxygen	mg/L			9.55*					10.14*				

**Field measurement*

TL-4 TIA Discharge End-Of-Pipe

Table 21 - Water Quality from the Tailings Impoundment Area Discharge End-of-Pipe (TL-4), June 2013, in mg/L unless otherwise specified

	Sample ID	TL4-22JUN13	TL4-24JUN13	TL4-26JUN13	TL4-28JUN13	TL4-30JUN13	Part G Item 28	
	ALS ID	L1322373-4	L1322373-11	L1324749-5	L1324749-9	L1325440-4	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)
	Sample Date/Time	6/22/2013 12:00	6/24/2013 10:02	6/26/2013 9:44	6/28/2013 9:05	6/30/2013 17:20		
Parameter	Units	Results						
Conductivity (EC)	uS/cm	259	212	206	200	198		
Hardness (as CaCO3)	mg/L	67.3	55.8	54	52.5	50.4		
pH	pH	8.04	8	7.86	7.85	8.17	Between 6.0-9.5	Between 6.0-9.5
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	15.00	30.00
Total Dissolved Solids	mg/L	173	142	119	120	118		
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	0.052	6	
Chloride (Cl)	mg/L	48.7	39.9	35.6	34.5	37		
Nitrate (as N)	mg/L	0.054	<0.050	<0.050	<0.050	<0.050		
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050		
Orthophosphate-Dissolved (as P)	mg/L	0.0019	<0.0010	0.0013	<0.0010	<0.0010		
Phosphorus (P)-Total	mg/L	0.022	<0.020	0.022	0.02	0.027		
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	1.00	2.00
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		
Aluminum (Al)-Total	mg/L	0.0151	0.0107	0.0145	0.0136	0.0123		
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040		
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.50	1.00
Barium (Ba)-Total	mg/L	0.0038	<0.0030	<0.0030	0.0032	<0.0030		
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050		
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Calcium (Ca)-Total	mg/L	13.9	11.1	11.7	11.6	10.8		
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020		
Copper (Cu)-Total	mg/L	0.0012	<0.0010	0.0011	<0.0010	<0.0010	0.30	0.60
Iron (Fe)-Total	mg/L	0.275	0.26	0.201	0.254	0.264		
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.20	0.40
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010		
Magnesium (Mg)-Total	mg/L	7.09	5.96	6.02	5.7	5.43		
Manganese (Mn)-Total	mg/L	0.0237	0.0264	0.0262	0.0343	0.0249		
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.50	1.00
Potassium (K)-Total	mg/L	2.28	1.9	1.81	1.78	1.75		
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040		
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		
Sodium (Na)-Total	mg/L	22.4	18.8	18.4	18.1	17.2		
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050		
Titanium (Ti)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Zinc (Zn)-Total	mg/L	0.0193	0.014	0.014	0.0111	0.0088	0.50	1.00
Calcium (Ca)-Dissolved	mg/L	15.2	12.5	-	-	11.4		
Magnesium (Mg)-Dissolved	mg/L	7.12	5.95	-	-	5.32		
Radium 226	Bq/L	<0.0050	0.0062	0.0060	0.0051	0,0029	0.37 Bq/L	1.11 Bq/L
Biochemical Oxygen Demand (BOD_5)	mg/L	*	*	*	*	*	80	160
Fecal Coliform	CFU/100mL	*	*	*	*	**	10,000 CFU/100mL	10,000 CFU/100mL

**Due to a sampling error, samples were not collected for BOD and Fecal coliform analysis in June*

Table 22 - Water Quality from the Tailings Impoundment Area Discharge End-of-Pipe (TL-4), July 2013, in mg/L unless otherwise specified

	Sample ID	TL4-02JUL13	TL4-04JUL13	TL4-08JUL13	TL4-15JUL13	TL4-22JUL13	TL4-29JUL13	Part G Item 28	
	ALS ID	L1325440-11	L1328047-4	L1329538-4	L1333107-4	L1336695-4	L1340951-4	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)
	Sample Date/Time	7/2/2013 8:00	7/5/2013 8:50	7/8/2013 8:00	7/15/2013 10:21	7/22/2013 14:39	7/29/2013 8:05		
Parameter	Units	Results							
Conductivity (EC)	uS/cm	193	274	201	187	198	202		
Hardness (as CaCO3)	mg/L	50.7	50.3	49.6	48.1	52.8	55.2		
pH	pH	8.04	7.47	7.49	7.57	7.7	7.54	Between 6.0-9.5	Between 6.0-9.5
Total Suspended Solids	mg/L	<3.0	5	<3.0	6	<3.0	<3.0	15.00	30.00
Total Dissolved Solids	mg/L	114	155	120	116	115	126		
Ammonia, Total (as N)	mg/L	<0.050	<0.050	0.086	<0.050	0.055	<0.050	6	-
Chloride (Cl)	mg/L	36.1	62.7	37.9	36.7	36.7	37.7		
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Phosphorus (P)-Total	mg/L	0.023	0.021	<0.020	<0.020	0.029	0.023		
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	1.00	2.00
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		
Aluminum (Al)-Total	mg/L	0.011	0.051	0.019	0.0097	0.0106	0.008		
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040		
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.50	1.00
Barium (Ba)-Total	mg/L	<0.0030	0.0033	0.0032	<0.0030	<0.0030	<0.0030		
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Calcium (Ca)-Total	mg/L	11	9.89	11.4	11.7	11.4	12.7		
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020		
Copper (Cu)-Total	mg/L	<0.0010	0.0015	0.0013	<0.0010	0.0018	<0.0010	0.30	0.60
Iron (Fe)-Total	mg/L	0.246	0.238	0.275	0.192	0.304	0.279		
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.20	0.40
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Magnesium (Mg)-Total	mg/L	5.52	6.9	5.83	5.36	6.19	5.74		
Manganese (Mn)-Total	mg/L	0.0333	0.0349	0.0279	0.0128	0.026	0.0181		
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	-		
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.50	1.00
Potassium (K)-Total	mg/L	1.76	2.38	1.84	1.87	1.83	1.89		
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040		
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		
Sodium (Na)-Total	mg/L	17.6	32	17.5	16.7	17.4	17		
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Titanium (Ti)-Total	mg/L	<0.0010	0.0022	0.001	<0.0010	<0.0010	<0.0010		
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	0.0116	0.0062	0.0131	0.01	0.50	1.00
Calcium (Ca)-Dissolved	mg/L	11.1	9.68	10.6	10.5	11.5	-		
Magnesium (Mg)-Dissolved	mg/L	5.6	6.34	5.65	5.3	5.86	-		
Radium 226	Bq/L	0.0015	0.0028	0.0010	0.0037	0.0011	0.0047	0.37 Bq/L	1.11 Bq/L
Biochemical Oxygen Demand (BOD_5)	mg/L	-	-	-	6	-	-	80	160
Fecal Coliforms	CFU/100mL	-	-	-	<1	-	-	10,000 CFU/100mL	10,000 CFU/100mL

Table 23 - Water Quality from the Tailings Impoundment Area Discharge End-of-Pipe (TL-4), August 2013, in mg/L unless otherwise specified

	Sample ID	TL4-05AUG13	TL4-13AUG13	TL4-19AUG13	TL4-27AUG13	Part G Item 28	
	ALS ID	L1343243-8	L1347018-4	L1350008-4	L1354039-5	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)
	Sample Date/Time	8/5/2013 18:32	8/13/2013 7:57	8/19/2013 13:45	8/27/2013 7:45		
Parameter	Units	Results					
Conductivity (EC)	uS/cm	205	217	224	225		
Hardness (as CaCO3)	mg/L	48.6	54.7	56.5	53.5		
pH	pH	7.72	7.62	7.63	7.76	Between 6.0-9.5	Between 6.0-9.5
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	15.00	30.00
Total Dissolved Solids	mg/L	125	138	135	123		
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	6	-
Chloride (Cl)	mg/L	37.6	38.8	40	40.2		
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050		
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050		
Orthophosphate-Dissolved (as P)	mg/L	0.0083	<0.0010	<0.0010	<0.0010		
Phosphorus (P)-Total	mg/L	<0.020	<0.020	<0.020	<0.020		
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	1.00	2.00
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050		
Aluminum (Al)-Total	mg/L	0.0103	0.0081	0.009	0.0509		
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040		
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	0.50	1.00
Barium (Ba)-Total	mg/L	<0.0030	0.0031	0.0031	0.004		
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050		
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	0.000057		
Calcium (Ca)-Total	mg/L	12.7	13	14.4	12.8		
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020		
Copper (Cu)-Total	mg/L	<0.0010	<0.0010	<0.0010	0.0014	0.30	0.60
Iron (Fe)-Total	mg/L	0.193	0.474	0.386	0.179		
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	0.00022	0.20	0.40
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010		
Magnesium (Mg)-Total	mg/L	5.86	6.35	6.1	5.99		
Manganese (Mn)-Total	mg/L	0.0103	0.0375	0.0278	0.0098		
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020		
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050		
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	0.50	1.00
Potassium (K)-Total	mg/L	1.85	1.99	1.89	1.81		
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040		
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020		
Sodium (Na)-Total	mg/L	19.1	19.8	19.7	19.8		
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010		
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050		
Titanium (Ti)-Total	mg/L	<0.0010	<0.0010	<0.0010	0.0019		
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010		
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	0.0176	0.50	1.00
Calcium (Ca)-Dissolved	mg/L	10.3	12.4	13.2	11.5		
Magnesium (Mg)-Dissolved	mg/L	5.53	5.75	5.72	6		
Radium 226	Bq/L	0.007	0.0031	<0.0041	0.0121	0.37	1.11
Biological Oxygen Demand (BOD_5)	mg/L	-	<2	-	-	80	160
Fecal Coliforms	CFU/100mL	-	-	-	<1	10,000	10,000

Table 24 - Water Quality from the Tailings Impoundment Area Discharge End-of-Pipe (TL-4), September 2013, in mg/L unless otherwise specified

	Sample ID	TL4-02SEP13	Part G Item 28	
	ALS ID	L1356965-4	TL-4 Max Average (mg/L)	TL-4 Max Grab (mg/L)
	Date Sampled	9/2/2013 8:45		
Parameters	Units	Results		
Conductivity (EC)	uS/cm	217		
Hardness (as CaCO3)	mg/L	54.9		
pH	pH	7.57	Between 6.0-9.5	Between 6.0-9.5
Total Suspended Solids	mg/L	<3.0	15.00	30.00
Total Dissolved Solids	mg/L	136		
Ammonia, Total (as N)	mg/L	<0.050	6	-
Chloride (Cl)	mg/L	39.1		
Nitrate (as N)	mg/L	<0.050		
Nitrite (as N)	mg/L	<0.050		
Orthophosphate-Diss. (as P)	mg/L	<0.0010		
Phosphorus (P)-Total	mg/L	<0.020		
Cyanide, Total	mg/L	<0.0050	1.00	2.00
Cyanide, Free	mg/L	<0.0050		
Aluminum (Al)-Total	mg/L	0.0672		
Antimony (Sb)-Total	mg/L	<0.00040		
Arsenic (As)-Total	mg/L	<0.00040	0.50	1.00
Barium (Ba)-Total	mg/L	0.0038		
Beryllium (Be)-Total	mg/L	<0.0010		
Boron (B)-Total	mg/L	<0.050		
Cadmium (Cd)-Total	mg/L	<0.000010		
Calcium (Ca)-Total	mg/L	11.7		
Chromium (Cr)-Total	mg/L	<0.0010		
Cobalt (Co)-Total	mg/L	<0.0020		
Copper (Cu)-Total	mg/L	<0.0010	0.30	0.60
Iron (Fe)-Total	mg/L	0.246		
Lead (Pb)-Total	mg/L	<0.00010	0.20	0.40
Lithium (Li)-Total	mg/L	<0.010		
Magnesium (Mg)-Total	mg/L	5.95		
Manganese (Mn)-Total	mg/L	0.0148		
Mercury (Hg)-Total	mg/L	<0.000020		
Molybdenum (Mo)-Total	mg/L	<0.0050		
Nickel (Ni)-Total	mg/L	<0.0020	0.50	1.00
Potassium (K)-Total	mg/L	1.93		
Selenium (Se)-Total	mg/L	<0.00040		
Silver (Ag)-Total	mg/L	<0.000020		
Sodium (Na)-Total	mg/L	18.2		
Thallium (Tl)-Total	mg/L	<0.00010		
Tin (Sn)-Total	mg/L	<0.050		
Titanium (Ti)-Total	mg/L	0.0028		
Uranium (U)-Total	mg/L	<0.00010		
Vanadium (V)-Total	mg/L	<0.0010		
Zinc (Zn)-Total	mg/L	<0.0040	0.50	1.00
Calcium (Ca)-Dissolved	mg/L	11.7		
Magnesium (Mg)-Dissolved	mg/L	6.26		
Radium 226	Bq/L	0.0063	0.37 Bq/L	1.11 Bq/L
Biochemical Oxygen Demand (BOD_5)	mg/L		80	160
Fecal Coliforms	CFU/100mL		10,000	10,000

**Due to a sampling error, samples were not collected for BOD and Fecal coliform analysis in September*

TL-2 Doris Outflow Creek Upstream at the Flow Monitoring Station

Table 25 - Water Quality from Doris Outflow Creek (TL-2), June 4 to 24, 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL2-04JUN13	TL2-06JUN13	TL2-08JUN13	TL2-10JUN13	TL2-12JUN13	TL2-14JUN13	TL2-16JUN13	TL2-18JUN13	TL2-20JUN13	TL2-22JUN13	TL2-24JUN13	Part G Item 30
ALS ID		L1313624-6	L1313624-11	L1314879-13	L1314879-16	L1317184-2	L1317184-5	L1318327-2	L1318327-5	L1320947-2	L1322373-2	L1322373-9	Max Grab Sample (mg/L)
Sample Date/Time		6/4/2013 16:08	6/6/2013 11:12	6/8/2013 13:13	6/10/2013 9:30	6/12/2013 9:55	6/14/2013 8:25	6/16/2013 14:53	6/18/2013 7:46	6/20/2013 7:50	6/22/2013 11:33	6/24/2013 9:50	
Parameter	**Units**	**Results**											
Conductivity (EC)	uS/cm	177	102	280	202	203	140	161	170	165	176	144	
Hardness (as CaCO3)	mg/L	44.2	20.2	49.2	35.7	39.4	27.1	29.5	30.1	29.4	32.1	24.6	
pH	pH	7.63	7.34	7.72	7.63	7.54	7.42	7.43	7.48	7.62	7.7	7.65	Between 6.0-9.0
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	15.0
Total Dissolved Solids	mg/L	102	65	157	114	120	84	93	97	99	109	89	
Ammonia, Total (as N)	mg/L	0.077	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1.54*
Chloride (Cl)	mg/L	22.5	20.2	61.5	44.1	44.9	31.2	36.9	39.3	37.2	40.1	32.8	150
Nitrate (as N)	mg/L	0.498	0.075	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2.9
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.060
Orthophosphate-Diss. (as P)	mg/L	0.0051	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.032	<0.020	0.024	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	**0.119**	0.0359	0.0246	0.0199	0.0219	0.021	0.0416	0.0399	0.0284	0.0294	0.0487	0.100
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Arsenic (As)-Total	mg/L	0.00049	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0050
Barium (Ba)-Total	mg/L	0.0034	<0.0030	0.0034	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Calcium (Ca)-Total	mg/L	11.6	4.52	9.22	7.01	7.03	5.14	5.17	5.5	5.83	5.29	4.13	
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	**0.0054**	<0.0010	0.0014	0.0011	0.0019	<0.0010	**0.0021**	0.0019	0.0017	<0.0010	<0.0010	0.002
Iron (Fe)-Total	mg/L	0.134	0.068	0.183	0.077	0.069	0.04	0.063	0.064	0.057	0.056	0.072	0.300
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.001
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Magnesium (Mg)-Total	mg/L	2.9	2.2	6.16	4.32	4.71	3.41	3.67	4.03	3.95	4.07	3.5	
Manganese (Mn)-Total	mg/L	0.0249	0.0408	0.0589	0.0243	0.0211	0.0136	0.0183	0.0184	0.0139	0.0133	0.0119	
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000026
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.073
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.025
Potassium (K)-Total	mg/L	2.11	1.19	2.22	1.64	1.75	1.3	1.48	1.58	1.53	1.5	1.28	
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Sodium (Na)-Total	mg/L	13.4	9.7	28.7	21.5	24	17.3	17.5	19.1	20.3	20.5	16.5	
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0008
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Titanium (Ti)-Total	mg/L	0.0028	<0.0010	<0.0010	0.0011	0.002	<0.0010	0.0011	<0.0010	0.002	0.0011	0.0016	
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0151	<0.0040	<0.0040	0.030
Calcium (Ca)-Dissolved	mg/L	12	4.17	9.05	6.76	7.36	5.19	5.27	5.32	5.44	5.85	4.43	
Magnesium (Mg)-Dissolved	mg/L	3.44	2.37	6.45	4.56	5.1	3.43	3.96	4.08	3.83	4.25	3.28	

** Ammonia maximum criteria based on pH 7 at 20°C.*

Note: Bold text indicates exceedence of TL-3 (downstream) criteria at TL-2 (upstream).

Table 26 - Water Quality from Doris Outflow Creek (TL-2), June 26 to July 29, 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL2-26JUN13	TL2-28JUN13	TL2-30JUN13	TL2-02JUL13	TL2-04JUL13A	TL2-04JUL13B	TL2-08JUL13	TL2-15JUL13	TL2-22JUL13	TL2-29JUL13	Part G Item 30
ALS ID		L1324749-3	L1324749-7	L1325440-2	L1325440-9	L1328047-2	L1328047-5	L1329538-2	L1333107-2	L1336695-2	L1340951-2	Max Grab Sample (mg/L)
Sample Date/Time		6/26/2013 9:31	6/28/2013 8:10	6/30/2013 18:15	7/2/2013 8:00	7/5/2013 8:20	7/5/2013 8:25	7/8/2013 8:11	7/15/2013 10:21	7/22/2013 14:30	7/29/2013 8:05	
Parameter	**Units**	**Results**										
Conductivity (EC)	uS/cm	290	191	255	292	279	281	277	265	274	274	
Hardness (as CaCO3)	mg/L	55.2	35.3	44.9	52.4	52.4	52.4	48.0	48.4	50.0	48.0	
pH	pH	7.58	7.56	7.7	7.68	7.42	7.45	7.43	7.3	7.62	7.58	Between 6.0-9.0
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	4	<3.0	4	5	6	<3.0	8	15.0
Total Dissolved Solids	mg/L	160	113	141	177	161	166	154	148	147	161	
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.129	<0.050	<0.050	<0.050	1.54*
Chloride (Cl)	mg/L	61.3	40.1	59.3	67.8	64.9	64.8	63.7	62.8	64.7	63.9	150
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2.9
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.060
Orthophosphate-Diss. (as P)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.023	0.021	0.023	0.024	0.024	0.024	0.029	0.025	0.029	0.024	
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	0.0259	0.04	0.0289	0.0263	0.0484	0.046	0.0537	0.0368	0.0388	0.0702	0.100
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0050
Barium (Ba)-Total	mg/L	0.0031	<0.0030	<0.0030	0.0034	0.0033	0.0034	0.0035	0.0032	<0.0030	0.0034	
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cadmium (Cd)-Total	mg/L	<0.000010	0.000014	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Calcium (Ca)-Total	mg/L	9.95	6.46	8.34	9.61	10.3	9.58	8.94	9.56	9.32	9.38	
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	0.0015	0.001	0.0015	0.0014	0.0015	0.0015	0.0015	0.0013	**0.0023**	0.0015	0.002
Iron (Fe)-Total	mg/L	0.072	0.069	0.091	0.165	0.234	0.237	0.169	0.154	0.118	0.185	0.300
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.001
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Magnesium (Mg)-Total	mg/L	6.98	4.66	5.92	7	7.01	7.05	6.94	6.02	6.83	6.65	
Manganese (Mn)-Total	mg/L	0.0166	0.0117	0.0183	0.0396	0.046	0.0456	0.0338	0.0288	0.0215	0.0219	
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000026
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.073
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.025
Potassium (K)-Total	mg/L	2.31	1.55	2.02	2.36	2.39	2.41	2.31	2.3	2.19	2.29	
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Sodium (Na)-Total	mg/L	34.3	22.1	29.8	34.9	32.9	32.7	31.5	30.5	31.1	30.9	
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0008
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Titanium (Ti)-Total	mg/L	<0.0010	0.0014	0.0014	0.0011	0.0025	0.0026	0.0022	0.0011	<0.0010	0.0026	
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0087	0.030
Calcium (Ca)-Dissolved	mg/L	10.6	-	8.32	9.98	9.81	9.73	8.64	9.22	9.11	8.72	
Magnesium (Mg)-Dissolved	mg/L	6.94	-	5.85	6.68	6.78	6.82	6.42	6.16	6.63	6.37	

** Ammonia maximum criteria based on pH 7 at 20°C.*
Note: Bold text indicates exceedence of TL-3 (downstream) criteria at TL-2 (upstream).

Note: Bold text indicates exceedence of TL-3 (downstream) criteria at TL-2 (upstream).

Table 27 - Water Quality from Doris Outflow Creek (TL-2), August 5 to September 2, 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL2-05AUG13	TL2-12AUG13	TL2-19AUG13	TL2-26AUG13a	TL2-26AUG13b	TL2-02SEP13	Part G Item 30
ALS ID		L1343243-6	L1347018-2	L1350008-2	L1354039-2	L1354039-3	L1356965-2	Max Grab Sample (mg/L)
Sample Date/Time		8/5/2013 18:24	8/12/2013 18:15	8/19/2013 11:45	8/26/2013 9:45	8/26/2013 9:45	9/2/2013 8:35	
Parameter	**Units**	**Results**						
Conductivity (EC)	uS/cm	281	282	286	290	293	293	
Hardness (as CaCO3)	mg/L	48.8	47.8	48.4	49.3	49	52	
pH	pH	7.75	7.61	7.51	7.68	7.67	7.49	6.0-9.0
Total Suspended Solids	mg/L	<3.0	<3.0	3	<3.0	<3.0	<3.0	15.0
Total Dissolved Solids	mg/L	172	170	162	156	154	179	
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1.54*
Chloride (Cl)	mg/L	64.1	63.3	64.6	65.2	64	65	150
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2.9
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.060
Orthophosphate-Diss. (as P)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.025	<0.020	<0.020	<0.020	0.023	0.025	
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	0.0369	0.0186	0.0306	0.05	0.0448	0.0409	0.100
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0050
Barium (Ba)-Total	mg/L	<0.0030	<0.0030	<0.0030	0.0033	0.0033	0.0033	
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Calcium (Ca)-Total	mg/L	9.42	8.8	10.3	9.72	10	9.01	
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	0.0015	0.0014	0.0014	0.0013	0.0013	0.0013	0.002
Iron (Fe)-Total	mg/L	0.084	0.058	0.088	0.126	0.116	0.128	0.300
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.001
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Magnesium (Mg)-Total	mg/L	6.63	6.49	6.62	6.31	6.4	6.61	
Manganese (Mn)-Total	mg/L	0.0181	0.0188	0.0266	0.0345	0.0335	0.0386	
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000026
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.073
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.025
Potassium (K)-Total	mg/L	2.15	2.17	2.14	2.06	2.08	2.26	
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Sodium (Na)-Total	mg/L	33	33.6	33.9	32.1	33.8	31.9	
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0008
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Titanium (Ti)-Total	mg/L	0.0018	<0.0010	0.0013	0.0021	0.0016	0.0018	
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.030
Calcium (Ca)-Dissolved	mg/L	9.09	9.16	9.28	8.91	8.78	9.14	
Magnesium (Mg)-Dissolved	mg/L	6.35	6.05	6.12	6.56	6.57	7.09	

** Ammonia maximum criteria based on pH 7 at 20°C.*

TL-3 Doris Outflow Creek 80m Downstream of Base of Waterfall

Table 28 - Water Quality from Doris Outflow Creek (TL-3), June 4 to 24, 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL3-04JUN13	TL3-06JUN13	TL3-08JUN13	TL3-10JUN13	TL3-12JUN13	TL3-14JUN13	TL3-16JUN13	TL3-18JUN13	TL3-20JUN13	TL3-22JUN13	TL3-24JUN13	Part G Item 30
ALS ID		L1313624-5	L1313624-12	L1314879-14	L1314879-18	L1317184-3	L1317184-6	L1318327-3	L1318327-6	L1320947-3	L1322373-3	L1322373-10	Max Grab
Sample Date/Time		6/4/2013 15:50	6/6/2013 11:28	6/8/2013 13:30	6/10/2013 10:10	6/12/2013 13:20	6/14/2013 8:40	6/16/2013 15:10	6/18/2013 8:00	6/20/2013 8:08	6/22/2013 11:50	6/24/2013 10:08	Sample (mg/L)
Parameter	**Units**	**Results**											
Conductivity (EC)	uS/cm	232	116	281	214	211	126	162	176	166	181	151	
Hardness (as CaCO3)	mg/L	58.6	24.1	51	39.1	39.4	23.9	29.5	31.3	30.1	33.7	27.5	
pH	pH	7.58	7.35	7.73	7.66	7.57	7.41	7.46	7.51	7.62	7.74	7.68	6.0-9.0
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	4	9	4	<3.0	<3.0	15.00
Total Dissolved Solids	mg/L	162	77	159	130	127	74	98	100	80	115	101	
Ammonia, Total (as N)	mg/L	0.075	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1.54*
Chloride (Cl)	mg/L	42.8	23	61.9	46.6	47.2	27.9	37.7	41.3	37.5	40.3	33.7	150
Nitrate (as N)	mg/L	0.105	0.062	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2.9
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.060
Orthophosphate-Diss. (as P)	mg/L	0.0059	0.0019	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0192	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.038	0.025	0.026	0.021	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	0.0405	0.0464	0.0286	0.0293	0.024	0.0261	0.0954	**0.276**	0.0997	0.034	0.0998	0.100
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0050
Barium (Ba)-Total	mg/L	0.0048	<0.0030	0.0034	<0.0030	<0.0030	<0.0030	<0.0030	0.004	<0.0030	<0.0030	<0.0030	
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Calcium (Ca)-Total	mg/L	16.7	5.33	9.52	7.58	7.27	4.64	5.36	5.6	6.03	5.92	4.96	
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	***0.0032***	0.0011	0.0014	0.0012	0.0012	<0.0010	***0.0021***	**0.0023**	0.0015	0.001	0.001	0.002
Iron (Fe)-Total	mg/L	0.101	0.098	0.189	0.097	0.084	0.046	0.12	0.342	0.124	0.077	0.144	
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	<0.00010	**0.00224**	0.001
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Magnesium (Mg)-Total	mg/L	5.51	2.52	6.31	4.73	4.97	3.03	3.65	4.06	3.97	4.22	3.88	
Manganese (Mn)-Total	mg/L	0.174	0.115	0.0516	0.0236	0.0194	0.0114	0.0155	0.0186	0.013	0.0119	0.0139	
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000026
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.073
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.025
Potassium (K)-Total	mg/L	2.28	1.27	2.22	1.78	1.8	1.14	1.5	1.67	1.56	1.52	1.39	
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Sodium (Na)-Total	mg/L	17.5	10.4	28.9	23.6	25.1	15.3	17.6	19.2	20.2	19.8	17.1	
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0008
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Titanium (Ti)-Total	mg/L	0.0011	0.0015	0.001	<0.0010	<0.0010	<0.0010	0.0046	0.0154	0.0043	0.0016	0.0047	
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0193	<0.0040	<0.0040	<0.0040	0.030
Calcium (Ca)-Dissolved	mg/L	14.5	5.15	9.44	7.55	7.25	4.64	5.33	5.56	5.79	6.44	5.12	
Magnesium (Mg)-Diss.	mg/L	5.41	2.73	6.66	4.91	5.16	2.99	3.92	4.22	3.81	4.29	3.56	
Hexavalent Chromium	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
Oil And Grease (Visible Sheen)		No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	

**Ammonia maximum criteria based on pH 7 at 20°C.*

Notes: Bold text indicates over licence discharge criteria. Bold italicized text indicates TL-3 was above discharge criteria but less than TL-2.

Table 29 - Water Quality from Doris Outflow Creek (TL-3), June 26 to July 29, 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL3-26JUN13	TL3-28JUN13	TL3-30JUN13	TL3-02JUL13	TL3-04JUL13	TL3-08JUL13	TL3-15JUL13	TL3-22JUL13	TL3-29JUL13	Part G Item 30
ALS ID		L1324749-4	L1324749-8	L1325440-3	L1325440-10	L1328047-3	L1329538-3	L1333107-3	L1336695-3	L1340951-3	Max Grab Sample (mg/L)
Sample Date/Time		6/26/2013 9:55	6/28/2013 9:00	6/30/2013 17:15	7/2/2013 7:50	7/5/2013 8:40	7/8/2013 7:56	7/15/2013 10:21	7/22/2013 14:46	7/29/2013 8:05	
Parameter	**Units**	**Results**									
Conductivity (EC)	uS/cm	281	192	252	285	193	270	261	266	268	
Hardness (as CaCO3)	mg/L	50.9	36	45.9	51.8	51.7	48.7	47.9	49.8	48.6	
pH	pH	7.66	7.6	7.74	7.76	7.57	7.38	7.37	7.52	7.48	6.0-9.0
Total Suspended Solids	mg/L	<3.0	<3.0	4	4	<3.0	6	9	13	10	15.00
Total Dissolved Solids	mg/L	161	113	147	158	120	151	148	141	158	
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.074	<0.050	0.084	<0.050	1.54*
Chloride (Cl)	mg/L	60.2	39.8	57.4	65	36.3	61	60.3	64.6	61.8	150
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2.9
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.060
Orthophosphate-Diss. (as P)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.025	<0.020	0.022	0.023	0.032	0.023	0.022	0.031	0.023	
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	0.0296	0.0293	0.0462	0.0244	0.0184	0.0511	0.0362	0.0508	0.0397	0.100
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0050
Barium (Ba)-Total	mg/L	0.0031	<0.0030	<0.0030	0.0032	<0.0030	0.0032	0.0032	<0.0030	0.0031	
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Calcium (Ca)-Total	mg/L	9.41	6.68	8.44	9.21	11.5	10.2	9.76	9.26	9.59	
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	0.0013	<0.0010	0.0013	0.0013	<0.0010	0.0015	0.0013	**0.0024***	0.0014	0.002
Iron (Fe)-Total	mg/L	0.082	0.067	0.127	0.161	0.268	0.181	0.157	0.135	0.132	
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00018	<0.00010	<0.00010	<0.00010	<0.00010	0.001
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Magnesium (Mg)-Total	mg/L	6.65	4.7	6	6.66	5.97	6.75	6.15	6.88	6.54	
Manganese (Mn)-Total	mg/L	0.0144	0.009	0.0172	0.0318	0.0134	0.0283	0.0238	0.0219	0.0187	
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000026
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.073
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.025
Potassium (K)-Total	mg/L	2.21	1.59	2	2.24	1.88	2.31	2.27	2.17	2.23	
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Sodium (Na)-Total	mg/L	31.5	22.4	28.4	32	17.6	29.9	29.4	29.6	29.2	
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0008
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Titanium (Ti)-Total	mg/L	0.0011	0.0014	0.0017	<0.0010	0.0016	0.002	0.0012	0.0013	0.0014	
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	0.0171	<0.0040	<0.0040	<0.0040	0.0052	0.030
Calcium (Ca)-Dissolved	mg/L	-	-	8.53	9.99	11.4	8.83	9.29	9.48	9.33	
Magnesium (Mg)-Dissolved	mg/L	-	-	5.97	6.51	5.62	6.47	5.99	6.35	6.15	
Hexavalent Chromium	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010
Oil and Grease	mg/L	1.3	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	**	5
Oil And Grease (Visible Sheen)		No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	**	

**Ammonia maximum criteria based on pH 7 at 20°C. ** Due to an error, Oil and Grease results are not available.*
Note: Bold text with an asterisk indicates both TL-3 and TL-2 elevated above discharge criteria on that date.

Table 30 - Water Quality from Doris Outflow Creek (TL-3), August 5 to September 2, 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL3-05AUG13	TL3-13AUG13	TL3-19AUG13	TL3-26AUG13	TL3-02SEP13	Part G Item 30
ALS ID		L1343243-7	L1347018-3	L1350008-3	L1354039-4	L1356965-3	Max Grab
Sample Date/Time		8/5/2013 18:39	8/13/2013 7:48	8/19/2013 14:00	8/26/2013 11:00	9/2/2013 8:58	Sample (mg/L)
Parameter	**Units**	**Results**					
Conductivity (EC)	uS/cm	273	277	280	296	286	
Hardness (as CaCO3)	mg/L	50.1	49	49.3	50.6	56.4	
pH	pH	7.71	7.6	7.55	7.68	7.5	6.0-9.0
Total Suspended Solids	mg/L	<3.0	6	<3.0	<3.0	<3.0	15.00
Total Dissolved Solids	mg/L	171	160	157	165	174	
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	1.54*
Chloride (Cl)	mg/L	61.3	62.5	61.8	66	61.9	150
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	2.9
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.060
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Phosphorus (P)-Total	mg/L	0.026	0.021	0.021	<0.020	0.022	
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.010
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Aluminum (Al)-Total	mg/L	0.0499	0.0207	0.022	0.035	0.0641	0.100
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0050
Barium (Ba)-Total	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	0.0047	
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000012	0.000017
Calcium (Ca)-Total	mg/L	10.1	9.27	11.3	9.77	10.9	
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	0.0014	0.0013	0.0013	0.0013	**0.0021**	0.002
Iron (Fe)-Total	mg/L	0.135	0.142	0.147	0.122	0.274	
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00018	0.001
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
Magnesium (Mg)-Total	mg/L	6.68	6.56	6.72	6.63	6.69	
Manganese (Mn)-Total	mg/L	0.023	0.0304	0.0258	0.0294	0.0605	
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000026
Molybdenum (Mo)-Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.073
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.025
Potassium (K)-Total	mg/L	2.13	2.14	2.13	2.08	2.15	
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.0010
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Sodium (Na)-Total	mg/L	31.8	33.1	32.3	33.9	29.1	
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0008
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Titanium (Ti)-Total	mg/L	0.0022	<0.0010	<0.0010	0.0016	0.0031	
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	**0.031**	0.030
Calcium (Ca)-Dissolved	mg/L	9.44	9.6	9.88	9.4	10.8	
Magnesium (Mg)-Dissolved	mg/L	6.44	6.09	5.98	6.57	7.17	
Hexavalent Chromium	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010
Oil and Grease	mg/L	<1.0	<1.0	1	<1.0	<1.0	5
Oil And Grease (Visible Sheen)		No visible sheen	No visible sheen	No visible sheen	No visible sheen	No visible sheen	

**Ammonia maximum criteria based on pH 7 at 20°C.*

Notes: Bold text indicates over licence discharge criteria.

TL-10 Water Column in Deepest Portion of Tail Lake and at a Location Away from the TIA Reclaim Water Floating Pump House, Sampled at Surface, Mid-depth and Near Bottom

Table 31 - Water Column Sampling in Tail Lake (TL-10), June 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL10S-05JUN13 Shallow	TL10M-05JUN13 Mid	TL10D-05JUN13 Deep
ALS ID		L1313624-9	L1313624-8	L1313624-7
Sample Date/Time		6/5/2013 10:37	6/5/2013 10:25	6/5/2013 10:15
Parameter	**Units**	**Results**		
Dissolved Oxygen	mg/L	13.98	8.47	7.13
Conductivity (EC)	uS/cm	330	343	371
Hardness (as CaCO3)	mg/L	87.4	91.0	95.8
pH	pH	7.62	7.51	7.48
Redox Potential	mV	209	221	211
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	219	214	230
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	61.9	63.7	69.4
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050
Orthophosphate-Diss. (as P)	mg/L	<0.0010	0.0011	0.0016
Phosphorus (P)-Total	mg/L	<0.020	<0.020	0.021
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0053	<0.0050	<0.0050
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	0.0051	0.007	0.0096
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	18.3	19.2	19.4
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.0013	0.0013	0.0012
Iron (Fe)-Total	mg/L	0.037	0.086	0.226
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	9.1	9.96	9.53
Manganese (Mn)-Total	mg/L	0.0298	0.195	0.491
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	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	2.78	3.13	3.17
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	25.1	27.9	27.6
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.050	<0.050	<0.050

TMAC Sample ID		TL10S-05JUN13 Shallow	TL10M-05JUN13 Mid	TL10D-05JUN13 Deep
ALS ID		L1313624-9	L1313624-8	L1313624-7
Sample Date/Time		6/5/2013 10:37	6/5/2013 10:25	6/5/2013 10:15
Parameter	**Units**	**Results**		
Titanium (Ti)-Total	mg/L	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L	18	19.5	20.1
Magnesium (Mg)-Dissolved	mg/L	10.3	10.3	11.1

Table 32 - Water Column Sampling in Tail Lake (TL-10), July 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL10-21JUL13S Shallow	TL10-21JUL13M Mid	TL10-21JUL13D Deep
ALS ID		L1336695-7	L1336695-8	L1336695-9
Sample Date/Time		7/21/2013 18:09	7/21/2013 18:19	7/21/2013 18:25
Parameter	**Units**	**Results**		
Dissolved Oxygen	mg/L	12.24	12.19	12.17
Conductivity (EC)	uS/cm	195	191	190
Hardness (as CaCO3)	mg/L	49.7	48.4	49.4
pH	pH	7.89	7.78	7.74
Redox Potential	mV	150	146	136
Total Suspended Solids	mg/L	5	<3.0	<3.0
Total Dissolved Solids	mg/L	100	109	103
Ammonia, Total (as N)	mg/L	<0.050	0.078	0.085
Chloride (Cl)	mg/L	35.9	35.6	35.7
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050
Orthophosphate-Diss. (as P)	mg/L	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	<0.020	<0.020	0.022
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0183	0.016	0.018
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	0.0178	0.0033	0.0032
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	10.1	10.9	10.5
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.0017	0.0018	0.0016
Iron (Fe)-Total	mg/L	0.132	0.129	0.137
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	5.85	6.22	5.88
Manganese (Mn)-Total	mg/L	0.0169	0.0172	0.017
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	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	1.72	1.76	1.74
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	16.4	16.7	16.5
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	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.0155	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L	10.5	10.2	10.5
Magnesium (Mg)-Dissolved	mg/L	5.73	5.58	5.63

Table 33 - Water Column Sampling in Tail Lake (TL-10), August 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL10S-19AUG13 Shallow	TL10M-19AUG13 Mid	TL10D-19AUG13 Deep
ALS ID		L1350008-5	L1350008-6	L1350008-7
Sample Date/Time		8/19/2013 10:00	8/19/2013 10:00	8/19/2013 10:00
Parameter	**Units**	**Results**		
Dissolved Oxygen	mg/L	10.35	10.31	10.25
Conductivity (EC)	uS/cm	200	220	200
Hardness (as CaCO3)	mg/L	48.2	48.6	48.6
pH	pH	7.62	6.91	7.58
Redox Potential	mV	140	164	141
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	117	134	114
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	37	37.1	37
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050
Orthophosphate-Diss. (as P)	mg/L	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	<0.020	<0.020	<0.020
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0158	0.0138	0.0144
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	<0.0030	<0.0030	<0.0030
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	12	12	11.6
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	0.001	<0.0010	<0.0010
Iron (Fe)-Total	mg/L	0.099	0.1	0.099
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	5.73	5.82	5.73
Manganese (Mn)-Total	mg/L	0.0118	0.0122	0.0118
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	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	1.73	1.75	1.77
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	18.6	18.7	18.6
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	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	<0.0040	<0.0040	<0.0040
Calcium (Ca)-Dissolved	mg/L	10.7	11	10.6
Magnesium (Mg)-Dissolved	mg/L	5.25	5.12	5.36

Table 34 - Water Column Sampling in Tail Lake (TL-10), September 2013, in mg/L unless otherwise specified

TMAC Sample ID		TL10S-18SEPT13 Shallow	TL10M-18SEPT13 Mid	TL10D-18SEPT13 Deep
ALS ID		L1366424-2	L1366424-3	L1366424-4
Date Sampled		9/18/2013 16:00	9/18/2013 16:11	9/18/2013 16:17
Parameters	**Units**	**Results**		
Conductivity (EC)	uS/cm	208	207	207
Hardness (as CaCO3)	mg/L	54.8	30.4	53.9
pH	pH	7.81	7.78	7.78
Redox Potential	mV	162	160	158
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0
Total Dissolved Solids	mg/L	131	123	127
Ammonia, Total (as N)	mg/L	<0.050	<0.050	<0.050
Chloride (Cl)	mg/L	39.1	39.3	38.9
Nitrate (as N)	mg/L	<0.050	<0.050	<0.050
Nitrite (as N)	mg/L	<0.050	<0.050	<0.050
Orthophosphate-Diss. (as P)	mg/L	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total	mg/L	<0.020	<0.020	<0.020
Cyanide, Total	mg/L	<0.0050	<0.0050	<0.0050
Cyanide, Free	mg/L	<0.0050	<0.0050	<0.0050
Aluminum (Al)-Total	mg/L	0.0367	0.0446	0.0425
Antimony (Sb)-Total	mg/L	<0.00040	<0.00040	<0.00040
Arsenic (As)-Total	mg/L	<0.00040	<0.00040	<0.00040
Barium (Ba)-Total	mg/L	0.0035	0.0033	0.0033
Beryllium (Be)-Total	mg/L	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	<0.050	<0.050	<0.050
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	11.6	11.8	12.2
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.0020	<0.0020	<0.0020
Copper (Cu)-Total	mg/L	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	mg/L	0.069	0.068	0.069
Lead (Pb)-Total	mg/L	<0.00010	<0.00010	<0.00010
Lithium (Li)-Total	mg/L	<0.010	<0.010	<0.010
Magnesium (Mg)-Total	mg/L	5.9	6.02	5.99
Manganese (Mn)-Total	mg/L	0.005	0.0049	0.005
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	<0.0020	<0.0020	<0.0020
Potassium (K)-Total	mg/L	1.74	1.79	1.8
Selenium (Se)-Total	mg/L	<0.00040	<0.00040	<0.00040
Silver (Ag)-Total	mg/L	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	18.5	19.2	19
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	0.0011	0.0013	<0.0010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.0055	0.0041	<0.0040
Calcium (Ca)-Dissolved	mg/L	12.2	12.2	12
Magnesium (Mg)-Dissolved	mg/L	5.92	<0.10	5.78

As per Part J Item 12g of the licence, Table 35 presents the ice thickness of Tail Lake in 2013.

Table 35 - Monthly Tail Lake Ice Thickness, 2013

Date	Ice Thickness Tail Lake (cm)
January	Camp Closed
February	Camp Closed
March	Not Measured
April	210
May	206.5
June	205
July	No ice cover
August	No ice cover
September	No ice cover
October	Ice forming
November	85.1
December	127

Visual Assessment of Suspended Sediment along Perimeter of TIA Shoreline

During monthly routine water management inspections and water quality monitoring activities, a visual assessment of suspended sediment along perimeter of the TIA shoreline was conducted in accordance with Part J, Item 21(e). No shoreline-specific turbidity was noted.

Doris North Camp Diversion Berm Effectiveness

Turbidity checks were conducted daily during periods of melt in May and June along areas that had been constructed in 2012 including near the diversion berm. No turbid runoff with the potential to reach a water body was noted. No checks were conducted in July, August, September or October as there as there was no longer any runoff at these locations.

2. Summary of the Construction Monitoring Report [see Part D, Item 8 and outlined in Schedule D]

In 2013, no construction activities took place at the Doris North site because the project was under Care and Maintenance. Some maintenance work was undertaken at the jetty to repair the toe after it was damaged by a storm surge in early August. Also, the temporary water pond constructed at Doris in 2011 to hold water from the pollution control pond was dismantled and removed as it was no longer required.

3. Summary of Geochemical Monitoring and Waste Rock Storage Assessment [see Schedule B Item 3]

There was no underground development in 2013. The status remained the same as at the end of 2011. To summarize, at the end of 2011, underground development had advanced a total of 3,073 metres, of which 329 metres was in mineralized zones. At the end of 2011, the main decline elevation was at 124 metres below the portal elevation. Total unmineralized material added to the waste stockpile on surface in 2011 was 182,716 tonnes and total mineralized material added to the mineralized stockpile was 9,411 tonnes. The volume of rock stored on the waste rock pad at the end of 2011 (including 2010) was approximately 86,487.7 m^3.

Geochemical monitoring was begun at the same time as underground work began on the Doris North decline in October 2010 and continued until mining was stopped in late 2011. According to the 2011 geochemical monitoring, of the 182,716 tonnes of waste rock brought to surface, approximately 86% was non-mineralized and 14% was mineralized. Approximately 55% of the waste rock was diabase, while the remainder was basalt. A total of 9,411 tonnes of ore was brought to surface consisting mainly of a mixture of basalt with quartz veins. Basalt within approximately 15 metres of the diabase, including most of the basalt along the main decline was altered by contact metamorphism (heat) from the diabase.

The survey of the waste rock from the underground decline indicated that the diabase, which comprised approximately 55% of the waste rock, had a consistently low sulphide content and was classified as non-PAG. Basalt had a lower than expected TIC and NP content, resulting in a small proportion of samples being classified as PAG based on TIC/AP ratios. Given the relatively low sulphur content of this material, the presence of silicate NP, alkalinity contributed by other rock in the pile, and the relatively coarse grain size of this rock, it is considered unlikely that acidic conditions would develop in this material. More information can be obtained from the 2011 Waste Rock and Quarry Monitoring Report produced by SRK and submitted to the NWB in March 2011.

Additional monitoring was undertaken in 2012 and results are presented in the 2012 Waste Rock and Quarry Monitoring Report, submitted to the NWB in January 2013. The results from the waste rock stockpile inspection indicate that the waste has been segregated with the mineralized waste situated in the south east corner of the pile; sulphide content in the remainder of the pile was observed to be negligible. Results from the sampling of the ore stockpile indicate that the majority of samples are not potentially acid generating, with two samples classified as uncertain. Elemental analysis indicates some enrichment in gold, silver, sulphur, and arsenic in a portion of the samples.

In 2013, the monitoring program was limited to the seepage survey as there was no development of the underground mine or at any of the quarries. The results of the 2013 sampling program indicated that there are no issues with respect to metal leaching or acid rock drainage (ML/ARD) in seepage associated with the infrastructure at Hope Bay. Results were comparable to historical data. Seepage from waste rock influenced areas had elevated levels of ammonia, chloride and nitrate compared to water quality guidelines though levels have decreased since 2012, suggesting that active flushing of drilling brines and blasting residues from the waste rock pile is ongoing. The majority of this seepage is captured in the water management system implemented at Hope Bay. Continued management of seepage from the waste rock pile is recommended.

4. Summary of the results of the monthly water balance and water quality model assessments referred to in Part G, Item 33 and any re-calibrations that have been carried out [see Schedule B, Item 4]

The TIA has not yet been commissioned and as a result detailed operational information regarding the water balance was not performed in 2013. Nevertheless, an update to the water balance and water quality model was undertaken in early 2014 and will be provided to the NWB once complete.

5. Summary of the Geotechnical Inspection Report referred to in Part J, Item 18 [see Schedule B, Item 5]

TMAC contracted SRK Consulting (Canada) Inc. (SRK) to conduct the annual geotechnical site inspection of the Doris North Project in accordance with the stipulated license conditions. This investigation was carried out from August 20-23, 2013. Table 36 below provides a summary of the inspection components and the primary recommendations stemming from the inspection. TMAC is currently in the process of preparing an implementation plan for the 2013 geotechnical recommendations and will submit this to the NWB upon completion.

Table 36 – Geotechnical Inspection Recommendations

Inspection Item	2013 Recommendations
Thermistors	• Re-evaluate thermistor requirements taking into considering the surface infrastructure elements currently on site. Where appropriate, inactive thermistors should be inspected and where practical they should be repaired and re-commissioned for the collection of baseline data • Inspect and evaluate if the thermistors marked as "Status Unknown" are active • Include Westbay Well thermistors in monitoring program • The thermistor monitoring frequency was reduced under Care & Maintenance with a couple sets of readings taken around the maximum thermal activity expected in the area, i.e. in July or August (maximum thaw depth). This should continue until the project is started up again • North Dam thermistor data must continue to be collected in accordance with the monitoring recommendations provided in the As built Report (SRK 2012b)
Old Lay Down Area	• Relocate two of the explosives magazines to an area where they are on the sandy beach as opposed to partially on the tundra vegetation
Roberts Bay Jetty	• Continue monitoring the jetty thermistor in accordance with the protocols stipulated in Section 3.2.

Inspection Item	2013 Recommendations
	• If the project moves beyond Care & Maintenance, repair or replace the damaged thermistor SRK-JT2-12 • Follow the recommendations for construction and monitoring provided by PND (2013)
Shoreline Lay Down Area	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion
5ML Roberts Bay Tank Farm	• Backfill test pits excavated to confirm liner elevation • Should the facility be re-commissioned, consider installation of settlement beacons along the fuel transfer station and on sections of the secondary containment facility not constructed on bedrock
20ML Roberts Bay Tank Farm	• In the areas were there has been potential for the liner to be compromised, it should be exposed and evaluated by a qualified person to confirm the integrity of the bunded area before the facility is re-filled • Prior to refilling the fuel tanks the pedestals and area of the bunded area need to be reconstructed. Under Care & Maintenance, no action is required (unless further erosion continues) • Maintain improved water management practices to prevent the ponding of water and further erosion of the interior on the containment facility • Additional high wall stabilization and management practices should be considered
Roberts Bay Lay Down Area	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion • Monitor flow from drainage channels beneath pad. If flow stops, the blockage must be traced to prevent onset of thermal erosion • Monitor areas where rock was relocated from the tundra for signs of thermal erosion
Quarry #1 Overburden Dump	• Monitor surface runoff and consider requirement for alternate sedimentation control measures • If the surface is used as a laydown area appropriate management protocols must be put in place taking into consideration the propensity for sinkhole development and overall differential settlement
Airstrip	• Monitor areas where rock was relocated from the tundra for signs of thermal erosion • Maintain practice of inspecting the runway toe line during freshet and after significant or prolonged rainfall events. Pump ponded water to prevent onset of thermal erosion • When in use, conduct inspections of the airstrip shoulder and aprons to monitor the tension cracks prior to each use
All Weather Roads (Doris Site)	• Inspect road toe lines during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion • Monitor areas where rock was relocated from the tundra for signs of thermal erosion • The buttress recommended for the Secondary Road should be constructed, and until such time as the buttress is constructed a visual monitoring system should be put in place and warning signs posted along the section in question
Doris Creek Bridge	• Ensure the correct thermistor reader, set to the correct thermistor bead resistivity, is used for each thermistor cable as listed on the Doris Thermistor Data Field Sheet. • Continue monitoring the thermistor strings with the recommendations set out in Section 3.2 • Monitor and ultimately replace the rock gabions
Wash Bay/Explosives Mixing Plant	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion
Upper and Lower Reagent Pads	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Ponded water should be pumped to prevent onset of thermal erosion
Quarry #2 and Crusher Area	• Continue to follow the Quarry Management Plan • A barricade at the Quarry entrance is recommended
Batch Plant Pad (previously Crusher Pad)	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion

Inspection Item	2013 Recommendations
Upper Reagent Pad AN Storage	• Should the facility be used to provide secondary containment, the design criteria must be confirmed and appropriate remedial measures must be implemented. Under Care & Maintenance no action is required
Landfarm	• TMAC to continue to follow the designated Landfarm Management Plan • Conduct regular visual inspections to monitor for signs of settlement • Repair the sinkhole along the outside berm face of the Soil Containment Pond and the pothole in the access ramp into snow containment pond
Sewage Treatment Plant Outfall	• Monitor for permafrost degradation at old outfall location • No action required at new outfall location
Quarry #2 Overburden Dump	• No action required
Doris North Camp	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion • Construct a catch berm at the toe of the high wall, along Pad D and install appropriate signage and barricades to warn people of the danger • High wall stabilization measures designed for the mill pad should be installed as planned if the project moves beyond Care & Maintenance • Develop and implement a differential settlement monitoring protocol for heated buildings constructed directly onto the thermal rock fill pads
7.5 ML Doris North Camp Tank Farm	• High wall stabilization measures designed for the 7.5 ML Tank Farm should be installed as planned (SRK 2011d)
Power Generation Station (Pad B)	• Monitor the survey monuments on Pad B to allow for tracking and advance notice of any deformations as part of the annual survey
Other Site Wide Fuel Storage	• No action required
Sedimentation and Pollution Control Ponds	• The Sedimentation and Pollution Control Ponds should be kept free of standing water, as this will lead to permafrost degradation • Remove the large rocks and over liner material from the exposed liner within the Sedimentation Pond • Keep a close watch on the Pollution Control Pond thermistor data as well as the sump water quality and flow • Carry out a comprehensive review of the ground conditions below the ponds to evaluate whether there is a further evidence of leakage
Sumps #1 and #2	• Both sumps should be kept free of standing water as this will lead to permafrost degradation • Inspect sump perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion • The depression around Sump #1 must be backfilled with overburden to prevent further permafrost degradation
Doris North Portal	• No action required
Waste Rock Pile	• Once underground development resumes, TMAC should continue to follow the designated Waste Rock Management Plan
Temporary Pond	• No action required
Doris Freshwater Intake	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion
Doris Primary Vent Raise Pad	• Install catch berm and appropriate signage along high wall • Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion • Remove metal debris from fuel transfer station
Frozen Core Plant Pad	• Inspect pad perimeter during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion

Inspection Item	2013 Recommendations
North Dam	• Increase frequency of surveying North Dam monitoring points in accordance with the recommendations by the Engineer-of-Record in Section 7 of the North Dam As-built Report (SRK 2012b). This needs to be implemented immediately. • Survey and monitor the two depressions on the upstream face of the dam in conjunction with the instrumentation monitoring program • Backfill the erosion around Deep Settling Monitoring Point ND-DSP-100 • Repair the contact thermistor bead on the North #2 thermosyphon and test the functionality of the thermosyphon and re-charge the thermosyphon if required
Shoreline Erosion	• Continue to implement measures to maintain the water level in Tail Lake at 28.2 masl to prevent onset of permafrost degradation
Doris North Diversion Berm	• Repair area of exposed liner next to where the water line passes over the berm
Doris-Windy All Weather Road	• Inspect road toe lines during freshet and immediately following significant or prolonged rainfall events. Pump out ponded water to prevent onset of thermal erosion • Monitor areas where rock was relocated from the tundra for signs of thermal erosion • Implement inspection protocol to monitor shoulder cracks and potholes • Backfill the dip in the road by the Helipad
Doris-Windy All Weather Road Stream Crossings	• Ensure the correct thermistor reader, set to the correct thermistor bead resistivity, is used for each thermistor cable as listed on the Doris Thermistor Data Field Sheet. • Continue monitoring the thermistor strings in accordance with recommendations in Section 3.2 • Install additional railings between the two bridge superstructures • The depressions and ponded water against the thermal pad abutments should be covered with rock fill to prevent thermal degradation of the permafrost
Quarry A	• Continue to follow the Quarry Management Plan
Quarry B	• Continue to follow the Quarry Management Plan
Quarry D	• Continue to follow the Quarry Management Plan

6. An update on the current capacity of the Tailings Impoundment Area [See Schedule B, Item 6]

The North Dam which ensures containment of TIA was completed in early 2012 but no tailings have been deposited to date. The available capacity is 100%.

7. A comparison of the flows (m^3/day) at monitoring stations TL-1, TL-2, TL-3, and TL-4 [See Schedule B, Item 7]

TL-1 is the intake for the pump used to dewater Tail Lake and TL-4 is the discharge end of the same pipe. TL-2 is the background Doris Creek flow (upstream of TL-4), and TL-3 is the flow measured just downstream of TL-4 in Doris Creek. Table 37 presents a flow comparison between the four monitoring stations. The total volume of water discharged from Tail Lake to Doris Creek in 2013 was 244,226 m^3.

Table 37 – Comparison of Flows between Monitoring Stations TL-1, TL-2, TL-3, and TL-4, in cubic metres (m^3) for 2013, when discharge occurred.

Date	TL-1 Flows	TL-4 Flows	TL-2 Flows	TL-3 Flows
21-Jun-13	545	463	84,748	102600
22-Jun-13	8086	7232	84,405	108297
23-Jun-13	7631	6701	84,105	106706
24-Jun-13	*7346*	6437	83,188	106159
25-Jun-13	*7165*	6289	81,436	103039
26-Jun-13	*6983*	6164	79,711	99875
27-Jun-13	*6860*	6027	78,389	98196
28-Jun-13	*6737*	5906	75,746	95096
29-Jun-13	*6709*	5923	74,703	93324
30-Jun-13	*6703*	5881	71,758	88973
01-Jul-13	*6714*	5932	72,341	82089
02-Jul-13	*6510*	5765	70,857	77074
03-Jul-13	*6538*	5765	71,468	78649
04-Jul-13	*6386*	5617	69,969	77667
05-Jul-13	*6395*	5637	67,716	74749
06-Jul-13	*6298*	5545	65,680	72506
07-Jul-13	*6828*	6015	63,291	70262
08-Jul-13	*6708*	5908	60,851	67103
09-Jul-13	*6492*	5695	57,984	63930
10-Jul-13	*6478*	**5652**	55,574	61182
11-Jul-13	*5794*	5095	53,636	58764
12-Jul-13	*5626*	4960	51,022	55664
13-Jul-13	4461	4398	48,805	54651
14-Jul-13	4509	4489	47,661	52073
15-Jul-13	4285	4351	46,677	50898
16-Jul-13	4348	4265	45,854	50304
17-Jul-13	3999	4101	44,482	50045
18-Jul-13	4112	4006	43,785	48704
19-Jul-13	4119	4105	43,176	48411
20-Jul-13	3937	4016	41,223	46131
21-Jul-13	3895	3931	39,456	43813
22-Jul-13	3699	3750	38,130	42210
23-Jul-13	3701	3653	37,489	41518
24-Jul-13	3547	3562	37,001	41277
25-Jul-13	3173	3153	35,700	39117
26-Jul-13	3304	3290	34,173	37346
27-Jul-13	3207	3209	33,143	36292
28-Jul-13	3084	3078	31,312	33964
29-Jul-13	2957	2985	30,850	33124
30-Jul-13	2900	2900	30,044	32462
31-Jul-13	2756	2760	28,152	29528
01-Aug-13	2560	2694	28,051	30959
02-Aug-13	2551	2579	26,535	28268
03-Aug-13	2366	2254	25,822	27206
04-Aug-13	2329	2133	25,030	26272
05-Aug-13	2333	2165	23,762	24977
06-Aug-13	2313	2148	23,208	24385
07-Aug-13	2209	2042	21,889	22552
08-Aug-13	2181	1987	21,251	21842
09-Aug-13	2035	1860	20,585	21218
10-Aug-13	1816	1849	19,856	20274
11-Aug-13	1793	**2174**	19,044	19370

Date	TL-1 Flows	TL-4 Flows	TL-2 Flows	TL-3 Flows
12-Aug-13	1657	1810	18,412	18504
13-Aug-13	1642	1635	17,578	17692
14-Aug-13	1584	1536	16,915	16979
15-Aug-13	1515	1453	15,553	15472
16-Aug-13	1623	1428	15,177	15152
17-Aug-13	1508	1431	14,498	14392
18-Aug-13	1372	1246	13,978	13989
19-Aug-13	1332	**1476**	12,984	13063
20-Aug-13	1003	938	12,730	12604
21-Aug-13	1102	1044	11,910	11826
22-Aug-13	1006	967	11,698	11784
23-Aug-13	1003	987	10,804	10909
24-Aug-13	909	**911**	8,886	7899
25-Aug-13	915	**911**	8,624	8148
26-Aug-13	677	**867**	8,560	7984
27-Aug-13	687	807	8,390	8070
28-Aug-13	695	776	8,536	8533
29-Aug-13	731	740	8,263	8234
30-Aug-13	700	710	8,081	8327
31-Aug-13	678	681	8,066	8263
01-Sep-13	644	646	8,372	9087
02-Sep-13	617	622	8,043	8795
03-Sep-13	590	601	7,915	8667
04-Sep-13	571	575	8,288	9527
05-Sep-13	531	558	7,789	8825
06-Sep-13	379	371	8,032	9276

Note: Figures in bold show when flows at TL-4 exceeded 10% of flow at TL-2; italicized figures show the period when the flow meter was incorrectly installed at TL-1

8. Annual review and any revisions submitted in the form of addendums to the Management Plans or Emergency Response and Contingency Plan [See Schedule B, Item 8]

In early 2014, TMAC revised the following plans:

- Spill Contingency Plan
- Closure Plan
- Waste Water Treatment Management Plan
- Landfarm Management Plan

In January 2014, TMAC submitted the revised Spill Contingency Plan as per Part I Item 1 of the licence. This most recent revision updates the plan to reflect the care and maintenance phase of the project under the ownership of TMAC as well as to update roles and responsibilities, contact information, fuel storage, and to update spill response procedures.

In early April 2014, TMAC submitted the revised Doris North Closure Plan as per Part L Item 5 of the licence. This most recent revision updates the plan to reflect technical comments received in February 2013 from the previous version of the plan submitted in August 2012, it reflects the

new ownership of the project by TMAC, and it also presents the reclamation work required for the full project as permitted by 2AM-DOH1323, including facilities not yet constructed.

Also in early April 2014, the revised Waste Water Treatment Management Plan and Landfarm Management Plan were submitted. These were revised as per Part G Item 4 and Item 13, respectively. This most recent revision updates the plans to address the requirements set out in the above mentioned clauses of the renewed water licence. The revisions also reflect the new ownership of the project by TMAC.

9. A list and description of all unauthorized discharges including volumes, spill report line identification number and summaries of follow-up action taken [See Schedule B, Item 9]

Date of Spill: May 19, 2013
Spill No: N/A
Date of Notification to an Inspector: N/A
Product Spilled: Diesel fuel
Details of Spill: A slow drip was found to be occurring at the Roberts Bay Tank Farm during fueling of the fuel truck. The drip was from the fuel truck coupling at Tank #2. It appeared that this drip had been occurring for some time, though <1L of fuel was cumulatively thought to have escaped into the berm. Contaminated snow and gravel was cleaned up, a spill tray placed under the connection, and the threads of the connection were re-sealed.

Date of Spill: July 22, 2013
Spill No: N/A
Date of Notification to an Inspector: N/A
Product Spilled: Diesel fuel
Details of Spill: The fuel truck operator was refueling a vehicle with diesel in the parking lot of the camp. When the truck started pumping fuel, the fuel tank's condensation valve let out a spray from the tank onto the ground. The content of the spray is mainly water with some fuel and estimated to be 0.25 L. All contaminated material was removed and given to waste management for appropriate off-site disposal and the vehicles condensation tank was emptied.

Date of Spill: Oct. 29, 2013
Spill No: N/A
Date of Notification to an Inspector: N/A
Product Spilled: Diesel fuel
Details of Spill: 0.5 L of diesel fuel was spilled onto the Doris airstrip during plane refueling. It was determined that the refueling line cap had not been placed on the line and the line was not equipped with a valve. The spilled material was cleaned up and only fuel lines equipped with valves preventing any fuel leakage will be used for plane refueling in the future.

Date of Spill: Dec. 16, 2013
Spill No: N/A
Date of Notification to an Inspector: N/A
Product Spilled: Pre-mix antifreeze

Details of Spill: Approximately 2.5L of pre-mix antifreeze was detected under a pick-up during vehicle warm up at the Doris camp pad. The antifreeze was soaked up with spill pads, and the residue scraped up and contained in bags. The contaminated snow and spill pads were securely stored for appropriate offsite disposal. The vehicle was removed from service for repairs.

10. The results of the Aquatic Effects Monitoring Program in accordance with Part J, Item 3 [See Schedule B, Item 10]

The executive summary of the 2013 Aquatic Effects Monitoring Program Report is presented below. The complete report will be submitted to the NWB this spring.

This report presents the results from the fourth year of the AEMP. Data collected to date may serve as baseline information once the Project enters the operations phase. This option would be validated as part of any update to the AEMP Plan. As outlined in the Plan, three stream sites, three lake sites, and two marine exposure sites were monitored along with two reference stream sites, two reference lake sites, and one marine reference site. Aquatic components evaluated in 2013 included: lake and marine under-ice dissolved oxygen levels; lake Secchi depth; stream, lake, and marine water and sediment quality; stream periphyton biomass; lake and marine phytoplankton biomass; and stream, lake, and marine benthic invertebrate community descriptors (total density, taxa richness, evenness, diversity, and the Bray-Curtis Index). Lake and marine fish communities were surveyed in 2010 (Rescan 2011) and were not resurveyed in 2013.

Streams

There were no apparent adverse effects of 2013 Project activities on water quality, sediment quality, periphyton biomass, or benthic invertebrate communities in the study streams Doris Outflow, Roberts Outflow, and Little Roberts Outflow.

Out of the 18 water quality variables that were evaluated, total arsenic at Roberts Outflow and total aluminum at Little Roberts Outflow were the only variables that changed significantly from baseline years to 2013; however, parallel changes occurred at the reference streams, indicating that these changes were not due to Project activities. In both cases, concentrations decreased from baseline years to 2013, which is of no concern environmentally. Therefore, there were no effects of 2013 Project activities on the water quality of the study streams.

At Doris and Little Roberts outflows, there were some differences in the particle size composition of sediment samples collected in 2013 compared to the particle size composition of baseline samples. Variation in sediment particle size composition was unlikely related to 2013 Project activities, and probably reflected natural spatial heterogeneity in stream sediments. At Little Roberts Outflow, sediments in 2013 contained lower concentrations of total organic carbon, chromium, copper, lead, and zinc than did baseline sediments. These decreases were likely attributable to the significant decrease in the proportion of fine sediments in 2013 samples compared to baseline samples, since fine sediments tend to be associated with higher concentrations of total organic carbon and metals than coarse sediments. Decreases in the 2013 concentrations of total chromium and zinc compared to baseline samples were also observed at Reference B Outflow. Decreases in sediment metal

concentrations are not of concern. Therefore, there were no apparent adverse effects of 2013 Project activities on the sediment quality of exposure streams.

There was evidence of non-parallelism in the 2010 to 2013 benthos family evenness trend between Doris Outflow and the reference streams and in the 2010 to 2013 Bray-Curtis Index between Roberts Outflow and the reference streams. However, this non-parallelism did not indicate that the Project was adversely affecting the benthos community at these sites. Doris Outflow benthos evenness remained higher than all other streams in 2013, and the Roberts Outflow Bray-Curtis Index was relatively low in 2013 compared to previous years, indicating that there was increased similarity between the benthos at Roberts Outflow and the median reference community in 2013. These differences in trends likely reflect natural annual variability or patchiness in the composition of the benthos community within streams. 2010 to 2013 trends in total density, family richness, and Simpson's Diversity Index at exposure streams paralleled the trends observed for the reference streams, indicating that there were no effects of 2013 Project activities on these benthos community descriptors.

Lakes

There were no apparent Project-related effects on under-ice dissolved oxygen concentrations, Secchi depths, water or sediment quality variables, phytoplankton biomass levels, or benthic invertebrate communities in the AEMP lake sites Doris Lake South, Doris Lake North, and Little Roberts Lake.

There was evidence of a change between baseline years and 2013 in water hardness (increase) at Doris Lake South, and in the concentrations of total arsenic (decrease), total molybdenum (increase), and total zinc (increase) at Doris Lake North. However, in all these instances, the before-after-control-impact analysis showed that parallel changes from baseline years to 2013 also occurred at the reference lake (Reference Lake B). Thus, there was no evidence that these changes to water quality were due to 2013 Project activities.

At Doris Lake South, there were some differences in the particle size composition in the sediment samples collected in 2013 compared to the particle size composition of baseline samples. Variation in sediment particle size composition was unlikely related to 2013 Project activities, and probably reflected natural spatial heterogeneity in lake sediments. There was evidence of a decrease between baseline years and 2013 in copper concentrations in sediments from Doris Lake South and Doris Lake North, as well as a decrease in the lead concentration in Little Roberts Lake sediments. Decreases in sediment metal concentrations are not of environmental concern. Therefore, there were no apparent adverse effects of 2013 Project activities on the sediment quality of exposure lakes.

There was evidence of non-parallelism in the 2010 to 2013 benthos Bray-Curtis Index trends in Doris Lake North and Doris Lake South relative to Reference Lake B. However, given the high inter-annual variability in the Bray-Curtis Index at these sites, the temporal trends are not clear. The 2013 Bray-Curtis Index calculated for Doris Lake North and Doris Lake South were within range of previous years, so it is unlikely that 2013 Project activities adversely affected the Bray-Curtis Index at these sites. 2010 to 2013 trends in total density, family richness, and Simpson's evenness

and diversity indices at exposure lakes paralleled the trends observed for the reference lakes, indicating that there were no effects of 2013 Project activities on these benthos community descriptors.

Marine

There were no apparent Project-related effects on winter dissolved oxygen levels, water and sediment quality variables, phytoplankton biomass levels, or benthic invertebrate communities at the AEMP marine sites Roberts Bay West and Roberts Bay East.

The only water quality variable concentration that changed significantly from baseline years to 2013 was total suspended solids at Roberts Bay West. However, total suspended solids concentrations at this site decreased from baseline years to 2013, and the before-after-control-impact analysis showed that a parallel decrease occurred at the reference site. Therefore, there were no Project-related effects on water quality at the marine exposure sites in Roberts Bay.

In sediments from site Roberts Bay West in Roberts Bay, the concentrations of total organic carbon and several metals were higher in 2013 than in 2002. These increases were likely related to the higher silt and lower sand content of the 2013 sediment samples compared to 2002, since finer sediments have a higher affinity for metals and organic carbon. At the reference site, 2013 samples also contained a higher proportion of silt and a lower proportion of sand compared to baseline samples, and consequently, increases in total organic carbon and metal concentrations were also observed in the sediments from the reference site in 2013. There was some damage to the Roberts Bay jetty in 2013 that could have contributed to changes in particle size composition and sediment quality in a localized area, but the similarity between Roberts Bay West and the marine reference site with respect to increases in silt content, and increases in sediment metal and organic carbon concentrations from baseline years to 2013 suggests that the observed changes at Roberts Bay West were naturally occurring and unrelated to the jetty damage or other Project activities. The changes in sediment particle size composition and quality may have been due to regional re-distribution of sediments following a strong storm event that occurred in July 2013 (which was responsible for damaging the jetty), or these changes could also be the product of spatial sediment heterogeneity.

In the whole benthos community (adults and juveniles) and the adult subset, non-parallelism was detected for all evaluated benthos community descriptors at Roberts Bay West and Roberts Bay East relative to the marine reference site, except for the whole community benthos density at Roberts Bay East. Most 2013 benthos community descriptors were within range of previous years, and there was no indication that benthos communities in 2013 were adversely effected by Project activities (i.e., there was no evidence of an increase in the Bray-Curtis Index or of a decrease in density, richness, or evenness in 2013 compared to previous years). The non-parallelism in trends was likely attributable to the high inter-annual variability in most evaluated parameters.

Mitigation measures to reduce the potential for adverse effects to stream, lake, and marine habitats in the Doris North area included surface water runoff management, dust abatement measures, site water management, tailings management, quarry and waste rock management, and waste management. 2013 results indicate that these mitigation measures were effective in preventing

adverse effects to dissolved oxygen levels, water clarity (Secchi depth), water and sediment quality variables, periphyton and phytoplankton biomass levels, and benthic invertebrate communities in Project area waterbodies.

11. Annual adjustments to reclamation security including any additional security that may be required [See Schedule B, Item 11]

With the submission of the revised Doris North Closure Plan in early April 2014, TMAC included a revised securities estimate to the NWB for review. The revised closure cost estimate for Doris is $21,660,000. The licence is currently bonded for $13,090,000 which covers the extent of facilities currently built at the project site. The bonding would only increase as additional facilities are constructed and the project enters the Operations phase to eventually reach the revised closure cost estimate of $21,660,000.

12. Annual Incineration stack testing results [See Schedule B, Item 12]

In 2013, no incinerator stack emissions testing program was conducted. As discussed with the NIRB and Environment Canada in spring 2013, stack testing is only required for incinerators where greater than 26 tonnes of waste are being incinerated in a calendar year. In situations where less than 26 tonnes of waste are being incinerated, no stack test is required, as long as a determined effort is made to achieve emissions standards. In 2012, a successful stack test at Doris North demonstrated that, with the waste management practices in place at the site, the Canada Wide Standards for dioxins/furans and mercury could be met at the Doris North incinerator. Results of the successful stack test conducted in 2012 are presented in Table 38. In 2013, with the project in Care and Maintenance, a total of 17 tonnes of waste was incinerated so no stack test was performed. As per the direction received from the NIRB and Environment Canada, the waste management practices put in place in previous years at Doris North were continued in 2013 so it is reasonable to expect that TMAC made a determined effort to achieve emissions standards.

Table 38 – Comparison of stack emissions test results for 2009, 2011, and 2012

Parameter	CWS Standard	2009	2011	2012
Mercury (ug/Rm^3 @ 11% O_2)	20	1.0	0.61	1.2
Dioxin/Furan (pg/Rm^3 TEQ @ 11% O_2)	80	**2,170***	**128***	29

**bold indicates results are non-compliant*

13. Annual Landfill Management Report [See Schedule B, Item 13]

TMAC is authorized to dispose of all non-hazardous solid waste in a landfill on site as per Part G Item 9. To date, a landfill has not been built as discussions with the landowner, the Kitikmeot Inuit Association, are still ongoing. All waste that cannot be incinerated on site is backhauled to an approved facility off site. Because a landfill has not been constructed, no landfill management report has been prepared. TMAC will continue to manage waste produced in Hope Bay according to three waste management plans:

- Interim Non-Hazardous Waste Management Plan
- Hazardous Waste Management Plan
- Incinerator Management Plan

These plans describe how various streams of waste are managed. See Item 8 of this supplement for details on any revisions to these plans.

14. A summary of modifications and/or 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 [See Schedule B, Item 14]

In 2013, no modifications were made to the water supply. Potable water was obtained from Windy Lake as permitted by the licence. Waste disposal facilities were also not modified.

15. A summary of any closure and reclamation work undertaken and an outline of any work anticipated for the next year, including any changes to implementation and scheduling [See Schedule B, Item 15]

No closure and reclamation work was undertaken in 2013 at the Doris North project. No closure and reclamation work is planned for 2014.

16. A summary report describing public consultation and participation with local organizations and the residents of the nearby communities, including a schedule of upcoming community events/information sessions [See Schedule B, Item 16]

Community consultations in 2013 continued in accordance with the Community Relations Plan, which is a responsibility of the TMAC Environment and Social Responsibility department.

Alex Buchan, Director of Community and External Relations based in Cambridge Bay is primarily responsible for implementing this Plan, supported by Ikey Evalik, Inuit Impact and Benefit Agreement Coordinator. During the first 3 quarters of the year, Community Relations staff worked under secondment from Hope Bay Mining Ltd. on behalf of TMAC. Staff then transitioned to new positions working directly for the new company.

Community relations in 2013 focused on introducing TMAC to stakeholders as the new owner and operator for the Hope Bay project. Later in the year, focus shifted to communications related to permitting and future project plans.

Throughout 2013, HBML, then TMAC, maintained occupation and use of the Community Relations Storefront in downtown Cambridge Bay.

TMAC has established relations with 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 continued to serve as a logistics hub for TMAC in the Kitikmeot. Employees from across the region were flown to Cambridge Bay via commercial airline service, and were transported to and from site utilizing a charter aircraft stationed at Cambridge Bay. During the latter part of 2013, during several crew change shifts, TMAC could not guarantee enough flights for the air charter company to position aircraft in Cambridge Bay. As a result, a small number of TMAC employees were routed through Yellowknife. TMAC understands this is not ideal and will work with our logistics staff to limit staff movement through Yellowknife in the future.

Other Communications

In 2013, TMAC continued the practice of providing email notifications of company updates amongst key Nunavut stakeholders including elected representatives and municipal governments. Under Care and Maintenance, there were few notifications to make due to reduced project activity.

Community Relations Monthly Summary

January

- Several teleconference and planning meetings were held to prepare for a Nunavut Diamond Drilling workshop to be held in Toronto sponsored by the Nunavut/NWT Chamber of Mines. The purpose of this workshop was to develop common best practices in diamond drilling in permafrost conditions, and establish a working group to look at alternatives to using brine for drill water.
- An introductory meeting took place between TMAC senior management and the NIRB and the NWB in Cambridge Bay, facilitated by community relations staff. The purpose of this meeting was to review licence and permit conditions, discuss future permitting steps for Hope Bay, and review a draft TMAC Care and Maintenance work plan.
- During the Cordilleran Roundup held in Vancouver, community relations staff facilitated a number of meetings between TMAC and stakeholders including Mines Minister Peter Taptuna in order to introduce key company staff and discuss TMAC plans for Hope Bay.

February

- A meeting was held mid-month between TMAC community relations staff and the new GN Wildlife Biologist during the Kitikmeot Regional Wildlife Board (KRWB) meetings held in Cambridge Bay. The purpose of this meeting was to brief the new incumbent on the Doris North Wildlife Monitoring and Mitigation Program to set the stage for future MOU

discussions.

- TMAC Community Relations staff audited the KRWB meetings held in Cambridge Bay in order to learn about any particular wildlife concerns or issues that may be associated with the Hope Bay Project. At that time, short discussions occurred with each of the HTO representatives present.
- An IIBA Procurement teleconference was organized by Community Relations staff to review IIBA Schedule F and J contracting procedures for the TMAC Executive. The purpose of this meeting was to familiarize TMAC with these contractual obligations.
- Work proceeded on the Nunavut Mining Symposium Program Committee in preparation for this conference to be held in April.
- Also in February, Alex Buchan attended the last GEM Northern Advisory Group initiative meeting held in Ottawa as this NRCan program entered its final year of funding.

March

- During this month, the acquisition of the Hope Bay Project by TMAC was finalized. A number of communication activities centered on this project milestone:
    - Facilitating a meeting with the KIA Board of Directors immediately after the transaction was complete;
    - Updating the Hope Bay Stakeholder contact directory to disseminate this project news;
    - Organizing and conducting a Kitikmeot regional community tour to discuss the changeover in project ownership and introduce the new owners to stakeholders. All Kitikmeot communities were visited except for Gjoa Haven that could not be reached due to weather.

April

- With the opening of Doris Camp, efforts began in April to hire TMAC seasonal staff from within the Kitikmeot for available positions. From a number of submitted resumes, candidates were selected for initial positions.
- TMAC attended the Nunavut Mining Symposium. A delegation of four attended this event in Iqaluit. Concurrent meetings with the NIRB, NWB, KIA, Nunavut Mine Training Roundtable, AANDC, DFO and Nunavut Leadership Forum were attended. A presentation was given at the symposium and can be viewed at: http://www.nunavutminingsymposium.ca/wp-content/uploads/2013/04/8-Farrow-TMAC.pdf
- TMAC began the publication of a monthly investor newsletter. As a courtesy, this newsletter was also distributed to northern stakeholders for their information.

May

- At the beginning of the month, TMAC held a recruitment open house at the Cambridge Bay office. The purpose of this event was to allow persons interested in working at Hope Bay to hear about job opportunities and meet visiting TMAC executives including our VP of Human Resources. The event was attended by close to 20 Cambridge Bay residents.
- TMAC began surface access negotiations with the KIA this month. A meeting facilitated by

community relations staff was held in Cambridge Bay to begin these talks. At the same time, TMAC executives visiting Cambridge Bay had the opportunity to participate in the 2013 Omingmak Frolics event with Cambridge Bay residents.
- TMAC formalized recruitment and interview processes for onboarding staff with input from community relations staff.
- The NIRB appointed a new monitoring officer for the Doris North project certificate. A short meeting was held with the new staff to brief them on the project.
- Community Relations staff began to be active in managing Nunavut crew changes in cooperation with our Yellowknife logistics office. This work continued throughout the 2013 field season with informing Kitikmeot employees of travel dates, making travel and accommodation arrangements, scheduling charter flights and manifests, and moving workers from town to airport.
- TMAC responded to 2 northern media requests for information on the re-opening of the Hope Bay project.

June

- Community Relations staff assisted TMAC Human Resources in explaining and confirming the opting in or out of overtime averaging for Nunavut seasonal workers. Nunavut Labour law allows for workers to choose whether to have wages for non-traditional working hours averaged for overtime worked.
- During the first TMAC Board of Directors meeting held in Toronto, Community Relations staff delivered background information on Nunavut, Inuit Organizations and communities to the Board to familiarize them with the Hope Bay operating environment.
- Community Relations staff worked with the Ekaluktutiak Hunters and Trappers Organization to finalize approval of the Hope Bay Wildlife Research permit for 2013.
- TMAC attended the KIA Board of Directors meeting held in Gjoa Haven. A presentation was given to the Board that included a project update, and review of TMAC plans to develop the Hope Bay project. The Nunavut Water Board office was also visited at that time.
- A KIA lands inspection site visit was facilitated.
- Community Relations staff also participated in the June NWB Doris North water license renewal technical hearing made via teleconference.

July

- At the invitation of the Hamlet of Cambridge Bay, TMAC delivered a project update presentation to Hamlet Council.
- With the decommissioning of Windy Camp facilities, a number of shelters became available for surplus sale in July. In consultation with the KIA, these items were advertised for sale to Kitikmeot HTOs, and then more generally throughout the region.
- A tour of Hope Bay by Nunavut Resources Corporation directors was facilitated by community relations staff. The purpose of this tour was to investigate potential infrastructure projects with the mining industry.
- A firearms safety course was organized this month for delivery at Doris Camp. George Hakongak of Cambridge Bay was brought to Hope Bay to deliver this course to 8 individuals in order for them to obtain Firearms licences. This effort was made based on an identified need

for Inuit workers who could participate in the Hope Bay Wildlife Response Team.

- Community Relations staff also facilitated discussions between TMAC and the KIA on renewing the Doris North commercial lease.
- A tour of Hope Bay was organized for a CBC North reporter. The purpose of this visit was to obtain stock footage of the Hope Bay project for future CBC North television stories.
- A number of site signs were changed to reflect the new ownership and translate key messages into Inuinnaqtun and Inuktitut.
- At the end of the month, a group from the Government of Nunavut Department of Economic Development and Transportation investigating potential soapstone deposits was hosted at Doris for a day. Several local potential soapstone deposits were investigated. All stone sampled at Hope Bay proved to be too hard to be considered commercially valuable soapstone.

August

- A Bear and Wildlife Safety Audit was completed for the Hope Bay project by community relations staff. Potential hazards to wildlife and attractants to bears were identified and corrective measures implemented.
- The TMAC Board of Directors visited Doris Site. At that time, a delegation from the Hamlet of Cambridge Bay, the KIA and also Minister Peterson travelled down to Doris to meet informally with our Board. This visit was facilitated by the Cambridge Bay TMAC Office.
- A number of TMAC policies were developed.

September

- At the beginning of the month, TMAC established a Facebook page as an avenue to share project news and happenings with our stakeholders. To date, site visitation and comments from the Kitikmeot continue to grow. Much of the comments or inquiries generated from this community relations effort is in regards to employment and training. TMAC postings are also shared on appropriate Kitikmeot community Facebook groups. The Facebook page can be viewed at: http://www.facebook.com/tmacresources
- TMAC participated in the Nunavut Planning Commissions "Filling the Gaps" Land Use Planning workshop held in Cambridge Bay. The purpose of this workshop was to identify missing technical aspects to the draft Nunavut General Land Use Plan. TMAC provided input into criteria for selecting lands zoned for economic development, transportation corridors and protection measures for various environmentally sensitive areas in the Kitikmeot region.
- Community Relations staff participated and provided input into the creation of the new TMAC website. The website went "live" at the end of the month and can be seen at the following link: www.tmacresources.com
- TMAC participated in a Community Readiness workshop in Cambridge Bay. The purpose of this workshop was to describe the Community Readiness program delivered by Can-Nor, describe the role that KIA will perform as the regional project sponsor, and gain community involvement through Hamlet representation. TMAC provided a project update during this workshop.
- Community Relations staff helped respond to an alcohol related incident at Doris camp this month. Several small empty alcoholic beverage containers were found by housekeeping staff in a non-beneficiary contract worker's bedroom. The contracting company was told about the

incident and requested that they replace the worker at site, which they did the following day. Community Relations staff lead a short on-site staff discussion on zero tolerance to alcohol during this incident.

October

- Work began this month to prepare the 2012/13 Socio-Economic Monitoring Report as required under Condition 28 of the Doris North project certificate. Work included collecting company generated data and directing consultants to obtain data from government sources.
- A reporter for UpHere Business Magazine (Ashleigh Gaul) was provided a site tour this month. The purpose of this visit was to gather story content for articles related to Inuit involvement in mining. Stories from this visit are to be published in the UpHere Business magazine over the course of 2014.
- TMAC audited the KIA Annual General Meeting and component presentations to be aware of any project related concerns or issues that may have been brought up by beneficiaries or beneficiary organizations regarding the Hope Bay project. No TMAC presentation was given.
- TMAC Community Relations staff supported and provided input into several key documents including the Project Certificate Amendment/Water Licence Amendment package, the Preliminary Economic Assessment (PEA) and Wildlife Mitigation and Monitoring Report responses.
- TMAC participated in a Community Readiness program follow-up teleconference this month with KIA, CanNor, and community representatives.
- TMAC community relations managed some communications related to the Patch Brine Spill discovered this month.

November

- The Kitikmeot Socio-Economic Monitoring Committee and Doris North Socio-Economic Monitoring committee met in Cambridge Bay. TMAC participated in these meetings and presented our annual report. The report and presentation can be viewed online at: http://nunavutsemc.com/kitikmeot.
- TMAC met with KIA Lands Division and Executive in Toronto to discuss surface land tenure issues. Community Relations staff prepared for and responded to action items from this meeting. During that time, Community Relations staff also delivered a cross cultural awareness presentation to TMAC Senior Management.
- TMAC met with the new GN Community Minerals Advisor in order to brief the incumbent on the Hope Bay project and scope future collaborative efforts.
- Some follow-up work was done to liaise with former seasonal workers to provide accurate Records of Employment for Employment Insurance purposes.
- TMAC worked with KIA Lands Division to finalize the 2014 Capacity Agreement workplan and overall renewal of this Agreement.
- TMAC Community Relations staff delivered an IIBA contracting and procurement presentation to new TMAC managers to ensure that both Schedule F and J procedures were known and could be adhered to.

December

- Some work was done to prepare for meetings early on in the new year including scheduling TMAC meetings with stakeholders to take place during the Cordilleran Roundup in January 2014.
- The completed TMAC Community Complaints Procedure generated during earlier policy development work in 2013 was circulated widely to Nunavut and Kitikmeot stakeholders in order to ensure that all were aware that TMAC would handle complaints in a fair and transparent manner.

17. GPS locations of monitoring stations as confirmed with the Inspector Part J, Item 5 [See Schedule B, Item 17]

Please refer to the Annual Report Form for the GPS locations of the monitoring stations.

18. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector [See Schedule B, Item 18]

Inspection under 2AM-DOH1323 was conducted July 8 and 9, 2013 by AANDC. Overall the site was reported as clean and orderly, with good practices observed for water, waste and fuel management.

Items requiring action, and their corrective actions are as follows:

Maintenance of the Roberts Bay Jetty prior to sealift and clean-up of debris seen in the water and on shore

- The Jetty toe was repaired in 2013, un-attached geotextile found in the water was removed, and a debris clean-up performed along the shoreline of Roberts Bay.

Move the fuel tank at the North Dam to >30m from the water

- The fuel tank for the TIA dewatering pump at the North Dam was removed, and fueling of the pump was conducted manually as needed

19. Any other details on Water use or Waste Disposal requested by the Board [See Schedule B, Item 19]

No additional details on water use or waste disposal were requested by the Board in 2013.