

March 4<sup>th</sup>, 2014

Phyllis Beaulieu Manager of Licensing Nunavut Water Board P.O. Box 119 Gjoa Haven, NU X0B 1J0

Dear Ms. Beaulieu,

## Re: Water Licence 1AR-NAN0914 – 2013 Annual Report

This letter and enclosed documentation are submitted in fulfilment of Part B Item 3 of Water Licence 1AR-NAN0914 which requires the Licensee to file an Annual Report with the Nunavut Water Board (NWB). The letter is structured as per Schedule B of the Water Licence.

### Summary

Key activities completed in 2013 included:

- Discharge of effluent from the West Twin Disposal Area;
- Geotechnical monitoring;
- Water quality monitoring;
- Remediation of petroleum hydrocarbon (PHC) contaminated soil in the former fuel tank farm area, including:
  - Excavation and screening of contaminated soil;
  - Treatment of contaminated soil through volatilization and bioremediation; and
  - Sampling and analysis to confirm treated soil met established soil quality remediation objectives.
- Submission of an application to amend and renew Water Licence 1AR-NAN0914 which is set to expire on March 31, 2014.

Approximately 20 m<sup>3</sup> of fresh water were used in 2013. The water was obtained from Twin Lakes Creek and applied to the soil treatment piles to maintain the moisture content required for optimal PHC remediation.

As per Part F of the Water Licence, effluent quality limits were met for the effluent discharged into Twin Lakes Creek.

As per Part I of the Water Licence, geotechnical and surface water quality monitoring was completed in 2013. The monitoring programs demonstrated stable conditions and confirmed that implemented closure and rehabilitation measures perform as expected.

As per Part J of the Water Licence, the abandonment and reclamation of the mine continued with the decommissioning of the former fuel tank farm and treatment of PHC contaminated soil. Based on current information about contaminated soil volumes and assuming that no changes are made to the soil treatment methodology, the soil remediation work is expected to be completed at the end of 2016.

An application for renewal and amendment of Water Licence 1AR-NAN0914 was submitted to the NWB on November 13, 2013. The application proposes that the monitoring programs for water quality and geotechnical

stability be reduced to reflect the monitoring needs applicable at this stage of post-closure. It also presents a new approach to the remediation of contaminated soil which would improve the efficiency of the reclamation works completed at the dock site.

## Part D – Conditions Applying to Construction

No dikes or dams were constructed in 2013.

#### Part E – Conditions Applying to Water Use and Management

Approximately 20 m<sup>3</sup> of fresh water were used in 2013. The water was obtained from Twin Lakes Creek and applied to the soil treatment piles to maintain the moisture content required for optimal PHC remediation.

### Part F – Conditions Applying to Waste Disposal and Management

In 2013, effluent quality limits specified by the Water License at monitoring station 159-4 were met. Further information on surface water quality monitoring undertaken in 2013 is provided in Appendix B.

No significant amounts of waste were generated in 2013. Small quantities of sewage and domestic waste produced at the tank farm remediation site were disposed of in the Arctic Bay landfill and sewage lagoon.

# Part G – Conditions Applying to Modifications

No modifications to water use and waste disposal related structures and facilities were carried out in 2013.

#### Part H – Conditions Applying to Emergency Response and Spill Contingency Planning

No unauthorised discharges or significant spills occurred in 2013.

## Part I – Conditions Applying to the Monitoring Program

Geotechnical and surface water quality monitoring conforming to the requirements of Part I and Schedule I of the Water License were completed in 2013. The results of the monitoring program are detailed in the monitoring reports appended to this letter (Appendices B, C, D and E).

## Part J – Conditions Applying to Abandonment, Reclamation and Closure

2013 abandonment and reclamation activities completed at the former fuel tank farm area are described in the Contaminated Soil Remediation Progress Report provided in Appendix F. Based on current information about contaminated soil volumes and assuming that no changes are made to the soil treatment methodology, the soil remediation work is expected to be completed at the end of 2016.

Current reclamation liabilities associated with the reclamation of the former tank farm are estimated at \$0.8 million. Reclamation expenditures in 2013 were in the order of \$0.6 million.

I trust that this letter and appended documentation meet your expectations. Please do not hesitate to contact me by phone or email should you have any questions or comments.

Sincerely,

Johan Skoglund

**Group Manager Environment** 

# Appendices:

Appendix A: Inuktitut translation: Summary of this letter

Appendix B: 2013 Annual Water Quality Monitoring Report - Nanisivik Mine, Nunavut. Stantec. February 28,

2014

Appendix C: Inuktitut translation: Executive Summary of 2013 Water Quality Monitoring Report Appendix D: 2013 Annual Geotechnical Inspection, Final. BGC Engineering. February 27, 2014 Appendix E: Inuktitut translation: Executive Summary of 2013 Geotechnical Inspection Report Appendix F: Contaminated Soil Remediation 2013 Progress Report. SRK Consulting. March 2014

Appendix G: Inuktitut translation: Executive Summary of Contaminated Soil Remediation 2013 Progress Report