



March 30th, 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 and 1AR-NAN1419 – 2014 Annual Report

This letter and enclosed documentation are submitted in fulfilment of Part B Item 3 of Water Licence 1AR-NAN0914 and Part B Item 2 of Water Licence 1AR-NAN1419 which requires the Licensee to file an Annual Report with the Nunavut Water Board (NWB). Water Licence 1AR-NAN0914 expired on March 31, 2014 and Water Licence 1AR-NAN1419 was issued December 23, 2014. The letter is structured as per Schedule B of the water licences.

Summary

Key activities completed in 2014 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 of contaminated soil;
 - Treatment of contaminated soil through volatilization and bioremediation;
 - Sampling and analysis to confirm treated soil met established soil quality remediation objectives; and
 - Studies undertaken to develop site specific remediation objectives; and
- Processing of the application to amend and renew the Water Licence.

There was no use of fresh water in 2014.

As per Part F of Water Licence 1AR-NAN0914, effluent quality limits were met for the effluent discharged into Twin Lakes Creek.

As per Part I of Water Licence 1AR-NAN0914, geotechnical and surface water quality monitoring was completed in 2014. The monitoring programs demonstrated stable conditions and confirmed that implemented closure and rehabilitation measures perform as expected.

As per Part J of Water Licence 1AR-NAN0914, 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.

Water Licence 1AR-NAN1419 was issued on December 23, 2014, and approved on January 29, 2015. Various studies and plan updates are appended to this letter to address terms and conditions in Water Licence 1AR-NAN1419.

Part D – Conditions Applying to Construction and Operations

No dikes or dams were constructed in 2014.

For-construction drawings for the Non-Hazardous Waste Landfill facility are provided for Board review in Appendix B.

Part E – Conditions Applying to Water Use and Management

There were no uses of fresh water in 2014.

Part F – Conditions Applying to Waste Disposal and Management

In 2014, effluent quality limits specified by Water Licence 1AR-NAN0914 at monitoring station 159-4 were met. Further information on surface water quality monitoring undertaken in 2014 is provided in Appendix C.

No significant amounts of waste were generated in 2014. 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. The waste concrete generated during the demolition of the tank farm was disposed of in the on-site rubble pit.

The Non-Hazardous Waste Landfill Operations and Maintenance Manual required by Water Licence 1AR-NAN1419 is provided in Appendix B.

The results of the studies aimed at developing site specific remediation objectives and an update to the overview of methodology/approach involved in developing Site Specific Remediation Objectives for pre-determined project areas at the Nanisivik Docksites is provided in Appendices E and F.

Part G – Conditions Applying to Modifications

No modifications to water use and waste disposal related structures and facilities were carried out in 2014.

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

No unauthorized discharges or significant spills occurred in 2014. An updated Spill Contingency Plan is provided in Appendix G.

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 Water Licence 1AR-NAN0914 were completed in 2014. The results of the monitoring program are detailed in the monitoring reports appended to this letter (Appendices C, D, H and I).

Updates to monitoring plans are appended to this letter and included:

- Quality Assurance / Quality Control Plan for Surface Water Monitoring Samples (Appendix J);
- Post Closure Geotechnical Monitoring Contingency Plan (Appendix L);
- Contingency Plan for Water Quality Exceedances (Appendix N); and
- Instrument Installation and Contingency Plan (Appendix P).

Part J – Conditions Applying to Abandonment, Reclamation and Closure

2014 abandonment and reclamation activities completed at the former fuel tank farm area are described in the Contaminated Site Remediation Progress Report provided in Appendix R. Based on current information about contaminated soil volumes and contaminate concentrations and assuming the recommended site specific remediation objective is approved then the active treatment of the petroleum hydrocarbon contaminated soil can most likely be concluded by September 2015. Applying the existing soil quality remediation objectives indicate that active treatment will need to continue in 2015 and 2016.

An update to the Abandonment and Reclamation Plan for Treatment of Contaminated Soil at the Former Nanisivik Mine, Appendix B: Soil Quality Remediation Objectives has been provided in Appendix T. It assumes that the recommended site specific remediation objective as provided in Appendix D and E is accepted by the Board.

Current reclamation liabilities associated with the reclamation of the former tanks farm are estimated at approximately \$400,000. Reclamation expenditures in 2014 were in the order of \$400,000.

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: Former Nanisivik Mine Site Waste Management Plan. March 2015 Update
- Appendix C: 2014 Annual Water Quality Monitoring Report. Stantec. March 20, 2015.
- Appendix D: Inuktitut translation: Executive Summary of 2014 Water Quality Monitoring Report.
- Appendix E: Soil Toxicity Testing and the Derivation of Site Specific Soil Remediation Objectives (SSROs) for the Nanisivik docksite. Hemmera. March 6, 2015.
- Appendix F: Inuktitut translation: Summary of Nanisivik Soil Ecotoxicity Assessment.
- Appendix G: Former Nanisivik Mine Spill Contingency Plan. March 2015 update
- Appendix H: 2014 Annual Geotechnical Inspection Report. BGC Engineering. February 28, 2015.
- Appendix I: Inuktitut translation: Executive summary of 2014 Geotechnical Inspection Report
- Appendix J: Quality Assurance / Quality Control Plan for Surface Water Monitoring Samples. Stantec. March 24, 2015.
- Appendix K: Inuktitut translation: Executive summary of Quality Assurance / Quality Control Plan
- Appendix L: Post Closure Geotechnical Monitoring Contingency Plan. BGC Engineering. March 17, 2015.
- Appendix M: Inuktitut translation: Executive summary of Post Closure Geotechnical Monitoring Contingency Plan
- Appendix N: Contingency Plan for Water Quality Exceedances. Stantec. March 24, 2015.
- Appendix O: Inuktitut translation: Executive summary of Contingency Plan for Water Quality Exceedances.
- Appendix P: Geotechnical Monitoring Instrument Installation Record and Contingency Plan. BGC Consulting. 17 March 2015.
- Appendix Q: Inuktitut translation: Executive summary of Geotechnical Monitoring Instrument Installation Record and Contingency Plan
- Appendix R: Contaminated Soil Remediation 2014 Progress Report. SRK Consulting. March 2015.
- Appendix S: Inuktitut translation: Executive summary of Contaminated Soil Remediation 2014 Progress Report
- Appendix T: Update to Appendix B of the 2014 Abandonment and Reclamation Plan for Treatment of Contaminated Soil at the Former Nanisivik Mine. SRK Consulting. March 2015.