

March 27<sup>th</sup>, 2013

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 – 2012 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. The letter is structured as per Schedule B of the Water Licence.

**Summary**

Key activities completed in 2012 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:
  - Construction of treatment cells;
  - Excavation and screening of contaminated soil; and
  - Treatment of contaminated soil through volatilization and bioremediation.

There were no uses of fresh water in 2012.

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 2012. The monitoring programs will continue in 2013 and recommendations provided in the monitoring reports will be implemented.

As per Part J of the Water Licence, the reclamation and closure of the mine continued with the decommissioning of the former fuel tank farm and treatment of PHC contaminated soil. The construction of treatment facilities for contaminated soil were finalised following on from the constructions commenced in 2012. As per Part D of the Water Licence, a construction summary report was prepared and submitted to the Water Board in November 2012.

An outline schedule of remediation activities planned in 2013 and subsequent years is provided in this letter. Based on current information about contaminated soil volumes and assuming that the biopile treatment technique will perform as anticipated, the remediation work is expected to be completed at the end of 2015.

#### **Part D – Conditions Applying to Construction**

No dikes or dams were constructed in 2012.

A total of 16 treatment cells for PHC contaminated soil were constructed in the area of the former fuel tank farm in 2011 and 2012. Further information on the treatment cell construction is provided in the Construction Summary Report submitted to the Water Board in November 2012 and enclosed in Appendix H.

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

There were no uses of fresh water in 2012.

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

In 2012, effluent quality limits specified by the Water License at monitoring station 159-4 were met. Further information on surface water quality monitoring undertaken in 2012 is provided in Appendix B.

No significant amounts of waste were generated in 2012. Any domestic waste produced at the tank farm remediation site was disposed of in the Arctic Bay landfill and sewage lagoon. Residual demolition wastes encountered have been containerized for off-site shipping and disposal at an approved facility in 2013.

#### **Part G – Conditions Applying to Modifications**

No modifications to water use and waste disposal related structures and facilities were carried out in 2012.

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

No unauthorised discharges occurred in 2012.

A Spill Contingency Plan (SCP) for abandonment and reclamation activities at the former fuel tank farm area was prepared in accordance with the requirements of Part J, Item 2 (k) of the Water Licence (Appendix J). The Plan was submitted to the Water Board in May 2012 and was implemented for the 2012 remediation season. No significant spills occurred in 2012.

#### **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 2012. The results of the monitoring program are detailed in the monitoring reports appended to this letter (Appendices B, C, D and E).

The geotechnical and surface water quality monitoring programs will continue in 2013. The recommendations provided in the monitoring reports will be implemented and a description of the actions taken will be included in the Annual Report for 2013.

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

2012 closure and reclamation activities completed at the former fuel tank farm area are described in the Contaminated Soil Remediation Progress Report provided in Appendix F.

An outline schedule of remediation activities planned in 2013 and subsequent years is presented in *Table 1*. Based on current information about contaminated soil volumes and assuming that the biopile treatment technique will perform as anticipated, the remediation work is expected to be completed at the end of 2015. This time plan also relies on sufficient areas being made available for handling and temporary stockpiling of soil. It is suggested that the concrete pad from the former concentrate shed be used for this purpose and Nyrstar is currently liaising with the land owner, the Department of Fisheries and Oceans, regarding this matter.

*Table 1*      *Outline Project Schedule*

Activity	2013				2014				2015			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Excavation of Contaminated Soil												
Soil Treatment												
Remediation Confirmation Sampling												
Backfilling and regrading												
Tank Farm Reclamation Confirmation Reporting												
Soil Remediation Performance Monitoring												
Treatment Facility Closure												

Current reclamation liabilities associated with the remediation of the former tank farm are estimated at \$1.4 million. Reclamation expenditures in 2012 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 Environment Manager, Americas

Appendices:

Appendix A – Inuktitut translation: Summary of this letter

Appendix B – 2012 Annual Water Quality Monitoring Report – Nanisivik Mine, Nunavut. Stantec. March 25, 2012

Appendix C – Inuktitut translation: Executive Summary of 2012 Water Quality Monitoring Report

Appendix D – 2012 Annual Geotechnical Inspection, Final. BGC Engineering. February 20, 2012

Appendix E – Inuktitut translation: Executive Summary of 2012 Geotechnical Inspection Report

Appendix F – Contaminated Soil Remediation 2012 Progress Report

Appendix G - Inuktitut translation: Executive Summary of Contaminated Soil Remediation 2012 Progress Report

Appendix H – Construction Summary Report, WESA Inc. November 2012

Appendix I – Inuktitut translation: Construction Summary Report

Appendix J – Spill Contingency Plan, May 2012