



## SAHTU Land and Water Board

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### STAFF REPORT

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<b>Proponent:</b>	Indigenous and Northern Affairs Canada – Contaminants and Remediation Division (INAC-CARD)		
<b>File(s):</b>	S15L8-001/S09D-001	<b>Report No.:</b>	3
<b>Date Prepared:</b>	August 18, 2016	<b>Meeting Date:</b>	September 7, 2016
<b>Subject:</b>	Great Bear Lake Mine Sites Remediation – 2016 Management Plans for Board Approval		

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## 1. Purpose/Report Summary

To inform the Board about the Waste Management Plan, Site-Specific Spill Contingency Plan and updated Engagement Plan submitted for Board approval by INAC-CARD to meet conditions of the Water Licence S15L8-001 and Land Use Permit S09D-001.

## 2. Background

### 2.1 Licence Terms and Conditions

The Licence was issued on July 24, 2015 with the following conditions:

Part D, Item 2 – Prior to the commencement of site activities, the Licensee shall design and submit to the Board for approval a Domestic **Waste Management Plan** which contains the following:

- a detailed list of waste treatment and disposal plans;
- a listing of expected waste types and quantities to be shipped off-site;
- treatment, testing and disposal methods for all waste products to be transported off-site.

Part H, Item 3 – The Licensee shall review the **Spill Contingency Plan** annually and modify the Plan as necessary to reflect changes in Regulations, operations and technology. Any proposed Modification(s) shall be submitted to the Board for approval.

Part H, Item 4 – **Site-specific Spill Contingency Plans** shall be developed for all locations where refined petroleum products will be stored and used for refueling with copies being distributed to operators in the field. These Plans should include, but not be limited to:

- a) An inventory of response and clean-up equipment;
- b) A site map with location of storage facilities, and the location of emergency equipment with spill response and clean-up equipment;
- c) A cover page that clearly identifies: The NWT 24-hour Spill Report Line and the name, job title and 24-hour telephone number for the person(s) responsible for activating the Spill Contingency Plan.

Part B, Item 11 – The Licensee shall adhere to the approved **Engagement Plan**. The Plan shall be in accordance with the Mackenzie Valley Land and Water Board’s *Engagement Guidelines for Applicants and Holders of Land Use Permits and Water Licences* (2014) or subsequent versions.

Part B, Item 12 – The Licensee shall review the **Engagement Plan** annually and shall submit updates to the Board for approval at the following times:

- a) A minimum of 60 days prior to any proposed changes to the approved Plan, and
- b) Upon request of the Board.

The issuance letter required an updated **Spill Contingency Plan** be submitted to the Board for approval prior to the commencement of activities as per Part H, Item 3 and a **Waste Management Plan** be submitted to the Board for approval prior to the commencement of site activities as per Part D, Item 2. The issuance letter also required submission of an updated **Engagement Plan** (version 1.1) that includes:

- Reference to DEMCo Ltd. as an affected party due to the overlap of access rights at the Terra Site; and
- An engagement “triggers table” as outlined in Appendix F of the Engagement Guidelines as per Part B, Items 11 and 12.

## 2.2 The 2016 Barrel Removal Program

The overall purpose of the remediation project is to restore and remediate the abandoned sites to their original state as much as possible which will have an overall positive impact on the environment.

As a result of historical mining activities, liquid wastes (predominantly petroleum-based) have been stored in drums on-site. In addition, a variety of unused liquid products are also stored on-site. Excavation P. Huot (EPH) will be undertaking the 2016 summer project with the objective to remove the approximately 1090 drum inventory containing waste oil, solvents, and fuels, and to implement a suitable remedial strategy for the liquid wastes and products stored on the site. EPH estimates start of the barrel program at Silver Bear Mines (Terra Mine, Northrim Mine, Norex Mine and El Bonanza Mine), Great Bear Lake around the end of July. The management plans require approval prior to the commencement of activities.

## 2.3 Process Requirements

The Engagement Plan was posted to the Online Review System on June 16, with reviewer comments due July 15 and proponent responses to comments due July 29, 2016.

Upon receipt of the Waste Management Plan and Site-specific Spill Contingency Plan, they were uploaded to the registry and posted to the Online Review System on July 6, 2016 for distribution to affected parties for comments. Reviewers were given until July 15 to provide comments and proponent responses were due by July 22.

### 3. Summary of Management Plans

#### 3.1 Waste Management Plan

The Plan addresses wastes expected to be generated from camp activity by the crew, which is expected to be 10-12 people during remediation activities. The methodology and definitions are based on the MVLWB *Guidelines for Developing a Waste Management Plan*. A summary of the types and quantities of waste to be generated on-site that will require off-site disposal and the storage locations for this waste have been described in the Plan. Any hazardous or potential hazardous waste will be managed according to the *Guideline for the General Management of Hazardous Waste in the NWT* and applicable transportation of dangerous goods legislation/regulations.

The types of project generated waste have been categorized as:

1. **Waste for incineration** (any incineration will occur after source reduction, reuse and recycling have been considered. The incinerator ash will be securely contained in drums and disposed of at an approved facility in Yellowknife);
2. **Recyclable material** (all materials for recycling will be bagged and shipped to an appropriate recycling facility in Yellowknife. Materials will be stored in a shed until they are processed);
3. **Waste for transfer to approved Facility** (this will include general and hazardous waste. Transport of hazardous waste will be by barge in summer 2016, and by tractor/trailer on winter road in winter 2017 with a dangerous good transportation certified driver. Waste will be stored in a designated fenced compound in Deline with appropriate liner and spill response material. The storage site will be monitored a minimum of twice a week until it is shipped off-site to an authorized recycling or waste disposal facility in Yellowknife or Edmonton. All waste streams will be documented and tracked);
4. **Grey/Black Water** (GBW production is estimated to be 1000 L per day. There is an existing installation on-site consisting of drainage pipes that collects the GBW from the administrative building and discharges the waste into a septic holding tank for a number of days prior to needing to be discharged. EPH has designed a simple, low-cost and efficient secondary filtration system (BIONEST) capable of eliminating the solid waste and filtering the potential liquid overflow of the septic tank).

#### 3.2 Site-Specific Spill Contingency Plan

This Plan has been designed to address spill related risks during remediation activities and it is to be considered in conjunction with the Spill Contingency Plan for Great Bear Lake Sites Mine Remediation document prepared by INAC in 2008. These documents together are intended to set the minimum standards and preventative measures to reduce the risk of spill accidents for the duration of the project. Once approved, the Spill Contingency Plan, the Emergency Response Plan, and the Fuel Transfer Guidelines will be reviewed during the Worker Orientation Seminar and copies will be kept readily available and distributed to operators at the work-site.

Removal of old drums with contents from the abandoned mine site poses risk of spillage. Best management practices are presented to address and manage work-site fuel spillage including spill kits and other environmental protection supplies, and site management measures. The project superintendent will ensure that spill contingency features are in place, functional and well-maintained. The barge at the site will be surrounded by sufficient 5" x 10' hydrophobic oil absorbent boom attached in-line to encircle the ship as a preventative measure against uncontrolled release of hydrocarbons during loading or off-loading of barrels on the ship. Spills specific to the barrel program – barrel transportation, consolidation of barrels, and crushing, are addressed by a specific procedure developed for drum and liquid waste removal for the four sites. Response procedures are documented in the Plan.

### 3.3 Engagement Plan, Version 1.1

The updated Plan included an Engagement Tigger Table but it did not include reference to DEMCo Ltd. as an affected party. The consultation record indicates no consultation with DEMCo about this project.

## **4. Comments**

The Government of the Northwest Territories – Department of Environment and Natural Resources (GNWT-ENR), The INAC Inspector and Deline Land Corporation (DLC) commented on the management plans during the review period. The GNWT-ENR recommended that INAC to dispose of all solid sewage waste off site as required by Part D, Item 13 of the Water Licence.

Comments were also received from INAC Inspector regarding the Spill Contingency Plan and Waste Management Plan. They included to update the contact information for the reporting of spills to include the INAC Inspectors, to add the newest version of the spill report form, and that the sewage discharge be sampled to ensure the sewage treatment system will meet water licence criteria prior to discharge. Board staff agree with these recommendations. The INAC-CARD has agreed to the recommendations and will ensure work is carried out to the satisfaction of the Inspector and within Licence conditions and will update the Plans to reflect recommended changes.

The DLC raised concerns with regard to the removal of the hazardous wastes by barge and the planed storage of the barrels in the community until they can be shipped to an approved facility for disposal during the 2016-17 winter via the ice road. Specifically, the DLC requested additional information on the barge operator's competencies, certification and insurance coverages as these relate to environmental and liability coverages, and also stated that they haven't been appropriately consulted or given their approval for storage of the barrels of contaminants and hazardous wastes in the community.

The INAC-CARD responded that the 2016 Barrel Removal Program is necessary for environmental protection and is being undertaken to address the risk of additional fuel spills. Any delays to the program will lead to the high potential for additional contamination. The drums containing hazardous waste will be placed within secondary containment and stored in a designated fenced compound. The laydown area of the compound will be covered by a heavy duty polyethylene liner, as per Waste Management Plan. The INAC-CARD also responded that the barge meets Transport Canada certification requirements and transportation standards.

No comments were received regarding the updated Engagement Plan.

## 5. Conclusion and Recommendation

The Board approve the Waste Management Plan and the Site-Specific Spill Contingency Plan with the changes made as recommended from the reviewers.

The Board approve the Engagement Plan with a requirement that DEMCo Ltd. be noted as an affected party in the next version submitted.

## 6. Reference Material Attached

1. [S15L8-001 – INAC-CARD – Great Bear Lake Mine Sites Remediation Project – Waste Management Plan](#) (hyperlink)
2. [S15L8-001 – INAC-CARD – Great Bear Lake Mine Sites Remediation Project – Site-Specific Spill Contingency Plan](#) (hyperlink)
3. [S15L8-001 – INAC-CARD – Great Bear Lake Mine Sites Remediation Project - Engagement Plan - Version 1.1](#) (hyperlink)
4. [S15L8-001 – INAC-CARD – Great Bear Lake Mine Sites Remediation Project – Updated Engagement Record - June 15, 2016](#) (hyperlink)

Respectfully submitted,



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Executive Director Comments:



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