



Sahtu Land and Water Board

Staff Report

Division: Land and Water Program	Report No.: 3
Date Prepared: April 18, 2018	File No.: S17X-004 & S17L8-003
Meeting Date: April 19, 2018	
Subject: Draft Closure and Reclamation Plan (Version 1.0) for the for the Norman Wells Airport Hydrocarbon Contaminated Soil Treatment Facility Project and Water Quality Monitoring Program (Version 1.0) submitted by Transport Canada for Board approval.	

1. Purpose/Report Summary

The purpose of this Report is to present to the Sahtu Land and Water Board for consideration:

- a) Draft Closure and Reclamation Plan (Version 1.0);
- b) Water Quality Monitoring Program (Version 1.0); and
- c) Summary of stakeholder review comments and Proponent responses for the Norman Wells Airport Hydrocarbon Contaminated Soil Treatment Facility Project.

2. Background

- **December 5, 2017** – Type A Land Use Permit S17X-004 was issued to Transport Canada, Prairie and Northern Region – Environmental Services, Contaminated Sites (TC) for installation (drilling) of three (3) groundwater monitoring wells around an existing Hydrocarbon Soil Contaminated Soil Treatment Facility (Landfarm) within municipal boundaries at the Norman Wells Airport. Type B Water Licence S17L8-003 was also issued and associated with the operation, maintenance, closure and reclamation of the Landfarm.
- **March 5, 2018** - the Sahtu Land & Water Board (SLWB or Board) received a Draft [Closure and Reclamation Plan](#) (Version 1.0) and a [Water Quality Monitoring Program](#) (Version 1.0)
- **March 5, 2018** - Review packages were sent out electronically to members of the Norman Wells District Distribution List using the [Online Review System](#) with a request for comments by **March 26, 2018**;
- **March 26, 2018** – Reviewer comments received and deadline;
- **April 4, 2018** - Proponent response deadline and received; and
- **April 19, 2018** - Presentation to the Board for decision.

3. Discussion

3.1 Project Overview

As previously described in [Staff Report 1](#) (Application Review), in 2003 Transport Canada commissioned construction of a Land Treatment Unit (LTU) (Hydrocarbon Contaminated Soil Treatment Facility or Landfarm) as part of a remediation project associated with divestment of the Norman Wells Airport property to the Government of the Northwest Territories. The supporting documentation submitted with the November 14, 2017 water licence application provided information related to the construction and maintenance of the Landfarm with limited details on the progress of treatment of the hydrocarbon contaminated soil. The Landfarm will be undergoing decommissioning once the soil quality meets the applicable criteria. Treated soils will be deposited at the site and re-graded. The first stage of the project was the drilling of three new groundwater monitoring wells as per Permit S17X-004. This work was completed on January 15 to 16, 2018 after which all equipment was removed from the site. Groundwater wells have been installed to evaluate groundwater quality upgradient and downgradient of the LTU to determine if any contaminants have migrated through tears in the liner to the groundwater table and to determine if the site has been impacted by any historical off-site contamination.

3.2 Process Requirements

Transport Canada, Prairie and Northern Region - Environmental Services, Contaminated Sites (TC) has submitted Version 1.0 of its Closure and Reclamation Plan for the Norman Wells Airport Hydrocarbon Contaminated Soil Treatment Facility Project in accordance with Part I, Condition 1 of Licence S17L8-003.

Within 90 days of issuance of this licence, the Licensee shall submit to the Board for approval a Closure and Reclamation Plan which shall include, but not be limited to, the following information:

TC has clarified that this version of the Closure and Reclamation Plan has been submitted as Draft as details about the extent of reclamation required and final destination of treated soils is yet to be determined. A revised Plan will be submitted when these details are known. Further work at the LTU is anticipated in Spring/Summer 2018 to obtain additional data to support the Closure and Reclamation Plan. The Closure and Reclamation Plan will be updated in support of the Decommissioning Specifications that will be developed prior to the Closure and Reclamation of the site.

TC has also submitted Version 1.0 of its Water Quality Monitoring Program in accordance with Part E, Condition 5 of the Licence S17L8-003.

Within 90 days of issuance, the Licensee shall submit to the Board, for approval, a Water Quality Monitoring Program. The Licensee shall act in accordance with the Plan, once approved. The Plan shall be in accordance with Schedule 2.

These submissions require Board approval.

Of the 33 organizations to which the plan was distributed, seventeen (14) are represented within the Sahtu Settlement Area. Review comments were received from:

- Environment and Climate Change Canada (ECCC);
- GNWT – Department of Environment and Natural Resources (ENR); and
- Sahtu Renewable Resources Board (SRRB).

4.0 Comments

Closure and Reclamation Plan

Staff have reviewed the Draft Closure and Reclamation Plan against the requirements detailed in Part I, Condition 1 of Licence S17L8-003 and find that the report addresses all of the required items listed with the exception of details that will be provided in subsequent versions of the Plan when the information is made available in the summer of 2018.

Water Quality Monitoring Program

Staff have reviewed the WQMP against the requirements detailed in Schedule 2 of the Licence S17L8-003 and find that the report addresses all of the required items listed.

5. Other Agency Comments

The application was distributed to members of the Norman Wells District Distribution List; which includes 33 review organizations, requesting a reply by March 26, 2018. Three (3) organizations responded and recommendations provided by the Reviewers are attached (Attachment 1) and include the following recommendations related to the Closure and Reclamation Plan:

- Environment and Climate Change Canada (ECCC):
 - Requested that rationale be provided for choosing a 2 meters depth for monitoring wells as appropriate (ID1).
 - Requested that soils be sampled from a deeper level (ID2)
 - Recommended that groundwater quality be continuously monitor until the results indicate that groundwater quality has stabilized and consistently meets the required levels over consecutive seasons (ID3).
 - Requested to clarify if any historical monitoring data was available from the damaged groundwater monitoring wells (ID4)
 - Recommended adding the following information to the appropriate management plans: location of discharge of wastewater/contact water; specify whether discharge is to surface waters or land; and, if land, the distance to the closest surface water body (ID6).
- Government of Northwest Territories – Environment and Natural Resources:
 - clarify if treated soil will be deposited at site or whether it may be transferred and deposited elsewhere (ID1)
 - provide additional information on potential locations to transfer and deposit contaminated soils should this option be required (ID2)
 - provide written approval from the Town of Norman Wells indicating the SWDF (landfill) is designed and licenced to dispose of the geotextile liner (ID5)
- Sahtu Renewable Resources Board (SRRB):
 - Mention that any water that is anticipated to be discharged from the LTU during closure if it does not meet the criteria will be stored in holding tanks (ID4).
 - provide a source of naturally occurring seeds endemic to the area to ensure good re-vegetation rates and no invasive species (ID6)

Board staff consider the Proponent Responses adequate for all of the Closure and Reclamation Plan comments and recommendations. Many of the recommendations will require a revision to the Draft Plan. Staff recommend that these revisions be made upon submission of the Final Closure and Reclamation Plan when additional details

required to finalize the Plan are available. The following revisions to the Closure and Reclamation Plan Version 1.0 are recommended:

Table 1 : Required Revisions to the Draft Closure and Reclamation Plan Version 1.0

Report Section	Recommended Change
Section 2 Background, pg 1	provide rationale for choosing a 2 meters depth for monitoring wells as appropriate.
Section 2 Background, pg 1	clarify that no historical data is available for the damaged groundwater monitoring wells
Section 5.2 Water Management, pg 6	Provide details on discharge of wastewater and contact water. Treated Soils - clarify if treated soil will be deposited at site or whether it may be transferred and deposited elsewhere.
Section 5.2 Pg 6 Water Management	Mention that any water that is anticipated to be discharged from the LTU during closure if it does not meet the criteria will be stored in holding tanks
Section 5.3 pg. 8 - Infrastructure Removal	provide written approval from the Town of Norman Wells indicating the SWDF (landfill) is designed and licenced to dispose of the geotextile liner.
Section 5.4 Investigation of underlying Soils, Pg 8	clarify that test pits will be extended to 1-1.5m and will use field screening to guide sampling.
Section 5.4 pg. 8 – Investigation of Underlying Soils	include the additional information on potential locations to transfer and deposit contaminated soils should this option be required.
Section 5.5 Site Reclamation Pg 9	seeding with local vegetation - provide a source of naturally occurring seeds endemic to the area to ensure good re-vegetation rates and no invasive species
Section 9 Post-closure monitoring, pg 10	clarify that monitoring will be conducted until the trend is seen over two consecutive seasons of stable groundwater measurements.

There were several comments and recommendations made by all of the reviewers for the Water Quality Monitoring Program. Board staff consider the Proponent Responses adequate for all of the Water Quality Monitoring Program comments.

6. Recommendation

Board staff recommend that the Board:

1. Approve the Draft Closure and Reclamation Plan (Version 1.0) at this time and with the requirement that all of the reviewer comments itemized in Table 1 above be included in the submission of the Final Closure and Reclamation Plan within 180 days of approval of this Draft Plan.
2. Approve the Water Quality Monitoring Program (Version 1.0).

7. Attachments

- 7.1 Review Comment Table
- 7.2 Draft Approval Letter

Respectfully submitted,



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