



Water Resources Division
Resource Management Directorate
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Your file - Votre référence
1BR-FTA1828
Our file - Notre référence
GCdocs#94838630

May 25, 2021

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
E-mail: licensing@nwb-oen.ca

**Re: Crown-Indigenous Relations and Northern Affairs Canada Review of
Cambridge Bay Apron Abandonment and Restoration Plan - Version 3 for Type
B Water Licence No. 1BR-FTA1828**

Dear Mr. Dwyer,

Thank you for the April 21, 2021 invitation to review the referenced Abandonment and Restoration Plan, submitted by Transport Canada, for Type B Water Licence No. 1BR-FTA1828.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application package pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. Comments have been provided in the attached Technical Memorandum.

If there are any questions or concerns, please contact me at (867) 222-0247 or bridget.campbell@canada.ca.

Sincerely,

Bridget Campbell,
Water Resources Coordinator



Technical Review Memorandum

Date: May 25, 2021

To: Richard Dwyer – Manager of Licensing, Nunavut Water Board

From: Bridget Campbell – Water Management Coordinator, CIRNAC

**Subject: Crown-Indigenous Relations and Northern Affairs Canada Review of
Cambridge Bay Apron Abandonment and Restoration Plan - Version 3
for Type B Water Licence No. 1BR-FTA1828**

Region: ☒ Kitikmeot ☐ Kivalliq ☐ Qikiqtani

A. BACKGROUND

The Hamlet of Cambridge Bay is located on Victoria Island in the Kitikmeot Region of Nunavut.

Licence No. 1BR-FTA1828 was issued by the Nunavut Water Board (NWB) to Transport Canada in 2018 to cover two landfarms referred to as Land Treatment Areas (LTAs) at the Cambridge Bay Airport (CBA): the Apron LTU and the Fire Training Area LTU. These LTUs were constructed to treat petroleum hydrocarbon (PHC) identified in soil in the Apron area in 2009.

The Airport at Cambridge Bay has undergone transfers from Transport Canada to the Government of Northwest Territories in 1995 and to the Government of Nunavut in 1999. In the transfer agreement, the site was identified as an environmental concern due to above ground storage tanks containing Avgas and Jet B Fuel that were decommissioned in 1992 without the documentation of official decommissioning procedures. The Cambridge Bay Airport is owned and operated by Government of Nunavut and the LTUs are operated by Transport Canada.

Transport Canada submitted an updated Abandonment and Restoration Plan (ARP) to provide information regarding the status of the project and proposed decommissioning of the Apron LTU. A Preliminary Quantitative Ecological Risk Assessment (PQERA) relating to the Apron LTU was also submitted. The PQERA recommends that the Apron LTU can be decommissioned and the site can be closed.

CIRNAC provides the following comments and recommendations pertaining to the ARP. A summary of the subjects of recommendations can be found in Table 1. Documents reviewed as part of this submission can be found in Table 2 of Section B. Detailed



technical review comments can be found in Section C. References can be found in Section D.

Table 1: Summary of Recommendations

Recommendation Number	Subject
R-01	Scope of Abandonment and Restoration Plan Version 3
R-02	PHC Management Limits
R-03	PFAS in Underlying Soils
R-04	Post Closure Monitoring Program

B. DOCUMENTS REVIEWED

The following table (Table 2) provides a summary of the documents reviewed under the submission of the Abandonment and Restoration Plan.

Table 2: Documents Reviewed

Document Title	Author, File No., Rev., Date
Abandonment and Restoration Plan, Cambridge Bay Airport Apron Land Treatment Unit	Stantec Consulting Ltd., File No: 110220512, Version 3, February 17, 2021
Preliminary Quantitative Risk Assessment, Apron LTU, Cambridge Bay Airport, Victoria Island, Nunavut	Stantec Consulting Ltd., Project Number: 110220512, March 25, 2021

C. RESULTS OF REVIEW

1. Scope of Abandonment and Restoration Plan Version 3

Comment:

Version 3 of the Abandonment and Restoration Plan (ARP) states on page 1 that:

The purpose of this updated ARP is to provide information regarding the status of the project and proposed decommissioning of the Apron LTU at the CBA and replaces the “Updated Abandonment and Restoration Plan” submitted by TC in August 2018. This discussion herein focuses only on the Apron LTU and does not include updated planning for the adjacent Fire Training Area (FTA) LTU which is captured under the same Water Licence.



The Updated Abandonment and Restoration Plan submitted by Transport Canada (TC) in August 2018 includes closure of the FTA LTU in its scope. Given that Version 3 of the Abandonment and Restoration Plan is intended to replace the latest version and excludes the FTA LTU, it is unclear where the closure and restoration plan for the FTA LTU will be captured.

Recommendation:

(R-01) CIRNAC recommends that Transport Canada clarify where the closure and restoration plan for the Fire Training Area Land Treatment Unit will be captured.

2. PHC Management Limits

Comment:

The PQERA indicates on page 6.1 that PHC management limits for industrial land use, coarse textured soil are:

- PHC F1 – 700 mg/kg
- PHC F2 – 1,000 mg/kg
- PHC F3 – 3,500 mg/kg
- PHC F4 – 10,000 mg/kg

These management limits differ from PHC management limits for industrial land use, coarse textured soil indicated in Table 3-1 of the Version 3 of the Abandonment and Restoration Plan:

- PHC F1 – 320 mg/kg
- PHC F2 – 260 mg/kg
- PHC F3 – 1700 mg/kg
- PHC F4 – 3300 mg/kg

It is not clear why different management limits are presented.

Recommendation:

(R-02) CIRNAC recommends that Transport Canada clarify why the PHC concentration management values differ between the ARP and the PQERA, and provide the origin of the limits that were used in the PQERA.

3. PFAS in Underlying Soils

Comment:

After decommissioning the LTU and the removing the geomembrane liner, Transport Canada plans to conduct confirmatory sampling in the underlying soils. Version 3 of the Abandonment and Restoration Plan (ARP) states on page 8, that:



If impacted soil associated with LTU operations is encountered above applicable closure criteria it would be delineated, excavated, and placed in the FTA LTU. Should detectable levels of PFAS parameters be found in underlying soils, these areas will be assessed against relevant screening guidelines available at the time. Any excavation areas will be backfilled and graded with native fill.

It is not clear what PFAS screening guidelines Transport Canada intends to use, nor [what actions will be taken/whether the soil will also be put in the FTA LTU] if the LTU is decommissioned and PFAS parameters above screening guidelines are found in underlying soils.

Recommendation:

(R-03) CIRNAC recommends that Transport Canada clarify what PFAS screening guidelines Transport Canada intends to use, and what actions will be taken if the LTU is decommissioned and PFAS parameters above screening guidelines are found in underlying soils.

4. Post Closure Monitoring Program

Comment:

Version 3 of the Abandonment and Restoration Plan states that the post closure monitoring program will be based on groundwater monitoring and visual inspection. In Nunavut, collecting groundwater samples by means of wells is frequently not effective after the first year as the wells freeze, and should not be the only data collected. In the opinion of CIRNAC, seepage and/or surface water should also be tested each year following freshet to attain a better sense of site conditions.

It is not clear what is the goal of visual inspections. According to the PQERA, page 6.2, “Aesthetic concerns, such as visual staining, are not a concern at the Site from a human health perspective.” If visual inspections are intended to attain aesthetic concerns, then this would not support the groundwater data to achieve an understanding of ecological concerns.

Recommendation:

(R-04) CIRNAC recommends that Transport Canada provide a more robust post closure monitoring program by collecting surface water samples to support the groundwater sampling program.



D. REFERENCES

Works Cited

Transport Canada. Updated Abandonment and Restoration Plan. Cambridge Bay Airport Land Treatment Units (LTU), Nunavut NWB Licence #1BR-FTA1828 (Original #1BR-FTA1721). August 2018.

Nunavut Water Board Licence No. 1BR-FTA1828. Transport Canada. Signed by Lootie Toomasie, Nunavut Water Board Chair, Nunavut Water Board. May 17, 2018.