Crown-Indigenous Relations and Northern Affairs Canada
Relations Couronne-Autochtones et Affaires du Nord Canada

Water Resources Division
Resource Management Directorate
Nunavut Regional Office
918 Nunavut Drive
Iqaluit, NU, X0A 3H0

Your file - Votre référence
1BR-NUN1828
Our file - Notre référence
GCDocs#135523465

April 25, 2025

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's Review of the Licence 2024 Annual Report for Nunatta Environmental Services Inc. (NUNATTA), Type B Water Licence No. 1BR-NUN1828

Dear Richard,

Thank you for the March 26, 2025 invitation to review the referenced licence 2024 Annual Report, submitted by NUNATTA, for Type B Water Licence No. 1BR-NUN1828.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application 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*. Please find CIRNAC comments and recommendations in the attached Technical Memorandum.

The applicant shall provide confirmation from the Nunavut Water Board that all outstanding water license fees have been paid in full prior to approval of this application.

If there are any questions or concerns, please contact me at Courtney.White@rcaanc-cirnac.gc.ca or Andrew Keim at (867) 975-4550 or Andrew.Keim@rcaanc-cirnac.gc.ca.

Sincerely,

Courtney White,
Project Leader and Program Manager,

Canada

Technical Review Memorandum

Date: May 16, 2024

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

From: Courtney White – Project Leader and Program Manager, Impact Assessment, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada's Review of the Licence 2024 Annual Report for NUNATTA, Type B Water Licence No. 1BR-NUN1828**

Region: ☐ Kitikmeot ☐ Kivalliq ☒Qikiqtani

A. BACKGROUND

NUNATTA Environmental Services (NUNATTA) is located in the industrial section of the City of Iqaluit, Nunavut, where it operates a Hydro-Carbon-Impacted Soil Landfarm Facility. NUNATTA operates a Type B Water License 1BR-NUN1828]. This license allows it to use the facility for the continued deposition of waste (effluent from the facility and runoff). The Landfarm facility consists of four (4) separate cells, receives and biologically treats soil that generally originates from the clean-up of residential areas affected by fuel oil associated with home heating equipment and other sources. The geographical coordinates of each of the four cells is 63° 43.855' N and 68° 32.733'W, 63° 43.832' N and 68° 32.624'W, 63° 45.435' N and 68° 32.450' W, and 63° 45.450' N and 68° 32.601'W.

NUNATTA is not authorized for water use under the provisions of the Type B Water License.

The licensee has submitted their 2024 Annual Report for review as per Part B item 1 of the water licence "The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported."

The 2025 Annual Report submitted by Nunatta includes several key documents and reports that were reviewed and referenced during the evaluation. These reports and plans provide important updates and revisions for the site operations and environmental management framework. Among the documents included in the review are the 2024 and 2025 updates to various plans, which are critical for ensuring ongoing compliance and progress in environmental stewardship. These documents are crucial for assessing the licensee's current standing, as well as future project planning and site remediation efforts.

Table 1: Summary of Recommendations

Recommendation Number	Subject
R1	Change in Abandonment and Restoration Plan Revised 2025
R2	Nunatta Landfarm Cell #2
R3	Nunatta Landfarm Cell #2
R4	Soil Exceedances
R5	Waste Management
R6	Monitoring Wells
R7	Follow up on the 2019, 2020, and 2021 Inspection Reports

B. DOCUMENTS REVIEWED AND REFERENCED

The following table (Table 2) provides a list of the documents reviewed under the submission and reference during the review.

Table 2: Documents Reviewed and Referenced

Document Title	Author, File No., Rev., Date
180411 1BR-NUN1828 Water Licence Renewal - ODBE	Nunavut Water Board, April 11, 2018
250228 1BR-NUN1828 2024 Annual Reporting Water License	Nunatta Environmental Services, February 28 2025
100111 1BR-NUN1217 Site Operations Manual	Nunatta Environmental Services, December 2017
180111 1BR-NUN1217 Abandonment and Restoration Plan- Revised 2017	Nunatta Environmental Services, December 2017
250326 1BR-NUN1828 Abandonment and Restoration Plan Updated 2025	Nunatta Environmental Services, February 27 2025
250326 1BR-NUN1828 Revised Spill and Contingency Plan 2025	Nunatta Environmental Services, February 2025
171218 1BR-NUN1217 Financial Security Plan	Nunatta Environmental Services, December 18 2017
250218 1BR0NUN1828 Financial Security Plan	Nunatta Environmental Services, February 18 2025
250326 Total Reclamation Costs Updated 2025	Nunatta Environmental Services, March 26 2025
180323 1BR0NUN1828 INAC Comments on Nunatta Water Licence Renewal Application	Sarah Forte, March 23 2018
190821 1BR-NUN1828 Field Ops- 2019 Inspection Report	Jonathan Mesher, July 10 2019
200707 1BR-NUN1828 Field Ops- 2020 Inspection Report	Jonathan Mesher, June 8, 2020

Document Title	Author, File No., Rev., Date
210604 1BR-NUN1828 Field Ops- 2021 Inspection Report	Jonathan Mesher, June 2 2021

C. RESULTS OF REVIEW

1. Change in Abandonment and Restoration Plan Revised 2025

Comment:

The 2025 Abandonment and Restoration Plan (ARP) introduces a defined project completion timeline of 4 to 6 years, which marks a notable improvement over the 2017 ARP, where no specific timeline or completion schedule was provided. This update reflects a more structured and realistic planning framework, taking into account the site-specific remediation methodology employed by the licensee. The inclusion of a defined end point, combined with post-deconstruction monitoring commitments, demonstrates an increased focus on long-term site stewardship and regulatory compliance. However, it is important to note that the water license is set to expire in April 2028, which means that the proposed 4–6 year project timeline may not align with the expiry date of the water license. As such, there is a risk that the project may not be completed by the expiration of the water license. Establishing a clear remediation horizon is essential for assessing project progress, allocating oversight resources, and ensuring the timely decommissioning of infrastructure.

Recommendation:

(R-01 CIRNAC recommends the licensee be reminded that their water license is set to expire in April 2028. To ensure the successful completion of the project within the timeline and in compliance with regulatory requirements, the licensee should plan to renew their water license in advance of its expiry. The milestone schedule should be supported by reporting within the Annual Report updates, clearly tracking completion percentages, identifying potential delays, and outlining any adaptive management strategies employed. Regular reporting against defined benchmarks will enhance regulatory oversight, ensure transparency, and support timely achievement of site closure objectives in accordance with the updated Abandonment and Restoration Plan.

2. Nunatta Landfarm Cell #2

Comment:

According to the 2024 Nunatta Annual Report, cell#2 has been scheduled for a liner change to bring the cell up to industrial landfarming petroleum hydrocarbon contaminated soil standards since 2018. Due to several factors such as a lack of on site staff during the summer months, extra work across the territory, and the use of cell#3 for Qulliq Energy storage they failed to replace the liner in cell#2. Cell #2 currently has a liner of 20mm, the minimum standard is 30 mm.

Despite authorization granted in 2014 to expand the cell and upgrade the liner, this critical work remains outstanding. Prolonged delays in completing this upgrade pose a risk to

containment integrity and overall site compliance. A revised implementation schedule, including firm timelines is recommended to ensure the cell is up to code as required.

Cell #2 as per the 2018 approved Site Operations Plan was to be cleared out for liner replacement and used for soil treatment. Due to an emergency in the drinking water within the City of Iqaluit, Qulliq Energy requested Nunatta assist in the storage of their consumables. This cell now contains oils, glycols, and waste. After the city emergency it was determined it was easier for Qulliq to have their items delivered by Nunatta and stored on site rather than bring back to their storage.

Recommendation:

(R-02) CIRNAC recommends that the licensee immediately prioritize and complete the replacement of the liner in Landform Cell #2 to ensure compliance with applicable environmental regulations and engineering standards. The current 20 mm liner does not meet the minimum required thickness of 30 mm as stipulated in the approved design and regulatory framework.

(R-03) CIRNAC recommends that the licensee prioritize the removal of Qulliq Energy's consumables, including oils, glycols, and waste, from Landform Cell #2 in order to restore the cell for its intended purpose of liner replacement and soil treatment. The current use of the cell for storage of these materials deviates from the 2018 approved Site Operations Plan, which specified that the cell should be cleared for liner replacement and used for soil treatment. Given that the storage of these substances may pose environmental and regulatory risks, it is essential that the cell be cleared and restored to its original plan to ensure compliance with environmental regulations and engineering standards. A clear timeline for the removal of stored materials and the completion of the liner replacement should be established to mitigate further delays.

3. Soil Exceedances

Comment:

The analytical data from the Spring and Fall 2024 soil sampling events for Cells 1 and 4 at the Nunatta Landfarm site indicate that all measured concentrations of petroleum hydrocarbons (F1–F4 and F4G), as well as volatile organic compounds (BTEX) and metals (where available), are within the CCME Soil Quality Guidelines for Industrial Land Use. The highest detected F3 concentration (2050 mg/kg in Cell 1, Fall) remains below the regulatory threshold of 2500 mg/kg. No exceedances were observed for any of the tested parameters, suggesting the landfarming activities are effectively reducing contaminant concentrations to acceptable levels. Furthermore, the consistently low hydrocarbon levels in Cell 4 support the conclusion that this cell is functioning well and poses a low environmental risk under current operations. However, no metal data was available for Cell 4 in the Fall 2024 samples,

which limits the completeness of compliance verification for that cell. Future sampling rounds should ensure all required parameters are analyzed consistently.

Recommendation:
(R-04) CIRNAC recommends that the licensee continue regular seasonal sampling and ensure complete parameter coverage, including metals, for all active landfarm cells. Although no exceedances were detected during the 2024 sampling campaigns, the licensee must maintain monitoring efforts to confirm ongoing compliance, particularly in higher concentration areas such as Cell 1 (F3 range).

4. Waste Management

Comment:
The report provides an overview of contaminated soil treatment, which appears successful, with soil being tested and reused for industrial purposes or as road sand once it meets regulatory standards. However, the report does not provide sufficient information on long-term soil monitoring to ensure that no residual contaminants remain in the soil post-remediation.

Recommendation:
(R-05) CIRNAC recommends that the licensee implement a more frequent and comprehensive soil monitoring program to track the long-term effectiveness of the soil remediation process. This should include periodic testing for residual contaminants to ensure that all treated soil consistently meets regulatory standards and is safe for reuse. Providing more detailed trends over time would better illustrate the effectiveness of remediation methods.

5. Monitoring Wells

Comment:
The licensee has identified that the monitoring wells are not receiving adequate sunlight and water drainage due to construction activities and snow dumping by the City of Iqaluit. This obstruction could potentially impact the effectiveness of the monitoring wells by altering their environmental conditions, which may lead to inaccurate or skewed results. Given the importance of these monitoring wells in providing accurate data for regulatory compliance and environmental monitoring, it is critical to ensure that they are in optimal condition and not subject to unnecessary obstructions.

Recommendation:
(R-06) CIRNAC recommends that the licensee, develop and implement a plan to ensure that the monitoring wells are positioned and maintained in conditions that allow for maximum sunlight exposure, which is vital for obtaining accurate monitoring results. The plan should

include an assessment of the current obstruction issues caused by construction and snow dumping, and outline specific corrective actions, such as relocating wells, removing or reducing obstructions, or implementing protective measures. The plan should also include regular monitoring and maintenance procedures to ensure that the wells remain in prime condition throughout the monitoring period. Regular updates on the status of these actions should be included in the Annual Report to maintain transparency and ensure compliance with environmental monitoring requirements.

6. Follow up on the 2019, 2020, and 2021 Inspection Report

Comment:

The 2019, 2020, and 2021 Inspection Reports all request action on both the timeline for the cell#2 liner replacement, as well as repair to the rip in cell #4 liner. As of this 2024 Annual Report neither issues identified have been actioned to date.

Recommendation:

(R-07) CIRNAC recommends that the licensee prioritize and take immediate action on the outstanding issues identified in the 2021 Inspection Report. Specifically, the licensee should develop a clear timeline and action plan for the replacement of the liner in Cell #2 and repair of the rip in the liner of Cell #4. As of the 2024 Annual Report, neither of these critical issues has been addressed. The licensee should provide a firm schedule with specific milestones for completing these repairs and replacements, and incorporate progress updates into the Annual Report to ensure transparency and accountability. Addressing these issues promptly is necessary to maintain site compliance and prevent further risks to environmental integrity..