

Bijaya Adhikari

From: Mardy Semmler
Sent: October 31, 2025 12:30 PM
To: Bijaya Adhikari; Admin IWB
Subject: FW: Shell Canada Limited - #N5L8-1848 Water Licence Application Package - Unipkat I-22 Wellsite - GNWT-ECC Comments

GNWT ECC comments submitted for N5L8-1848 Shell, Unipkat I-22.

Mardy

From: GNWT EA <gnwt_ea@gov.nt.ca>
Sent: October 31, 2025 11:45 AM
To: Mardy Semmler <semmlerm@inuvwb.ca>
Cc: Nathalie Oldfield <Nathalie_Oldfield@gov.nt.ca>; Bill Pain <Bill_Pain@gov.nt.ca>
Subject: Shell Canada Limited - #N5L8-1848 Water Licence Application Package - Unipkat I-22 Wellsite - GNWT-ECC Comments

Hello,

Please accept the following GNWT-ECC comments and recommendations on Shell Canada Limited's #N5L8-1848 Water Licence Application Package - Unipkat I-22 Wellsite:

Topic: GNWT - ECC Contact Information

Comment:

The Department of Environment and Climate Change (ECC), Government of the Northwest Territories has reviewed the application at reference based on its mandated responsibilities under the *Waters Act*. ECC has provided comments and recommendations for the consideration of the Inuvialuit Water Board.

Recommendation:

Please contact Bill Pain, Water Regulatory Manager, with the Water Regulatory Division, at Bill_Pain@gov.nt.ca if you have any technical questions.

Please contact GNWT_EA@gov.nt.ca with any general questions or concerns.

Topic: Security

Comment:

GNWT-ECC notes that the last security review for the project was completed in 2011, for which the GNWT holds \$165,000 under the previous (now expired) water licence. GNWT-ECC supports the proponent in remediation of the site, but an updated security amount to account for inflation and current expectations based on the updated plan is warranted.

For inflation alone, using the CPI from Statistics Canada

(<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000401>) for Yellowknife from 2011 to August 2025 would result in an inflation rate of 41.5%.

Recommendation:

GNWT-ECC recommends that the security be updated for inflation and set at \$233,500.00 for the new water licence.

Topic: Proposed Soil Quality Objectives

Comment:

GNWT-ECC notes that the proposed soil quality objective (SQO) for petroleum hydrocarbon (PHC) F2 fraction for soils up to 1.5 meters in depth is 9,800 mg/kg and between 1.5 and 3.0 meters in depth the SQO is 10,000 mg/kg. Additionally,

type B hydrocarbons are considered while additional PHC fractions are not. The derivation of these values are based on assumptions and various guidelines found in Section 4.0 of the Remedial Action Plan (RAP).

Evaluation of these risk derived SQOs should consider future physical stability at the site given that the determined values are significantly higher than the surface soil values currently in the 2003 GNWT Environmental Guideline for Contaminated Site Remediation (PHC F2 values of 760 mg/kg for coarse soil and 1500 mg/kg for fine soil) and that the Draft 2023 Environmental Guideline for Contaminated Sites Remediation, referenced in the RAP, provides Industrial land use management limits of 1,000 mg/kg for both coarse and fine grained soil. Physical stability is noted to be a concern in the Reclamation, Closure and Monitoring Plan (RC&MP) (Section 1.5.1;1.5.4) where storm surges, increased water levels, and climate change have led to 'approximately 20 and 65 metres (m) of shoreline erosion'. Additionally, the RC&MP (Section 3.1.3.1) states that 'Portions of the former operating areas on the Site are fully submerged by the Arvoknar Channel, including the former flare pit, camp sump and part of the drilling waste sump'.

Given the very likelihood that this site may not be physically stable currently and in the future, there is an increased risk of contaminant mobility during periods of erosion or flooding and Shell should provide a rationale as to how this was considered and factored into their derivation of the SQOs. The Board could then consider this information in making a determination on the approval of these SQOs.

Recommendation:

GNWT-ECC recommends that Shell provide further rationale regarding how contaminant mobility was considered in determining the SQOs, given that the physical instability at the site may lead to contaminants not remaining covered or at the depths proposed for the SQOs.

Thank you,
Jordan Hordal
Environmental Regulatory Analyst
Regulatory and Permitting Division
Department of Environment and Climate Change
Government of the Northwest Territories

2nd Floor Gallery Building
PO Box 1320
4923-52nd Street
Yellowknife, NT X1A 2L9

www.gov.nt.ca



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