

November 1, 2023

8170-7400-32640-02

Graham Murray
Exploitation Engineer
Canadian Natural Resources Limited
2500, 855 – 2nd St SW
Calgary, AB T2P 4J8

Dear Mr. Murray:

**RE: EXTENDED INJECTIVITY TEST SPECIAL PROJECT APPROVAL
CNRL TOWNSEND d-57-H/94-B-9 (WA #4922)
TOWNSEND FIELD – DEBOLT FORMATION**

The BC Energy Regulator has reviewed the application submitted by Canadian Natural Resources Limited (CNRL) dated December 9th, 2022, requesting approval for an extended injectivity test of 20,000m³ into the Debolt formation via the subject well.

The subject well was drilled in 1979 and completed in the Debolt formation in 1980 for gas production. The well produced from the Debolt for just the single month of March 1980, and the Debolt was later abandoned in 2008. The Montney 'A' pool was subsequently completed for gas, from which the well produced 14.5 e⁶m³ of gas from 2011 to 2019.

Attached please find **Order 23-02-003**, designating an area near the Townsend field, Debolt formation, as a Special Project under section 75 of the Energy Resources Activities Act, for the temporary operation and use of a storage reservoir for the injection of produced water. This authorization does not warrant that a future disposal approval will be issued.

The Regulator has approved a maximum test volume of 5,000m³. Additional injection volume requires further review of wellbore integrity and data gathered from the extended injectivity test. CNRL should obtain a reservoir pressure prior to injection, and it is recommended that CNRL perform a DFIT in order to obtain an accurate fracture pressure of the Debolt formation. The maximum injection pressure in condition 2b) may be exceeded for a DFIT or step-rate test but must remain below the MWHIP for the extended injection period following the test.

Should you have any questions, please contact Logan Gray at (250) 419-4465 or the undersigned at (250) 419-4430.

Sincerely,



Ron Stefik, P.L.Eng.
Supervisor, Reservoir Engineering
Energy Regulator

Attachment



IN THE MATTER of the application from Canadian Natural Resources to the BC Energy Regulator dated December 9th, 2022, requesting extended injectivity test approval:

ORDER 23-02-003

1. Under Section 75(1)(c.1) of the *Energy Resource Activities Act*, the Regulator designates the temporary operation and use of a storage reservoir for produced water, including flowback from fracturing operations, near the Townsend field – Debolt formation as a special project in the following area:

NTS 94-B-9 Block H Unit 57

2. Under section 75(2) of the *Energy Resource Activities Act*, the special project designation in this Order is subject to the following conditions. The Permit Holder shall:
 - a) Inject water into the well CNRL Townsend d-57-H/94-B-9; WA# 4922 Debolt formation from 2,230.0 – 2,238.6 mKB MD.
 - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 13,075 kPag or the pressure required to fracture the formation, whichever is lesser.
 - c) If the fluid injected is not fresh water, inject only through tubing with a packer set as near as is practical above the injection interval.
 - d) A wellbore pressure integrity test must be passed prior to injection operations.
 - e) The total volume of injected water must not exceed 5,000m³.
 - f) Measure and report the reservoir pressure both prior and following the injection test.

A handwritten signature in blue ink, appearing to read 'R. Stefik', is positioned above the printed name and title.

Ron Stefik, P.L.Eng.
Supervisor, Reservoir Engineering
Energy Regulator

DATED AT the City of Victoria, in the Province of British Columbia, this 1st day of November 2023.