

October 21, 2025

0320-4100/4500-32640-02

Dwayne Spelay
Production Engineer
Canadian Natural Resources Limited
Suite 2100, 855 2nd Street S.W.
Calgary, AB
T2P 4J8

Dear Mr. Spelay:

**RE: PRODUCED WATER DISPOSAL SPECIAL PROJECT APPROVAL
CNRL ALTARES B4-33-83-25 (WA #26949)
ALTARES FIELD – BALDONNEL AND CHARLIE LAKE FORMATIONS**

The Regulator has reviewed the application submitted by Canadian Natural Resources Limited (CNRL) dated May 12th, 2025, requesting approval for commingled disposal of produced water into the Altares field Baldonnel and Charlie Lake formations via the subject well.

The subject well was drilled horizontally into the Montney formation for gas production in 2011. The well produced from December 2011 until March 2025, producing a total of 64 e⁶m³ of gas, 546 m³ of condensate & pentanes plus, and 245 m³ of LPGs. In March of 2025, The Montney zone was abandoned and the Baldonnel and Charlie Lake formations were completed and tested for disposal.

Attached please find **Order 25-02-013**, designating an area in the Altares field, Baldonnel and Charlie Lake formations, as a Special Project under section 75 of the Energy Resource Activities Act, for the operation and use of a storage reservoir for the injection of produced water. This Order includes several detailed operational, measurement and reporting conditions. Disposal wells are subject to regular field inspection and audit. Contravention of a condition of this Order may be subject to enforcement under section 62 of ERAA, or suspension or cancellation of the Order under section 75(2)(b).

Due to uncertainty regarding reservoir capacity, a reservoir pressure test is required within 6 months of disposal start-up to confirm adequate pressure dissipation, as per condition 2i). Based on CNRL's expected injectivity per zone, 58% of volume shall be reported to the Baldonnel and 42% to the Charlie Lake, as per condition 2e).

For the inspection requirement of Order condition 2m), please arrange via email to Pipelines.Facilities@bc-er.ca.

Disposal of fluid with high total dissolved solids content requires adjustment of the wellhead injection pressure to remain below formation fracture pressure. It is the responsibility of the permit holder make adjustments to wellhead injection pressure.

Should you have any questions, please contact Logan Gray at (250) 419-4465 or the undersigned at (250) 419-4482.

Sincerely,



Michell Gaucher, P.Eng.
Supervisor, Reservoir Engineering
Energy Regulator

Attachments



IN THE MATTER of the application from Canadian Natural Resources Limited, dated May 12th, 2025, requesting commingled disposal approval:

ORDER 25-02-013

1. Under Section 75(1)(d) of the Energy Resource Activities Act, the Regulator designates the operation and use of storage reservoirs for produced water, including flowback from fracturing operations, in the Altares Field – Baldonnel and Charlie Lake formations as a special project in the following area:

DLS Twp 83 Rge 25 W6M Section 33 LSDs 3 – 6

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 Altares B4-33-83-25; WA# 26949 Baldonnel formation from 1,570.0 – 1,583.0 mKB MD, and Charlie Lake formation from 1,597.0 – 1,617.0 mKB MD
 - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 12,075 kPag or the pressure required to fracture the formation, whichever is lesser.
 - c) Inject only through tubing with a packer set as near as is practical above the injection interval.
 - d) Continually measure and record the wellhead casing and tubing pressures electronically.
 - e) Report the disposal volumes on the monthly disposal statement with 58% allocated to the Baldonnel and 42% to the Charlie Lake.
 - f) Alarm the casing-tubing annulus pressure monitoring system to indicate when casing pressure varies outside the normal operating range.
 - g) Cease injection and notify the Regulator at Reservoir@bc-er.ca immediately if there are any indications that hydraulic isolation is lost in the wellbore or formation.
 - h) Conduct and submit an annual Surface Casing Vent Flow test to the Regulator within 30 days of the completion of the test.
 - i) Conduct an unsegregated reservoir pressure test of both disposal formations in the subject well within 6 months of initial disposal and annually thereafter, with a shut-in period of sufficient duration to allow for calculation of reservoir pressure and submit a report of the test within 60 days of test completion.
 - j) Cease injection upon reaching a maximum formation pressure of 18,675 kPaa, measured at 1,593.5 mKB TVD.
 - k)
 - i) Perform a casing inspection log on the subject well and submit results to the Regulator within 30 days of the completion of logging, at an interval of not more than every 10 years, commencing from the date of initial disposal.
 - ii) Perform a hydraulic isolation temperature log on the subject well and submit results to the Regulator within 30 days of the completion of logging, at an interval of not more than every 5 years, commencing from the date of initial disposal.
 - l) Not conduct a hydraulic fracture stimulation on any formation in the subject well without prior Regulator approval.

- m) Complete an inspection, satisfactory to the Regulator, within 4 weeks of initial disposal operations.

A handwritten signature in blue ink, reading 'M Gaucher'.

Michelle Gaucher, P.Eng.
Supervisor, Reservoir Engineering
BC Energy Regulator

DATED AT the City of Victoria, in the Province of British Columbia, this 21st day of October, 2025.

Advisory Guidance for Order 25-02-013

- I. A production packer must be set above the injection interval and the space between the tubing and casing filled with corrosion and frost inhibiting fluids, as per section 16(2) of the Drilling and Production Regulation.
- II. Annual packer isolation tests are required to be conducted and the associated report must be submitted to the Regulator within 30 days of test completion, as per section 16(3) of the Drilling and Production Regulation.
- III. Injected fluids must be metered and the injection pressure measured at the wellhead, as per section 74 of the Drilling and Production Regulation.
- IV. A monthly disposal statement including the volume of disposal fluid, maximum wellhead injection pressure, and total operating hours must be submitted to the Regulator via Petrinex not later than the 20th day of the month following the reported month, as per section 75 of the Drilling and Production Regulation.
- V. Seismic events must be reported and disposal operations suspended as per section 21.1 of the Drilling and Production Regulation.