

April 3, 2024

4300-7400-32640-60

Lynn Wood, P.Eng.
Exploitation Engineer
Canadian Natural Resources Limited
Suite 2100, 885 – 2nd Street SW
Calgary, Alberta, T2P 4J8

Dear Ms. Wood:

**RE: OBSERVATION WELL WITHDRAWAL
CNRL ET AL GRAHAM d-A6-C/94-B-9 (WA# 12191)
DEBOLT FORMATION**

The subject well was drilled in 1999 and the Debolt, Doig, Halfway and Charlie Lake formations were perforated, but did not produce. The Halfway and Charlie Lake perforations were cement squeezed in 2000 and the Doig perforations in 2001. The Debolt formation was approved for saltwater disposal in April 2001 and was used for disposal from 2002 until 2015. A casing leak repair was performed in 2006. Remedial cement squeezes were performed on the Halfway and Doig perforations in 2013. Approval Order 01-02-006 for disposal into the Debolt formation was terminated on July 1, 2015. The status of the Debolt formation completion event was approved for observation in February 2016. On-going seismic events plotted at the Debolt depth had been observed for years after disposal operations concluded, requiring continued monitoring of the reservoir pressure. Seismic events have since diminished below detectable levels.

Approval of observation status was granted for CNRL et al Graham d-A6-C/94-B-9 (WA 12191), for the Debolt formation, with the following requirements:

- conduct a reservoir pressure test annually, with the next test occurring in 2018.
- conduct a static gradient test within 24 months.

BC Energy Regulator (BCER) staff have reviewed the August 28, 2017, observation well approval to Canadian Natural Resources Limited (CNRL) noting the most recent pressure test on file is dated October 2020. The well has been shut in for 8 yrs. and all prior reservoir testing consisting of surface measurements and Acoustic Well Sounders. These tests may be used to review disposal related seismic characteristics after operations cease.

The requirement to use the subject well to monitor reservoir pressures or to obtain other formation pressure is no longer being met. The observation well designation for CNRL BIRCH D-A6-C/94-B-9 (WA# 12191), for the Debolt formation will be withdrawn. However, the BCER requires a final static gradient reservoir pressure be conducted and submitted, as set forth in prior obligations of the Observation well approval.

Should you have any questions, please contact Terence Tkatchuk at (250) 980-6083 or the undersigned at (250) 419-4482.

Sincerely,



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