

July 10, 2018

4700-8125-59240-07

Haseeb Hashmi
Exploitation Engineer
Canadian Natural Resources Limited
2500, 855– 2nd Street S.W.
Calgary AB, T2P 4J8

Dear Mr. Hashmi,

**RE: CONCURRENT PRODUCTION SPECIAL PROJECT APPROVAL
OTHER THAN NORMAL SPACING ORDER
HELMET FIELD - TETCHO "F" POOL**

The Commission has reviewed the application from Canadian Natural Resources Limited, dated June 15, 2018, requesting a Concurrent Production project approval for the subject single well pool, which commenced production from well CNRL HZ Helmet c-A46-K/94-P-1 (WA# 28724) in February 2015.

A multi-stage fracture stimulation was conducted on the low permeability Tetcho formation encountered by the horizontal well c-A46-K. Oil production has been subject to a daily oil allowable (DOA) with GOR adjustment factor, as a conservation and equity measure. Production performance has verified a restricted pool size, which in the isolated location limits development opportunities. Well c-A46-K is production restricted by the DOA, requiring a shut-in period to retire oil overproduction. Removal of the DOA is not expected to significantly impact oil ultimate recovery, however will provide economics for continued operation.

The following Orders are attached:

- 1) Order 18-07-001 designating Concurrent Production for the Helmet field - Tetcho 'F' pool as a Special Project under section 75 of the *Oil and Gas Activities Act*, and
- 2) Order 18-07-001-OTN approving Other Than Normal Spacing under section 65.1 of the *Petroleum and Natural Gas Act* for the subject field and pool.

However, a project daily gas limit (DGL) of 7.0 e³m³/d, calculated based on the average operating GOR from the previous six months and the base DOA value, will ensure reservoir energy is depleted in a manner which continues to benefit oil recovery. Produced gas will continue to be conserved. As the single project well has a primary product of oil, the Order areas are restricted the oil spacing areas in which the well is completed.

Should you have any questions, please contact Petra Kriescher-Trudgeon at (250) 419-4415 or the undersigned at (250) 419-4430.

Sincerely,



Ron Stefik, Eng.L.
Supervisor, Reservoir Engineering
Oil and Gas Commission

Attachments



IN THE MATTER of an application from Canadian Natural Resources Limited to the Commission dated June 15, 2018 for Concurrent Production approval.

ORDER 18-07-001

- 1 Under Section 75(1)(a) of the *Oil and Gas Activities Act*, the Helmet field – Tetcho 'F' pool is designated as a special project for recovery of petroleum and natural gas utilizing Concurrent Production within the following area;
NTS 94-P-1 Block K – Unit 35, 36, and 46.
- 2 Under section 75(2) of the *Oil and Gas Activities Act*, I specify the following:
 - a) The project daily oil allowable is waived.
 - b) The project daily gas limit is 7.0 e³m³.
 - c) All produced gas must be conserved.



Ron Stefik, Eng. L.
Supervisor, Reservoir Engineering
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 10th day of July 2018.



IN THE MATTER of an application from Canadian Natural Resources Limited to the Commission dated June 15, 2018 for Other Than Normal Spacing.

ORDER 18-07-001 - OTN

- 1 Under Section 65.1(2) of the *Petroleum and Natural Gas Act*, Other Than Normal Spacing is approved within the Helmet field - Tetcho 'F' oil pool within the following area;
NTS 94-P-1 Block K – Unit 35, 36, and 46.

- 2 Under section 65.1(3) of the *Petroleum and Natural Gas Act*, I specify the following:
 - a) the target area for an oil well completed within the project area is not nearer than 100 m to the sides of the Other Than Normal Spacing area,
 - b) an oil well completed outside the specified target area may be subject to an off-target production penalty,
 - c) oil wells drilled within the specified project area are not subject to spacing requirements.

A handwritten signature in black ink, appearing to read 'R. Stefik', written over a horizontal line.

Ron Stefik, Eng.L.
Supervisor, Reservoir Engineering
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 10th day of July, 2018.