

July 10, 2018

4700-8125-59240-07

Haseeb Hashmi  
Exploitation Engineer  
Canadian Natural Resources Limited  
2500, 855- 2<sup>nd</sup> 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 e<sup>3</sup>m<sup>3</sup>/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  $7.0 \text{ e}^3\text{m}^3$ .
  - c) All produced gas must be conserved.

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

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