

February 10, 2017

3445-6200-59070-04

Kelly Okuszko, P.Eng.  
Exploitation Engineer  
Canadian Natural Resources Ltd.  
2500, 855 – 2<sup>nd</sup> Street SW  
Calgary, AB T2P 4j8

Dear Mrs. Okuszko:

**RE: DAILY OIL ALLOWABLE AMENDMENT REQUEST  
EAGLE WEST – BELLOY “D” POOL  
CNRL ET AL HZ W EAGLE 05-15-085-19; WA #21635**

The Oil and Gas Commission (Commission) has reviewed your application dated January 31, 2017 requesting an increase in the unadjusted Daily Oil Allowable (UDOAA) to a 40 percent recovery factor for Eagle West – Belloy ‘D’ pool well CNRL et al HZ W Eagle 05-15-085-19; WA #21635.

CNRL drilled the subject well in June 2006 as the fourth well in the Eagle West – Belloy ‘D’ pool offsetting three oil producers currently operated by Progress Energy Canada Ltd. The 2016 cumulative oil production for the subject well is about 1533 m<sup>3</sup> of oil with an average GOR of 954 m<sup>3</sup>/m<sup>3</sup>. The overall pool cumulative oil production is about 120.6 e<sup>3</sup>m<sup>3</sup> resulting in a 27 percent recovery factor. The UDOAA for each well in the pool was amended in 2010 when a depth based allowable replaced the reserves based calculation. The change to a depth based minimum UDOAA value was adapted by the Commission in the Drilling and Production Regulation due to a request via CAPP. Draft Regulation amendment was provided to CAPP for member feedback. No objections were received.

To maximize the recovery of an oil pool, the energy of the pool which is the solution gas must be conserved. The DOA and a GOR adjustment factor are a means to maximize recovery of an oil pool without a secondary recovery scheme like a waterflood in place. There are two ways the Commission is able to increase the DOA without compromising the overall oil recovery of the pool; the implementation of a secondary recovery scheme, or if a horizontal well is drilled over multiple spacing units increasing the area factor. The Commission recognizes that well 05-15 is drilled on a structural high of the pool that in part causes the elevated GOR.

In conclusion, the Commission is unable to grant an increase in the UDOAA for the subject well for the reasons stated above.

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

Sincerely,



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