



March 30, 2007

4700-7700/8200-59070-20

Jeff Knibbs, RPT  
Exploitation Technologist  
Canadian Natural Resources Limited  
Suite 2500, 855 – 2 Street SW  
CALGARY AB T2P 4J8

Dear Mr. Knibbs:

**RE: APPLICATION FOR COMMINGLED PRODUCTION  
CNRL ET AL HZ HELMET a-24-A/94-P-7; WA# 11968**

The Commission has reviewed your application dated March 19, 2007 requesting permission to commingle production from the Helmet field - Banff and Jean Marie "A" gas pools encountered in the subject well.

The Jean Marie "A", a large pervasive reservoir in this region, was open-hole completed in the subject horizontal well in January 2001 but never produced. The Banff formation was completed and tested in the vertical portion of the well bore in January 2007, with the intention of dual segregated production. The Commission understands that mechanical difficulties have now prevented zonal isolation and that additional operations may risk the loss of current productivity.

The Banff and Jean Marie tested sweet gas deliverability rates of  $7.7 \times 10^3 \text{ m}^3/\text{d}$  and  $12.6 \times 10^3 \text{ m}^3/\text{d}$ , respectively, at current reservoir pressures of 3770 kPaa and 5200 kPaa. Commingled production is not expected to harm the ultimate reserves recovery from either reservoir and equity is not an issue. The OGC would prefer segregated production and future reservoir testing, especially from the uncharacterized Banff zone. However, as an exceptional operating circumstance, commingled production may occur, with the understanding that this does not establish precedent for similar completions in this area.

The application to commingle production is hereby approved, under the authority of Section 41 of the *Drilling and Production Regulation*, subject to the following conditions:

1. Production from the Banff (655.0 - 665.0 mKB) and Jean Marie (1471.0 – 1987.0 mKB) zones may be commingled.
2. Gas, condensate and water production should be allocated on the Ministry of Small Business and Revenue BC S-1 and BC S-2 forms on the basis of Banff 50% and Jean Marie 50%. The allocation factors may be amended to reflect results of any future tests.
3. This approval may be modified at a later date if deemed appropriate through a change in circumstances.

Should you have any questions, please contact the undersigned at (250) 952-0310.

Sincerely,

Ron Stefik, ASCT  
Sr Reservoir Engineering Technologist

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**RESOURCE CONSERVATION BRANCH**

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