

June 2, 2014

1950/6620-4060/4150-55140-07

Christine Olivier, P. Eng
Exploitation Engineer
Canadian Natural Resources Limited
Suite 2500, 2nd Street SW
Calgary, AB T2P 4J8

Dear Ms. Olivier:

**RE: TEMPORARY NATURAL GAS INJECTION APPROVAL
SECTION 75, OIL AND GAS ACTIVITIES ACT
CNRL BOULDER AND MURRAY FIELDS**

Oil and Gas Commission (Commission) staff have reviewed the application, dated May 12, 2014, requesting approval for temporary injection of sour natural gas into the 4 wells; CNRL Boulder a-0610K/093-O-08 (WA 6683), CNRL et al Boulder c-039-J/093-O-08 (WA 8577), CNRL et al Murray b-020-L/093-I-15 (WA 8770), and CNRL et al Murray d-097-E/093-I-15 (WA 10675).

The injected gas stream will originate from the Pine River Gas Plant gathering system. This plant is scheduled for a 23-day maintenance shut-down; line pack gas would normally be flared. It is estimated that 80 mmscf of gas will be conserved, over a 3 to 4 day injection period. In June 2010 a similar temporary re-injection approval was granted to ConocoPhillips for the Pine River plant turnaround. The depressurization carried out in 2010 took over 1 week utilizing a single injection well (a-61-K/93-O-08). For the 2014 turnaround, CNRL has identified 4 potential injection locations expecting to complete depressurization within 3 to 4 days.

The proposed temporary injection gas is expected to be approximately 17% H₂S. Pipelines and facilities are designed to accommodate this level of sour service. Although the licenses for these lines are below 17%, new Emergency Planning Zones have been calculated and CNRL is prepared to execute on this if required. OGC Facilities engineering is aware of this project.

Attached please find Order 14-13-001, granted under Section 75 of the Oil and Gas Activities Act. The injected gas volume, normally a loss to conservation, will be metered and is expected to be produced in due course as production volume from the subject well.

The Commission commends CNRL for this initiative to conserve natural gas and reduce flaring.

Should you have any questions, please contact Ron Stefik at (250) 419-4430 or Michelle Gaucher at 250-419-4482.

Sincerely,



Richard Slocumb, P. Eng.
Deputy Commissioner, Engineering
Oil and Gas Commission

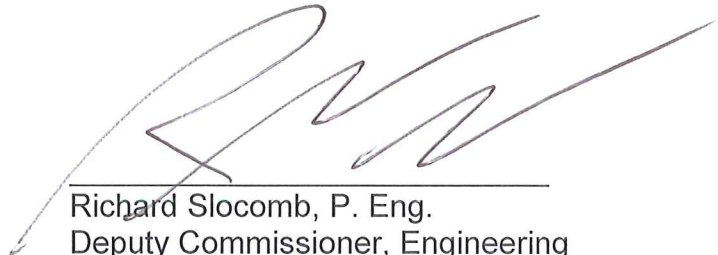
Attachment

cc: James Gladys, OGC Facilities
Kathy Brulotte, Ministry of Finance

IN THE MATTER of an application from Canadian Natural Resources Ltd. to the Commission dated May 12, 2014 for a temporary holding of natural gas project.

ORDER 14-07-001

- 1 Under Section 75(1)(a) of the *Oil and Gas Activities Act*, the Boulder Pardonet-Baldonnel "A" and "B" pools and Murray Baldonnel/Upper Charlie Lake "A" pools are designated as a special project for temporary holding of natural gas within the following area;
 - 93-O-8 Block K – Units 51, 61.
Block J – Units 38, 39, 48, 49, 60, 70
 - 93-I-14 Block I – Units 11, 21
 - 93-I-15 Block E – Units 96, 97
Block L – Units 6, 7, 20 and 30.
- 2 Under section 75(2) of the *Oil and Gas Activities Act*, I specify the following:
 - a) Natural gas may be injected and re-produced through the wells CNRL Boulder a-061-K/093-O-08 (WA 6683), CNRL et al Boulder c-039-J/093-O-08 (WA 8577), CNRL et al Murray b-020-L/093-I-15 (WA 8770), and CNRL et al Murray d-097-E/093-I-15 (WA 10675).
 - b) Metering of the injected gas is not required.
 - c) The gas injection period shall not exceed 7 days, within the month of June 2014.
 - d) The injection pressure at the surface must not exceed 18,800 kPa for wells a-061-K/093-O-08 (WA 6683), CNRL et al Boulder c-039-J/093-O-08 (WA 8577), and CNRL et al Murray d-097-E/093-I-15 (WA 10675).
 - e) The injection pressure at the surface must not exceed 3,700 kPa for CNRL et al Murray b-020-L/093-I-15 (WA 8770).
 - f) This project approval may be subject to review and modification, if deemed Appropriate.
 - g) This operation is subject to any other related approvals that may be issued by the Oil and Gas Commission or the Ministry of Finance.



Richard Slocomb, P. Eng.
Deputy Commissioner, Engineering
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 2nd day of June, 2014.