



February 17, 1997

7600-4800-59240-09  
970187

Mr. J.W. Harvey  
Joint Venture Manager  
Canadian Natural Resources Limited  
2000, 425 - 1st Street S.W.  
Calgary, AB T2P 3L8

CNRL Project (03)

Dear Mr. Harvey:

**RE: PRESSURE MAINTENANCE APPROVAL, AMENDMENT #1  
RIGEL HALFWAY "C" POOL**

This refers to your application dated January 24, 1997 wherein you requested an amendment to the waterflood pressure maintenance scheme in the southern portion of the Rigel Halfway "C" oil pool.

Attached is Approval # 95-09-002 (Amendment #1) for the application granted under section 116 of the *Petroleum and Natural Gas Act*.

A lease line agreement dated October 1, 1995, made between the two operators in the pool, Canadian Natural Resources Limited and Samedan Oil of Canada, Inc., ensures that the inequitable flow of reservoir fluid across the lease line does not occur. Based on this revised approval, this agreement will be amended to specify that maximum producing rates shall be dependent on voidage replacement, with provisions for over and underproduction.

Please note that the voidage calculations must be submitted in the Progress Reports, item 8 of the Approval.

Yours sincerely,

B. van Oort, P. Eng.  
Director  
Engineering and Operations Branch

PSA/RGS/cb

Attachment

**Copies of Approval Letter to Industry (6)**  
**RE: Waiver of Off-Target Penalty, Other than Normal Spacing and Target Areas**

- D.L. Johnson
- D. McKenzie
- R. Stefik
- Wellfile (original)
- 52400-02
- Daily

**APPROVAL 95-09-002 (AMENDMENT # 1)**

**THE PROVINCE OF BRITISH COLUMBIA  
PETROLEUM AND NATURAL GAS ACT  
MINISTRY OF EMPLOYMENT AND INVESTMENT  
ENERGY AND MINERALS DIVISION**

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IN THE MATTER of a pressure maintenance scheme of Canadian Natural Resources Limited (CNRL) for waterflood recovery of oil by water injection into the Rigel Halfway "C" Pool.

The Minister of Employment and Investment, pursuant to section 116 of the *Petroleum and Natural Gas Act*, hereby orders as follows:

1. The pressure maintenance scheme of CNRL for waterflood recovery of oil from a portion of the Rigel Halfway "C" Pool as such scheme is described in the Application from CNRL to the Ministry dated May 9, 1995, and supplement dated January 24, 1997, is hereby approved, subject to the terms herein contained.
2. The pressure maintenance scheme area shall be delineated by NE/4 sec 20, W/2 sec 21, and sec 28-88-16 W6M.
3. The project oil production for a month shall be based on the previous month's voidage replacement.
4. Water may be injected into the Rigel Halfway "C" Pool through the wells 9-20- and 11-28-88-16 W6M.
5. The injection pressure at the sandface must not exceed the formation fracture pressure.
6. All associated gas production will be conserved.
7. An oil well may be drilled anywhere within the project area provided that it is not completed nearer than 100 m to the sides of the project area.
8. Progress reports shall be filed as stipulated in Part 9, section 108 of the British Columbia *Drilling and Production Regulation*.
9. The operations of the pressure maintenance scheme will be subject to periodic review and modification to the approval may be ordered, if deemed appropriate.



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Bou van Oort  
Director  
Engineering and Operations Branch

DATED AT the City of Victoria, in the Province of British Columbia, this 17<sup>th</sup> day of February, 1997.