



Province of  
British Columbia

6th Floor, 1810 Blanshard Street, Victoria, British Columbia V

Ministr  
Energy  
Petrol

Copies for Approval Letters to Industry (10)  
D.L. Johnson  
Resource Revenue  
P.S. Attariwala  
R.G. Stefik  
G. Farr  
D. Richardson  
S. Chicorelli  
Daily  
Well File  
59070-04

Buildings

mbia

12-0302 FAX: (604) 952-0291

November 14, 1995

950897A

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

CNRL - 03

Dear Mr. Harvey:

PM Water FL

PEID 230

RE: APPLICATION FOR PRESSURE MAINTENANCE APPROVAL  
RIGEL HALFWAY "C" POOL

This refers to your application dated May 9, 1995 and subsequent letters wherein you requested approval of a waterflood pressure maintenance scheme in the southern portion of the Rigel Halfway "C" oil pool.

Attached is Approval # 95-09-002 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., will ensure that the inequitable flow of reservoir fluid across the lease line does not occur. This agreement specifies that the maximum producing rates for each of the wells shall be based on voidage replacement.

Please note that the voidage calculations must be submitted in the Progress Reports, item 9 of the Approval.

Yours sincerely,

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

PSA/mef

Attachment

effective when  
Water Commences  
and EMPR  
notified in  
writing  
11/15/95

APPROVAL 95-09-002

THE PROVINCE OF BRITISH COLUMBIA  
PETROLEUM AND NATURAL GAS ACT  
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES  
ENERGY RESOURCES DIVISION

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 Energy, Mines and Petroleum Resources, 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, 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 reserves based project oil allowable is 106.6 m<sup>3</sup>/d.
4. Water may be injected into the Rigel Halfway "C" Pool through the wells 9-20-and 11-28-88-16 W6M.
- \* 5. The scheme shall be deemed to have commenced upon water being injected into any well referred to in clause 4, with the Ministry being notified in writing of the date of commencement.
6. The well head injection pressure must not exceed the formation fracture pressure.
7. All associated gas production will be conserved.
8. An oil well may be drilled anywhere within the project area provided that it is not nearer than 100 m to the sides of the project area.
9. Progress reports shall be filed as stipulated in Part 9, section 108 of the British Columbia *Drilling and Production Regulation*.
10. The operations of the pressure maintenance scheme will be subject to periodic review and modification to the approval may be ordered, if deemed appropriate, by the Director of the Engineering and Operations Branch.



Peter Ostergaard on behalf of the  
Minister of Energy, Mines and Petroleum Resources

DATED AT the City of Victoria, in the Province of British Columbia, this 10<sup>th</sup> day of November, 1995.