



BRITISH COLUMBIA

November 22, 1996

File: 7600-4520-59240-09
961075

Mr. Geoff Beatson, P. Eng.
Encal Energy Ltd.
1800, 421 - 7th Ave SW
Calgary, AB T2P 4K9

Encal Project (02)

Dear Mr. Beatson:

**Re: Application For Waterflood Pressure Maintenance Approval
Rigel Cecil "B" Pool**

This refers to your application dated September 30, 1996 wherein you requested approval of a waterflood pressure maintenance scheme in the subject oil pool.

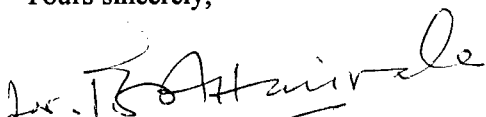
Attached is Approval # 96-09-006 for the application, granted under section 116 of the *Petroleum and Natural Gas Act*.

Your application requested an increased base GOR of 250 m³/m³ for the calculation of production allowables, as would be applied to the "C" value in Schedule 2 of the *Drilling and Production Regulation*. The proposal to initially exceed voidage replacement with water injection should eventually decrease the producing GOR. In order to reach that point as soon as possible and increase the ultimate oil recovery your request is hereby denied.

The request to carry-forward underproduction from the production year ending October 31, 1996 is approved. The production target volume of 1309.0 m³ may be transferred to the November 1, 1996 to October 31, 1997 production year, which represents the ministry's estimate of lost capable production due to operational problems.

Royalty-free oil production for the discovery well 6-22-88-18W6M (WA# 8265) is limited to 11,419.4 m³ or the volume produced in the first 36 producing months, whichever is lesser. This royalty exempt volume cap replaces that approved in the ministry letter of July 21, 1995.

Yours sincerely,


B. van Oort, P. Eng.

Director
Engineering and Operations Branch

PSA/

Attachment

- 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

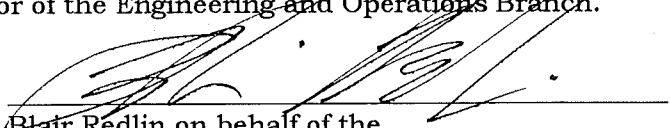
APPROVAL 96-09-006

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

IN THE MATTER of a pressure maintenance scheme of Encal Energy Ltd. (Encal) for waterflood recovery of oil by water injection into the Rigel Cecil "B" 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 Encal for waterflood recovery of oil from the Rigel Cecil "B" pool as such scheme is described in the Application from Encal to the Ministry dated September 30, 1996 is hereby approved, subject to the terms herein contained.
2. The area of the pressure maintenance scheme shall consist of E/2 sec 9, W/2 sec 10, W/2 sec 15, E/2 sec 16, sec 22, sec 27, and sec 34-88-18W6 and fractional Units 12 and 13, and Units 22 and 23 of Block K/94-A-10.
3. The project oil allowable is 100.0 m³/d.
4. Water may be injected into the wells 13-15-88-18 and 10-27-88-18.
5. The scheme shall be deemed to have commenced upon water being injected into the wells referred to in clause 4, with the Division being notified in writing of the date of commencement.
6. The injection pressure at the sandface must not exceed the formation fracture pressure.
7. Equipment must be installed at the well head of water injection wells to ensure that fracturing of the formation does not occur.
8. All associated gas production must be conserved.
9. 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.
10. Progress reports shall be filed as stipulated in Part 9, section 108 of the British Columbia Drilling and Production Regulation.
11. 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.


Blair Redlin on behalf of the
Minister of Employment and Investment

DATED AT the City of Victoria, in the Province of British Columbia, this 22 day of November, 1996.