



May 5, 2000

Ref.: OGC-000143

File: 7600-4520-59240-09

Bev Prefontaine
Consultanting Reservoir Technician
Encal Energy Ltd.
Box 2310, Station M
Calgary, AB T2P 2M6

Encal Project (02)

Dear Ms. Prefontaine:

**RE: WATERFLOOD PRESSURE MAINTENANCE APPROVAL (AMENDMENT #3)
RIGEL CECIL "B" POOL**

The Commission has reviewed your application, dated April 20, 2000, wherein you requested an amendment to the waterflood pressure maintenance scheme approval for the subject oil pool.

Attached is Approval # 96-09-006 (Amendment #3) for the application, granted under Section 100 of the Petroleum and Natural Gas Act.

The addition of a water injection well at 4-9-88-18 W6M (WA# 12784) should improve pool oil recovery. The project area remains unchanged from the previous approval.

Sincerely,

Craig Gibson, P. Eng.
Manager
Reservoir Engineering and Geology

Attachment

Approval Letters to Industry
GEP, SWD, CONCURRENT PROD,
PRESSURE MAINTENANCE,
WATERFLOOD, ETC.

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- | | |
|--------------------------|----------------------|
| <input type="checkbox"/> | Wellfile (originals) |
| <input type="checkbox"/> | 59240 |
| <input type="checkbox"/> | Daily |
| <input type="checkbox"/> | Resource Revenue |
| <input type="checkbox"/> | S. Chicorelli |
| <input type="checkbox"/> | R. Stefik |
| <input type="checkbox"/> | G. Farr |
| <input type="checkbox"/> | P. Attariwala |
| <input type="checkbox"/> | C. Gibson |
| <input type="checkbox"/> | D. Krezanoski |

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APPROVAL 96-09-006 (Amendment #3)


**THE PROVINCE OF BRITISH COLUMBIA
PETROLEUM AND NATURAL GAS ACT
OIL AND GAS COMMISSION**

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 approval granted pursuant to Section 100 (previously 116) of the Petroleum and Natural Gas Act, R.S.B.C. 1996, c.361 is hereby amended as follows:

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 dated September 30, 1996 and modified March 10, 1998, October 25, 1999 and April 20, 2000 is hereby amended, subject to the terms herein contained:

1. The area of the pressure maintenance scheme shall consist of NW/4 sec 4, sec 9, W/2 sec 10, W/2 sec 15, E/2 and SW/4 sec 16, SE/4 sec 21, 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.
2. The project oil allowable for a month shall be based on the previous month's voidage replacement.
3. Water may be injected into the wells 13-4, 4-9, 13-15 and 10-27-88-18 W6M.
4. The injection pressure at the sandface must not exceed the formation fracture pressure.
5. Equipment must be installed at the well head of water injection wells to ensure that fracturing of the formation does not occur.
6. All associated gas production must 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.



Craig Gibson
Manager
Reservoir Engineering and Geology

DATED AT the City of Victoria, in the Province of British Columbia, this 5th day of May, 2000.