



May 5, 2000

Ref: OGC-000144  
File: 7600-4520-59240-09

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

*Encal Project (03)*

Dear Ms. Prefontaine:

**RE: WATERFLOOD PRESSURE MAINTENANCE APPROVAL (AMENDMENT #2)  
RIGEL CECIL 'H' POOL**

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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 # 98-09-006 (Amendment #2) for the application, granted under section 100 of the Petroleum and Natural Gas Act.

The addition of a water injection well at 3-11-88-18, bottom hole 1-11, (WA# 12654) 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.**

*Copy 10*

- |                          |                      |
|--------------------------|----------------------|
| <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 98-09-006 (Amendment #2)**

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

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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 "H" Pool.

The approval granted by the Commission, pursuant to Section 100 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 "H" pool as such scheme is described in the application from Encal dated September 8, 1998 and modified March 18, 1999 and April 20, 2000 is hereby approved, subject to the terms herein contained:

1. The project area of the pressure maintenance scheme consists of sec 11, NW/4 sec 12, W/2 sec 13, sec 14, sec 23, sec 24, sec 25 and sec 26 Twp 88 Rge 18 W6M.
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 Rigel Cecil "H" Pool through the wells 3-11 (bottomhole 1-11), 4-11, B16-14 and 10-23-88-18 W6M.
4. The injection pressure measured 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 will be conserved.
7. 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.
8. Progress reports shall be filed as stipulated in Section 8 of the *Petroleum and Natural Gas General 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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Craig Gibson  
Manager  
Reservoir Engineering and Geology

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