



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

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7600-4520-59240-09  
 OGC-000180

June 21, 2000

Rene McKale  
 Reservoir Engineer  
 Encal Energy Ltd.  
 Box 2310, Station M  
 CALGARY, AB T2P 2M6

Dear Mr. McKale:

**RE: WATERFLOOD PRESSURE MAINTENANCE APPROVAL (AMENDMENT #3)  
 RIGEL CECIL 'I' POOL**

The Commission has reviewed your application, dated June 19, 2000, wherein you requested an amendment to the waterflood pressure maintenance scheme approval for the subject oil pool.

Attached is Approval #99-09-001 (Amendment #3) for the application, granted under section 100 of the Petroleum and Natural Gas Act. The conversion of the well 12-16-88-18 (BH 5-16) W6M, WA# 11428, to a water injector should improve pool oil recovery and address concerns raised by the Commission in our letter dated May 5, 2000. The area of the project remains unchanged from the previous approval.

Sincerely,

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

Attachment

**APPROVAL 99-09-001 (Amendment #3)**

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

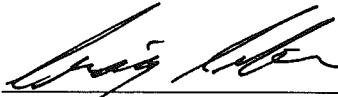
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IN THE MATTER of a pressure maintenance scheme of Encal Energy Ltd. (Encal) for waterflood recovery of oil by water injection into the Rigel Cecil "T" Pool.

The approval granted 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 "T" pool as such scheme is described in the application from Encal dated January 22, 1999 and modified September 10, 1999, April 20, May 5 and June 19, 2000 is hereby amended, subject to the terms herein contained:

1. The area of the pressure maintenance scheme shall consist of NE/4 sec 6, E/2 sec 7, W/2 & NE/4 sec 8, W/2 sec 16, E/2 & SW/4 sec 17, W/2 & NE/4 sec 21, sec 27, E/2 & SW/4 sec 28, E/2 frac sec 33, fract sec 34 of Twp 88 Rge 18 W6M, frac unit 12, frac unit 13, unit 22 and unit 23 of Block K/94-A-10 .
2. The project daily oil allowable is 253.3 m<sup>3</sup>.
3. Water may be injected into the Rigel Cecil "T" pool through the wells 15-6, 2-7, 12-16 (BH 5-16), 13-27 and A2-28-88-18 W6M.
4. The injection pressure measured at the sandface must not exceed the formation fracture pressure.
5. All associated gas production will be conserved.
6. 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.
7. Royalty exempt oil production entitlement for the discovery well Encal Rigel 4-21-88-18 W6M (WA 10648) is limited to a volume of 11, 450 m<sup>3</sup> or the volume produced in the first 36 producing months, whichever is lesser.
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 21<sup>st</sup> day of June, 2000.