

February 14, 2001

7600-4520-59240-09 OGC-01037

Mr. Peter Checknita, P. Eng. Senior Reservoir Engineering Consultant Encal Energy Ltd. Box 2310, Station M CALGARY, AB T2P 2M6

Encal/Newport Project (02)

Dear Mr. Checknita:

## RE: WATERFLOOD PRESSURE MAINTENANCE APPROVAL (AMENDMENT # 5) RIGEL CECIL 'I' POOL

The Commission has reviewed your proposal, dated February 13, 2001 wherein you request an amendment to the waterflood pressure maintenance scheme approval for the subject oil pool.

We would like to thank Encal staff for presenting performance updates for various Encal operated waterfloods in the province.

The Rigel Cecil "I" pool performance indicates excellent waterflood response with stabilized GOR's at around 110 m<sup>3</sup>/m<sup>3</sup>. There are no equity concerns as the project area is proposed for Unitization with Encal as the operator.

Attached is Approval #99-09-001 (Amendment # 5) for the application, granted under section 100 of the Petroleum and Natural Gas Act. The project oil production allowable has been increased to 450 m<sup>3</sup>/d, in recognition of ongoing performance improvements from several high gas-oil ratio wells. The effective date of the increased project oil allowable is February 1, 2001.

We would be prepared to consider a voidage based project oil allowable at a later date.

Sincerely,

Craig Gibson, P. Eng.

Manager

Reservoir Engineering and Geology

Attachment

ENGINEERING AND GI

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

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## **APPROVAL 99-09-001 (AMENDMENT #5)**

## 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 "I" Pool.

The approval granted pursuant to Section 100 of the <u>Petroleum and Natural Gas Act</u>, 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 "I" pool as such scheme is described in the application from Encal dated January 22, 1999 and modified September 10, 1999, April 20, May 5, June 19, September 22, 2000 and February 13, 2001 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, frac 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 450.0 m<sup>3</sup>.
- 3. Water may be injected into the Rigel Cecil "I" 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 m³ 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.

Craig Gibson

Manager

Reservoir Engineering and Geology

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DATED AT the City of Victoria, in the Province of British Columbia, this / day of February, 2001.