



OIL & GAS COMMISSION

March 26, 1999

OGC 990236
7600-4520-59240-09

Ms. Bev Prefontaine
Consulting Reservoir Technician
Encal Energy Ltd.
1800, 421 - Seventh Ave S.W.
CALGARY, AB T2P 4K9

Encal Project (03)

Dear Ms. Prefontaine:

**RE: PRESSURE MAINTENANCE APPROVAL AMENDMENT #1
RIGEL CECIL 'H' POOL**

The Commission has reviewed your application dated March 18, 1999 wherein you requested an amendment to the Approval dated October 13, 1998 for a waterflood pressure maintenance scheme in the subject oil pool.

Attached is Approval #98-09-006 (Amendment #1) for the application, granted under section 100 of the Petroleum and Natural Gas Act. This amendment modifies the production allowable, expands the scheme area and adds an additional water injection location.

Please note that the voidage calculations must continue to be submitted in the Progress Report.

Yours sincerely,

B. van Oort, P. Eng.
Director
Engineering and Operations Branch

Attachment

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

Copy

<input type="checkbox"/>	Wellfile (originals)
<input type="checkbox"/>	59240
<input type="checkbox"/>	Daily
<input type="checkbox"/>	Resource Revenue
<input checked="" type="checkbox"/>	R. Stefik
<input type="checkbox"/>	G. Farr

Email

<input type="checkbox"/>	D. Krezanowski
<input type="checkbox"/>	S. Chicorelli

APPROVAL 98-09-006 (AMENDMENT #1)

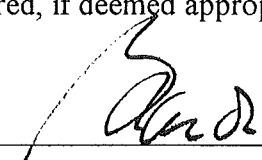
**THE PROVINCE OF BRITISH COLUMBIA
PETROLEUM AND NATURAL GAS ACT
OIL AND GAS COMMISSION**

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 "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 described in the application from Encal to the Oil and Gas Commission dated September 8, 1998 and March 18, 1999 is hereby approved, subject to the following terms:

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 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. Royalty exempt oil production entitlement for the discovery well Encal Rigel 15-11-88-18 W6M (WA 10636) is limited to a volume of 11,450 m³ or the volume produced in the first 36 producing months, whichever is lesser.
10. The operations of the pressure maintenance scheme will be subject to periodic review and modification to the approval may be ordered, if deemed appropriate.



Bou van Oort, P. Eng., Director
Engineering and Geology Branch
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 25th day of March, 1999.