



March 14, 2001

7900-4580-59240-09
OGC - 01074

Heather Christie Burns, P. Eng.
Senior Reservoir Engineer
Encal Energy Ltd.
1800, 421 Seventh Ave. S.W.
Calgary, AB T2P 4K9

Encal Project (03)

Dear Ms. Burns:

**RE: PRESSURE MAINTENANCE APPROVAL
SQUIRREL NORTH PINE "C" POOL**

This refers to the waterflood and gas injection pressure maintenance scheme approval for the subject oil pool, as requested in your application dated February 6, 2001.

Attached is Approval # 01-09-001 for the application, granted under Section 100 of the Petroleum and Natural Gas Act. No objections were received following the publication of a notice of the application in the B.C. Gazette.

The produced gas injection is considered to be an interim measure and may be terminated once adequate supply of fresh water is available for full voidage replacement. Please note that gas-oil ratio penalties will be based on net gas produced from the project, re-injected gas noted as "Gas Credit" on the monthly Production Allowable Report.

Approval # 00-13-001 for produced gas re-injection⁽⁰²⁾ is rescinded upon the effective date of the subject waterflood approval.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 9

- Wellfile (originals)
- 59240
- Daily
- Resource Revenue
- S. Chicorelli
- R. Stefik
- G. Farr
- P. Attariwala
- D. Krezanoski

ENGINEERING AND GEOLOGY BRANCH

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Headquarters: #200, 10003 110th Ave, Fort St. John BC V1J 6M7 Tel: (250) 261-5729 Fax: (250) 261-5744 www.ogc.gov.bc.ca

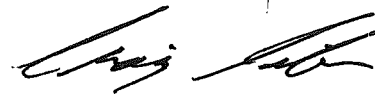
THE PROVINCE OF BRITISH COLUMBIA
PETROLEUM AND NATURAL GAS ACT
OIL AND GAS COMMISSION

IN THE MATTER of a pressure maintenance scheme of Encal Energy Ltd. (Encal) for recovery of oil by water and gas injection in the Squirrel North Pine "C" Pool

NOW THEREFORE, the Commission, pursuant to Section 100 of the Petroleum and Natural Gas Act, R.S.B.C. 1996, c.361 orders as follows:

The pressure maintenance scheme of Encal for recovery of oil by waterflooding and produced gas re-injection in the Squirrel North Pine "C" Pool as described in the application from Encal to the Commission dated February 6, 2001 is approved, subject to the following terms:

1. The project area of the pressure maintenance scheme consists of sec 31-87-19 W6M, S/2 sec 25, NE/4 sec 35 and sec 36-87-20 W6M, SW/4 sec 1 and SE/4 sec 2-88-20 W6M.
2. The reserves based project daily oil allowable is 153.8 m³.
3. Water may be injected into the Squirrel North Pine "C" pool through the well 7-36-87-20 W6M.
4. Produced gas may be re-injected into the Squirrel North Pine "C" pool through the well 7-31-87-19 W6M.
5. The scheme is deemed to have commenced upon water being injected into the well referred to in clause 3.
6. The Commission must be notified in writing of the date of commencement.
7. All gas injection will be deducted from produced gas in calculating gas-oil ratios for the project oil allowable.
8. The injection pressure measured at the sandface must not exceed the formation fracture pressure.
9. An oil well may be completed anywhere within the project area provided that it is not nearer than 100 m to the sides of the project area.
10. Progress reports shall be filed as stipulated in Section 8 of the *Petroleum and Natural Gas General Regulation*.
11. 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 11th day of March, 2001.

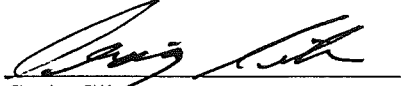
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1. The project area of the pressure maintenance scheme consists of sec 31-87-19 W6M, N/2 sec 25, NE/4 sec 35 and sec 36-87-20 W6M, SW/4 sec 1 and SE/4 sec 2-88-20 W6M.
2. The reserves based project daily oil allowable is 153.8 m³.
3. Water may be injected into the Squirrel North Pine "C" pool through the well 7-36-87-20 W6M.
4. Produced gas may be re-injected into the Squirrel North Pine "C" pool through the well 7-31-87-19 W6M.
5. The scheme is deemed to have commenced upon water being injected into the well referred to in clause 3. (March 18, 2001)
6. The Commission must be notified in writing of the date of commencement.
7. All gas injection will be deducted from produced gas in calculating gas-oil ratios for the project oil allowable.
8. The injection pressure measured at the sandface must not exceed the formation fracture pressure.
9. An oil well may be completed anywhere within the project area provided that it is not nearer than 100 m to the sides of the project area.
10. Progress reports shall be filed as stipulated in Section 8 of the *Petroleum and Natural Gas General Regulation*.
11. 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 17th day of March, 2001.