



July 28, 1998

File: 6460-4520-59240-09

Reference: 980616

Mr. Fredrick P. LeGrand
Sr. Staff Reservoir Engineer
Apache Canada Ltd.
Suite 1000, 700 - 9th Avenue S.W.
Calgary, AB T2P 3V4

Apache Project (03)

Dear Mr. LeGrand:

**RE: WATERFLOOD PRESSURE MAINTENANCE APPROVAL
(Amendment #1) OAK CECIL "I" Pool**

This refers to your application dated July 14, 1998, wherein you requested a modification to the Approval, dated September 25, 1997, for a waterflood pressure maintenance scheme in the subject oil pool.

Attached is Approval # 97-09-004 (Amendment #1) for the application, granted under section 100 of the Petroleum and Natural Gas Act. This amendment expands the scheme area and adds an additional water injection location.

Please note that Progress Reports shall be filed as stipulated in Part 9, section 108 of the Drilling and Production Regulation, B.C. Reg. 336/91.

The waterflood pressure maintenance approval becomes effective the date water injection commences, at which time the GEP Approval 95-06-002 granted for the pool is rescinded.

Yours truly,

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

PSA/mef

Attachment

Copies for Approval Letter to Industry (11)
RE: GEP, Salt Water Disposals, etc.

- G. Miltenberger
- Data Management
- R. Stefik
- D. Richardson
- P. Attariwala
- G. Farr
- S. Chicorelli
- Resource Revenue
- 59240
- Wellfiles (originals)
- Daily

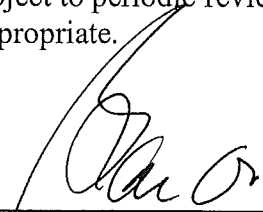
APPROVAL 97-09-004 (AMENDMENT #1)
THE PROVINCE OF BRITISH COLUMBIA
PETROLEUM AND NATURAL GAS ACT
MINISTRY OF ENERGY AND MINES
ENERGY AND MINERALS DIVISION

IN THE MATTER of a pressure maintenance scheme of Apache Canada Ltd. (Apache) for waterflood recovery of oil by water injection into the Oak 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 Apache for waterflood recovery of oil from the Oak Cecil "T" pool as such scheme is described in the Applications from Apache to the Ministry dated August 13, 1997 and July 14, 1998 is hereby approved, subject to the terms herein contained.

1. The project area of the pressure maintenance scheme consists of NE/4 sec 17, SW/4 sec 20, E/2 sec 20, W/2 sec 21, sec 28, E/2 sec 29 and sec 33-86-17 W6M.
2. The project oil production allowable is 100 m³/d.
3. Water may be injected into wells A9-17, 7-20 and 4-33-86-17 W6M.
4. The scheme is deemed to have commenced upon water being injected into any of the wells referred to in clause 3.
5. The Division must be notified in writing of the date of commencement. (98/08/27) ✓
6. The injection pressure at the sandface must not exceed the formation fracture pressure.
7. Equipment must be installed at the well head of water injection wells to ensure that fracturing of the formation does not occur.
8. All associated gas production must be conserved.
9. An oil well may be drilled anywhere within the project area provided that it is not completed within 100 m of the boundary of the project area.
10. The operations of the pressure maintenance scheme are subject to periodic review, and modification to the approval may be ordered, if deemed appropriate.



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

DATED AT the City of Victoria, in the Province of British Columbia, this *July 20* day of July, 1998.