

November 22, 1996

File: 8130-4520-59240-09

IMPERIAL PROJECT (02)

Mr. D.E. Courtanage, P. Eng. Reservoir Engineering Specialist Imperial Oil Resources Limited 237 Fourth Avenue S.W. Calgary, AB T2P 0H6

Dear Mr. Courtanage:

Re: Application For Waterflood Pressure Maintenance Approval

Sunset Prairie Cecil "A", "C" and "D" Pools

This refers to your application dated September 23, 1996 wherein you requested approval of a waterflood pressure maintenance scheme in the subject oil pools.

Attached is Approval # 96-09-005 for the application, granted under section 116 of the *Petroleum* and *Natural Gas Act*.

Royalty-free oil production from the discovery wells is limited to the following volumes *or* the volume produced in the first 36 producing months, whichever is lesser (this royalty exempt volume cap replaces any previous approved volumes from the ministry);

14-08-80-18W6M (WA# 7640) 9,504.7 m³ 15-30-79-18W6M (WA# 8767) 8,897.0 m³ 11-28-80-18W6M (WA# 9410) 9,668.8 m³

Yours sincerely,

B. van Oort, P. Eng.

Director

Engineering and Operations Branch

PSA/

Copies for Approval Letters to Industry (10)

D.L. Johnson Resource Revenue P.S. Attariwala

R.G. Stefik G. Farr

D. Richardson

S. Chicorelli Daily Well File 59070-04

Attachment

Ministry of Employment and Investment Mailing Address: 1810 Blanshard Street Victoria BC V8V 1X4

Location: 1810 Blanshard Street, Victoria, B.C.

APPROVAL 96-09-005

THE PROVINCE OF BRITISH COLUMBIA PETROLEUM AND NATURAL GAS ACT MINISTRY OF EMPLOYMENT AND INVESTMENT ENERGY AND MINERALS DIVISION

IN THE MATTER of a pressure maintenance scheme of Imperial Oil Resources Limited (Imperial) for waterflood recovery of oil by water injection into the Sunset Prairie Cecil "A", "C" and "D" pools.

The Minister of Employment and Investment, pursuant to section 116 of the *Petroleum* and *Natural Gas Act*, hereby orders as follows:

- 1. The pressure maintenance scheme of Imperial for waterflood recovery of oil from the Sunset Prairie Cecil "A", "C" and "D" pools as such scheme is described in the Application from Imperial to the Ministry dated September 23, 1996 is hereby approved, subject to the terms herein contained.
- 2. The pressure maintenance scheme area is delineated as follows:

NE/4 sec 19, W/2 sec 19, sec 30, sec 31 and W/2 sec 32-79-18 W6M,

E/2 sec 24 and E/2 sec 25-79-19 W6M,

sec 5, E/2 sec 6, SW/4 sec 6, NE/4 sec 7, sec 8, W/2 sec 16, sec 17, SE/4 sec 18, E/2 sec 20, sec 21, sec 28, SE/4 sec 29 and sec 33-80-18 W6M.

- 3. The project oil allowables for the three pools are as follows:
 - Cecil "A" pool: 170 m3/d.
 - Cecil "C" pool: 65 m3/d.
 - Cecil "D" pool: 70 m3/d.
- 4. Water may be injected into the following wells:
 - Cecil "A" pool: 14-5, 14-8, 9-17 and 14-21-80-18 W6M.
 - Cecil "C" pool: 4-30-79-18 W6M.
 - Cecil "D" pool: 7-33-80-18 W6M.
- 5. The scheme shall be deemed to have commenced upon water being injected into the wells referred to in clause 4, with the Division being notified in writing of the date of commencement. (97/05/23)
- 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 nearer than 100 m to the sides of the project area.
- 10. Progress reports shall be filed as stipulated in Part 9, section 108 of the British Columbia Drilling and Production 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, by the Director of the Engineering and Operations Branch.

Blair Redlin on behalf of the

Minister of Employment and Investment

DATED AT the City of Victoria, in the Province of British Columbia, this 22 day of November, 1996.