



December 14, 1993

Approval letters to Industry (9)

Mr. R.D. Friesen  
Senior Petroleum Engineer  
Murphy Oil Company Ltd.  
P.O. Box 2721  
Calgary, Alberta  
T2P 3Y3

cc: ✓ D.L. Johnson  
Resource Revenues  
✓ Data Management  
✓ S. Foofat  
✓ D. Richardson  
✓ S. Chicorelli  
✓ Wellfile  
✓ Daily  
FILE 59070-04

Dear Mr. Friesen:

*Murphy Project (03)*

RE: MODIFICATION TO THE CONCURRENT PRODUCTION APPROVAL  
BOUNDARY LAKE NORTH HALFWAY "D" POOL

*← now halfway I'*

This acknowledges receipt of your application dated October 26, 1993, requesting a modification to the concurrent production approval granted on November 7, 1986.

Since the scheme approval was granted, two additional oil wells have been drilled within the project area and another well authorization has been issued. In view of this we wish to advise that your application for a project modification under Good Engineering Practice (GEP) is hereby approved subject to the following conditions:

1. The area of the project consists of Section 31-87-14 W6M.
2. The project oil allowable, based on volumetric reserves in the area of the project, is 68.1 m<sup>3</sup>/d.
3. Gas production from the project will be limited to 12.1 e<sup>3</sup>m<sup>3</sup>/d.
4. All associated gas production will be conserved.
5. This approval may be modified or rescinded at a later date if deemed appropriate through a change in circumstances.

Yours sincerely,

B.E. Hanwell  
Director  
Engineering and Operations Branch

PSA/cb  
Attachment

cc: D.L. Johnson



Well Authorization No. ....  
U.W.I. ....

Province of British Columbia  
Ministry of Energy, Mines and Petroleum Resources

**APPLICATION FOR  
DAILY OIL ALLOWABLE (DOA)**

~~UNIT/PROJECT/LOCATION~~

Form to be submitted in duplicate to the Energy Resources Division, Ministry of Energy, Mines and Petroleum Resources, Victoria, B.C.

~~UNIT/PROJECT/LOCATION~~ Revision No. 1

Unit, project, or location name Murphy Boundary Lake North Halfway "D"

Field Boundary Lake North Pool Halfway "D"

Factors	Nominal Values	Owner's Calculations		Division Calculations
		Values Obtained from—	Values Used in This Calculation	
Average net pay thickness T	metres	logs	1.8	4.9*
Average net porosity f	10 per cent	logs/core	15	15.6
Average interst. water C	25 per cent	logs	20	28.3
Average shrinkage S	0.75		.82	0.824
Recovery factor R	20 per cent		25	20
Expected uniform rate life L	10 years	Decline curve	5	10
Total area A	ha		256	263.1
$F_{PS} = \left(\frac{f}{10}\right) \left(\frac{100-C}{75}\right) \left(\frac{S}{0.75}\right) =$			1.749	1.64
$F_{RL} = \left(\frac{R}{20}\right) \left(\frac{10}{L}\right) =$			2.500	1.0
$F_A = \left(\frac{A}{31.05}\right) =$			8.245	8.47
$UDOA = (T) (F_{PS}) (F_{RL}) (F_A) = m^3/d$			64.9	68.1

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

Signed by \_\_\_\_\_ Company Murphy Oil Company Ltd.

Position Senior Petroleum Engineer

(For Division use only)

\*Value From Planimetry

APPROVAL

Daily oil allowable 68.1 m<sup>3</sup>/d, before gas-oil ratio penalty.

Date effective October 26, 1993

Pool Halfway 'D'

Field Boundary Lake North

Dated December 14, 1993

P.S. Attariwala  
Officer of the Division