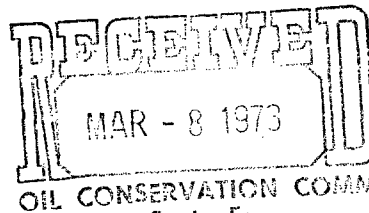


North American Producing Division
Permian District
Post Office Box 1610
Midland, Texas 79701
Telephone 915 682 8631



March 5, 1973

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Attn: Mr. A. L. Porter, Jr.
Secretary-Director

125-
DHC-~~176~~
New Mar 28

Re: Application of Atlantic Richfield Company for
Administrative Approval to Commingle in the
Wellbore, Cerca Upper Penn and Cerca Lower
Wolfcamp Oil Production in its
State 878 No. 1 Well
Section 4, T-14S, R-34E
Lea County, New Mexico

Gentlemen:

Atlantic Richfield Company respectfully requests administrative approval as provided by Rule 303-C to commingle in the wellbore production from the Cerca Lower Wolfcamp and Cerca Upper Penn Oil Pools in its Lea 878 State No. 1 well, located 1980' FS & W lines, Section 4, T-14S, R-34E, Lea County, New Mexico. The subject well is at present dually completed under Administrative Order No. MC-1840. The Upper Penn zone has been shut-in since 11-70, and the Lower Wolfcamp was shut-in 1-15-73 for equipment repair. In support of its request, Atlantic Richfield Company submits the following data:

1. Both zones to be commingled are oil zones. The Lower Wolfcamp is producing in 2 wells in the pool as of 1-1-73. Twelve Upper Penn wells are now producing. There are no top allowable wells remaining in either pool.
2. The perforations in the lowermost pool are 10,362-10,378' in the Upper Penn. Total daily average production from both zones to be commingled does not exceed 80 BOPD, the maximum permissible rate under Rule 303-C (1) paragraph (b).
3. Both zones require artificial lift.
4. Neither zone produces measurable amounts of water.
5. The oil from both zones is compatible. Comparable Penn and Wolfcamp zones produce together in East Saunders Pool, 4 miles to the south of the subject well.

6. Field determinations of oil gravity average 41-43° API for both zones. The oil price will be essentially the same for both zones. Commingling will result in the recovery of an estimated 10 BOPD from the Upper Penn zone and 30 BOPD from the Lower Wolfcamp. The Upper Penn is shut-in under present operation, and is uneconomical to pump efficiently with the zones separated by a packer. Continued operation without commingling will therefore result in the loss of 10 BOPD rate and reserves of about 10,000 BO.
7. Mineral rights in both zones are held by the State of New Mexico. Working interest in both zones is identical. There is no overriding royalty.
8. The most recent C-116 form, dated 12-27-72, is attached as Figure 1. The Lower Wolfcamp has been shut-in since 1-15-73 for equipment repair. The Upper Penn has been shut-in since 10-70, and must be abandoned as uneconomical unless commingling is approved.
9. Estimated bottom-hole pressure in the Lower Wolfcamp zone is 1200 psi. Estimated bottom-hole pressure in the Upper Penn zone is 540 psi. Hydraulic pumping equipment will be installed to keep both zones pumped down.
10. Production decline curves for the Lower Wolfcamp (Fig. 2) and Upper Penn (Fig. 3) zones are attached. Estimated future production is 19,300 BO from the Lower Wolfcamp nad 10,000 BO from the Upper Penn.
11. Downhole commingling will prevent waste and will not impair correlative rights.
12. Both zones of the subject well are now shut-in, and the completion assembly has been pulled. In order to acquire additional data, it would be necessary to repair and re-run the dual completion string, then to pull it and singly complete the well at such time as commingling is approved. Estimated cost of this procedure would be \$4000. Because of the erratic production history of the Penn zone, its probable producing rate and reserves do not justify such an expenditure.

New Mexico Oil Conservation Commission
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Page 3

13. All offset operators have been notified in writing of the proposed downhole commingling.

We therefore request administrative approval under Rule 303-C for down-hole commingling of oil from the Cerca Lower Wolfcamp and Cerca Upper Penn zones in the Atlantic Richfield Lea 878 State No. 1 well.

Very truly yours,

A handwritten signature in cursive script, reading "V. M. Hollrah".

V. M. Hollrah

SWB/agp

Attachments

cc: N.M.O.C.C., Santa Fe (2)
N.M.O.C.C., Hobbs
All Offset Operators

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Fig. 1

Operator Atlantic Richfield Company		Pool Cerca Lower Wolfcamp		County Lea										
Address P. O. Box 1978, Roswell, New Mexico 88201		TYPE OF TEST - (X)		Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU. FT./BBL.
		U	S	T						R	WATER BBL.S.	GRAV. OIL	OIL BBL.S.	
Lea 878 State	1	K	4	14	34	12-27-72	P	40	24	0	37.2	30	37	1,233
Chart on file in Roswell Office.														

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

D. L. Sheddell
(Signature)

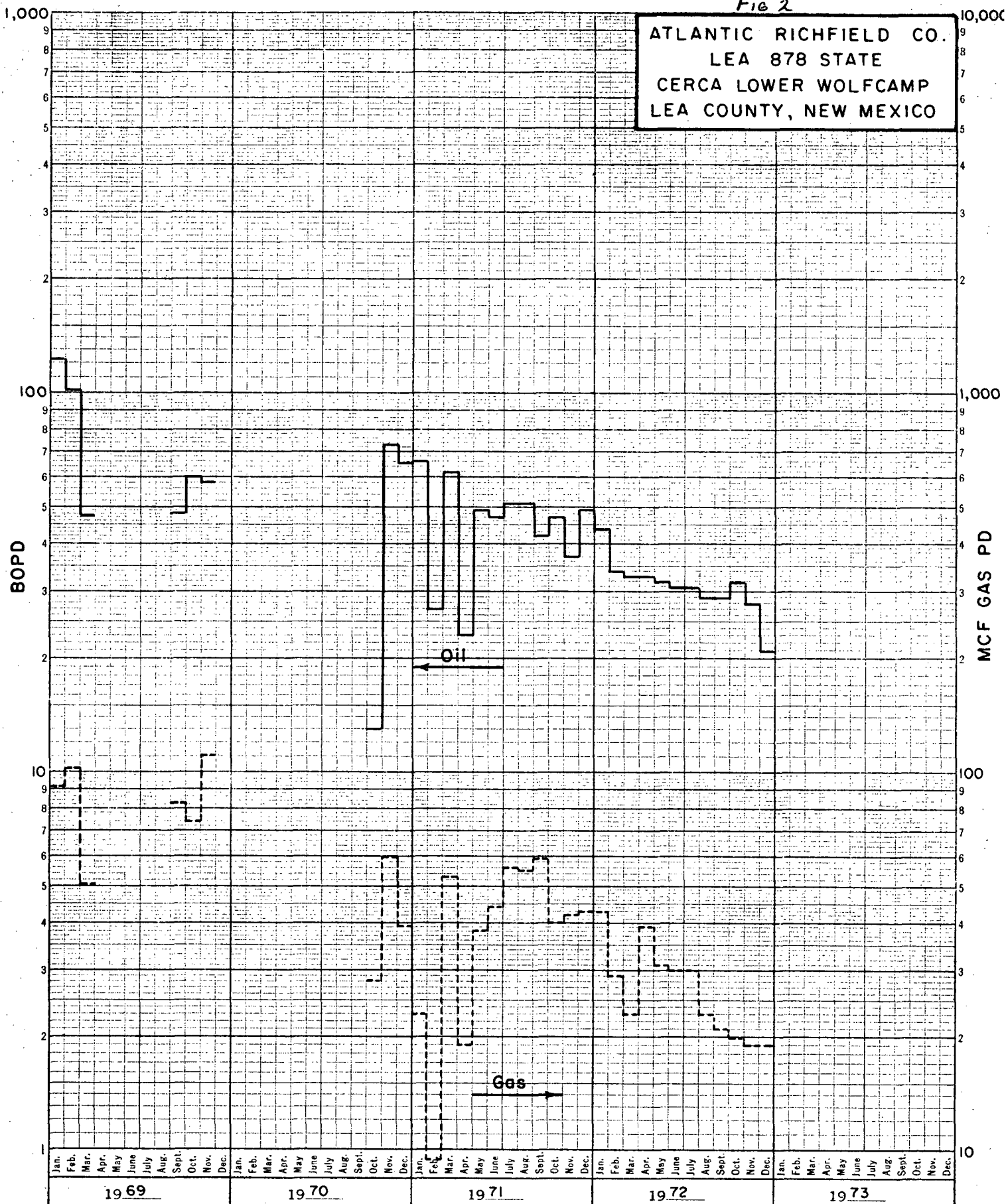
Administrative Supervisor

(Title)

February 15, 1973

(Date)

ATLANTIC RICHFIELD CO.
LEA 878 STATE
CERCA LOWER WOLFCAMP
LEA COUNTY, NEW MEXICO



ATLANTIC RICHFIELD CO.
LEA 878 STATE
CERCA UPPER PENN.
LEA COUNTY, NEW MEXICO

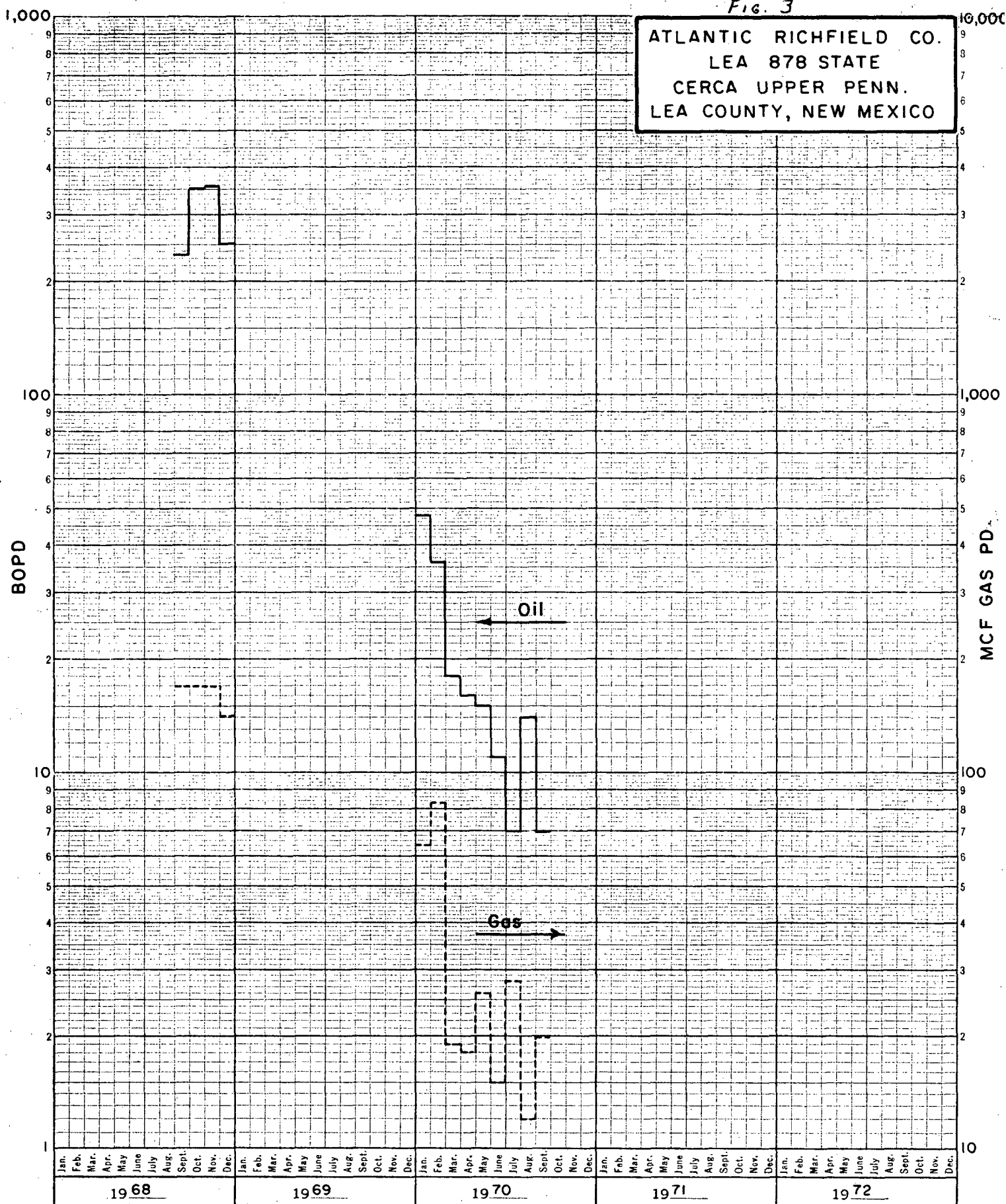


Figure 4

Value of Production
Atlantic Richfield Company
Lea 878 State No. 1 Well

Value of Crude:

Wolfcamp - 37.2° API* or Sp. Gr. .8388 3.50/bbl.
Penn - 44.0° API** or Sp. Gr. .8063 3.56/bbl.

* C-116 12-27-72

** Completion 9-14-68

Separate Production:

Wolfcamp - 30 BOPD @ 3.50/bbl. = \$105.00
Penn - SI - Uneconomical to produce.

Commingled Production:

Wolfcamp - $30 \times .8388 = 25.164$
Penn - $10 \times .8063 = \underline{8.063}$
33.227

$33.227/40 = .8307$ or 38.8° API \$3.52/bbl.
x 40 BOPD = \$140.80/day.