

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

13

OFFICE 0 10

IN THE MATTER OF THE APPLICATION )  
OF CONTINENTAL OIL COMPANY FOR )  
AN ADMINISTRATIVE ORDER APPROVING )  
COMMINGLING OF PRODUCTION IN )  
JICARILLA 28 WELL NO. 8 LOCATED )  
IN THE UNDESIGNATED GALLUP AND )  
UNDESIGNATED DAKOTA POOLS, RIO )  
ARRIBA COUNTY, NEW MEXICO )

CAUSE NO. \_\_\_\_\_  
ORDER NO. \_\_\_\_\_  
DOCKET NO. \_\_\_\_\_

0 AUG 19 PM 1 32

*DHC - 56*

*Due Sept 8*

A P P L I C A T I O N

COMES NOW CONTINENTAL OIL COMPANY, a Delaware corporation, (herein-  
after called "Applicant"), authorized to do business in the State of New Mexico,  
and makes application to the Secretary-Director of the State of New Mexico Oil  
Conservation Commission for approval to commingle in the well bore the Undesig-  
nated Gallup and the Undesignated Dakota zones in the dually completed Jicarilla  
28 Well No. 8 in accordance with Rule 303 C as set out in Case No. 4104, Order  
No. R-3845.

In support of this application, Applicant respectfully states and  
shows as follows:

1. Attached as Exhibit "A" is a map showing all drilling, producing  
and plugged and abandoned wells in the sixteen section Continental Oil Company  
West Lindrith Block which is outlined in red. The red arrow on Exhibit "A"  
points to Jicarilla 28 Lease, Well No. 8, located in the NW $\frac{1}{4}$  of Section 28,  
Township 25 North, Range 4 West, Rio Arriba County, New Mexico.

2. Applicant operates eleven (11) dually completed Gallup-Dakota  
wells in the West Lindrith Block and has location for over forty (40) addi-  
tional similar wells on 160 acre spacing. The present wells as now operated  
are commingled down hole in accordance with Rule 112 A, Section VI. The average  
projected ultimate recovery from the aforementioned eleven wells is 60,000 bar-  
rels of oil and 450 MCF gas using present producing methods. The eleven wells  
on an average will fail by \$6,000 per well to repay drilling, completing and

operating costs. This payout basis is before federal income taxes.

3. The present method of operating commingled zones in the aforementioned wells will lead to early abandonment of the wells due to uneconomic low rates of production.

4. Applicant's engineers have calculated that by removing the present check valve, gas lift valve and packer from the well bore, shown on Exhibit "B", attached, the operating pressure can be reduced and both daily production and ultimate oil recovery can be increased. The production from Jicarilla 28 Well No. 8 during June, 1970, totaled 729 barrels of oil and 3,504 MCF of gas. It is estimated that if this application is approved, production from the well will increase to 33 barrels of oil per day. Reserves will be increased by 15,000 barrels of oil. With such increases in production and reserves, the Jicarilla commingled wells would return a small profit to the owner prior to abandonment. If proposed improved stimulation procedures are successful and the present type of commingling application is approved for all of the aforementioned eleven wells, Continental Oil Company has plans to drill an additional ten wells on the West Lindrith Block after the economic projections are confirmed through actual production.

5. Removal of the packer, gas lift valve and check valve from the well bore and equipping Jicarilla 28 Well No. 8 as shown on Exhibit "C", will enable the operator to operate the well five additional producing days per year and reduce operating costs by an estimated \$500 per year. The present packer leakage tests with the contract wire line services required for such tests now require an average of five days down time and the aforementioned \$500 for contract services. Elimination of the packer leakage tests requirement by the Commission will increase the profitability of operations in the West Lindrith Area.

6. Continental Oil Company, whose address is 152 North Durbin Street, Casper, Wyoming 82601, is the operator of the well for which this application is made.

7. The Jicarilla 28 Lease covers a four section block of Jicarilla Apache Indian leases including Sections 27, 28, 33 and 34, Township 25 North,

Range 4 West, Rio Arriba County, New Mexico. Jicarilla 28 Well No. 8 is located 890 feet from the north line and 1,980 feet from the west line of Section 28, Township 25 North, Range 4 West, Rio Arriba County.

8. Jicarilla 28 Well No. 8 is completed in the Undesignated Gallup and Undesignated Dakota pools. Both zones are classified as oil producing zones. The well is now commingled in accordance with the New Mexico Oil Conservation Commission Order No. MC-1859.

9. Attached as Exhibits "D<sub>1</sub>" and "D<sub>2</sub>" are C-116 forms for 24 hour productivity tests dated March 5, 1970, for the Gallup and Dakota zones. The tests are the latest tests in Applicant's file for Jicarilla 28 Well No. 8.

10. Attached as Exhibits "E<sub>1</sub>", "E<sub>2</sub>" and "E<sub>3</sub>" are production decline curves for Jicarilla 28 Well No. 8. Exhibit "E<sub>1</sub>" is a curve for the Dakota zone; Exhibit "E<sub>2</sub>" is a curve for the Gallup zone; and Exhibit "E<sub>3</sub>" is a production decline curve for the total production from the well. The curves show both oil and gas production. The subject well does not produce water.

11. Jicarilla 28 Well No. 8 is now artificially lifted from both zones through use of an intermittent plunger lift. The estimated shut-in stabilized bottom hole pressure is 1,500 psi for the Gallup zone and 2,100 psi for the Dakota zone. The operating bottom hole pressure for a similar installation has been measured at Jicarilla 28 Well No. 6. There the operating pressure, at 7,188 feet KB, was found to vary from a low of 425 psi to a high of 850 psi during operation of the plunger lift and gas lift valves. Applicant states that due to the extremely low permeability values for both zones, no significant volume of oil or gas will migrate from the high pressure Dakota zone to the lower pressure Gallup zone during normal operations or when the well is shut-in for short periods during emergencies.

12. Oil produced from the Gallup zone has a gravity of 45.2 degrees API and oil from the Dakota zone has a gravity of 47.0 degrees API. The two crude oils are compatible in the well bore and they have been produced as a commingled stream in the past with no problems.

13. Continental Oil Company owns all of the working interest for the Gallup and Dakota zones under the Jicarilla 28 Lease. The Jicarilla Apache

Indian Tribe retained a 12½ percent royalty interest under the Jicarilla 28 Lease. There are no overriding royalty interest owners for the subject lease. The ownership of the royalty interest and the working interest for both the Gallup and Dakota production from the Jicarilla 28 Lease is common.

14. Attached as Exhibit "F" is a computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams. This computation is similar to computations submitted to the Commission for previous applications.

15. Applicant states that in its opinion down hole commingling of production from the Gallup and Dakota zones, as herein proposed, will not in any way jeopardize the efficiency of any future secondary recovery operation for either the Gallup or Dakota zones.

16. Applicant has notified all offset operators and the United States Geological Survey of this application in writing by mailing such parties copies of this application at the same time the application was mailed to the New Mexico Oil Conservation Commission.

17. Granting the application herein requested will be in the public interests, protect correlative rights and increase the ultimate recovery of valuable natural resources.

For the foregoing reasons, Applicant hereby requests approval of the down hole commingling of production in the well bore at Jicarilla 28 Well No. 8.

WHEREFORE, Applicant requests that this matter be considered by the Secretary-Director of the New Mexico Oil Conservation Commission and that this application be granted.

Respectfully submitted,

CONTINENTAL OIL COMPANY

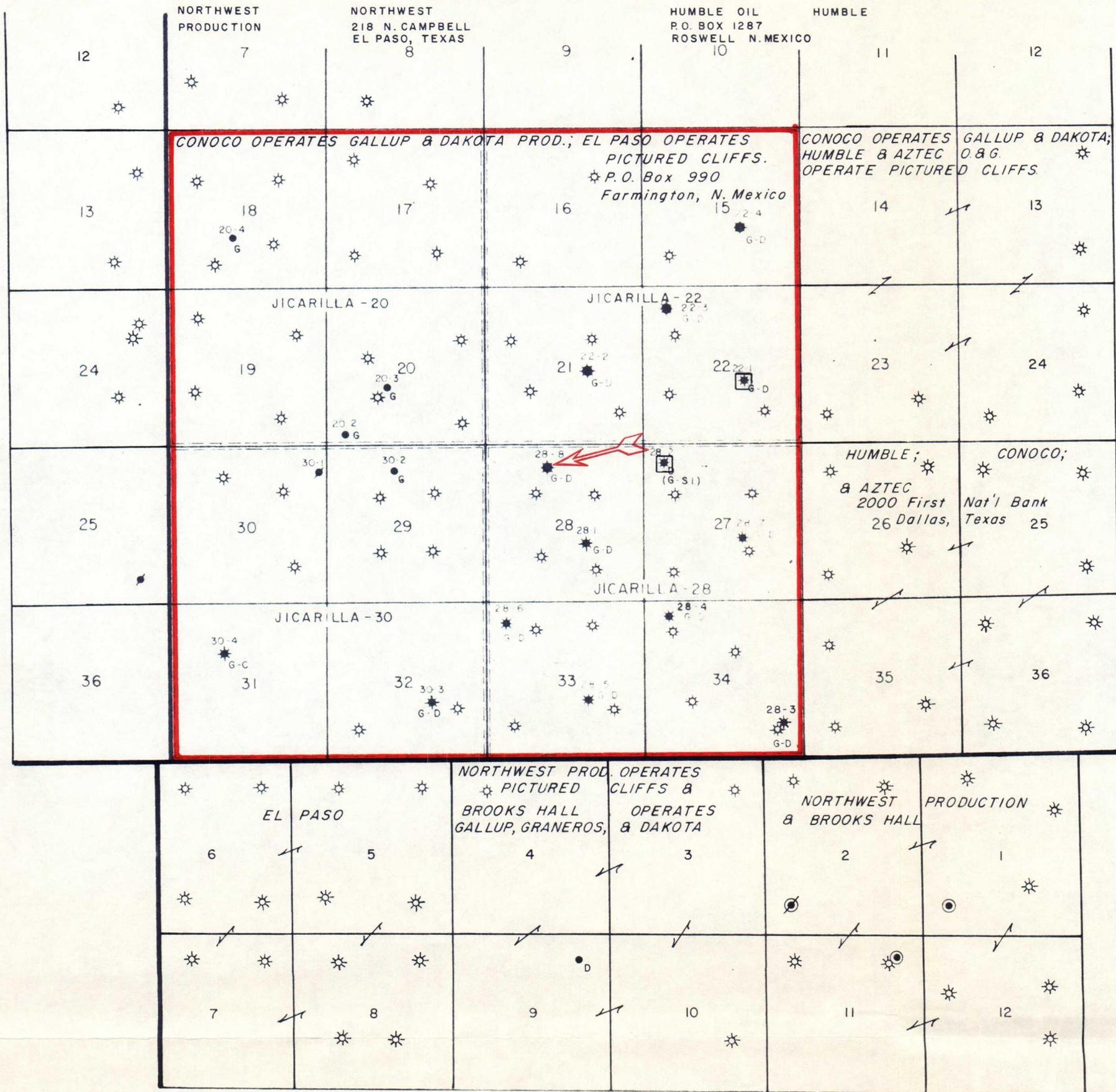
By Wm. C. Blackburn  
W. C. Blackburn  
Division Manager

Subscribed and sworn to before me this 17th  
day of August, 1970, by Wm. C. Blackburn  
Division Manager

My commission expires April 23, 1971

Mary S. Aragon  
Notary Public

R. 4 W.



- LEGEND -

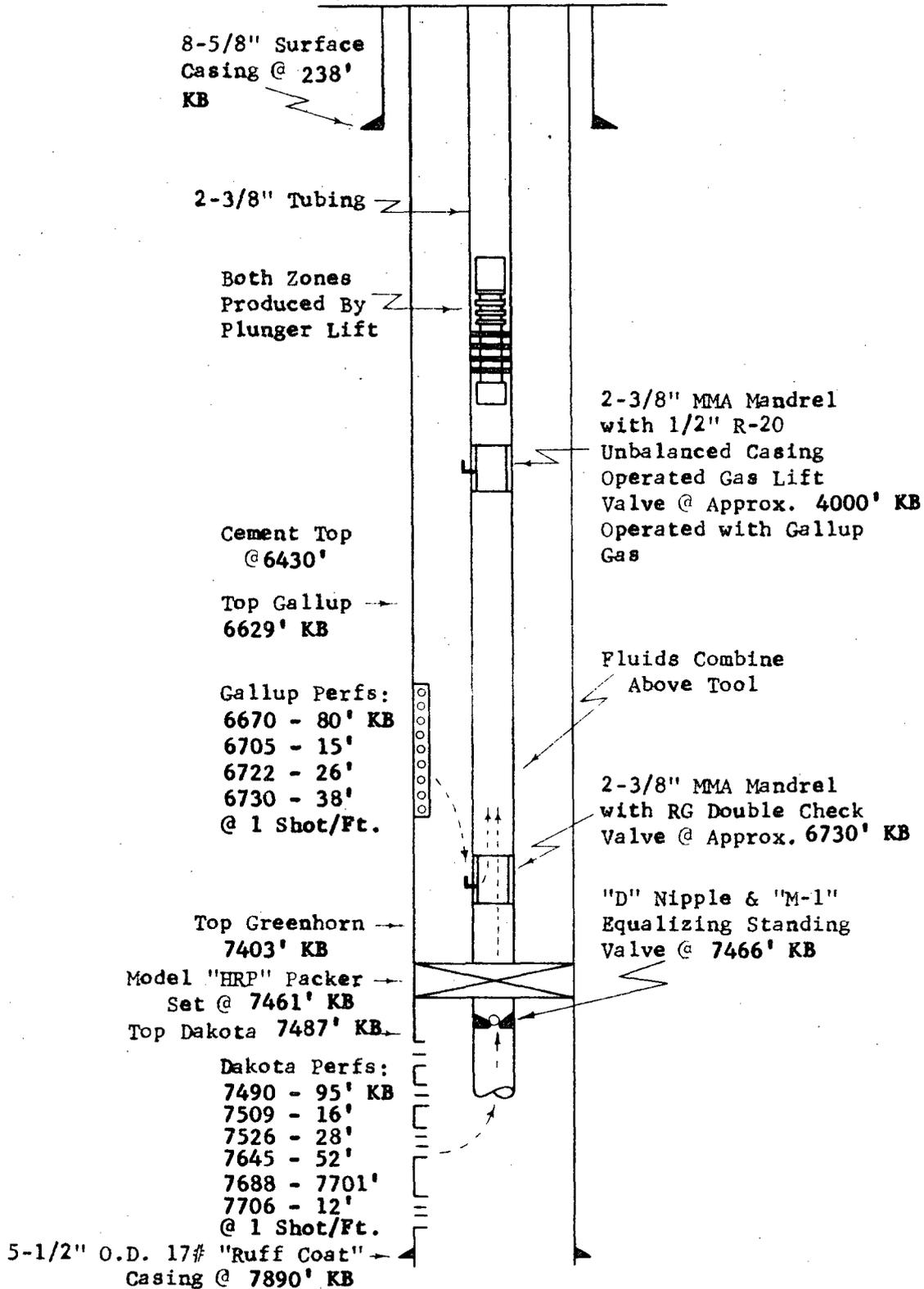
- <sub>G</sub> GALLUP PRODUCING WELL
- <sub>D</sub> DAKOTA PRODUCING WELL
- ★<sub>G-C</sub> GALLUP (Oil) - CHACRA (Gas) DUAL
- ★<sub>G-D</sub> GALLUP (Oil) - DAKOTA (Oil) DUAL
- ★ GAS PRODUCING WELL (ICTURED CLIFFS)
- ⊘ SHUT-IN WELL
- ⊙ DUAL GALLUP - GRANEROS
- ⊠ GALLUP (Oil) - DAKOTA (Oil) - Seperate Strings of Casing.

**WEST LINDRITH BLOCK**  
 JICARILLA APACHE LEASES  
 Rio Arriba County, New Mexico

**EXHIBIT "A"**

Engineer: J.A. Mazza      Drawn by: N.F.D.      12-12-67  
 PRODUCTION DEPARTMENT      1-69  
 CONTINENTAL OIL COMPANY      8-70

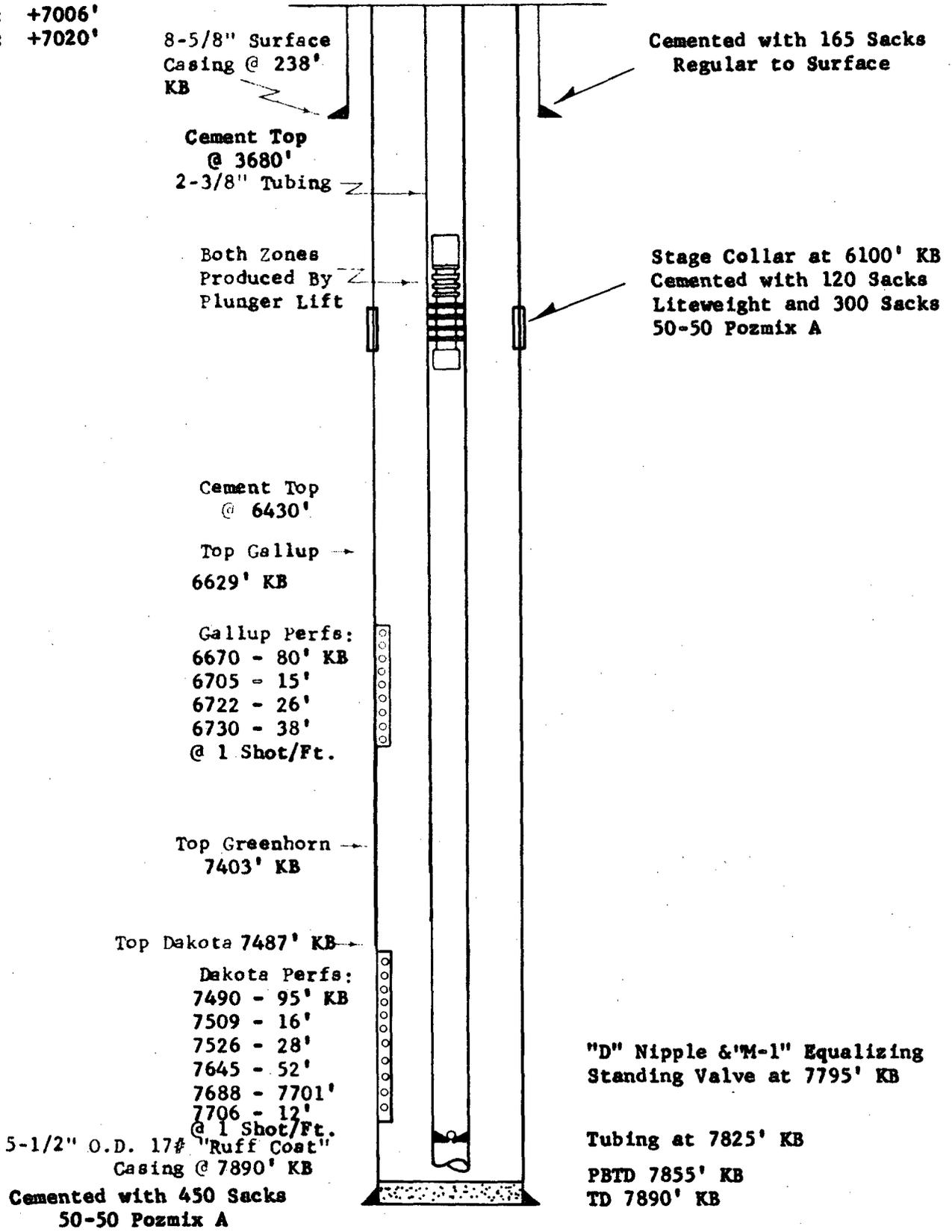
**PRESENT  
DOWNHOLE COMMINGLING INSTALLATION**



<h2 align="center">CONTINENTAL OIL COMPANY</h2> <p align="center">PRODUCTION DEPARTMENT CASPER DIVISION</p>		
<b>Field/Unit: WEST LINDRITH</b>		
Structure:	<b>EXHIBIT "B"</b>	Contour Int.
Isopach:		Contour Int.
Other: Present	Downhole Commingling Installation - Jicarilla	28-8 Well.
County: Rio Arriba	State: New Mexico	
Engineer: J. A. Mazza	Geology by:	Date: 8-14-70
Drafted by: RWJ	Well Status Posted to:	
SCALE  = No Scale		

GL Elevation: +7006'  
 KB Elevation: +7020'

**PROPOSED  
 DOWNHOLE COMMINGLING INSTALLATION**



Centralizers Located 10' and 60' Above  
 Casing Setting Depth and 90' Thereafter

		<b>CONTINENTAL OIL COMPANY</b>			
PRODUCTION DEPARTMENT CASPER DIVISION					
Field/Unit:		<b>WEST LINDRITH</b>			
Structure:		<b>EXHIBIT "C"</b>		Contour Int.	
Isopach:				Contour Int.	
Other: Proposed Downhole Commingling Installation - Jicarilla 28-8 Well.					
County: Rio Arriba			State: New Mexico		
Engineer: J. A. Mazza		Geology by:		Date: 8-14-70	
Drafted by: RWJ		Well Status Posted to:			
SCALE  = No Scale					

NEW MEXICO OIL CONSERVATION COMMISSION  
GAS - OIL RATIO TESTS

C-116  
Revised 1-1-65

Operator		Continental Oil Company				Pool	Undesignated Gallup			County	Rio Arriba			
Address		152 North Durbin, Casper, Wyoming 82601				TYPE OF TEST - (X)		Scheduled <input checked="" type="checkbox"/>		Completion <input type="checkbox"/>		Special <input type="checkbox"/>		
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	CHOKE SIZE	T.B.G. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.
		U	S	T	R						WATER BBL.S.	OIL BBL.S.	GAS M.C.F.	
Jicarrilla 28	8	C	28	25N	4W	3-5-70				24	0	27	67	2481

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.

**EXHIBIT "D,"**

\_\_\_\_\_  
(Signature)

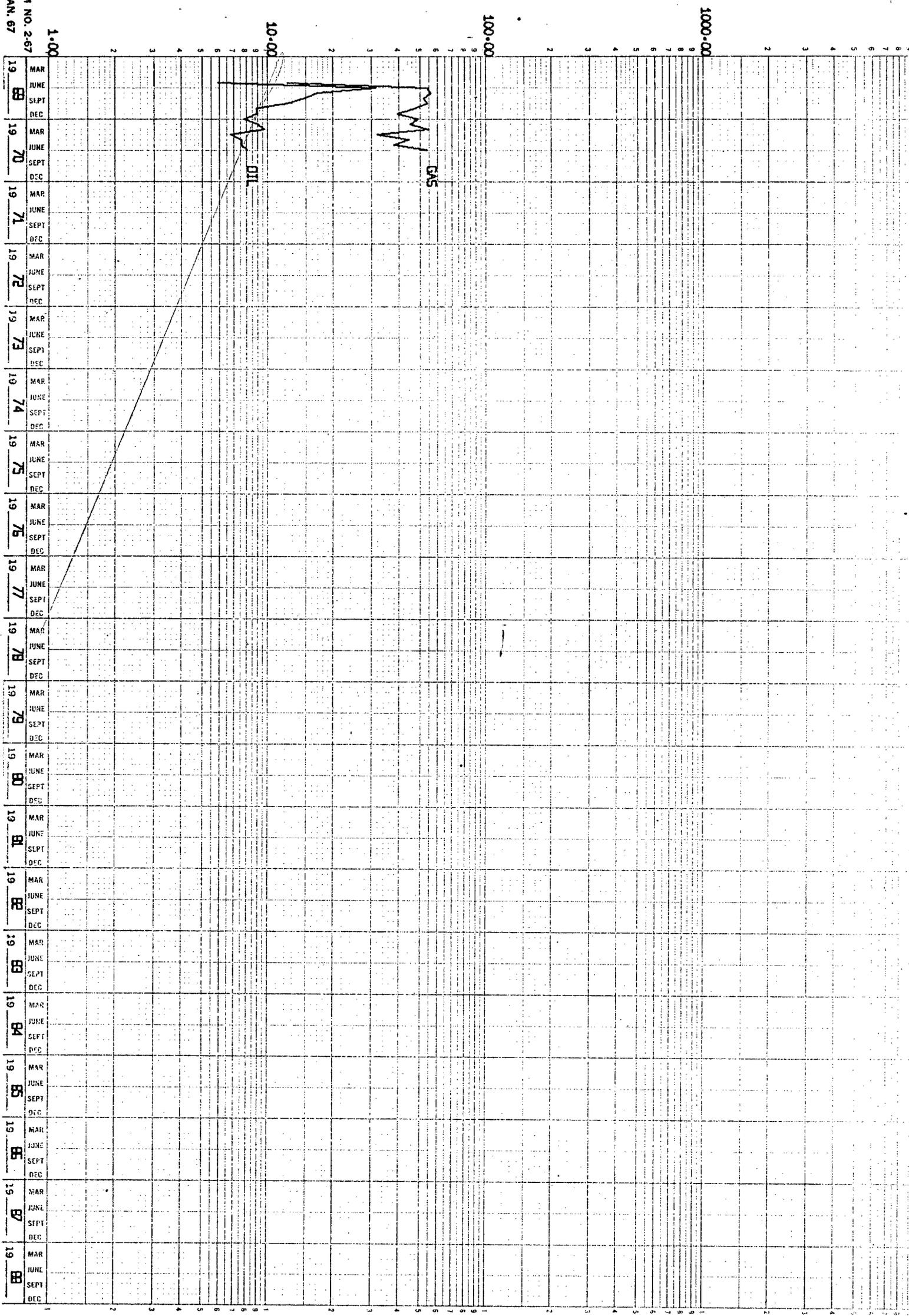
\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)



BBLs OR MCF/DAY

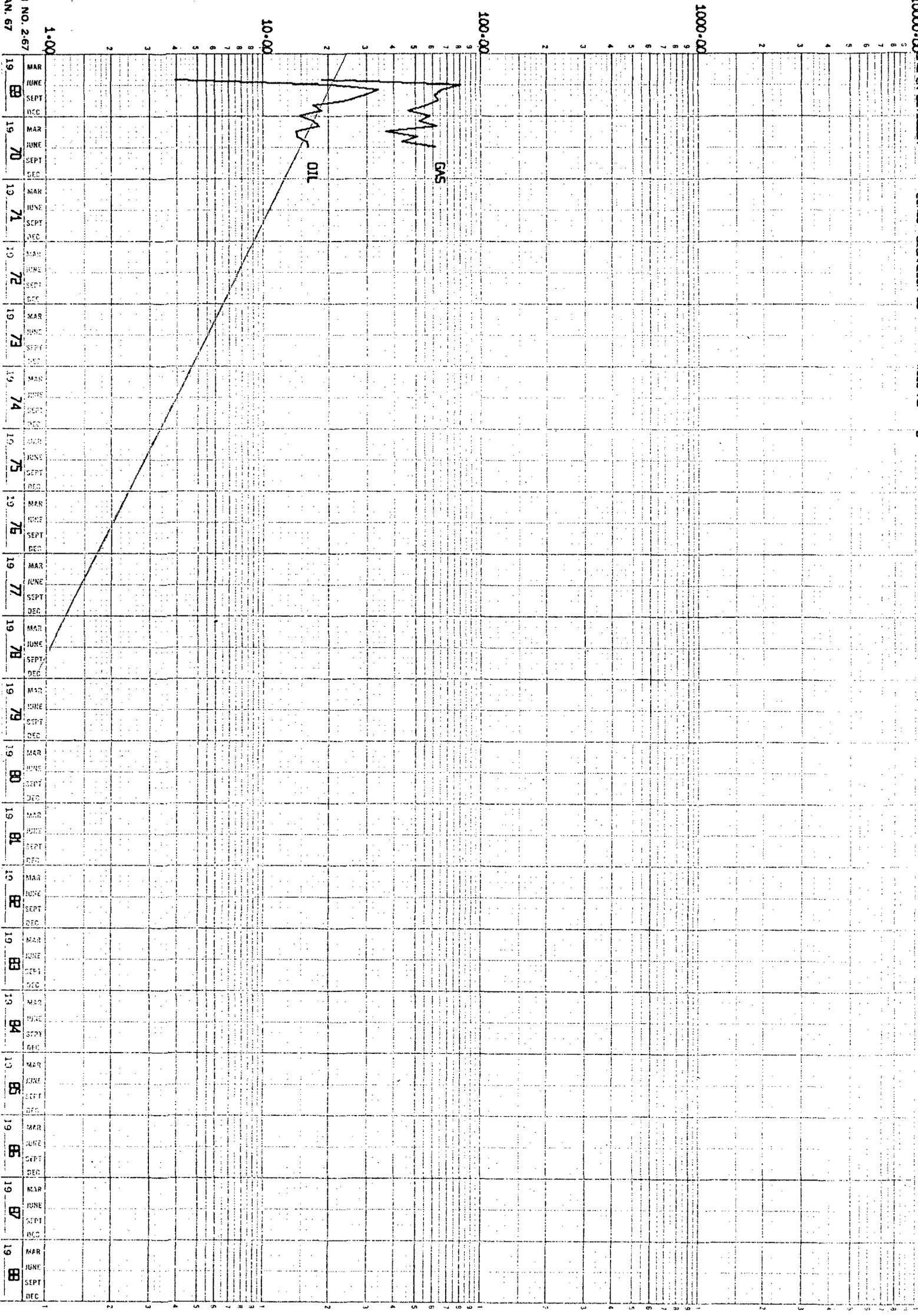
FORM NO. 2-67 JAN. 67



2.4 PK

BBL5 OR MCF/DAY

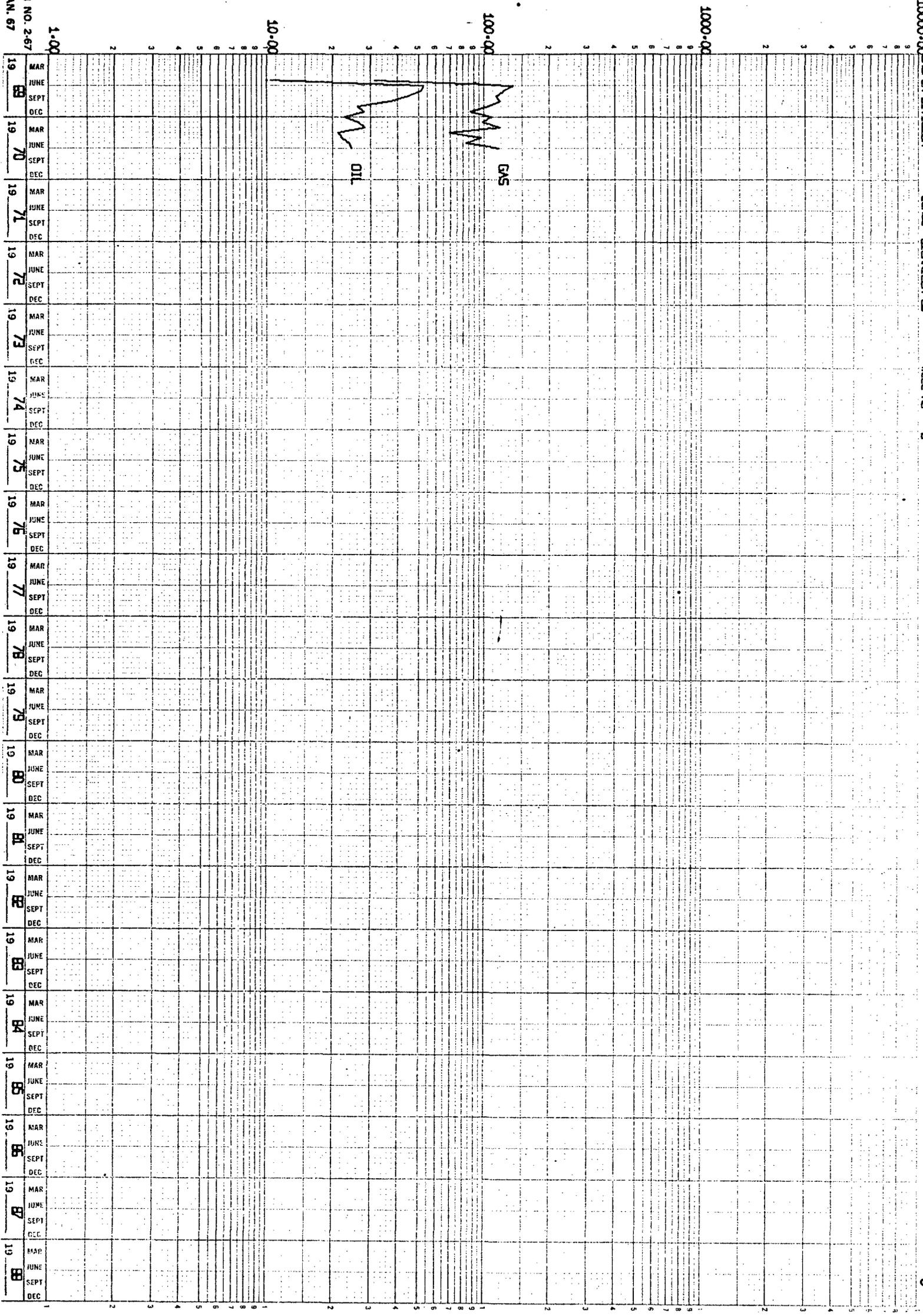
FORM NO. 267  
JAN. 67



4.3  
2.4  
6.1

BBLs OR MCF/DAY

FORM NO. 267  
JAN. 67



JICARILLA 28 WELL NO. 8  
UNIT LETTER C, SECTION 28, T25N, R4W  
RIO ARRIBA COUNTY, NEW MEXICO

Commingling Data  
Month of June, 1970

<u>Producing Data</u>	<u>Gravity</u>	<u>Value</u>	<u>Volume</u>
Gallup	45.2	\$2.85	486
Dakota	47.0	2.85	243
Commingled	45.9	2.85	729

Crude Purchaser: Shell Pipeline Company - Farmington, New Mexico

Royalty Interest Owner: Jicarilla Apache Tribe

Date: August 17, 1970

PRENTICE WATTS  
VICE PRESIDENT  
PRODUCTION

AZTEC OIL & GAS COMPANY  
2000 FIRST NATIONAL BANK BUILDING  
DALLAS, TEXAS 75202

August 28, 1970

1970 AUG 31 AM 8 06

New Mexico Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico 87501

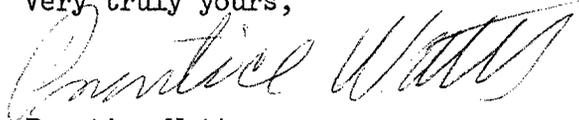
Attention: Mr. A. L. Porter, Jr.  
Secretary-Director

Gentlemen:

In accordance with OCC Rule No. 303C, Continental Oil Company has supplied is with a copy of an Application for Down Hole Commingling of the Gallup oil and Dakota oil zones at Jicarilla 28 Well No. 8.

Aztec Oil & Gas Company, as an owner of the least offsetting the Jicarilla 28 Lease, has no objections to the proposed down hole commingling of Jicarilla 28 Well No. 8.

Very truly yours,



Prentice Watts

FW:bjr

August 18, 1970

MAIN OFFICE 000  
AUG 26 AM 8 09

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

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

Gentlemen:

Continental Oil Company has supplied us with a copy of an Application for Down Hole Commingling of the Gallup and Dakota Zones at Jicarilla 28 Well No. 8.

Humble Oil & Refining Company, as an owner of the lease off-setting the Jicarilla 28 Lease, has no objections to the proposed down hole commingling of Jicarilla 28 Well No. 8.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

By 