

Unocal Oil & Gas Division
Unocal Corporation
3300 North Butler Avenue
Suite 200
Farmington, New Mexico 87401
Telephone (505) 326-7600
Fax: (505) 326-6145

OIL CONSERVATION DIVISION
RECEIVED



'93 AUG 17 AM 9 53

August 12, 1993

CERTIFIED RETURN RECEIPT REQUESTED

Farmington District

New Mexico Oil Conservation Division
Attn: Mr. William J. LeMay
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

New Mexico Oil Conservation Division
Attn: Mr. Frank Chavez
1000 Rio Brazos Road
Aztec, New Mexico 87410

Dear Sirs:

Union Oil Company of California (UNOCAL) requests permission to downhole commingle production from the Blanco Mesaverde and Basin Dakota formations in the following well:

Rincon Unit No. 170M
1495' FSL, 935' FEL
Section 20, T27N, R6W
Rio Arriba County, New Mexico

As provided by Order No. R-9893, administrative approval may be granted without notice and hearing.

As required for an exception to rule 303-A, the following information is attached:

1. An acreage dedication plat showing offset lease ownership.
2. A Form C-116 showing current productivity from each zone.
3. A wellbore diagram with completion detail.
4. A bottomhole pressure from each zone and a calculated adjustment to a common datum.
5. Gas analyses from each zone.
6. An allocation formula for commingled production.
7. A copy of the notification letter sent to all offset operators and the Bureau of Land Management.

The Blanco Mesaverde formation is uneconomic to drill as a stand alone well. To develop these reserves, a dual or commingled completion is required. We estimate an ultimate recovery of approximately 750 MMCF from the Mesaverde horizon, which would otherwise remain undeveloped. Also, commingling will allow for better lift of liquids production and benefits from compression.

Both zones produce essentially dry gas. Therefore, the respective formation fluids are compatible. Also, no crossflow will occur between the commingled zones.

If you have any questions, please contact Dana Delventhal at (505)326-7600. Thank you for your consideration in this matter.

Sincerely,

Union Oil Company of California
dba UNOCAL

A handwritten signature in black ink, appearing to read "Glen O. Papp", written in a cursive style.

Glen O. Papp
Field Superintendent

Attachments

GOP/DLD/df

OFFSET LEASE OWNERSHIP

R 6 W

18	17	16
19	20 RINCON UNIT #170M 	21
30	29	28

T 27 N

Submit 2 copies to Appropriate District Office.

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

Form C-116
Revised 1/1/89

GAS - OIL RATIO TEST

Operator		Pool		County										
Union Oil Company of California		Blanco Mesaverde/Basin Dakota		Rio Arriba										
Address		TYPE OF TEST - (X)		Completion ☒ Scheduled ☐ Special ☐										
3300 N. Butler, Suite 200, Farmington, NM 87401														
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU FT/8BL.	
		U	S	T						R	WATER BBLs.	GRAV. OIL		OIL BBLs.
Rincon Unit	170M	I	20	27N	6W	10/31/92	F	15/64"	255					
Blanco Mesaverde						11/08/92	F	20/64"	505					
Basin Dakota														

Instructions:

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 Division.

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.

(See Rule 301, Rule 1116 & appropriate pool rules.)

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

Signature

Glen O. Papp Field Superintendent

Printed name and title

August 11, 1993

Date

(505) 326-7600

Telephone No.

RINCON INIT NO. 170-M
1595' FSL, 935' FEL SEC 20 T27N R6W
RIO ARriba COUNTY, NM

12 1/4" Hole

8-5/8" 24# J-55 @ 370'
Cmt'd w/ 240 SX - CIRC
To Surface

7-7/8" Hole

"XO" Sliding Sleeve
@ 5505'

Gulberson Uni VI
pkr @ 5513'

TUBING DETAIL
243 lbs 2-3/8" EUE 8rd J-55
@ 7612'

5-1/2" 17# N-80, J-55
@ 7765'
Cmt'd Stage 1 w/ 400 sxs

KB DATUM = 13' ABOVE G.L.
GROUND ELEVATION = 6598'

DV TOOL @ 3502'
Cmt'd Stage #3 w/ 955 sxs- Circ To Surface

UPPER MESAVERDE

4883-99', 4899-4919', 4941-53' 4961-67'

LOWER MESAVERDE

5067-93', 5154-74', 5223-41', 5259-69', 5363-77'
5385-5401', 5413-53', w/ 2 SPF

DV TOOL @ 5717'
Cmt'd Stage #2 w/455 sxs

DAKOTA

7400-40', 7524-50', 7570-78', 7584-7634'
w/ 4 SPF

PBTD = 7716'

TD @ 7772'

B & R SERVICE, INC.

P. O. Box 1048
Farmington, New Mexico 87499
(505) 325-2393

Company UNOCAL CORPORATION Lease RINCON Well 170 M (DAK)
County RIO ARRIBA State N. MEX. Date 10/31/92
Shut-In _____ Zero Point G.L. Tbg. Pressure 1300
Casing Pressure _____ Tbg. Depth _____ Casing Perf. _____
Max. Temp. _____ Fluid Level 6820'

<u>DEPTH</u>	<u>PSIG</u>	<u>GRADIENT</u>
0	1300	----
1000	1349	.049
2000	1391	.047
3000	1429	.038
4000	1468	.039
5000	1504	.036
6000	1540	.036
7000	1630	.090
7417	1800	.408
7517	1844	.440

FLUID LEVEL SURVEY

FIELD: RINCON STATE: N. MEX. DATE:

[illegible]

AVERAGE TUBING LENGTH:
REMARKS:

RINCON UNIT NO. 170 M

After a 7 day SI period:

$$\text{Mesaverde BHP} = 940 \text{ psi @ } 5168'$$

$$\text{Dakota BHP} = 1844 \text{ psi @ } 7517'$$

$$\text{Gas Gradient} = 0.039 \text{ psi/ft}$$

Adjusting to a common datum of 5168':

$$\text{Mesaverde BHP} = 940 \text{ psi}$$

$$\text{Dakota BHP} = 1844 - [(0.039)(7517 - 5168)] = 1752 \text{ psi}$$

Therefore the reservoir pressures fall within the 50% requirement.



WELL ANALYSIS COMPARISON

LEASE: RINCON 170M

NOVEMBER 9, 1992

DATE:	10/31/92	11/7/92
NO.:	20032	20033
	MESAVERDE	DAKOTA
	MOLE %	MOLE %
NITROGEN	0.469	0.206
CO2	0.912	1.203
METHANE	82.696	88.424
ETHANE	8.389	6.798
PROPANE	4.689	1.638
I-BUTANE	0.782	0.389
N-BUTANE	1.087	0.489
I-PENTANE	0.361	0.358
N-PENTANE	0.247	0.240
HEXANE+	0.368	0.255
BTU'S	1212.5	1125.9
GPM	4.5169	2.8805
SPEC GRAV	0.7015	0.6478

RWCON UNIT NO. 170 N

C-116 ADJUSTMENT

BASIN DAKOTA

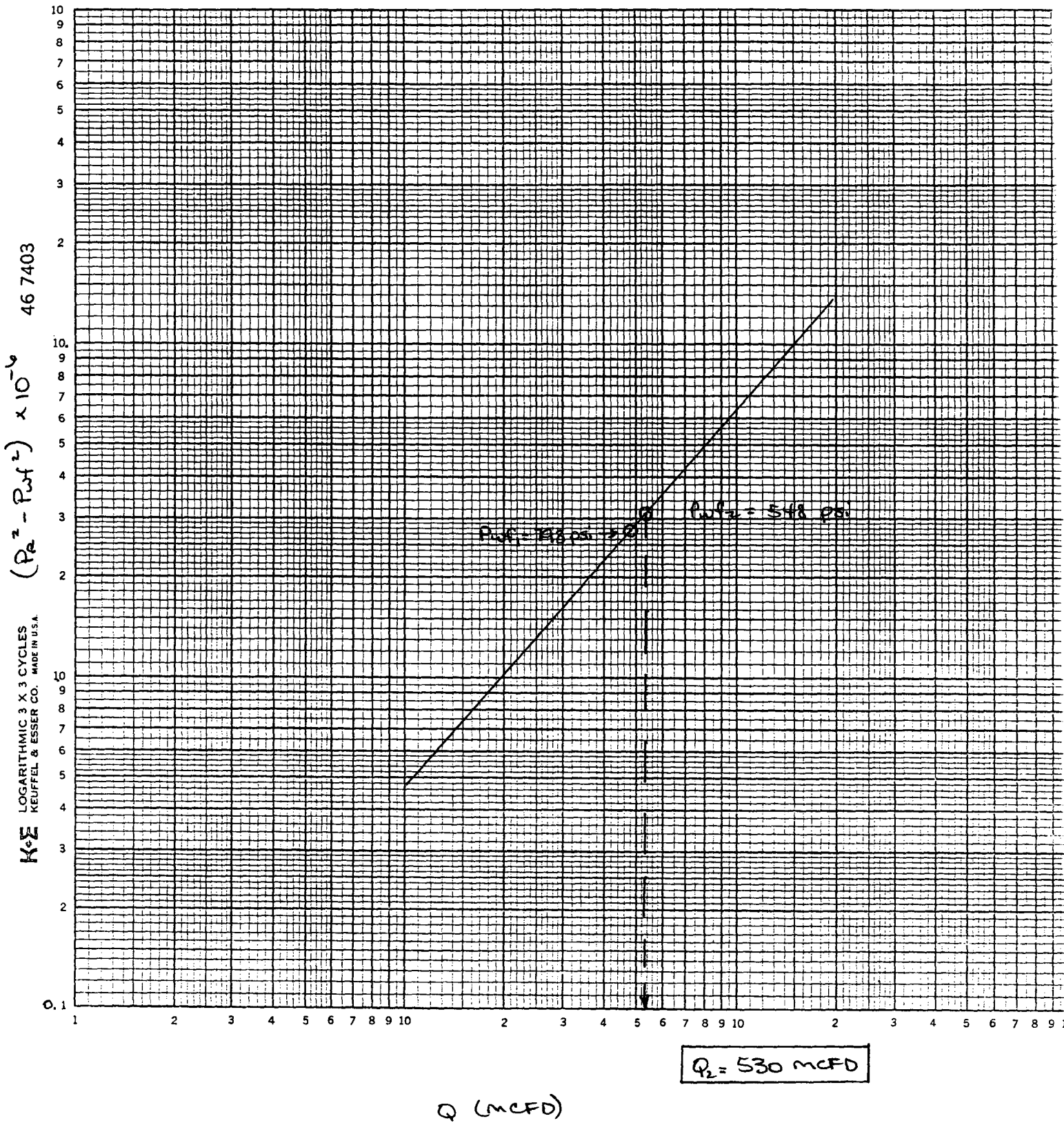
$n=0.75$

$P_R = 1844 \text{ psi @ } 7517'$

$P_{wf1} = 798 \text{ psi @ } 7517'$

$Q_1 = 480 \text{ mcfD}$

$P_{wf2} = 548 \text{ psi @ } 7517'$



RINCON UNIT NO. 170 M
ALLOCATION FORMULA

(BASED ON ADJUSTED C-116)

GAS PRODUCTION:

Mesaverde Rate	179 MCFD
Dakota Rate	<u>530</u> MCFD
Total Rate	<u>709</u> MCFD

Therefore,

Mesaverde	25%
Dakota	75%

OIL PRODUCTION:

Mesaverde Rate	0 BOPD
Dakota Rate	<u>0</u> BOPD
Total Rate	<u>0</u> BOPD

Therefore,

Mesaverde	50%
Dakota	50%

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Unocal Corporation
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Fax: (505) 326-6145



August 12, 1993

Farmington District

United States Department of the Interior
Bureau of Land Management
1235 La Plata Highway
Farmington, New Mexico 87401

Dear Sirs:

Union Oil Company of California (UNOCAL) has requested permission from the New Mexico Oil Conservation Division to downhole commingle production from the Blanco Mesaverde and Basin Dakota formations in the following well:

Rincon Unit No. 170M
1495' FSL, 935' FEL
Section 20, T27N, R6W
Rio Arriba County, New Mexico

If you have any objections to this proposal, please notify the NMOCD within twenty (20) days. If you have any questions about this application, please contact Dana Delventhal at (505)326-7600.

Sincerely,

Union Oil Company of California
dba UNOCAL

A handwritten signature in dark ink, appearing to read "Glen O. Papp".

Glen O. Papp
Field Superintendent

GOP/DLD/df

Rincon Unit (GC)
3186.1 (070)

AUG. 12 1993

Ms. Dana Delventhal
Unocal Oil & Gas Division
Unocal Corporation
3300 North Butler Avenue
Suite 200
Farmington, NM 87401

Dear Ms. Delventhal:

The Farmington District Office (FDO) of the Bureau of Land Management has evaluated your application date July 28, 1993, for commingling of the Blanco Mesaverde and Basin Dakota Formations in the Rincon Unit well No. 184 M located 790' FSL and 1025' FWL of sec. 15, T. 27 N., R. 7 W., lease number SF-079360, Rio Arriba County, New Mexico, NMPM.

We have reviewed the analysis presented in your application and agree that downhole commingling is a viable alternative to not developing the Blanco Mesaverde.

We hereby approve downhole commingling of the Blanco Mesaverde and Basin Dakota formations using the following allocation formulas:

Gas Production: Mesaverde Rate = 4% of total production.

Dakota Rate = 96% of total production.

Oil Production: Mesaverde Rate = 0% of total production.

Dakota Rate = 100% of total production.

If you have further questions regarding this matter, please contact Brian W. Davis at (505) 599-6367 or (505) 599-8900.

Sincerely,

/s/ Duane Spencer

Duane W. Spencer
Chief, Branch of Reservoir Management

bcc:
NMOCD, Santa Fe NM