

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY



POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

ADMINISTRATIVE ORDER DHC-917

UNOCAL Oil & Gas Division
3300 North Butler Avenue
Farmington, NM 87401

Attention: Glen O. Papp

RECEIVED
SEP 23 1993
OIL CON. DIV.
DIST. 3

*Rincon Unit Well No. 168-E
Unit I, Section 36, Township 27 North, Range 7 West, NMPM,
Rio Arriba County, New Mexico.
Undesignated Gallup and Basin Dakota Pools*

Dear Mr. Papp:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the two zones is hereby placed in abeyance.

In accordance with the provisions of Rule 303-C-4., total commingled oil production from the subject well shall not exceed 50 barrels per day, and total water production shall not exceed 100 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's San Juan Basin Gas Proration Schedule.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

Undesignated Gallup Pool	Oil	0%	Gas	25%
Basin Dakota Pool	Oil	100%	Gas	75%



STATE OF NEW MEXICO
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

Date: 8-27-93

Attn: Daniel Catnach

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Proposed MC _____
Proposed NSL _____
Proposed WFX _____
Proposed NSP _____

Proposed DHC X _____
Proposed SWD _____
Proposed PMX _____
Proposed DD _____

Gentlemen:

I have examined the application received on 8-10-93
for the UNOCAL OPERATOR RENEWAL OF LEASE
LEASE & WELL NO.

I-36-27N-07W and my recommendations are as follows:
UL-S-T-R

Approve

Yours truly,

Ernie Bush

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

UNOCAL 76

August 6, 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

RECEIVED

AUG 10 1993

**OIL CON. DIV.
DIST. 3**

Dear Sirs:

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

Rincon Unit No. 168E
1845' FSL, 840' FEL
Section 36, T27N, R7W
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.

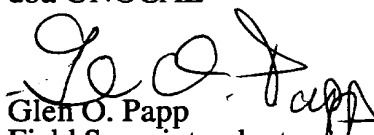
The Undesignated Gallup formation is uneconomic to drill as a stand alone well. To develop these reserves, a dual or commingled completion is required. We estimate an ultimate recovery of approximately 300 MMCF from the Gallup horizon, which would otherwise remain undeveloped. Also, commingling will 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


Glen O. Papp
Field Superintendent

Attachments

GOP/DLD/df

OFFSET LEASE OWNERSHIP

R 7 W

R 6 W

26	25	30
35	36 RINCON UNIT #168E	31
2	1	6

T 27 N

T 26 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		Undesignated Gallup/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	ST. TYPE	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU FT/BBL.
		U	S	T							R	WATER BBLs.	GRAV. OIL	
Rincon Unit	168E	I	36	27N	7W									
Undesignated Gallup						11/27/92	F 18/64"	255		24	-0-	-0-	204	--
Basin Dakota						12/04/92	F 16/64"	450		24	-0-	7	547	78,143

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
Printed name and title

August 6, 1993

Date

Field Superintendent

(505) 326-7600

Telephone No.

RINCO UNIT NO. 168-E
1845' FSL, 840' FEL, SEC 36 T27N R7W
RIO ARRIBA COUNTY, NM

KB DATUM = 13' ABOVE G.L.
GROUND ELEVATION = 6547'

12 1/4" HOLE

8-5/8" 24# J-55 @ 373'
CMT'D W/ 250 SX - CIRC

DV TOOL @ 3132'
CMT'D STAGE #3 W/805 SX - CIRC TO SURFACE.

7 7/8" HOLE

GALLUP

6506-44', 6550-88', 6598-6638', 6702-10',
W/4 SPF

XO Sliding Sleeve
@ 6726"

Gulberson Uni VI
pkr @ 6735'

DV Tool @ 5338'
CMT'D STAGE #2 W/290 SXS

TUBING DETAIL

231 JTS 2-3/8" EUE 8RD J-55
@ 7311'

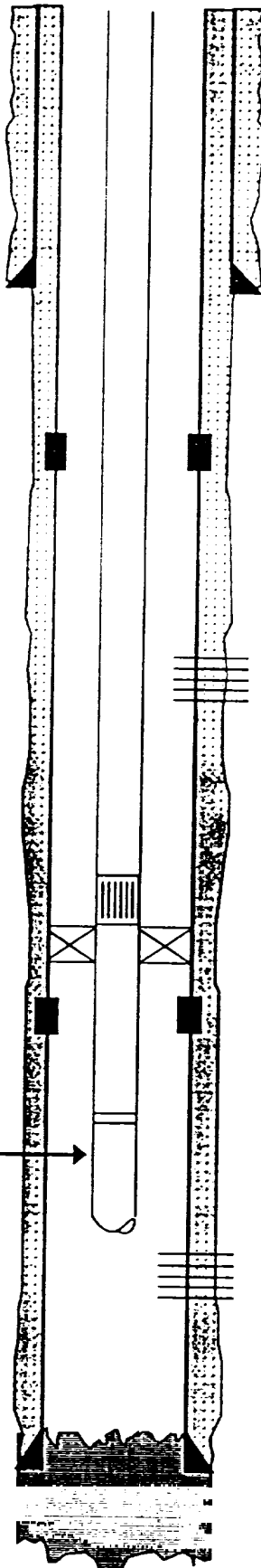
DAKOTA

7198-7210', 7294-7314', 7330-36',
7346-74', 7382-7402', 7416-20', 7426-38',
W/4 SPF

5 1/2" 17# LT & C @ 7529'
CMT'D STAGE #1 W/610 SXS

PBTD @ 7482"

TD @ 7523'



B & R SERVICE, INC.

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

Company Unocal Lease Rincon Well 168-E
County Rio Arriba State N.M. Date 11-27-92
Shut-In _____ Zero Point K.B. Tbg. Pressure 1585
Casing Pressure _____ Tbg. Depth _____ Casing Perf. _____
Max. Temp. _____ Fluid Level None

<u>DEPTH</u>	<u>PSIG</u>	<u>GRADIENT</u>
0	1581	- - -
1000	1632	.051
2000	1677	.045
3000	1724	.047
4000	1771	.047
5000	1817	.046
6000	1864	.047
7000	1907	.043
7100	1912	.050
7200	1917	.050

B & R SERVICE, INC.
P.O. BOX 1018
FARINGTON, N.M.

FLUID LEVEL SURVEY

COMPANY: UNOCAL CORPORATION COUNTY: RIO ARriba
FIELD: RINCON DATE: STATE: N. MEX.

LEASE AND WELL NO.	LOCATION	TIME	ELEV.	DATUM	CASING PRESSURE PSIG	JOINTS TO FLUID	FEET TO FLUID	FLUID ABOVE DATUM	PRESSURE AT DATUM
10/30/92 RINCON 158 M				MID PERF. 5039'	540	110	3432'	1607'	1231 PSIG
11/01/92 RINCON 151 M				MID PERF. 5211'	750	130	4168'	1103'	1228 PSIG
11/04/92 RINCON 171 M				MID PERF. 4883'	340	152	4758'	125'	394 PSIG
12/17/92 RINCON 184 M				MID PERF. 5127'	965	105	3308'	1819'	1753 PSIG
12/19/92 RINCON 136 E				MID PERF. 4845'	600	118	3729'	1116'	1139 PSIG
12/19/92 RINCON 127 M				MID PERF. 5080'	610	153	4835'	245'	716 PSIG
12/22/92 RINCON 125 M				MID PERF. 5277'	480	154	4882'	395'	789 PSIG
12/22/92 RINCON 137 E				MID PERF. 6712'	1120	205	6765'	0'	1120 PSIG
7/15/93 RINCON 126 M				MID PERF. 5224'	780	155	4898'	326'	921 PSIG
12/4/92 RINCON 168 E				MID PERF. 6608'	1020	203	6415'	193'	1104 PSIG

AVERAGE TUBING LENGTH:
REMARKS:

RINCON UNIT NO. 168 E

After a 7 day SI period:

$$\text{Gallup BHP} = 1104 \text{ psi @ } 6608'$$

$$\text{Dakota BHP} = 1917 \text{ psi @ } 7200'$$

$$\text{Gas Gradient} = 0.047 \text{ psi/ft}$$

Adjusting to a common datum of 6608':

$$\text{Gallup BHP} = 1104 \text{ psi}$$

$$\text{Dakota BHP} = 1917 - [(0.047)(7200 - 6608)] = 1889 \text{ psi}$$

Therefore the reservoir pressures fall within the 50% requirement.



WELL ANALYSIS COMPARISON

LEASE: RINCON #168E

DECEMBER 8, 1992

DATE:	11/27/92	12/4/92
		DAKOTA
NO.:	20037	20040

	MOLE %	MOLE %
	-----	-----
NITROGEN	0.417	0.226
CO2	1.077	1.180
METHANE	87.731	87.425
ETHANE	7.438	7.364
PROPANE	2.084	2.146
I-BUTANE	0.291	0.349
N-BUTANE	0.488	0.552
I-PENTANE	0.160	0.220
N-PENTANE	0.124	0.163
HEXANE+	0.190	0.375
BTU'S	1122.2	1137.0
-----	-----	-----
GPM	2.9994	3.1526
-----	-----	-----
SPEC GRAV	0.6456	0.6547
-----	-----	-----

RINCON UNIT NO. 168 E

C-116 ADJUSTMENT

BASIN DAKOTA

$n = 0.75$

$P_R = 1917$ @ 7200'

$P_{wf1} = 788$ @ 7200'

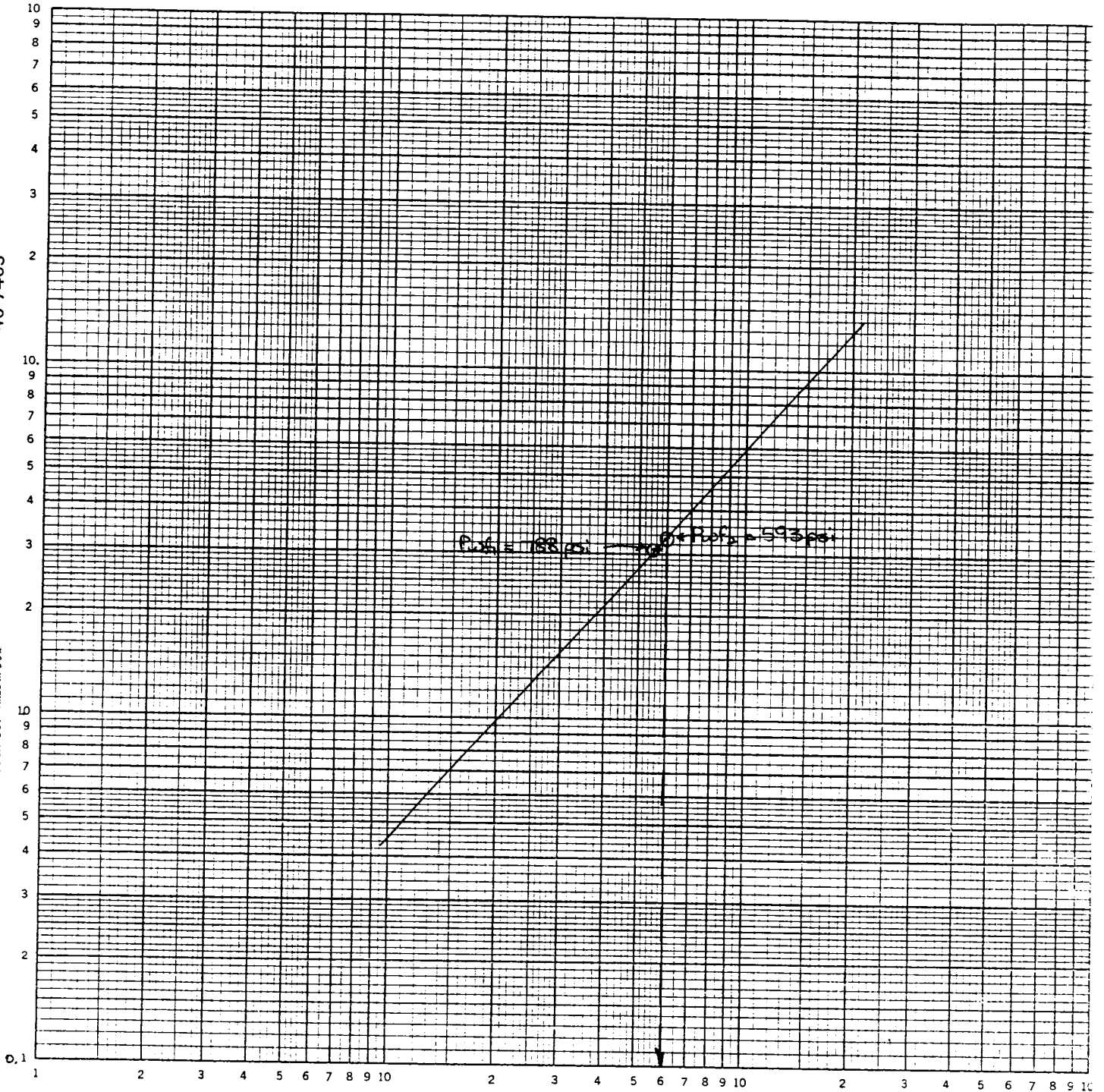
$Q_1 = 547$ MCFD

$P_{wf2} = 593$ psi @ 7200'

46 7403

$(P_R^2 - P_{wf}^2) \times 10^{-6}$

K₀Σ LOGARITHMIC 3 X 3 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.



$Q_2 = 600$ MCFD

Q (MCFD)

RINCON UNIT NO. 168 E
ALLOCATION FORMULA

(BASED ON ADJUSTED C-116)

<u>GAS PRODUCTION:</u>	Gallup Rate	204 MCFD
	Dakota Rate	<u>600</u> MCFD
	Total Rate	<u>804</u> MCFD

Therefore,	Gallup	25%
	Dakota	75%

<u>OIL PRODUCTION:</u>	Gallup Rate	0 BOPD
	Dakota Rate	<u>7</u> BOPD
	Total Rate	<u>7</u> BOPD

Therefore,	Gallup	0%
	Dakota	100%

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

UNOCAL 76

August 6, 1993

Farmington District

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

Dear Sirs:

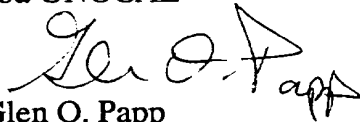
Union Oil Company of California (UNOCAL) has requested permission from the New Mexico Oil Conservation Division to downhole commingle production from the Undesignated Gallup and Basin Dakota formations in the following well:

Rincon Unit No. 168E
1845' FSL, 840' FEL
Section 36, T27N, R7W
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



Glen O. Papp
Field Superintendent

GOP/DLD/df