

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

May 21, 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
MAY 24 1993
OIL CON. DIV
DIST. 3

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. 159M
1695' FNL, 1735' FWL
Section 18, 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 measured 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.

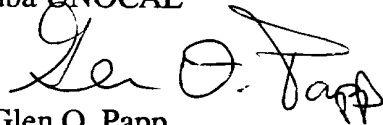
Although the Basin Dakota horizon produced at a rate of 598 MCFD and the Blanco Mesaverde horizon produced at a rate of 764 MCFD during flow tests to atmosphere, the current sales rates at line pressure are 300 MCFD for the Dakota horizon and 40 MCFD for the Mesaverde horizon. Commingling will allow for better lift of condensate 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

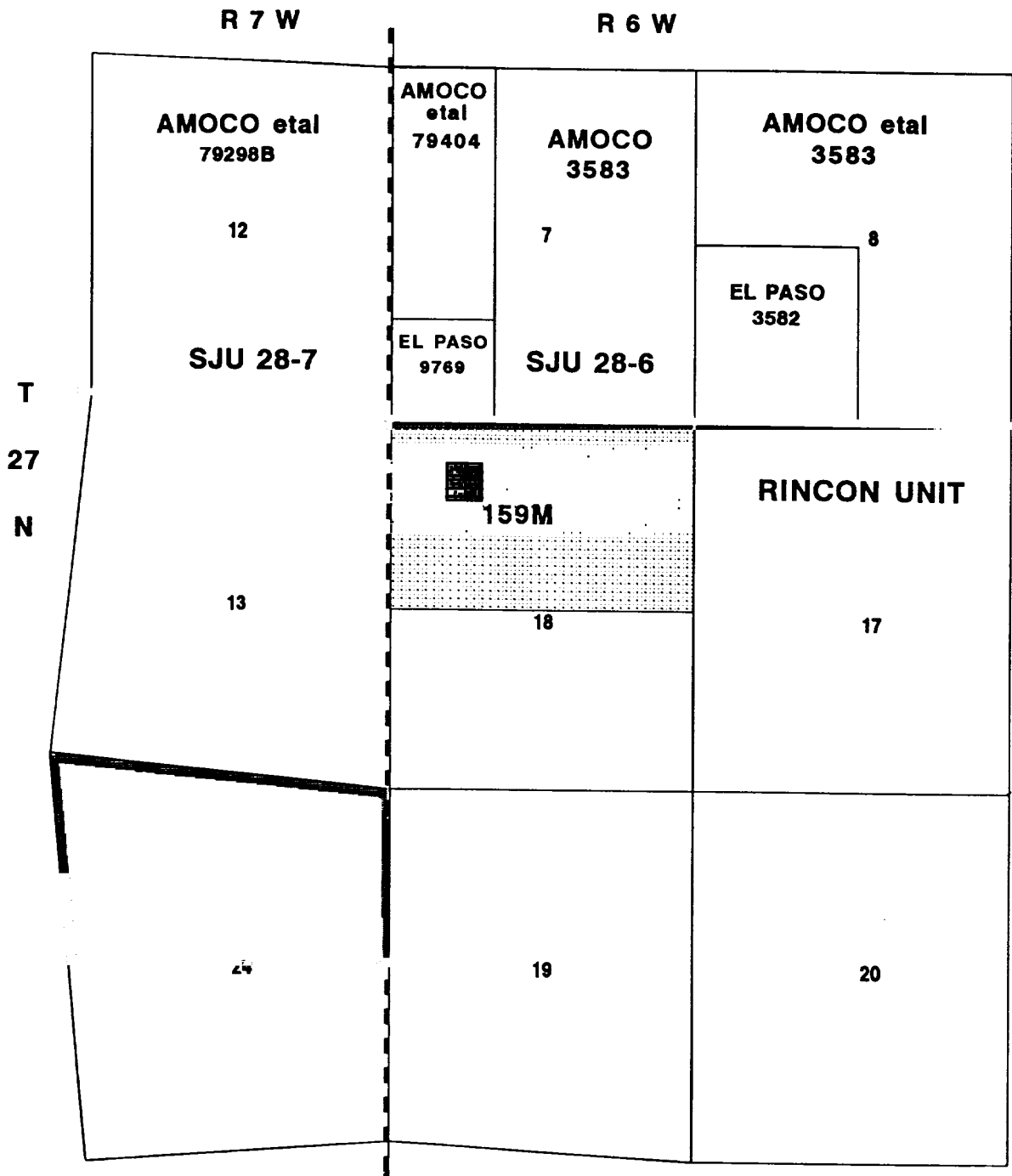
A handwritten signature in black ink, appearing to read "Glen O. Papp", is written over the typed name.

Glen O. Papp
Field Superintendent

Attachments

GOP/DLD/df

OFFSET LEASE OWNERSHIP



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/88L.
		U	S	T						R	WATER BBLs.	GRAV. OIL	
Rincon Unit	159M	F	18	27N	6W								
Blanco Mesaverde						9/08/92	F 24/64"	210		24	7	0	764
Basin Dakota						9/02/92	F 48/64"	250		24	4	0	598

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

W.L. Irwin
Printed name and title

District Petroleum Engineer

Date

10/26/92

505/326-7600

Telephone No.

RINCON UNIT NO. 159-M
1695' FNL, 1735' FWL, SEC 18, T27N-R6W
RIO ARRIBA COUNTY, NM

KB Datum 11' Above GL

8-5/8" 24# J-55 @ 358'
CMT W/ 240 SX - CIRC TO SURF

← 244 jts, 2-3/8", 4.7# EUE J-55 tbg.
 (FHD @ 7659')

TOC @ 4680' by CBL
DV TOOL @ 4683'

UPPER MESAVERDE
 4898-4938, 4952-60, 4966-74,
 & 4978-84' W/ 4 SPF
 5078-90, 5170-84 & 5254-64' W/ 2 SPF
 Stimulation: 53,747 gal 30# XL gel wtr,
 204,800 20/40 sand

LOWER MESAVERDE
 5432-52, 5460-5500 & 5548-64'
 W/ 2 SPF
 Stimulation: 48,900 gal 30# XL gel wtr,
 194,000 20/40 sand

Sliding Sleeve
@ 5578'

Guiberson Uni VI
pkv @ 5587'

DV TOOL @ 5912'
TOC @ 6210' by CBL

DAKOTA
 7448-80, 7568-92, 7602-08,
 7614-20 & 7626-72' W/ 4 SPF
 Stimulation: 67,504 gal 35# XL gel wtr,
 260,700 20/40 sand

PBTD = 7730'
TD = 7788'

5-1/2", 17# N-80 & J-55 @ 7788'
CMT'D IN THREE STAGES: 1st stg w/ 355 sx (6210'-TD),
2nd stg w/ 1570 sx (4680'-5908'), 3rd stg w/ 575 sx
(Surf to 2975')

B & R SERVICE, INC.

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

Company UNOCAL CORPORATION Lease RINCON Well 159-M (M.V.)
County RIO ARRIBA State N. MEX. Date 9/20/92
Shut-In _____ Zero Point G.L. Tbg. Pressure 520
Casing Pressure 520 Tbg. Depth _____ Casing Perf. _____
Max. Temp. _____ Fluid Level _____

<u>DEPTH</u>	<u>PSIG</u>	<u>GRADIENT</u>
0	520	----
1000	535	.015
2000	550	.015
3000	565	.015
4000	578	.013
5000	593	.015
5471	600	.015
5571	603	.030

 * B & R SERVICE, INC. *
 * FARMINGTON, NM 87401 *
 * (505) 325-2393 *

COMPANY NAME...: UNOCAL CORPORATION

DATE: 09/27/92

WELL I.D.: RINCON 159M (DAK)

FIELD I.D.: DAKOTA

RUN #: 1

ENGINEER:

ZERO REFERENCE: G.L.

START DATE: 09/06/92

START TIME: 09:50:00

WELL STATUS....: BUILD-UP

GAUGE INFO:

I.D.: RPG PRESSURE

SERIAL #.....: 27599

RANGE.....: 4000 PSIA @ 200F

COMMENTS: BHP RECORDED @ 7659' G.L.

FILE #: 15

NO.	TIME		PRESSURE	
	DEFL (IN)	HRS	DEFL (IN)	PSI
1	0.0000	0.000	0.2652	530.38
2	0.0134	1.013	0.2652	530.38
3	0.0267	2.019	0.2652	530.38
4	0.0400	3.025	0.2652	530.38
5	0.0531	4.016	0.2547	509.22
6	0.0662	5.006	0.2507	501.16
7	0.0795	6.012	0.2517	503.17
8	0.0928	7.018	0.2447	489.07
9	0.1059	8.009	0.2422	484.03
10	0.1193	9.022	0.2413	482.22
11	0.1325	10.021	0.2412	482.02
12	0.1457	11.019	0.2414	482.42
13	0.1591	12.032	0.2414	482.42
14	0.1717	12.985	0.2416	482.82
15	0.1850	13.991	0.2417	483.02
16	0.1990	15.050	0.2419	483.43
17	0.2119	16.025	0.2427	485.04
18	0.2249	17.008	0.2434	486.45
19	0.2379	17.992	0.2438	487.25
20	0.2515	19.020	0.2445	488.66
21	0.2645	20.003	0.2451	489.87
22	0.2780	21.024	0.2454	490.48
23	0.2909	22.000	0.2458	491.28
24	0.3045	23.028	0.2467	493.10
25	0.3174	24.004	0.2471	493.90
26	0.3312	25.048	0.2476	494.91
27	0.3444	26.046	0.2487	497.13
28	0.3572	27.014	0.2492	498.14
29	0.3703	28.004	0.2496	498.94
30	0.3835	29.003	0.2502	500.15
31	0.3972	30.039	0.2508	501.36
32	0.4103	31.030	0.2513	502.37
33	0.4232	32.005	0.2518	503.38

 * B & R SERVICE, INC. *

Company .: UNOCAL CORPORATION
 Well I.D.: RINCON 159M (DAK)
 Field I.D.: DAKOTA

Date: 09/27/92
 Run#: 1
 Page: 2

NO.	TIME		PRESSURE	
	DEFL (IN)	HRS	DEFL (IN)	PSI
34	0.4361	32.981	0.2523	504.38
35	0.4494	33.987	0.2526	504.99
36	0.4631	35.023	0.2533	506.40
37	0.4764	36.028	0.2561	512.04
38	0.4890	36.981	0.2582	516.27
39	0.5027	38.017	0.2592	518.29
40	0.5161	39.031	0.2602	520.30
41	0.5291	40.014	0.2614	522.72
42	0.5420	40.990	0.2620	523.93
43	0.5559	42.041	0.2628	525.54
44	0.5685	42.994	0.2632	526.35
45	0.5818	44.000	0.2639	527.76
46	0.5954	45.028	0.2643	528.56
47	0.6086	46.026	0.2648	529.57
48	0.6214	46.994	0.2656	531.18
49	0.6347	48.000	0.2660	531.99
50	0.6478	48.991	0.2667	533.40
51	0.6609	49.982	0.2675	535.01
52	0.6742	50.987	0.2682	536.42
53	0.6875	51.993	0.2685	537.03
54	0.7008	52.999	0.2690	538.04
55	0.7145	54.035	0.2692	538.44
56	0.7273	55.003	0.2703	540.65
57	0.7408	56.024	0.2706	541.26
58	0.7540	57.022	0.2708	541.66
59	0.7669	57.998	0.2711	542.27
60	0.7804	59.019	0.2718	543.68
61	0.7932	59.987	0.2722	544.48
62	0.8065	60.993	0.2724	544.89
63	0.8200	62.014	0.2733	546.70
64	0.8336	63.042	0.2741	548.31
65	0.8469	64.048	0.2749	549.92
66	0.8592	64.978	0.2751	550.33
67	0.8727	65.999	0.2757	551.54
68	0.8853	66.952	0.2765	553.15
69	0.8995	68.026	0.2772	554.56
70	0.9128	69.032	0.2775	555.16
71	0.9258	70.015	0.2777	555.57
72	0.9388	70.998	0.2780	556.17
73	0.9522	72.012	0.2784	556.98
74	1.0315	78.009	0.2817	563.63
75	1.1112	84.036	0.2849	570.08
76	1.1911	90.079	0.2875	575.31
77	1.2722	96.212	0.2905	581.36
78	1.3488	102.005	0.2941	588.61
79	1.4282	108.010	0.2966	593.65
80	1.5090	114.120	0.2998	600.10
81	1.5868	120.004	0.3023	605.14
82	1.6663	126.016	0.3056	611.79
83	1.7459	132.036	0.3076	615.82

 * B & R SERVICE, INC. *

Company ...: UNOCAL CORPORATION
 Well I.D...: RINCON 159M (DAK)
 Field I.D.: DAKOTA

Date: 09/27/92
 Run#: 1
 Page: 3

NO.	TIME		PRESSURE	
	DEFL (IN)	HRS	DEFL (IN)	PSI
84	1.8259	138.086	0.3092	619.04
85	1.9059	144.137	0.3118	624.28
86	1.9836	150.013	0.3143	629.32
87	2.0628	156.002	0.3163	633.35
88	2.1429	162.060	0.3163	633.35
89	2.2226	168.087	0.3224	645.64
90	2.2353	169.048	0.3229	646.65
91	2.2479	170.001	0.3232	647.25
92	2.2611	170.999	0.3233	647.46
93	2.2742	171.990	0.3238	648.46
94	2.2877	173.011	0.3243	649.47
95	2.3006	173.986	0.3246	650.08
96	2.3140	175.000	0.3453	691.79
97	2.3271	175.990	0.3535	708.31
98	2.3411	177.049	0.3582	717.78
99	2.3538	178.010	0.3607	722.82
100	2.3668	178.993	0.3626	726.65
101	2.3803	180.014	0.3639	729.27
102	2.3940	181.050	0.3655	732.49
103	2.4067	182.010	0.3666	734.71
104	2.4202	183.031	0.3680	737.53
105	2.4330	183.999	0.3688	739.14
106	2.4464	185.013	0.3699	741.36
107	2.4596	186.011	0.3708	743.17
108	2.5405	192.129	0.3764	754.46
109	2.6191	198.073	0.3806	762.92
110	2.6999	204.184	0.3848	771.39
111	2.7799	210.234	0.3884	778.64
112	2.8590	216.216	0.3918	785.49
113	2.9393	222.289	0.3956	793.15
114	3.0151	228.022	0.3969	795.77
115	3.0941	233.996	0.3992	800.40
116	3.1737	240.016	0.4018	805.64
117	3.2526	245.983	0.4045	811.08
118	3.3331	252.071	0.4073	816.73
119	3.4140	258.189	0.4097	821.56
120	3.4946	264.284	0.4119	825.99
121	3.5726	270.183	0.4146	831.44
122	3.6511	276.120	0.4172	836.68
123	3.7310	282.163	0.4193	840.91
124	3.8088	288.046	0.4215	845.34
125	3.8884	294.066	0.4238	849.97
126	3.9694	300.192	0.4263	855.01
127	4.0480	306.136	0.4283	859.04
128	4.1258	312.020	0.4306	863.68
129	4.2051	318.017	0.4328	868.11
130	4.2848	324.045	0.4347	871.94
131	4.3656	330.155	0.4365	875.57
132	4.4437	336.062	0.4392	881.01
133	4.5235	342.097	0.4387	880.00

RINCON UNIT NO. 159 M

After a 7 day SI period:

$$\text{Mesaverde BHP} = 603 \text{ psi @ } 5571'$$

$$\text{Dakota BHP} = 646 \text{ psi @ } 7659'$$

$$\text{Gas Gradient} = \frac{(0.01875)(0.66)(1500)}{(0.88)(655)} = 0.03 \text{ psi/ft}$$

Adjusting to a common datum of 5571':

$$\text{Mesaverde BHP} = 603 \text{ psi}$$

$$\text{Dakota BHP} = 646 - [(0.03)(7659 - 5571)] = 583 \text{ psi}$$

Therefore the reservoir pressures fall within the 50% requirement.



WELL ANALYSIS COMPARISON

LEASE: RINCON 159M

SEPTEMBER 15, 1992

DATE:	9/5/92	9/13/92
NO.:	20018	20020
	DAKOTA	MESAVERDE
	MOLE %	MOLE %
	-----	-----
NITROGEN	0.269	0.306
CO2	1.051	1.055
METHANE	87.444	86.667
ETHANE	7.204	7.354
PROPANE	2.410	2.706
I-BUTANE	0.433	0.493
N-BUTANE	0.570	0.653
I-PENTANE	0.221	0.254
N-PENTANE	0.142	0.166
HEXANE+	0.256	0.346
BTU'S	1137.4	1151.4
-----	-----	-----
GPM	3.1566	3.3841
-----	-----	-----
SPEC GRAV	0.6534	0.6628
-----	-----	-----

RINCON UNIT NO. 159 M
ALLOCATION FORMULA
(BASED ON C-116)

<u>GAS PRODUCTION:</u>	Mesaverde Rate	764 MCFD
	Dakota Rate	<u>598</u> MCFD
	Total Rate	<u>1362</u> MCFD

Therefore,	Mesaverde	56%
	Dakota	44%

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

Therefore,	Mesaverde	50%
	Dakota	50%

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



October 26, 1992

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. 159 M
1695' FNL, 1735' FWL
Section 18, 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



William L. Irwin
District Petroleum Engineer

WLI/DLD/df

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



October 26, 1992

Farmington District

Amoco Production Company
P.O. Box 800
Denver, Colorado 80201

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:

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Sincerely,

Union Oil Company of California
dba UNOCAL

A handwritten signature in dark ink, appearing to read "W. L. Irwin".

William L. Irwin
District Petroleum Engineer

WLI/DLD/df

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



October 26, 1992

Farmington District

Meridian Oil Production Inc.
P.O. Box 4289
Farmington, New Mexico 87499

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:

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dba UNOCAL



William L. Irwin
District Petroleum Engineer

WLI/DLD/df