

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

RELEASE 9.1.93

OIL CONSERVATION DIVISION  
RECEIVED

1993 AUG 11 AM 8 52

**UNOCAL** 

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

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. 151M  
1150' FSL, 1675' FEL  
Section 14, 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 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", is written over the typed name.

Glen O. Papp  
Field Superintendent

Attachments

GOP/DLD/df

# OFFSET LEASE OWNERSHIP

R 7 W

|                        |                         |                         |
|------------------------|-------------------------|-------------------------|
| EL PASO<br>78972<br>10 | EL PASO<br>78972<br>11  | AMOCO<br>79298B<br>12   |
| EL PASO<br>78640<br>15 | RINCON UNIT #151M<br>14 | 13                      |
| 22                     | 23                      | EL PASO<br>79298C<br>24 |

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

Form C-116  
Revised 1/1/89

## OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

### GAS - OIL RATIO TEST

|                                  |                                                 |          |                    |     |                                    |            |                                                |                  |                                  |                   |              |           |                            |            |
|----------------------------------|-------------------------------------------------|----------|--------------------|-----|------------------------------------|------------|------------------------------------------------|------------------|----------------------------------|-------------------|--------------|-----------|----------------------------|------------|
| Operator                         | Union Oil Company of California                 |          | Pool               |     | Blanco Mesaverde/Basin Dakota      |            | County                                         |                  | Rio Arriba                       |                   |              |           |                            |            |
| Address                          | 3300 N. Butler, Suite 200, Farmington, NM 87401 |          | TYPE OF TEST - (X) |     | Scheduled <input type="checkbox"/> |            | Completion <input checked="" type="checkbox"/> |                  | Special <input type="checkbox"/> |                   |              |           |                            |            |
| 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/BBL. |            |
|                                  |                                                 | U        | S                  | T   |                                    |            |                                                |                  |                                  | R                 | WATER BBL.S. | GRAV. OIL |                            | OIL BBL.S. |
| Rincon Unit                      | 151M                                            | 0        | 14                 | 27N | 7W                                 | 10/25/92   | F 19/64"                                       | 275              |                                  | 24                | -0-          | -0-       | 221                        | —          |
| Blanco Mesaverde<br>Basin Dakota |                                                 |          |                    |     |                                    | 11/ 1/92   | F 15/64"                                       | 455              |                                  | 24                | 3            | -0-       | 559                        | —          |

#### 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

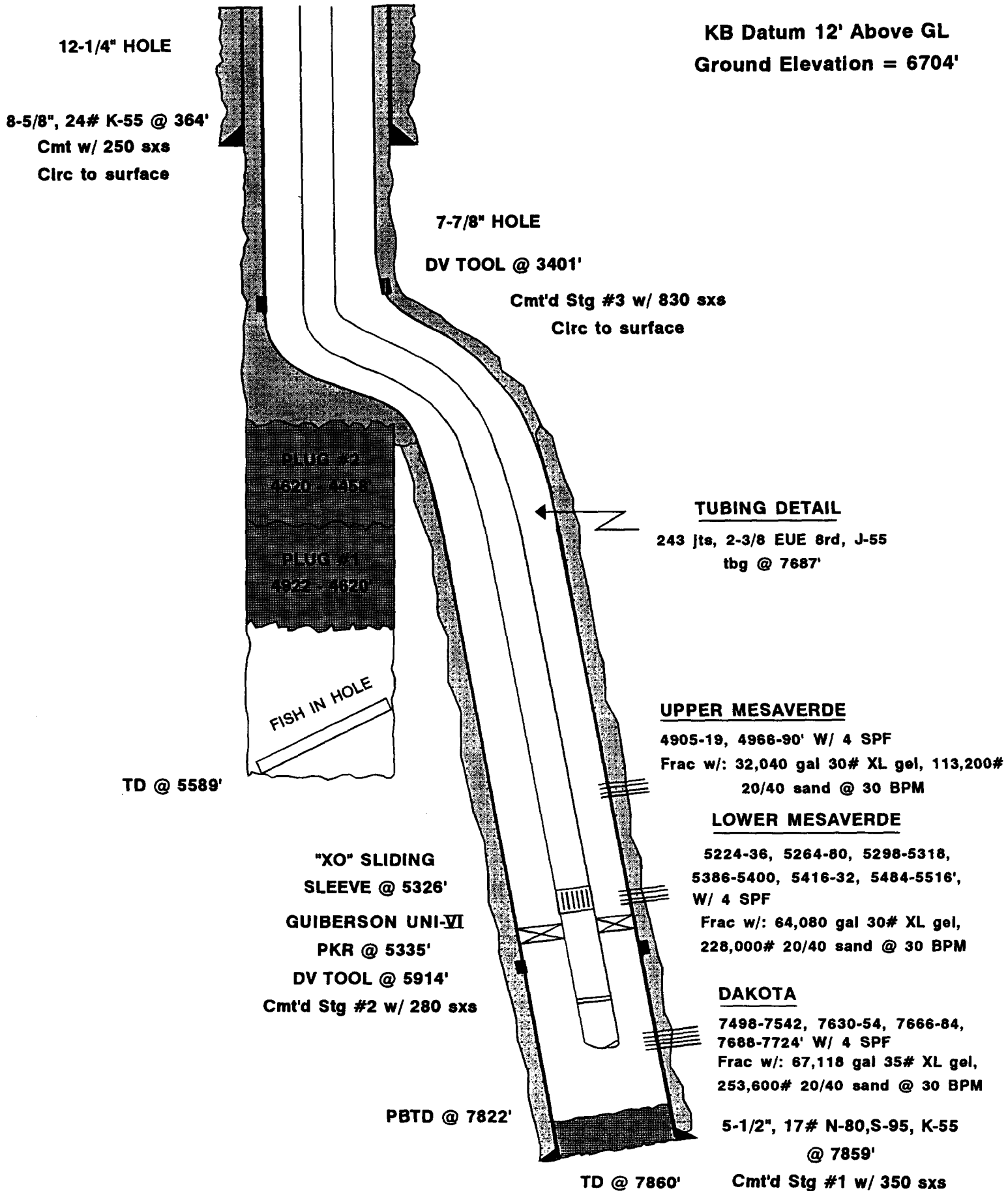
Field Superintendent

(505) 326-7600

Telephone No.

**RINCON UNIT NO. 151-M**  
**1150' FSL, 1675' FEL, SEC 14, T27N-R7W**  
**RIO ARriba COUNTY, NM**

**KB Datum 12' Above GL**  
**Ground Elevation = 6704'**



# B & R SERVICE, INC.

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

Company Unocal Lease Rincon Well 151-M  
County Rio Arriba State N.M. Date 10-25-92  
Shut-In \_\_\_\_\_ Zero Point K.B. Tbg. Pressure 1575  
Casing Pressure \_\_\_\_\_ Tbg. Depth \_\_\_\_\_ Casing Perf. \_\_\_\_\_  
Max. Temp. \_\_\_\_\_ Fluid Level None

| <u>DEPTH</u> | <u>PSIG</u> | <u>GRADIENT</u> |
|--------------|-------------|-----------------|
| 0            | 1574        | - - -           |
| 1000         | 1634        | .060            |
| 2000         | 1693        | .059            |
| 3000         | 1748        | .055            |
| 4000         | 1800        | .052            |
| 5000         | 1851        | .051            |
| 6000         | 1904        | .053            |
| 7000         | 1956        | .052            |
| 7500         | 1981        | .050            |
| 7611         | 1987        | .054            |

B & R SERVICE, INC.  
P.O. BOX 1048  
FARMINGTON, 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.<br>5039' | 540                  | 110             | 3432'         | 1607'             | 1231 PSIG         |
| 11/01/92 RINCON 151 M |          |      |       | MID PERF.<br>5211' | 750                  | 130             | 4108'         | 1103'             | 1228 PSIG         |
| 11/04/92 RINCON 171 M |          |      |       | MID PERF.<br>4883' | 340                  | 152             | 4758'         | 125'              | 394 PSIG          |
| 12/17/92 RINCON 184 M |          |      |       | MID PERF.<br>5127' | 965                  | 105             | 3308'         | 1819'             | 1753 PSIG         |
| 12/19/92 RINCON 136 E |          |      |       | MID PERF.<br>4845' | 600                  | 118             | 3729'         | 1116'             | 1139 PSIG         |
| 12/19/92 RINCON 127 M |          |      |       | MID PERF.<br>5080' | 610                  | 153             | 4835'         | 245'              | 716 PSIG          |
| 12/22/92 RINCON 125 M |          |      |       | MID PERF.<br>5277' | 480                  | 154             | 4882'         | 395'              | 789 PSIG          |
| 12/22/92 RINCON 137 E |          |      |       | MID PERF.<br>6712' | 1120                 | 205             | 6765'         | 0'                | 1120 PSIG         |
| 7/15/93 RINCON 126 M  |          |      |       | MID PERF.<br>5224' | 780                  | 155             | 4898'         | 326'              | 921 PSIG          |
| 12/4/92 RINCON 168 E  |          |      |       | MID PERF.<br>6608' | 1020                 | 203             | 6415'         | 193'              | 1104 PSIG         |

AVERAGE TUBING LENGTH:  
REMARKS:

**RINCON UNIT NO. 151 M**

After a 7 day SI period:

$$\text{Mesaverde BHP} = 1228 \text{ psi @ } 5211'$$

$$\text{Dakota BHP} = 1987 \text{ psi @ } 7611'$$

$$\text{Gas Gradient} = 0.052 \text{ psi/ft}$$

Adjusting to a common datum of 5211':

$$\text{Mesaverde BHP} = 1228 \text{ psi}$$

$$\text{Dakota BHP} = 1987 - [(0.052)(7611 - 5211)] = 1862 \text{ psi}$$

Therefore the reservoir pressures fall within the 50% requirement.





(505) 325-6622

ANALYSIS NO. UN020031

## WELL/LEASE INFORMATION

COMPANY: UNOCAL CORPORATION

WELL NAME: RINCON #151M

LINE PRESSURE: 255 PSIG

LOCATION:

SAMPLE TEMP.: 68 DEG.F

COUNTY: RIO ARRIBA, NM

WELL FLOWING: YES

FORMATION: DAKOTA

DATE SAMPLED: 11/01/92

SMPL SRC:

SAMPLED BY: KIVA

REMARKS: TAKEN @ TEST UNIT

## ANALYSIS

| COMPONENT                      | MOLE%   | GPM    |
|--------------------------------|---------|--------|
| NITROGEN                       | 0.160   | 0.0000 |
| CO2                            | 1.144   | 0.0000 |
| METHANE                        | 89.255  | 0.0000 |
| ETHANE                         | 5.918   | 1.5831 |
| PROPANE                        | 1.913   | 0.5272 |
| I-BUTANE                       | 0.335   | 0.1096 |
| N-BUTANE                       | 0.514   | 0.1621 |
| I-PENTANE                      | 0.212   | 0.0776 |
| N-PENTANE                      | 0.154   | 0.0558 |
| HEXANE+                        | 0.395   | 0.1723 |
| TOTAL                          | 100.000 | 2.6876 |
| COMPRESSIBILITY FACTOR         | (1/Z)   | 1.0027 |
| BTU/CU.FT. (DRY) CORRECTED FOR | (1/Z)   | 1122.5 |
| BTU/CU.FT. (WET) CORRECTED FOR | (1/Z)   | 1103.0 |
| REAL SPECIFIC GRAVITY          |         | 0.6442 |

ANALYSIS RUN AT 14.73 PSIA &amp; 60 DEGREES F

CYLINDER PRESSURE: 258 PSIG

DATE RUN: 11/02/92

ANALYSIS RUN BY: CHELLE DURBIN



1 3 FARMINGTON AVENUE - FARMINGTON, NM 87401

(505) 325-6622

ANALYSIS NO. UN020028

WELL/LEASE INFORMATION

COMPANY: UNOCAL CORPORATION

WELL NAME: RINCON 151M

LINE PRESSURE: 250 PSIG

LOCATION:

SAMPLE TEMP.: 70 DEG.F

COUNTY: RIO ARriba

WELL FLOWING: YES

FORMATION: MESA VERDE

DATE SAMPLED: 10/92

SMPL SRC:

SAMPLED BY: TSB-KIVA

REMARKS:

ANALYSIS

| COMPONENT                            | MOLE%   | GPM    |
|--------------------------------------|---------|--------|
| NITROGEN                             | 0.290   | 0.0000 |
| CO2                                  | 0.904   | 0.0000 |
| METHANE                              | 85.350  | 0.0000 |
| ETHANE                               | 8.071   | 2.1590 |
| PROPANE                              | 3.234   | 0.8913 |
| I-BUTANE                             | 0.542   | 0.1773 |
| N-BUTANE                             | 0.787   | 0.2481 |
| I-PENTANE                            | 0.297   | 0.1087 |
| N-PENTANE                            | 0.206   | 0.0746 |
| HEXANE+                              | 0.319   | 0.1391 |
| TOTAL                                | 100.000 | 3.7981 |
| COMPRESSIBILITY FACTOR               | (1/Z)   | 1.0030 |
| BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) |         | 1172.2 |
| BTU/CU.FT. (WET) CORRECTED FOR (1/Z) |         | 1151.8 |
| REAL SPECIFIC GRAVITY                |         | 0.6735 |

ANALYSIS RUN AT 14.73 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 237 PSIG

DATE RUN: 10/26/92

ANALYSIS RUN BY: CHELLE DURBIN

RINCON UNIT NO. 151 N

C-116 ADJUSTMENT

BASIN DAKOTA

$n = 0.75$

$P_R = 1987 \text{ psi @ } 7611'$

$P_{wf1} = 851 \text{ psi @ } 7611'$

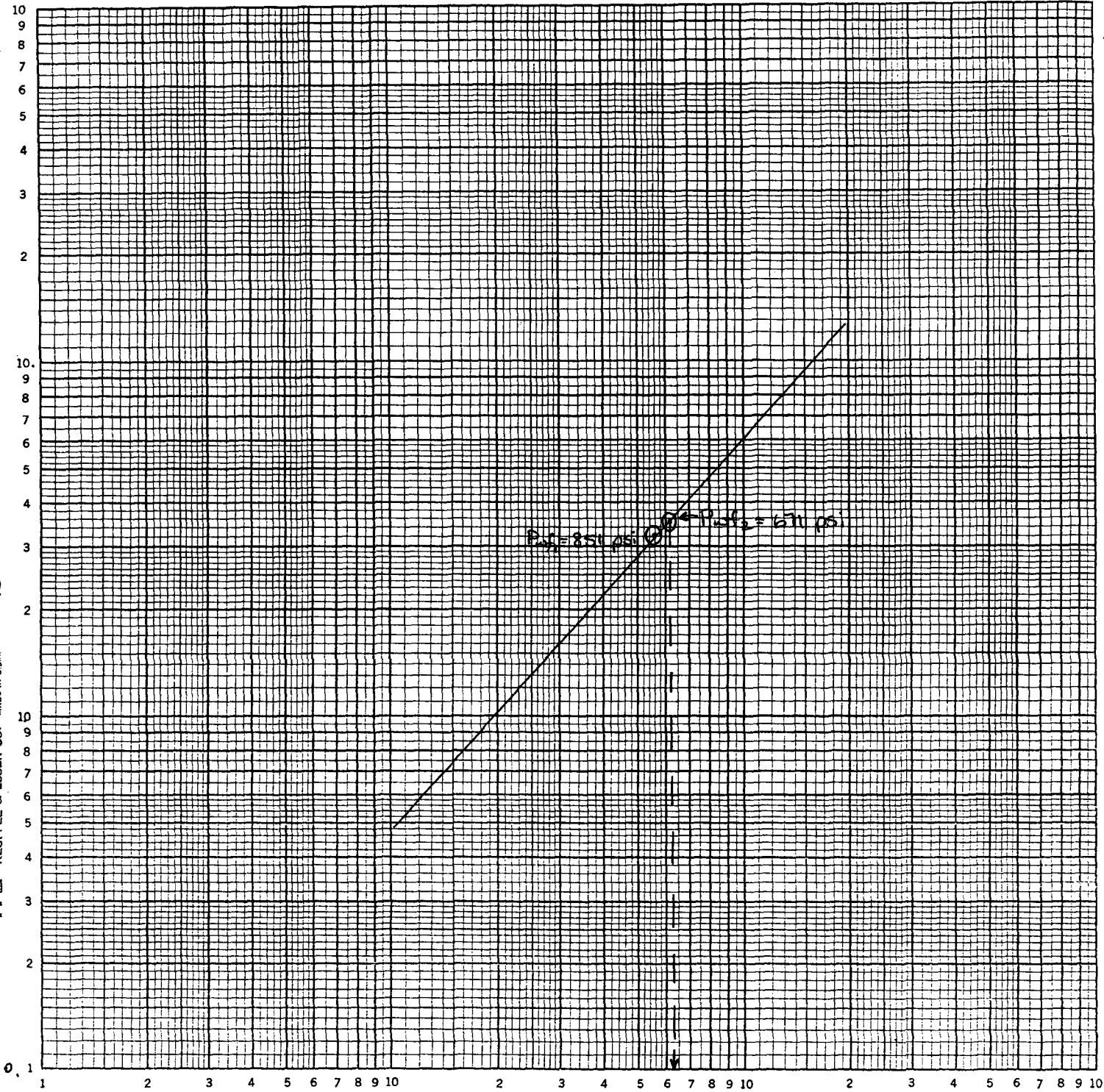
$Q_1 = 559 \text{ MCFD}$

$P_{wf2} = 671 \text{ psi @ } 7611'$

46 7403

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

K<sub>0</sub>Σ LOGARITHMIC 3 X 3 CYCLES  
KEUFFEL & ESSER CO. MADE IN U.S.A.



$Q_2 = 630 \text{ MCFD}$

$Q$  (MCFD)

RINCON UNIT NO. 151 M  
ALLOCATION FORMULA

(BASED ON ADJUSTED C-116)

|                        |                |                 |
|------------------------|----------------|-----------------|
| <u>GAS PRODUCTION:</u> | Mesaverde Rate | 221 MCFD        |
|                        | Dakota Rate    | <u>630</u> MCFD |
|                        | Total Rate     | <u>851</u> MCFD |

|            |           |     |
|------------|-----------|-----|
| Therefore, | Mesaverde | 26% |
|            | Dakota    | 74% |

|                        |                |               |
|------------------------|----------------|---------------|
| <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

**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:

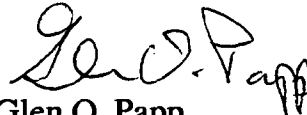
Union Oil Company of California (UNOCAL) has requested permission from the New Mexico Oil Conservation Division to downhole commingle production from the Blanco Mesaverde and Basin Dakota formations in the following well:

Rincon Unit No. 151M  
1150' FSL, 1675' FEL  
Section 14, 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

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

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

Dear Sirs:

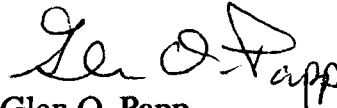
Union Oil Company of California (UNOCAL) has requested permission from the New Mexico Oil Conservation Division to downhole commingle production from the Blanco Mesaverde and Basin Dakota formations in the following well:

Rincon Unit No. 151M  
1150' FSL, 1675' FEL  
Section 14, 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

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



August 6, 1993

Farmington District

Amoco Production Company  
P.O. Box 800  
Denver, CO 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:

Rincon Unit No. 151M  
1150' FSL, 1675' FEL  
Section 14, 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