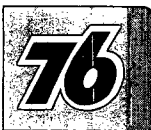


**SPIRIT
ENERGY**



New Name. Same Spirit.
A Business Unit of Unocal

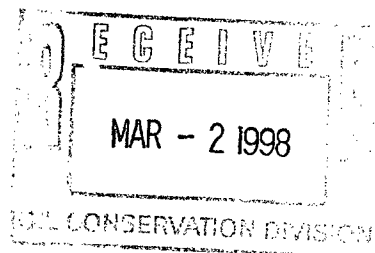
DHC 3/23/98

1865

February 24, 1998

U.S. Department of the Interior
Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

Commissioner of Public Lands
State of New Mexico
310 Old Santa Fe Trail
Santa Fe, NM 87504-1148



1841

New Mexico Oil Conservation Division
2040 S. Pacheco Street
Santa Fe, NM 87505
Cc: NMOCD, Aztec, NM

Gentlemen,

Union Oil Company of California (UNOCAL) requests approval to down hole commingle production from the Largo Gallup and Basin Dakota formations in the following Rincon Unit well, Rio Arriba County, New Mexico.

<u>Well</u>	<u>Lease</u>	<u>Legal Location</u>
57E	Federal	790' FSL, 1825' FEL, SE Sec 1, T26N, R7W

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

Form C-107-A with supporting data is attached.

If you have any questions please contact Heather Dahlgren at 915/685-7665.

Sincerely,

Spirit Energy 76
A Business Unit of UNOCAL

Heather Dahlgren
Engineering Technician

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
811 South First St., Artesia, NM 88210-2835

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410-1693

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

Form C-107-A
New 3-12-96

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Operator UNION OIL CO OF CALIFORNIA (UNOCAL)

Address 1004 N. BIG SPRING, MIDLAND TX 79702

Lease RINCON UNIT

Well No. 57E

Unit Ltr. - Sec. - Twp. - Rge. 0 1 26N 7W

County RIO ARRIBA

GRID NO. 023708 Property Code 011510 API NO. 30-039-25185 Spacing Unit Lease Types: (check 1 or more)
Federal ☒ State ☐ Land/for Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	LARGO GALLUP 80000		BASIN DAKOTA 71599
2. Top and Bottom of Pay Section (Perforations)	6330 - 6536		7024 - 7258
3. Type of production (Oil or Gas)	GAS		GAS
4. Method of Production (Flowing or Artificial Lift)	FLOWING		FLOWING
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 495 psia b. (Original) 768 psig	a. b.	a. 605 psia b. 2350 psig
6. Oil Gravity (° API) or Gas BTU Content	1270 BTU		1181 BTU
7. Producing or Shut-In?	PRODUCING		PRODUCING
Production Marginal? (yes or no)	NO		YES
* If Shut-In, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: 12-97 Rates: 640 mcf/d, 0 bopd 0 bwpd	Date: Rates:	Date: 12-97 Rates: 124 mcf/d, 5 bopd 5 bwpd
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 82 % Gas: 82 %	Oil: % Gas: %	Oil: 18 % Gas: 18 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? Yes ☒ No ☐
If not, have all working, overriding, and royalty interests been notified by certified mail? R 9893 Yes ☐ No ☐
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No ☐

11. Will cross-flow occur? ☐ Yes ☒ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☐ Yes ☐ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No

13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No

15. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). SEE ATTACHED

16. ATTACHMENTS:
* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
* Production curve for each zone for at least one year. (If not available, attach explanation.)
* For zones with no production history, estimated production rates and supporting data.
* Data to support allocation method or formula.
* Notification list of all offset operators.
* Notification list of working, overriding, and royalty interests for uncommon interest cases.
* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Heather Dahlgren TITLE Engineering Tech DATE 2-25-98

TYPE OR PRINT NAME HEATHER DAHLGREN TELEPHONE NO. (915) 685 7665

February 24, 1998

Supplemental Data for C-107-A, Rincon Unit Well No. 57E

Well History: The 57E was drilled and completed as a dual Dakota/Gallup well in August 1992. Down hole commingling will maximize production from both zones by increasing the efficiency of fluid unloading in this well.

Production History: Current gas production is 124 Mcfd from the Dakota and 640 Mcfd from the Gallup. Condensate production is surface commingled. The combined condensate production averages 2 bbls per day with trace water production.

Pressure Data: Original bottom hole pressures were measured from build up tests (7 day shut-in Gallup, 15 day shut-in Dakota) conducted in August 1992 following the completion of the well. Current bottom hole pressures were calculated from 5 day surface shut-in casing pressures taken during July 1997 packer leakage tests. Please see attachments for the bottom hole calculation, date and duration of each test.

Allocation of Production: Unocal proposes to use a fixed allocation based on 1997 production volumes (See attachment). Both zones have five years of production history and the decline rates between the two zones are similar enough that the fixed allocation percentage will be reliable.

NMOCD Reference Cases for Rule 303(D) Exceptions

Unocal, Rincon Unit, Rio Arriba County, New Mexico

Rincon Unit Well	Legal Description	NMOCD Order No.	Issue Date
302	C S 11 T 26 N R 7 W	DHC-1050	11/3/94
134	B S 12 T 26 N R 7 W	DHC-1190	3/7/96
159M	F S 18 T 27 N R 6 W	DHC-904	6/18/93
174M	F S 19 T 27 N R 6 W	DHC-966	1/31/94
170	M S 20 T 27 N R 6 W	DHC-1192	3/7/96
170M	I S 20 T 27 N R 6 W	DHC-920	9/17/93
175M	F S 20 T 27 N R 6 W	DHC-864	11/24/92
171M	J S 21 T 27 N R 6 W	DHC-1101	3/7/95
180M	D S 21 T 27 N R 6 W	DHC-940	10/25/93
158M	J S 22 T 27 N R 6 W	DHC-909	4/27/93
125M	F S 26 T 27 N R 6 W	DHC-95	9/17/93
126M	P S 27 T 27 N R 6 W	DHC-914	9/17/93
127M	D S 28 T 27 N R 6 W	DHC-916	8/17/93
128M	O S 28 T 27 N R 6 W	DHC-1042	8/31/94
129M	P S 29 T 27 N R 6 W	DHC-903	6/18/93
1E	G S 30 T 27 N R 6 W	DHC-902	6/18/93
303	E S 33 T 27 N R 6 W	DHC-1086	2/3/95
186M	L S 33 T 27 N R 6 W	DHC-1176	12/21/95
167M	C S 13 T 27 N R 7 W	DHC-863	11/5/92
151M	O S 14 T 27 N R 7 W	DHC-918	9/17/93
133E	D S 14 T 27 N R 7 W	DHC-1043	8/31/94
184M	P S 15 T 27 N R 7 W	DHC-911	8/25/93
185E	J S 22 T 27 N R 7 W	DHC-1038	8/31/94
136E	D S 23 T 27 N R 7 W	DHC-912	9/17/93
178E	I S 23 T 27 N R 7 W	DHC-1040	8/31/94
138E	P S 25 T 27 N R 7 W	DHC-1044	8/31/94
139E	F S 25 T 27 N R 7 W	DHC-1041	8/31/94
203	M S 27 T 27 N R 7 W	DHC-1261	5/23/96
149M	F S 30 T 27 N R 7 W	DHC-1037	8/31/94
229E	M S 34 T 27 N R 7 W	DHC-1124	5/16/95
187E	P S 35 T 27 N R 7 W	DHC-1176	12/21/95
131E	C S 36 T 27 N R 7 W	DHC-1039	8/31/94
168E	I S 36 T 27 N R 7 W	DHC-1191	3/7/96
183	K S 31 T 27 N R 6 W	DHC-1376	10/16/96
168	A S 36 T 27 N R 7 W	DHC-1778	2/4/98
139	K S 25 T 27 N R 6 W	DHC-1777	2/4/98
181	G S 22 T 27 N R 6 W	DHC-1779	2/4/98
166E	F S 32 T 27 N R 6 W	DHC-1784	2/24/98

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-25185		² Pool Code 80000	³ Pool Name LARGO GALLUP
⁴ Property Code 011510	⁴ Property Name RINCON UNIT		⁵ Well Number 57E
⁷ OGRID No. 023708	⁶ Operator Name UNION OIL COMPANY OF CALIFORNIA (UNOCAL)		⁸ Elevation 6457'

¹⁰ Surface Location

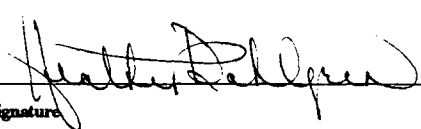
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	1	26N	7W		790	S	1825	E	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres 159.30	¹³ Joint or Infill Y	¹⁴ Consolidation Code U	¹⁵ Order No. Unitization
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16					¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief  Signature Printed Name HEATHER DAHLGREN Title ENGINEERING TECHNICIAN Date 2-24-98
					¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my Date of Survey Signature and Seal of Professional Surveyor: Certificate Number

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 811 South First, Artesia, NM 88210
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 2040 South Pacheco
 Santa Fe, NM 87505

Form C-102
 Revised October 18, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 4 Copies
 Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-25185		² Pool Code 71599	³ Pool Name BASIN DAKOTA
⁴ Property Code 011510	⁴ Property Name RINCON UNIT		⁴ Well Number 57E
⁷ OGRID No. 023708	⁷ Operator Name UNION OIL COMPANY OF CALIFORNIA (UNOCAL)		⁷ Elevation 6457'

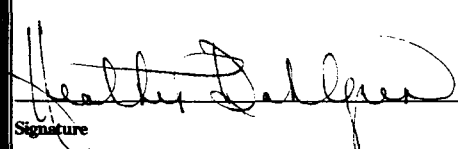
¹⁰ Surface Location

UL or lot no. O	Section 1	Township 26N	Range 7W	Lot Idn	Feet from the 790	North/South line S	Feet from the 1825	East/West line E	County Rio Arriba
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 319.73	¹³ Joint or Infill Y	¹⁴ Consolidation Code U		¹⁴ Order No. Unitization					

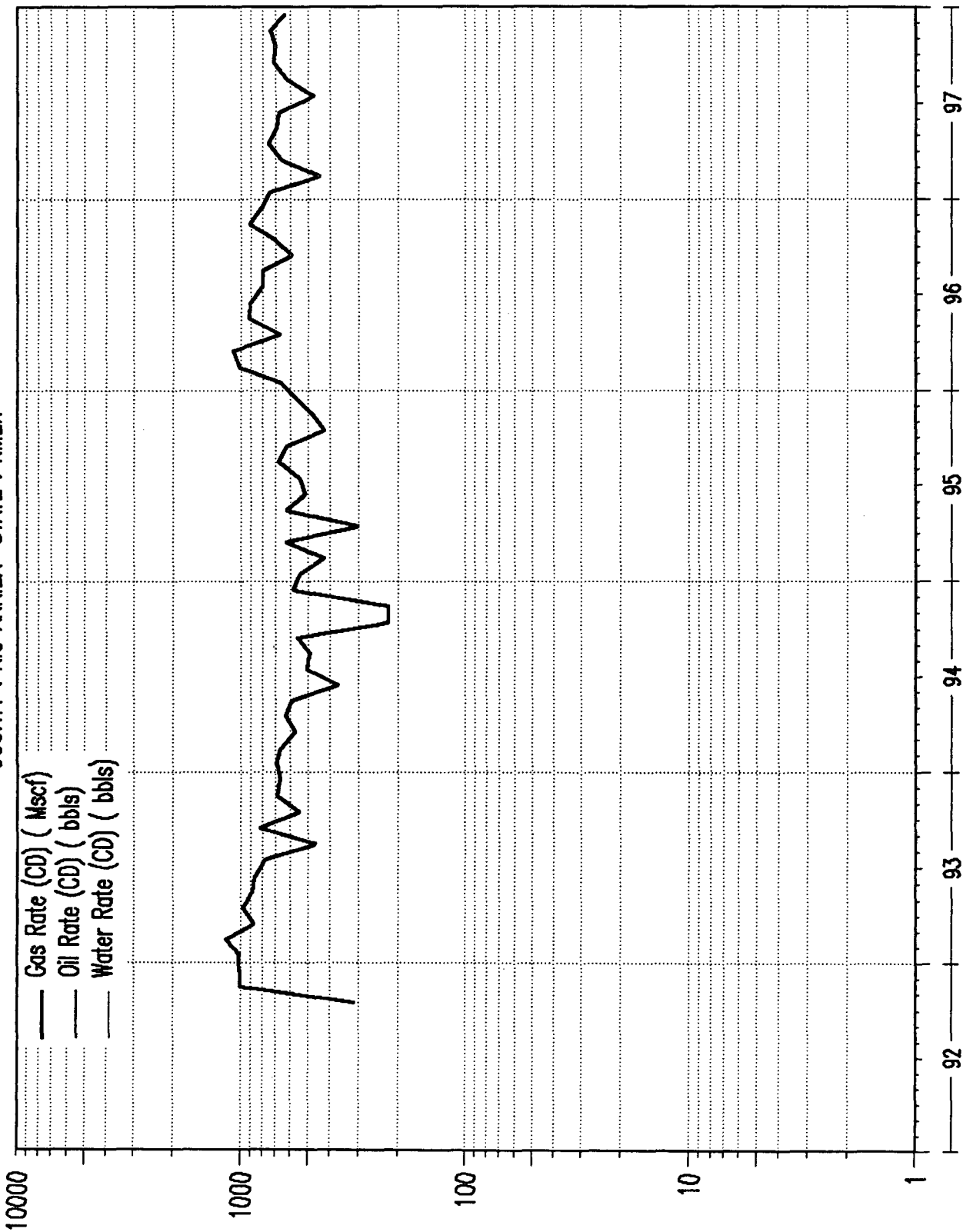
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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					¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my Date of Survey Signature and Seal of Professional Surveyor: Certificate Number

WELL: RINCON UNIT 57E:GL

LOCATION : N026 W007 1 NESWSE

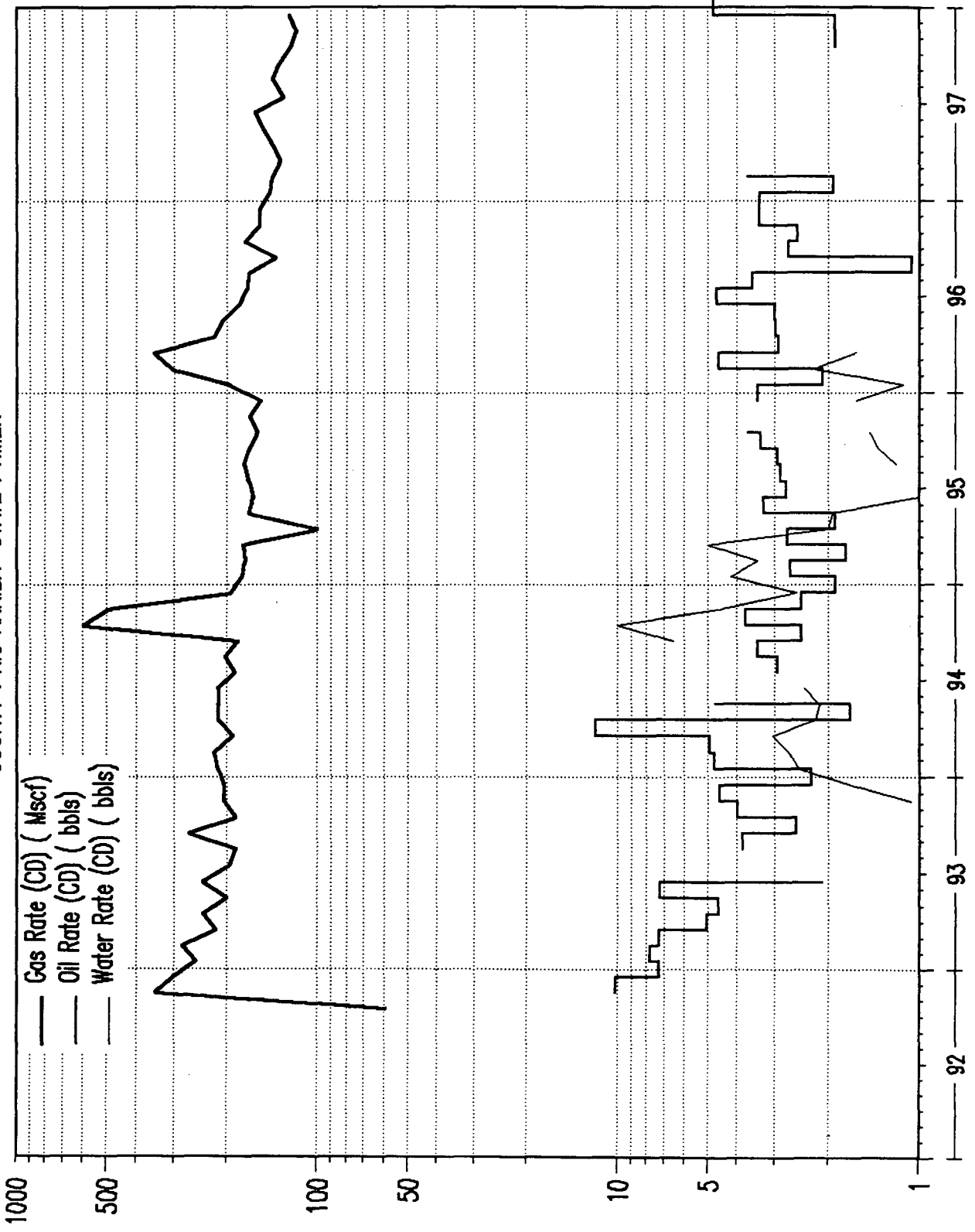
COUNTY : RIO ARRIBA STATE : NMEX



WELL: RINCON UNIT 57E:DK

LOCATION : N026 W007 1 NESWSE

COUNTY : RIO ARriba STATE : NMEX



GAS PERCENTAGES BASED ON HISTORICAL PRODUCTION
RINCON UNIT 57E: DAKOTA / GALLUP DUAL GAS PRODUCER

DATE	Dakota		Gallup		% Gas Volume Dakota	% Gas Volume Gallup
	DAYS	Gas Volume Mcf	DAYS	Gas Volume Mcf		
MONTHLY						
9701	31	4478	31	22845	16%	84%
9702	28	3957	26	12505	24%	76%
9703	31	4111	31	20282	17%	83%
9704	30	4223	30	22505	16%	84%
9705	30	4707	30	21527	18%	82%
9706	30	4848	30	20088	19%	81%
9707	31	4038	31	14736	22%	78%
9708	31	4384	31	19345	18%	82%
9709	31	4003	31	21429	16%	84%
9710	31	3818	31	21703	15%	85%
9711	30	3520	30	22211	14%	86%
9712	30	3837	30	19853	16%	84%
YTD	304	42,567	302	196,965	18%	82%

* Oil Production is surface commingled in this well.

--BHPCALC--

Calculated BHP and Z-factor from surface shut-in pressure

TEST DATE: 07/29/97

WELL NAME : Rincon Unit 57E GL (Current Pressure)

GAS GRAVITY: 0.73 % N2 0.26
CONDENSATE (YES=1): 1 % CO2 0.61 %
RESERVOIR TEMP: 175 F % H2S 0.00 %
SURFACE TEMP: 60 F PC = 664.71 %
DEPTH OF ZONE: 6433 Foot TC = 389.30

SURFACE PRES	BHP	Z	BHP/Z
Psia	psia		psia
420	495	0.9457	524

Current pressure obtained after 5 day shut-in.

--BHPCALC--

Calculated BHP and Z-factor from surface shut-in pressure

TEST DATE: 07/29/97

WELL NAME : Rincon Unit 57E DK (Current Pressure)

GAS GRAVITY: 0.69 % N2 0.55
CONDENSATE (YES=1): 1 % CO2 1.12 %
RESERVOIR TEMP: 185 F % H2S 0.00 %
SURFACE TEMP: 60 F Pc = 669.68 %
DEPTH OF ZONE: 7141 Foot Tc = 378.15

SURFACE PRES	BHP	Z	BHP/Z
psia	psia		psia
510	605	0.9450	640

Current pressure obtained after 5 day shut-in.

This form is not to
be used for reporting
packer leakage tests
in Southeastern New Mexico

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator UNION OIL OF CALIFORNIA/dba UNOCAL Lease RINCON UNIT Well No. 57E
Location of Well: Unit 0 Sec. 01 Twp. 26N Rge 07W County RIO ARRIBA

	NAME OF RESERVOIR OR POOL	TYPE OF PROD. (Oil or Gas)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
Upper Completion	LARGO GALLUP	GAS	FLOW	TUBING
Lower Completion	BASIN DAKOTA	GAS	FLOW	TUBING

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
Upper Completion	8:40a.m. 07/24/97	5 DAYS	CSG 420 TBG 420	YES
Lower Completion	8:40a.m. 07/24/97	5 DAYS	SI press. psig TBG 510	YES

FLOW TEST NO. 1

Commenced at (hour, date)* 9:a.m. 07/29/97				Zone producing (Upper or Lower)* Lower	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower Completion		
9:20a.m. 07/29/97	21 hrs	CSG 370 TBG 370	TBG 125	61°	Q = 160 mcf
8:30a.m. 07/30/97	44 hrs	CSG 375 TBG 375	TBG 95	60°	Q = 160 mcf

Production rate during test

Oil: _____ BOPD based on _____ Bbls. in _____ Hours. _____ Grav. _____ GOR _____

Gas: _____ MCFPD; Tested thru (Orifice or Meter): _____

MID-TEST SHUT-IN PRESSURE DATA

	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
Upper Completion			CSG TBG	
Lower Completion			SI press. psig TBG	

(Continue on reverse side)



New Name. Same Spirit.
A Business Unit of Unocal

February 24, 1998

Caulkins Oil Co.
P.O. Box 340
Bloomfield, NM 87413

Gentlemen:

Union Oil Company of California (UNOCAL) has requested from the State of New Mexico Oil Conservation Division, approval to down hole commingle production from the Largo Gallup and Basin Dakota formations in the following Rincon Unit well, Rio Arriba County, New Mexico.

<u>Well</u>	<u>Legal Location</u>
57E Federal	790' FSL, 1825' FEL, SE Sec 1, T26N, R7W

If Caulkins Oil Co., as an offset operator, has an objection to this proposal, please notify NMOCD within twenty days. If you have any questions regarding this application, please contact Tom Baiair at 915/685-6836.

Sincerely,

Spirit Energy 76
A Business Unit of UNOCAL

A handwritten signature in black ink, appearing to read "Thomas E. Baiair".

Thomas E. Baiair
Petroleum Engineer