

SPIRIT ENERGY 76

New Name. Same Spirit.
A Business Unit of Unocal

DHC 12/22/97

DEC - 2 1997

November 28, 1997

New Mexico Oil Conservation Division
Attn.: Mr. William J. LeMay
2040 S. Pacheco Street
Santa Fe, NM 87505

Dear Mr. LeMay,

Union Oil Company of California d.b.a. UNOCAL requests approval to down-hole commingle hydrocarbon production from the Blanco Mesa Verde and Basin Dakota formations in the following Rincon Unit wells, Rio Arriba County, New Mexico.

Well	Legal Location
139	1650' FSL, 1650' FWL, SW Sec 25, T27N, R7W
168	1190' FNL, 1190' FEL, NE Sec 36, T27N, R7W
181	1550' FNL, 1750' FEL, NE Sec 22, T27N, R6W

Forms C-107-A with supporting data for each well are attached.

Mesaverde reserves would be developed most economically if these wells were granted downhole commingling approval. Approval prior to completion is being sought because production casing size will not support running dual production strings. Drilling a replacement well of larger casing size or a stand alone Mesa Verde well is not economical at this time.

A list of twenty-six bottom hole pressure measurements from new and mature completions, taken in 1993 and 1994, are submitted as reference cases. Calculated bottom hole pressures from 7-day surface shut-in pressures were used to determine current Dakota bottom hole pressures. No permanent loss of reserves due to cross flow should occur in these wells. Formation damage due to incompatible fluids has not been observed for existing downhole commingled completions on the Rincon Unit.

To date, thirty-four exceptions to rule 303-A have been granted for the Rincon Unit. In 1996, Unocal added and downhole commingled a Mesaverde completion with a mature Dakota in the Rincon Unit Well No. 183. The method for allocating production is based on the allocation formula approved by NMOCD Order DHC-1376 issued October 16th, 1996. This method accounts for approximately twelve months of "flush production" typically associated with new completions in the Rincon Unit. A fixed percentage allocation is determined after 12 months. Production forecasts for the existing Dakota formations are based on decline curve analysis. The projected Mesaverde production is the average of six Mesaverde wells completed since 1992 that have separately metered volumes.

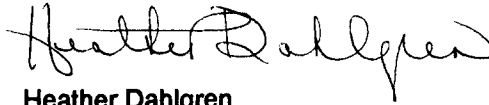
New Mexico Oil Conservation Division
November 28, 1997
Page 2

UNOCAL is confident that production will not be wasted and the proposed method of completion will efficiently drain Dakota and Mesa Verde acreage for these wellbores.

If you have any questions regarding this proposal please contact Tom Baiar at 915/685-6836.

Sincerely,

Spirit Energy 76
A Business Unit of UNOCAL

A handwritten signature in cursive script, appearing to read "Heather Dahlgren".

Heather Dahlgren
Engineering Technician

TEB:ss

Att.

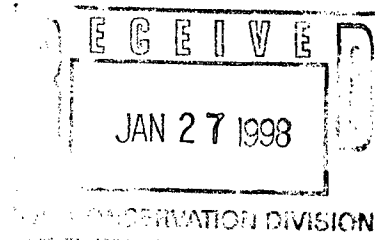
cc: New Mexico Oil Conservation Division/Aztec,NM

SPIRIT ENERGY

76

New Name. Same Spirit.
A Business Unit of Unocal

January 24, 1998



New Mexico Oil Conservation Division
Attn.: David Catanach
2040 S. Pacheco Street
Santa Fe, NM 87505

Re: Supplemental data for Rincon Unit
November 28th, 1998 Down Hole
Commingling Applications.

Dear Mr. Catanach,

Union Oil Company of California d.b.a. UNOCAL is providing a revised C-107-A with attachments, for the following Rincon Unit wells, Rio Arriba County, New Mexico.

Well	Lease	Legal Location
139	Federal	1650' FSL, 1650' FWL, SW Sec 25, T27N, R7W
168	State	1190' FNL, 1190' FEL, NE Sec 36, T27N, R7W
181	Federal	1550' FNL, 1750' FEL, NE Sec 22, T27N, R6W

As per our phone conversation Friday, January 23rd, 1998, the issues of current and original bottom hole pressure, existing formation allocation methods and interests have been addressed. The enclosed attachments are supplements to data submitted November 28th, 1997. The Commissioner of Public Lands will be receiving these supplements as well as data from the original submission. Approval to down-hole commingle the above wells in the Basin Dakota and Blanco Mesaverde formations has already been granted by the Bureau of Land Management. They will, however, be provided with a copy of the enclosed attachments.

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

If you have any questions please contact Heather Dahlgren at 915/685-7665. Thank you for your prompt attention to this matter.

Sincerely,

Spirit Energy 76
A Business Unit of UNOCAL

Heather Dahlgren
Engineering Technician

cc: New Mexico Oil Conservation Division/Aztec, NM
Commissioner of Public Lands/Santa Fe, NM
Bureau of Land Management/Farmington, NM

January 24, 1998

Supplemental Data for C-107-A, Rincon Unit Well No. 139

Union Oil Company of California d.b.a. UNOCAL requests approval to down-hole commingle hydrocarbon production from the Blanco Mesa Verde and Basin Dakota formations in the following Rincon Unit well, Rio Arriba County, New Mexico.

Well	Lease	Legal Location
139	Federal	1650' FSL, 1650' FWL, SW Sec 25, T27N, R7W

A revised C-107-A is attached.

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

Well History: This well was drilled and completed with 4-1/2" casing, in December 1962, in the Dakota formation. Estimated Mesaverde completion date is January 27th, 1998. The Dakota is shut-in, the Mesaverde is cleaning up following the stimulation treatment on January 19th, 1998.

Production History: Average Dakota production prior to commingling was 114 Mcfd with trace oil and water production. Based on actual IP's and production from recent Mesaverde recompletions on the Rincon Unit, an estimated initial rate for the first 30 days of Mesaverde production is 338 Mcfd and 4 Bopd.

Pressure Data: Bottom hole pressures were obtained from surface shut-in casing pressure measurements. Please see attachments 1a. through 1c. for the bottom hole calculation, date and duration of each test. The pressures measured in this well are consistent with bottom hole pressure measurements that have been taken in new and existing Mesaverde and Dakota formations on the Rincon Unit and should accurately reflect current reservoir pressures.

Allocation of Production: Unocal proposes to use an allocation method based on an established Dakota annual decline rate of 3.8%. Dakota production will be extrapolated monthly using Bureau of Land Management recommended allocation methods with the remainder of the commingled production being allocated to the Mesaverde formation. See attachments 2a. and 2b. for the Dakota forecast. Tabular data has been provided for the first five years of the Dakota forecast. Please note that initial flush production volumes have been added to the Dakota forecast due to the extended shut-in period. We anticipate being able to convert to a fixed allocation factor within 12 to 24 months of commingled production. Unocal also proposes to use a yield factor for allocating liquid production. This factor represents the average yield for oil and water production over the last two years of actual production. Please see attachment 3. for 24 months of forecasted liquid volumes.

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 87505-6429Form C-107-A
New 3-12-96

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

UNION OIL COMPANY OF CALIFORNIA 1004 N. BIG SPRING, MIDLAND TX 79702
Operator Address
RINCON UNIT 139 K 25 T27N R7W RIO ARRIBA
Lease Well No. Unit Ltr. - Sec - Twp - Rge County
OGRID NO. 023708 Property Code 011510 API NO. 30-039-06890 Spacing Unit Lease Types. (check 1 or more)
Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	BLANCO MESAVERDE 72319		BASIN DAKOTA 71599
2. Top and Bottom of Pay Section (Perforations)	5341 - 5431		7352 - 7537
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) 1-23-98 1063 psia b. (Original) 1-23-98 1063 psia	a. b.	a. 7-29-97 597 psia b. 12-28-62 3147 psia
6. Oil Gravity (° API) or Gas BTU Content	1184 BTU		1193 BTU
7. Producing or Shut-In?	(Cleaning up) SI		SHUT IN
Production Marginal? (yes or no)	YES		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: NEW COMPLETION	Date: Rates:	Date: 10-97 Rates: 168 mcf/d, .3 bopd .3 bwpd
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula - % for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

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. NMOCD 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 Eng. Technician DATE 1-24-98

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

--BHPCALC--

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

TEST DATE: 07/29/97

WELL NAME : **Rincon Unit 139 DK (Current Pressure)**

GAS GRAVITY: 0.69 % N2 0.20
 CONDENSATE (YES=1): 1 % CO2 1.17 %
 RESERVOIR TEMP: 195 F % H2S 0.00 %
 SURFACE TEMP: 60 F Pc = 670.13 %
 DEPTH OF ZONE: 7444 Foot Tc = 379.92

SURFACE PRES	BHP	Z	BHP/Z
psia	psia		psia
500	597	0.9479	630

Current pressure obtained after 7 day shut-in during
 El Paso plant maintenance shut down.

ATTACHMENT 1a.

--BHPCALC--

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

TEST DATE: 12/28/62

WELL NAME : **Rincon Unit 139 DK (Original Pressure)**

GAS GRAVITY: 0.69 % N2 0.20
CONDENSATE (YES=1): 1 % CO2 1.17 %
RESERVOIR TEMP: 195 F % H2S 0.00 %
SURFACE TEMP: 60 F Pc = 670.13 %
DEPTH OF ZONE: 7444 Foot Tc = 379.92

SURFACE PRES	BHP	Z	BHP/Z
psia	psia		psia
2560	3,147	0.8901	3,535

Initial pressure obtained after 10 day shut-in following completion of well.

ATTACHMENT 1b.

--BHPCALC--

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

TEST DATE: 01/24/98

WELL NAME : **Rincon Unit 139 MV (Initial & Current)**

GAS GRAVITY: 0.69 % N2 0.28

CONDENSATE (YES=1): 1 % CO2 1.10 %

RESERVOIR TEMP: 145 F % H2S 0.00 %

SURFACE TEMP: 60 F Pc = 670.05 %

DEPTH OF ZONE: 5386 Foot Tc = 378.61

SURFACE PRES	BHP	Z	BHP/Z
psia	psia		psia
920	1,063	0.8849	1,201

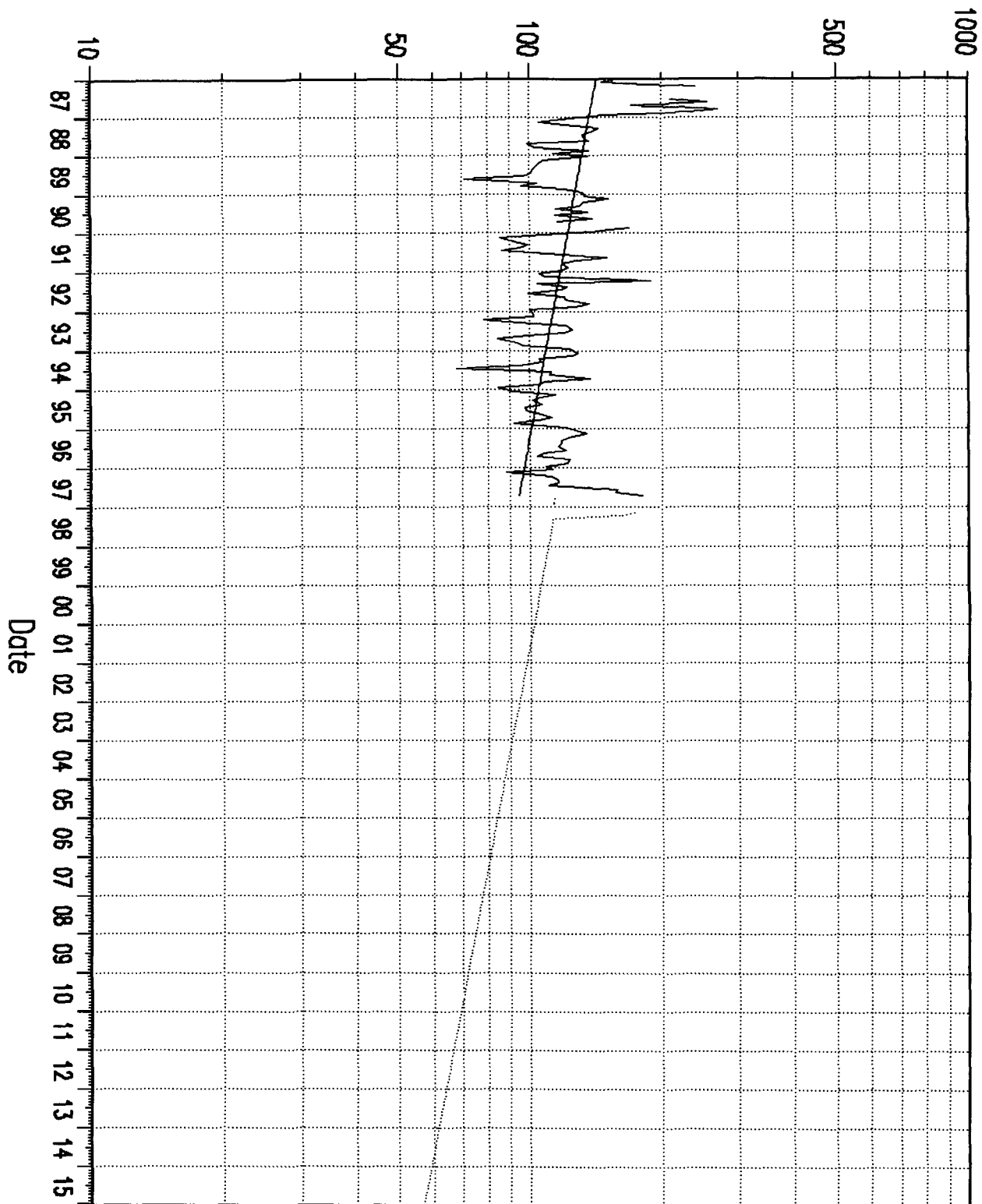
Initial and Current pressure - 36 hour shut-in measured after 3 days of clean up and flow back of MV following stimulation.

ATTACHMENT 1c.

WELL: RINCON UNIT 139:DK

LOCATION : N027 W007 25 NESW

COUNTY : RIO ARriba STATE : NMEX



WELL: RINCON UNIT 139:DK

Cum. Gas Production:	1829954.00	Mscf
Remaining Recoverable Gas Reserves:	698506.92	Mscf
Ultimate Recoverable Gas Reserves:	2528460.92	Mscf

SCHEDULE 1

Qi:	274.33	Mscf
Di:	0.003228	
Hyperbolic B:	0.0000	
Start Date:	1997/10	
Monthly Nominal Decline (Dn):	0.003228	
Monthly Effective Decline (De):	0.003223	
Yearly Effective Decline (De):	0.038000	
Initial Forecast Rate:	114.00	Mscf
Economic Limit:	25.00	Mscf
Cumulative Produced:	1829954.00	Mscf
Total Forecasted Reserves:	10437.39	Mscf
Total Recovered Reserves:	1840391.39	Mscf

SCHEDULE 2

Qi:	255795735545.53	Mscf
Di:	0.076358	
Hyperbolic B:	0.0000	
Start Date:	1998/02	
Monthly Nominal Decline (Dn):	0.076358	
Monthly Effective Decline (De):	0.073515	
Yearly Effective Decline (De):	0.600000	
Initial Forecast Rate:	180.00	Mscf
Economic Limit:	25.00	Mscf
Cumulative Produced:	1829954.00	Mscf
Total Forecasted Reserves:	20267.11	Mscf
Total Recovered Reserves:	1850221.11	Mscf

SCHEDULE 3

Qi:	276.99	Mscf
Di:	0.003228	
Hyperbolic B:	0.0000	
Start Date:	1998/04	
Monthly Nominal Decline (Dn):	0.003228	
Monthly Effective Decline (De):	0.003223	
Yearly Effective Decline (De):	0.038000	
Initial Forecast Rate:	112.90	Mscf
Economic Limit:	25.00	Mscf
Cumulative Produced:	1829954.00	Mscf
Total Forecasted Reserves:	698506.92	Mscf
Total Recovered Reserves:	2528460.92	Mscf

DATE	AVERAGE DAILY RATE Mscf	MONTHLY FORECAST PROD. Mscf	CUM. PROD. Mscf	REMAINING RECOV. RESERVES Mscf
1998/01	0.00	0.00	1840391.38	688069.56
1998/02	173.30	4852.38	1845243.75	683217.19
1998/03	160.56	4977.34	1850221.13	678239.81
1998/04	112.72	3381.54	1853602.63	674858.31
1998/05	112.35	3482.98	1857085.63	671375.31
1998/06	111.99	3359.78	1860445.38	668015.50
1998/07	111.63	3460.56	1863906.00	664555.00
1998/08	111.27	3449.43	1867355.38	661105.56
1998/09	110.91	3327.45	1870682.88	657778.13
1998/10	110.56	3427.23	1874110.13	654350.88
1998/11	110.20	3305.96	1877416.00	651044.88
1998/12	109.84	3405.18	1880821.25	647639.75
1999/01	109.49	3394.19	1884215.38	644245.56
1999/02	109.14	3055.79	1887271.25	641189.75
1999/03	108.79	3372.36	1890643.50	637817.38
1999/04	108.44	3253.08	1893896.63	634564.31
1999/05	108.08	3350.60	1897247.25	631213.69
1999/06	107.74	3232.09	1900479.25	627981.63
1999/07	107.39	3329.13	1903808.50	624652.50
1999/08	107.04	3318.30	1907126.75	621334.19
1999/09	106.70	3200.97	1910327.75	618133.25
1999/10	106.35	3296.97	1913624.63	614836.25
1999/11	106.01	3180.34	1916805.00	611655.94
1999/12	105.67	3275.80	1920080.88	608380.13
2000/01	105.33	3265.17	1923346.00	605114.94
2000/02	104.99	3044.72	1926390.75	602070.25
2000/03	104.65	3244.23	1929635.00	598826.00
2000/04	104.31	3129.44	1932764.38	595696.56
2000/05	103.98	3223.27	1935987.63	592473.31
2000/06	103.64	3109.30	1939097.00	589364.00
2000/07	103.31	3202.54	1942299.50	586161.44
2000/08	102.98	3192.29	1945491.75	582969.19
2000/09	102.64	3079.30	1948571.13	579889.88
2000/10	102.31	3171.70	1951742.75	576718.13
2000/11	101.98	3059.53	1954802.25	573658.63
2000/12	101.65	3151.26	1957953.63	570507.38
2001/01	101.33	3141.15	1961094.75	567366.25
2001/02	101.00	2827.97	1963922.75	564538.25
2001/03	100.68	3120.92	1967043.63	561417.31
2001/04	100.35	3010.55	1970054.13	558406.75
2001/05	100.03	3100.78	1973155.00	555306.00
2001/06	99.71	2991.19	1976146.13	552314.81
2001/07	99.38	3080.86	1979227.00	549233.94
2001/08	99.06	3070.89	1982297.88	546163.06
2001/09	98.74	2962.33	1985260.25	543200.75
2001/10	98.43	3051.19	1988311.38	540149.56
2001/11	98.11	2943.27	1991254.63	537206.25
2001/12	97.79	3031.48	1994286.13	534174.81
2002/01	97.48	3021.80	1997308.00	531153.00
2002/02	97.16	2720.52	2000028.50	528432.50
2002/03	96.85	3002.33	2003030.75	525430.13
2002/04	96.54	2896.11	2005926.88	522534.06
2002/05	96.23	2982.98	2008909.88	519551.06
2002/06	95.92	2877.47	2011787.38	516673.59
2002/07	95.61	2963.86	2014751.25	513709.75

2002/08	95.30	2954.19	2017705.38	510755.56
2002/09	94.99	2849.75	2020555.13	507905.81
2002/10	94.68	2935.22	2023490.38	504970.56
2002/11	94.38	2831.45	2026321.75	502139.13
2002/12	94.07	2916.31	2029238.13	499222.81

RU 139 Forecast

Well	RU 139	Full Months Prod Apr - Jun 97 96-97 annual average 96-97 annual average
Existing Completion Prior to DHC	DK	
Annual Decline	3.80%	
Monthly Decline Factor (Annual / 12)	0.3166	
Average 3 month volume (Mcf) prior to DHC	3420	
Average Yield (bbls/mcf) Oil	0.003	
Average Yield (bbls/mcf) Water	0.0017	
Volume Prior to DHC (Mcf)	3358	

* Forecasted volumes to be adjusted for actual days on production

Month	DK Forecast (Mcf)	DK Forecast (Bbls-Oil)	DK Forecast (Bbls-Water)	+ DK flush volume + DK flush volume
1	4852	14.6	8.2	
2	4977	14.9	8.5	
3	3381	10.1	5.7	
4	3370	10.1	5.7	
5	3360	10.1	5.7	
6	3349	10.0	5.7	
7	3338	10.0	5.7	
8	3328	10.0	5.7	
9	3317	10.0	5.6	
10	3307	9.9	5.6	
11	3296	9.9	5.6	
12	3286	9.9	5.6	
13	3275	9.8	5.6	
14	3265	9.8	5.6	
15	3255	9.8	5.5	
16	3244	9.7	5.5	
17	3234	9.7	5.5	
18	3224	9.7	5.5	
19	3214	9.6	5.5	
20	3204	9.6	5.4	
21	3193	9.6	5.4	
22	3183	9.5	5.4	
23	3173	9.5	5.4	
24	3163	9.5	5.4	

ATTACHMENT 3.

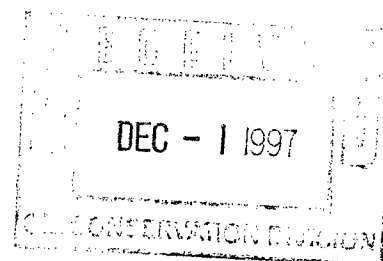
SPiRiT ENERGY 76

New Name. Same Spirit.

A Business Unit of Unocal

Certified Receipt No. Z740626192

November 11, 1997



New Mexico Oil Conservation Division

Attn.: Mr. Frank Chavez

1000 Rio Brazos Road

Aztec, NM 87410

Dear Mr. Chavez:

Union Oil Company of California d.b.a. UNOCAL requests approval to down-hole commingle hydrocarbon production from the Blanco Mesa Verde and Basin Dakota formations in the following Rincon Unit well, Rio Arriba County, New Mexico.

<u>Well</u>	<u>Legal Location</u>
139	1650' FSL, 1650' FWL, SW Sec 25, T27N, R7W

a UNOCAL operated well located on Federal acreage.

This well was drilled and completed with 4-1/2" casing, in December 1962, in the Dakota formation. The Dakota is currently producing 70 Mcfd gas and a trace of oil. UNOCAL proposes to perforate, stimulate with a hydraulic fracture and isolate and test (with a production packer and 2-3/8" tubing) oil, gas and water production from the Mesa Verde formation. If production from the Mesa Verde is economic, the Mesa Verde would be downhole commingled with the Dakota. Allocation factors will be calculated from the Mesa Verde test and the Dakota's historical production.

Mesa Verde reserves in this acreage would be developed most economically if this well were granted downhole commingle approval. Approval prior to completion is being sought because production casing size will not support running dual production strings. Drilling a replacement well of larger casing size or a stand alone Mesa Verde well is not economical at this time.

One week shut-in surface pressures from off-set Mesa Verde wells were obtained in April, 1995 as follows:

<u>WELL</u>	<u>Location</u>	<u>SICP (psig)</u>
137 MV	SW, S24, T27N, R7W	342
84 MV	NE, S26, T27N, R7W	272
139 DK	SW, S25, T27N, R7W	512

UNOCAL is confident that production will not be wasted and the proposed method of completion will efficiently drain Dakota and Mesa Verde acreage around this wellbore.

Attachments:

- 1) Current well bore schematic.
- 2) Oil and gas production curves.
- 3) Lease map showing well locations for offset pressure data and offset lease operators.
- 4) Where applicable, letters to offset operators stating UNOCAL's proposal.

If you have any questions regarding this proposal please contact me at 915/685-6836.

Sincerely,

Spirit Energy 76
A Business Unit of UNOCAL



Thomas E. Baier
Petroleum Engineer

TEB:had:ss

Att.

cc: New Mexico Oil Conservation Division/Santa Fe, NM

WELL: RINCON UNIT #139
LOCATION: 1650' FSL 1650' FWL Sec. 25 T27N R7W NE SW
COUNTY: Rio Arriba
STATE: NM
PRODUCING FORMATION: Dakota
CURRENT
SPUD DATE: 11/26/62
COMPL DATE: 12/18/62
RECOMPL DATE: -----
Elevation = 6647'
KB = 10'
Updated: 1/9/96
9-5/8", 40# H-40 @ 315'
Cmt w/ 210 sxs, Circ. to Surface
**TOC
@ 2490'
by TS**
**DV Tool
@ 3199'**
**TOC
@ 4880'
by TS**
**DV Tool
@ 5513'**
**TOC
@ 6950'
by TS**
**PBTD
@ 7575'**
238 Jts., 2-3/8" 8rd, 4.7# J-55 FHD @ 7546'
(7/16/68)

126.78' 4 jts. 2 3/8" 4.7# J-55 8rd tbg

3.05' 1 1/2" Camco DC-1 Separator - pulled 1970

4.83' 1 1/2" Camco JR 40 gas lift valve

95.31' 3 jts. 2 3/8" 4.7# J-55 8rd tbg

5.75' 1 1/2" Camco JR 40 gas lift valve

94.62' 3 jts. 2 3/8" 4.7# J-55 8rd tbg

5.65' 1 1/2" Camco JR 40 gas lift valve

95.22' 3 jts. 2 3/8" 4.7# J-55 8rd tbg

5.65' 1 1/2" Camco JR 40 gas lift valve

7100.47' 225 jts. 2 3/8" 4.7# J-55 8rd tbg

7537.33 Total

9.00' BKDB

7546.33' FHD

Dakota perms: 7352-7537

7352-58 2 spf, 7462-74, 7494-7506 1 spf,

7531-37 w/ 2 spf

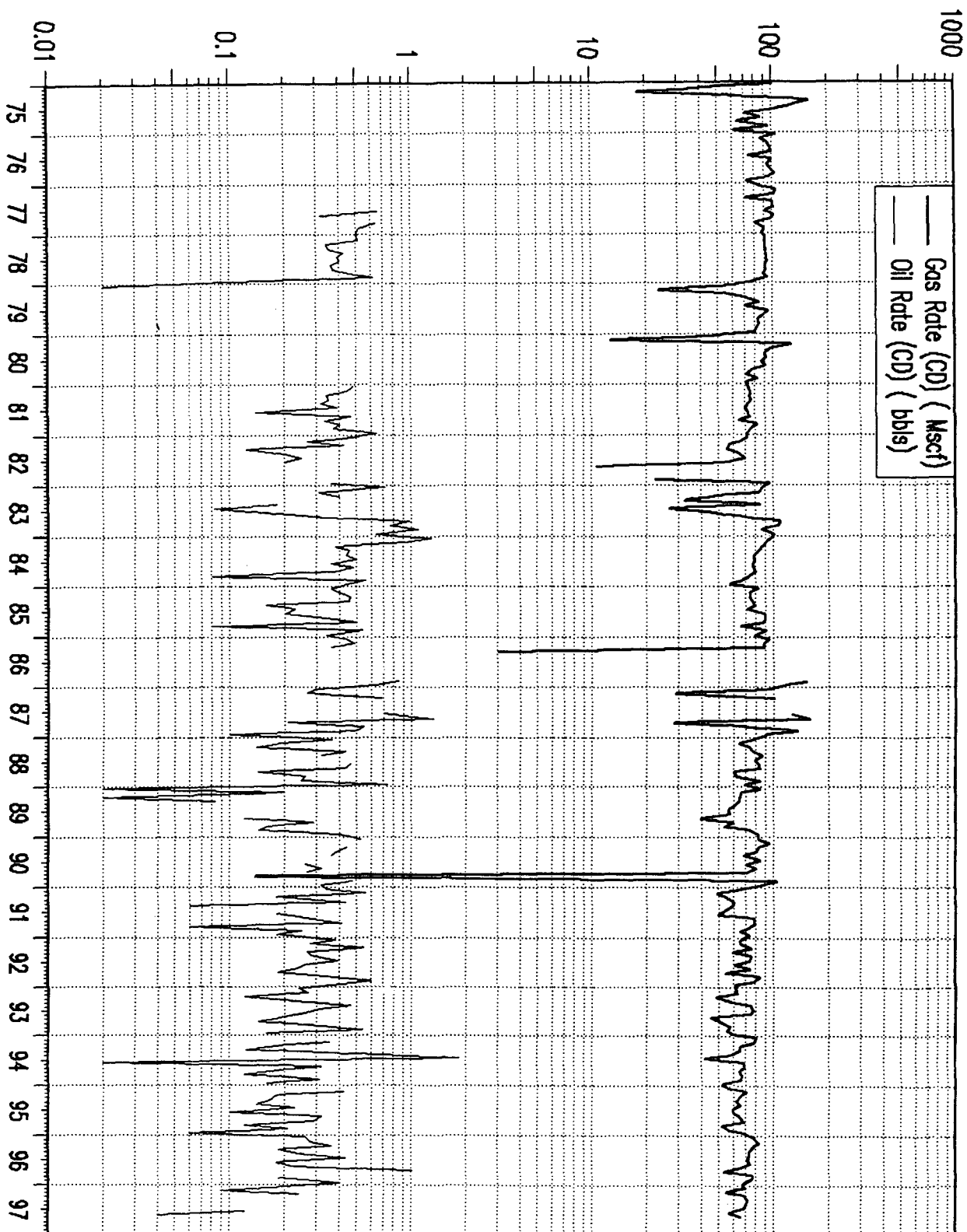
Frac w/ 81,200 gal wtr, 72,000# sand

4-1/2", 11.6 & 10.5#, J-55 @ 7621'
TD = 7622' Cmt w/ 182 sxs 1st stg., 215 sxs 2nd stg., 202 sxs 3rd stg.

WELL: RINCON UNIT 139:DK

LOCATION : N027 W007 25 NESW

COUNTY : RIO ARriba STATE : NMEX



1-811-119 CPE

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 87505-8429

Form C-107-A
New 3 12-96
APPROVAL PROCESS:
☒ Administrative ☐ Hearing
EXISTING WELLBORE
☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Union Oil Company of California P.O. Box 3100 Midland, Texas 79702
Operator Address

Rincon Unit 139 K-25-27N-7W Rio Arriba
Lease Well No. Unit (Tr. - Sec - Twp - Rgs) County

OGRID NO. 023708 Property Code 011510 API NO. 30-039-06890
Spacing Unit Lease Types: (check 1 or more)
Federal ☒ State ☐ Landlord Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Blanco Mesaverde 72319		Basin Dakota 71599
2. Top and Bottom of Pay Section (Perforations)	Proposed 5308-5407		7352-7537
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: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 761 b. (Original)	a. b.	a. 612 b.
6. Oil Gravity (°API) or Gas BTU Content	1200 BTU		1193 BTU
7. Producing or Shut-In?			Producing
Production Marginal? (yes or no)	Yes		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 * If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
	Date: Rates:	Date: Rates:	Date: September 1997 Rates: 3 BOPD 180 MCFD 0 BOPD
8. Fixed Percentage Allocation Formula - % for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

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? ☒ 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. NMOCD 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 11/25/97

TYPE OR PRINT NAME Heather Dahlgren TELEPHONE NO. (915) 685-7665

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 30-039-06890	² Pool Code 71599	³ Pool Name Basin Dakota
⁴ Property Code 011510	⁵ Property Name Rincon Unit	⁶ Well Number 139
⁷ OGRID No. 023708	⁸ Operator Name Spirit Energy 76/A Business Unit of UNOCAL	⁹ Elevation 6647

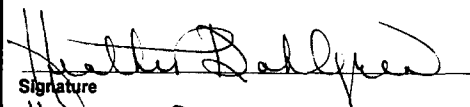
¹⁰Surface Location

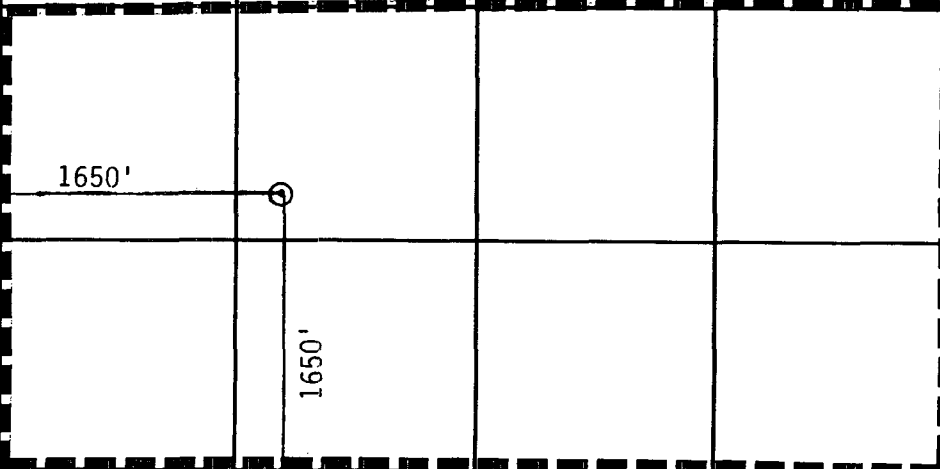
UL or lot no. K	Section 25	Township 27-N	Range 7-W	Lot Idn	Feet from the 1650	North/South line South	Feet from the 1650	East/West Line West	County Rio Arriba
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¹¹Bottom Hole Location If Different From Surface

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 328.45	¹³ Joint or Infill Y	¹⁴ Consolidation Code U	¹⁵ Order No. Unitized						

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>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</i>  Signature Heather Dahlgren Printed Name Engineering Technician Title November 28, 1997 Date
				¹⁸ SURVEYOR CERTIFICATION <i>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 supervision, and that the same is true and correct to the best of my belief.</i> Date of Survey Signature and Seal of Professional Surveyer: 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

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Santa Fe, NM 87505

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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-06890	2 Pool Code 72319	3 Pool Name Blanco Mesaverde
4 Property Code 011510	5 Property Name Rincon Unit	6 Well Number 139
7 OGRID No. 023708	8 Operator Name Spirit Energy 76/A Business Unit of UNOCAL	9 Elevation 6647

10 Surface Location

UL or lot no. K	Section 25	Township 27-N	Range 7-W	Lot Idn	Feet from the 1650	North/South line South	Feet from the 1650	East/West Line West	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 328.45	13 Joint or Infill Y	14 Consolidation Code U	15 Order No. Unitized						

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 Heather Dahlgren Printed Name Heather Dahlgren Title Engineering Technician Date November 28, 1997
					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 supervision, and that the same is true and correct to the best of my belief. Date of Survey Signature and Seal of Professional Surveyer: Certificate Number

NMOCD Reference Cases for Rule 303(D) Exceptions

Unocal, Rincon Unit, Rio Arriba County, New Mexico

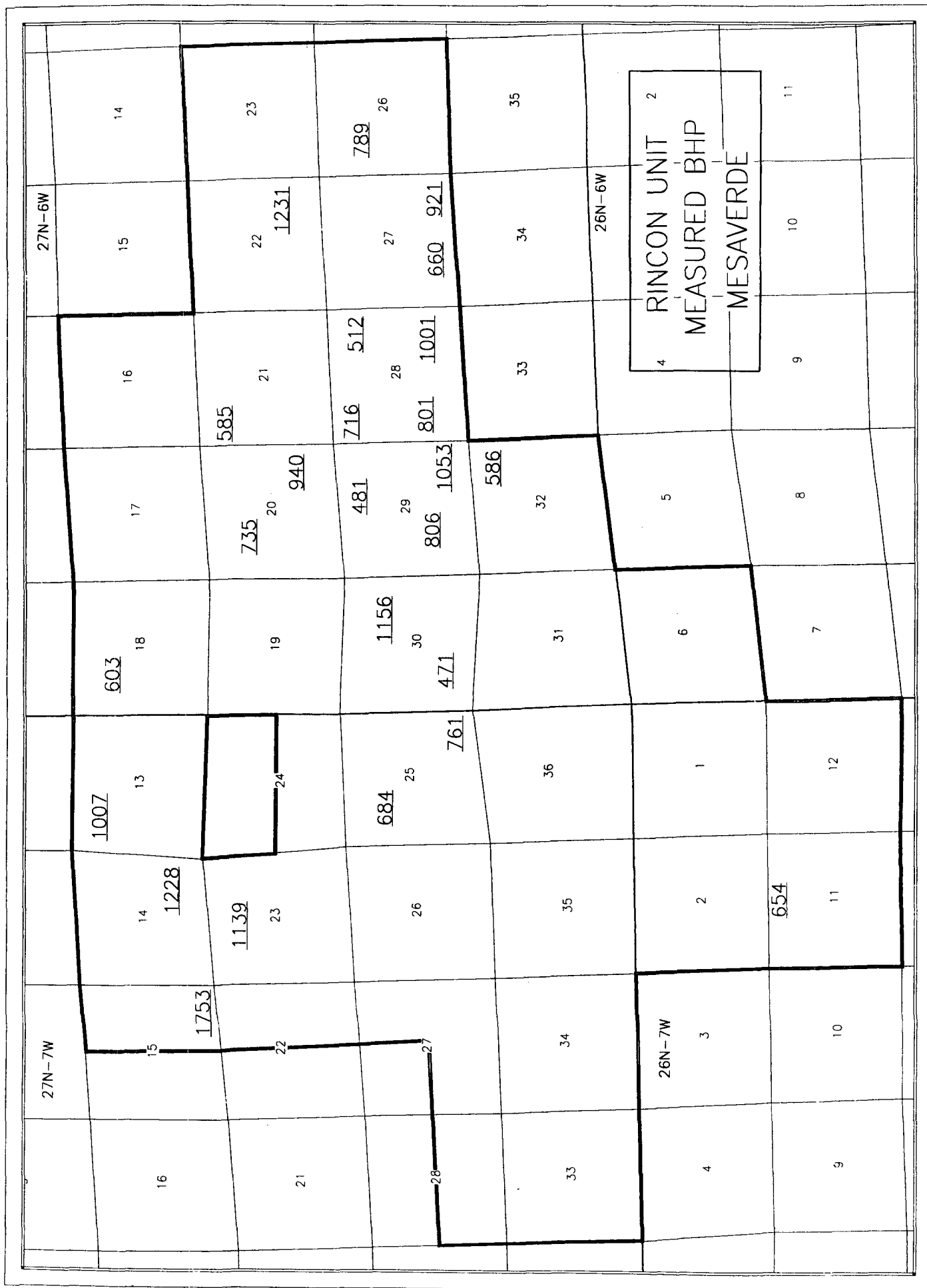
Rincon Unit Well	Legal Description							NMOCD Order No.	Issue Date
302	C	S	11	T	26	N	R 7 W	DHC-1050	11/3/94
134	B	S	12	T	26	N	R 7 W	DHC-1190	3/7/96
159M	F	S	18	T	27	N	R 6 W	DHC-904	6/18/93
174M	F	S	19	T	27	N	R 6 W	DHC-966	1/31/94
170	M	S	20	T	27	N	R 6 W	DHC-1192	3/7/96
170M	I	S	20	T	27	N	R 6 W	DHC-920	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

RINCON UNIT DK/MV COMMINGLE BOTTOMHOLE PRESSURE DATA
(Measured - 7 day SI)

	<u>WELL</u>	<u>MV BHP (PSI)</u>	<u>DK BHP ADJ TO MV DATUM (PSI)</u>	<u>% DIFF</u>
*	1E	1156	1690	32
*	125M	789	1548	49
*	126	660	850	22
*	126M	921	1607	43
*	127	512	580	12
*	127M	716	1280	44
*	128	801	781	2
**	128M	1001	1000	0
*	129	806	836	4
*	129M	1053	935	11
*	130	586	622	6
*	135	481	736	35
*	136E	1139	2199	48
*	137	400	686	42
**	138E	684	1100	38
**	139E	761	1300	41
*	149	471	521	10
*	151M	1228	1862	34
*	158M	1231	766	38
*	159M	603	583	3
*	167M	1007	1909	47
*	170M	940	1752	46
*	175M	735	1108	34
*	180M	585	788	26
*	184M	1753	1708	3
**	302	654	1225	47

DK ZONE TAKEN AS DATUM

- * 1993 TEST DATA
- ** 1994 TEST DATA



GAS ANALYSIS

WELL NAME	ZONE	TEST DATE	NITROGEN	CO2	METHANE	ETHANE	PROPANE	I-BUTANE	N-BUTANE	I-PENTANE	N-PENTANE	HEXANE+	BTU/S	GPM	SPEC GRAV
RINCON #1E	DK	11/23/94	0.310	1.150	88.570	6.880	2.780	0.500	0.730	0.270	0.20	0.530	1159.0	3.424	0.870
	MV	11/23/94	0.310	1.150	88.570	6.880	2.780	0.500	0.730	0.270	0.20	0.530	1159.0	3.424	0.870
RINCON #125M	DK	08/10/94	0.260	1.160	85.010	7.870	3.350	0.630	0.850	0.350	0.23	0.590	1184.0	3.690	0.885
	MV	08/10/94	0.260	1.160	85.010	7.870	3.350	0.630	0.850	0.350	0.23	0.590	1184.0	3.690	0.885
	DK	11/17/94	0.210	1.320	67.650	6.430	2.000	0.610	0.820	0.280	0.16	0.620	1141.0	3.034	0.860
	MV	11/17/94	0.450	1.070	83.080	8.230	4.220	0.780	1.080	0.370	0.24	0.480	1207.0	4.390	0.701
RINCON #128	DK	12/07/93	0.290	1.050	87.540	6.480	2.770	0.540	0.880	0.270	0.17	0.230	1140.4	3.139	0.858
	MV	12/07/93	0.280	1.050	87.540	6.480	2.770	0.540	0.880	0.270	0.17	0.230	1140.4	3.139	0.858
RINCON #128M	DK	09/15/93	0.280	1.160	84.870	8.010	2.940	0.680	0.900	0.430	0.25	0.580	1182.1	3.827	0.888
	MV	05/13/92	0.280	1.020	81.780	10.620	4.220	0.600	0.840	0.260	0.19	0.160	1188.0	4.879	0.894
RINCON #127	DK	11/17/94	0.300	1.240	84.850	8.010	3.060	0.800	0.900	0.340	0.23	0.560	1190.0	3.892	0.884
	MV	11/17/94	0.300	1.240	84.850	8.010	3.060	0.800	0.900	0.340	0.23	0.560	1190.0	3.892	0.884
RINCON #127M	DK	11/18/94	0.290	1.880	84.080	8.480	3.880	0.840	0.890	0.370	0.28	0.500	1182.0	4.128	0.892
	MV	11/18/94	0.450	0.780	79.710	10.320	5.030	0.880	1.390	0.470	0.35	0.820	1260.0	5.443	0.730
RINCON #128	DK	04/15/94	0.260	1.000	66.830	7.120	2.350	0.820	0.950	0.280	0.16	0.480	1181.0	3.317	0.888
	MV	03/28/94	0.550	0.690	79.100	11.220	8.500	0.840	1.080	0.430	0.35	0.680	1258.0	6.558	0.727
RINCON #129	DK	10/23/94	0.270	1.160	81.230	8.850	4.130	0.780	1.120	0.480	0.31	0.640	1232.0	4.949	0.717
	MV	10/23/94	0.270	1.160	81.230	8.850	4.130	0.780	1.120	0.480	0.31	0.640	1232.0	4.949	0.717
RINCON #129M	DK	04/16/94	0.200	1.180	81.360	10.020	4.020	0.740	1.180	0.470	0.33	0.470	1226.0	4.903	0.712
	MV	04/16/94	0.580	0.730	78.690	10.230	6.830	1.020	1.470	0.480	0.34	0.740	1281.0	5.763	0.744
RINCON #130	DK	04/13/94	0.430	1.240	84.220	8.520	2.970	0.830	0.780	0.340	0.22	0.640	1184.0	4.038	0.888
	MV	04/13/94	0.330	1.210	84.030	8.890	3.110	0.840	0.820	0.350	0.22	0.600	1188.0	4.120	0.890
RINCON #135	DK	08/15/93	0.220	1.080	61.800	9.320	3.440	0.580	0.880	0.330	0.22	0.340	1189.0	4.254	0.887
	MV	12/12/92	0.218	1.072	64.804	8.487	3.185	0.484	0.824	0.307	0.24	0.378	1177.1	3.930	0.876
RINCON #135E	DK	11/11/94	0.210	1.120	84.930	8.400	3.100	0.520	0.850	0.280	0.18	0.410	1176.0	3.886	0.878
	MV	11/11/94	0.410	0.600	77.270	12.180	5.890	0.840	1.800	0.480	0.32	0.490	1288.0	6.136	0.744
RINCON #137	DK	11/18/94	0.360	1.200	88.310	6.080	1.900	0.660	0.880	0.250	0.19	0.450	1134.0	2.805	0.855
	MV	11/30/94	0.340	1.180	84.630	7.600	3.110	0.810	0.950	0.380	0.27	0.680	1184.0	3.884	0.888
RINCON #148	DK	10/07/94	0.830	1.010	82.800	9.810	3.930	0.880	1.020	0.370	0.19	0.410	1216.0	4.800	0.898
	MV	10/07/94	0.230	1.010	82.800	9.810	3.930	0.880	1.020	0.370	0.19	0.410	1216.0	4.800	0.898
RINCON #181M	DK	12/08/93	0.280	1.040	66.780	7.010	2.800	0.650	0.710	0.300	0.18	0.330	1152.0	3.371	0.883
	MV	12/08/93	0.390	1.040	66.780	7.010	2.800	0.650	0.710	0.300	0.18	0.330	1152.0	3.371	0.883
RINCON #189M	DK	11/10/94	0.240	1.090	83.010	8.180	3.880	0.710	0.830	0.380	0.24	0.550	1207.0	4.458	0.898
	MV	11/10/94	0.240	1.090	83.010	8.180	3.880	0.710	0.830	0.380	0.24	0.550	1207.0	4.458	0.898
RINCON #189M	DK	10/14/94	0.230	1.010	88.080	7.820	2.890	0.540	0.770	0.280	0.18	0.410	1185.0	3.805	0.871
	MV	10/14/94	0.230	1.010	88.080	7.820	2.890	0.540	0.770	0.280	0.18	0.410	1185.0	3.805	0.871
RINCON #187M	DK	10/31/94	0.330	1.120	83.640	8.800	3.840	0.670	0.890	0.340	0.21	0.380	1180.0	4.214	0.889
	MV	10/31/94	0.330	1.120	83.640	8.800	3.840	0.670	0.890	0.340	0.21	0.380	1180.0	4.214	0.889
RINCON #170M	DK	11/28/94	0.360	1.140	82.250	8.280	3.880	0.710	1.010	0.410	0.28	0.640	1217.0	4.844	0.707
	MV	11/28/94	0.360	1.140	82.250	8.280	3.880	0.710	1.010	0.410	0.28	0.640	1217.0	4.844	0.707
RINCON #175M	DK	09/28/94	0.270	1.170	85.610	7.490	2.630	0.600	0.740	0.310	0.19	0.580	1171.0	3.652	0.877
	MV	08/28/94	0.270	1.170	85.610	7.490	2.630	0.600	0.740	0.310	0.19	0.580	1171.0	3.652	0.877
RINCON #180M	DK	12/30/93	0.280	1.010	81.830	9.880	4.090	0.880	1.000	0.400	0.29	0.710	1228.0	4.807	0.711
	MV	12/30/93	0.280	1.010	81.830	9.880	4.090	0.880	1.000	0.400	0.29	0.710	1228.0	4.807	0.711

EXHIBIT 'A'

To allow for flush production for a period of less than 24 months:

$$Q_{1n} = q_i(e^{-D(t-0.5)})(365/12) \text{ and } Q_{2n} = Q_n - Q_{1n};$$

When: $Q_n < Q_{1n}$;

$$\text{Then: } Q_{1n} = Q_n(Q_1(n-1)/(Q_1(n-1) + Q_2(n-1))) \text{ and } Q_{2n} = Q_n(Q_2(n-1)/(Q_1(n-1) + Q_2(n-1)));$$

And to allow for flush production for a period of more than 24 months:

$$Q_{1n} = Q_n(Q_1(24)/(Q_1(24) + Q_2(24))) \text{ and } Q_{2n} = Q_n(Q_2(24)/(Q_1(24) + Q_2(24)));$$

Where:

q_i	Average three month production rate of the existing completion prior to downhole commingling in Mcfd
D	Effective monthly decline rate of the existing completion (1/months)
Q_n	Total commingled production, for the n th month, after n months of commingled production in Mcfd.
Q_{1n}	Total production for the existing completion, for the n th month, after n months of commingled production in Mcfd.
Q_{2n}	Total production for the new completion, for the n th month, after n months of commingled production in Mcfd.
t	Time from beginning of commingled production (months)

RINCON MESAVERDE RECOMPLETIONS
MONTHLY GAS PRODUCTION DATA - SEPARATELY METERED VOLUMES

WELL:
ZONE:
COMPL:
1st Deliv:
IP (MCFD):

11E MV DUAL 04/01/97	150E MV DUAL 12/18/95	187E MV DUAL 01/31/96	186 MV SINGLE 12/27/96	231 MV SINGLE 01/10/97	180M MV DHC* 10/29/92
253	150	490	350	185	450

AVG IP	MIN IP	MAX IP
310	150	490

MONTH	GAS VOLUME	PDGAS RATE	GAS VOLUME	PDGAS RATE	GAS VOLUME	PDGAS RATE	GAS VOLUME	PDGAS RATE	GAS VOLUME	PDGAS RATE	WELLS ON	AVG VOL	AVG RATE	MIN RATE	MAX RATE	MON VOL**
1	9151	253	4291	150	486	490	960	350	8116	195	6	5035	310	192	486	5065
2	4288	143	7988	390	8238	284	6283	192	8140	386	6	7099	338	143	365	7205
3	3678	123	4969	268	4544	147	4850	203	7198	291	6	5482	257	123	247	5847
4	2631	138	4809	171	2922	104	4769	173	5828	232	6	4276	182	104	194	4565
5	3161	132	3883	155	3296	132	3922	154	5157	194	6	4212	152	152	152	4707
6	2488	104	4003	129	2969	99	4332	131	5852	172	6	3666	145			4355
7			3493	116	2882	93	3593	144	4541	244	5	3534	115			3577
8			2989	96	2807	91	3134	120	4375	141	5	3032	152			3286
9			2885	93	2293	92	3620	117	3655	332	4	2852	97			2895
10			2672	107	2184	70	85				3	2269	87			2707
11			2652	86	2059	69					3	2191	72			2170
12			2396	80	2259	73					3	2197	72			2222

* 180M MV produced for 12 months prior to DHC with DK
** Monthly volumes used to forecast first 12 months of Mesa Verde production

1996 MV RECOMPLETION - EXAMPLE CASE FOR OIL FORECAST

WELL:	183
ZONE:	DK/MV
COMPL:	DHC
MV 1st Deliv:	12/20/96
MV IP (BOPD):	0.5

MONTH	OIL VOLUME	PDOIL RATE	WATER VOLUME	PDWAT RATE	AVG PDOIL	AVG PDWAT
1	16	0.5	17	0.5		
2	32	1.1	17	0.6		
3	26	0.8	23	0.7		
4	10	0.3	7	0.2		
5	25	0.8	17	0.5		
6	27	0.9	3	0.1		
7	22	0.7	2	0.1		
8	20	0.6	9	0.3		
9	8	0.3	3	0.1		
10	9	0.3	8	0.3		
11	4	0.7	3	0.5	0.6	0.4
12	0	0	0	0.0		
13	137	4.4	25	0.8		
14	43	1.5	33	1.2		
15	50	1.6	17	0.5		
16	44	1.5	20	0.7		
17	26	0.9	20	0.7		
18	0	0	20	0.7		
19	31	1	20	0.6		
20	24	0.8	20	0.6		
21	27	0.9	20	0.6	1.4	0.7

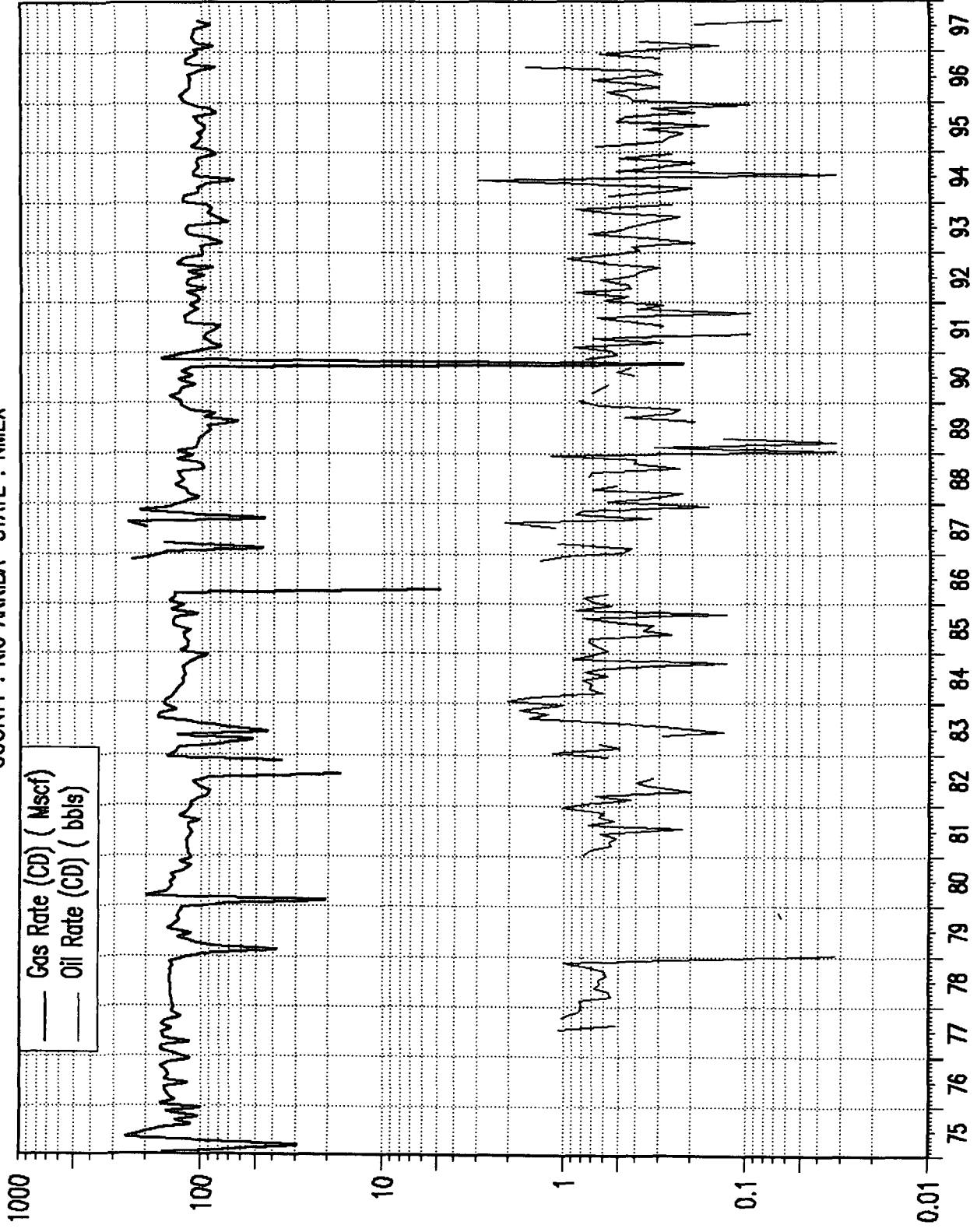
Dakota volumes prior to commingling

DK/MV commingle oil / water volumes

WELL: RINCON UNIT 139:DK

LOCATION : N027 W007 25 NESW

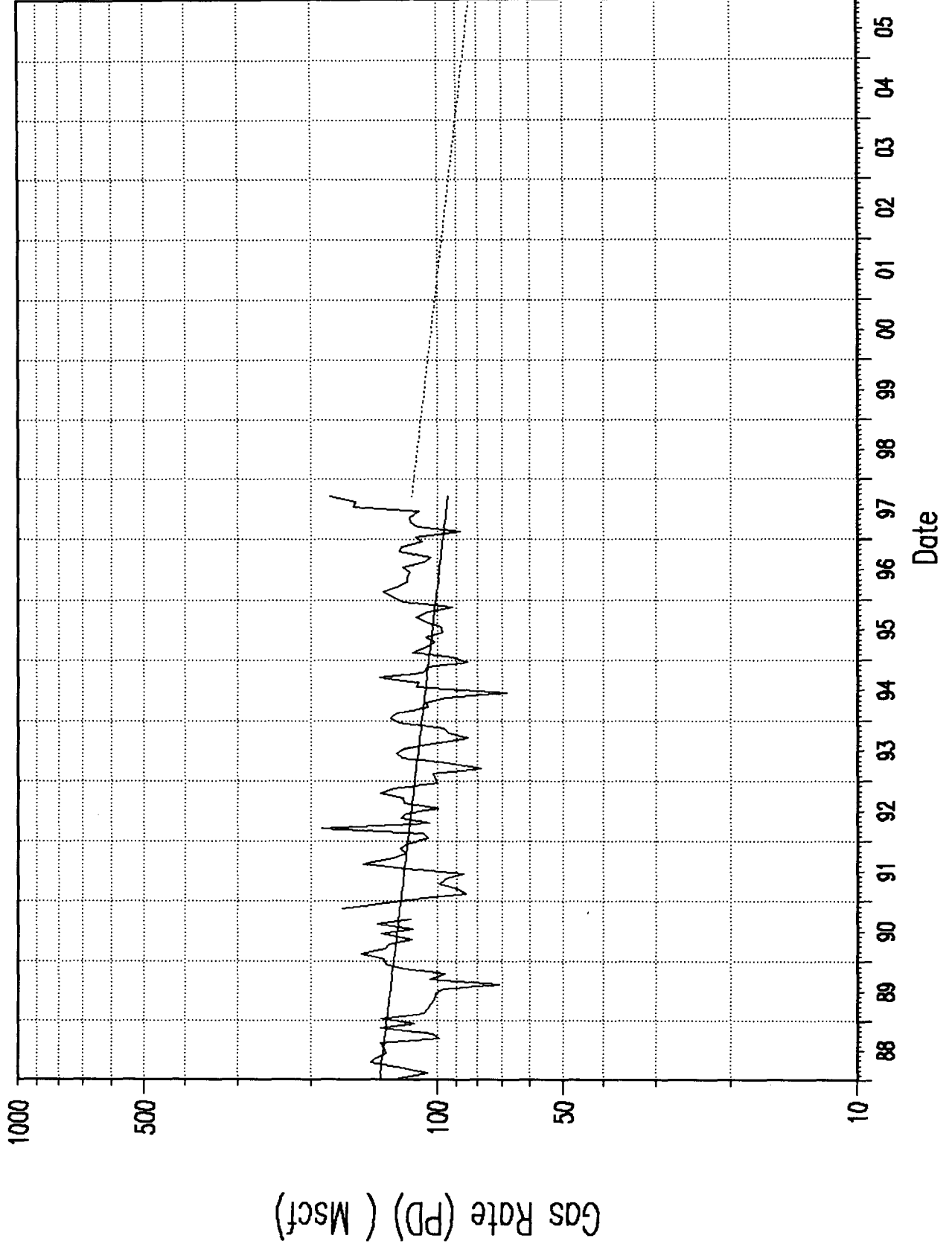
COUNTY : RIO ARriba STATE : NMEX



WELL: RINCON UNIT 139:DK
LOCATION : N027 W007 25 NESW
COUNTY : RIO ARriba STATE : NMEX

DATE	DAYS ON PROD Days	OIL VOL PROD bbls	GAS VOL PROD Mscf	WATER VOL PROD bbls	OIL RATE (PD) bbls	GAS RATE (PD) Mscf	WATER RATE (PD) bbls	CUM OIL PROD bbls	CUM GAS PROD Mscf
9601	31	13	3929	12	0.4	127	0	12161	1761615
9602	29	13	3902	8	0.4	135	0	12174	1765517
9603	31	18	3878	5	0.6	125	0	12192	1769395
9604	30	9	3542	6	0.3	118	0	12201	1772937
9605	31	12	3663	8	0.4	118	0	12213	1776600
9606	30	21	3481	6	0.7	116	0	12234	1780081
9607	31	9	3730	4	0.3	120	0	12243	1783811
9608	31	11	3306	6	0.4	107	0	12254	1787117
9609	25	49	2588	3	2.0	104	0	12303	1789705
9610	31	0	3822	5	0.0	123	0	12303	1793527
9611	30	9	3658	5	0.3	122	0	12312	1797185
9612	31	20	3357	8	0.6	108	0	12332	1800542
9701	31	10	3494	7	0.3	113	0	12342	1804036
9702	28	4	2468	4	0.1	88	0	12346	1806504
9703	31	12	3451	8	0.4	111	0	12358	1809955
9704	30	0	3464	5	0.0	115	0	12358	1813419
9705	30	0	3476	5	0.0	116	0	12358	1816895
9706	30	0	3311	5	0.0	110	0	12358	1820206
9707	18	6	2850	5	0.3	158	0	12364	1823056
9708	21	2	3294	5	0.1	157	0	12366	1826350
9709	20	7	3604	5	0.3	180	0	12373	1829954

WELL: RINCON UNIT 139:DK
LOCATION : N027 W007 25 NESW
COUNTY : RIO ARIBA STATE : NMEX



WELL: RINCON UNIT 139:DK
 LOCATION : N027 W007 25 NESW
 COUNTY : RIO ARRIBA STATE : NMEX

Case Name : New
 Case Analyst :
 Case Comment :
 Cum. Gas Production: 1826350.00 Mscf
 Remaining Recoverable Gas Reserves: 744611.59 Mscf
 Ultimate Recoverable Gas Reserves: 2570961.59 Mscf

Decline Equation: $Q = Q_i * \exp(-D_i * t)$ t = Elapsed Months from 7501

Qi: 276.13 Mscf
 Di: 0.003232
 Hyperbolic B: 0.0000
 Start Date: 1997/09
 Monthly Effective Decline (De): 0.003227
 Yearly Effective Decline (De): 0.038044
 Initial Forecast Rate: 115.00 Mscf
 Economic Limit: 15.00 Mscf
 Capacity Limit: 0.00 Mscf
 Cumulative Produced: 1826350.00 Mscf
 Schedule Forecasted Reserves: 744611.59 Mscf
 Total Forecasted Reserves: 744611.59 Mscf
 Total Recovered Reserves: 2570961.59 Mscf

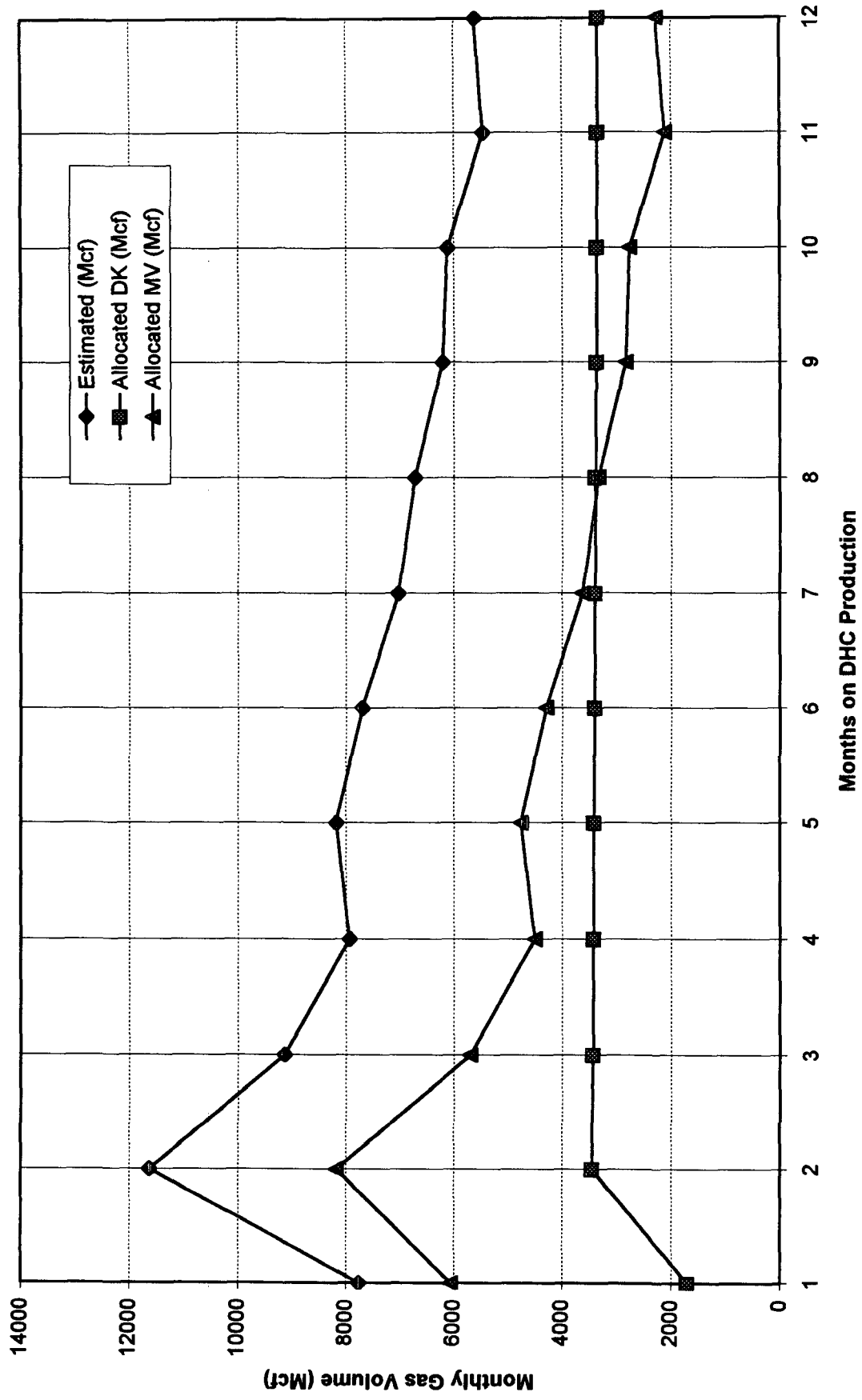
DATE	INSTANT. DAILY RATE Mscf	AVERAGE DAILY RATE Mscf	MONTHLY FORECAST PROD. Mscf	CUM. PROD. Mscf	REMAINING RECOV. RESERVES Mscf
1997/09	114.63	114.82	3444.46	1829794.50	741167.13
1997/10	114.26	114.44	3547.72	1833342.13	737619.38
1997/11	113.89	114.07	3422.23	1836764.38	734197.13
1997/12	113.52	113.71	3524.89	1840289.25	730672.25
1998/01	113.16	113.34	3513.55	1843802.88	727158.69
1998/02	112.79	112.97	3163.28	1846966.13	723995.44
1998/03	112.43	112.61	3490.86	1850457.00	720504.56
1998/04	112.06	112.24	3367.35	1853824.38	717137.25
1998/05	111.70	111.88	3468.40	1857292.75	713668.81
1998/06	111.34	111.52	3345.68	1860638.38	710323.13
1998/07	110.98	111.16	3446.08	1864084.50	706877.06
1998/08	110.62	110.80	3434.89	1867519.38	703442.19
1998/09	110.27	110.45	3313.39	1870832.75	700128.81
1998/10	109.91	110.09	3412.79	1874245.50	696716.00
1998/11	109.56	109.74	3292.08	1877537.63	693423.94
1998/12	109.20	109.38	3390.76	1880928.38	690033.19
1999/01	108.85	109.03	3379.86	1884308.25	686653.31
1999/02	108.50	108.68	3042.93	1887351.13	683610.38
1999/03	108.15	108.32	3358.05	1890709.25	680252.31
1999/04	107.80	107.98	3239.32	1893948.50	677013.00
1999/05	107.45	107.63	3336.39	1897285.00	673676.63
1999/06	107.11	107.28	3218.43	1900503.38	670458.19
1999/07	106.76	106.93	3314.88	1903818.25	667143.31
1999/08	106.42	106.59	3304.27	1907122.50	663839.00
1999/09	106.07	106.24	3187.34	1910309.88	660651.69
1999/10	105.73	105.90	3282.98	1913592.88	657368.69
1999/11	105.39	105.56	3166.73	1916759.63	654202.00

Gas Forecast

Well	RU 139	Comments
First Delivery Date (As DHC)	16-Jan-98	
Days on First Month	15	
Existing Completion Prior to DHC	DK	
Effective Monthly Decline	0.0032	3.8% Annual Decline
Average 3 month rate (Mcf/d) prior to DHC	114	Apr-June Average per Day (full months)
New Completion	MV	
Initial Test (Mcf/d)	310	Avg. IP (New MV metered separately - 6)

Month	Estimated (Mcf)	DK Forecast (Mcf)	MV Forecast (Mcf)	Allocated DK (Mcf)	Allocated MV (Mcf)	Allocated MV (%)	Est. flush DK rate 180 mcfd	Est. flush DK rate 158 mcfd
1	7765	2700	5065	1707	6058	78		
2	11629	4424	7205	3451	8178	70		
3	9137	3490	5647	3440	5697	62		
4	7932	3367	4565	3429	4503	57		
5	8175	3468	4707	3418	4757	58		
6	7700	3345	4355	3407	4293	56		
7	7023	3446	3577	3396	3627	52		
8	6720	3434	3286	3385	3335	50		
9	6208	3313	2895	3374	2834	46		
10	6119	3412	2707	3364	2755	45		
11	5462	3292	2170	3353	2109	39		
12	5612	3390	2222	3342	2270	40		

RU 139



Oil Forecast

RU 139
16-Jan-98
15
DK
0.0028
0.2
MV
5

Estimated
Estimated

Well
First Delivery Date (As DHC)
Days on First Month

Existing Completion Prior to DHC
Yield (bbls/mcf)
Average 1997 rate (BOPD) prior to DHC

New Completion
Initial Test (BOPD)

Estimated

Month	Estimated (Bbl)	DK Forecast (Bbl)	MV Forecast (Bbl)	Est. MV (BOPD)	Allocated MV (%)	
1	86	11	75	5.0	87%	DK .004 (bbl/mcf)
2	79	18	62	2.2	78%	DK .004 (bbl/mcf)
3	41	10	31	1.0	76%	
4	19	4	15	0.5	77%	
5	12	4	8	0.3	64%	
6	10	4	6	0.2	58%	
7	11	4	6	0.2	59%	
8	9	4	5	0.2	52%	
9	9	4	5	0.2	51%	
10	7	4	3	0.1	41%	
11	7	4	3	0.1	41%	
12	7	4	3	0.1	40%	

RINCON UNIT NO. 139

After a 7 day SI period:

Mesaverde BHP = 761 psi 5358' (Mid perf) Measured MV BHP from offset well #139E

Dakota BHP = 612 psi 7445' (Mid perf) Calc BHP from 7 day SITP - Sept. 1996

$$\text{Gas Gradient} = \frac{(.01327)(.69)(2087)}{(.95)(655)} = 0.03 \text{ psi/ft}$$

Adjusting to a common datum of 5358':

Mesaverde BHP = 761 psi

$$\text{Dakota BHP} = 612 - [(0.03)(7445-5358)] = 549 \text{ psi}$$

Therefore the reservoir pressures fall within the 50% requirement.

--BHPCALC--

Calculate BHP and Z-factor from surface shut-in pressure 11/23/97

WELL NAME : RINCON UNIT #139
GAS GRAVITY: 0.69 % N2 0.20
CONDENSATE (YES=1): 1 % CO2 1.17 %
RESERVOIR TEMP: 195 F % H2S 0.00 %
SURFACE TEMP: 60 F Pc = 670.13 %
DEPTH OF ZONE: 7445 Foot Tc = 379.92

SURFACE PRES	BHP	Z	BHP/Z
psia	psia		psia
512	612	0.9467	646

November 28, 1997

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

Gentlemen:

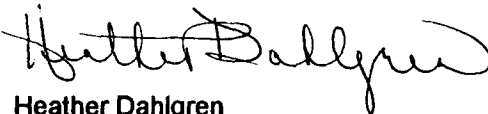
Union Oil Company of California (UNOCAL) has requested from the State of New Mexico Oil Conservation Division, approval to down hole commingle production from the Blanco Mesa Verde and Basin Dakota formations in the following Rincon Unit well, Rio Arriba County, New Mexico.

<u>Well</u>	<u>Legal Location</u>
139	1650' FSL, 1650' FWL, SW Sec 25, T27N, R7W
168	1190' FNL, 1190' FEL, NE Sec 36, T27N, R7W
181	1550' FNL, 1750' FEL, NE Sec 22, T27N, R6W

Attached for Bureau of Land Management review is this proposal. If there are any objections to the proposed action, please notify NMOCD within twenty days. If you have any questions regarding this application, please contact Tom Baiar at 915/685-6836.

Sincerely,

Spirit Energy 76
A Business Unit of UNOCAL



Heather Dahlgren
Engineering Technician

TEB:had:ss
Att.