DISTRICT I

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

State of New Mexico Energy, Minerals and Natural Resources Department OIL CONSERVATION DIVISION

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

DISTRICT II

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

1000 Rio Brazos Rd, Aztec, NM 87410-1693

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

APPROVAL PROCESS:

X__ Administrative __ Hearing

EXISTING WELLBORE X YES ___ NO

APPLICATION FOR DOWNHOLE COMMINGLING

UNION OIL CO OF CALIFORNIA (UNOCAL)	1004 N. BIG SPRING, MIDLAND TX 79702
RINCON UNIT 57E	0. 1 26N 7W

Leas Unit Ltr. Sec - Two - Roe KI O WKKIRY Spacing Unit Lease Types: (check 1 or more) OGRID NO. 023708 Property Code 011510 __ API NO. <u>30-039-25185</u> Federal Y , State ____, land/orl Fee The following facts are submitted in support of downhole commingling: Intermediate Zone Lower Zone Pool Name and Pool Code LARGO GALLUP BASIN DAKOTA 80000 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 (Current) Oil Zones - Artificial Lift:
Estimated Current 495 psia 605 psia Gas & Oil - Flowing:
Measured Current b. (Original) All Gas Zones: Estimated Or Measured Original 768 psig 2350 psig 6. Oil Gravity (°API) or Gas BTU Content 1270 BTU 1181 BTU 7. Producing or Shut-In? PRODUCING PRODUCING NO Production Marginal? (yes or no) YES If Shut-In, give date and oil/gas/ water rates of last production Date: Date Rates: Rates: ole: For new zones with no production history, opticant shall be required to attach production timates and supporting data Date: 12-97 If Producing, give date andoil/gas/ water rates of recent test (within 60 days) Date 12-97 Rates: 640 mcfd, 0 bopd Rates: 124 mcfd, 5 bopd 0 bwpd 5 bwpd 8. Fixed Percentage Allocation Formula -% for each zone 82 % 82 % % 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?

If not, have all working, overriding, and royalty interests been notified by certified mail?

R 9893 Yes No No No Yes X No If yes, are fluids compatible, will the formations not be damaged, will any cross-11. Will cross-flow occur? 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? χ Yes _ No 13. Will the value of production be decreased by commingling? ___ Yes X 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. χ_Yes ___ No 15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). 16. ATTACHMENTS: HMENTS:

* 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** TITLE Engineering Tech. DATE 2-25-98 TYPE OR PRINT NAME HEATHER DAHLGREN TELEPHONE NO. (915) 685 7665

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

<u>Well History:</u> 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.

<u>Production History:</u> 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.

<u>Pressure Data:</u> 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.

<u>Allocation of Production:</u> 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			Leg	jal l	Des	crip	tior	1		NMOCD Order No.	Issue Date
302	С	S	11	T		Ν	R	7	W	DHC-1050	11/3/94
134	В	S	12	T	26	Ν	R	7	W	DHC-1190	3/7/96
159M	F	S	18	T	27	Ν	R	6	W	DHC-904	6/18/93
1 74M	F	S	19	Т	27	Ν	R	6	W	DHC-966	1/31/94
170	M	S	20	Τ	27	Ν	R	6	W	DHC-1192	3/7/96
170M	1	S	20	Т	27	Ν	R	6	W	DHC-920	9/17/93
175M	F	S	20	Т	27	Ν	R	6	W	DHC-864	11/24/92
171M	J	S	21	Т	27	Ν	R	6	W	DHC-1101	3/7/95
180M	D	S	21	Т	27	Ν	R	6	W	DHC-940	10/25/93
158M	J	S	22	Т	27	Ν	R	6	W	DHC-909	4/27/93
125M	F	S	26	T	27	Ν	R	6	W	DHC-95	9/1793
126M	Ρ	s	27	Т	27	N	R	6	W	DHC-914	9/17/93
127M	D	S	28	Т	27	Ν	R	6	W	DHC-916	8/17/93
128M	0	S	28	T	27	Ν	R	6	W	DHC-1042	8/31/94
129M	P	S	29	T	27	Ν	R	6	W	DHC-903	6/18/93
1E	G	S	30	T	27	Ν	R	6	W	DHC-902	6/18/93
303	Ε	S	33	Т	27	Ν	R	6	W	DHC-1086	2/3/95
186M	L	S	33	Т	27	Ν	R	6	W	DHC-1176	12/21/95
167M	С	S	13	Т	27	Ν	R	7	W	DHC-863	11/5/92
151M	0	S	14	Т	27	Ν	R	7	W	DHC-918	9/17/93
133E	D	S	14	Т	27	Ν	R	7	W	DHC-1043	8/31/94
184M	Р	S	15	T	27	Ν	R	7	W	DHC-911	8/25/93
185E	J	S	22	Т	27	Ν	R	7	W	DHC-1038	8/31/94
136E	D	S	23	T	27	Ν	R	7	W	DHC-912	9/17/93
178E	1	S	23	Т	27	Ν	R	7	W	DHC-1040	8/31/94
138E	Р	S	25	T	27	Ν	R	7	W	DHC-1044	8/31/94
139E	F	S	25	T	27	Ν	R	7	W	DHC-1041	8/31/94
203	М	S	27	Т	27	Ν	R	7	W	DHC-1261	5/23/96
149M	F	S	30	Т	27	Ν	R	7	W	DHC-1037	8/31/94
229E	М	S	34	Τ	27	Ν	R	7	W	DHC-1124	5/16/95
187E	Р	S	35	Т	27	Ν	R	7	W	DHC-1176	12/21/95
131E	С	S	36	Т	27	Ν	R	7	W	DHC-1039	8/31/94
168E	1	S	36	Т	27	Ν	R	7	W	DHC-1191	3/7/96
183	K	S	31	T	27	Ν	R	6	W	DHC-1376	10/16/96
168	Α	S	36	T	27	Ν	R	7	W	DHC-1778	2/4/98
139	K	S	25	Т	27	Ν	R	6	W	DHC-1777	2/4/98
181	G	S	22	Т	27	Ν	R	6	W	DHC-1779	2/4/98
166E	F	S	32	Т	27	Ν	R	6	W	DHC-1784	2/24/98

District I
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District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV

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

District IA											-	
2040 South Pache	co, Santa F	Fe, NM 875	05								AMEN	IDED REPOR
			WE	ELL LC	CA7	TION AND	ACI	REAGE DEDI	ICATION PI	_AT		
1	API Numb	er		T			T					
30	-039-251	.85		Į	80	000			LARGO (GALLUP		
⁴ Property	Code					* P	roperty	Name			' W	ell Number
01151	0	RINC	U NC	INIT								57E
OGRID 1	No.					'0	perator	Name			,	Elevation
023708 UNION OIL COMPANY OF CALIFORNIA (UNOCAL) 6457'												
WELL LOCATION AND ACREAGE DEDICATION PLAT API Number 30-039-25185 80000 LARGO GALLUP Property Code 011510 RINCON UNIT 57E OGRID No. 023708 UNION OIL COMPANY OF CALIFORNIA (UNOCAL) Surface Location UL or lot no. 1 26N 7W 1 Bottom Hole Location If Different From Surface UL or lot no. Section Township Range Lot Idn Feet from the North/South line Peet from the East/West line Rincon UL or lot no. Section Township Range Lot Idn Feet from the North/South line Peet from the East/West line Rincon Surface UL or lot no. Section Township Range Lot Idn Feet from the North/South line Peet from the East/West line Rincon County Rinco												
UL or lot no.	Section	Townsh	p I	Range	Lot Id	n Feet from	the	North/South line	Feet from the	East/West hi	ne	County
0	1	26N		7W		790)	s	1825	E		Rio Arriba
				11 Bc	ottom	Hole Locat	ion I	f Different Fro	om Surface	•		
UL or lot no.	Section	Townshi	p F							East/West lin	ne	County
	<u>L,</u>	<u></u>										
¹² Dedicated Acres	s Joint	or Infill	14 Con	solidation	Code	15 Order No.						
159.30		Y	į	U		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

(NON-OTANL	ARD UNIT HAS BEE	N APPROVED BY I	TE 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 18SURVEYOR CERTIFICATION
				I hereby certify that the well location shown on this plat was
	Į		•	plotted from field notes of actual surveys made by me or under my
				, and the state of
				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

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

2040 South Pache	co, Santa F	'e, NM 875	05] AM	IENDED REPORT
			WE	LL LC	CAT	OF	N AND AC	REAGE DEDI	CATION PL	LAT		
1,	API Numb	er			² Pool	Code	e		3 Pool I	Name		
30	-039-251	.85			71:	599			BASIN D	AKOTA		
4 Property	Code						' Property	Name			Γ	' Well Number
01151	0	RINCO	וU מכ	NIT								57E
'OGRID	No.						Operator	Name				'Elevation
023708 UNION OIL COMPANY C						OF	CALIFORNIA	(UNOCAL)				6457'
							¹⁰ Surface	Location			•	
UL or lot no.	Section	Townshi	p R	ange	Lot Ida	0	Feet from the	North/South line	Feet from the	East/West	line	County
0	1	26N		7W			790	s	1825	E	3	Rio Arriba
				11 Bo	ottom	Ho	le Location I	f Different Fro	om Surface			
UL or lot no.	Section	Township	p R	ange	Lot Ide	1	Feet from the	North/South line	Feet from the	East/West	line	County
¹² Dedicated Acres	Joint	or Infill	14 Cons	solidation	Code	" Or	der No.	<u> </u>				
319.73		Y	İ	U		Uni	tization					

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

F	 MIND CIVIT TIAB BEI	SITIAT ROVED DI I	
16			¹⁷ OPERATOR CERTIFICATION
			l hereby certify that the information contained herein is true and
			complete to the best of my knowledge and belief
			Healty Lablace
			Signature
			Printed Name HEATHER DAHLGREN
			Tile ENGINEERING TECHNICIAN
	 		Date 2-24-98
			18SURVEYOR 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

96 LOCATION: N026 W007 1 NESWSE COUNTY: RIO ARRIBA STATE: NMEX ક્ષ 94 Gas Rate (CD) (Mscf)
Oil Rate (CD) (bbis)
Water Rate (CD) (bbls) 93 92 189 10

WELL: RINCON UNIT 57E:GL

LOCATION: N026 W007 1 NESWSE COUNTY: RIO ARRIBA STATE: NMEX - Gas Rate (CD) (Mscf)
- Oil Rate (CD) (bbls)
- Water Rate (CD) (bbls) 10-

WELL: RINCON UNIT 57E:DK

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

	Da	Dakota	Ga	Gallup		
		Gas		Gas	% Gas	% Gas
		Volume		Volume	Volume	Volume
DATE	DAYS	Mcf	DAYS	Mcf	Dakota	Gallup
		MON	ITHLY			
9701	31	4478	31	22845	16%	84%
9702	28	3957	26	12505	24%	49 /
9703	31	4111	31	20282	17%	83%
9704	30	4223	30	22505	16%	84%
9705	30	4707	ထိ	21527	18%	82%
9206	30	4848	30	20088	19%	81%
9707	31	4038	31	14736	22%	78%
9208	31	4384	31	19345	18%	82%
6026	31	4003	31	21429	16%	84%
9710	31	3818	31	21703	15%	85%
9711	30	3520	င္က	22211	14%	86%
9712	30	3837	30	19853	16%	84%
YTD	304	42,567	302	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 :	37E	GI (C	rrent 1	Rincon Unit 57E GL (Current Pressure)
GAS GRAVITY:	0.73	8		8 N2	0.26	10
CONDENSATE (YES=1):		1		% CO2	0.61	æ
RESERVOIR TEMP:	175	R Fr		% H2S	00.00	*
SURFACE TEMP:	9	60 F		Pc =	664.71	æ 1
DEPTH OF ZONE:	643	6433 Foot		Tc =	389.30	0
SURFACE PRES Psia	BHI psia	BHP ia	2	BHP/Z psia	23 dj	
420	495	5 0.9457	157	524		

Current pressure obtained after 5 day shut-in.

Calculated BHP and 2-factor from surface shut-in pressure --BHPCALC--

			TE	ST DATE:	TEST DATE: 07/29/97
WELL NAME :	Rincon	Rincon Unit 57E DK (Current Pressure)	DK (Cur)	rent Pr	essure)
GAS GRAVITY:	0.69	o	& N2	0.55	
CONDENSATE (YES=1):	••		\$ CO2	1.12	ф
RESERVOIR TEMP:	185	E4	% H2S	00.00	ф
SURFACE TEMP:	ý	60 F	Pc =	89.699	dР
DEPTH OF ZONE:	714	7141 Foot	Ha H	378.15	
SURFACE PRES Psia 510	в <u>ф</u>	BHP Z ita 05 0.9450	BHP/Z psia 640		

Current pressure obtained after 5 day shut-in.

STATE OF NEW MEXICO

ENERGY and MINERALS DEPARTMENT
This form is not to

OIL CONSERVATION DIVISION

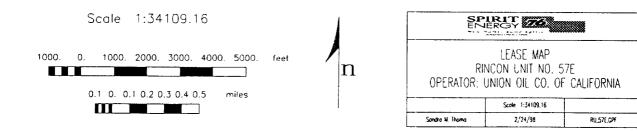
Page 1 Revised 10/01/78

be used for reporting packer leakage tests in Southeastern New Mexico

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator	UNION	I OIL OF CALIFORNIA		Lease RIN	ICON UNIT		LIEGI	Well No. 57E		
Location of Well:	Unit 0) Sec. 01 1	Twp. <u>26N</u>	Rge07V	<u>v .</u>		Cou	inty RIO AF	RIBA	
		NAME OF RESERVOI	IR OR POOL	TYPE OF PI (Oil or Ga			METHOD OF (Flow or Art		PROD. MEDIUM (Tbg. or Csg.)	
Upper Completion	LARGO) GALLUP		GAS		FLOW			TUBING	
Lower Completion	BASIN	DAKOTA		GAS		FLOW			TUBING	
			PRE-FLC	OW SHUT-IN PR	ESSURE 1	DATA				
Upper	Hour, date sh	m	Length of time shut		SI press. p	psig 420		Stabilized? (1	res or No)	
Completion Lower Completion	07/24/ Hour, date sh 8:40a.r	out-in	5 DAYS Length of time shut- 5 DAYS	-in	SI press. p	420 psig 510		YES Stabilized? (Y	fes or No)	
				FLOW TEST NO	O. 1	,				
	at (hour, date)		07/29/97		Zone produ	ucing (Upper	or Lower)* Lo	ower		
TIM (hour, c	i i	LAPSED TIME	PRESS		PROD.			REMAR	RKS	
9:20a.m		SINCE*	Upper Completion	Lower Completion	TEM	IP.				
		21 hrs	CSG 370				.,.			
07/29/9		21 1118	TBG 370	TBG 125	61°		Q = 160 i	ncf		
8:30a.m 07/30/9		44 hrs	CSG 375	07	0					
01/30/7	"	44 III'S	TBG 375	TBG 95	60°		Q = 160 r	ncf		
						-				
roduction re	ate during te	st			——————————————————————————————————————					
Oil:	·· <u>·</u>	BOPD ba	ased on	Bbls. in	н	lours.	Gra	ıv.	GOR	
ias:			MCFPD; Teste	d thru (Orifice or Met	ter):					
			MID-TEST SHU	T-IN PRESSURI	E DATA	_				
Ho Upper Completion	lour, date shut	∙in	Length of time shut-in		SI press. psi	g		Stabilized? (Yes	s or No)	
	our, date shut-	·in	Length of time shut-in		TBG St press psig	g		Stabilized? (Yes	s or No)	

1							
L	193M 18-R 193M 18-R 18	41	10 \$\display	25 168 274	9 176E	49 176 ** ** **	166
29	292	35 42 * 187E · · ·	131 ₂₇₃	168-E	50 183 杂杂		18
1	164E _{1,7}	2941	192E 7 杂 杂	46 ²⁷²	150E ₁₃	2 150 150 300	50-E 1-E
12 	164 233 🔆	2 201E 12 \$\frac{1}{2}\$	101 192 47 271	12 57E	51 11 ³	3	T-81 581
		302	RINCO			T-123	1-125
17 14 26 4	91 * †	算 92 295 算	231E 189 ₁₄ 100	134 96 270 \$\disp\disp\disp\disp\disp\disp\disp\disp	123-E -121 CAL	T-123 D-123 JLKINS OIL	.co.
17-A	15 公 谷 ₁₀₂	304M 93	269 231 231 77 94	95 ** 212	193 172−E	172 * 196	62157\$E
<u>T26N</u>	99 R7W	220−R 220R - <u></u>	PC 221	134E PMD-22 224	258	228	D-7229





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.

Well Legal Location

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 Baiar at 915/685-6836.

Sincerely,

Spirit Energy 76
A Business Unit of UNOCAL

Thomas E. Baiar Petroleum Engineer