

LEASE TOTAL

0 1 0

RINCON UNIT #164 GALLUP ECONOMICS

N MEXICO BH

TYPE 0	DEC 14, 1990	10:06 AM				
	GROSS GWG	NET GWG	TOT GR CND	TOT NET CND		GWG SOLD
1981	47,458	41,526	503	440		41,526
1982	40,339	35,297	428	374		35,297
1983	77,098	67,461	817	715		67,461
1984	144,499	126,436	1,532	1,340		126,436
1985	122,824	107,471	1,302	1,139		107,471
1986-17	1,755,946	1,536,448	18,613	16,286		1,536,448
	=====	=====	=====	=====		=====
TOTAL	2,188,161	1,914,636	23,195	20,295		1,914,636

 INVESTMENT PARAMETERS - - - 1/81 :EFFECTIVE DATE

DISC RATE	PRESENT WORTH			BEFORE TAX	AFTER TAX
	BEFORE TAX	AFTER TAX	RATE OF RETURN, %	96.3	79.8
10%	783,410	445,157	PROFIT / INV (10% DISC)	10.44	5.93
15%	548,755	306,513	PROFIT / INV (15% DISC)	7.31	4.08
20%	399,340	219,061	INV. EFFICIENCY (@ 10%)	21.4	22.2
50%	88,160	40,183	INV. EFFICIENCY (@ 15%)	14.7	14.4
			PAYOUT, YEARS	2.0	2.0
			INITIAL INVESTMENT		75,040

TYPE 0	DEC 14, 1990	10:06 AM				
	TOTAL INV	CND INCOME	GWG INCOME	GAR		TOTAL EXP
1981	75,040	15,846	35,297	51,143		10,833
1982		11,973	30,002	41,975		9,448
1983		21,452	57,341	78,794		15,778
1984		38,867	107,471	146,337		27,388
1985		29,619	91,350	120,969		23,368
1986-17		245,780	1,758,625	2,004,403		380,756
	=====	=====	=====	=====		=====
TOTAL	75,040	363,537	2,080,086	2,443,619		467,571

TYPE 0	DEC 14, 1990	10:06 AM			
	PRODN TAX	CASH-BT	CASH-AT		
1981	8,455	-34,730	-17,365		
1982	7,070	32,527	16,264		
1983	13,400	63,016	31,508		
1984	25,010	118,950	59,475		
1985	20,990	97,600	48,800		
1986-17	304,660	1,623,648	977,792		
	=====	=====	=====		
TOTAL	379,585	1,901,010	1,116,466		

11/20/90

SCHEDULE OF LANDS AND WORKING INTEREST OWNERSHIP
IN THE THIRD EXPANSION TO THE TOCITO PARTICIPATING AREA

RINCON UNIT

Tract No. 1 (Unit Tract No. 27)
(Acreage in Unit Tract: 160.68 Acres)

Lessor: State of New Mexico
Serial No.: E-291-35
Description: Township 26 North, Range 7 West
Section 2: Lots 3,4, S/2 NW/4 (NW/4)

Working Interest Owners:

Union Oil Company of California	83.333%
El Paso Natural Gas	16.667%
Burton-Hawks, Inc. (Oil Only)	All

Acreage Included In Third Expansion
To The Tocito Participating Area: 160.68 Acres

Percentage Of Tocito Formation
Production Allocated To This Tract: 8.34667%

Tract No. 2 (Unit Tract No. 28)
(Acreage In Unit Tract: 160.00 Acres)

Lessor: State of New Mexico
Serial No.: E-291-35
Description: Township 26 North, Range 7 West
Section 2: SW/4

Working Interest Owners:

Union Oil Company of California	83.333%
El Paso Natural Gas	16.667%
Burton-Hawks, Inc. (Oil Only)	All

Acreage Included In Third Expansion
To The Tocito Participating Area: 160.00 Acres

Percentage Of Tocito Formation
Production Allocated to This Tract: 8.31134%

Tract No. 3 (Unit Tract No. 26)
(Acreage In Unit Tract: 320.76 Acres)

Lessor: State of New Mexico
Serial No.: E-291-3
Description: Township 26 North, Range 7 West
Section 2: E/2

Working Interest Owner:

Wiser Oil Company All
P. O. Box 192
Sistersville, WV 26175

Acreage Included In Third Expansion
To The Tocito Participating Area: 320.76 Acres

Percentage Of Tocito Formation
Production Allocated To This Tract: 16.66217%

Tract No. 4 (Unit Tract No. 2)
(Acreage In Unit Tract: 1920.80 Acres)

Lessor: United States of America
Serial No.: SF-079160
Description: Township 26 North, Range 7 West
Section 1: All

Working Interest Owners:

Union Oil Company of California 83.333%
El Paso Natural Gas 16.667%
Burton-Hawks, Inc. (Oil) All

Acreage Included In Third Expansion
To The Tocito Participating Area: 640.00 Acres

Percentage Of Tocito Formation
Production Allocated To This Tract: 33.24537%

Tract No. 5 (Unit Tract No. 7)
(Acreage In Unit Tract: 161.81 Acres)

Lessor: United States of America
Serial No.: SF-079301
Description: Township 26 North, Range 6 West
Section 6: Lots 3,4,5, SE/4 NW/4

Working Interest Owners:

Union Oil Company of California	83.333%
El Paso Natural Gas	16.667%
Burton-Hawks, Inc. (Oil)	All

Acreage Included In Third Expansion
To The Tocito Participating Area: 161.81 Acres

Percentage Of Tocito Formation
Production Allocated To This Tract: 8.40536%

Tract No. 6 (Unit Tract No. 8)
(Acreage In Unit Tract: 161.35 Acres)

Lessor: United States of America
Serial No.: SF-079301-A
Description: Township 26 North, Range 6 West
Section 6: Lots 6,7, E/2 SW/4

Working Interest Owners:

Union Oil Company of California	83.333%
El Paso Natural Gas	16.667%
Burton-Hawks, Inc. (Oil)	All

Acreage Included In Third Expansion
To The Tocito Participating Area: 161.35 Acres

Percentage Of Tocito Formation
Production Allocated To This Tract: 8.38147%

Tract No. 7 (Unit Tract No. 9)
(Acreage In Unit Tract: 160.48 Acres)

Lessor: United States of America
Serial No.: SF-079302
Description: Township 26 North, Range 6 West
Section 6: Lots 1,2, S/2 NE/4

Working Interest Owners:

Union Oil Company of California	83.333%
El Paso Natural Gas	16.667%
Burton-Hawks, Inc. (Oil)	All

Acreage Included In Third Expansion
To The Tocito Participating Area: 160.48 Acres

Percentage Of Tocito Formation
Production Allocated To This Tract: 8.33628%

Tract No. 8 (Unit Tract No. 10)
(Acreage In Unit Tract: 160.00 Acres)

Lessor: United States of America
Serial No.: SF-079302-B
Description: Township 26 North, Range 6 West
Section 6: SE/4

Working Interest Owners:

Union Oil Company of California	83.333%
El Paso Natural Gas	16.667%
Burton-Hawks, Inc. (Oil)	All

Acreage Included In Third Expansion
To The Tocito Participating Area: 160.00 Acres

Percentage Of Tocito Formation
Production Allocated To This Tract: 8.31134%

SUMMARY OF LANDS INCLUDED IN THE THIRD EXPANSION
TO THE TOCITO PARTICIPATING AREA

RINCON UNIT

<u>LEASE</u>	<u>UNIT TRACT NO.</u>	<u>ACREAGE</u>	<u>PERCENTAGE</u>
State of New Mexico E-291-35	27	160.68	8.34667
State of New Mexico E-291-35	28	160.00	8.31134
State of New Mexico E-291-3	26	320.76	16.66217
U.S.A. SF-079160	2	640.00	33.24537
U.S.A. SF-079301	7	161.81	8.40536
U.S.A. SF-079301-A	8	161.35	8.38147
U.S.A. SF-079302	9	160.48	8.33628
U.S.A. SF-079302-B	10	160.00	8.31134
		1925.08	100.00000%

**SUMARY OF WORKING INTEREST OWNERSHIP IN THE
THIRD EXPANSION TO THE TOCITO PARTICIPATING AREA**

<u>WORKING INTEREST OWNER</u>	<u>WORKING INTEREST PERCENTAGE</u>
Union Oil Company of California (GAS ONLY)	69.44820%
El Paso Natural Gas Co. (GAS ONLY)	13.88964%
Wiser Oil Company (OIL AND GAS)	16.66216%
Burton-Hawks, Inc. (OIL ONLY)	83.33784%

STATE OF NEW MEXICO

COUNTY OF SAN JUAN

APPLICANT'S STATEMENT AND AFFIDAVIT

BEFORE ME, the undersigned authority on this day personally appeared Paul West, District Production Manager, known to me to be the person whose name is subscribed to this instrument, who, having been by me first duly sworn, upon oath states as follows:

- 1) That this Statement and Affidavit is made concerning this application for the 3rd expansion to the Blanco South Tocito participating area in the Rincon Unit, in Sections 1 & 2, T26N-R7W, and Section 6, T26N-R6W comprising 1925.08 acres.
- 2) That to the best of his information, knowledge and belief, the information supplied is true.
- 3) That notice of this application has been mailed or delivered to the Rincon Unit working interest owners in accordance with the unit agreement and the unit operating agreement.
- 4) That he certifies that the information and data contained in the application are true and correct and that all copies of records or summaries of such records relied upon in the application are true, correct and authentic copies of documents on file in the offices of Union Oil Company of California.
- 5) That he is of lawful age, that he is a responsible official of Union, that he is duly authorized to make this Statement and Affidavit on behalf of Union, that he has knowledge of the facts contained herein, that this Statement and Affidavit is true and correct, and that he adopts the allegations herein as his sworn statement.

SUBSCRIBED AND SWORN TO before me, this undersigned authority, on this day of December 14th.

Sandra K. Siese
Notary Public in and for
San Juan County, New Mexico

My Commission Expires:

6/2/94



Division
United States Department of the Interior

AM 9 13

BUREAU OF LAND MANAGEMENT
FARMINGTON RESOURCE AREA
1235 LAPLATA HIGHWAY
FARMINGTON, NEW MEXICO 87401



IN REPLY REFER TO:

Rincon Unit (POD)
3183.6 (019)

NOV. 30 1990

Unocal
3300 N. Butler Ave., Suite 200
Farmington, NM 87401

Re: Rincon Unit
3rd Supplement, 1990 POD

Gentlemen:

Enclosed is an approved copy of your Third Supplement to the 1990 Plan of Development for the Rincon Unit. Your 1991 POD is due March 1, 1991.

Please call Duane Spencer at (505) 327-5344 if you have any questions concerning this matter.

Sincerely,

/s/ John L. Keller

John L. Keller
Chief, Branch of Mineral Resources

cc:

~~New Mexico Oil Conservation Division, 510 Old Santa Fe Trail, Room 206,
Santa Fe, NM 87503 w/o encl.
State of New Mexico, Commissioner of Public Lands, P. O. Box 1148,
Santa Fe, NM 87504 w/o encl.~~

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

MINERALS DIVISION

UNOCAL 76

NOV 24 AM 8 33

November 21, 1990

Paul T. West
District Production Manager
Farmington District

Bureau of Land Management
Minerals Division
1235 La Plata Hwy
Farmington, New Mexico 87401
Attn: Gail Keller

D-
UNIT letter
THX
Ry

Well No.'s 241 & 243 } →

Re: Application for
Disqualification of Acreage to the
Basin Fruitland Coal Gas
Participating Area - Rincon Unit,
Rio Arriba County, New Mexico

Gentlemen:

Enclosed please find two copies of the Application for Disqualification of Acreage to the Basin Fruitland Coal Gas Participating Area, Rincon Unit, Rio Arriba County, New Mexico. Enclosed also are geologic and engineering data in support of this application, from two wells; the Rincon Unit #241 and #243.

Union Oil Company of California, as operator of the Rincon Unit, respectfully requests your approval of this application.

Very Truly Yours,
Union Oil Company of California
dba UNOCAL



xc: Commissioner of Public Lands
P.O. Box 1148
Santa Fe, New Mexico 87504-1148

Oil Conservation Division
New Mexico Department of Energy & Minerals
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

APPLICATION FOR DISQUALIFICATION OF ACREAGE TO THE BASIN
FRUITLAND COAL GAS PARTICIPATING AREA - RINCON UNIT - RIO ARRIBA
COUNTY, NEW MEXICO

Gail Keller
Bureau of Land Management - Minerals Division
1235 La Plata Highway
Farmington, New Mexico 87401

Union Oil Company of California, as unit operator of the Rincon Unit, respectfully submits for your approval the following described lands to be disqualified from the Basin Fruitland Coal Gas participating area in the Rincon Unit, to wit:

TOWNSHIP 27 NORTH, RANGE 6 WEST, N.M.P.M.

Section 22: West/2

Containing 315.96 acres, more or less

In support of this application, and in addition to the geologic and engineering reports, the following are attached:

- 1) Structure Top - Basin Fruitland Coal Gas Formation
- 2) Basin Fruitland Coal Gas Formation Gross Isopach
- 3) Stratigraphic Well Log Cross-Section
- 4) Rincon Unit #241 Fruitland Coal Gas Production Decline Curve
- 5) Rincon Unit #241 Fruitland Coal Gas Economics
- 6) Schedule of Lands and Working Interest Ownership in the Initial Basin Fruitland Coal Gas Participating Area (Participation Allocation Formula)
- 7) Applicant's Statement and Affidavit

This application is predicated on nine months of actual production history from the Rincon Unit #241 well which first delivered on November 15, 1989.

Applicant respectfully requests your approval of the hereinabove selection of lands to be disqualified from the Basin Fruitland Coal Gas Formation participating area, effective November 1, 1989.

Dated this 29th day of September, 1990.



Paul West
District Production Manager
Union Oil Company of California

Well Summary

Well Name: Rincon Unit #241
Location: 1500'FSL, 990'FWL, Sec 22, T27N, R6W
Elevation: 6520' GL
Total Depth: 3266'
Lease Number: SF-079366
Pool/Formation: Basin Fruitland Coal Gas
Spud Date: 8-9-89
Completion Date: 9-7-89
1st Delivery Date: 11-15-89
Perf'd Interval: 3074-3078, 3083-3094, 3079-3099, 3111-3121,
3128-3139

Geologic Summary

The Fruitland Formation was deposited in a coastal plain environment landward of the Pictured Cliffs strandline. It consists of shales, siltstones, sandstones, and coals. The coals were deposited in low-lying areas such as lagoons, swamps and bayous behind the barrier islands, bars, and beaches of the Pictured Cliffs sandstone. The coal is best developed in the basal Fruitland, and extends aeriually over the entire San Juan Basin with the exception of a small region on the eastern margin. Net coal varies from 20 to 80 feet thick with the thickest sections being in the north-central portion of the basin. The Rincon Unit Fruitland Coal ranges in thickness from 30 feet to 70 feet, and are considered High Volatile C Bituminous in rank. Regional dip in the Rincon Unit is 1 to 2 degrees to the northeast and structure does not appear to play a part in the accumulation of natural gas in the area of the unit.

Engineering Summary

The Rincon Unit #241 was drilled and completed by Union Oil Company of California as a Basin Fruitland Coal Gas producer in 1989. Surface pipe measuring 9-5/8" was set at 230 feet and cemented with 150 sacks to surface. Production casing measuring 5-1/2" was then set at 3266 feet and cemented in two stages to surface with 630 sacks cement. After drilling out to PBTD of 3251, the coal zone was perforated from 3074 to 3139 (gross interval) with 4 shots per foot and fracture stimulated with 15,000# 100 mesh, 252,000# 20/40 sand, 78,950 gallons cross-linked gel water, and 310,515 SCF of nitrogen. The recorded initial potential and 24 hour shut-in pressure were 136 MCFD / 2 BWPD; and 101 psi, respectively. The well was first delivered to the El Paso Natural Gas pipeline system on November, 15 1989. The current deliverability for the well against a 150# line pressure is 30 MCFD.

Volumetrics calculated on the below-listed parameters yields a recoverable gas volume of 0.70 Bcf.

Net Pay: 55 ft
Drainage area: 160 acres
Gas Content: 218 SCF/ton
Tonnage Factor: 2024 tons/acre-feet (from density log)
Recovery Factor: 18 %

Economics

Completion Cost: \$355,353

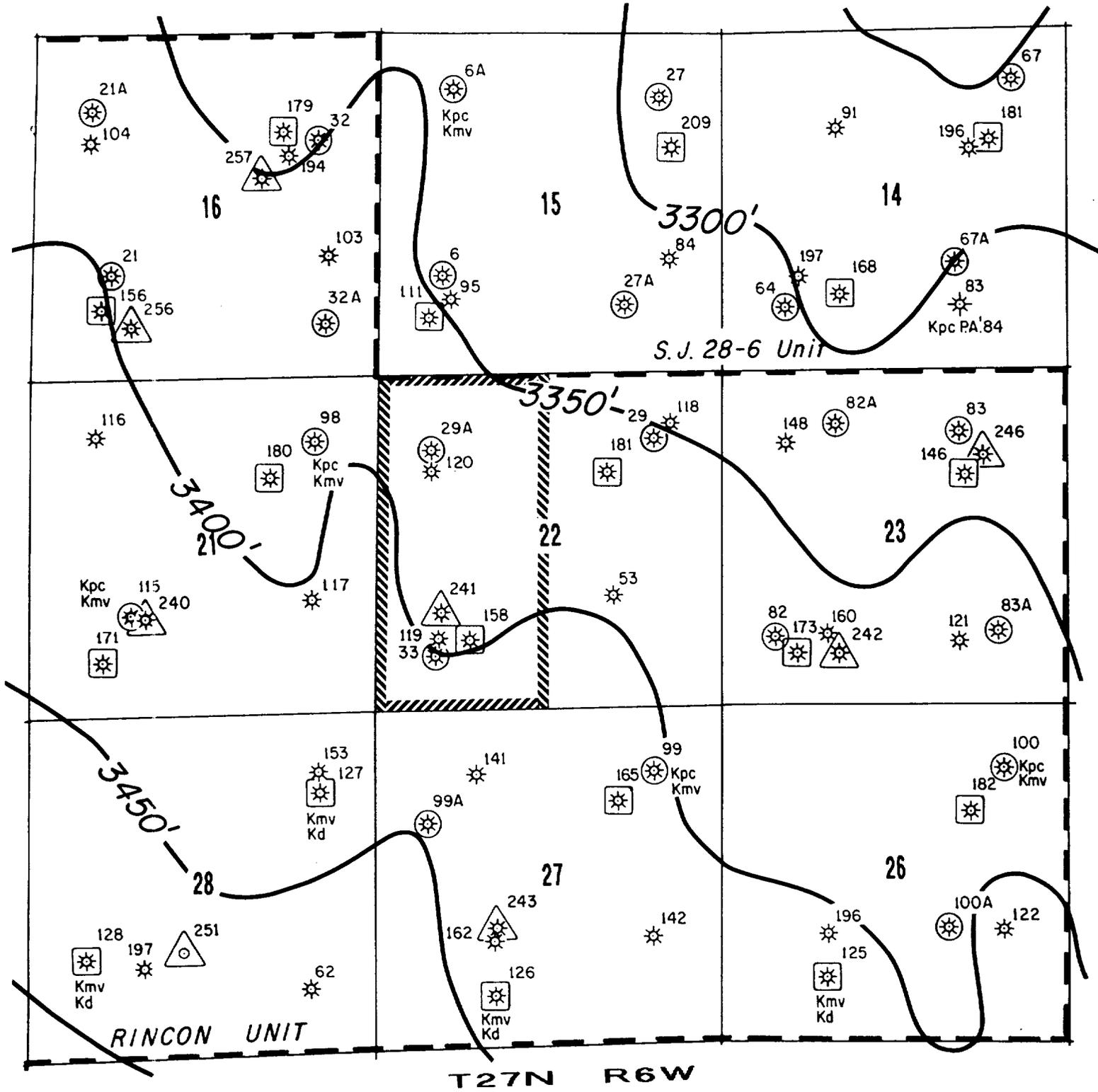
Royalty Burden: 17.50%

Gas Price: \$2.40/MCF with tax credit, 1.50/MCF after yr 2000

Operating Cost: \$250/month

Production Rate: Maximum - 191 MCFD, Current - 30 MCFD, No
associated water production

Economics based on the above are attached. Given the investment cost to complete this well will not payout during the life of the wellbore.



PRODUCING INTERVAL

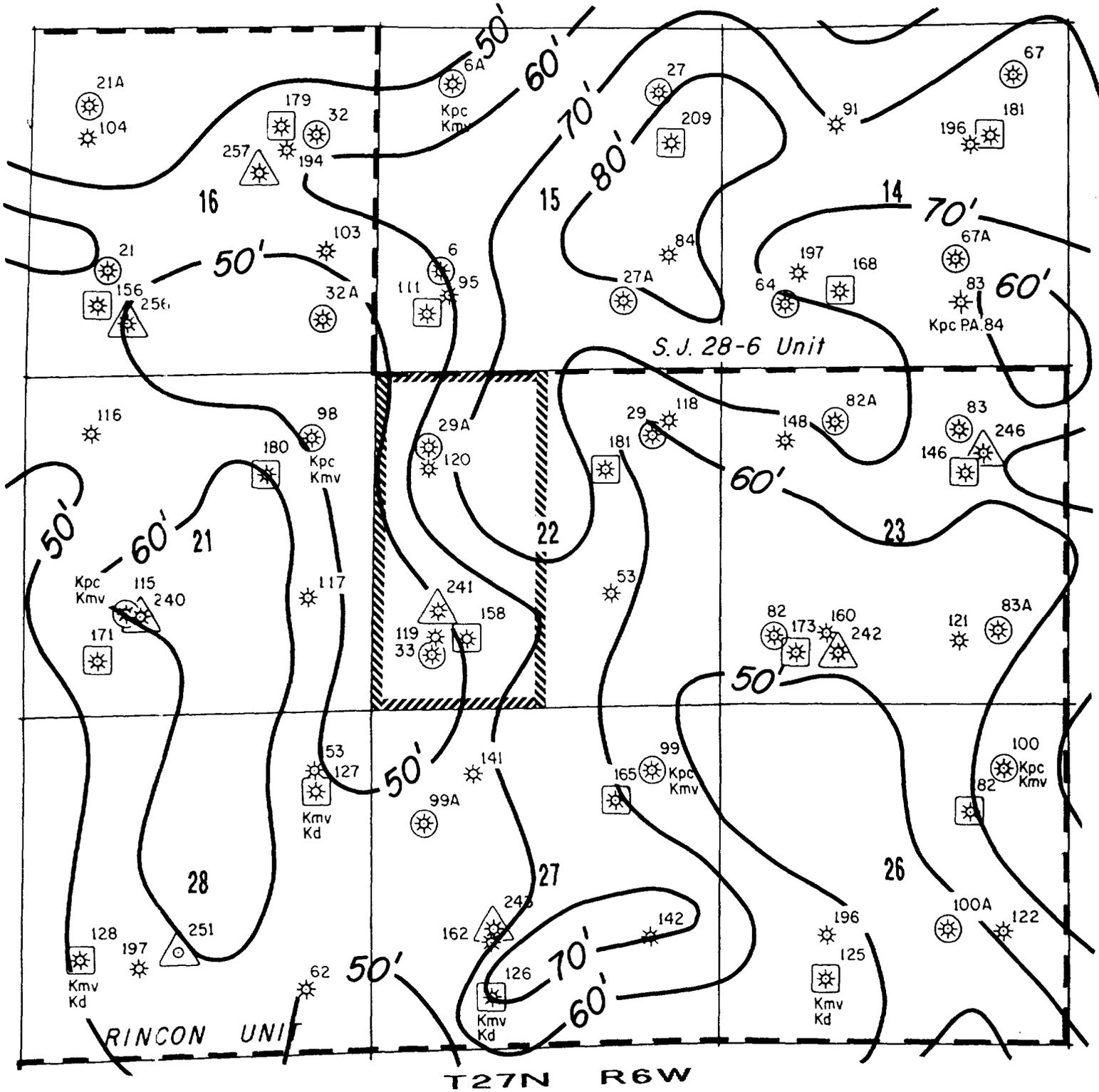
- | | | | |
|-------------------|-----------------|-----------------|--|
| K _{fm} * | FARMINGTON | K _{fm} | |
| K _k * | KIRTLAND | K _k | |
| △ | FRUITLAND | K _f | |
| ☆ | PICTURED CLIFFS | K _{pc} | |
| ⊗ | CHACRA | K _c | |
| ⊙ | LA VENTANA | K _{lv} | |
| ⊛ | MESAVERDE | K _{mv} | { K _{ch} CLIFFHOUSE
K _m MENEFFEE
K _{pl} POINT LOOKOUT |
| ⊠ | GALLUP | K _g | |
| ⊞ | DAKOTA | K _d | |

UNOCAL

NORTH AMERICAN OIL & GAS DIVISION
SOUTHWESTERN REGION

RINCON UNIT
RIO ARRIBA COUNTY, NEW MEXICO
STRUCTURE
BASE OF FRUITLAND COAL
RINCON UNIT # 241
W_{1/2} SEC. 22 T27N R6W

INTERP BY	D.V.H.	SCALE	2 1/2" = 1 Mi.	C.I.	50'
DRAFT BY		DATE	9-26-90	FILE NO.	1A) 04



PRODUCING INTERVAL

Kfm *	FARMINGTON	Kfm	
Kl *	KIRTLAND	Kl	
△	FRUITLAND	Kf	
☼	PICTURED CLIFFS	Kpc	
⊗	CHACRA	Kc	
⊕	LA VENTANA	Klv	
⊗	MESAVERDE	Kmv	{ Kch CLIFFHOUSE Km MENELEE Kpl POINT LOOKOUT
⊗	GALLUP	Kgl	
⊗	DAKOTA	Kd	{ K1 TOCITO Kgh GREENHORN

UNOCAL 76
 NORTH AMERICAN OIL & GAS DIVISION
 SOUTHWESTERN REGION

RINCON UNIT
 RIO ARRIBA COUNTY, NEW MEXICO
ISOPACH
 FRUITLAND COAL
 RINCON UNIT # 241
 W 1/2 SEC. 22 T27N R6W

INTERP BY D. V. H. SCALE 2 1/2" = 1 Mi. CI 10'

DRAFT BY DATE 9-26-90 PNE NO. (A) B *