

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
 NSL NSP SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR

- [D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

- [A] Working, Royalty or Overriding Royalty Interest Owners
 [B] Offset Operators, Leaseholders or Surface Owner
 [C] Application is One Which Requires Published Legal Notice
 [D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

James Bruce
 Print or Type Name

James Bruce
 Signature

Attorney for applicant
 Title

jamesbruc@aol.com
 e-mail Address

3/6/06
 Date

2006 MAR 6 PM 3 26

JAMES BRUCE
ATTORNEY AT LAW

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SANTA FE, NEW MEXICO 87501

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(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

March 6, 2006

Hand Delivered

Michael E. Stogner
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Stogner:

Pursuant to Division Rule 104.F(2), Apache Corporation applies for administrative approval of an unorthodox oil well location for the following well:

<u>Well Name:</u>	Rinewalt Well No. 7
<u>Well Location:</u>	1090 feet FNL & 1810 feet FFL
<u>Well Unit:</u>	Lot 3 (NE $\frac{1}{4}$ NW $\frac{1}{4}$) of Section 4, Township 22 South, Range 37 East, N.M.P.M., Lea County, New Mexico

Southern (Undesignated) The well will test the Grayburg formation (Penrose Skelly Pool) and San Andres formation (Undesignated Eunice-San Andres Pool), and applicant requests unorthodox location approval in both zones. Both pools are developed on statewide rules, with 40 acre spacing, and wells to be located no closer than 330 feet to a quarter-quarter section line.¹

The application is based on geological and engineering reasons. A complete discussion, with exhibits, is attached as Exhibit A (including a Form C-102). As to the Grayburg formation, the well is located midway between Grayburg wells to the north and south. The well data shows that wells in the Grayburg drain considerably less than 40 acres. Therefore, the proposed location will recover undrained reserves in the Grayburg. **Lot 3 of Section 4 will be simultaneously dedicated, in the Grayburg formation, to the proposed well and the existing Rinewalt Well No. 5.**

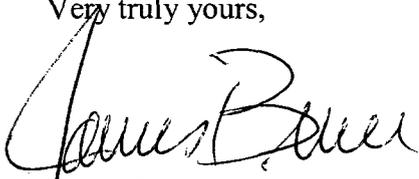
¹ The limiting GOR in the Eunice-San Andres Pool is 5000:1 under Order No. R-4940.

There has been no San Andres production from Lot 3 of Section 4, and applicant's data indicates that San Andres production is marginal. Thus, using the well to test both the Grayburg and the San Andres will prevent waste.

Exhibit B is a land plat. The Rinewalt fee lease covers Lot 3 and the S $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 4, and no offset owner is adversely affected by the application. Therefore, notice has not been provided to anyone.

Please call me if you need any further information on this matter.

Very truly yours,



James Bruce
Attorney for Apache Corporation

Application of Apache Corporation for administrative approval of an unorthodox well location:

40 acres – 1090' FNL & 1810' FWL
 Section 4, Township 22 South, Range 37 East, NMPM
 Lea County, New Mexico

PRIMARY OBJECTIVE: GRAYBURG

SECONDARY OBJECTIVE: SAN ANDRES

In support:

1. Apache Corporation (Apache) is the operator of the proposed **Rinewalt #7** (**Exhibit 1**). The proposed total depth is 4375' in the San Andres formation.
2. The proposed location encroaches toward the following wells in the effected Penrose Skelly; Grayburg and Southwest Eunice; San Andres Pools (**Exhibit 2**). This location is a standard distance from the west unit boundary, so Grayburg and San Andres wells in Units D and E will not be encroached upon.

API	Op.	Well	Loc	Pool	Cum O/GW	Daily O/GW
30-025-34582	Apache	Rinewalt #5	04-C	Penrose Skelly; Grayburg	18/253/197	6/78/66
10035	Apache	Rinewalt #2	04-C	Penrose Skelly; Grayburg	62/0/0	0/0/0
10034	Apache	Rinewalt #1	04-F	Penrose Skelly Grayburg	61/0/0	0/0/0
10034	Apache	Rinewalt #1	04-F	SW Eunice; San Andres	3/246/192	2/100/82
37325	Apache	Rinewalt #6	04-F	Penrose Skelly; Grayburg	1/9/3	22/273/101

MBO BOPD
 MMCFG MCFGPD
 MBW BWPD

3. The proposed **Rinewalt #7** unorthodox Grayburg-San Andres location of 1090' from north line and 1810' from west line is based on drainage considerations.

a) Grayburg Reservoir

The Grayburg is a series of alternating subtidal and supratidal dolomites, with the subtidal rock having porosity and hydrocarbons and the supratidal rock being tight. The Grayburg environments varied rapidly so that porous and tight intervals do not necessarily correlate well-to-well. Tight dolomite and/or anhydrite intervals within the Grayburg additionally create vertical hydraulic barriers between different zones of porosity. Average porosity of the Grayburg is less than 10% and average permeability is less than 1 millidarcy. Grayburg wells are thus not capable of draining an entire 40 Acre Spacing Unit.



The reservoir was analyzed by mapping hydrocarbon pore volume (SoPhiH) (**Exhibit 3**). SoPhiH is the product of feet of net pay (H) times average porosity (PhiA) times oil saturation (So). The values were obtained as follows:

1. Net Pay was read from modern neutron-density logs which have contractor calculated cross-plotted porosity (XPhi) using a minimum of 6% and a maximum of 18%. Additionally, gamma ray (40 APIU) and water saturation (10% - 50%, using a standard equation with a=1 and m=n=2) cutoffs were also employed.
2. Average Porosity was calculated for intervals meeting those criteria.
3. Oil Saturation is the additive inverse of water saturation.

The following table provides drainage areas calculated from the SoPhiH map and reserves of the offsetting wells. Values determined from modern logs will have an asterisk after the pool name, others are estimates from the grid.

Op.	Well	Loc	Pool	SoPhiH	Area A	EUR MBO	EUR MMCF
Apache	Rinewalt #5	04-C	Penrose Skelly; Grayburg*	10.2	6	55	754
Apache	Rinewalt #2	04-C	Penrose Skelly; Grayburg	10.4	7	62	0
Apache	Rinewalt #1	04-F	Penrose Skelly Grayburg	11.0	14	13	519
Apache	Rinewalt #6	04-F	Penrose Skelly; Grayburg*	10.3	4	38	467

The intent of the well is to recover reserves that cannot be recovered by the existing wells. The location was placed in the center of the vacant area between the existing wells and then moved due to surface conditions and cultural obstructions.

Reserves for the proposed **Rinewalt #7** were calculated by planimetry the undrained area of the SoPhiH isopach which lies under a drainage circle (the size of which is the average of the direct offset drainage areas) centered on the proposed location. Any competitive drainage is shared between the proposed well and the existing offset wells. The results are as follows:

WELL	LOC	SoPhiH	AREA A	EUR MBO	EUR MMCFG
Rinewalt #7	04-C	11.72	7.8	82	656

b) **San Andres Reservoir**

The San Andres is the secondary objective of the **Rinewalt #7**. Like the super-adjacent Grayburg, it is a shallow shelf carbonate. The upper 200'-300' is tighter and tends to be oil productive, whereas the lower part of the

formation is much more porous and generally productive of water and gas. Apache is targeting only the upper, oil prone interval.

Testing of and production from the upper San Andres to date by Apache, suggest that it is only marginally commercial. Reserves from the upper interval will not support drilling a well targeting only this interval. Testing and production further suggest that the wells will not drain an entire 40 Acre Drilling and Spacing Unit.

San Andres potential was evaluated using the Net Pay map (**Exhibit 4**), analyzing the interval above a drill depth of 4200'. Petrophysical parameters are:

1. Gamma Ray less than 40 APIU
2. XPhi between 5% and 15%
3. LLD between 50 ohm*m and 500 ohm*m.

The following table provides drainage areas calculated from the Net Pay map and reserves of the offsetting wells. Values determined from modern logs will have an asterisk after the pool name.

					Area	EUR	EUR
Op.	Well	Loc	Pool	Pay	A	MBO	MMCF
Apache	Rinewalt #1	04-F	SW Eunice; San Andres	74.0	17	13	519

Reserves for the proposed **Rinewalt #7** were calculated by planimetry the undrained area of the Net Pay isopach which lies under a drainage circle (the size of which is the average of the direct offset drainage areas) centered on the proposed location. Any competitive drainage is shared between the proposed well and the existing offset wells. The results are as follows:

WELL	LOC	Pay	AREA A	EUR MBO	EUR MMCFG
Rinewalt #7	04-C	67	17	12	483

4. Notice

Apache is the operator and only working interest owner of the Grayburg and San Andres wells toward which the proposed **Rinewalt #7** will encroach.

5. Approval of this application will afford the interest owners in these spacing units an opportunity to recover oil and gas which would not otherwise be recovered.

DISTRICT I
1625 N. FRENCH DR., HOHBS, NM 86240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 86210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised JUNE 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name RINEWALT	Well Number 7
OGRID No.	Operator Name APACHE CORPORATION	Elevation 3456'

Surface Location

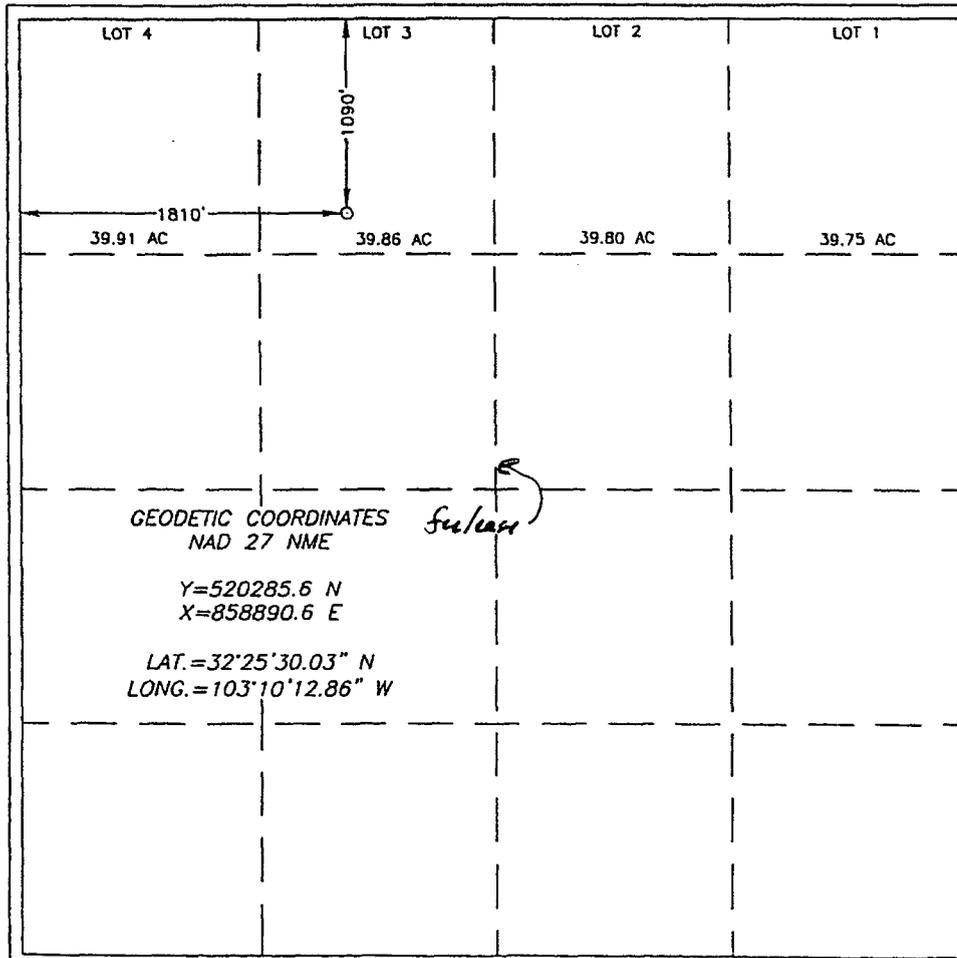
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
3	4	22-S	37-E		1090	NORTH	1810	WEST	LEA

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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



OPERATOR CERTIFICATION

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

Signature _____

Printed Name _____

Title _____

Date _____

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.

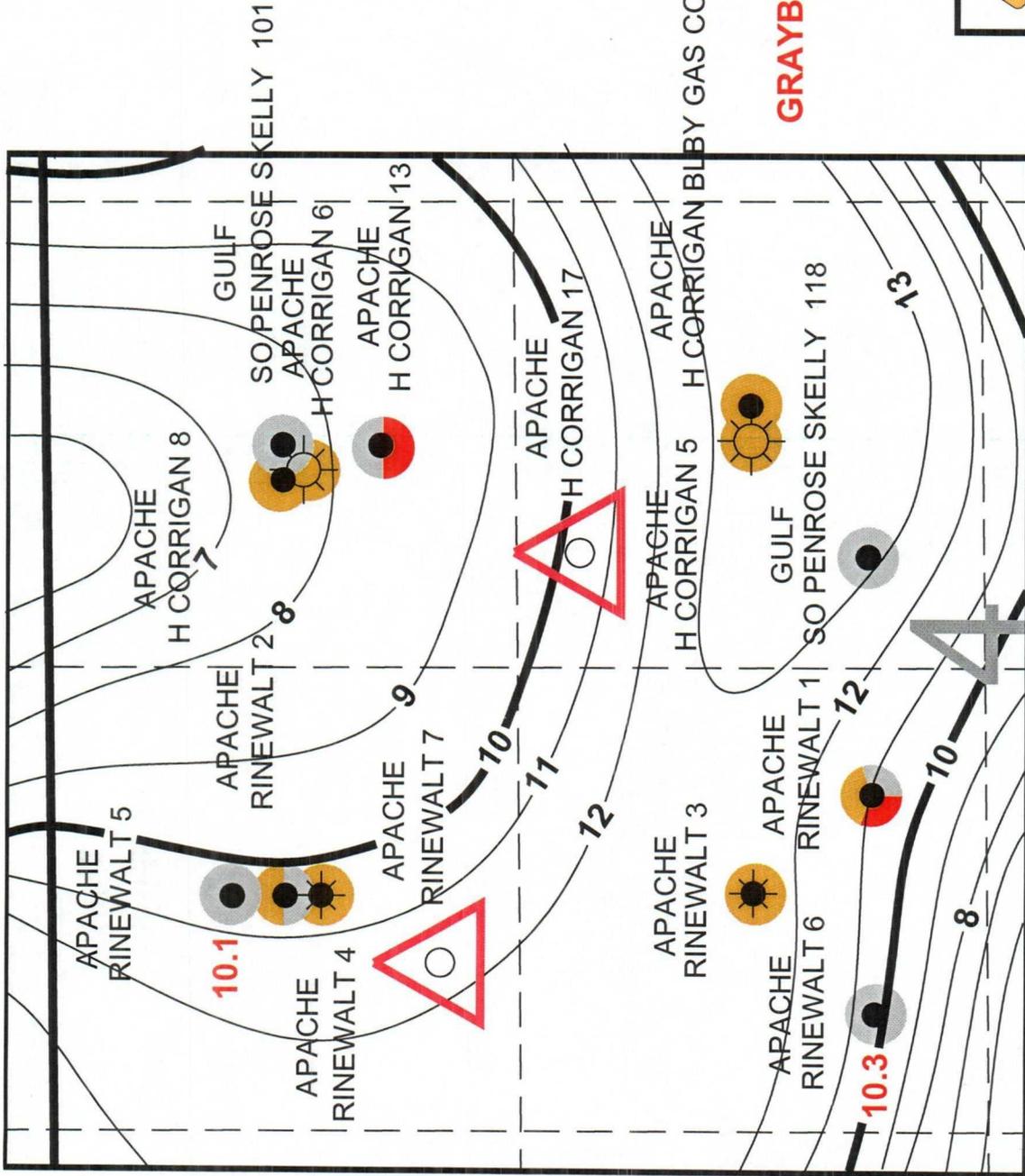
JANUARY 3, 2006

Date Surveyed _____ RZB

Signature & Seal of Professional Surveyor

 Gaby Edson 1/13/06

Certificate No. GABY EDSON 12641
RONALD F. EDSON 3239



WELL SYMBOLS

- Location Only
- Oil Well
- ☀ Gas Well
- ⊖ Dry

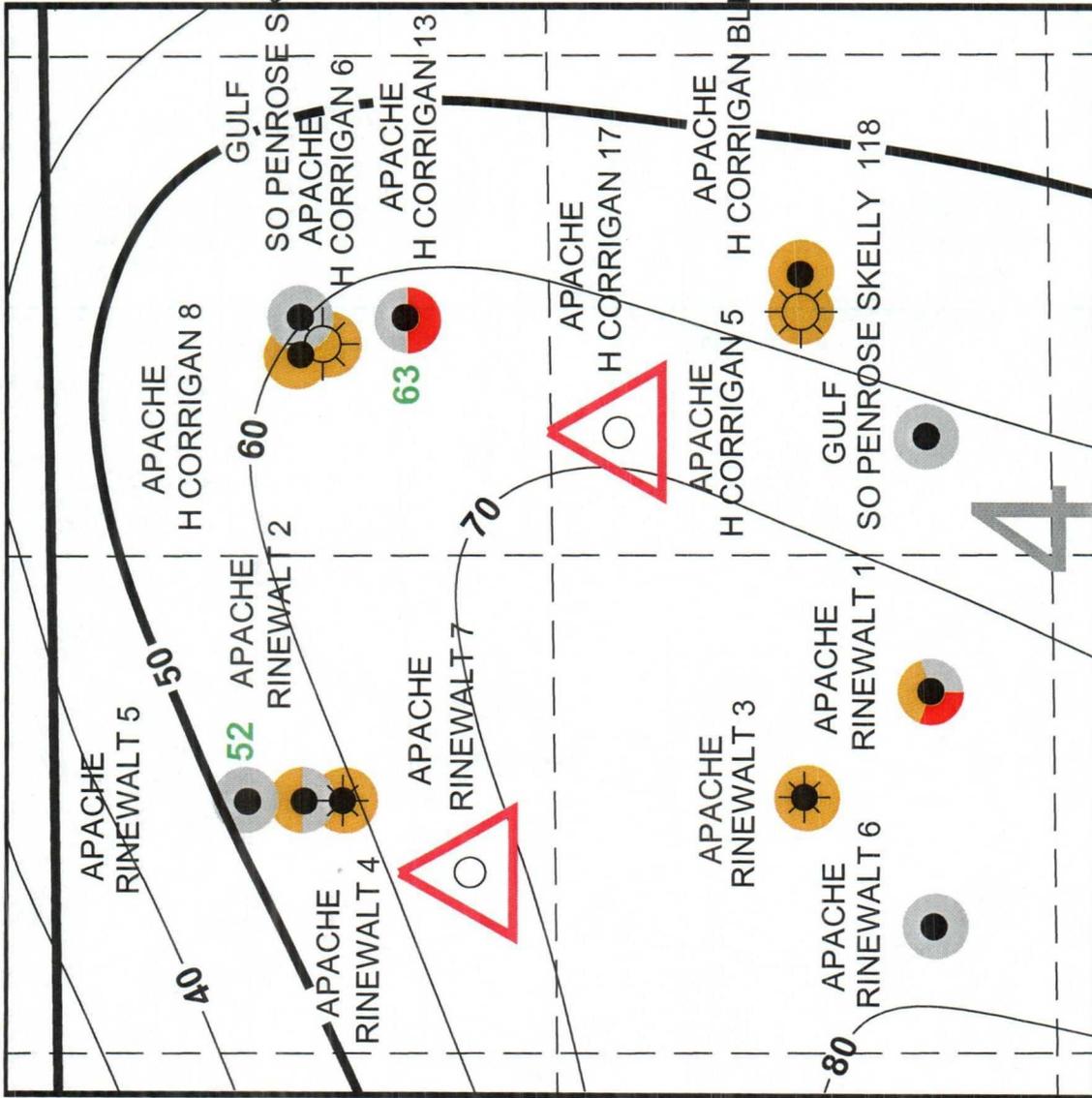
POSTED WELL DATA
OPERATOR
WELL LABEL

GRAYBURG SOPHIH ●

- GRAYBURG
- SAN ANDRES
- BLINEBRY, TUBB, AND/OR DRINKARD



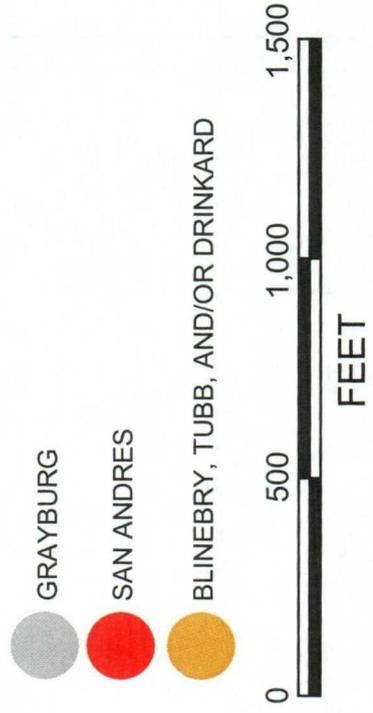
	TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74136-4224	
	RINEWALT #7	
SEC 4-T215-R37E		LEA COUNTY, NEW MEXICO
EXHIBIT 3		
SAN ANDRES PAY		
DATE: 1/27/06	DWG: CURTIS\GBSA-NSL\WELL (EX3)	



- WELL SYMBOLS**
- Location Only
 - Oil Well
 - ☀ Gas Well
 - ⊖ Dry

POSTED WELL DATA
 OPERATOR
 WELL LABEL

SAN ANDRES PAY ●



Apache
 CORPORATION
 CENTRAL REGION

TWO WARREN PLACE, SUITE 1500
 6120 SOUTH YALE
 TULSA, OKLAHOMA 74136-4224

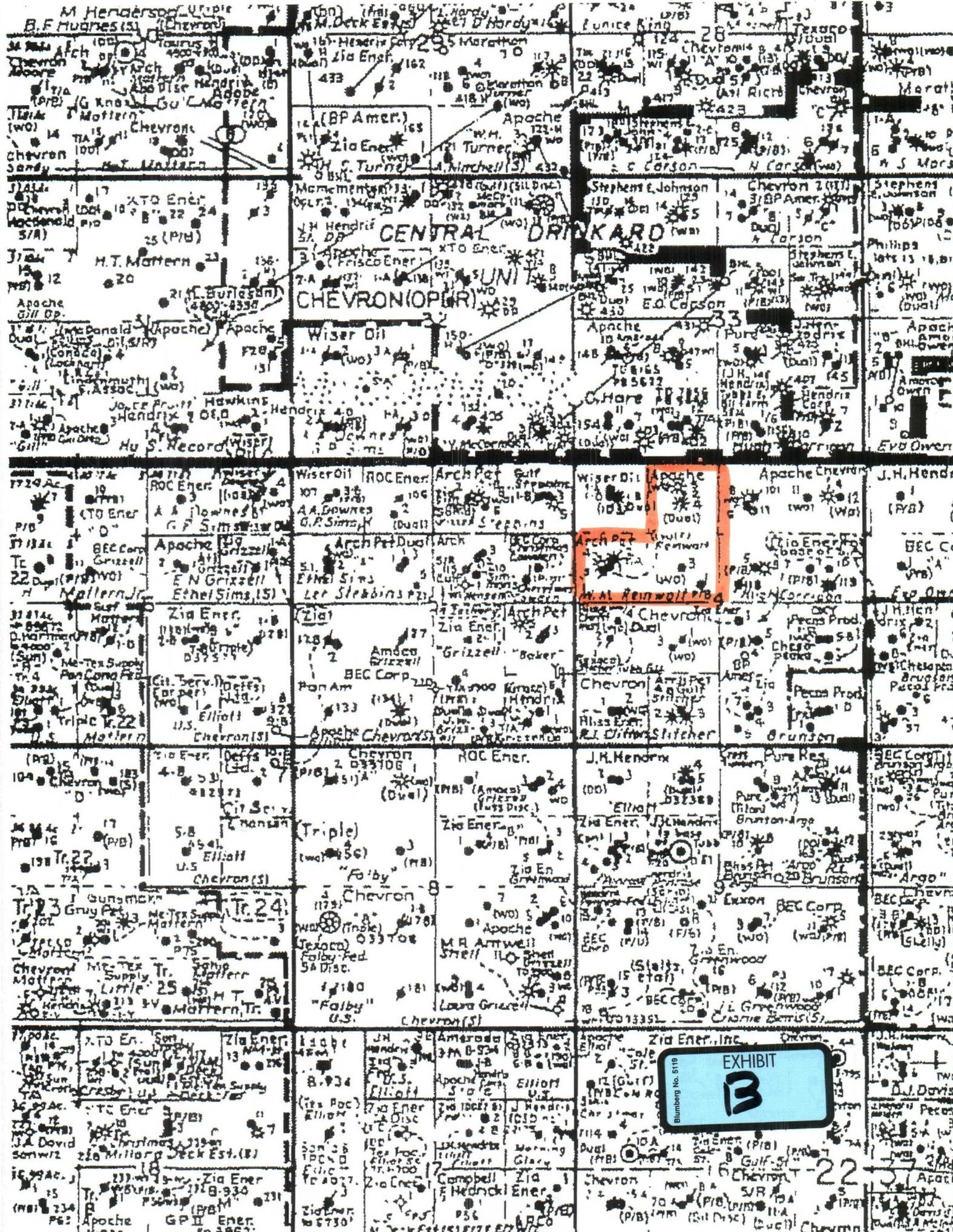
RENEWALT#7

SEC 4-T21S-R37E
 LEA COUNTY, NEW MEXICO

EXHIBIT 4

SAN ANDRES PAY

DATE: 1/27/06 DWG: CURTIS\GBSA-NSLWELL (EX4)



CENTRAL DRINKARD

CHEVRON (OPR)

SUNOCO

STEPHENS E. JOHNSON

E.O. CARSON

O. HARE

M.A. REINWOLD

J.R. HENDRIX

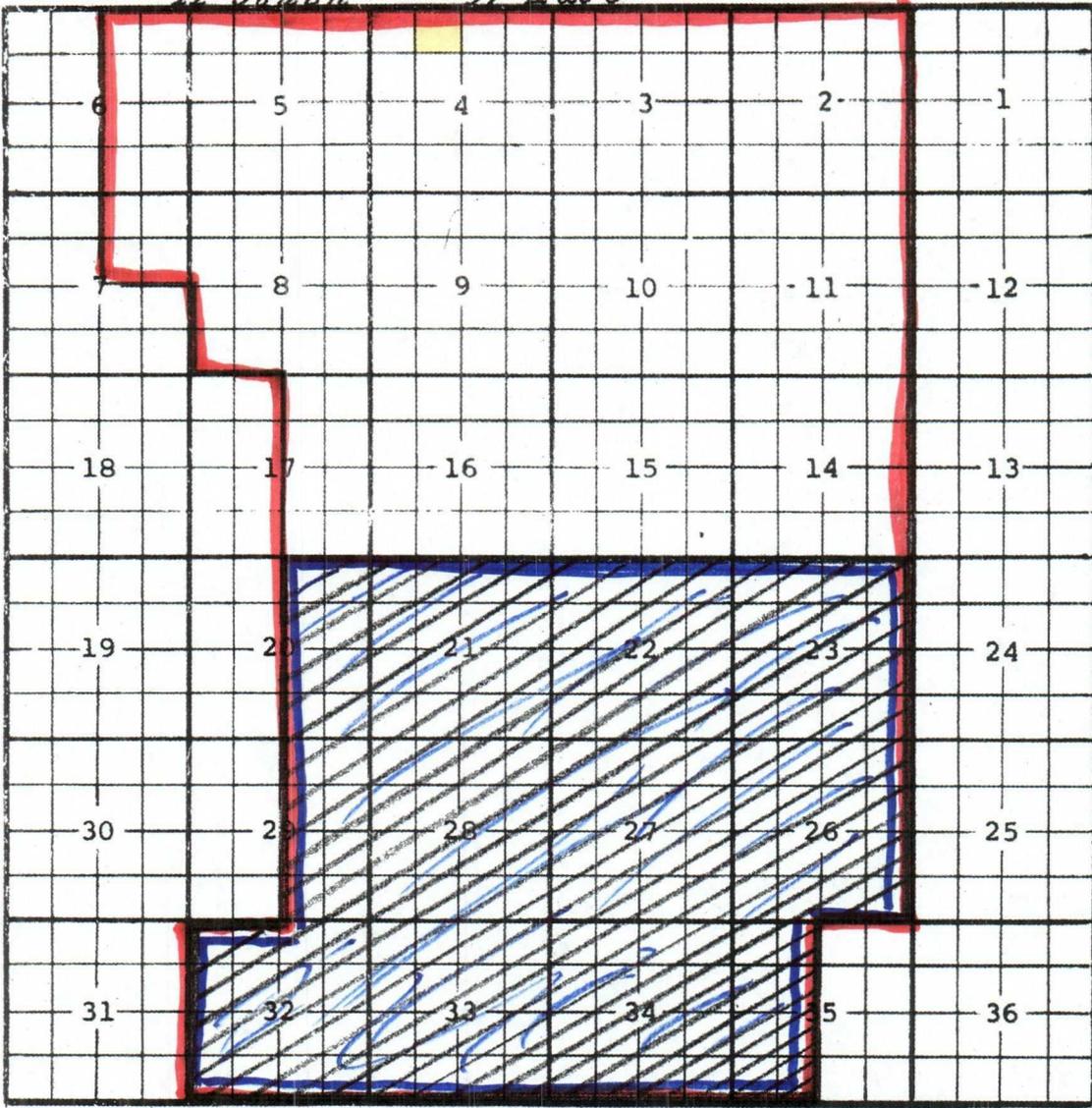
EXHIBIT
B
Blumberg No. 518

-22-

50350

COUNTY *Lea* POOL *Pease Skelly* (*Grayburg*)

TOWNSHIP *22-South* RANGE *37-East* NMPM

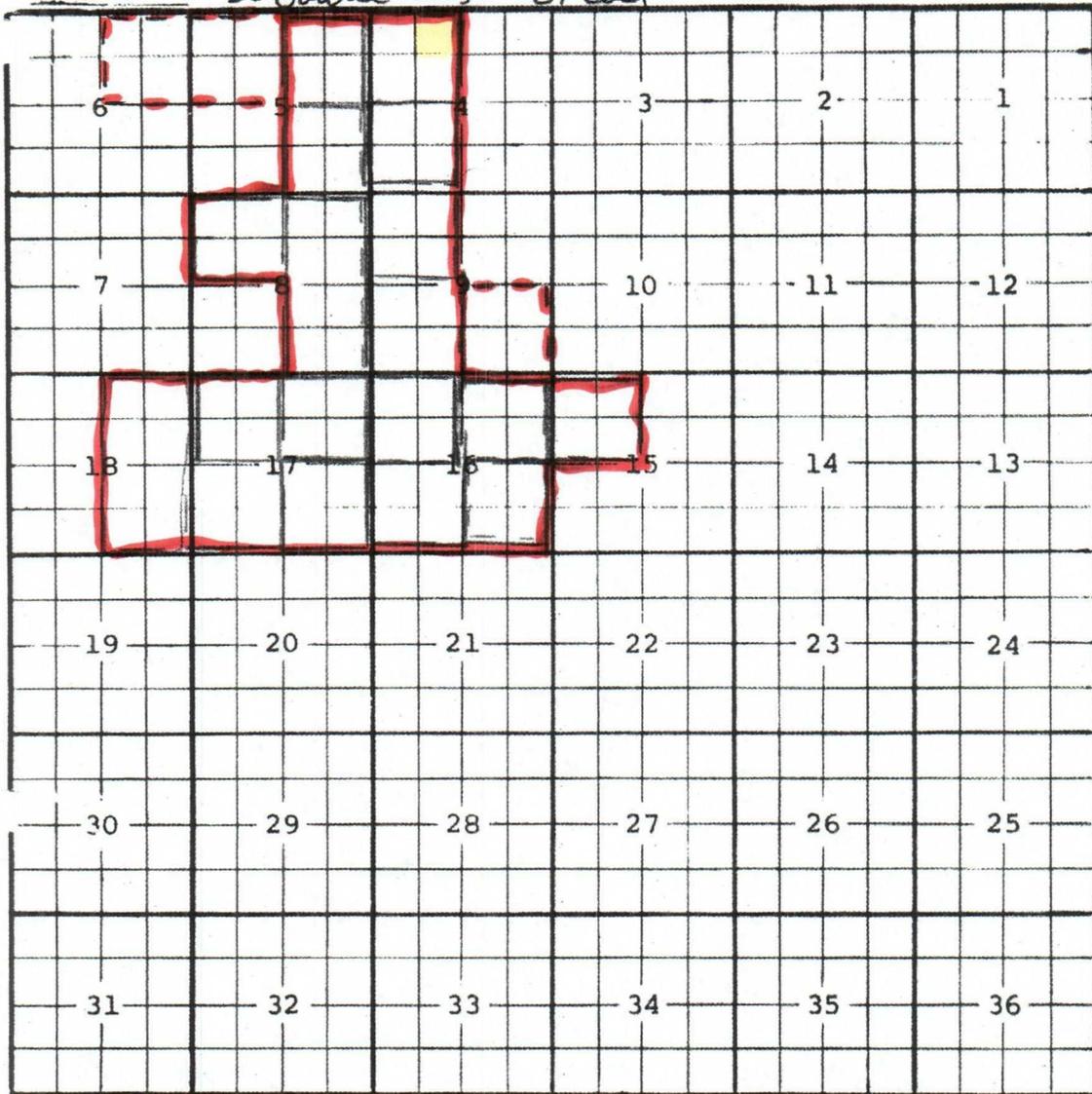


Description: All Secs. 2, 3, 4, 5; $\frac{E}{2}$ Sec. 6; $\frac{NE}{4}$ Sec. 7; All Secs. 8, 9, 10, 11, 14, 15 & 16; $\frac{E}{2}$ Sec. 17; $\frac{E}{2}$ Sec. 20; All Secs. 21, 22, 23, 26, 27, & 28; $\frac{E}{2}$ Sec. 29; All Secs. 32, 33, 34; $\frac{W}{2}$ Sec. 35.
Deletion: $\frac{E}{2}$ Sec. 20; All Secs. 21, 22, 23, 26, 27 & 28; $\frac{E}{2}$ Sec. 29; All Secs. 32, 33, 34; $\frac{W}{2}$ Sec. 35; also Vertical limits redefined to delete Queen formation leaving Grayburg, (R-767-A, 4-1-56).

24180

County LEA Pool Southwest Eunice - San Andres

TOWNSHIP 22 South Range 37 East NMPM



Description: NW/4 Sec. 17 (R-6466, 9-10-80)
 Ext: NW/4 sec 17 (R-6724, 7-16-81) EXT: SE/4 sec 17 (R-8901, 4-1-89)
 EXT: E/2 SEC 18 (R-8772, 11-1-88) EXT: SE/4 SEC 5, E/2 SEC 8 (R-9447, 3-1-91)
 EXT: NE/4 Sec. 5 (R-9646, 3-11-92) EXT: NW/4 Sec. 16 (R-10588, 4-26-96)
 EXT: NE/4 Sec. 16 (R-10795, 4-28-97) EXT: SE/4 Sec. 4 (R-10972, 4-13-98)
 EXT: NW/4 Sec. 8 (R-11243, 9-15-99) EXT: NW/4 Sec. 15, SE/4 Sec. 16 (R-11304, 1-12-00)
 EXT: SW/4 Sec. 16 (R-11533, 2-8-01) EXT: NW/4 Sec. 9 (R-11633, 8-10-01)
 EXT: NW/4 Sec. 4 (R-11728, 2-20-02) EXT: SW/4 Sec. 9 (R-12317, 3-25-05)