

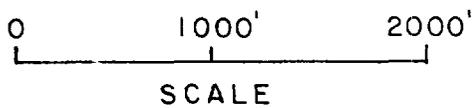
In the matter of the application of Curry & Thornton for a non-standard Proration Unit and, Unorthodox well location, Chaves County, New Mexico.

S.E. 1/4 Proration Unit assigned to Santa Fe Exploration Co. Holmstrom - Fed. No. 1

OFFICE OF OIL AND GAS ADMINISTRATION
 U.S. DEPARTMENT OF THE INTERIOR
 C&T Division, 9
 Case No. 9617

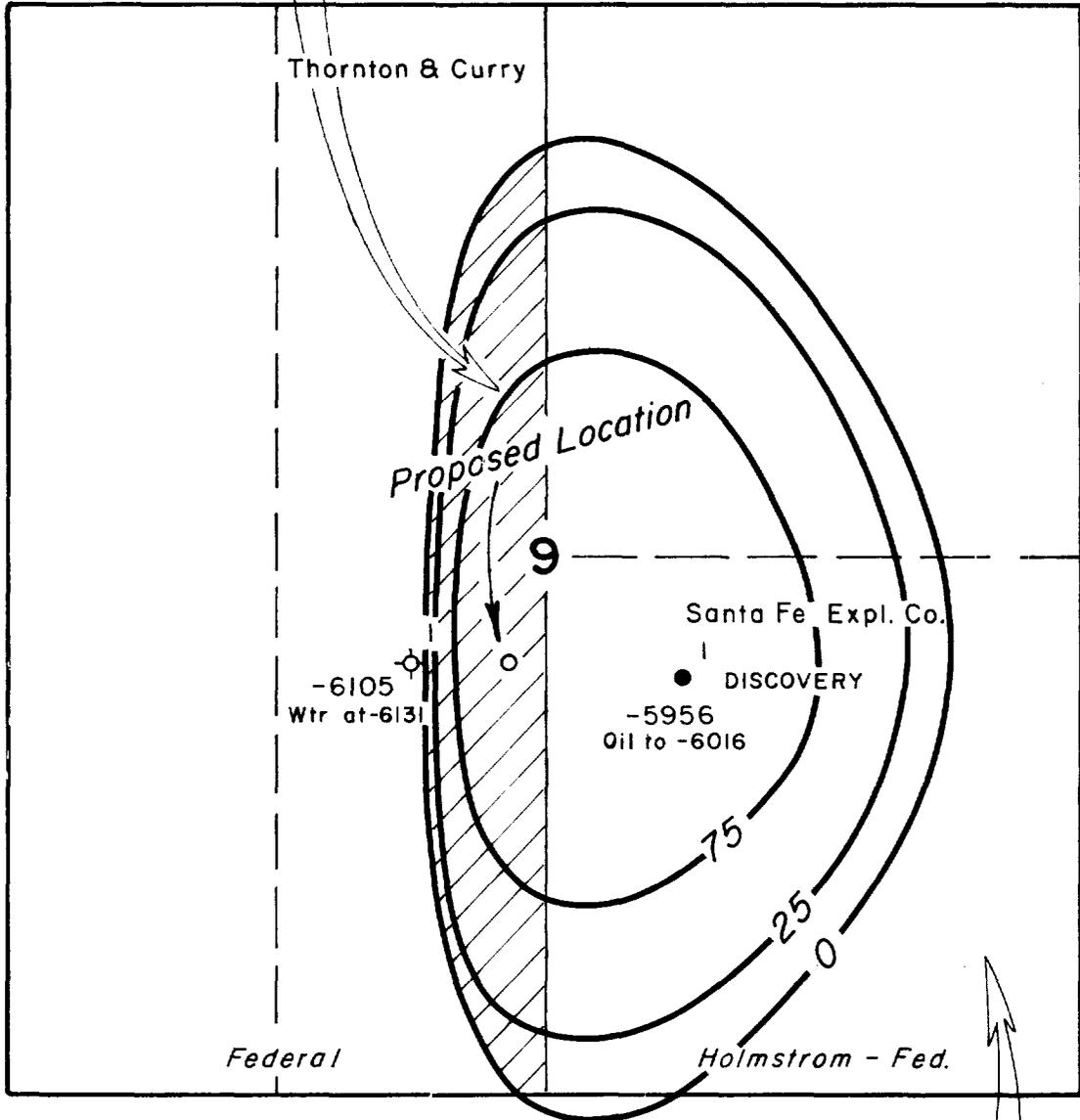
Case Number _____

NORTH KING CAMP - DEVONIAN POOL
 CHAVES COUNTY, NEW MEXICO
 DEVONIAN
 GROSS ISOPACHOUS MAP BASED ON
 SEISMIC STRUCTURE
 SUBSURFACE TIE TO WELL NO. 2
 C.I. = 50'



Proposed Proration Unit

R-29-E



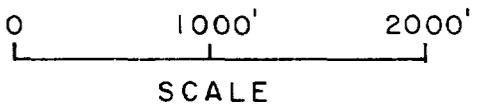
T 14 S

S.E. 1/4 Proration Unit assigned to Santa Fe Exploration Co. Holmstrom - Fed. No. 1

In the matter of the application of Curry & Thornton for a non-standard Proration Unit and, Unorthodox well location, Chaves County, New Mexico.

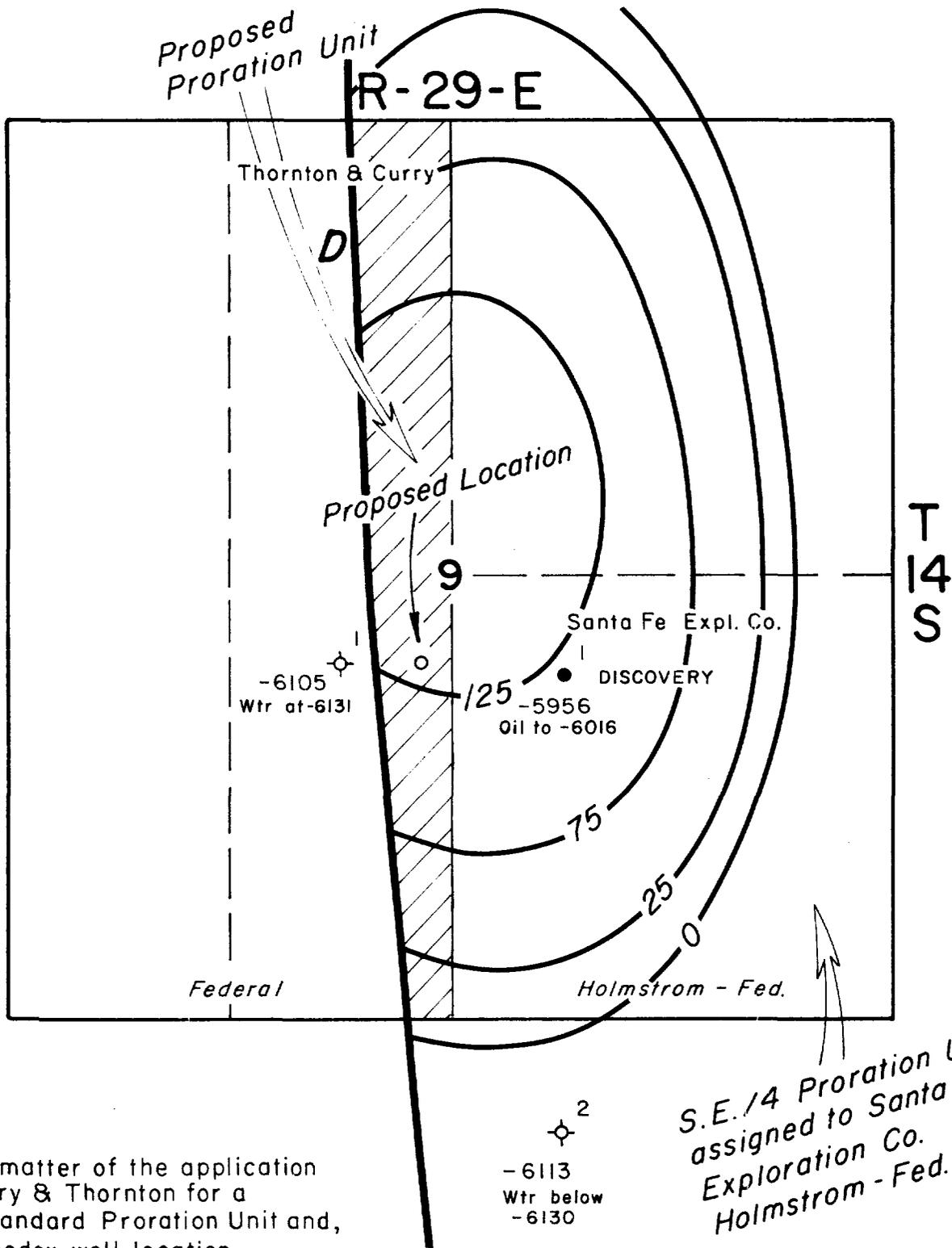
DEPARTMENT OF ENERGY
 Oil and Gas Conservation Division
 Case No. 4617

Case Number _____
 NORTH KING CAMP - DEVONIAN POOL
 CHAVES COUNTY, NEW MEXICO
DEVONIAN
 GROSS ISOPACHOUS MAP BASED ON
 SUBSURFACE STRUCTURE
 C. I. = 50'



JACK AHLEN

February 1989



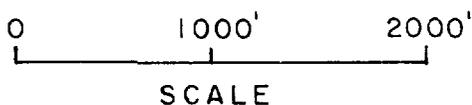
In the matter of the application of Curry & Thornton for a non-standard Proration Unit and, Unorthodox well location, Chaves County, New Mexico.

UNITED STATES DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
 C&T Proration No. 11
 Case No. 9617

Case Number _____

NORTH KING CAMP - DEVONIAN POOL
 CHAVES COUNTY, NEW MEXICO
 DEVONIAN

GROSS ISOPACHOUS MAP BASED ON
 SEISMIC STRUCTURE
 VELOCITY GRADIENT
 APPLIED TO TIE WELL NO. 2
 C.I. = 50'



JACK AHLEN

February 1989

EXISTING WELL IN SE/4 WITH 515 BOPD ALLOWABLE

COMPARISON OF PRODUCTIVE AREAS/VOLUMES WITH CONSISTENT ALLOWABLES

SEC. 9 - TWP. 14S - RGE. 29E
NO. KING CAMP - DEVONIAN POOL
CHAVES COUNTY, NEW MEXICO

TYPE OF SUBSURFACE INTREPRETATION

	<u>CASE A</u>	<u>CASE B</u>	<u>CASE C</u>	<u>MEAN</u>
<u>AREA BASIS:</u>				
SE/4	104.0 AC.	103.0 AC.	97.8 AC.	102.0 AC.
E/2W/2	59.8 AC.	47.7 AC.	53.4 AC.	53.6 AC.
TOTAL	163.8 AC.	150.7 AC.	151.2 AC.	155.6 AC.
RATIO	0.575	0.462	0.546	0.525
CALCULATED ALLOWABLE	296 BOPD	238 BOPD	281 BOPD	271 BOPD
<u>VOLUME BASIS:</u>				
SE/4	6817 AF	5572 AF	5265 AF	5885 AF
E/2W/2	5859 AF	2804 AF	2824 AF	3829 AF
TOTAL	12676 AF	8376 AF	8089 AF	9714 AF
RATIO	0.859	0.503	0.536	0.651
CALCULATED ALLOWABLE	443 BOPD	259 BOPD	276 BOPD	335 BOPD

NOTES:

CASE A - SEISMIC STRUCTURE: LINEAR VELOCITY GRADIENT APPLIED TO TIE SANTA FE EXPL. 2 FEDERAL HOLSROM TO SANTA FE EXPL. 1 FED.

CASE B - SEISMIC STRUCTURE: SUBSURFACE TIE TO SANTA FE EXPL. 2 HOLSTROM FEDERAL

CASE C - SUBSURFACE STRUCTURE BASED ON GEOLOGY

AC = Acres

AF = Acre Feet

BOPD = Barrels of Oil per Day

RATIO = Share of Reserves in E/2W/2 of Sec. 9

SEARCHED INDEXED
SERIALIZED FILED
C&T
APR 12 1967
9617

TOTAL RESERVOIR CASE (Full development with wells in NE/4, SE/4, and E/2W/2. Total allowable for NE/4 and SE/4 combined = 1030 BOPD)

COMPARISON OF PRODUCTIVE AREAS/VOLUMES WITH CONSISTENT ALLOWABLES

SEC. 9 - TWP. 14S - RGE. 29E
 NO. KING CAMP - DEVONIAN POOL
 CHAVES COUNTY, NEW MEXICO

TYPE OF SUBSURFACE INTREPRETATION

	<u>CASE A</u>	<u>CASE B</u>	<u>CASE C</u>	<u>MEAN</u>
<u>AREA BASIS:</u>				
NE/4	115.0 AC.	61.9 AC.	64.4 AC.	80.4 AC.
SE/4	104.0 AC.	103.0 AC.	97.8 AC.	102.0 AC.
COMB. E/2	219.0 AC.	164.9 AC.	162.2 AC.	182.4 AC.
E/2W/2	59.8 AC.	47.7 AC.	53.4 AC.	53.6 AC.
TOTAL	278.8 AC.	212.6 AC.	215.6 AC.	236.0 AC.
RATIO	0.273	0.289	0.329	0.294
CALCULATED ALLOWABLE	281 BOPD	298 BOPD	339 BOPD	303 BOPD
<u>VOLUME BASIS:</u>				
NE/4	9319 AF	2975 AF	3119 AF	5138 AF
SE/4	6817 AF	5572 AF	5265 AF	5885 AF
COMB. E/2	16136 AF	8547 AF	8384 AF	11023 AF
E/2W/2	5859 AF	2804 AF	2824 AF	3829 AF
TOTAL	21995 AF	11351 AF	11208 AF	14852 AF
RATIO	0.363	0.328	0.337	0.347
CALCULATED ALLOWABLE	374 BOPD	338 BOPD	347 BOPD	358 BOPD

NOTES:

CASE A - SEISMIC STRUCTURE: LINEAR VELOCITY GRADIENT APPLIED TO TIE SANTA FE EXPL. 2 FEDERAL HOLSROM TO SANTA FE EXPL. 1 FED.

CASE B - SEISMIC STRUCTURE: SUBSURFACE TIE TO SANTA FE EXPL. 2 HOLSTROM FEDERAL

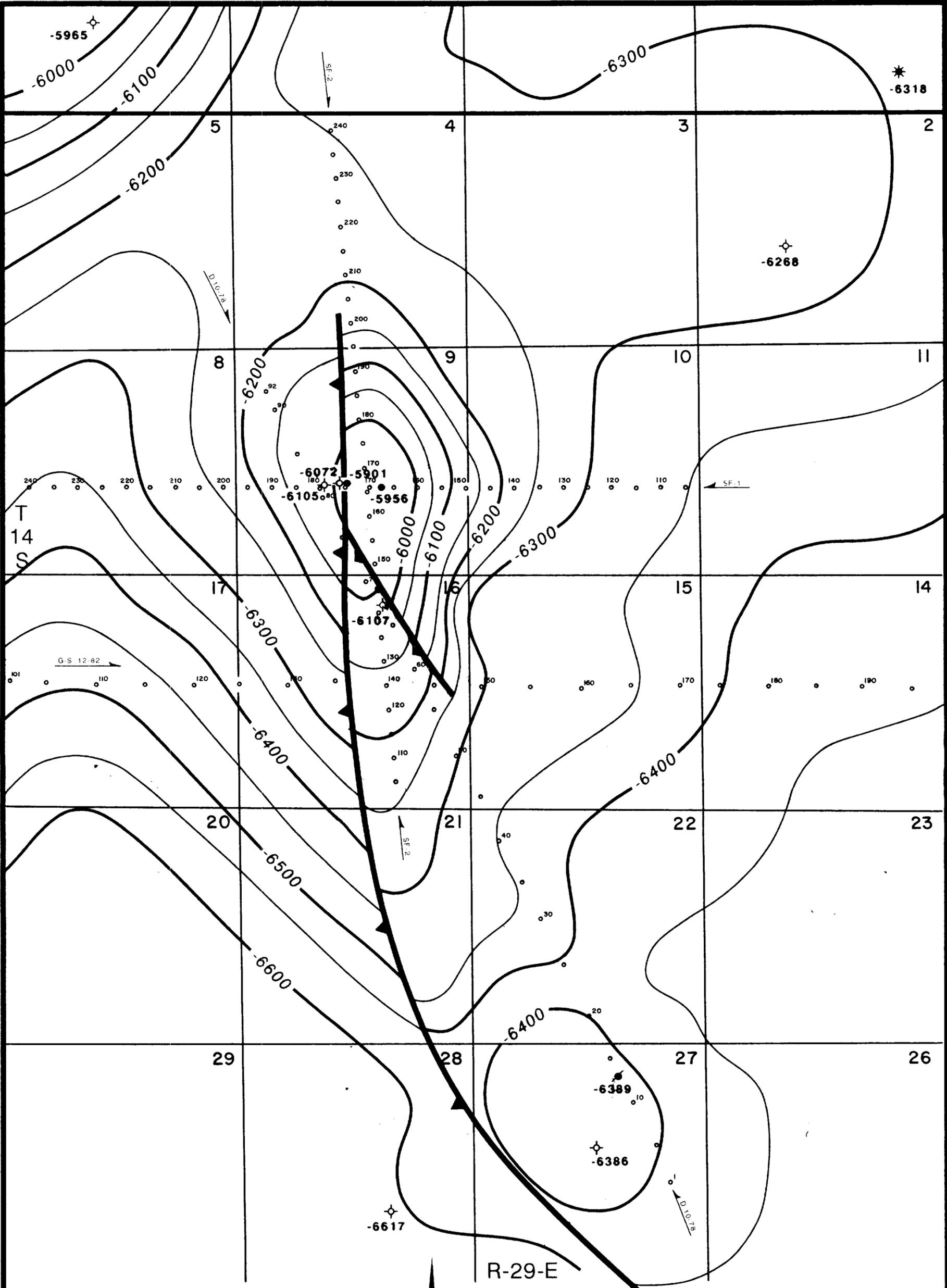
CASE C - SUBSURFACE STRUCTURE BASED ON GEOLOGY

AC = Acres

AF = Acre Feet

BOPD = Barrels of Oil per Day

RATIO = Share of reserves in E/2W/2 of Sec. 9



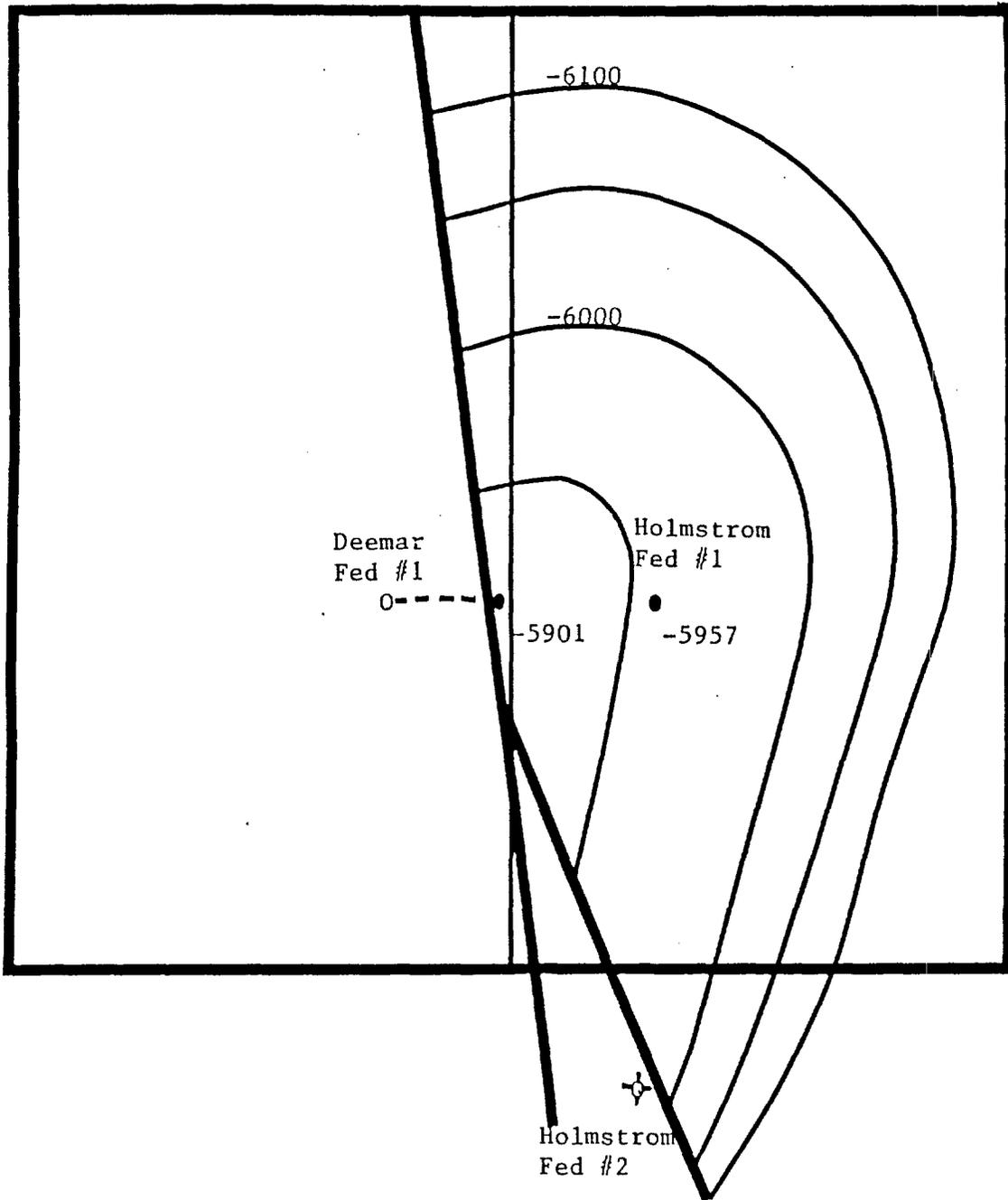
Holsman #1

BEFORE THE
 OIL CONSERVATION COMMISSION
 Santa Fe, New Mexico
 Case No. 9617 EXHIBIT No. 1
 Submitted by SF Exploration
 Hearing Date 10/19/89



SANTA FE EXPLORATION COMPANY
NORTH LUCKY PROSPECT Chaves County, New Mexico
DEVONIAN
CONTOUR INTERVAL: 50'
SCALE in FEET

Sec. 9 TWP14S RNG29E



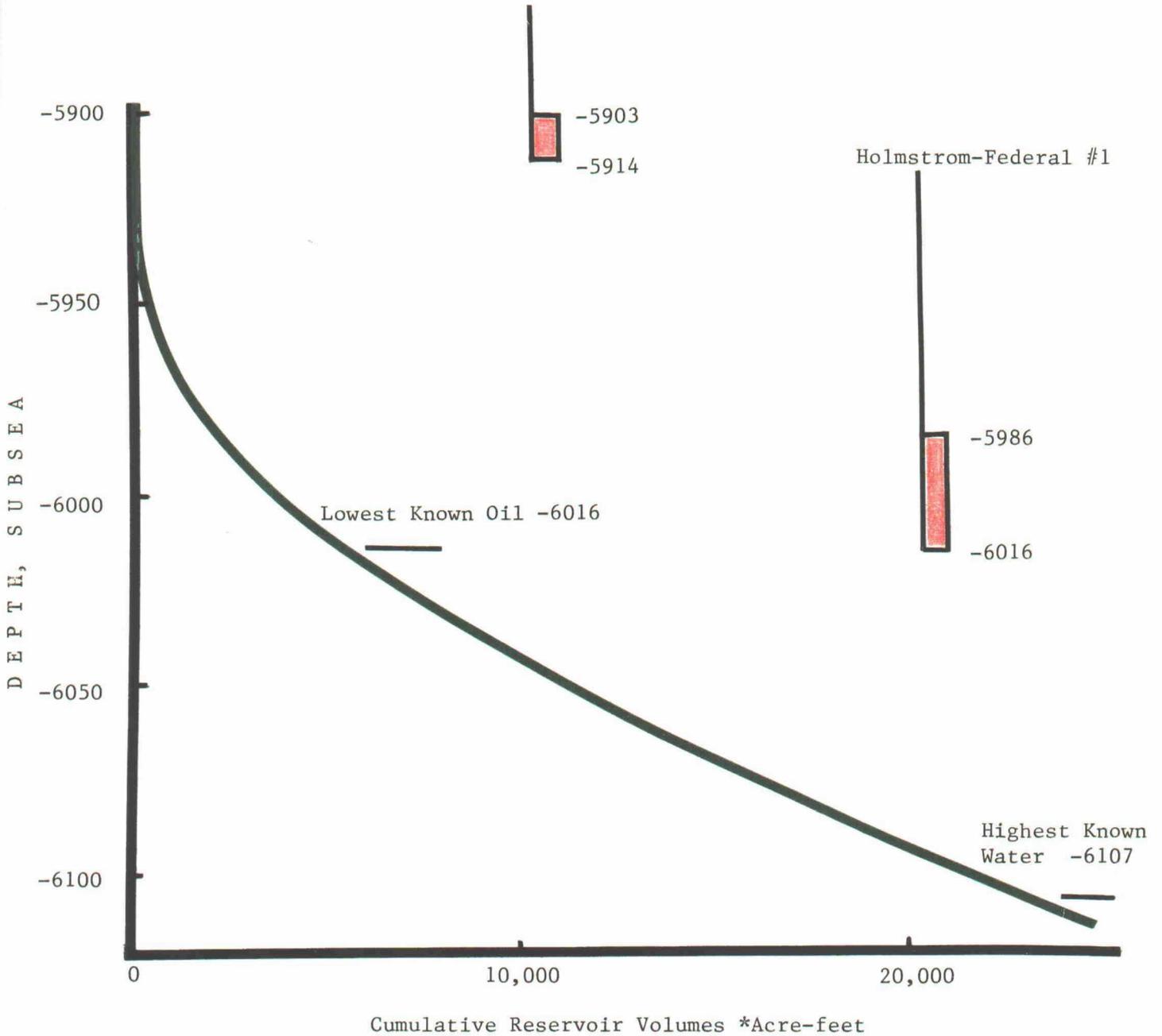
Structure Map
Top of Devonian
North King Camp Field

9617
9670
2
SF Exploration
10/19/89

Santa Fe Exploration
Exhibit _____
Docket No. _____

Spec 9617 No. 2

Deemar Federal No. 1



*Assuming reservoir has 200+ feet of thickness

BEFORE THE
 OIL CONSERVATION COMMISSION
 Santa Fe, New Mexico
 Case No. 9617 Exhibit No. 3
 Submitted by SF Exploration
 Hearing Date 12/19/89

Series No. 3

Santa Fe Exploration
 Exhibit _____
 Docket No. _____

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS
GOVERNOR

August 28, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Campbell & Black, P.A.
P.O. Box 2208
Santa Fe, New Mexico 87504-2208

Attention: William F. Carr

RE: Division Case No. 9670, Order
No. R-8917-A, Application of
Stevens Operating Corporation
to amend Division Order No. R-
8917, Directional Drilling and an
Unorthodox Oil Well Location,
Chaves County, New Mexico.

Dear Mr. Carr:

Upon reviewing the Eastman Christensen "Report of Sub-Surface Directional Survey" for the Stevens Operating Corporation Deemar Federal Well No. 1 located at a surface location 1974 feet from the South line and 1988 feet from the West line (Unit K) of Section 9, Township 14 South, Range 29 East, NMPM, North King Camp Devonian Pool, Chaves County, New Mexico, the following penalty shall be assessed against the top unit allowable for this well, as promulgated by Decretory Paragraph No. 5 of said Order No. R-8917-A.

At the bottom-most perforated interval of 9642 feet (TVD) the location of the wellbore was found to be 1948 feet from the South line and 2562 feet from the West line (Unit K) of said Section 9 or 78 feet from the East line of the proration unit. Therefore, P_1 equals 660 feet minus 78 feet divided by 660, or:

$$P_1 = 582/660 = 0.882.$$

The closest well to the subject wellbore is the discovery well (referred to in Finding Paragraph No. 4 of R-8917) which is located 1980 feet from the South and East lines (Unit J) of said Section 9 is 739 feet apart. Therefore, P_2 equals 1320 feet minus 739 feet divided by 1320 or:

$$P_2 = 581/1320 = 0.440.$$

Super No. 4

BEFORE THE	
OIL CONSERVATION COMMISSION	
Santa Fe, New Mexico	
Case No. <i>9670</i>	<i>4</i>
Submitted by <i>SF Exploration</i>	
Filed Date <i>10/19/89</i>	

Campbell and Black, P.A.
August 28, 1989
Page 2

The top depth bracket allowable for a well in this pool is 515 barrels of oil per day (General Rule 505 (a)). Utilizing the penalty formula as described in said Order No. R-8917-A for this well:

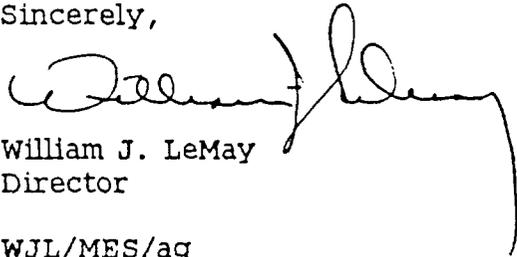
$$(1-P_1) \times (1-P_2) = (1-0.882) \times (1-0.440) = 0.0661 \text{ or } 6.61\%$$

This well shall be assigned a daily oil allowable as follows:

$$(0.0661)(515) = 34.04 \text{ barrels/day.}$$

The effective date for said penalty of this well's production shall be the date of first production.

Sincerely,

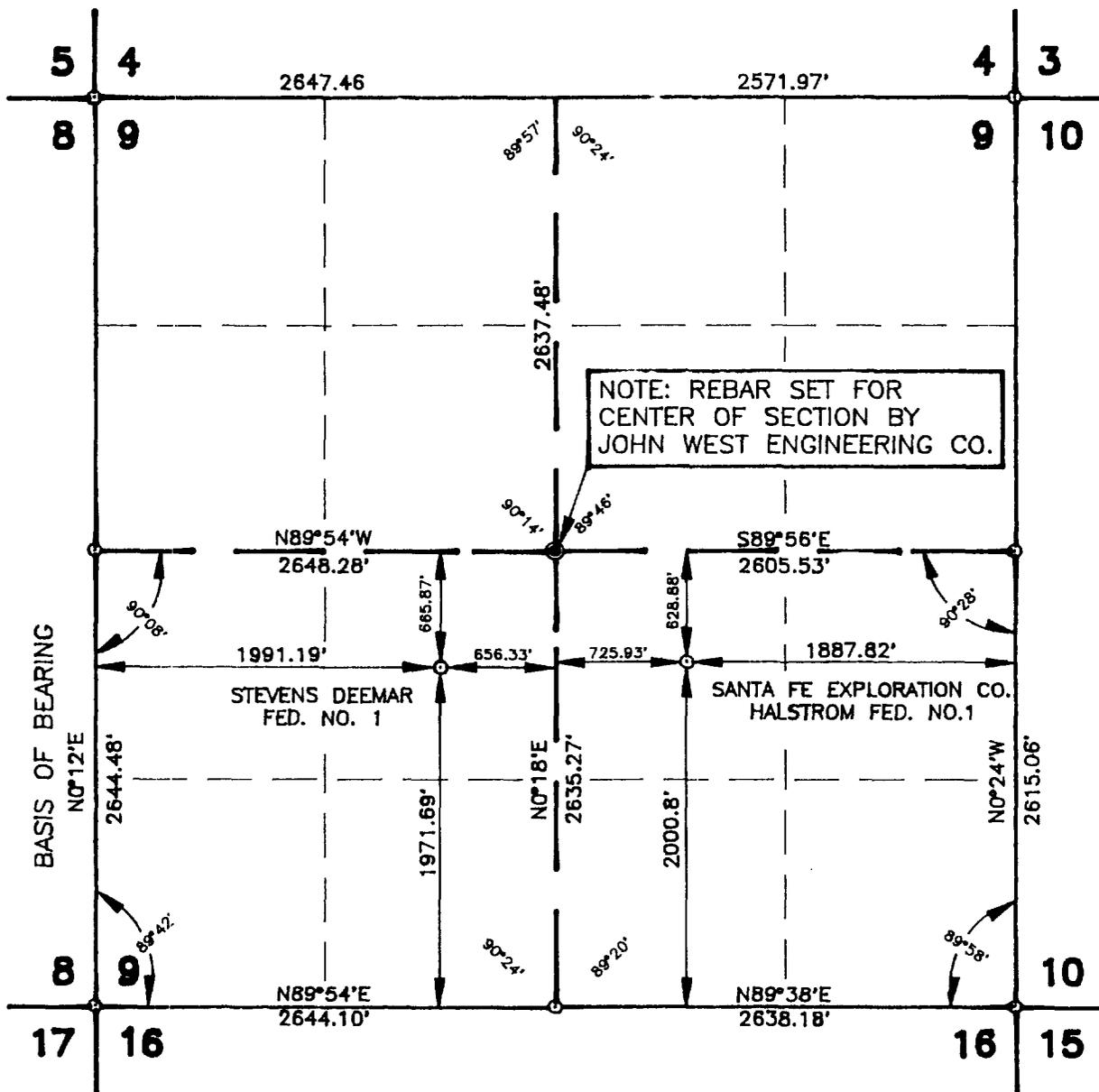


William J. LeMay
Director

WJL/MES/ag

cc: Oil Conservation Division - Artesia
Bob Stovall - Santa Fe
W. Thomas Kellahin - Santa Fe
~~Ernest L. Padilla - Santa Fe~~
Stevens Operating Corp. - Roswell

SECTION 9, TOWNSHIP 14 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, NEW MEXICO



THIS PLAT REPRESENTS THE ANGLES AND DISTANCES MEASURED BETWEEN THE USGLO BRASS CAP MONUMENTS SET BETWEEN NOVEMBER 15, 1946 AND JANUARY 17, 1947, BY MR. CLARK GUMM. THE BEARINGS AND DISTANCES ALONG THE SUBDIVISION LINES HAVE BEEN ESTABLISHED BY THE RULES ESTABLISHED BY THE U.S. GENERAL LAND OFFICE (NOW KNOWN AS THE BUREAU OF LAND MANAGEMENT). THE LOCATIONS OF THE TWO OIL WELLS ARE SHOWN AS THEY EXIST ON THE GROUND, AND ARE TIED TO THE BOUNDARY LINES OF THE QUARTER SECTIONS IN WHICH THEY ARE LOCATED.

- ⊙ DENOTES REBAR W/CAP SET FOR CORNER
- DENOTES EXISTING BRASS CAP SECTION CORNERS

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 9670 Exhibit No. 5
Submitted by SANTA FE
Hearing Date 10/19/89

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

John W. West
JOHN W. WEST, N.M. P.E. & L.S.
TEXAS R.P.S. NO. 576
REGISTERED LAND SURVEYOR

SANTA FE EXPLORATION CO.

SURVEY OF SECTION 9,
TOWNSHIP 14 SOUTH, RANGE 29 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.

JOHN W. WEST ENGINEERING COMPANY
CONSULTING ENGINEERS HOBBS, NEW MEXICO

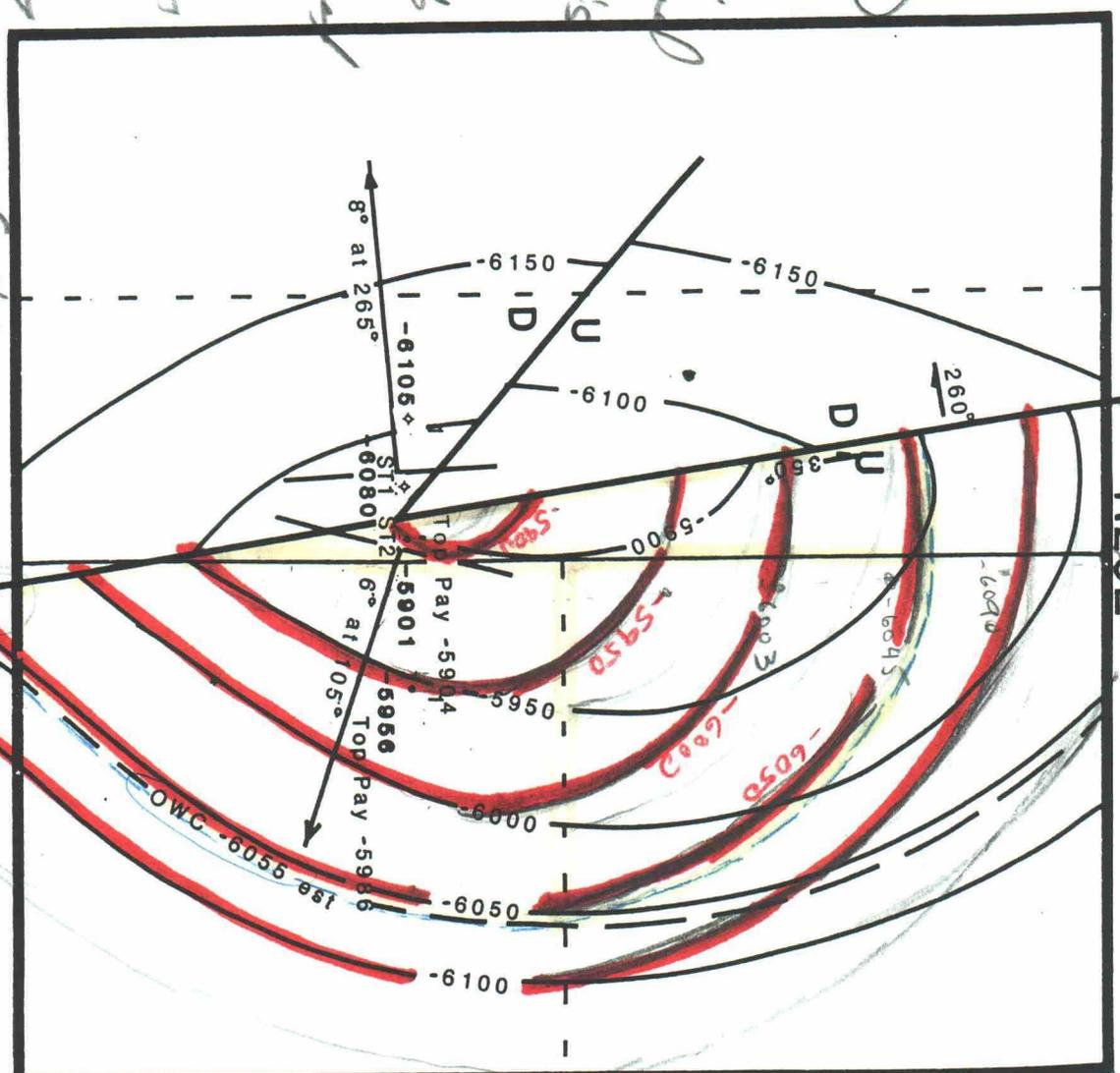
Scale 1" = 1000'	Drawn By: S. STANFIELD
Date: 9-15-1989 CK.	Sheet 1 of 1 Sheets
Project Number 89-09-018	File Name 914S29E

Revised Stevens
Exhibit (Duck Allen)

Memorandum

- 1) Fault trace established at pt. source (Stevens 2nd deviated hole) as per Allen's map
- 2) North dip estimated by seismic as per Johnston's map (Suits Fe withers)
- 3) General agreement to note of dip to the east and south

to note of dip to the east and south
 4) D.I. water entrapment - 6055 as testified to by Allen and not 45 sp. by hydrogeology
 will prove. Although not a seismicity of deviated numbers, resolution from this number would not sign of cavity aspect of 7 reworked reservoir under trap.



R29E-6127

T14S

Curry & Thornton
Exhibits 1 through 12
Complete Set

Total Production 1177
acres

OIL C
No.
Jac
Aug

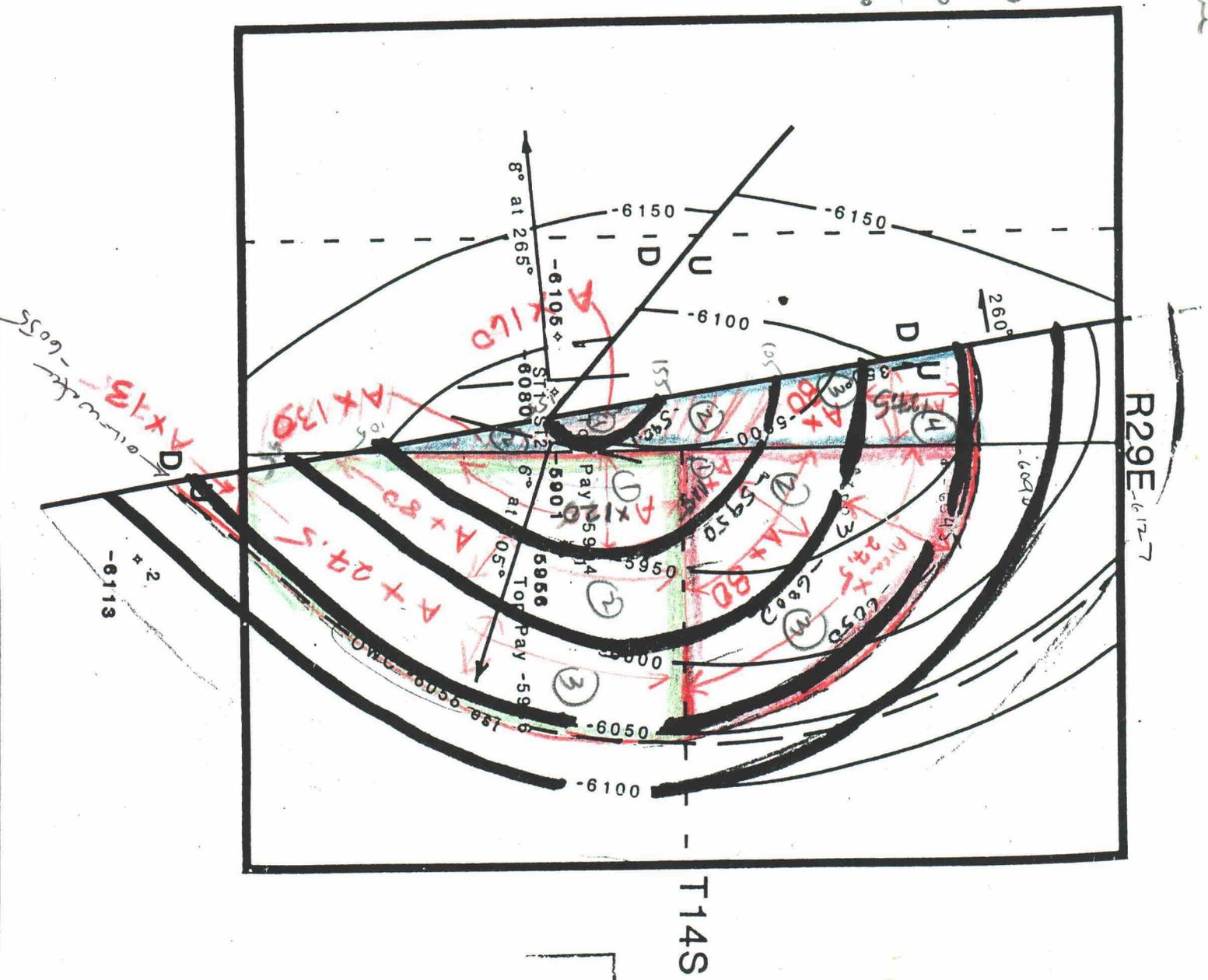
Oil
Production
Volume 97°
Volume

Operator = 2,245.55 - 21%

South Fe (UE/4) = 2,779.50 - 26%

South Fr (SE/4) = 5,687.50 - 53%

Total 10,712.55 100%



Michael E. Stopper

October 24, 1989

Known Area (160 acres) NE 1/4

Readings

0558
0558
0552
0555
0553
 $2776 \div 5 = 555.2$

A₁ = Productive Acreage in the E_{1/2} W_{1/2}

Readings

0106
0105
0100
0100
0100
 $0511 \div 5 = 102.2$

$$\left(\frac{160 \text{ acres}}{555.2} \right) = \frac{A_1}{102.2}$$

$$29.45 = A_1 = \underline{29.45 \text{ acres}}$$

A₂ = Productive Acreage in the NE 1/4

Readings

0199
0198
0198
0200
0194
989
 $989 \div 5 = 197.8$

$$\frac{160 \text{ acres}}{555.2} = \frac{A_2}{197.8}$$

$$A_2 = \underline{57.00 \text{ acres}}$$

A₃ = Productive Acreage in the SE 1/4

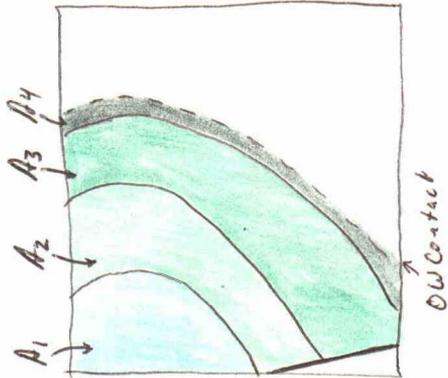
Readings

0316
0317
0314
0317
0312
1576
 $1576 \div 5 = 315.2$

$$\frac{160 \text{ acres}}{555.2} = \frac{A_3}{315.2}$$

$$A_3 = \underline{90.84 \text{ acres}}$$

SE/4 Section



A₁ Reading

0072
0069
0071
0070
0068
5) 350 = 70

$\frac{160 \text{ acres}}{558.8} = A_1/70$

$A_1 = 20 \text{ acres}$

A₂ Readings

0160
0157
0162
0160
0162
5) 801 = 160.2

$\frac{160}{558.8} = A_2/160.2$

$A_2 = 45.9$

$A_1 = 20 \text{ acres } 20 \times 120 = 2,400$
 $A_2 = 45.9 \text{ acres } 25.9 \times 80 = 2,072.00$

$A_3 = 83.3 \text{ acres } \left. \begin{array}{l} 44.2 \times 27.5 = 1,215.50 \\ 5,687.5 \end{array} \right\}$
 $A_4 = 90.1 \text{ acres } \left. \begin{array}{l} 0294 \\ 0290 \\ 0292 \\ 0290 \end{array} \right\}$

$5 \overline{) 1454} = 290.8$

$\frac{160 \text{ acres}}{558.8} = A_3/290.8$

$A_3 = 83.3$

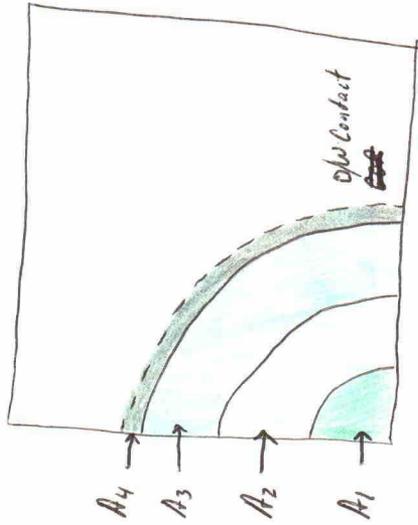
A₄ Readings

0317
0307
0315
0316
0318
5) 1573 = 314.6

$\frac{160 \text{ acres}}{558.8} = A_4/314.6$

$A_4 = 90.1$

NE 1/4 Section



A₁ Readings

0017
0011
0013
0014
0014

$$5 \overline{) 69} = 13.8$$

$$\frac{160 \text{ acres}}{558.8} = A_1 / 13.8$$

A₁ = 3.9 acres

A₂ Readings

0076
0079
0070
0070
0069

$$5 \overline{) 364} = 72.8$$

$$\frac{160}{558.8} = A_2 / 72.8$$

A₂ = 20.8 acres

A₃ Readings

0173
0173
0170
0175

$$A_1 = 3.9 \text{ acres } 3.9 \times 115 = 448.5$$

$$A_2 = 20.8 \text{ acres } 16.90 \times 80 = 1,352.00$$

$$A_3 = 49.5 \text{ acres } \left. \begin{array}{l} 35.6 \times 27.5 = 979.00 \\ \hline 2,779.5 \end{array} \right\} 865 = 173$$

$$A_4 = 56.4 \text{ acres}$$

$$\frac{160 \text{ acres}}{558.8} = A_3 / 173$$

A₃ = 49.5 acres

A₄ Reading

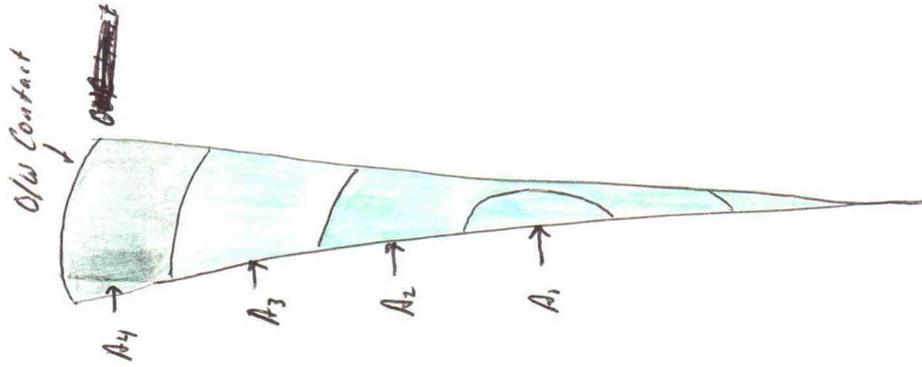
0198
0195
0199
0195
0198

$$5 \overline{) 985} = 197$$

$$\frac{160 \text{ acres}}{558.8} = A_4 / 197$$

A₄ = 56.4 acres

E/2 W/2 Section



$A_1 = 2.06 \text{ acres}$
 $A_2 = 10.4 \text{ acres}$
 $A_3 = 17.6 \text{ acres}$
 $A_4 = 26.9 \text{ acres}$

 $2,245.55$

A₁ Readings
 0005
 0010
 0005
 0007
 0009
 $5 \overline{) 36} = 7.2$

 $\frac{160 \text{ acres}}{558.8} = A_1 / 7.2$
 $A_1 = 2.06 \text{ acres}$

A₃ Readings
 0059
 0064
 0061
 0060
 0063
 $5 \overline{) 307} = 61.4$

 $\frac{160 \text{ acres}}{558.8} = \frac{A_3}{61.4}$
 $A_3 = 17.6 \text{ acres}$

A₂ Readings
 0032
 0070
 0028
 0048
 0033
 0044
 0028
 $7 \overline{) 255} = 36.4$

 $\frac{160 \text{ acres}}{558.8} = \frac{A_2}{36.4}$
 $A_2 = 10.4 \text{ acres}$

A₄ Readings
 0093
 0094
 0097
 0094
 0091
 $5 \overline{) 469} = 93.8$

 $\frac{160 \text{ acres}}{558.8} = \frac{A_4}{93.8}$
 $A_4 = 26.9$

PENALTY CALCULATION *

- Productive acres in E/2 of w/2 - per Curry & Thornton - MIN. 47.7
 - MAX. 59.8
- per Santa Fe - MIN. 25.5
 - MAX. 41.5

• Proposed well would be 75% closer to lease line than permitted.

• Acreage FACTOR = $\frac{\text{Productive Acres}}{160} \times (1 - 0.75)$

<u>Productive Acres</u>	<u>ACREAGE FACTOR</u>	<u>Penalized** Allowable</u>
47.7	0.0745	38 BOPD
59.8	0.0934	48 BOPD
25.5	0.0398	21 BOPD
41.5	0.0648	33 BOPD

* from NMOC D Order R-8339

** assuming 515 BOPD Top Allowable

EXXON

|