

# COX LEASE

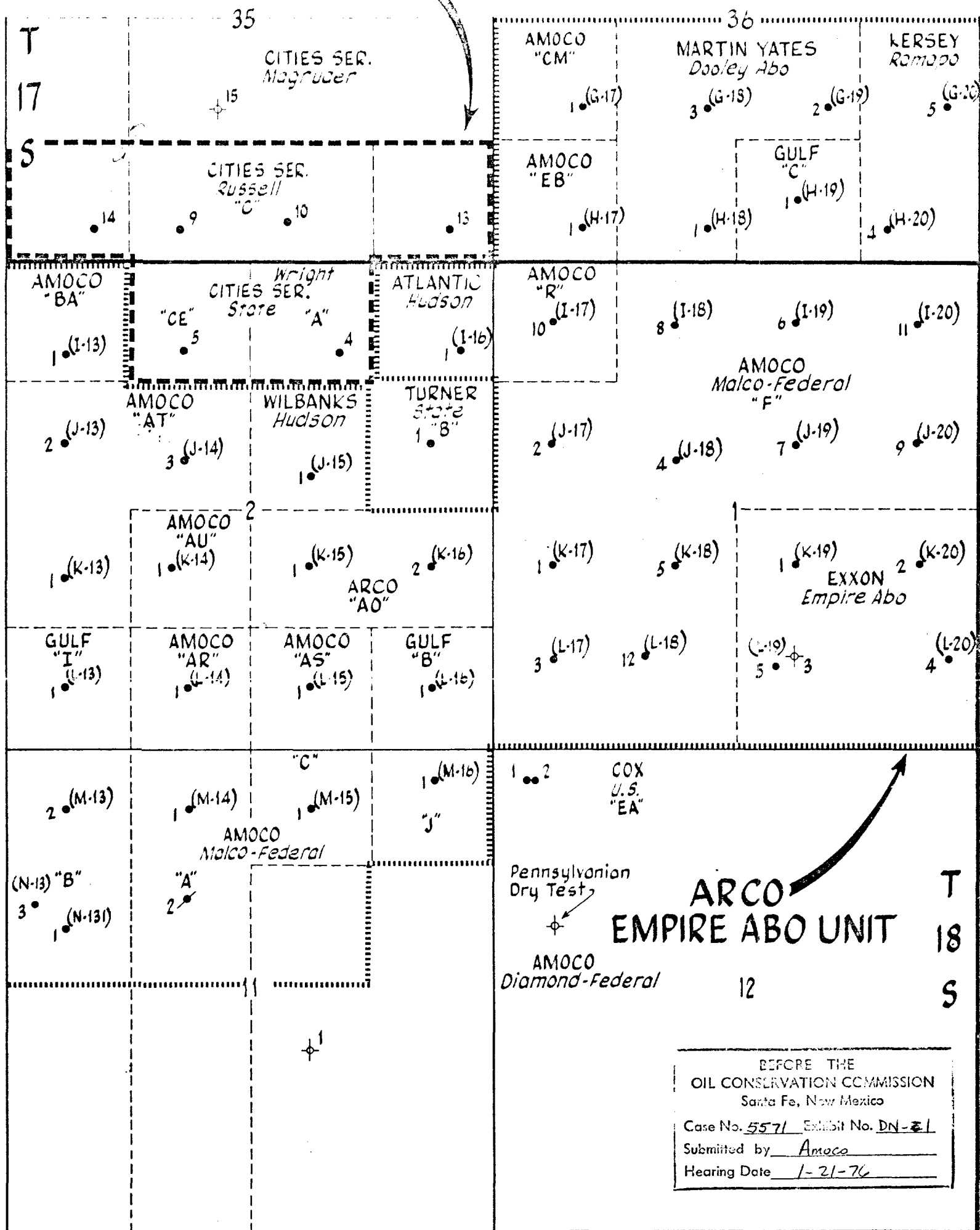
## 40 ACRES

NW¼NW¼ SEC. 12, TWP. 18S., RGE 27E.

- Point A Surface location, Fed. EA Well No. 1
- Point B Original bottom-hole location, Well No. 1
- Point C Surface location, Fed. EA Well No. 2
- Point D Bottom-hole location, Well No. 2
- Point E Present bottom-hole location, Well No. 1
- Point F "Kick-off" point in Well No. 1 at which well was deviated to present bottom-hole location.

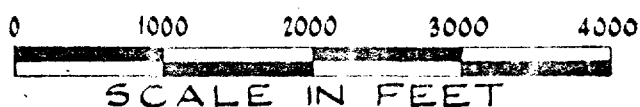
FIGURE 1.

# CITGO EMPIRE ABO UNIT



R - 27 - E

PORTION  
 of  
 EMPIRE ABO POOL  
 Eddy County, New Mexico



Other James Day, Jr., Clarence Hinkle, Guy Buell

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 5571  
Order No. R-5139

APPLICATION OF ROBERT G. COX FOR  
AMENDMENT OF ORDER NO. R-4561, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 8, 1975, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 16th day of December, 1975, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Robert G. Cox, is the owner and operator of the Federal "EA" Well No. 1, a crooked hole, the surface location of which is 330 feet from the North line and 330 feet from the West line of Section 12, Township 18 South, Range 27 East, NMPM, Empire-Abo Pool, Eddy County, New Mexico.

(3) That when originally drilled, the subject well deviated 23 feet to the South and 172 feet to the West of the surface location at a measured depth of 6050 feet (true vertical depth 6046 feet) in the Empire-Abo Pool.

(4) That on June 25, 1973, the Commission entered Order No. R-4561 which authorized the applicant to re-enter said well, set a whipstock at approximately 4,200 feet and directionally drill said well to a depth of approximately 6,200 feet, bottoming the well in the Empire-Abo Pool at a point within 100 feet of the surface location.

(5) That Order No. R-4561 also required that the applicant make a continuous multi-shot directional survey of said well from total depth to the whipstock point with shot points not more than 100 feet apart and provide a copy of the survey to the Commission.

-2-

Case No. 5571  
Order No. R-5139

(6) That the applicant seeks amendment of said Order No. R-4561 to permit bottoming of the subject well approximately 58 feet from the North line and 8 feet from the West line of said Section 12 and to permit verification of said downhole location by single-shot directional surveys made concurrently with the drilling of said well.

(7) That the evidence introduced at the hearing clearly established that the applicant made no effort to comply with the provisions of Order No. R-4561 which required the bottoming of said well within 100 feet of the surface location.

(8) That the evidence further established that the well had been intentionally deviated toward the Northwest corner of the spacing unit well beyond the 100 foot target described in Finding No. (4) above.

(9) That the bottom hole location of said Federal "EA" Well No. 1 is approximately 58 feet from the North line and 8 feet from the West line of said Section 12.

(10) That the operators of off-setting acreage appeared at the hearing and objected to the production of said well completed at this bottom hole location.

(11) That a well produced at this bottom hole location would cause drainage across lease lines which would not be equalized by counter-drainage.

(12) That Section 65-3-10 NMSA, 1953 Compilation, places upon the Commission the duty to protect the correlative rights of the owners of mineral interests in oil and gas pools in New Mexico.

(13) That granting this application would impair the correlative rights of the owners of the acreage off-setting the said Federal "EA" Well No. 1.

(14) That to protect correlative rights the application should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of Robert G. Cox for amendment of Order No. R-4561 is hereby denied.

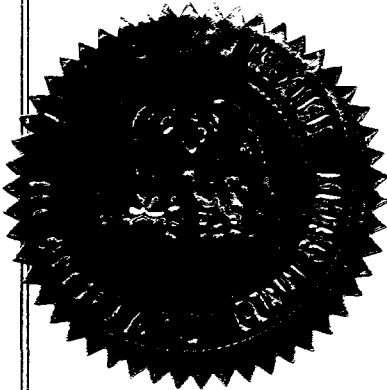
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

-3-

Case No. 5571  
Order No. R-5139

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION



*Phil R. Lucero*  
PHIL R. LUCERO, Chairman

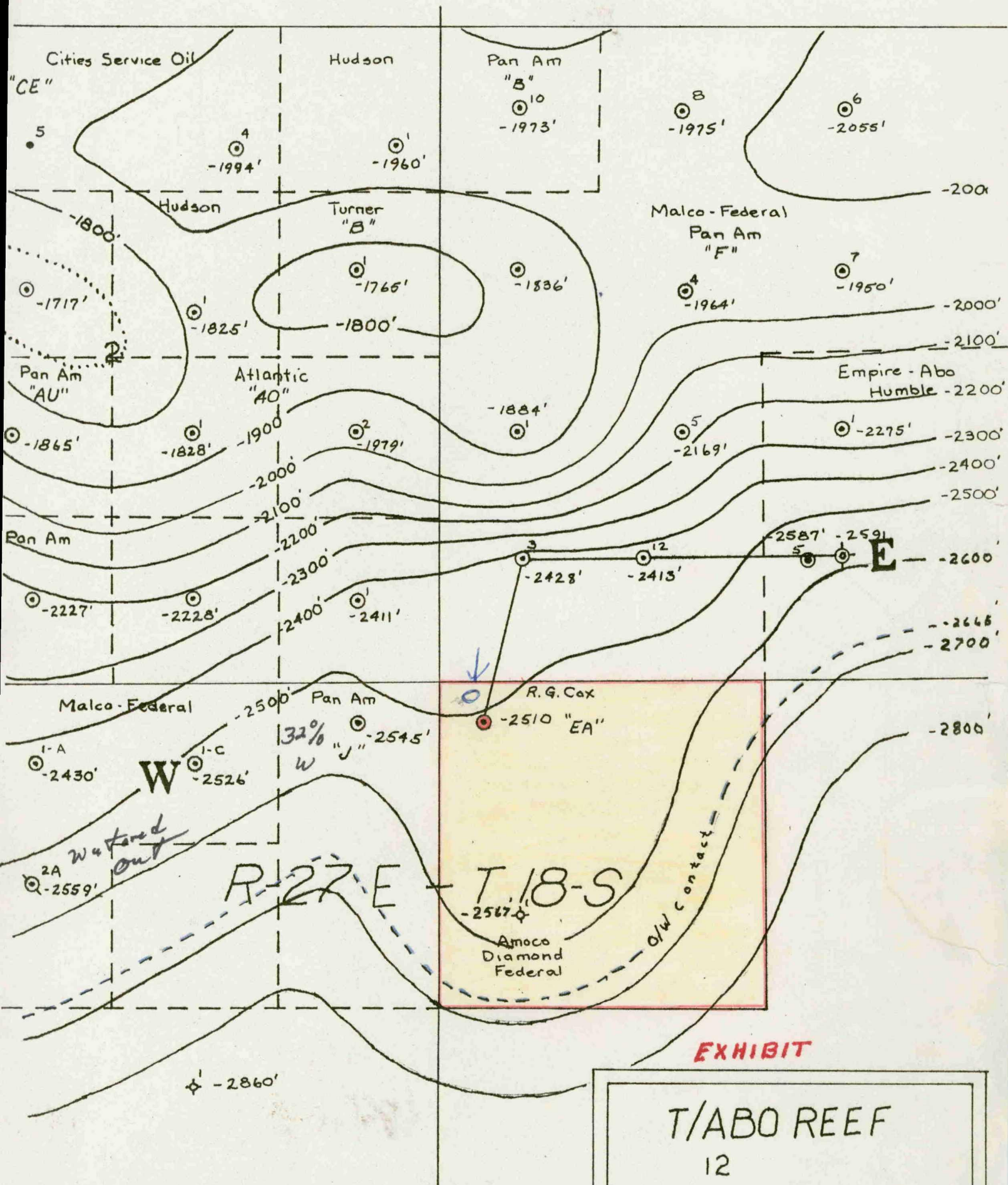
*Emery C. Arnold*  
EMERY C. ARNOLD, Member

*Joe D. Ramey*  
JOE D. RAMEY, Member & Secretary

S E A L

dr/



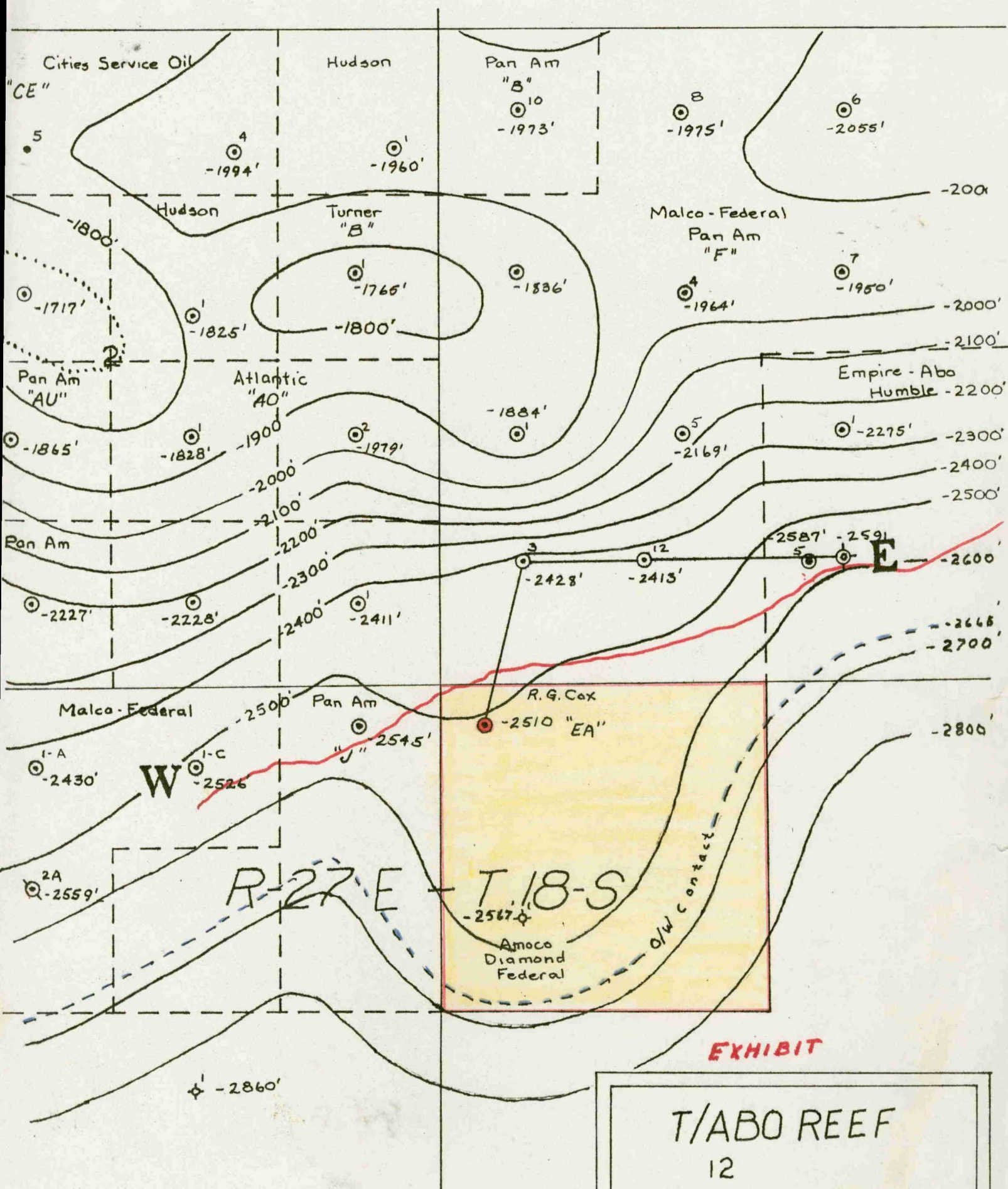


EXHIBIT

BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION  
Appl EXHIBIT NO. 1  
CASE NO. 5571  
Submitted by Cox  
Hearing Date 10-8-75

T/ABO REEF  
12  
LOCATION PLAT  
SOUTH FLANK  
EMPIRE-ABO POOL  
EDDY CO., NEW MEXICO  
SCALE: 1" = 1000'





BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 1A

CASE NO. 5571

Submitted by Cox

Hearing Date 10-8-75

**T/ABO REEF**  
12

**LOCATION PLAT**  
**SOUTH FLANK**  
**EMPIRE-ABO POOL**  
**EDDY CO., NEW MEXICO**  
**SCALE: 1" = 1000'**

1



**Insert**  
**Color Page/Photo**  
**Here**



BEFORE EXAMINER STAMETS	
OIL CONSERVATION COMMISSION	
<i>Appl</i>	EXHIBIT NO. <u>2</u>
CASE NO.	<u>5571</u>
Submitted by	<u>Cay</u>
Hearing Date	<u>10-8-75</u>

**THIS IS A RECORD OF A SUB-SURFACE  
SURVEY OF YOUR WELL**

**We have retained a copy of your survey report in our files for your convenience; however, should you so desire, all copies of the survey report will be forwarded to you on written request. All surveys are kept in a locked file and are held in strictest confidence. Additional copies of your survey report can be made from the original by any blueprint company.**

Contact your nearest ***Eastman Whipstock*** representative

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DIRECTIONAL DRILLERS/SUB-SURFACE SURVEYORS/INSTRUMENT & TOOL RENTALS/SALES/WORLDWIDE





REPORT  
of  
SUB-SURFACE  
DIRECTIONAL  
SURVEY

GEO TECH PETROLEUM INC.

COMPANY

FEDERAL E A #1

WELL NAME

EDDY COUNT, NEW MEXICO

LOCATION

JOB NUMBER

WT775D-55

TYPE OF SURVEY

Magnetic Single Shot

DATE

July 8, 1975

SURVEY BY

R. B. Vickers

OFFICE

Midland, Texas

Geo Tech Petroleum Inc.  
EDDY COUNTY, NEW MEXICO

FEDERAL E A

WELL NO. 1

MAGNETIC SINGLE SHOT SURVEY

JOB NO. WT775D-55

JULY 8, 1975

PAGE 1

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\* SUBMITTED BY \*

\* EASTMAN-WHIPSTOCK \*

\* INC. \*

\* \*

\*\*\*\*\*

RECORD OF SURVEY

PRO. DIRECTION -0-0

TRUE		TRUE		ANGLE		COURSE		VERT.		DOG LEG		RECTANGULAR	
MEAS. DEPTH	COURSE LENGTH	COURSE LENGTH	VERT. DEPTH	INCLIN D M	OF D M	DIRECTION D M	DIRECTION D M	SEC.	SEC.	DEG PER 100	DEG PER 100	COORDINATES	COORDINATES
0	-0.	-0.00	-0.00	0 0	0 0	0 0	0 0	.00	.00	.00	.00	.00	.00
200	200.	200.00	200.00	0 15	0 15	N 46 W	N 46 W	.00	.00	.13	.61 N	.63W	.63W
400	200.	200.00	400.00	0 15	0 15	S 0 W	S 0 W	.00	.00	.10	.27 S	.63W	.63W
600	200.	199.98	599.98	0 45	0 45	S 76 W	S 76 W	.00	.00	.37	.90 S	3.17W	3.17W
800	200.	199.97	799.95	1 0	1 0	S 85 W	S 85 W	.00	.00	.14	1.20 S	6.65W	6.65W
1000	200.	199.91	999.86	1 45	1 45	S 90 W	S 90 W	.00	.00	.38	1.20 S	12.76W	12.76W
1200	200.	199.93	1199.79	1 30	1 30	N 80 W	N 80 W	.00	.00	.19	.29 S	17.92W	17.92W
1400	200.	199.95	1399.74	1 15	1 15	N 67 W	N 67 W	.00	.00	.20	1.41 N	21.94W	21.94W
1600	200.	199.97	1599.71	1 0	1 0	N 68 W	N 68 W	.00	.00	.13	2.72 N	25.17W	25.17W
1800	200.	199.97	1799.68	1 0	1 0	N 70 W	N 70 W	.00	.00	.02	3.91 N	28.46W	28.46W

SEAS.	COURSE	LENGTH	TRUE COURSE	TRUE VERT.	INCLIN D M	OF INCLIN D M	COURSE DIRECTION	VERT. SEC.	DOG LEG LEG PER 100	RECTANGULAR COORDINATES
2000	200.	199.97	1999.65	1 0	N 82	0 W	.00	.10	4.40 N	31.91W
2200	200.	199.98	2199.63	0 45	N 85	0 W	.00	.13	4.62 N	34.52W
2400	200.	199.95	2399.58	1 15	N 75	0 W	.00	.26	5.75 N	38.74W
2600	200.	199.95	2599.54	1 15	N 72	0 W	.00	.03	7.10 N	42.89W
2800	200.	199.93	2799.47	1 30	S 68	0 W	.00	.23	6.92 N	48.13W
3000	200.	199.88	2999.34	2 0	S 60	0 W	.00	.28	5.71 N	55.00W
3200	200.	199.88	3199.22	2 0	S 60	0 W	.00	.00	4.50 N	61.88W
3400	200.	199.88	3399.10	2 0	S 76	0 W	.00	.04	3.05 N	68.71W
3600	200.	199.88	3598.98	2 0	S 77	0 W	.00	.02	1.48 N	75.52W
3755	155.	154.91	3753.88	2 0	N 48	0 W	.00	.65	5.10 N	79.54W
3806	51.	50.97	3804.85	2 0	N 72	0 W	.00	1.63	5.65 N	81.23W
3822	16.	15.96	3820.83	2 45	N 65	0 W	.00	5.02	5.98 N	81.93W
3885	63.	62.81	3883.64	4 30	N 45	0 W	.00	3.39	9.47 N	85.43W
3944	59.	58.75	3942.39	5 15	N 42	0 W	.00	1.34	13.49 N	89.04W
4007	63.	62.63	4005.02	6 15	N 43	0 W	.00	1.60	18.50 N	93.72W
4101	94.	93.20	4098.21	7 30	N 45	0 W	.00	1.35	27.18 N	102.40W
4196	95.	93.89	4192.11	8 45	N 49	0 W	.00	1.44	36.66 N	113.32W
4296	100.	98.63	4290.73	9 30	N 57	0 W	.00	1.47	45.65 N	127.17W
4389	93.	91.29	4382.02	11 0	N 50	0 W	.00	2.09	57.05 N	140.77W
4488	99.	97.01	4479.03	11 30	N 53	0 W	.00	.78	68.93 N	156.55W

REAS.	COURSE	LENGTH	TRUE LENGTH	VERT.	INCLIN OF	COURSE DIRECTION	DOG LEG DEG PER 100	RECTA N G U L A R COORDINATES
4582	94.	92.03	4571.06	11 45	N 52 0 W	.00	.34	80.72 N 171.64W
4673	91.	69.09	4660.15	11 45	N 55 0 W	.00	.67	91.34 N 186.83W
4736	63.	61.89	4722.05	10 45	N 48 0 W	.00	2.68	99.21 N 195.57W
4797	61.	59.93	4781.98	10 45	N 47 0 W	.00	.31	106.97 N 203.90W
4889	92.	90.31	4872.29	11 0	N 45 0 W	.00	.49	119.38 N 216.32W
4982	93.	91.29	4963.58	11 0	N 45 0 W	.00	.01	131.93 N 228.88W
5076	94.	92.19	5055.77	11 15	N 44 0 W	.00	.34	145.12 N 241.62W
5167	91.	89.33	5145.09	11 0	N 45 0 W	.00	.35	157.40 N 253.91W
5227	60.	58.90	5203.99	11 0	N 45 0 W	.00	.01	165.50 N 262.01W
5280	53.	52.23	5256.22	9 45	N 37 0 W	.00	3.59	172.67 N 267.42W
5338	58.	57.32	5313.55	8 45	N 34 0 W	.00	1.91	179.98 N 272.36W
5400	62.	61.36	5374.91	8 15	N 34 0 W	.00	.81	187.36 N 277.33W
5492	92.	91.16	5466.07	7 45	N 33 0 W	.00	.56	197.77 N 284.10W
5585	93.	92.20	5558.27	7 30	N 31 0 W	.00	.39	208.16 N 290.35W
5680	95.	94.29	5652.56	7 0	N 28 0 W	.00	.66	218.40 N 295.79W
5770	90.	89.33	5741.89	7 0	N 30 0 W	.00	.27	227.90 N 301.28W
5823	53.	52.58	5794.47	7 15	N 35 0 W	.00	1.26	233.38 N 305.12W
5861	38.	37.70	5832.16	7 15	N 29 0 W	.00	1.99	237.58 N 307.45W
5923	62.	61.57	5893.73	6 45	N 29 0 W	.00	.81	243.95 N 310.98W
6015	92.	91.41	5985.14	6 30	N 28 0 W	.00	.30	253.15 N 315.88W



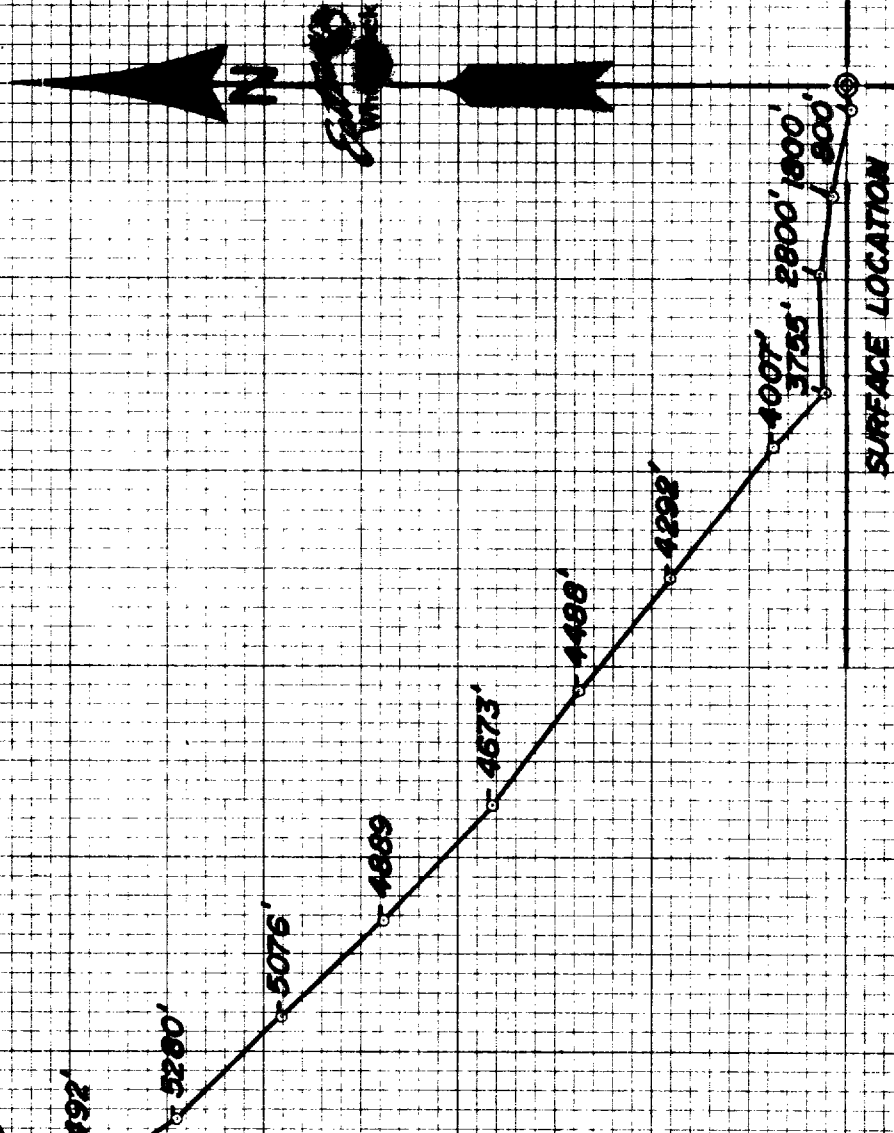
TRUE		ANGLE		DOG LEG		RECTANGULAR	
MEAS.	COURSE	TRUE	OF	COURSE	VERT.	COORDINATES	
DEPTH	LENGTH	LENGTH	INCLIN	DIRECTION	SEC.		
		DEPTH	D M	D M			
6106	91.	90.50	6 0	N 27 0 W	.00	261.63 N	320.20 W
6231	125.	124.31	6 0	N 18 0 W	.00	274.06 N	324.24 W

BOTTOM HOLE CLOSURE 424.55 FEET AT N 49 46 26 W

\*\*(METHOD OF COMPUTATION--TANGENTIAL)\*\*

GEO TECH PETROLEUM INC.  
EDDY COUNTY, NEW MEXICO  
FEDERAL E.A. N-1  
JOB N° WT775D-55  
JULY 8-31, 1975  
1" = 50'

DEPTH - 6231' M.D. 6199.957' V.D.  
NORTH - 274.06'  
WEST - 324.24'  
CLOSURE 424.55' N-19° 46'-W





EASTMAN WHIPSTOCK, INC.

P. O. BOX 5577

MIDLAND, TEXAS 79701

STATE OF TEXAS  
COUNTY OF MIDLAND

I, R. B. Vickers, in the employ of the Directional Drilling Department of Eastman Whipstock, Inc., did on the days of July 8, 19 75 thru July 31, 19 75 conduct or supervise the taking of a Magnetic Single Shot Survey by the method of Magnetic Oriented Survey from a depth of Surface feet to 6231 feet, with records of inclination being taken at approx. every 200 feet.

This survey was conducted at the request of GEO TECH PETROLEUM INC. for their Federal E A Well No. 1 Eddy County, State of New Mexico, in the Field.

A handwritten signature in cursive script, reading "R. B. Vickers", written over a horizontal line.

STATE OF Texas  
COUNTY OF Midland

Before me the undersigned authority, on this day personally appeared R. B. Vickers, known to me to be the person whose name is subscribed to this instrument, who after being by me duly sworn on oath, states that he has knowledge of all the facts stated above and that the same is a true and correct statement of facts therein recited.

Subscribed and sworn to before me this 6th day of August, 19 75.

A handwritten signature in cursive script, reading "Romona Pierce", written over a horizontal line.

Notary Public in and for the  
Midland County, Texas

ROBERT G. COX  
EDDY COUNTY, NEW MEXICO  
FEDERAL E A  
WELL NO. 1  
MAGNETIC SINGLE SHOT SURVEY  
JOB NO. W17750-55  
JULY 8, 1975

PAGE 1  
\*\*\*\*\*  
\* SUBMITTED BY \*  
\* EASTMAN-WHIPSTOCK \*  
\* INC. \*  
\*\*\*\*\*

RECORD OF SURVEY  
PRO. DIRECTION -0-0

MEAS. COURSE	TRUE COURSE	TRUE VERT.	ANGLE OF INCLIN	COURSE DIRECTION	VERT. SEC.	DOG LEG DEG PER 100	RECTANGULAR COORDINATES
DEPTH LENGTH	COURSE	DEPTH	D M	D M			
0	-0.	-0.00	0	0	0	.00	.00
200	200.	200.00	0 15	N 46 -0 W	.00	.13	.39 N .17 W
400	200.	200.00	0 15	S 0 -0 W	.00	.12	.39 S .50 W
600	200.	199.99	0 45	S 76 -0 W	.00	.37	1.67 S 1.50 W
800	200.	199.98	1 0	S 85 -0 W	.00	.13	2.17 S 4.51 W
1000	200.	199.94	1 45	S 90 -0 W	.00	.37	2.38 S 9.30 W
1200	200.	199.92	1 30	N 80 -0 W	.00	.13	1.89 S 14.95 W
1400	200.	199.94	1 15	N 67 -0 W	.00	.13	.53 S 19.54 W
1600	200.	199.96	1 0	N 68 -0 W	.00	.12	.97 N 23.17 W
1800	200.	199.97	1 0	N 70 -0 W	.00	.12	2.22 N 26.43 W

BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION  
Applied EXHIBIT NO. 3  
CASE NO. 5571  
Submitted by Clerk  
Hearing Date 10-8-75



EAS. DEPTH	COURSE LENGTH	TRUE		INCLIN	ANGLE OF		COURSE DIRECTION	VERT. SEC.	DOG LEG		RECTANGULAR	ULTRA
		COURSE LENGTH	DEPTH		D	M			DEG	PER	C O O R D I N A T E S	
2000	200.	199.97	1999.67	1	0	N 82	-0 W	.00	.12		3.07 N	29.81W
2200	200.	199.98	2199.64	0	45	N 85	-0 W	.00	.12		3.41 N	32.85W
2400	200.	199.97	2399.61	1	15	N 75	-0 W	.00	.25		4.01 N	36.29W
2600	200.	199.95	2599.57	1	15	N 72	-0 W	.00	.25		5.25 N	40.47W
2800	200.	199.94	2799.51	1	30	S 88	-0 W	.00	.13		4.42 N	45.18W
3000	200.	199.91	2999.41	2	0	S 80	-0 W	.00	.25		3.79 N	51.26W
3200	200.	199.88	3199.29	2	0	S 80	-0 W	.00	.00		2.58 N	58.13W
3400	200.	199.88	3399.17	2	0	S 78	-0 W	.00	.25		1.25 N	64.99W
3600	200.	199.88	3599.05	2	0	S 77	-0 W	.00	.25		.26 S	71.81W
3755	155.	154.91	3753.95	2	0	N 48	-0 W	.00	.25		2.21 N	76.56W
3806	51.	50.97	3804.92	2	0	N 72	-0 W	.00	.25		3.10 N	78.09W
3822	16.	15.99	3820.91	2	45	N 65	-0 W	.00	4.69		3.34 N	78.70W
3885	63.	62.87	3883.78	4	30	N 45	-0 W	.00	2.78		5.61 N	81.95W
3944	59.	58.79	3942.57	5	15	N 42	-0 W	.00	1.27		9.25 N	85.41W
4007	63.	62.68	4005.25	6	15	N 43	-0 W	.00	1.59		13.90 N	89.67W
4101	94.	93.32	4098.57	7	30	N 45	-0 W	.00	1.33		22.00 N	97.49W
4196	95.	94.04	4192.61	8	45	N 49	-0 W	.00	1.32		31.15 N	107.32W
4296	100.	98.73	4291.35	9	30	N 57	-0 W	.00	.75		40.69 N	119.98W
4389	93.	91.51	4382.86	11	0	N 50	-0 W	.00	1.61		50.52 N	133.29W
4488	99.	97.10	4479.95	11	30	N 53	-0 W	.00	.51		62.54 N	148.41W

MEAS.		TRUE		TRUE		ANGLE		DOG LEG		RECTANGULAR	
DEPTH	COURSE	COURSE	LENGTH	DEPTH	VERT.	OF	INCLIN	COURSE	VERT.	DEG PER	C O O R D I N A T E S
	LENGTH					D	M	D	SEC.	100	
4582	94.	92.07	4572.02	11	45	N	52	-0	W	.00	74.07 N 163.45W
4673	91.	89.09	4661.12	11	45	N	55	-0	W	.00	85.09 N 178.35W
4736	63.	61.79	4722.90	10	45	N	48	-0	W	.00	92.74 N 187.97W
4797	61.	59.93	4782.83	10	45	N	47	-0	W	.00	100.43 N 196.37W
4889	92.	90.35	4873.18	11	0	N	45	-0	W	.00	112.49 N 208.86W
4982	93.	91.29	4964.47	11	0	N	45	-0	W	.00	125.03 N 221.42W
5076	94.	92.23	5056.70	11	15	N	44	-0	W	.00	137.97 N 234.14W
5167	91.	89.29	5145.99	11	0	N	45	-0	W	.00	150.50 N 246.45W
5227	60.	58.90	5204.89	11	0	N	45	-0	W	.00	158.59 N 254.55W
5280	53.	52.13	5257.02	9	45	N	37	-0	W	.00	165.79 N 260.82W
5338	58.	57.24	5314.26	8	45	N	34	-0	W	.00	173.38 N 266.23W
5400	62.	61.32	5375.58	8	15	N	34	-0	W	.00	180.98 N 271.36W
5492	92.	91.10	5466.68	7	45	N	33	-0	W	.00	191.66 N 278.43W
5585	93.	92.18	5558.86	7	30	N	31	-0	W	.00	202.13 N 284.98W
5680	95.	94.24	5653.10	7	0	N	28	-0	W	.00	212.56 N 290.88W
5770	90.	89.33	5742.43	7	0	N	30	-0	W	.00	222.16 N 296.21W
5823	53.	52.59	5795.02	7	15	N	35	-0	W	.00	227.70 N 299.74W
5861	38.	37.70	5832.72	7	15	N	29	-0	W	.00	231.77 N 302.28W
5923	62.	61.54	5894.25	6	45	N	29	-0	W	.00	238.38 N 305.95W
6015	92.	91.39	5985.64	6	30	N	28	-0	W	.00	247.71 N 311.02W

		TRUE		ANGLE				DOG LEG			
MEAS.	COURSE	COURSE	VERT.	OF	COURSE	VERT.	DEG	RECT	ANG	UL	AR
DEPTH	LENGTH	LENGTH	DEPTH	INCLIN	DIRECTION	SEC.	PER	C	O	R	D
				D	M						
6106	91.	90.46	6076.10	6	0	N 27 -0 W	.00	.55	256.50	N	315.59W
6231	125.	124.31	6200.41	6	0	N 18 -0 W	.00	.55	268.56	N	320.59W

BOTTOM HOLE CLOSURE 418.22 FEET AT N 50 1 36 W

\*\*(METHOD OF COMPUTATION--RADIUS OF CURVATURE)\*\*

BIT RECORD

PM-6833

FILE NO. OILFIELD PRODUCTS DIVISION Dresser Industries, Inc. P. O. BOX 6504 HOUSTON, TEXAS 77005 (713) 784-6011

SALESMAN: Page of

CONTRACTOR Linco's Only Co RIG NO. 62  
COMPANY Robert Lix FIELD  
LEASE Feed #1 WELL NO. 41  
STATE La. COUNTY Calhoun  
SEC. 1  
T-SHIP / RANGE  
RIG MAKE Niot  
RIG SIZE T-52  
PUMP NO. 1 D-300  
PUMP NO. 2  
MUD TYPE 4.5 H<sub>2</sub>O / 1  
COLLARS: OD X ID X LENGTH  
6 1/2 x 3 1/2 x 46.9  
SPUD  
UNDER SURFACE  
UNDER INTER.  
TOTAL DEPTH 9,312.25  
NO. 1 DAY / YR. Re-entry  
T.P.-DRILLERS T.E. Stearns  
O.E. Stearns Day  
J.S. Stearns Evening  
J.T. Bolan morning  
WATER SOURCE Well  
FUEL SOURCE W. Stearns

RUN NO.	SIZE	MAKE	TYPE	SERIAL NO.	JETS - 32nds Reg. R or RO			DEPTH OUT	FEET	HOURS	FEET PER HOUR	CUM. HOURS	WT. 1000 LBS.	R.P.M.	PUMP PRESS	PUMP NO. 1 Liner SPM	PUMP NO. 2 Liner SPM	MUD PROPERTIES Wt. Wt. V.P. V.Y.P.	Dev.	Dull Cond. %				Date
					1	2	3													T	B	G	RD	
154	1 1/2	HTCOW	RR	Reg. -3903				10	12			1/2	10	70	800	5	64			1	1			
152	-	SEC MWD	596460	OPEN	4012	109	3 1/4					5 1/4	2	400	500	-	-			25	I			Dyna-Drill
1543	-	HTCOW	RR #1	Reg. -	12630	CEMENT	5 1/4	10	70	500	-					-	-			12	I			
154	-	SEC H77	597524	OPEN	13826	71	10 1/4					16	3/5	400	600	-	-			4	I			Dyna-Drill
151	-	SEC	596289	OPEN	13830	4	3					19	3/4	400	600	-	-			18	I			3 cones locked
151	-	H77	597519	OPEN	13869	39	5					24	3/4	400	600	-	-			36	I			Dyna-Drill
151	-	HTC	J44 MFSAO	11	11	4196	342	20 1/4				44	3/5	40	1000	-	-			1	I			
151	-	RRM	J44	-	-	4413	217	17 1/4				61	3/5	40	1000	-	-			22	I			
151	-	RRM	J44	-	-	4687	274	29				90	3/5	40	1000	-	-			45	I			
151	-	SEC H77	595402	OPEN	14719	32	4 1/4					94	3/4	400	600	-	-			66	I			Dyna-Drill
151	-	RRM	594784	11	11	45227	508	7 1/4				166	3/5	45	1000	-	-			43	I			
151	-	H77	597561	OPEN	15241	14	3					169	3/4	400	1000	-	-			74	I			Dyna-Drill
151	-	H77	597522	OPEN	15280	39	5					174	3/4	400	800	-	-			25	I			Dyna-Drill
151	-	RRM	589524	11	11	5823	654	65 1/4				240	30	50	800	-	-			88	I			Lost 3 cones
151	-	SEC	587329	OPEN	15847	24	3 1/4					243	3/4	400	1000	-	-			86	I			Dyna-Drill
151	-	H99	577222	11	11	16200	353	47 1/4				291	30	40	1500	-	-			88	I			
151	-	H99	RR #1			6231	31	1				292				-	-							

13 bbls Total  
TD @ 8:45 AM - 9-31-75

BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 4  
CASE NO. 5571  
Submitted by Cox  
Hearing Date 10-8-75

8 Dyna-Drill  
Runs

Our original intent was to take off in a northerly direction to bottom within 100-150' from our old hole to get away from the effects of the numerous stimulation (acid & frac) treatments the Abo Zone had been subjected to in both Aztec's and our attempts to effect a commercial completion in the old hole.

After we could not back off the casing bowl at 4200', we cut and removed the casing at 4020' and spotted a 50-sack plug at 4050'. When they went in to dress the plug, they found the top at 3890'. They dressed it off to 3903' which was approximately 120' above the old casing stub.

They came out and went in hole with the Dyna Drill, but couldn't get past the lower joint of surface casing, which had parted and was laying at an angle in the hole around 1600'. They had a bit guide (epoxy cone) built onto the bit and went back in, clearing the parted casing.

They drilled for four hours but could not sidetrack or get out of old hole. They came out and went in open-ended and set a 100 sack plug, with more sand in the cement and additives. After waiting 36 hours, they went back in with an epoxy bit guide on the bit and hit cement at 3725', dressing off to 3755'. They came out of hole and went in with the Dyna Drill and epoxy bit guide. The bit wore out at 3786', after making 31 feet. They took a survey and were still in old hole. They tripped the drill pipe, replaced the Dyna Drill bit and began again attempting to side-track. The bit locked at 3822'. They tripped the drill pipe and replaced bit finding the bit flat on all three cones. A survey at 3822' revealed they were still in old hole; they then drilled to 3854' when the bit locked and they had to trip it. They called me and said there was a possibility they were out of old hole as they were getting a small amount of black shaley Dolomite in the old hole, but wouldn't

BEFORE EXAMINER STAMETS	
OIL CONSERVATION COMMISSION	
Appl.	EXHIBIT NO. <u>5</u>
CASE NO.	<u>5571</u>
Submitted by	<u>Cox.</u>
Hearing Date	<u>10-8-75</u>

be sure until they had the opportunity to drill 30'-60' more feet to take another survey.

They re-entered hole with a new button bit and reamers. A survey was taken at 3885' and recorded an angle of N 45 W and an angle of inclination of  $4^{\circ} 30''$ . Eastman took surveys at 3944' and 4007' and appeared to be reducing the Westward migration but were building up inclination angle. So at 4196' they tripped the bit and added another reamer and drill collars, with the intent of reducing the inclination angle and by reducing weight and RPM's, it would move the deviation to the East.

Eastman took surveys at 4196' and 4296' and found that they were continuing to swing to the West and the inclination angle was still building. They tripped the bit and added an additional reamer hoping that would drop angle.

They drilled ahead to 4687' looking for a soft spot or drilling break to go back in with Dyna-Drill to make a correction. They took surveys at 4389', 4488', 4582' and 4673' and found that they were still building angle and not reducing drift.

At 4687' they decided that they'd have to try and turn it as the angle and drift were building so much we'd be off our lease before we reached 6000' and encountered the Abo porosity. They tripped the drill pipe and went in with a new button bit and Dyna Drill oriented SE ( $S 20^{\circ} E$ ). They drilled from 4687' to 4719' (32') when bit locked. They went in with new bit and reamers and took survey at 4736' and found they had only reduced the Westward migration  $7^{\circ}$  and angle of inclination  $1^{\circ}$ .

They drilled to 5227' looking for a drilling break to attempt another correction. At that time we had been in the hole 14 days, made only 1400 feet, had 5 Dyna Drill runs and still couldn't correct the dominant Northwest migration.

When they called in their progress report, I told them to hit it again with the Dyna Drill, that I would be on location shortly. They drilled from 5227' to 5241' when the bit wore out (14'). They tripped the pipe, put on new bit and with Dyna Drill made it to 5280' before the bit wore out. They felt pretty elated as they had gotten 53' out of the 2 Dyna Drill runs. But when they took a survey, they found they had reduced the NW migration only 7° and only dropped 1 1/4° (from 11° to 9 3/4°).

The engineer told me, if I had enough money and there were enough bits in Southeast New Mexico, he could keep the Dyna Drill in the hole (at \$120/hr.) and still probably couldn't turn it to our satisfaction, due to the hard cherty dolomite section we were in.

They went in with a new button bit and reamers, cut rotary speed to 30-35 RPM and weight to 30-35,000# to at least maintain our position until we could find a soft spot to again Dyna Drill in and turn the hole.

They took surveys at 5388', 5400', 5492', 5585', 5680' and 5770' and found we were dropping angle and gradually drifting back to the East.

At 5823' the bit locked, a survey was taken and we found that the hole had again changed course back to the NW. We pulled bit and found all cones, bearings and journals were in hole. After 3 trips with a magnet we recovered the cones and other junk.

In spite of the fact the drilling time suggested and samples suggested we were in a hard cherty zone, I instructed them to again go in with the Dyna Drill and new bit. They drilled from 5823'-5847' (24') when bit locked. We pulled bit and found cones almost off. The Engineer felt another attempt wouldn't help us any due to the cherty condition of the dolomite formation.



A new button bit with reamers was run and a survey at 5861' showed we had swung 6° back to the East, but hadn't reduced the angle of inclination. We were now 21-22 days into an operation that the Contractor and Eastman had estimated as being a 10-12 day job and we had a hole we couldn't control.

We took surveys at 5923' and 6015' and found we were dropping inclination angle. We drilled ahead looking for the Abo. The survey suggested unless we dropped angle drastically or the SE dip we were encountering swung around to South dip that we'd be at where we are at 6130'. We started picking up fluorescence and cut account 6100' but no decent drilling breaks, except at 6160'-68' and 6174'-78'. The drilling hardened up at 6180' to T.D. I felt we were out of our zone of interest and ceased drilling at 6130'.

We ran a set of logs, being Induction Log and Compensated Gamma Ray Density Log. Log correlations with offset wells suggested we had encountered the zones we were looking for. As the log would not go below 6200', I instructed the tool pusher to strap the pipe on way in to come out laying down and if we were at 6200' to drill 20'-30' of rat hole, so we had plenty of room to work in. I left the location to catch a plane and when they called me the casing setting report, they said they got another drilling break at 6110'-20' and bottomed up there. The circulated samples were brought to me 3 days later. Under examination they exhibited inter-crystalline porosity with no vugs. They had a good odor, fluorescence and excellent cut.

This is an explanation as to why the bottom of our hole is where it is.

The zone we are producing from, by detailed correlations along the South and fore reef facies of the Reef, is not connected to nor in communication with the zones or intervals productive in the offset wells.