

Memo

From

L. E. CLEMENTS
Inspector

To 1" = 50'

303' to EAST

100'
~~600'~~ to South

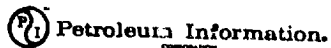
Surface Cr. 1155' N 4 1000 W

BH Loc 1305 N 4 1335 W

$$\begin{array}{r} 1155 \\ 100 \\ \hline 1255 \end{array}$$
 FROM N. LINE

$$\begin{array}{r} 1000 \\ 303 \\ \hline 1303 \end{array}$$
 FROM W. LINE
1301

NEW MEXICO OIL CONSERVATION COMMISSION - HOBBS, NEW MEXICO



11111 Drinkard

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STAFF NM

API ~~30-025-25696~~

MAP

CO-ORD

SPD 1-8-78

~~3-3-6 NM~~

CMP 2-27-78

WELL CLASS: INIT D FIN DG ELEV L & S

FORMATION

DATUM

FORMATION

L. & S.

ID 67381 (DRKD)

PBD

IP (Drinkard) Perfs 6362-6444' F 155 MCFGPD. Pot based on 24 hr test thru unreported size chk. GOR (NR); gty (NR); CP Pkr; TP 930#	ID 6738' (DRKD)	PBD
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OPRS ELEV 3465' GL

PD 6700¹ RT

F.R. 10-31-77
(Drinkard)
1-9-78 TD 420'; WOC
1-16-78 Drlg 4937'
1-20-78 Drlg 5610'
1-30-78 TD 6738'; WOC
2-6-78 TD 6738'; WOCU
2-13-78 TD 6738'; Tstg
Perf (DRKD) 6362-64', 6392-94', 6414-16',
6442-44' w/2 SPF
Acid (6362-6444') 4200 gals
Flwd 280 MCFGPD thru 16/64" chk in 24 hrs
(6362-6444')
2-21-78 TD 6738'; SI
Frac (6362-6444') 20,000 gals + 20,000# sd

3-3-6 NM

LEA
GULF OIL CORP.

Drinkard
422 Central Drinkard Unit
Sec 33, T21S, R37E

NM
Page #2

2-27-78 TD 6738'; SI
3-6-78 TD 6738'; Tstg
Flwd 1555 MCFGPD, TP 960# (6362-6444')
3-13-78 TD 6738'; Complete
LOG TOPS: Rustler Anhydrite 1188', Salt 1305',
Base Salt 2440', Yates 2615', Seven Rivers
2810', Queen 3344', Grayburg 3610', San
Andres 3832', Glorieta 5023', Blinbry 5415',
Tubb 6013', Drinkard 6344'
3-18-78 COMPLETION ISSUED

3-3-6 NM
IC 30-025-70287-77



REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY

GULF ENERGY & MINERAL COMPANY
COMPANY

CENTRAL DRINKARD #422
WELL NAME

LEA COUNTY, NEW MEXICO
LOCATION

JOB NUMBER	TYPE OF SURVEY	DATE
WT178 S01107	Magnetic Multi-Shot	Jan. 12, 1978
WT178 S01117	Magnetic Multi-Shot	Jan. 16, 1978
WT178 D01115	Magnetic Single-Shot	Jan. 27, 1978

SURVEY BY James Blackledge
James Blackledge
Roy Smith

OFFICE West Texas Dist.
West Texas District
West Texas District

GULF ENERGY & MINERALS U.S.
CENTRAL DRINKARD UNIT WELL NO. 422
LEA COUNTY, NEW MEXICO
MAGNETIC MULTISHOT SURVEY

WT178-S01107
JANUARY 12, 1978

PLANE OF PROPOSED DIRECTION IS S 65 DEG. 53 MIN. E

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET	DOG LEG SEVERITY DEG/100FT
420.	0 0	0	420.00	0.00	0.00	0.0
482.	0 45	N 63 E	482.00	.25	.18 N	1.2
575.	0 30	N 84 E	574.99	1.02	.47 N	.4
668.	0 45	S 86 E	667.99	1.94	.49 N	.3
761.	0 30	S 88 E	760.98	2.88	.44 N	.3
854.	0 45	S 85 E	853.98	3.83	.37 N	.3
947.	0 45	S 75 E	946.97	5.01	.16 N	.1
1040.	0 45	S 69 E	1039.96	6.22	.21 S	.1
1133.	1 0	S 72 E	1132.95	7.64	.69 S	.3
1226.	1 0	S 72 E	1225.93	9.25	1.19 S	0.0
1319.	1 0	N 86 E	1318.92	10.79	1.39 S	.4
1412.	1 15	N 73 E	1411.90	12.29	1.05 S	.4
1505.	1 0	N 52 E	1504.88	13.42	.22 S	.5
1598.	0 45	N 11 E	1597.87	13.60	.97 N	.7
1691.	1 0	N 14 E	1690.86	13.31	2.36 N	.3
1784.	1 45	N 9 E	1783.84	12.83	4.54 N	.8
1877.	1 30	N 8 E	1876.80	12.12	7.15 N	.3
1970.	1 45	N 13 E	1969.76	11.50	9.74 N	.3
2063.	1 45	N 22 E	2062.72	11.17	12.45 N	.3
2156.	1 30	N 26 E	2155.68	11.16	14.86 N	.3
2249.	1 45	N 25 E	2248.64	11.23	17.24 N	.3
2342.	2 0	N 44 E	2341.59	11.77	19.73 N	.7
2435.	2 15	N 40 E	2434.53	12.83	22.30 N	.3
2528.	2 0	N 42 E	2527.46	13.83	24.90 N	.3
2621.	1 45	N 45 E	2620.41	14.84	27.11 N	.3
2652.	1 30	N 46 E	2651.40	15.16	27.72 N	.8
2691.	1 30	N 41 E	2690.39	15.50	28.46 N	.3

FINAL CLOSURE - DIRECTION: N 46 DEGS 14 MINS 38 SECS E
 DISTANCE: 41.15 FEET

GULF ENERGY & MINERALS U.S.
CENTRAL DRINKARD UNIT WELL NO. 422
LEA COUNTY, NEW MEXICO
MAGNETIC MULTISHOT SURVEY

WT178-S01117

SURVEYOR - JAMES BLACKLEDGE
EASTMAN WHIPSTOCK
JANUARY 16, 1978

PLANE OF PROPOSED DIRECTION IS S 65 DEG. 53 MIN. E

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE		VERTICAL SECTION FEET	R E C T A N G U L A R C O O R D I N A T E S		DOG LEG SEVERITY DEG/100FT
			VERTICAL DEPTH FEET	VERTICAL SECTION FEET				
2691.	1 30	N 41 E	2690.39	15.51	28.46 N	29.73 E	0.0	
2798.	1 15	N 40 E	2797.36	16.23	30.41 N	31.40 E	.2	
2891.	1 0	N 56 E	2890.34	16.97	31.63 N	32.75 E	.4	
2984.	1 0	N 46 E	2983.33	17.70	32.65 N	34.01 E	.2	
3077.	0 45	N 59 E	3076.32	18.37	33.51 N	35.13 E	.3	
3170.	0 45	N 54 E	3169.31	19.03	34.18 N	36.15 E	.1	
3263.	1 0	N 63 E	3262.30	19.83	34.93 N	37.36 E	.3	
3356.	1 0	N 66 E	3355.28	20.88	35.62 N	38.82 E	.1	
3449.	1 0	N 72 E	3448.27	22.02	36.21 N	40.34 E	.1	
3542.	0 45	S 80 E	3541.26	23.26	36.30 N	41.74 E	.5	
3635.	0 30	N 82 E	3634.25	24.19	36.29 N	42.75 E	.3	
3728.	0 30	N 89 E	3727.25	24.90	36.35 N	43.56 E	.1	
3821.	0 30	S 86 E	3820.25	25.65	36.33 N	44.37 E	.0	
3914.	0 45	N 76 E	3913.24	26.54	36.42 N	45.38 E	.3	
4007.	0 30	N 79 E	4006.23	27.35	36.64 N	46.37 E	.3	
4100.	0 45	N 42 E	4099.23	27.94	37.13 N	47.23 E	.5	
4193.	1 0	N 68 E	4192.22	28.66	37.94 N	48.39 E	.5	
4286.	1 15	N 52 E	4285.20	29.73	38.85 N	49.96 E	.4	
4379.	1 0	N 24 E	4378.18	30.17	40.27 N	51.08 E	.6	
4472.	1 0	N 1 E	4471.17	29.84	41.84 N	51.43 E	.4	
4565.	1 15	N 10 W	4564.15	28.97	43.66 N	51.28 E	.4	
4658.	1 30	N 1 E	4657.12	27.90	45.88 N	51.11 E	.4	
4751.	1 30	N 36 W	4750.09	26.31	48.16 N	50.39 E	1.0	
4844.	1 30	N 36 W	4843.06	24.20	50.13 N	48.96 E	0.0	
4937.	1 30	N 45 W	4936.03	22.00	51.98 N	47.38 E	.3	

FINAL CLOSURE - DIRECTION: N 42 DEGS 20 MINS 49 SECS E
DISTANCE: 70.33 FEET

GULF ENERGY & MINERALS U.S.
CENTRAL DRINKARD UNIT NO. 422
LEA COUNTY, NEW MEXICO
MAGNETIC SINGLE SHOT
WT178-001115
DIRECTIONAL SUPERVISOR ROY SMITH
JANUARY 27, 1978

PLANE OF PROPOSED DIRECTION IS S 65 DEG. 53 MIN. E

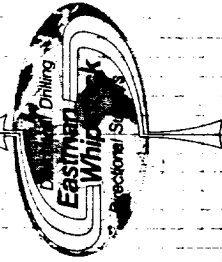
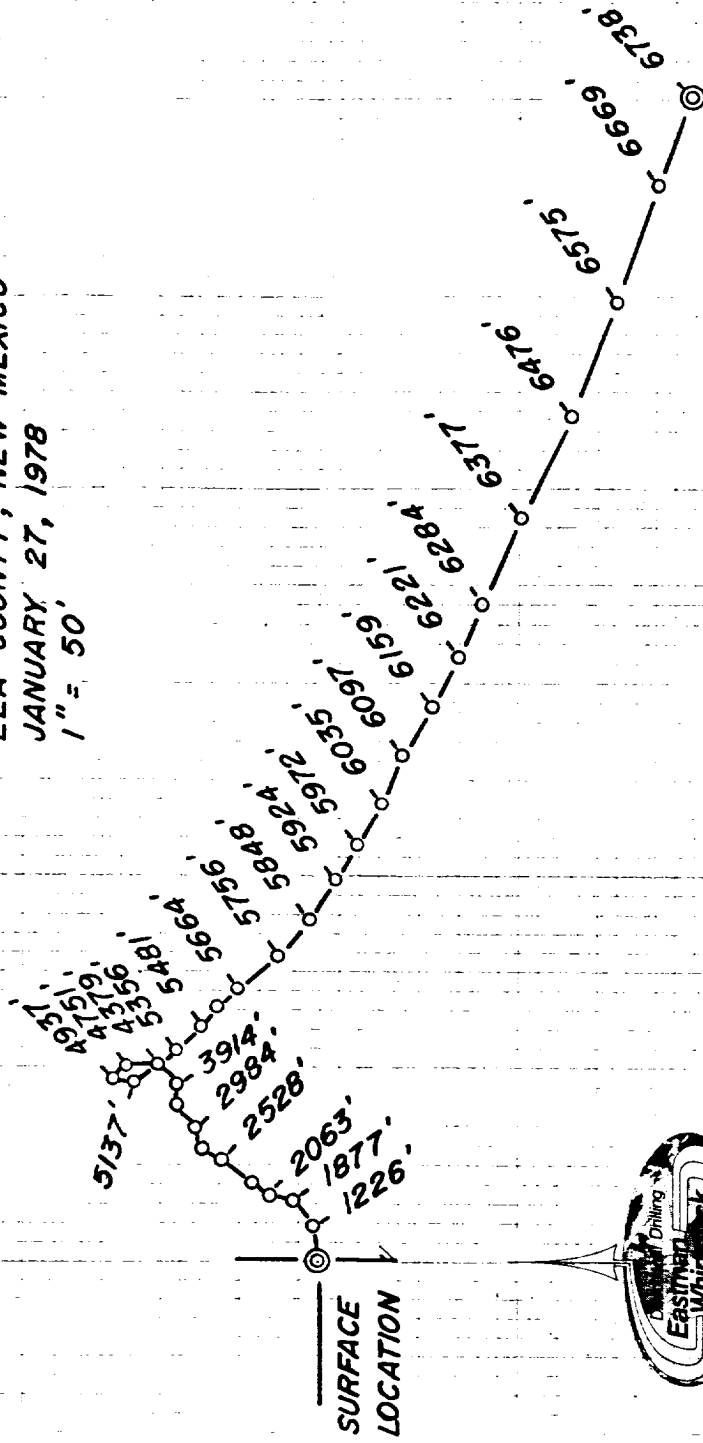
RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE		VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET	CLOSURE DISTANCE FEET	SURFACE DIRECTION D M	DOG LEG SEVERITY DEG/100FT
			VERTICAL DEPTH FEET	VERTICAL SECTION FEET					
4937.	1 30	N 45 W	4936.03	22.01	51.98 N	47.38 E	70.33	N 42 21 E	0.0
4998.	1 30	S 28 W	4997.01	20.85	51.78 N	46.02 E	69.27	N 41 38 E	4.0
5045.	2 0	S 10 E	5043.99	21.22	50.39 N	45.80 E	68.09	N 42 16 E	2.6
5137.	2 30	S 27 E	5135.92	23.65	46.97 N	46.94 E	66.41	N 44 59 E	.9
5231.	3 15	S 25 E	5229.80	27.27	42.73 N	49.01 E	65.02	N 48 55 E	.8
5356.	4 15	S 46 E	5354.53	34.28	36.12 N	53.73 E	64.74	N 56 5 E	1.3
5418.	4 15	S 42 E	5416.36	38.55	32.81 N	56.92 E	65.70	N 60 2 E	.5
5481.	4 30	S 49 E	5479.17	43.05	29.45 N	60.35 E	67.15	N 63 59 E	.9
5572.	4 0	S 50 E	5569.92	49.52	25.07 N	65.47 E	70.11	N 69 3 E	.6
5664.	6 30	S 38 E	5661.53	57.31	19.02 N	71.31 E	73.80	N 75 4 E	3.0
5756.	7 45	S 47 E	5752.82	67.78	10.62 N	79.01 E	79.72	N 82 21 E	1.8
5848.	8 30	S 52 E	5843.89	80.25	2.18 N	88.90 E	88.92	N 88 36 E	1.1
5924.	10 45	S 62 E	5918.82	92.79	4.74 S	99.54 E	99.65	S 87 17 E	3.7
5972.	12 0	S 62 E	5965.87	102.23	9.18 S	107.90 E	108.29	S 85 8 E	2.6
6035.	12 30	S 63 E	6027.44	115.57	15.35 S	119.75 E	120.73	S 82 42 E	.9
6097.	13 0	S 63 E	6087.91	129.24	21.56 S	131.95 E	133.70	S 80 43 E	.8
6159.	13 0	S 62 E	6148.32	143.16	28.00 S	144.32 E	147.01	S 79 1 E	.4
6221.	13 30	S 63 E	6208.67	157.35	34.57 S	156.92 E	160.68	S 77 35 E	.9
6284.	14 15	S 65 E	6269.83	172.45	41.19 S	170.50 E	175.40	S 76 25 E	1.4
6377.	16 0	S 65 E	6359.61	196.71	51.44 S	192.49 E	199.25	S 75 2 E	1.9
6476.	18 0	S 67 E	6454.28	225.65	63.21 S	218.93 E	227.87	S 73 54 E	2.1
6575.	19 30	S 70 E	6548.02	257.44	74.88 S	248.54 E	259.57	S 73 14 E	1.8
6669.	20 30	S 70 E	6636.35	289.50	85.87 S	278.75 E	291.67	S 72 53 E	1.1
6738.	20 15	S 70 E	6701.03	313.46	94.09 S	301.32 E	315.67	S 72 40 E	.4

FINAL CLOSURE - DIRECTION: S 72 DEGS 39 MINS 32 SECS E
 DISTANCE: 315.67 FEET

GULF ENERGY and MINERALS U.S.
 CENTRAL DRINKARD UNIT WELL NO. 422
 LEA COUNTY, NEW MEXICO
 JANUARY 27, 1978
 1" = 50'



DEPTH 6738' MD 6701.03' TVD
 SOUTH 94.09'
 EAST 301.32'
 CLOSURE 315.67' S 72° 39' E

WELL LOCATION AND ACREAGE DEDICATION PLAT

 Form C-128
 Supersedes C-128
 Effective 1-1-65

All distances must be from the outer boundaries of the section

Operator Gulf Oil Company			Lease C D U		Well No. 422
Tract Letter D	Section 33	Township 21 South	Range 37 East	County Lea	
Actual Well Location of Well: 1155 feet from the North line and 1000 feet from the West line					
Ground Area in Acre 3464.8	Producing Formation Drinkard		Dedicated Acreage 40		Acre

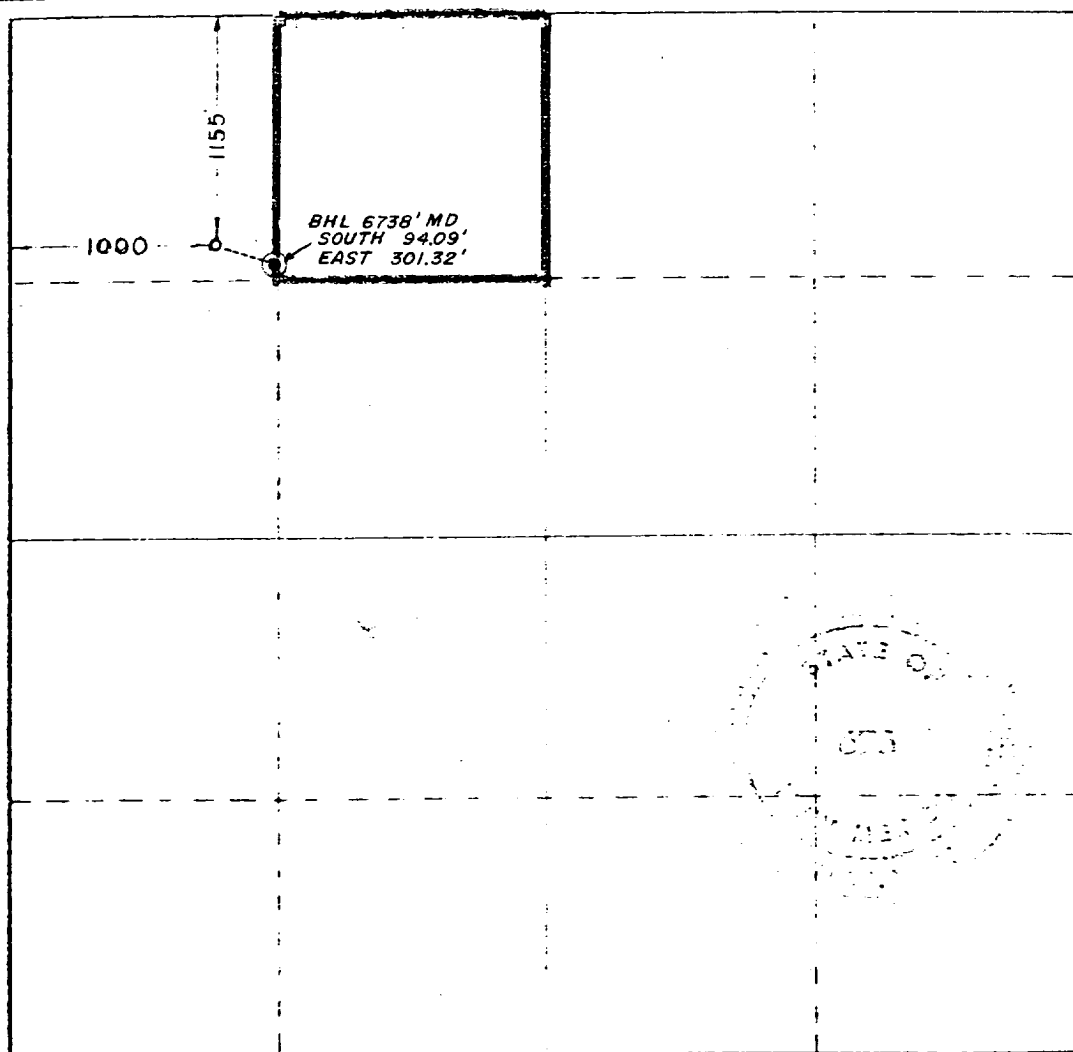
- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

Order No. 5548



CERTIFICATION

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

C.D. Borland

Area Production Manager

Gulf Oil Corporation

October 25, 1977

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 knowledge and belief.

October 21, 1977

 Registered Professional Surveyor
 State of Texas

676

330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600



P. O. Box 5577 / Midland, Texas 79701 / (915) 563-0511
TWX 910-881-5066 / Cable: EASTCO

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, James Blackledge, in the employ of Eastman Whipstock, Inc., did on the days of January 12, 19 78 thru January 12, 19 78 conduct or supervise the taking of a Magnetic Multi-Shot survey by the method of magnetic orientation from a depth of 420 feet to 2691 feet, with recordings of inclination and direction being obtained at approximate intervals of 93 feet.

This survey was conducted at the request of Gulf Energy & Mineral Co.-U.S.-Southwest for their Central Drinkard #422, Lea County, Division State of New Mexico, in the _____ field.

The data for this survey and the calculations were obtained and performed by me according to standards and procedures as set forth by Eastman Whipstock, Inc. and is true and correct to the best of my knowledge.

James Blackledge
Directional Supervisor/Surveyor

The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Larry Massey

Before me, the undersigned authority, on this day personally appeared James Blackledge, 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 this instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 17th day of January, 1978.

Wanda J. Howell
Notary Public in and for the County of
Midland, Texas
My commission expires 10/31/78



P. O. Box 5577 / Midland, Texas 79701 / (915) 563-0511
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SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, James Blackledge, in the employ of Eastman Whipstock, Inc., did on the days of January 16, 19 78 thru January 16, 19 78 conduct or supervise the taking of a Magnetic Multi-Shot survey by the method of magnetic orientation from a depth of 2691 feet to 4937 feet, with recordings of inclination and direction being obtained at approximate intervals of 93 feet.

This survey was conducted at the request of Gulf Energy & Mineral Co.-U.S. Southwest for their Central Drinkard #422, Lea County, Division State of New Mexico, in the _____ field.

The data for this survey and the calculations were obtained and performed by me according to standards and procedures as set forth by Eastman Whipstock, Inc. and is true and correct to the best of my knowledge.

James Blackledge
Directional Supervisor / Surveyor

The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Sam Hanner

Before me, the undersigned authority, on this day personally appeared James Blackledge, 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 this instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 17th day of January, 19 78.

Wanda G. Howell
Notary Public in and for the County of
Midland, Texas
My commission expires 10/31/78



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TWX 910-881-5066/Cable: EASTCO

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, Roy Smith, in the employ of Eastman Whipstock, Inc., did on the days of January 16, 1978 thru January 27, 1978 conduct or supervise the taking of a Magnetic Single Shot survey by the method of magnetic orientation from a depth of 4937 feet to 6738 feet, with recordings of inclination and direction being obtained at approximate intervals of random feet.

This survey was conducted at the request of Gulf Energy & Mineral Co. for their Central Drinkard Unit #422, Lea County, State of New Mexico, in the _____ field.

The data for this survey and the calculations were obtained and performed by me according to standards and procedures as set forth by Eastman Whipstock, Inc. and is true and correct to the best of my knowledge.

Roy Smith
Directional Supervisor/Surveyor

The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Roy Smith

Before me, the undersigned authority, on this day personally appeared, Roy Smith, 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 this instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 3rd day of February, 1978.

Wanda D. Howell
Notary Public in and for the County of
Midland, Texas
My commission expires 10/31/78