



REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY

Gulf Energy and Minerals Company U. S.
COMPANY

C. D. U. 407
WELL NAME

Lea County, New Mexico
LOCATION

<u>JOB NUMBER</u>	<u>TYPE OF SURVEY</u>	<u>DATE</u>
WT1076-S0212	Magnetic Multi Shot	October 21, 1976
WT1076-S0204	Magnetic Multi Shot	October 17, 1976
WT1176-S0233	Magnetic Multi Shot	November 9, 1976

SURVEY BY
Jack L. Henderson

OFFICE
West Texas

SEP 28 1976
OIL CONSERVATION COM. COMM.
HOBBES, H. M.

GULF ENERGY & MINERALS COMPANY US

LEA COUNTY, TEXAS

C. D. U.

WELL NO. 407

MAGNETIC MULTI SHOT

WT1076S0204

OCTOBER 17, 1976

PAGE 1

* SUBMITTED BY *

* EASTMAN-WHIPSTOCK *

* *

* INC. *

RECORD OF SURVEY

PRO. DIRECTION 0 0

ANGLE

OF

INCLIN

D M

TRUE

COURSE

VERT.

TRUE

COURSE

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FILED 23 1976
OIL CONSERVATION BOARD
HOBBBS, N. M.

		ANGLE OF		COURSE		VERT.		DOG LEG		RECTANGULAR	
MEAS.	COURSE	TRUE	VERT.	INCLIN	DIRECTION	SEC.	DEGPER	COORDINATES			
DEPTH	LENGTH	LENGTH	DEPTH	D M	D M		100				
1000	100.	100.00	1000.00	0 15	N 68 0 W	0.00	0.06	0.54 N	1.53 W		
1065	65.	65.00	1065.00	0 15	N 72 0 W	0.00	0.04	0.64 N	1.80 W		

BOTTOM HOLE CLOSURE 1.91 FEET AT N 70 26 17 W

(METHOD OF COMPUTATION--RADIUS OF CURVATURE)

FOOD

DEC 28 1976

OIL CONSERVATION DISTRICT
HOUSTON, TEXAS

GULF ENERGY AND MINERALS COMPANY U.S.

LEA COUNTY, NEW MEXICO

C. D. U.

WELL NO 407

MAGNETIC MULTI SHOT SURVEY

WT1076S0212

OCTOBER 21, 1976

PAGE 1

* SUBMITTED BY *

* EASTMAN-WHIPSTOCK *

* INC. *

* *

RECORD OF SURVEY

PRO. DIRECTION 0 0

DOG LEG

ANGLE

DEGPER

100

RECTANGULAR

COORDINATES

VERT. SEC.

COURSE DIRECTION

D M

INCLIN D M

TRUE COURSE VERT. DEPTH

MEAS. COURSE LENGTH

DEPTH LENGTH

1065 0. 0.00 1065.00 0 15 N 72 0 W 0.00 0.00 0.64 N 1.80W

1252 187. 187.00 1252.00 0 30 S 4 0 W 0.00 0.25 0.27 S 2.51W

1344 92. 91.99 1343.99 0 45 S 18 0 E 0.00 0.32 1.25 S 2.32W

1436 92. 91.99 1435.98 1 0 S 19 0 E 0.00 0.27 2.58 S 1.87W

1527 91. 90.98 1526.96 1 15 S 20 0 E 0.00 0.28 4.27 S 1.28W

1619 92. 91.98 1618.94 1 0 S 50 0 E 0.00 0.69 5.73 S 0.25W

1710 91. 90.99 1709.93 1 0 S 36 0 E 0.00 0.27 6.89 S 0.83E

1802 92. 91.99 1801.92 1 0 S 62 0 E 0.00 0.49 7.93 S 2.03E

1893 91. 90.98 1892.90 1 15 S 60 0 E 0.00 0.28 8.80 S 3.59E

1965 92. 91.98 1984.88 1 0 S 83 0 E 0.00 0.56 9.37 S 5.29E

100-100000-100000
FEB 25 1976
OIL CONSERVATION DIVISION
HOUSTON, TEXAS

MEAS. COURSE		TRUE		ANGLE		DOG. LEG		RECTANGULAR	
DEPTH	COURSE	LENGTH	VERT. DEPTH	INCLIN	COURSE	VERT. SEC.	DEGPER	C O O R D I N A T E S	
				D M	D M		100		
2077	92.	91.98	2076.86	1 30	S 88 0 E	0.00	0.56	9.53 S	7.29E
2168	91.	90.97	2167.83	1 30	S 89 0 E	0.00	0.04	9.59 S	9.67E
2260	92.	91.96	2259.79	1 45	N 82 0 E	0.00	0.35	9.38 S	12.27E
2351	91.	90.95	2350.74	2 0	N 83 0 E	0.00	0.28	9.00 S	15.23E
2443	92.	91.94	2442.69	2 0	N 83 0 E	0.00	0.02	8.60 S	18.41E
2534	91.	90.94	2533.63	2 0	N 83 0 E	0.00	0.02	8.22 S	21.56E
2626	92.	91.94	2625.57	2 0	N 75 0 E	0.00	0.30	7.61 S	24.71E
2718	92.	91.94	2717.52	2 0	N 76 0 E	0.00	0.04	6.80 S	27.82E
2809	91.	90.94	2809.46	2 0	N 81 0 E	0.00	0.19	6.17 S	30.93E
2901	92.	91.94	2900.41	2 0	N 76 0 E	0.00	0.19	5.53 S	34.08E
2992	91.	90.95	2991.36	1 45	N 76 0 E	0.00	0.28	4.81 S	36.97E
3084	92.	91.96	3083.31	1 45	N 87 0 E	0.00	0.37	4.39 S	39.74E
3176	92.	91.95	3175.26	2 0	N 87 0 E	0.00	0.27	4.24 S	42.75E
3267	91.	90.95	3266.22	1 45	N 84 0 E	0.00	0.30	4.00 S	45.72E
3358	91.	90.96	3357.17	1 45	N 81 0 E	0.00	0.10	3.64 S	48.47E
3450	92.	91.96	3449.13	1 45	N 78 0 E	0.00	0.10	3.13 S	51.23E
3491	41.	40.98	3490.11	1 45	N 69 0 E	0.00	0.67	2.77 S	52.43E

BOTTOM HOLE CLOSURE 52.51 FEET AT S 86 58 22 E

(METHOD OF COMPUTATION--RADIUS OF CURVATURE)

GULF ENERGY AND MINERALS, U.S.

LEA COUNTY, NEW MEXICO
C.D.U.

WELL NO-407

MAGNETIC MULTISHOT SURVEY

WT1176-S0233

NOVEMBER 9, 1976

PAGE 1

* SUBMITTED BY *

* EASTMAN-WHIPSTOCK *

* INC. *

* *

RECORD OF SURVEY

PRO. DIRECTION 0 0

MEAS. DEPTH	COURSE LENGTH	TRUE COURSE LENGTH	TRUE VERT. DEPTH	ANGLE OF INCLIN		COURSE DIRECTION		VERT. SEC.	DOG LEG DEGPER		RECTANGULAR COORDINATES	
				D	M	D	M		100			
3491	0.	0.00	3490.11	1	45	N	69	0.00	0.00	2.77	S	52.43E
3537	46.	45.97	3536.08	2	30	S	72	0.00	1.65	3.34	S	54.04E
3629	92.	91.86	3627.94	3	45	S	67	0.00	1.39	5.10	S	58.73E
3722	93.	92.76	3720.70	4	30	S	72	0.00	0.89	7.44	S	65.00E
3814	92.	91.68	3812.38	5	0	S	82	0.00	1.05	9.15	S	72.41E
3906	92.	91.53	3903.92	6	30	N	89	0.00	1.80	8.43	S	81.59E
3999	93.	92.47	3996.38	5	45	S	78	0.00	1.49	9.55	S	91.44E
4091	92.	91.45	4087.84	6	45	S	78	0.00	1.09	11.63	S	101.23E
4183	92.	91.21	4179.05	8	15	S	83	0.00	1.78	13.61	S	113.07E
4276	93.	91.98	4271.02	8	45	S	78	0.00	0.96	15.88	S	126.63E

11-28-1976
OIL CONSERVATION COM. HOBBS, N. M.

MEAS. DEPTH	COURSE LENGTH	TRUE COURSE LENGTH	TRUE VERT. DEPTH	ANGLE OF INCLIN		COURSE DIRECTION	VERT. SEC.	DOG LEG		RECTANGULAR COORDINATES
				D	M			DEG	PER	
								100		
4368	92.	90.73	4361.76	10	15	S 46 0 E	0.00	5.88		22.92 S 139.86E
4460	92.	90.42	4452.13	11	0	S 44 0 E	0.00	0.91		34.91 S 151.85E
4553	93.	91.09	4543.27	12	15	S 45 0 E	0.00	1.36		48.28 S 164.99E
4645	92.	89.64	4632.91	13	45	S 49 0 E	0.00	1.90		62.39 S 180.12E
4738	93.	90.09	4723.00	15	0	S 50 0 E	0.00	1.37		77.38 S 197.68E
4830	92.	88.76	4811.76	15	30	S 50 0 E	0.00	0.54		92.94 S 216.22E
4922	92.	88.32	4900.08	17	0	S 53 0 E	0.00	1.87		108.96 S 236.36E
5015	93.	88.75	4988.83	17	45	S 56 0 E	0.00	1.26		125.08 S 258.97E
5107	92.	87.43	5076.27	18	30	S 57 0 E	0.00	0.88		140.88 S 282.83E
5199	92.	87.05	5163.32	19	15	S 58 0 E	0.00	0.89		156.87 S 307.93E
5292	93.	87.80	5251.12	19	15	S 57 0 E	0.00	0.35		173.35 S 333.79E
5384	92.	86.99	5338.11	18	45	S 58 0 E	0.00	0.65		189.44 S 359.05E
5476	92.	87.55	5425.66	17	0	S 56 0 E	0.00	2.02		204.82 S 382.73E
5569	93.	89.05	5514.71	16	30	S 55 0 E	0.00	0.62		220.00 S 404.82E
5661	92.	88.04	5602.75	17	15	S 55 0 E	0.00	0.81		235.32 S 426.70E
5753	92.	87.62	5690.37	18	15	S 57 0 E	0.00	1.27		251.00 S 449.95E
5846	93.	88.06	5778.44	19	15	S 58 0 E	0.00	1.13		267.06 S 475.16E
5938	92.	86.59	5865.02	20	15	S 59 0 E	0.00	1.15		283.30 S 501.67E
6030	92.	86.10	5951.12	21	0	S 61 0 E	0.00	1.12		299.51 S 529.73E
6123	93.	86.60	6037.73	21	45	S 61 0 E	0.00	0.81		315.94 S 559.38E

FEB 28 1976
OIL CONSERVATION COMM.
HOBBS, N. M.

MEAS. DEPTH	COURSE LENGTH	TRUE COURSE	TRUE VERT. DEPTH	ANGLE OF INCLIN		COURSE DIRECTION	VERT. SEC.	DOG LEG		RECTANGULAR COORDINATES
				D	M			DEG	PER	
6215	92.	85.60	6123.32	21	15	S 61 0 E	0.00	0.54	100	332.29 S 588.37 E
6307	92.	86.10	6209.43	20	0	S 60 0 E	0.00	1.41		348.24 S 617.07 E
6400	93.	87.60	6297.02	19	15	S 60 0 E	0.00	0.81		363.86 S 644.12 E
6492	92.	87.05	6384.07	18	30	S 62 0 E	0.00	1.08		378.29 S 670.15 E
6585	93.	88.32	6472.39	18	0	S 60 0 E	0.00	0.86		392.41 S 695.62 E
6612	27.	25.68	6498.07	18	0	S 60 0 E	0.00	0.00		396.58 S 702.85 E

BOTTOM HOLE CLOSURE 807.01 FEET AT S 60 33 58 E

(METHOD OF COMPUTATION--RADIUS OF CURVATURE)

RECEIVED

FEB 23 1976

OIL CONSERVATION BOARD
HUBBS, D. M.

GULF ENERGY & MINERAL COMPANY U.S.

LEA COUNTY, NEW MEXICO

C.D.U. WELL NO 407

1"=100'

SURFACE LOCATION

13176' 13999' 4276'

1989

4455'

4922'

5394'

5753'

6123'

6400'

DEPTH 6612' M.D. 6498.07' T.V.D.

SOUTH 398.58'

EAST 702.85'

CLOSURE 807.01 S 60° 34'E

Eastman
Whitlock

RECEIVED

FEB 23 1976

OIL CONSERVATION COMM.
HOBBBS, N. M.

WELL LOCATION AND ACREAGE DEDICATION PLAT

Effective 1-1-65

All distances must be from the outer boundaries of the Section

Owner GULF OIL CORP.		Lease CENTRAL DRINKARD UNIT		Well No. 407
Section J	Section 33	Township 21 SOUTH	Range 37 EAST	County LEA
Approximate Location of Well: 1475 feet from the SOUTH line and 1440 feet from the EAST line				
Section Level Elev. 3436.6	Producing Formation	Pool	Dedicated Acreage: Area	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. 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.



CERTIFICATION

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

Name

Position

Company

Date

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.

Date Surveyed

SEPT. 10, 1976

Registered Professional Engineer
and/or Land Surveyor

John W. West
Certificate No. 676

BHL @ 6612' MD
SOUTH 396.58'
EAST 702.85'
CLOSURE: 807.01'
S60° 34'E

1475'

1440'

RECEIVED

FEB 23 1976

OIL CONSERVATION COMM.
HOBBBS, N. M.



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

STATE OF Texas
COUNTY OF Midland

I, Jack L. Henderson, in the employ of the Directional Drilling Department of Eastman Whipstock, Inc. did on the days of Oct. 17, 19 76 thru Nov. 9, 19 76 conduct or supervise the taking of a Magnetic Multi Shot Survey by the method of Magnetic Oriented Survey from a depth of 0 feet to 6612 feet, with records of inclination being taken at approximately every 100 feet.

This survey was conducted at the request of Gulf Energy and Minerals Co. U.S. for their C. D. U. Well No. 407, Lea county, State of New Mexico, in the field.

STATE OF Texas
COUNTY OF Midland

Before me, the undersigned authority, on this day personally appeared Jack L. Henderson, 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 on this Seventeenth day of November, 19 76.



Phyllis J. Capelton
Notary Public in and for the county of
Midland, Texas

RECEIVED

FEB 26 1976

OIL CONSERVATION COMM.
HOBBBS, N. M.

IP (Drinkard) Perfs 6429-59' F 364 MCFGPD. Pot based on 24
hr test thru 2 1/4" chk. GOR 182,000; gty (NR); TP 275#

CONTR MGF OPR'S ELEV 3437' GL, 3447' KB PD 6625' RT

(Drinkard)

(Drinkard)
*(BOTTOM HOLE LOCATION: 1075' FSL, 797' FEL of S

10-18-76 TD 1200'; Prep drill

10-25-76 Drlg 4263' 1m & sd

11-1-76 Drlg 5243' 1m

11-9-76 Drlg 6612' 1m & sd

11-9-76 DTlg 6612' ; PBD 6597' ; MORT
11-15-76

11-29-76 TD 6612'; PBD 6597'; SI

11-29-76 ID 8812 ; FBD 8597 ; SPI
Perf (Drinkard) @ 6429', 6459' w/4 SPI

Acid (6429-59') 1500 gals

Acid (6429-59') 1500 gals
Frac (6429-59') 28,000 gals wtr + 50,000# sd

Swbd 70 BLW w/tr oil in 11 hrs (6429-59')

1-3-19 NM

LEA
GULF OIL CORP.

Drinkard
407 Central Drinkard Unit NM
Sec 33, T21S, R37E Page #2

12-7-76 TD 6612'; PBD 6597'; Swbg Ld
12-10-76 TD 6612'; PBD 6597'; Tstg
12-22-76 TD 6612'; PBD 6597'; WOSP
1-10-77 TD 6612'; PBD 6597'; Complete
LOG TOPS: Yates 2572', Seven Rivers 2808',
Queen 3345', Grayburg 3630', San Andres 3858',
Glorieta 5086', Blinbry 5440', Tubb 6095',
Drinkard 6420'
LOG RUN: CNDL
BHT 108 deg
1-15-77 COMPLETION ISSUED

1-3-19 NM

IC 30-025-70169-76