



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

HALVEY ENERGY
COMPANY

STATE WELL NO. 1
WELL NAME

LEA COUNTY, NEW MEXICO
LOCATION

JOB NUMBER

WT0882-G0404
WT0882-S0403

TYPE OF SURVEY

GYROSCOPIC MULTISHOT SURVEY
MAGNETIC MULTISHOT SURVEY

DATE

8/26/82
8/26/82

SURVEY BY
DOUG JEFFERS
GEORGE MOODY

OFFICE
WEST TEXAS
WEST TEXAS

HALVEY ENERGY
STATE WELL NO.1
LEA COUNTY, NEW MEXICO BDI-25
8/26/82

EASTMAN WHIPSTOCK, INC.
GYROSCOPIC MULTI SHOT SURVEY WT882-G0404
SURVEYOR: DOUG JEFFERS (0'-4470')
MAGNETIC MULTI SHOT SURVEY WT0882-S0403
SURVEYOR: GEORGE MOODY (4470'-12154')



RADIUS OF CURVATURE METHOD

TIME DATE

56:34:59 24-AUG-82

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	RECTANGULAR		DOGLEG SEVERITY DG/100FT
					CORRECTIONS FEET	SEVERITY DG/100FT	
0.	0 0	0	0.	0.00	0.00	0.00	0.00
100.	0 15	N 29 W	100.	100.00	0.19 N	0.11 W	0.25
200.	0 30	N 49 W	100.	200.00	0.70 N	0.52 W	0.28
300.	0 30	N 9 W	100.	299.99	1.44 N	0.93 W	0.34
400.	0 45	N 51 W	100.	399.99	2.37 N	1.46 W	0.51
500.	0 45	N 83 W	100.	499.98	2.87 N	2.65 W	0.41
600.	1 0	N 83 W	100.	599.97	3.06 N	4.17 W	0.25
700.	0 45	N 69 W	100.	699.96	3.43 N	5.64 W	0.33
800.	0 45	N 67 W	100.	799.95	3.92 N	6.86 W	0.03
900.	0 45	N 43 W	100.	899.94	4.66 N	7.92 W	0.31
1000.	0 45	N 33 W	100.	999.93	5.69 N	8.73 W	0.13
1100.	0 45	N 27 W	100.	1099.92	6.33 N	9.38 W	0.08
1200.	0 45	N 11 E	100.	1199.91	8.00 W	9.56 W	0.49
1300.	0 45	N 13 E	100.	1299.90	9.18 N	9.29 W	0.03
1400.	0 45	N 9 E	100.	1399.90	10.66 N	9.04 W	0.05
1500.	0 45	N 6 E	100.	1499.89	11.96 N	8.87 W	0.04
1600.	0 45	N 11 E	100.	1599.88	13.26 N	8.67 W	0.07
1700.	0 30	N 8 W	100.	1699.87	14.34 N	8.65 W	0.32
1800.	0 30	N 3 E	100.	1799.87	15.21 N	8.68 W	0.10
1900.	0 30	N 18 W	100.	1899.86	16.07 N	8.80 W	0.18
2000.	0 30	N 10 E	100.	1999.86	16.93 N	8.86 W	0.24
2100.	0 30	N 20 W	100.	2099.86	17.79 N	8.93 W	0.26
2200.	0 30	N 11 W	100.	2199.85	18.63 N	9.17 W	0.08
2300.	0 45	N 4 E	100.	2299.85	19.72 N	9.23 W	0.30
2400.	1 0	N 8 E	100.	2399.84	21.23 N	9.07 W	0.26
2500.	0 45	N 34 E	100.	2499.82	22.65 N	8.53 W	0.46
2600.	0 30	N 78 E	100.	2599.82	23.24 N	7.65 W	0.52
2700.	0 30	S 21 E	100.	2699.81	22.86 N	6.94 W	0.65
2800.	1 0	S 10 W	100.	2799.81	21.57 N	6.82 W	0.63
2900.	0 45	S 30 W	100.	2899.79	20.15 N	7.34 W	0.39

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S FEET	DOGLEG SEVERITY DG/100FT
8900.	1 0	N 30 W	100.	8899.29	63.08 N 13.25 W	0.07
9000.	1 0	N 45 W	100.	8999.28	64.46 N 14.31 W	0.26
9100.	0 45	N 33 W	100.	9099.27	65.64 N 15.27 W	0.31
9200.	1 0	N 23 W	100.	9199.25	66.99 N 15.98 W	0.29
9300.	0 30	N 19 E	100.	9299.25	68.26 N 16.03 W	0.71
9400.	0 45	N 11 E	100.	9399.24	69.32 N 15.75 W	0.26
9500.	1 0	N 16 E	100.	9499.23	70.80 N 15.39 W	0.26
9600.	0 30	N 0 E	100.	9599.22	72.09 N 15.21 W	0.54
9700.	1 0	N 12 W	100.	9699.21	73.39 N 15.35 W	0.52
9800.	1 0	N 3 E	100.	9799.19	75.12 N 15.48 W	0.26
9900.	1 0	N 10 E	100.	9899.18	76.86 N 15.28 W	0.12
10000.	1 0	N 7 E	100.	9999.16	78.78 N 15.03 W	0.05
10100.	0 45	N 5 E	100.	10099.15	80.6 N 14.87 W	0.25
10200.	0 15	N 34 E	100.	10199.14	80.6 N 14.58 W	0.54
10300.	0 15	N 19 E	100.	10299.15	81.30 N 14.39 W	0.07
10400.	0 15	N 65 E	100.	10399.15	81.62 N 14.10 W	0.20
10500.	0 0	0	100.	10499.15	81.71 N 13.90 W	0.25
10600.	0 15	N 39 E	100.	10599.15	81.88 N 13.77 W	0.25
10700.	0 30	N 38 E	100.	10699.14	82.39 N 13.36 W	0.25
10800.	0 30	N 24 W	100.	10799.14	83.22 N 13.26 W	0.52
10900.	0 15	N 19 E	100.	10899.14	83.86 N 13.29 W	0.36
11000.	0 45	S 87 E	100.	10999.13	84.31 N 12.61 W	0.72
11100.	0 30	S 66 E	100.	11099.13	84.06 N 11.56 W	0.34
11200.	0 30	N 78 E	100.	11199.12	83.97 N 10.70 W	0.31
11300.	0 45	N 10 E	100.	11299.12	84.71 N 9.99 W	0.73
11400.	1 15	N 38 E	100.	11399.10	86.29 N 9.29 W	0.69
11500.	1 0	N 21 E	100.	11499.08	87.99 N 8.32 W	0.41
11600.	1 0	N 38 E	100.	11599.07	89.50 N 7.47 W	0.30
11700.	1 0	N 56 E	100.	11699.05	90.69 N 6.20 W	0.31
11800.	1 0	N 49 E	100.	11799.04	91.75 N 4.81 W	0.12

Eastman
 Whittaker
 Block

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE		RECTANGULAR COORDINATES FEET	DOGLEG SEVERITY DG/100FT
				VERTICAL DEPTH FEET			
11900.	1 0	N 47 E	100.	11899.02		92.92 N 3.52 W	0.03
12000.	0 45	N 39 E	100.	11999.01		94.03 N 2.48 W	0.28
12100.	1 0	N 37 W	100.	12099.00		95.45 N 2.45 W	1.10
12154.	1 0	N 26 W	54.	12152.99		96.25 N 2.94 W	0.35

FINAL CLOSURE -

DIRECTION: N 1 DEGS 45 MINS W

DISTANCE: 96.30 FEET

Eastman

Whipstock

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S FEET	DOGLEG SEVERITY DG/100FT
3000.	0 15	S 13 E	100.	2999.79	19.30 N 7.46 W	0.59
3100.	0 30	S 71 E	100.	3099.79	18.84 N 7.04 W	0.42
3200.	0 15	S 65 E	100.	3199.78	18.59 N 6.44 W	0.25
3300.	0 30	S 73 E	100.	3299.78	18.36 N 5.83 W	0.25
3400.	0 30	S 83 E	100.	3399.78	18.17 N 4.97 W	0.09
3500.	0 30	S 43 E	100.	3499.77	17.79 N 4.21 W	0.34
3600.	0 30	S 45 E	100.	3599.77	17.16 N 3.60 W	0.02
3700.	0 30	S 58 E	100.	3699.77	16.62 N 2.92 W	0.11
3800.	0 45	S 66 E	100.	3799.76	16.11 N 1.96 W	0.26
3900.	0 45	S 48 E	100.	3899.75	15.40 N 0.87 W	0.23
4000.	0 45	S 49 E	100.	3999.74	14.33 N 0.11 E	0.01
4100.	0 30	N 80 E	100.	4099.74	14.16 N 1.13 E	0.58
4200.	0 30	S 81 E	100.	4199.73	14.14 N 2.00 E	0.17
4300.	0 30	S 82 E	100.	4299.73	14.12 N 2.86 E	0.01
4400.	0 30	N 73 E	100.	4399.73	14.19 N 3.72 E	0.22
4473.	0 30	N 49 E	73.	4472.72	14.50 N 4.28 E	0.28
4530.	0 15	N 89 E	57.	4529.72	14.63 N 4.62 E	0.61
4600.	0 0	0	70.	4599.72	14.63 N 4.77 E	0.36
4700.	0 15	N 49 E	100.	4699.72	14.78 N 4.93 E	0.25
4800.	0 45	N 54 E	100.	4799.72	15.32 N 5.62 E	0.50
4900.	0 30	N 21 E	100.	4899.71	16.17 N 6.27 E	0.43
5000.	0 45	N 15 W	100.	4999.71	17.24 N 6.33 E	0.45
5100.	0 45	N 20 W	100.	5099.70	18.49 N 5.93 E	0.07
5200.	0 15	N 39 W	100.	5199.69	19.25 N 5.51 E	0.52
5300.	0 30	N 33 W	100.	5299.69	19.78 N 5.12 E	0.25
5400.	0 15	N 46 W	100.	5399.69	20.28 N 4.70 E	0.26
5500.	1 0	N 67 W	100.	5499.68	20.88 N 3.80 E	0.77
5600.	0 30	N 49 W	100.	5599.67	21.57 N 2.70 E	0.55
5700.	0 30	N 51 W	100.	5699.67	22.13 N 2.03 E	0.02
5800.	0 45	N 40 W	100.	5799.66	22.89 N 1.25 E	0.28

TIME DATE

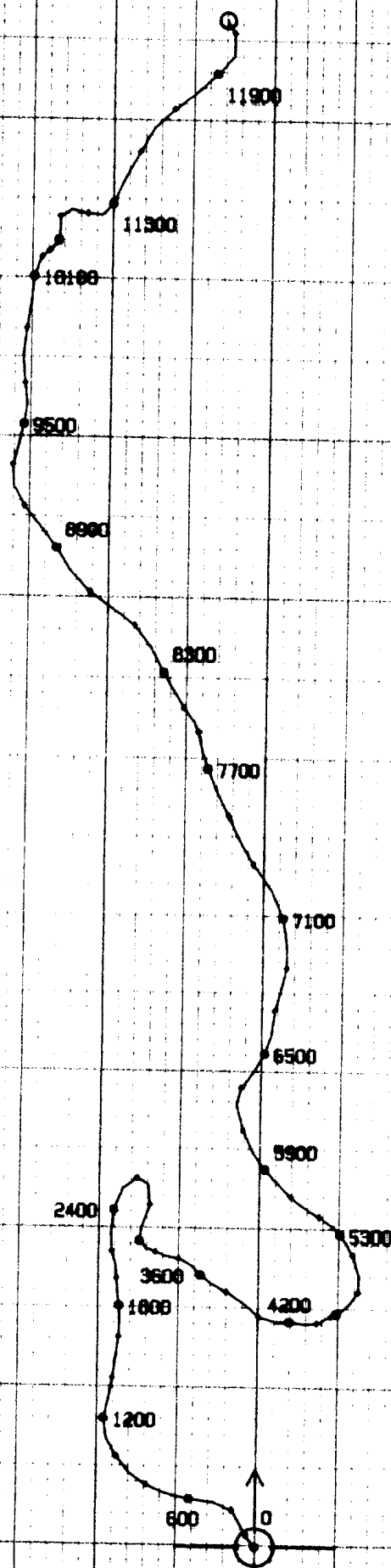
56:34:59 24-AUG-82

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S FEET	DOGLEG SEVERITY DG/100FT
5900.	0 45	N 46 W	100.	5899.65	23.85 N 0.36 E	0.08
6000.	0 45	N 25 W	100.	5999.65	24.91 N 0.40 W	0.27
6100.	1 0	N 24 W	100.	6099.63	26.30 N 1.03 W	0.25
6200.	1 0	N 6 W	100.	6199.62	27.98 N 1.48 W	0.31
6300.	0 15	N 37 E	100.	6299.61	29.00 N 1.20 W	0.83
6400.	1 0	N 35 E	100.	6399.60	29.89 N 0.55 W	0.75
6500.	0 45	N 27 E	100.	6499.59	31.19 N 0.23 E	0.28
6600.	0 45	N 10 E	100.	6599.58	32.43 N 0.64 E	0.22
6700.	1 0	N 5 E	100.	6699.57	33.94 N 0.84 E	0.26
6800.	0 45	N 25 E	100.	6799.56	35.41 N 1.24 E	0.39
6900.	0 45	N 4 E	100.	6899.55	36.67 N 1.56 E	0.27
7000.	1 0	N 4 W	100.	6999.54	38.19 N 1.56 E	0.28
7100.	1 0	N 14 W	100.	7099.52	39.12 N 1.29 E	0.17
7200.	1 15	N 31 W	100.	7199.51	41.12 N 0.54 E	0.41
7300.	1 0	N 40 W	100.	7299.49	43.32 N 0.60 W	0.31
7400.	1 0	N 21 W	100.	7399.47	44.82 N 1.48 W	0.33
7500.	1 0	N 28 W	100.	7499.46	46.41 N 2.20 W	0.12
7600.	1 0	N 25 W	100.	7599.44	47.97 N 2.98 W	0.05
7700.	0 45	N 19 W	100.	7699.43	49.38 N 3.55 W	0.27
7800.	0 45	N 17 W	100.	7799.42	50.63 N 3.96 W	0.03
7900.	0 30	N 7 W	100.	7899.41	51.69 N 4.18 W	0.27
8000.	0 15	N 36 W	100.	7999.41	52.29 N 4.42 W	0.31
8100.	1 0	N 39 W	100.	8099.40	53.16 N 5.09 W	0.75
8200.	0 30	N 24 W	100.	8199.40	54.27 N 5.77 W	0.53
8300.	1 0	N 36 W	100.	8299.39	55.40 N 6.42 W	0.52
8400.	1 0	N 21 W	100.	8399.37	56.93 N 7.25 W	0.26
8500.	1 0	N 53 W	100.	8499.36	58.31 N 8.29 W	0.55
8600.	1 0	N 55 W	100.	8599.34	59.33 N 9.70 W	0.03
8700.	1 0	N 54 W	100.	8699.32	60.35 N 11.12 W	0.02
8800.	1 0	N 34 W	100.	8799.31	61.60 N 12.33 W	0.35

HALVEY ENERGY
STATE WELL NO. 1
LEA COUNTY, NEW MEXICO 801-25
EASTMAN WHIPSTOCK, INC.

HORIZONTAL PROJECTION

SCALE 1 IN. = 10 FEET
DEPTH INDICATOR, MD

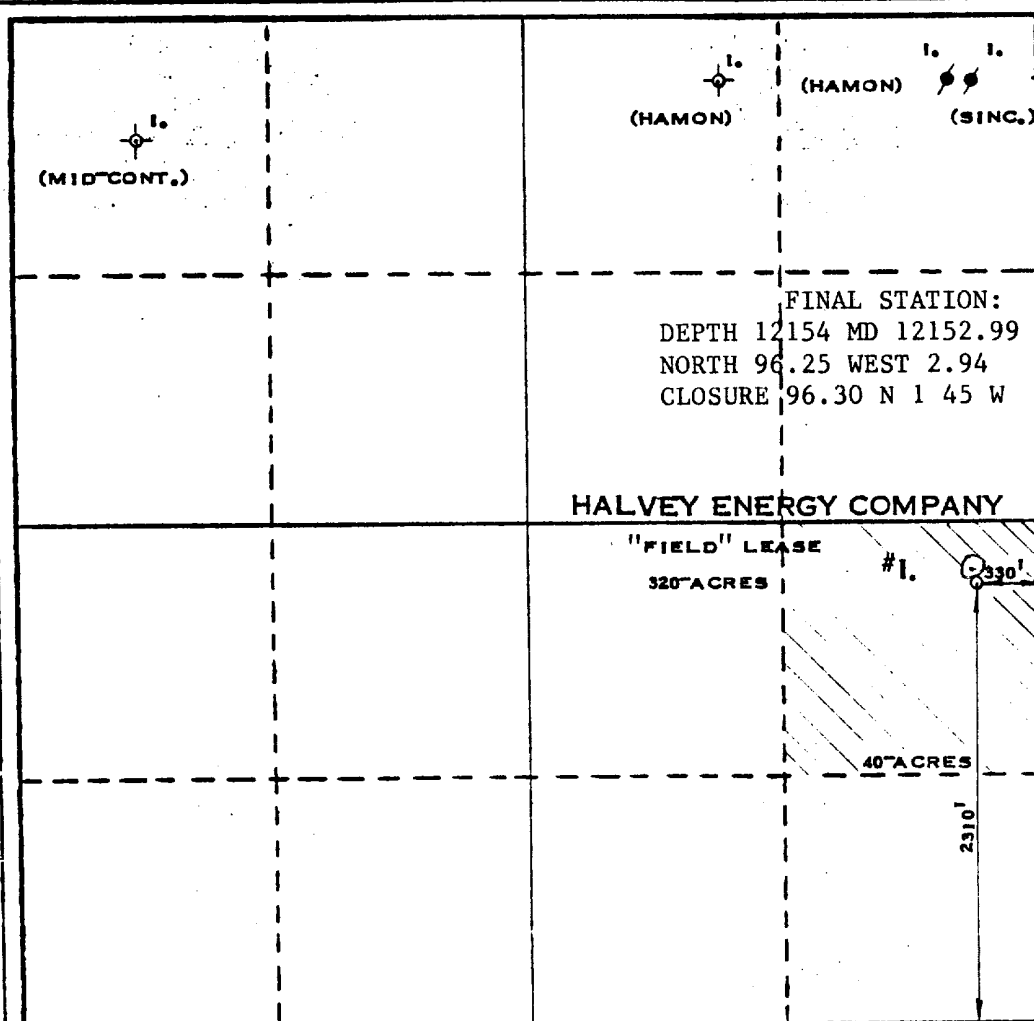


FINAL STATION
DEPTH 12154 MD. 12152.98 TVD
NORTH 96.25 WEST 2.94
CLOSURE 96.29 N 1 45 4 W

Form C-102
Supersedes C-128
Effective 1-1-65

Operator HALVEY ENERGY COMPANY		Lease FIELD		Well No. I
Unit Letter "I"	Section -25	Township -12-S	Range -37-E	County LEA
Actual Footage Location of Well:				
2310 feet from the SOUTH		line and	330 feet from the EAST	line
Ground Level Elev. 3868	Producing Formation DEVONIAN	Pool GLADIOLA DEVONIAN	Dedicated Acreage 40 Acres	

- 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.



Certificate No.

1516



P. O. Box 5577/Midland, Texas 79704/(915) 563-0511

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, DOUG JEFFERS in the employ of Eastman Whipstock, Inc. did on the days of AUGUST 26, 19 82 thru AUGUST 26, 19 82 conduct or supervise the taking of a GYROSCOPIC MULTISHOT survey by the method of magnetic orientation from a depth of 0 feet to 4470 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of HALVEY ENERGY for their STATE WELL NO. 1, 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.

Douglas Jeffers
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.

George Moody
Before me, the undersigned authority, on the day personally appeared DOUG JEFFERS, known to me to be the person whose name is subscribed to the instrument, who after being by me duly sworn on oath, instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 10TH day of JUNE, 1982.

Ray G. Stimpke
Notary Public in and for the County
Midland, Texas
My commission expires 7/9/85



P. O. Box 5577/Midland, Texas 79704/(915) 563-0511

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, GEORGE MOODY in the employ of Eastman Whipstock, Inc. did on the days of AUGUST 26, 1982 thru AUGUST 26, 1982 conduct or supervise the taking of a MAGNETIC MULTISHOT survey by the method of magnetic orientation from a depth of 4470 feet to 12154 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of HALVEY ENERGY for their STATE WELL NO. 1, 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.

George Moody
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.

Tim Stephens

Before me, the undersigned authority, on the day personally appeared GEORGE MOODY, known to me to be the person whose name is subscribed to the instrument, who after being by me duly sworn on oath, instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 10TH day of SEPT., 1982.



Ray C. Steink
Notary Public in and for the County
Midland, Texas
My commission expires 7/9/85