



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

Shell Oil Company
COMPANY

North Hobbs Unit Well No. 34-342
WELL NAME

Lea County, New Mexico
LOCATION

JOB NUMBER

WT1283-C0219
WT0184-S0244

TYPE OF SURVEY

Gyroscopic Multi Shot
Magnetic Multi Shot

DATE

12/29/83
01/08/84

SURVEY BY

Gary DeSpain, Tommy Beal

OFFICE

West Texas

SHELL OIL COMPANY
NORTH HOBBS UNIT WELL NO. 34-342
LEA COUNTY, NEW MEXICO B01-109
DECEMBER 29, 1983

EASTMAN WHIPSTOCK, INC.
GYROSCOPIC MULTI SHOT SURVEY WT1283-G0219
SURVEYOR: GARY DESPAIN (0-1530')
MAGNETIC MULTI-SHOT SURVEY WT0184-S0244
SURVEYOR: TOMMY BEAL (1530'-4327')

VERTICAL SECTION CALCULATED IN PLANE OF PROPOSED
DIRECTION: N 37 DEG. 18 MIN. E

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	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 FEET	DOGLEG SEVERITY DG/100FT
0.	0 0	0	0.	0.00	0.00	0.00	0.00
100.	0 15	S 80 E	100.	100.00	0.10	0.04 S	0.25
200.	0 30	S 53 E	100.	200.00	0.25	0.30 S	0.30
300.	0 30	S 50 E	100.	299.99	-0.24	0.84 S	0.03
400.	0 30	S 16 E	100.	399.99	-0.05	1.56 S	0.29
500.	0 15	S 9 E	100.	499.99	-0.48	2.20 S	0.25
600.	0 30	S 41 W	100.	599.99	-1.07	2.81 S	0.39
700.	0 15	S 2 W	100.	699.98	-1.69	3.41 S	0.34
800.	0 30	S 19 W	100.	799.98	-2.27	4.05 S	0.27
900.	0 45	S 34 W	100.	899.97	-3.34	5.02 S	0.30
1000.	1 15	S 72 W	100.	999.96	-4.99	6.06 S	0.80
1100.	1 30	S 85 W	100.	1099.93	-6.79	6.53 S	0.40
1200.	1 30	N 71 W	100.	1199.90	-8.10	6.22 S	0.62
1300.	1 30	N 53 W	100.	1299.86	-8.52	4.99 S	0.47
1400.	1 0	N 59 W	100.	1399.84	-8.65	3.77 S	0.52
1500.	1 0	N 53 W	100.	1499.82	-8.75	2.80 S	0.10
1530.	1 15	N 55 W	30.	1529.82	-8.76	2.45 S	0.84
1668.	1 15	S 88 W	138.	1667.78	-9.81	1.61 S	0.57
1731.	1 30	N 62 W	63.	1730.77	-10.43	1.28 S	1.19
1793.	1 30	N 58 W	62.	1792.74	-10.63	0.46 S	0.17
1856.	2 0	N 77 W	63.	1855.71	-11.12	0.27 N	1.21
1918.	1 45	N 90 W	62.	1917.68	-12.16	0.50 N	0.79
1981.	1 15	S 87 W	63.	1980.66	-13.19	0.46 N	0.80
2043.	1 0	N 70 W	62.	2042.65	-13.77	0.63 N	0.82
2106.	1 15	N 53 W	63.	2105.64	-13.96	1.22 N	0.66
2168.	1 0	N 44 W	62.	2167.62	-13.87	2.03 N	0.49
2231.	0 45	N 26 W	63.	2230.62	-13.58	2.81 N	0.59
2294.	1 30	N 1 W	63.	2293.60	-12.81	4.01 N	1.40
2356.	1 0	N 19 E	62.	2355.59	-11.62	5.34 N	1.06
2419.	1 30	N 21 E	63.	2418.57	-10.31	6.63 N	0.80

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	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 FEET	DOGLEG SEVERITY DG/100FT
2481.	2 0	N 6 E	62.	2480.54	-8.58	8.46 N 25.27 W	1.09
2544.	1 45	N 4 E	63.	2543.51	-6.84	10.52 N 25.09 W	0.41
2606.	2 0	N 5 E	62.	2605.48	-5.13	12.54 N 24.93 W	0.41
2669.	1 45	N 18 E	63.	2668.44	-3.28	14.56 N 24.52 W	0.78
2732.	1 45	N 19 E	63.	2731.41	-1.46	16.38 N 23.91 W	0.05
2794.	1 15	N 16 E	62.	2793.39	0.07	17.93 N 23.42 W	0.82
2857.	1 30	N 22 E	63.	2856.38	1.50	19.36 N 22.93 W	0.46
2919.	1 15	N 22 W	62.	2918.36	2.66	20.81 N 22.93 W	1.70
2982.	1 15	N 5 E	63.	2981.34	3.61	22.16 N 23.13 W	0.93
3044.	4 30	N 37 E	62.	3043.26	6.55	25.02 N 22.03 W	5.65
3107.	6 15	N 35 E	63.	3105.98	12.45	29.80 N 18.56 W	2.79
3169.	6 15	N 38 E	62.	3167.61	19.20	35.22 N 14.55 W	0.53
3232.	7 0	N 36 E	63.	3230.19	26.47	41.03 N 10.18 W	1.25
3295.	7 30	N 34 E	63.	3292.68	34.41	47.54 N 5.62 W	0.89
3357.	8 0	N 31 E	62.	3354.12	42.74	54.59 N 1.13 W	1.04
3420.	8 0	N 31 E	63.	3416.50	51.46	62.10 N 3.39 E	0.00
3482.	7 30	N 26 E	62.	3477.94	59.72	69.45 N 7.38 E	1.35
3545.	7 30	N 26 E	63.	3540.40	67.78	76.84 N 10.98 E	0.00
3607.	7 15	N 28 E	62.	3601.89	75.61	83.93 N 14.60 E	0.58
3670.	7 0	N 29 E	63.	3664.40	83.33	90.80 N 18.32 E	0.44
3732.	7 0	N 51 E	62.	3725.94	90.83	96.55 N 23.15 E	4.30
3795.	7 0	N 56 E	63.	3788.47	98.20	101.12 N 29.32 E	0.97
3858.	6 45	N 56 E	63.	3851.01	105.35	105.33 N 35.57 E	0.40
3920.	6 45	N 52 E	62.	3912.58	112.32	109.62 N 41.47 E	0.76
3983.	6 30	N 54 E	63.	3975.16	119.32	113.99 N 47.27 E	0.54
4045.	6 30	N 55 E	62.	4036.76	126.03	118.07 N 52.99 E	0.18
4108.	6 15	N 52 E	63.	4099.38	132.74	122.23 N 58.61 E	0.66
4170.	6 30	N 48 E	62.	4160.99	139.46	126.65 N 63.88 E	0.82
4233.	6 15	N 52 E	63.	4223.60	146.28	131.14 N 69.24 E	0.81
4296.	6 30	N 53 E	63.	4286.21	153.03	135.40 N 74.79 E	0.43

SHELL OIL COMPANY
 NORTH HOBBS UNIT WELL NO. 34-342
 LEA COUNTY, NEW MEXICO RD1-109

COMPUTATION
 TIME DATE
 16:05:42 09-JAN-84

PAGE NO. 3

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	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 FEET	DOGLEG SEVERITY DG/100FT
4327.	7 0	N 52 E	31.	4317.00	156.54	137.62 N 77.68 E	1.66
4385.	7 0	N 52 E	58.	4374.57	163.38	141.97 N 83.25 E	0.00

4385 IS A PROJECTION BASED ON MAGNETIC MULTI-SHOT SURVEY.

FINAL CLOSURE - DIRECTION: N 30 DEGS 23 MINS E
 DISTANCE: 164.58 FEET



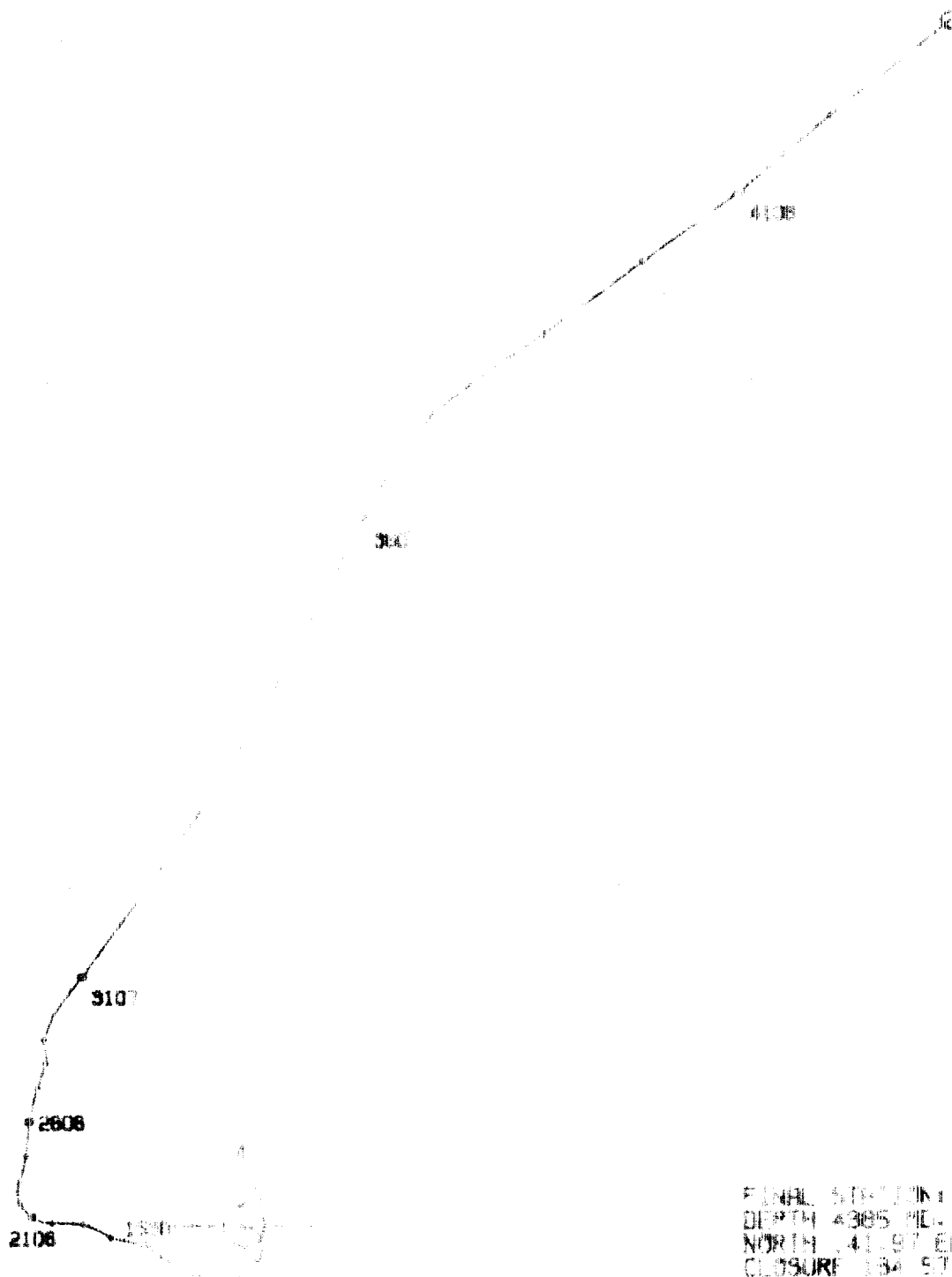
SHELL OIL COMPANY
NORTH HOBBS UNIT W. 20 SEC. 40
LEA COUNTY, NEW MEXICO

014-042
BL 1-109

HORIZONTAL PROJECTION

SCALE 1 IN. = 20 FEET
DEPTH INDICATOR: MD

EASTMAN WHIPSTICK, LINE



FINAL STATION
DEPTH 4385 MDL 4374.56 TVD
NORTH 41.97 EAST 83.24
CLOSURE 134.57 N 30 23 9 E



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

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, Gary DeSpain, in the employ of Eastman Whipstock, Inc., did on the days of December 29, 19 83 thru December 30, 19 83 conduct or supervise the taking of a Gyroscopic Multi Shot survey by the method of magnetic orientation from a depth of 0 feet to 1530 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of Shell Oil Company for their North Hobbs Unit Well 32-342 Lea County, State of New Mexico, in the _____ field.

This data for this survey and the calculation 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.

Gary DeSpain
Directional Supervisor / Surveyor

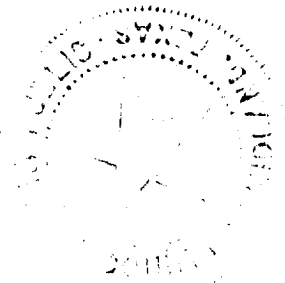
The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Tim Stephens

Before me, the undersigned authority, on this day personally appeared Gary DeSpain, 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 14TH day of FEB, 19 84

Ray C. Steinke
Notary Public in and for the
County of Midland, Texas
My commission expires 12/19/85





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

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, TOMMY BEAL, in the employ of Eastman Whipstock, Inc., did on the days of JANUARY 8, 1984 thru JANUARY 8, 1984 conduct or supervise the taking of a MAGNETIC MULTI-SHOT survey by the method of magnetic orientation from a depth of 1530 feet to 4327 feet, with recordings of inclination and direction being obtained at approximate intervals of 62 feet.

This survey was conducted at the request of SHELL OIL COMPANY for their NORTH HOBBS UNIT 34-342, LEA County, State of NEW MEXICO, in the _____ field.

This data for this survey and the calculation 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.

Tommy Beal
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.

Boyd
Before me, the undersigned authority, on this day personally appeared TOMMY BEAL, 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 14TH day of FEB., 1984

Ray L. Stainke
Notary Public in and for the
County of Midland, Texas
My commission expires 7/9/85

