



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

Shell Oil Company
COMPANY

North Hobbs Unit Well No. 33-342
WELL NAME

Lea County, New Mexico
LOCATION

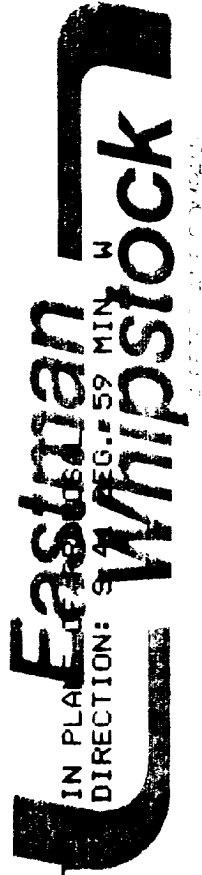
<u>JOB NUMBER</u>	<u>TYPE OF SURVEY</u>	<u>DATE</u>
WT1083-G0079	Gyroscopic Multishot Survey	10-14-83
WT1083-S0084	Magnetic Multishot Survey	10-16-83
WT1083-S0091	Magnetic Multishot Survey	10-21-83

SURVEY BY
Tim Stephens, Gary DeSpain, Troy Oney

OFFICE
West Texas

SHELL OIL COMPANY
NORTH HOBBS UNIT WELL NO. 33-342
LEA COUNTY, NEW MEXICO BD1-16
OCTOBER 14, 1983

EASTMAN WHIPSTOCK INC.
GYROSCOPIC MULTISHOT SURVEY WT1083-00079
SURVEYOR: TIM STEPHENS (0'-1470')
MAGNETIC MULTI SHOT SURVEY WT1083-S0084
SURVEYOR: GARY DESPAIN (1470'-3221')
MAGNETIC MULTISHOT SURVEY WT1083-S0091
SURVEYOR: TIM STEPHENS (3221'-4351')



VERTICAL SECTION CALCULATION

IN PLACE
DIRECTION: S 44 DEG. E 59 MIN W

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

NORTH HOBBS UNIT WELL NO. 33-342
LEA COUNTY, NEW MEXICO BD1-16TIME DATE
10:24:46 28-OCT-83

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	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		DOGLEG SEVERITY DG/100FT
				VERTICAL DEPTH FEET					
0.	0 0	0	0.	0.00		0.00	0.00	0.00	0.00
100.	0 30	S 34 W	100.	100.00		0.43	0.36 S	0.24 W	0.50
200.	0 30	S 34 W	100.	199.99		1.30	1.09 S	0.73 W	0.00
300.	0 15	S 22 W	100.	299.99		1.93	1.66 S	1.04 W	0.26
400.	0 30	S 36 W	100.	399.99		2.57	2.24 S	1.36 W	0.26
500.	0 30	S 54 W	100.	499.99		3.44	2.85 S	1.97 W	0.16
600.	0 30	S 47 W	100.	599.98		4.30	3.40 S	2.64 W	0.06
700.	0 30	S 58 W	100.	699.98		5.16	3.93 S	3.34 W	0.10
800.	0 45	N 41 W	100.	799.97		5.71	3.79 S	4.33 W	0.83
900.	0 45	N 46 W	100.	899.96		5.61	2.84 S	5.23 W	0.07
1000.	0 45	N 67 W	100.	999.95		4.66	1.75 S	5.02 W	1.25
1100.	0 45	S 51 W	100.	1099.94		4.00	2.39 S	4.14 W	1.29
1200.	1 0	S 51 W	100.	1199.94		5.99	3.69 S	4.85 W	0.73
1300.	1 0	S 61 W	100.	1299.93		6.83	4.66 S	6.30 W	0.16
1400.	1 45	S 73 W	100.	1399.89		8.85	5.59 S	8.51 W	0.80
1470.	2 45	S 70 W	70.	1469.84		12.24	6.46 S	11.12 W	1.44
1629.	3 30	S 80 W	159.	1628.60		19.50	8.70 S	19.48 W	0.58
1692.	3 45	S 84 W	63.	1691.47		22.55	9.26 S	23.42 W	0.56
1754.	3 45	S 84 W	62.	1753.34		25.56	9.68 S	27.45 W	0.00
1817.	3 30	S 89 W	63.	1816.21		28.40	9.93 S	31.43 W	0.64
1879.	3 45	N 83 W	62.	1878.09		30.87	9.72 S	35.34 W	0.91
1941.	3 45	N 79 W	62.	1939.96		33.07	9.09 S	39.35 W	0.42
2004.	3 15	N 76 W	63.	2002.84		34.97	8.25 S	43.10 W	0.84
2066.	3 0	N 64 W	62.	2064.75		36.23	7.10 S	46.27 W	1.13
2129.	2 30	N 60 W	63.	2127.67		36.96	5.68 S	48.94 W	0.85
2191.	2 0	N 49 W	62.	2189.63		37.23	4.27 S	50.92 W	1.06
2253.	2 15	N 39 W	62.	2251.58		37.07	2.62 S	52.51 W	0.72
2316.	2 0	N 29 W	63.	2314.54		36.51	0.68 S	53.82 W	0.71
2378.	2 15	N 32 W	62.	2376.50		35.82	1.30 N	54.98 W	0.44
2441.	2 30	N 23 W	63.	2439.44		34.90	3.61 N	56.19 W	0.71

TIME DATE

10:24:46 28-OCT-83

MEASURED DEPTH FEET	D RIFT ANGLE D M	D RIFT DIRECTION D	COURSE LENGTH FEET	TRUE DEPTH FEET	VERTICAL SECTION FEET	R E C T A N G L E S C O O R D I N A T E S FEET	DOGLEG SEVERITY DB/100FT
2503.	2 45	N 30 W	62.	2501.38	33.86	6.15 N 57.45 W	0.66
2566.	2 45	N 25 W	63.	2564.31	32.80	8.83 N 58.85 W	0.38
2628.	2 45	N 18 W	62.	2626.23	31.48	11.59 N 59.94 W	0.54
2690.	2 45	N 17 W	62.	2688.16	29.96	14.43 N 60.83 W	0.08
2753.	2 30	N 16 W	63.	2751.10	28.46	17.20 N 61.65 W	0.40
2815.	2 0	N 16 W	62.	2813.05	27.17	19.54 N 62.32 W	0.81
2878.	2 0	N 10 W	63.	2876.01	25.90	21.68 N 62.82 W	0.33
2940.	2 0	N 12 W	62.	2937.97	24.60	23.80 N 63.23 W	0.11
3003.	2 0	N 6 W	63.	3000.93	23.22	25.97 N 63.57 W	0.33
3034.	2 0	N 6 W	31.	3031.92	22.49	27.05 N 63.69 W	0.00
3096.	1 45	N 2	62.	3093.88	21.08	29.07 N 63.83 W	0.45
3159.	1 30	N 14	62.	3156.84	18.98	30.84 N 64.08 W	0.67
3221.	1 30	N 10	62.	3218.84	18.98	32.43 N 64.41 W	0.17
3256.	0 45	N 18	35.	3253.84	18.98	33.09 N 64.58 W	2.18
3318.	2 30	S 17 E	62.	3315.84	18.98	32.76 N 65.65 W	5.24
3381.	3 45	S 14 E	63.	3378.71	21.41	29.45 N 64.74 W	2.00
3444.	4 15	S 15 E	63.	3441.55	23.84	25.19 N 63.64 W	0.80
3506.	4 15	S 10 E	62.	3503.38	26.51	20.71 N 62.64 W	0.60
3569.	4 45	S 12 E	63.	3566.19	29.49	15.86 N 61.70 W	0.83
3631.	5 15	S 16 E	62.	3627.95	32.51	10.61 N 60.39 W	0.98
3694.	5 15	S 16 E	63.	3690.69	35.56	5.07 N 58.80 W	0.00
3756.	5 0	S 17 E	62.	3752.44	38.46	0.24 S 57.23 W	0.43
3819.	4 45	S 13 E	63.	3815.21	41.38	5.41 S 55.84 W	0.67
3882.	5 0	S 20 E	63.	3877.98	44.17	10.54 S 54.33 W	1.02
3944.	5 0	S 18 E	62.	3939.75	46.79	15.65 S 52.57 W	0.28
4007.	4 45	S 16 E	63.	4002.52	49.55	20.77 S 51.00 W	0.48
4069.	8 30	S 17 E	62.	4064.09	53.29	27.62 S 48.97 W	6.05
4132.	9 45	S 16 E	63.	4126.30	58.51	37.20 S 46.13 W	2.00
4194.	11 0	S 16 E	62.	4187.28	64.43	47.93 S 43.06 W	2.02
4257.	12 0	S 16 E	63.	4249.02	71.09	60.01 S 39.59 W	1.59

Eastern
Whipstock

SHELL OIL COMPANY
NORTH HOBBS UNIT WELL NO. 33-342
LEA COUNTY, NEW MEXICO BDI-16

COMPUTATION PAGE NO.
TIME DATE
10:24:46 28-OCT-83

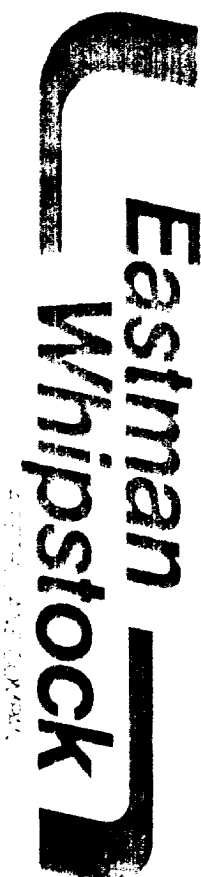
MEASURED	DRIFT	DRIFT	COURSE	TRUE	VERTICAL	VERTICAL	RECTANGULAR	DOGLEG
DEPTH	ANGLE	DIRECTION	LENGTH	DEPTH	SECTION	COORDINATES	SEVERITY	
FEET	D M	D	FEET	FEET	FEET	FEET	DG/100FT	
4320.	13 45	S 18 E	63.	4310.43	78.32	73.43 S	35.49 W	2.87
4351.	14 30	S 17 E	31.	4340.49	82.17	80.65 S	33.21 W	2.54

4380 IS A PROJECTION BASED ON MULTISHOT SURVEY.

4380 IS A PROJECTION BASED ON MULTISHOT SURVEY.

4380. 14 30 S 17 E 29. 4368.57 85.91 87.59 S 31.09 W 0.00

FINAL CLOSURE - DIRECTION: S 19 DEGS 33 MINS W
DISTANCE: 92.94 FEET

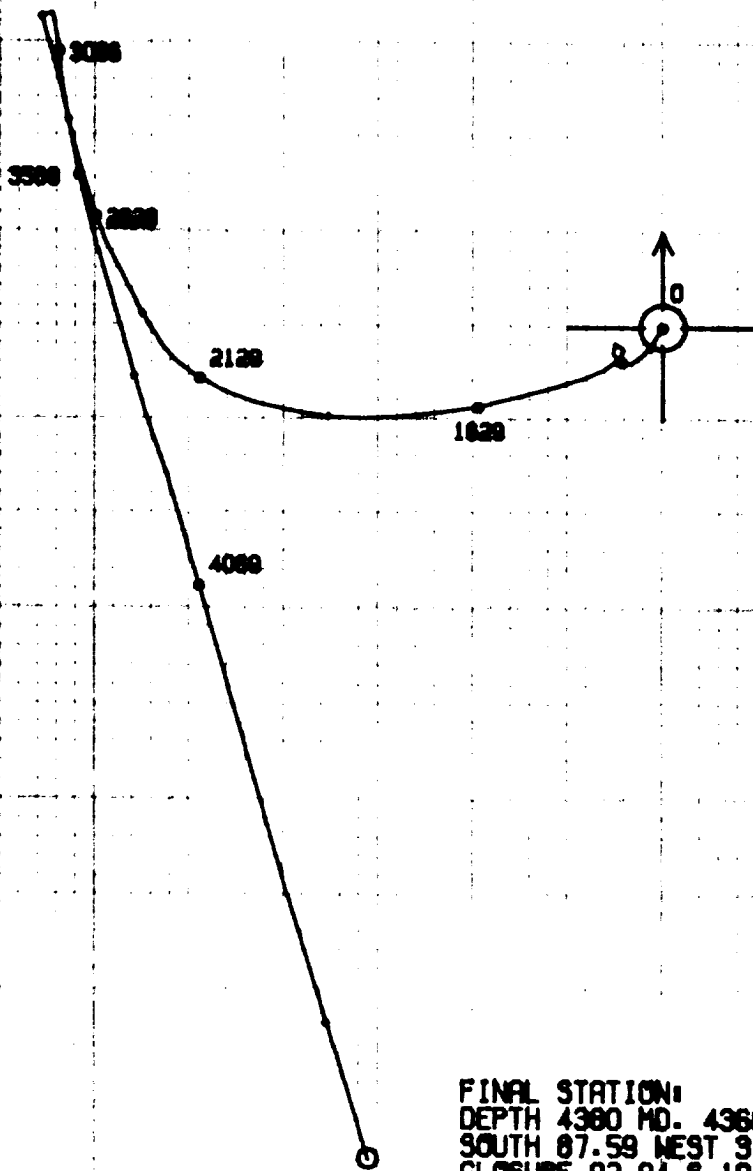


SHELL OIL COMPANY
NORTH HOBBS UNIT WELL NO. 33-342
LER COUNTY, NEW MEXICO 801-16

FOSTMAN WHIPSTOCK, INC.

HORIZONTAL PROJECTION

SCALE 1 IN. = 20 FEET
DEPTH INDICATOR MD



FINAL STATION:
DEPTH 4360 MD. 4368.56 TVD
SOUTH 87.59 WEST 31.09
CLOSURE 92.94 S 18 32 35 W



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

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, Tim Stephens, in the employ of Eastman Whipstock, Inc., did on the days of October 14, 1983 thru October 14, 1983 conduct or supervise the taking of a Cyroscopic Multi Shot survey by the method of magnetic orientation from a depth of 0 feet to 1470 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 33-342, Lea County 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.

Tim Stephens
Directional Supervisor/ Surveyor

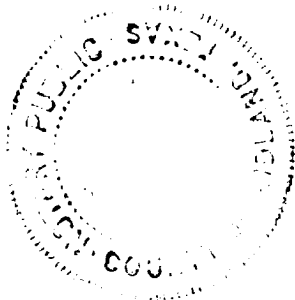
The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Mary DeSpain

Before me, the undersigned authority, on this day personally appeared Tim Stephens, 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 28th day of Nov., 1983

Ray K. Steinke
Notary Public in and for the
County of 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, GARY DESPAIN, in the employ of Eastman Whipstock, Inc., did on the days of OCTOBER 16, 19 83 thru OCTOBER 16, 19 83 conduct or supervise the taking of a MAGNETIC MULTISHOT survey by the method of magnetic orientation from a depth of 1470 feet to 3221 feet, with recordings of inclination and direction being obtained at approximate intervals of 63 feet.

This survey was conducted at the request of SHELL OIL COMPANY for their NORTH HOBBS UNIT WELL 33-342 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.

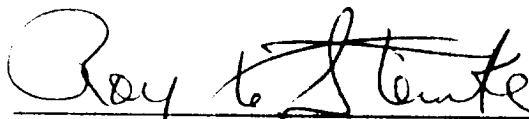

Directional Supervisor/ Surveyor

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



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 28TH day of NOV., 19 83



Notary Public in and for the
County of 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, Tim Stephens, in the employ of Eastman Whipstock, Inc., did on the days of 10-21, 19 83 thru 10-21, 19 83 conduct or supervise the taking of a Magnetic Multi Shot survey by the method of magnetic orientation from a depth of 3221 feet to 4351 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 Well No. 3A-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.

Tim Stephens
Directional Supervisor/ Surveyor

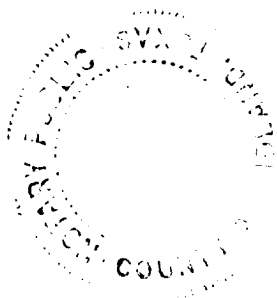
The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Troy [Signature]

Before me, the undersigned authority, on this day personally appeared Tim Stephens, 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 28th day of NOV., 19 83

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



NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

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

All distances must be from the outer boundaries of the Section

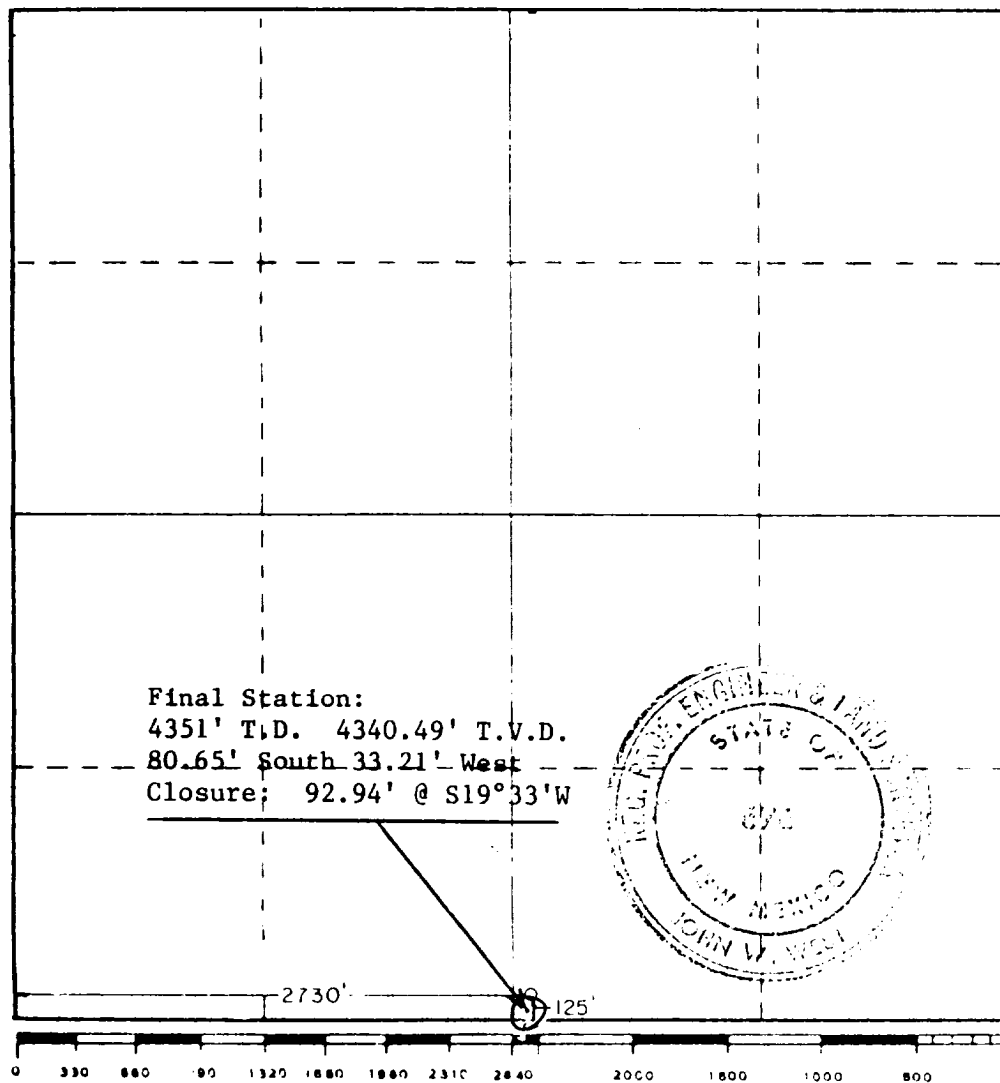
Operator Shell Oil Co.		Lease North Hobbs Unit		Well No. 33-342
Initial Letter O	Section 33	Township 18 South	Range 38 East	County Lea
Actual Footage Location of Well: 125 feet from the South line and 2730 feet from the West line				
Ground Level Elev. 3625.0	Producing Formation GRAYBURG/SAN ANDRES		Foot HOBBS (GRAYBURG/SAN ANDRES)	Dedicated Acreage Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 UNITIZATION

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
A. J. FORE

Position
SUPERVISOR REG. & PERMITTING

Company
SHELL OIL 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
12-20-1979

Registered Professional Engineer
and/or Land Surveyor

John W. West
Certificate No. John W. West 676

Ronald J. Eidson 3239