



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

Shell Oil Company
COMPANY

North Hobbs Unit Well No. 32-142
WELL NAME

Lea County, New Mexico
LOCATION

JOB NUMBER

WT0983-G0004
WT0983-S0032
WT0983-S0037

TYPE OF SURVEY

Gyroscopic Multi Shot
Magnetic Multi Shot
Magnetic Multi Shot

DATE

9/7/83
9/21/83
9/23/83

SURVEY BY

Tim Stephens, Troy Oney, Gary DeSpain

OFFICE

West Texas

SHELL OIL COMPANY

NORTH HOBBS UNIT WELL NO. 32-142

LEA COUNTY, NEW MEXICO BDI-298

EASTMAN WHIPSTOCK INC.,

GYROSCOPIC MULTISHOT SURVEY WT0983-G0004

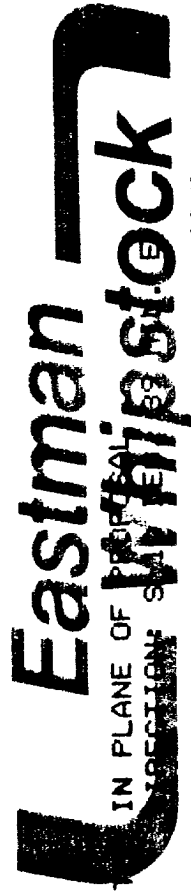
SURVEYOR: TIM STEPHENS (0'-1400')

MAGNETIC MULTI SHOT SURVEY WT0983-S0032

SURVEYOR: TROY ONEY (1400'-4049')

MAGNETIC MULTI SHOT SURVEY WT0983-S0037

SURVEYOR: GARY DESPAIN (4049'-4443')



VERTICAL SECTION CALCULATION

IN PLANE OF PROPOSED

SECTION

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

TIME DATE
13:31:45 23-SEP-83

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 30	N 57 W	100.	100.00	-0.30	0.24 N	0.37 W
200.	0 30	N 61 W	100.	199.99	-0.88	0.69 N	1.11 W
300.	0 45	S 61 W	100.	299.99	-1.07	0.69 N	2.16 W
400.	0 30	N 77 W	100.	399.98	-1.12	0.54 N	3.21 W
500.	0 45	N 78 W	100.	499.98	-1.55	0.77 N	4.28 W
600.	0 30	N 36 W	100.	599.97	-2.29	1.36 N	5.17 W
700.	0 45	N 21 E	100.	699.96	-3.33	2.39 N	5.31 W
800.	0 0	0	100.	799.96	-3.89	3.00 N	5.07 W
900.	0 30	N 19 W	100.	899.96	-4.32	3.42 N	5.22 W
1000.	0 30	N 27 W	100.	999.95	-5.14	4.26 N	5.16 W
1100.	0 30	S 60 W	100.	1099.95	-5.22	4.48 N	4.41 W
1200.	0 45	S 46 W	100.	1199.95	-3.34	3.55 N	4.29 W
1300.	0 30	S 59 E	100.	1299.94	-3.34	2.61 N	4.19 W
1400.	0 45	S 83 E	100.	1399.94	-2.81	2.26 N	3.16 W
1560.	0 45	S 42 E	160.	1559.92	-1.54	1.31 N	1.35 W
1626.	0 30	S 81 E	66.	1625.92	-1.09	0.98 N	0.73 W
1688.	0 15	N 72 E	62.	1687.92	-1.05	1.01 N	0.32 W
1750.	0 15	N 56 E	62.	1749.92	-1.12	1.13 N	0.08 W
1813.	0 15	N 60 E	63.	1812.91	-1.22	1.27 N	0.15 E
1875.	0 0	0	62.	1874.91	-1.27	1.34 N	0.27 E
1937.	2 0	S 39 E	62.	1936.90	-0.31	0.50 N	0.95 E
1999.	5 0	S 17 E	62.	1998.78	3.28	2.82 S	2.71 E
2062.	5 15	S 10 E	63.	2061.53	8.89	8.29 S	4.03 E
2124.	5 45	S 10 E	62.	2123.24	14.84	14.14 S	5.06 E
2186.	6 30	S 11 E	62.	2184.89	21.45	20.65 S	6.27 E
2248.	7 0	S 13 E	62.	2246.46	28.74	27.78 S	7.78 E
2311.	7 30	S 15 E	63.	2308.95	36.67	35.49 S	9.70 E
2373.	8 0	S 16 E	62.	2370.39	45.00	43.55 S	11.94 E
2435.	8 45	S 17 E	62.	2431.73	53.99	52.20 S	14.50 E
							1.22
							0.89
							0.89
							0.84
							1.23

TIME DATE
13:31:45 23-SEP-83

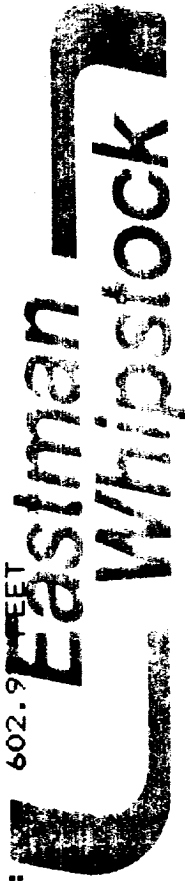
MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET	DOGLEG SEVERITY DG/100FT
2497.	9 0	S 17 E	62.	2492.98	63.49	61.35 S 17.30 E	0.40
2560.	9 30	S 19 E	63.	2555.16	73.54	70.98 S 20.43 E	0.94
2622.	10 0	S 18 E	62.	2616.27	83.94	80.94 S 23.76 E	0.85
2684.	10 0	S 20 E	62.	2677.33	94.59	91.12 S 27.26 E	0.56
2746.	10 30	S 20 E	62.	2738.34	105.47	101.49 S 31.04 E	0.81
2809.	11 0	S 17 E	63.	2800.23	117.11	112.63 S 34.77 E	1.19
2871.	11 0	S 19 E	62.	2861.09	128.84	123.88 S 38.42 E	0.62
2933.	11 30	S 18 E	62.	2921.90	140.83	135.35 S 42.26 E	0.87
2995.	12 15	S 19 E	62.	2982.57	153.47	147.45 S 46.31 E	1.25
3058.	12 45	S 19 E	62.	3044.08	166.96	160.34 S 50.75 E	0.79
3120.	13 0	S 20 E	62.	3104.52	180.61	173.36 S 55.36 E	0.54
3182.	13 30	S 20 E	62.	3164.87	194.61	186.72 S 60.22 E	0.81
3244.	14 0	S 21 E	62.	3225.09	208.11	200.52 S 65.38 E	0.89
3306.	14 30	S 22 E	62.	3285.18	224.14	214.72 S 70.97 E	0.90
3364.	14 30	S 22 E	58.	3341.34	238.37	228.18 S 76.41 E	0.00
3426.	15 0	S 21 E	62.	3401.29	253.88	242.87 S 82.20 E	0.90
3489.	15 0	S 17 E	63.	3462.15	270.01	258.28 S 87.51 E	1.64
3551.	15 0	S 21 E	62.	3522.03	285.88	273.45 S 92.73 E	1.67
3613.	15 30	S 20 E	62.	3581.85	301.95	288.73 S 98.44 E	0.91
3675.	17 0	S 12 E	62.	3641.37	319.21	305.39 S 103.22 E	4.34
3738.	17 45	S 10 E	63.	3701.50	338.02	323.86 S 106.81 E	1.52
3800.	17 45	S 10 E	62.	3760.55	356.92	342.47 S 110.09 E	0.00
3862.	18 0	S 11 E	62.	3819.55	375.95	361.18 S 113.56 E	0.64
3924.	18 45	S 12 E	62.	3878.39	395.49	380.34 S 117.46 E	1.31
3987.	19 0	S 13 E	63.	3938.00	415.86	400.23 S 121.87 E	0.65
4049.	19 30	S 12 E	62.	3996.54	436.29	420.19 S 126.29 E	0.97
4090.	20 30	S 13 E	41.	4035.06	450.31	433.88 S 129.33 E	2.58
4153.	22 0	S 14 E	63.	4093.78	473.11	456.08 S 134.66 E	2.45
4215.	22 45	S 15 E	62.	4151.11	496.66	478.93 S 140.56 E	1.36
4278.	24 0	S 14 E	63.	4208.94	521.60	503.13 S 146.82 E	2.08

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			FEET		
4340.	25 15	S 14 E	62.	4265.30		547.38	528.19 S	153.07 E	2.02
4403.	26 15	S 15 E	63.	4322.04		574.69	554.69 S	159.93 E	1.73
4443.	27 0	S 16 E	40.	4357.80		592.55	571.97 S	164.72 E	2.18

4460 IS A PROJECTION BASED ON MAGNETIC MULTISHOT SURVEY.

4460.	27 0	S 16 E	17.	4372.95		600.24	579.38 S	166.84 E	0.00
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FINAL CLOSURE - DIRECTION: S 16 DEGS 4 MINS E
DISTANCE: 602.9 FEET

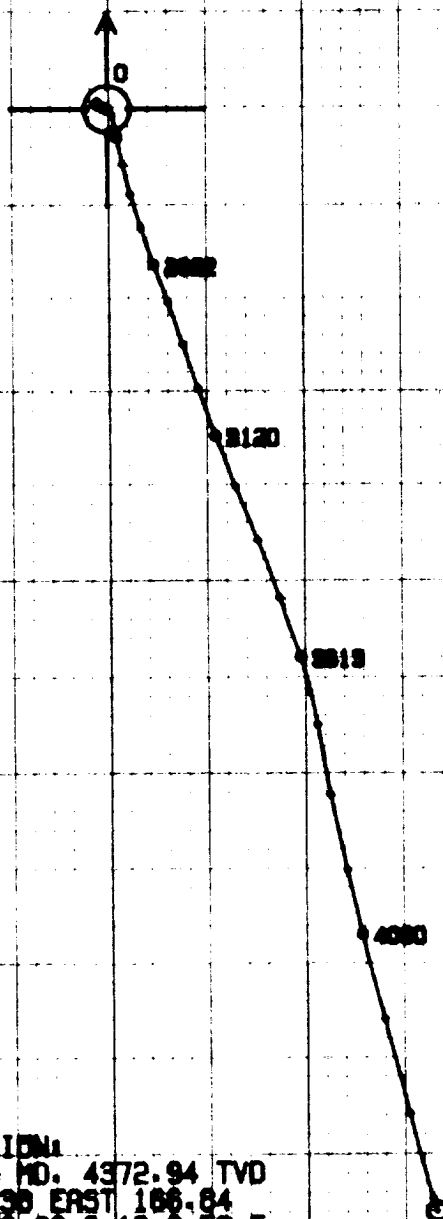


SHELL OIL COMPANY
NORTH HAVES UNIT WELL NO. 32-142
LEA COUNTY, NEW MEXICO 801-298

HORIZONTAL PROJECTION

SCALE 1 IN. = 100 FEET
DEPTH INDICATED IN

EASTMAN KNIPSTOCK, INC.



FINAL STATION:
DEPTH 4460 MD. 4372.94 TVD
SOUTH 579.30 EAST 188.64
CLOSE 602.92 S 16 S 53 E



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 9-7, 19 83 thru 9-7, 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 1400 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 No. 32-142 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

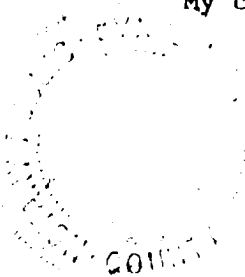
The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Ray C. Stank

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 26TH day of SEPT., 19 83

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





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

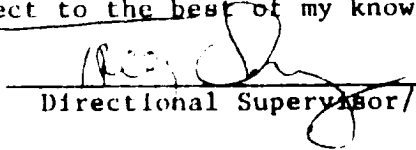
SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, Troy Oney, in the employ of Eastman Whipstock, Inc., did on the days of 9-21, 1983 thru 9-21, 1983 conduct or supervise the taking of a Magnetic Multi Shot survey by the method of magnetic orientation from a depth of 1400 feet to 4049 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 32 Well Nq. 142 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.



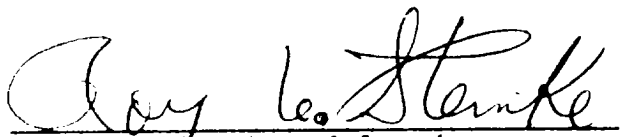
Directional Supervisor/ Surveyor

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

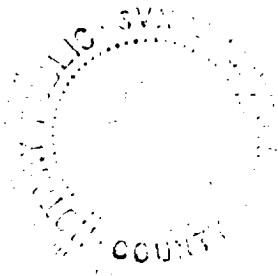


Before me, the undersigned authority, on this day personally appeared Troy Oney, known to me to be the person whose name is subscribed to this instrument, who after being by me duly sworn on oath, states that he has knowledge of all the facts stated above and that this instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 26TH day of SEPT., 1983



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

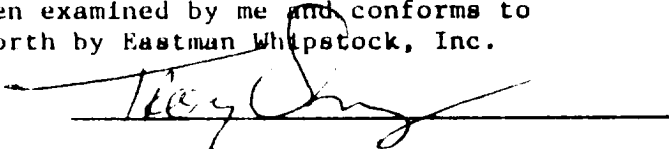
I, Gary DeSpain, in the employ of Eastman Whipstock, Inc., did on the days of 9-23, 19 83 thru 9-23, 19 83 conduct or supervise the taking of a Magnetic Multi Shot survey by the method of magnetic orientation from a depth of 4049 feet to 4443 feet, with recordings of inclination and direction being obtained at approximate intervals of 63 feet.

This survey was conducted at the request of Shell Oil Company for their North Hobbs Unit Well No. 32,142 Lea County, State of New Mexico, in the _____ field.

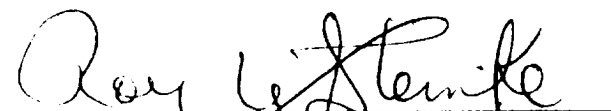
This data for this survey and the calculation were obtained and performed by me according to standards and procedures as set forth by Eastman Whipstock, Inc. and is true and correct to the best of my knowledge.


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 26th day of SEPT., 19 83


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 O-100
Supersedes O-12H
Effective 1-1-85

All distances must be from the outer boundaries of the Section

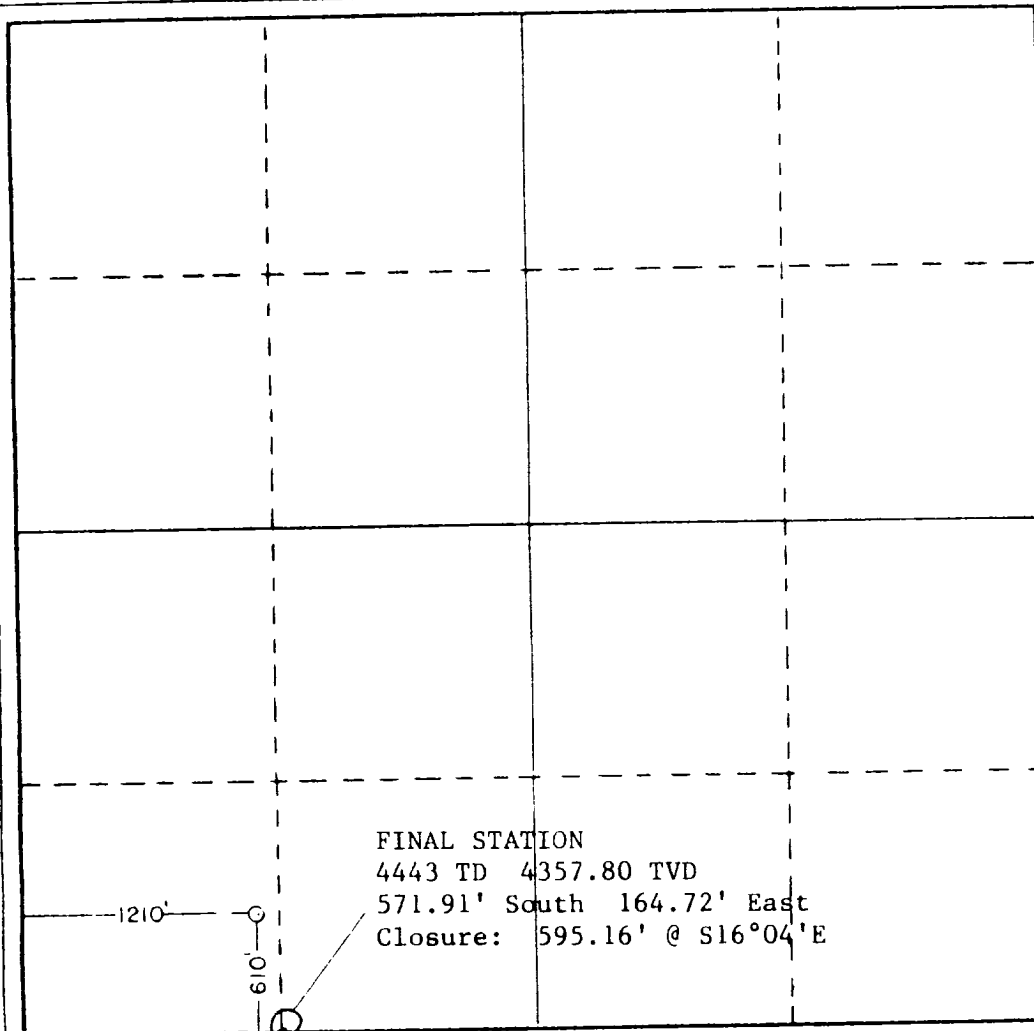
Operator Shell Oil Co.		Lease North Hobbs Unit		Well No. 32-142	
Tract Letter M	Section 32	Township 18South	Range 38East	County Lea	
Actual Footage Location of Well: 610 feet from the South line and 1210 feet from the West line					
Ground Level Elev. 3625.5'	Producing Formation GRAYBURG/SAN ANDRES		Rock HOBBS (GRAYBURG/SAN ANDRES)		Estimated Acreage: _____

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 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
April 8, 1981
Registered Professional Engineer and/or Land Surveyor

John W. West
Certificate No. **JOHN W. WEST 878**
PATRICK A. ROMERO 8868
Ronald J. Eidson 3239