



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

SHELL OIL COMPANY
COMPANY

NORTH HOBBS UNIT 33-422
WELL NAME

LEA COUNTY, NEW MEXICO
LOCATION

JOB NUMBER
WT1083-G0103
WT1183-S0120

TYPE OF SURVEY
GYROSCOPIC MULTISHOT SURVEY
MAGNETIC MULTISHOT SURVEY

DATE
10/27/83
11/05/83

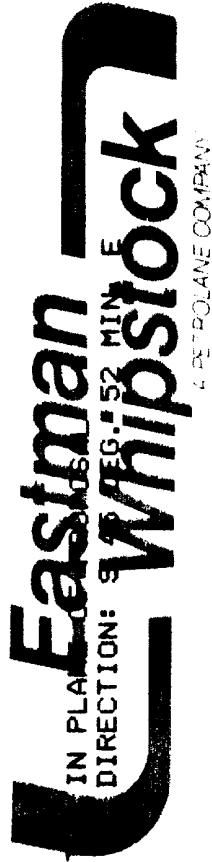
SURVEY BY
TROY ONEY, GARY DESPAIN

OFFICE
WEST TEXAS

SHELL OIL COMPANY
NORTH HOBBS UNIT WELL NO. 33-422
LEA COUNTY, NEW MEXICO BD1-292
OCTOBER 27, 1983

EASTMAN WHIPSTOCK, INC.

GYROSCOPIC MULTI SHOT
SURVEYOR: TROY ONEY
MAGNETIC MULTI SHOT SURVEY
SURVEYOR: GARY DESPAIN
WT1083-G0103
(0'-1600')
WT1183-S0120
(1600'-4450')



VERTICAL SECTION CALCULATION

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

TIME DATE
11:52:50 05-NOV-83

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES		DOGLEG SEVERITY DG/100FT
0.	0 0	0	0.	0.00	0.00	0.00	0.00	0.00
100.	0 15	N 18 W	100.	100.00	-0.19	0.21 N	0.07 W	0.25
200.	0 45	N 8 E	100.	200.00	-0.85	1.07 N	0.14 W	0.54
300.	0 30	N 5 W	100.	299.99	-1.58	2.16 N	0.11 W	0.29
400.	0 15	N 33 W	100.	399.99	-2.16	2.77 N	0.33 W	0.30
500.	0 30	N 51 W	100.	499.99	-2.81	3.26 N	0.76 W	0.27
600.	0 30	N 49 W	100.	599.98	-3.68	3.82 N	1.43 W	0.02
700.	0 30	N 48 W	100.	699.98	-4.56	4.39 N	2.08 W	0.01
800.	1 0	N 63 W	100.	799.97	-5.84	5.13 N	3.16 W	0.53
900.	0 45	N 69 W	100.	899.96	-7.27	5.75 N	4.55 W	0.27
1000.	0 30	S 76 W	100.	999.95	-8.09	5.82 N	5.62 W	0.45
1100.	0 30	N 89 W	100.	1099.94	-9.41	5.72 N	6.49 W	0.13
1200.	0 30	N 53 W	100.	1199.94	-9.41	5.99 N	7.31 W	0.29
1300.	0 30	N 5 W	100.	1299.94	-9.41	6.74 N	7.66 W	0.50
1400.	0 45	N 51 E	100.	1399.94	-9.41	7.68 N	7.16 W	0.54
1500.	1 30	N 60 E	100.	1499.91	-10.10	8.79 N	5.54 W	0.77
1600.	1 45	N 50 E	100.	1599.87	-9.57	10.41 N	3.22 W	0.38
1699.	1 15	N 25 E	99.	1698.84	-9.86	12.45 N	1.66 W	0.82
1730.	1 30	N 45 E	31.	1729.83	-9.98	13.06 N	1.23 W	1.73
1792.	4 0	S 50 E	62.	1791.75	-8.12	13.18 N	1.47 E	6.69
1855.	6 0	S 48 E	63.	1854.51	-2.64	9.58 N	5.62 E	3.19
1917.	6 30	S 47 E	62.	1916.14	4.11	5.02 N	10.59 E	0.83
1980.	7 0	S 48 E	63.	1978.70	11.51	0.01 N	16.05 E	0.82
2042.	7 45	S 49 E	62.	2040.19	19.46	5.26 S	22.01 E	1.23
2105.	8 15	S 49 E	63.	2102.58	28.22	11.01 S	28.63 E	0.79
2167.	9 0	S 49 E	62.	2163.88	37.50	17.11 S	35.65 E	1.21
2230.	10 0	S 50 E	63.	2226.01	47.88	23.87 S	43.55 E	1.61
2292.	10 30	S 49 E	62.	2287.02	58.89	31.03 S	51.94 E	0.86
2354.	11 30	S 49 E	62.	2347.88	70.70	38.79 S	60.87 E	1.61
2417.	12 15	S 49 E	63.	2409.53	83.64	47.30 S	70.65 E	1.19

NORTH HOBBS UNIT WELL NO. 33-422
LEA COUNTY, NEW MEXICO BD1-292

TIME DATE

11:52:50 05-NOV-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	DOGLEG SEVERITY DG/100FT
2479.	13 15	S 48 E	62.	2470.00	97.31	56.36 S 80.90 E	1.65
2542.	14 0	S 49 E	63.	2531.23	112.14	66.20 S 92.02 E	1.25
2604.	14 45	S 48 E	62.	2591.29	127.51	76.40 S 103.55 E	1.27
2667.	15 15	S 49 E	63.	2652.14	143.80	87.20 S 115.76 E	0.89
2729.	15 30	S 49 E	62.	2711.92	160.22	97.99 S 128.16 E	0.40
2792.	16 30	S 49 E	63.	2772.48	177.56	109.38 S 141.27 E	1.59
2854.	16 45	S 48 E	62.	2831.89	195.28	121.13 S 154.56 E	0.61
2917.	17 15	S 49 E	63.	2892.14	213.68	133.34 S 168.35 E	0.92
2979.	18 0	S 50 E	62.	2951.23	232.41	145.53 S 182.63 E	1.30
3041.	18 0	S 49 E	62.	3010.19	251.53	157.97 S 197.19 E	0.50
3104.	18 0	S 49 E	63.	3069.34	270.97	170.74 S 211.89 E	0.00
3166.	17 45	S 48 E	63.	3128.59	289.81	183.23 S 226.25 E	0.40
3229.	17 15	S 48 E	63.	3187.20	308.87	195.78 S 240.44 E	0.93
3291.	17 0	S 47 E	62.	3245.95	328.30	208.11 S 253.90 E	0.62
3354.	16 30	S 46 E	63.	3304.78	345.30	220.61 S 267.07 E	0.92
3416.	15 45	S 45 E	62.	3368.34	362.52	232.68 S 279.35 E	1.29
3479.	15 0	S 44 E	63.	3429.08	379.22	244.59 S 291.06 E	1.26
3541.	14 45	S 44 E	62.	3489.01	395.12	256.04 S 302.11 E	0.40
3604.	15 0	S 45 E	63.	3549.89	411.29	267.58 S 313.45 E	0.57
3666.	15 45	S 44 E	62.	3609.67	427.73	279.30 S 324.97 E	1.28
3729.	16 0	S 44 E	63.	3670.27	444.95	291.70 S 336.94 E	0.40
3791.	17 0	S 45 E	62.	3729.72	462.55	304.26 S 349.28 E	1.68
3853.	17 30	S 45 E	62.	3788.93	480.94	317.26 S 362.28 E	0.81
3916.	18 0	S 46 E	63.	3848.93	500.14	330.72 S 375.98 E	0.93
3978.	18 45	S 46 E	62.	3907.77	519.69	344.30 S 390.04 E	1.21
4041.	19 45	S 46 E	63.	3967.25	540.46	358.73 S 404.98 E	1.59
4103.	21 0	S 48 E	62.	4025.36	562.04	373.45 S 420.77 E	2.31
4166.	22 0	S 48 E	63.	4083.98	585.11	388.90 S 437.93 E	1.59
4228.	22 30	S 48 E	62.	4141.36	608.57	404.61 S 455.37 E	0.81
4291.	23 0	S 48 E	63.	4199.46	632.92	420.91 S 473.48 E	0.79

Eastman
Whipstock
A LUBOLINE COMPANY

SHELL OIL COMPANY

NORTH HOBBS UNIT WELL NO. 33-422

LEA COUNTY, NEW MEXICO BD1-292

COMPUTATION PAGE NO. :

TIME DATE

11:52:50 05-NOV-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					
4353.	23 30	S 47 E	62.	4256.43		657.38	437.44 S	491.52 E	1.03
4450.	24 0	S 47 E	97.	4345.21		696.44	464.09 S	520.09 E	0.52

FINAL CLOSURE - DIRECTION: S 48 DEGS 15 MINS E
DISTANCE: 697.04 FEET

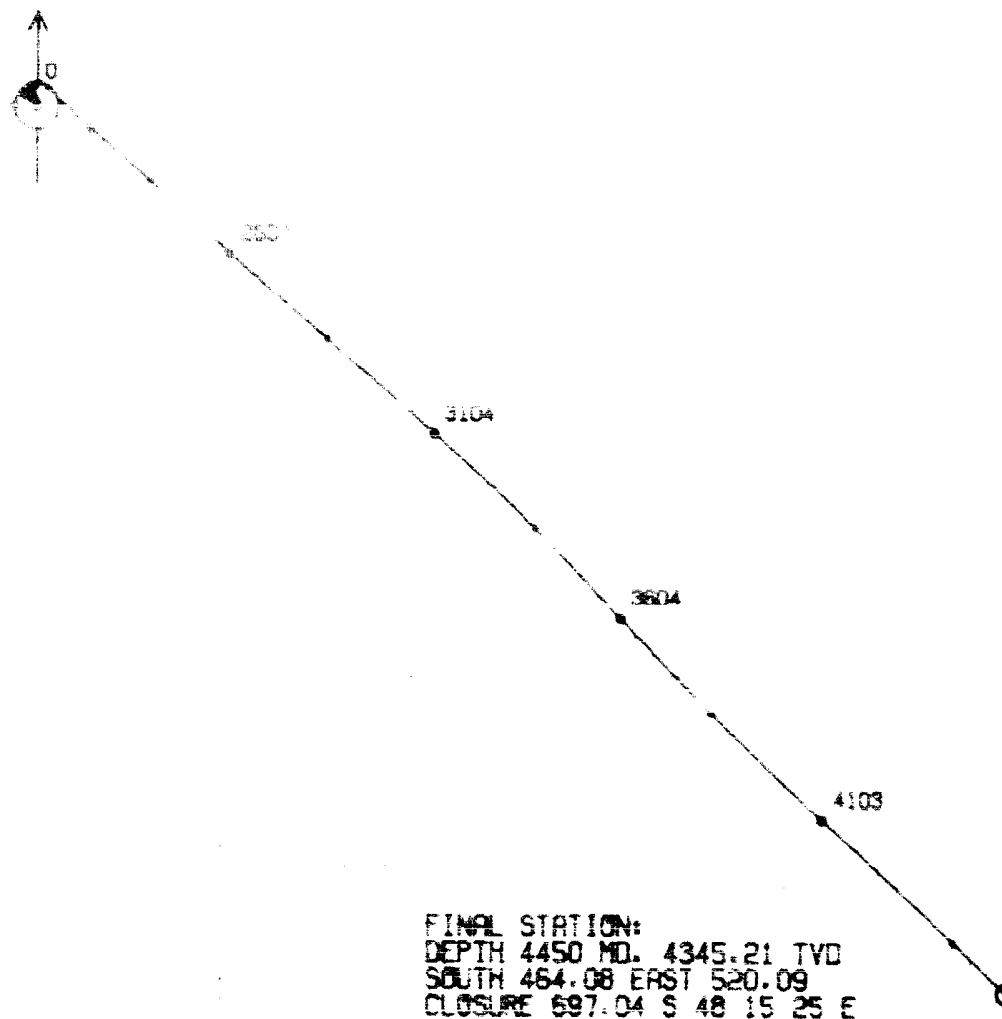
Eastman
Whipstock
PETROLEUM COMPANY

SHELL OIL COMPANY
NORTH HOBBS UNIT WELL NO. 33-422
LEA COUNTY, NEW MEXICO BD1-292

EASTMAN WHIPSTOCK, INC.

HORIZONTAL PROJECTION

SCALE 1 IN. = 100 FEET
DEPTH INDICATOR: MD





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 10-26, 19 83 thru 10-27, 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 1600 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 Well No. 422 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.

Troy Oney
Directional Supervisor/ Surveyor

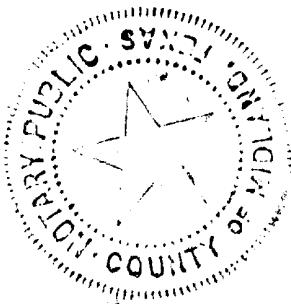
The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

[Signature]

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 14TH day of NOV., 19 83

Ray E. Heinke
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 November 4, 1983 thru November 5, 1983 conduct or supervise the taking of a Magnetic Multi Shot survey by the method of magnetic orientation from a depth of 1600 feet to 4450 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 #33-422, 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

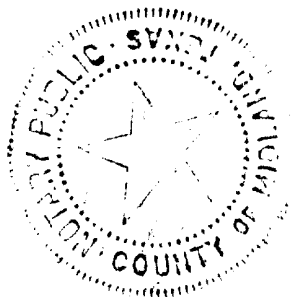
The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

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 Nov., 1983

Roy W. Steinfel
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 1-1-83

All distances must be from the outer boundaries of the Section

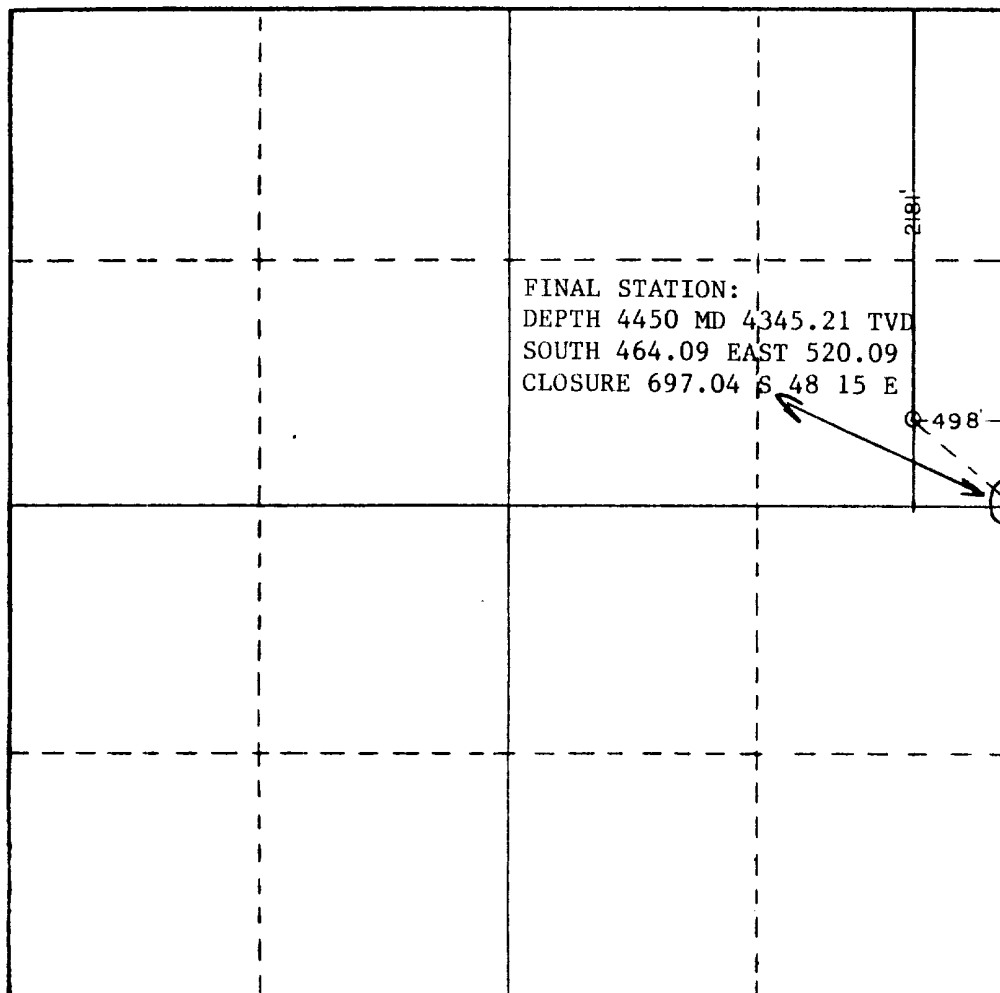
Operator Shell Oil Co.			Lease North Hobbs Unit			Well No. 33-422		
Unit Letter H	Section 33	Township 18South	Range 38East	County Lea				
Actual Footage Location of Well: 2181 feet from the North line and 498 feet from the East line								
Ground Level Elev. 3635.8'		Producing Formation GRAYBURG/SAN ANDRES		Pool HOBBS (GRAYBURG/SAN ANDRES)			Dedicated Acreage: Acres	

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 13, 1981

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No. **JOHN W. WEST 676**
PATRICK A. ROMERO 6863
Ronald J. Eidson 3239

