

HOBBS OCD
APR 30 2018
RECEIVED

GEODETIC ZONE: New Mexico Eastern Zone
 3275 + 27 @ 3302.0usft (Patterson 231)

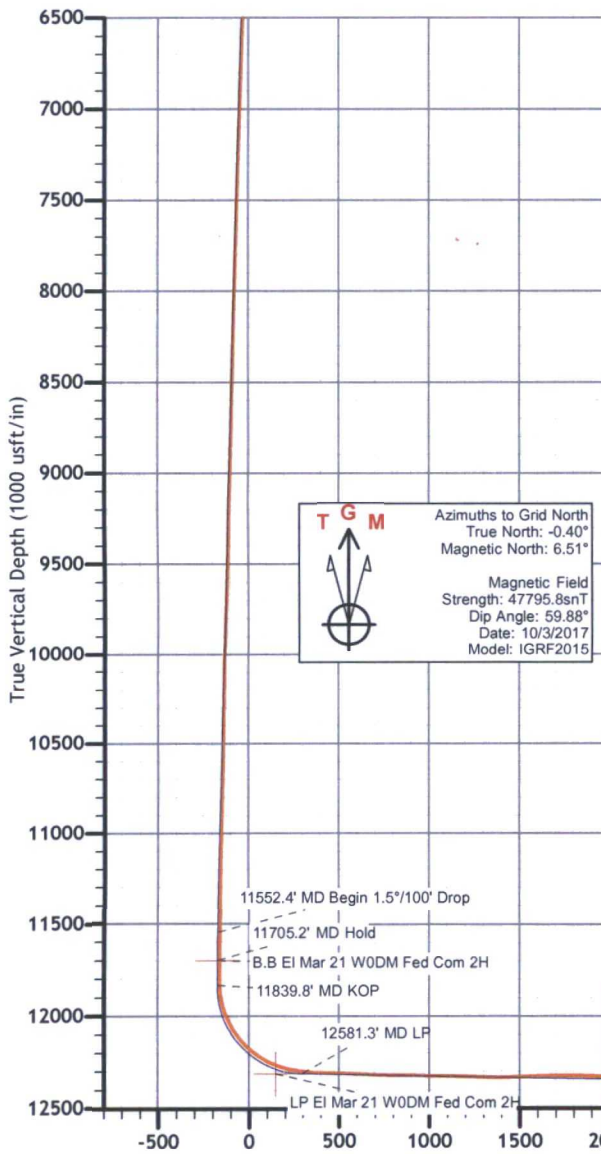
GROUND ELEVATION: 3275.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	377550.50	774280.80	32° 2' 8.656 N	103° 34' 53.732 W	

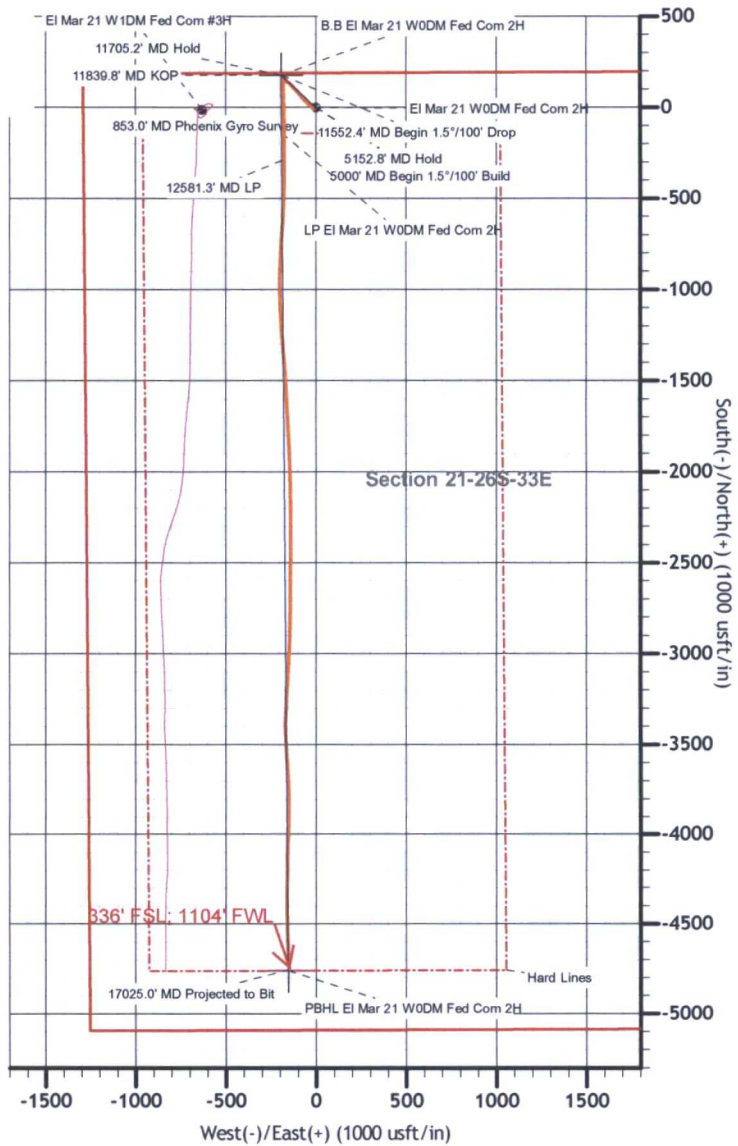
PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5000.0	0.00	0.00	5000.0	0.0	0.0	0.00	0.00	0.0	
3	5152.8	2.29	313.16	5152.7	2.1	-2.2	1.50	313.16	-2.0	
4	11552.4	2.29	313.16	11547.3	177.2	-188.9	0.00	0.00	-170.9	
5	11705.2	0.00	0.00	11700.0	179.2	-191.1	1.50	180.00	-173.0	B.B El Mar 21 W0DM Fed Com 2H
6	11839.8	0.00	0.00	11834.6	179.2	-191.1	0.00	0.00	-173.0	
7	12581.3	88.97	179.57	12312.0	-289.7	-187.6	12.00	179.57	295.6	
8	17052.9	88.97	179.57	12392.0	-4760.5	-154.1	0.00	0.00	4763.0	PBHL El Mar 21 W0DM Fed Com 2H

SHL 190 FNL; 1290' FWL
 Section 21-26S-33E
 PBHL 330' FSL; 1100' FWL
 Section 21-26S-33E



T G M
 Azimuths to Grid North
 True North: -0.40°
 Magnetic North: 6.51°
 Magnetic Field
 Strength: 47795.8snT
 Dip Angle: 59.88°
 Date: 10/3/2017
 Model: IGRF2015



Vertical Section at 181.85° (1000 usft/in)



MEWBOURNE
OIL COMPANY

Mewbourne Oil Company

Lea County N. M. Nad (83)

Section 21-26S-33E EI Mar 21W0DM Fed Com 2H

EI Mar 21W0DM Fed Com 2H

Original Hole

Design: Original Hole

Standard Survey Report

09 November, 2017





Microsoft
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well EI Mar 21 W0DM Fed Com 2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Site:	Section 21-26S-33E EI Mar 21 W0DM Fed Com 2H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Well:	EI Mar 21 W0DM Fed Com 2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Project	Lea County N. M. Nad (83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Section 21-26S-33E EI Mar 21 W0DM Fed Com 2H				
Site Position:		Northing:	377,550.50 usft	Latitude:	32° 2' 8.656 N
From:	Map	Easting:	774,280.80 usft	Longitude:	103° 34' 53.732 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well	EI Mar 21 W0DM Fed Com 2H					
Well Position	+N/-S	0.0 usft	Northing:	377,550.50 usft	Latitude:	32° 2' 8.656 N
	+E/-W	0.0 usft	Easting:	774,280.80 usft	Longitude:	103° 34' 53.732 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	27.0 usft	Ground Level:	3,275.0 usft

Wellbore	Original Hole
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/3/2017	6.91	59.88	47,795.77587035

Design	Original Hole
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	212.55

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	11/9/2017	100.0	854.0	Phoenix Gyro Survey #1 (Original Hole)	NSG-CT_WL	Continuous north-seeking gyro on wireline
		965.0	17,025.0	MWD Survey #2 (Original Hole)	MWD	MWD v3:standard declination

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.16	322.23	100.0	0.1	-0.1	0.0	0.16	0.16	0.00
200.0	0.13	314.71	200.0	0.3	-0.3	-0.1	0.04	-0.03	-7.52
300.0	0.13	314.93	300.0	0.5	-0.4	-0.2	0.00	0.00	0.22
400.0	0.15	334.78	400.0	0.7	-0.5	-0.3	0.05	0.02	19.85
500.0	0.13	113.47	500.0	0.7	-0.5	-0.3	0.26	-0.02	138.69
600.0	0.27	197.75	600.0	0.5	-0.5	-0.1	0.29	0.14	84.28
700.0	0.18	185.32	700.0	0.1	-0.6	0.2	0.10	-0.09	-12.43
800.0	0.31	216.47	800.0	-0.3	-0.7	0.6	0.18	0.13	31.15

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well El Mar 21 W0DM Fed Com 2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Site:	Section 21-26S-33E El Mar 21 W0DM Fed Com 2H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Well:	El Mar 21 W0DM Fed Com 2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
854.0	1.35	165.17	854.0	-1.0	-0.7	1.2	2.19	1.93	-95.00
853.0' MD Phoenix Gyro Survey									
965.0	0.50	234.80	965.0	-2.6	-0.7	2.5	1.14	-0.77	62.73
1,028.0	0.70	244.00	1,028.0	-2.9	-1.3	3.1	0.35	0.32	14.60
1,123.0	0.50	258.90	1,123.0	-3.2	-2.2	3.9	0.27	-0.21	15.68
1,218.0	0.50	238.60	1,218.0	-3.5	-3.0	4.6	0.19	0.00	-21.37
1,314.0	0.40	255.10	1,314.0	-3.8	-3.7	5.2	0.17	-0.10	17.19
1,409.0	0.60	232.70	1,409.0	-4.2	-4.4	5.9	0.29	0.21	-23.58
1,505.0	0.60	259.50	1,505.0	-4.6	-5.3	6.7	0.29	0.00	27.92
1,600.0	0.60	258.60	1,599.9	-4.8	-6.2	7.4	0.01	0.00	-0.95
1,695.0	0.70	260.30	1,694.9	-5.0	-7.3	8.1	0.11	0.11	1.79
1,790.0	0.70	274.10	1,789.9	-5.1	-8.5	8.8	0.18	0.00	14.53
1,887.0	0.80	263.60	1,886.9	-5.1	-9.7	9.5	0.17	0.10	-10.82
1,983.0	0.90	266.60	1,982.9	-5.2	-11.1	10.4	0.11	0.10	3.13
2,077.0	0.90	264.10	2,076.9	-5.3	-12.6	11.3	0.04	0.00	-2.66
2,173.0	1.00	275.40	2,172.9	-5.3	-14.2	12.1	0.22	0.10	11.77
2,267.0	1.10	267.10	2,266.9	-5.3	-15.9	13.0	0.19	0.11	-8.83
2,362.0	1.40	264.60	2,361.9	-5.4	-18.0	14.3	0.32	0.32	-2.63
2,457.0	0.30	2.70	2,456.8	-5.3	-19.1	14.8	1.55	-1.16	103.26
2,552.0	0.30	85.90	2,551.8	-5.0	-18.9	14.4	0.42	0.00	87.58
2,647.0	0.40	34.00	2,646.8	-4.8	-18.4	13.9	0.34	0.11	-54.63
2,741.0	0.30	3.30	2,740.8	-4.2	-18.2	13.4	0.22	-0.11	-32.66
2,835.0	0.40	35.60	2,834.8	-3.7	-18.0	12.8	0.23	0.11	34.36
2,929.0	0.40	58.50	2,928.8	-3.3	-17.6	12.2	0.17	0.00	24.36
3,024.0	0.10	284.10	3,023.8	-3.1	-17.3	11.9	0.50	-0.32	-141.47
3,118.0	0.20	183.80	3,117.8	-3.2	-17.4	12.1	0.25	0.11	-106.70
3,212.0	0.10	243.30	3,211.8	-3.4	-17.5	12.3	0.18	-0.11	63.30
3,307.0	0.30	210.30	3,306.8	-3.7	-17.7	12.6	0.23	0.21	-34.74
3,402.0	0.30	198.10	3,401.8	-4.1	-17.9	13.1	0.07	0.00	-12.84
3,497.0	0.50	128.70	3,496.8	-4.6	-17.7	13.4	0.51	0.21	-73.05
3,591.0	0.70	119.40	3,590.8	-5.2	-16.9	13.4	0.24	0.21	-9.89
3,686.0	1.30	98.10	3,685.8	-5.6	-15.3	13.0	0.73	0.63	-22.42
3,780.0	1.20	98.10	3,779.8	-5.9	-13.3	12.1	0.11	-0.11	0.00
3,875.0	1.40	93.00	3,874.8	-6.1	-11.1	11.1	0.24	0.21	-5.37
3,969.0	0.30	133.30	3,968.8	-6.3	-9.8	10.6	1.26	-1.17	42.87
4,064.0	0.50	270.30	4,063.8	-6.5	-10.0	10.9	0.79	0.21	144.21
4,159.0	0.50	272.80	4,158.7	-6.5	-10.8	11.3	0.02	0.00	2.63
4,254.0	0.40	254.00	4,253.7	-6.5	-11.6	11.7	0.19	-0.11	-19.79
4,349.0	0.30	157.20	4,348.7	-6.9	-11.8	12.1	0.56	-0.11	-101.89
4,444.0	0.40	128.80	4,443.7	-7.3	-11.4	12.3	0.21	0.11	-29.89
4,539.0	0.90	125.30	4,538.7	-7.9	-10.6	12.4	0.53	0.53	-3.68
4,634.0	1.30	125.70	4,633.7	-9.0	-9.1	12.5	0.42	0.42	0.42

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Design:	Original Hole	Database:	Stryker_EDM

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,730.0	0.10	213.00	4,729.7	-9.7	-8.3	12.6	1.35	-1.25	90.94
4,783.0	0.40	321.50	4,782.7	-9.6	-8.4	12.6	0.83	0.57	204.72
4,923.0	0.40	265.30	4,922.7	-9.3	-9.2	12.7	0.27	0.00	-40.14
5,018.0	1.80	311.40	5,017.7	-8.3	-10.6	12.7	1.63	1.47	48.53
5,112.0	2.00	310.10	5,111.6	-6.3	-13.0	12.3	0.22	0.21	-1.38
5,207.0	2.10	315.80	5,206.6	-3.9	-15.5	11.7	0.24	0.11	6.00
5,301.0	2.20	312.80	5,300.5	-1.5	-18.0	10.9	0.16	0.11	-3.19
5,396.0	2.20	319.60	5,395.4	1.1	-20.5	10.1	0.27	0.00	7.16
5,491.0	2.80	316.10	5,490.3	4.2	-23.3	9.0	0.65	0.63	-3.68
5,586.0	3.20	311.90	5,585.2	7.6	-26.9	8.0	0.48	0.42	-4.42
5,681.0	3.60	313.80	5,680.1	11.5	-31.0	7.0	0.44	0.42	2.00
5,776.0	2.80	309.80	5,774.9	15.0	-35.0	6.1	0.87	-0.84	-4.21
5,871.0	2.60	304.30	5,869.8	17.7	-38.5	5.8	0.34	-0.21	-5.79
5,966.0	2.20	311.20	5,964.7	20.1	-41.7	5.4	0.52	-0.42	7.26
6,060.0	2.00	314.00	6,058.7	22.5	-44.2	4.8	0.24	-0.21	2.98
6,155.0	2.10	313.10	6,153.6	24.8	-46.7	4.2	0.11	0.11	-0.95
6,250.0	1.90	309.40	6,248.5	27.0	-49.2	3.7	0.25	-0.21	-3.89
6,344.0	2.40	315.40	6,342.5	29.4	-51.8	3.1	0.58	0.53	6.38
6,439.0	2.50	316.20	6,437.4	32.3	-54.6	2.1	0.11	0.11	0.84
6,534.0	2.40	316.50	6,532.3	35.2	-57.4	1.2	0.11	-0.11	0.32
6,628.0	2.50	314.30	6,626.2	38.1	-60.2	0.3	0.15	0.11	-2.34
6,723.0	2.70	315.20	6,721.1	41.1	-63.3	-0.6	0.21	0.21	0.95
6,817.0	2.70	317.90	6,815.0	44.3	-66.3	-1.7	0.14	0.00	2.87
6,912.0	2.60	319.50	6,909.9	47.6	-69.2	-2.9	0.13	-0.11	1.68
7,007.0	2.50	317.10	7,004.8	50.8	-72.0	-4.1	0.15	-0.11	-2.53
7,102.0	2.60	314.30	7,099.7	53.8	-75.0	-5.0	0.17	0.11	-2.95
7,197.0	2.90	315.40	7,194.6	57.0	-78.2	-6.0	0.32	0.32	1.16
7,292.0	2.20	329.20	7,289.5	60.3	-80.8	-7.4	0.98	-0.74	14.53
7,386.0	2.30	333.70	7,383.4	63.6	-82.6	-9.1	0.22	0.11	4.79
7,481.0	2.20	333.20	7,478.4	66.9	-84.3	-11.1	0.11	-0.11	-0.53
7,576.0	1.90	309.40	7,573.3	69.5	-86.3	-12.2	0.94	-0.32	-25.05
7,670.0	1.50	305.20	7,667.3	71.2	-88.5	-12.4	0.45	-0.43	-4.47
7,764.0	1.80	310.90	7,761.2	72.9	-90.6	-12.7	0.36	0.32	6.06
7,859.0	1.70	320.80	7,856.2	75.0	-92.6	-13.3	0.33	-0.11	10.42
7,954.0	2.50	317.80	7,951.1	77.6	-94.9	-14.3	0.85	0.84	-3.16
8,049.0	2.50	316.50	8,046.0	80.6	-97.7	-15.4	0.06	0.00	-1.37
8,144.0	2.50	318.30	8,140.9	83.7	-100.5	-16.4	0.08	0.00	1.89
8,239.0	2.20	316.90	8,235.9	86.6	-103.2	-17.5	0.32	-0.32	-1.47
8,333.0	2.00	321.30	8,329.8	89.2	-105.4	-18.4	0.27	-0.21	4.68
8,426.0	1.90	319.60	8,422.7	91.6	-107.4	-19.4	0.12	-0.11	-1.83
8,521.0	2.00	321.60	8,517.7	94.1	-109.5	-20.4	0.13	0.11	2.11
8,616.0	1.90	325.10	8,612.6	96.7	-111.4	-21.5	0.16	-0.11	3.68
8,711.0	1.70	315.70	8,707.6	99.0	-113.3	-22.5	0.37	-0.21	-9.89

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8,806.0	1.80	320.10	8,802.5	101.1	-115.2	-23.2	0.18	0.11	4.63	
8,901.0	2.20	305.10	8,897.5	103.3	-117.7	-23.8	0.69	0.42	-15.79	
8,995.0	1.90	307.40	8,991.4	105.3	-120.4	-24.0	0.33	-0.32	2.45	
9,091.0	1.70	315.50	9,087.4	107.3	-122.7	-24.4	0.34	-0.21	8.44	
9,186.0	2.20	332.70	9,182.3	109.9	-124.5	-25.7	0.80	0.53	18.11	
9,281.0	2.60	335.90	9,277.2	113.5	-126.2	-27.8	0.44	0.42	3.37	
9,375.0	2.30	300.40	9,371.2	116.4	-128.7	-28.9	1.62	-0.32	-37.77	
9,470.0	2.60	290.70	9,466.1	118.1	-132.4	-28.4	0.54	0.32	-10.21	
9,564.0	3.30	320.70	9,559.9	121.0	-136.1	-28.8	1.78	0.74	31.91	
9,660.0	3.40	330.80	9,655.8	125.6	-139.2	-31.0	0.62	0.10	10.52	
9,755.0	2.10	321.10	9,750.7	129.4	-141.7	-32.9	1.45	-1.37	-10.21	
9,849.0	2.00	310.00	9,844.6	131.8	-144.0	-33.6	0.43	-0.11	-11.81	
9,944.0	2.80	316.60	9,939.5	134.6	-146.9	-34.4	0.89	0.84	6.95	
10,039.0	2.10	296.20	10,034.4	137.0	-150.0	-34.8	1.17	-0.74	-21.47	
10,134.0	2.30	284.00	10,129.4	138.3	-153.5	-34.0	0.53	0.21	-12.84	
10,229.0	1.90	294.30	10,224.3	139.4	-156.7	-33.1	0.58	-0.42	10.84	
10,324.0	2.10	286.10	10,319.3	140.5	-159.8	-32.4	0.37	0.21	-8.63	
10,419.0	2.20	308.90	10,414.2	142.1	-162.9	-32.1	0.90	0.11	24.00	
10,514.0	1.60	333.60	10,509.1	144.5	-164.9	-33.0	1.05	-0.63	26.00	
10,610.0	1.50	341.50	10,605.1	146.8	-165.9	-34.5	0.25	-0.10	8.23	
10,704.0	1.30	354.80	10,699.1	149.1	-166.4	-36.1	0.40	-0.21	14.15	
10,799.0	1.80	340.80	10,794.0	151.6	-167.0	-37.9	0.66	0.53	-14.74	
10,894.0	1.80	316.30	10,889.0	154.0	-168.5	-39.2	0.80	0.00	-25.79	
10,990.0	2.70	298.80	10,984.9	156.2	-171.6	-39.4	1.17	0.94	-18.23	
11,084.0	1.10	335.10	11,078.9	158.1	-173.9	-39.7	2.05	-1.70	38.62	
11,180.0	0.90	327.80	11,174.9	159.6	-174.7	-40.5	0.25	-0.21	-7.60	
11,275.0	1.30	295.60	11,269.8	160.7	-176.0	-40.7	0.76	0.42	-33.89	
11,370.0	1.50	317.50	11,364.8	162.1	-177.9	-40.9	0.60	0.21	23.05	
11,466.0	1.60	307.40	11,460.8	163.8	-179.8	-41.3	0.30	0.10	-10.52	
11,560.0	1.10	322.00	11,554.7	165.3	-181.4	-41.8	0.64	-0.53	15.53	
11,654.0	0.80	316.10	11,648.7	166.5	-182.4	-42.2	0.34	-0.32	-6.28	
11,705.5	0.80	310.36	11,700.2	167.0	-182.9	-42.3	0.16	-0.01	-11.16	
B.B EI Mar 21 W0DM Fed Com 2H										
11,749.0	0.80	305.50	11,743.7	167.4	-183.4	-42.4	0.16	0.01	-11.16	
11,790.0	0.60	305.20	11,784.7	167.6	-183.8	-42.4	0.49	-0.49	-0.73	
11,835.0	1.20	199.30	11,829.7	167.3	-184.1	-42.0	3.29	1.33	-235.33	
11,867.0	4.90	180.30	11,861.7	165.7	-184.3	-40.5	11.83	11.56	-59.38	
11,899.0	9.50	176.80	11,893.4	161.7	-184.1	-37.2	14.43	14.38	-10.94	
11,930.0	13.40	175.90	11,923.8	155.5	-183.7	-32.2	12.59	12.58	-2.90	
11,962.0	17.00	175.80	11,954.7	147.1	-183.1	-25.5	11.25	11.25	-0.31	
11,993.0	20.40	176.40	11,984.0	137.2	-182.4	-17.5	10.99	10.97	1.94	
12,024.0	24.20	176.60	12,012.7	125.5	-181.7	-8.0	12.26	12.26	0.65	
12,056.0	28.40	177.50	12,041.4	111.3	-181.0	3.5	13.18	13.13	2.81	

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well EI Mar 21 W0DM Fed Com 2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Site:	Section 21-26S-33E EI Mar 21 W0DM Fed Com 2H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Well:	EI Mar 21 W0DM Fed Com 2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,087.0	32.00	179.70	12,068.2	95.8	-180.6	16.5	12.15	11.61	7.10	
12,119.0	35.80	180.70	12,094.7	77.9	-180.7	31.6	12.00	11.88	3.13	
12,151.0	39.10	180.60	12,120.1	58.5	-180.9	48.1	10.31	10.31	-0.31	
12,183.0	41.90	179.30	12,144.5	37.7	-180.9	65.6	9.14	8.75	-4.06	
12,214.0	46.70	178.10	12,166.6	16.0	-180.4	83.5	15.72	15.48	-3.87	
12,246.0	51.70	177.30	12,187.5	-8.2	-179.4	103.4	15.74	15.63	-2.50	
12,277.0	54.90	177.00	12,206.1	-33.0	-178.2	123.7	10.35	10.32	-0.97	
12,309.0	58.10	178.20	12,223.7	-59.6	-177.1	145.5	10.48	10.00	3.75	
12,340.0	61.40	179.40	12,239.3	-86.4	-176.5	167.8	11.16	10.65	3.87	
12,372.0	66.50	180.10	12,253.4	-115.1	-176.4	192.0	16.06	15.94	2.19	
12,403.0	70.50	179.60	12,264.7	-144.0	-176.3	216.2	12.99	12.90	-1.61	
12,414.9	71.57	179.43	12,268.6	-155.2	-176.2	225.6	9.15	9.05	-1.44	
LP EI Mar 21 W0DM Fed Com 2H										
12,424.0	72.40	179.30	12,271.4	-163.9	-176.1	232.9	9.15	9.05	-1.42	
<u>12,471.0</u>	75.20	180.20	12,284.5	<u>-209.0</u>	<u>-175.9</u>	270.8	6.23	5.96	1.91	
12,503.0	79.00	179.90	12,291.7	-240.2	-176.0	297.1	11.91	11.88	-0.94	
12,535.0	83.00	179.90	12,296.7	-271.8	-175.9	323.7	12.50	12.50	0.00	
12,566.0	84.20	179.70	12,300.1	-302.6	-175.8	349.7	3.92	3.87	-0.65	
12,597.0	84.20	179.90	12,303.3	-333.5	-175.7	375.6	0.64	0.00	0.65	
12,629.0	86.00	180.90	12,306.0	-365.3	-175.9	402.6	6.43	5.63	3.13	
12,661.0	88.70	180.60	12,307.5	-397.3	-176.3	429.8	8.49	8.44	-0.94	
12,692.0	89.00	180.80	12,308.1	-428.3	-176.7	456.1	1.16	0.97	0.65	
12,787.0	88.60	182.60	12,310.1	-523.2	-179.5	537.6	1.94	-0.42	1.89	
12,882.0	86.50	182.70	12,314.2	-618.0	-183.9	619.9	2.21	-2.21	0.11	
12,977.0	88.80	184.70	12,318.1	-712.7	-190.0	703.0	3.21	2.42	2.11	
13,071.0	88.40	182.40	12,320.3	-806.5	-195.9	785.2	2.48	-0.43	-2.45	
13,165.0	89.60	182.50	12,322.0	-900.4	-199.9	866.5	1.28	1.28	0.11	
13,260.0	88.70	179.70	12,323.4	-995.4	-201.7	947.5	3.10	-0.95	-2.95	
13,355.0	90.10	177.10	12,324.4	-1,090.3	-199.0	1,026.1	3.11	1.47	-2.74	
13,450.0	87.20	175.50	12,326.6	-1,185.1	-192.9	1,102.7	3.49	-3.05	-1.68	
13,544.0	88.90	176.60	12,329.8	-1,278.8	-186.4	1,178.2	2.15	1.81	1.17	
13,639.0	89.00	174.30	12,331.6	-1,373.5	-178.9	1,254.0	2.42	0.11	-2.42	
13,702.0	91.60	175.40	12,331.2	-1,436.2	-173.3	1,303.8	4.48	4.13	1.75	
13,734.0	93.10	176.70	12,329.9	-1,468.1	-171.1	1,329.5	6.20	4.69	4.06	
13,765.0	91.50	176.20	12,328.7	-1,499.0	-169.1	1,354.6	5.41	-5.16	-1.61	
13,797.0	92.40	176.40	12,327.6	-1,530.9	-167.1	1,380.3	2.88	2.81	0.63	
13,829.0	92.40	176.80	12,326.3	-1,562.9	-165.2	1,406.2	1.25	0.00	1.25	
13,894.0	91.70	176.80	12,323.9	-1,627.7	-161.5	1,458.9	1.08	-1.08	0.00	
13,988.0	90.00	176.90	12,322.5	-1,721.6	-156.4	1,535.3	1.81	-1.81	0.11	
14,084.0	90.10	177.50	12,322.5	-1,817.4	-151.7	1,613.6	0.63	0.10	0.63	
14,178.0	87.20	177.30	12,324.7	-1,911.3	-147.4	1,690.4	3.09	-3.09	-0.21	
14,273.0	88.70	178.60	12,328.1	-2,006.2	-144.0	1,768.5	2.09	1.58	1.37	

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well EI Mar 21 W0DM Fed Com 2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Site:	Section 21-26S-33E EI Mar 21 W0DM Fed Com 2H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Well:	EI Mar 21 W0DM Fed Com 2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,368.0	87.80	179.30	12,331.0	-2,101.1	-142.3	1,847.6	1.20	-0.95	0.74	
14,462.0	87.90	179.90	12,334.5	-2,195.1	-141.6	1,926.5	0.65	0.11	0.64	
14,557.0	89.00	179.70	12,337.1	-2,290.0	-141.3	2,006.3	1.18	1.16	-0.21	
14,652.0	88.90	180.20	12,338.8	-2,385.0	-141.2	2,086.3	0.54	-0.11	0.53	
14,747.0	88.30	180.40	12,341.1	-2,480.0	-141.7	2,166.7	0.67	-0.63	0.21	
14,842.0	88.80	180.40	12,343.5	-2,574.9	-142.4	2,247.1	0.53	0.53	0.00	
14,936.0	90.60	180.30	12,344.0	-2,668.9	-143.0	2,326.6	1.92	1.91	-0.11	
15,031.0	91.00	180.60	12,342.7	-2,763.9	-143.7	2,407.1	0.53	0.42	0.32	
15,126.0	90.80	180.90	12,341.2	-2,858.9	-144.9	2,487.8	0.38	-0.21	0.32	
15,220.0	91.50	182.20	12,339.3	-2,952.8	-147.5	2,568.4	1.57	0.74	1.38	
15,315.0	86.60	183.40	12,340.9	-3,047.7	-152.1	2,650.8	5.31	-5.16	1.26	
15,409.0	87.20	183.70	12,346.0	-3,141.4	-157.9	2,732.9	0.71	0.64	0.32	
15,505.0	86.40	182.80	12,351.3	-3,237.1	-163.4	2,816.5	1.25	-0.83	-0.94	
15,569.0	87.20	183.30	12,354.9	-3,300.9	-166.8	2,872.1	1.47	1.25	0.78	
15,601.0	86.90	183.00	12,356.6	-3,332.8	-168.5	2,899.9	1.32	-0.94	-0.94	
15,632.0	86.90	181.60	12,358.2	-3,363.7	-169.8	2,926.7	4.51	0.00	-4.52	
15,665.0	86.90	179.80	12,360.0	-3,396.7	-170.2	2,954.7	5.45	0.00	-5.45	
15,697.0	88.00	177.80	12,361.4	-3,428.6	-169.5	2,981.2	7.13	3.44	-6.25	
15,729.0	90.80	177.10	12,361.8	-3,460.6	-168.1	3,007.4	9.02	8.75	-2.19	
15,761.0	91.30	177.00	12,361.2	-3,492.5	-166.4	3,033.5	1.59	1.56	-0.31	
15,793.0	90.90	177.00	12,360.6	-3,524.5	-164.8	3,059.5	1.25	-1.25	0.00	
15,825.0	91.70	176.50	12,359.8	-3,556.4	-162.9	3,085.4	2.95	2.50	-1.56	
15,857.0	91.70	176.10	12,358.9	-3,588.3	-160.9	3,111.2	1.25	0.00	-1.25	
15,889.0	92.60	176.10	12,357.7	-3,620.2	-158.7	3,137.0	2.81	2.81	0.00	
15,921.0	93.60	176.80	12,356.0	-3,652.1	-156.7	3,162.8	3.81	3.13	2.19	
15,985.0	93.80	177.40	12,351.8	-3,715.9	-153.5	3,214.8	0.99	0.31	0.94	
16,080.0	93.10	179.40	12,346.1	-3,810.7	-150.9	3,293.3	2.23	-0.74	2.11	
16,143.0	91.50	180.60	12,343.6	-3,873.7	-150.9	3,346.3	3.17	-2.54	1.90	
16,175.0	90.60	181.30	12,343.0	-3,905.6	-151.4	3,373.6	3.56	-2.81	2.19	
16,206.0	90.50	182.00	12,342.7	-3,936.6	-152.3	3,400.2	2.28	-0.32	2.26	
16,237.0	88.70	181.90	12,342.9	-3,967.6	-153.3	3,426.9	5.82	-5.81	-0.32	
16,269.0	87.00	181.90	12,344.1	-3,999.6	-154.4	3,454.4	5.31	-5.31	0.00	
16,301.0	86.70	182.20	12,345.9	-4,031.5	-155.5	3,481.9	1.32	-0.94	0.94	
16,364.0	88.10	181.60	12,348.7	-4,094.4	-157.6	3,536.0	2.42	2.22	-0.95	
16,395.0	87.80	181.10	12,349.8	-4,125.4	-158.4	3,562.5	1.88	-0.97	-1.61	
16,459.0	88.90	180.80	12,351.7	-4,189.3	-159.4	3,617.0	1.78	1.72	-0.47	
16,553.0	88.70	180.00	12,353.7	-4,283.3	-160.1	3,696.6	0.88	-0.21	-0.85	
16,648.0	88.40	180.30	12,356.1	-4,378.3	-160.3	3,776.8	0.45	-0.32	0.32	
16,743.0	87.80	179.00	12,359.2	-4,473.2	-159.7	3,856.5	1.51	-0.63	-1.37	
16,838.0	90.80	178.30	12,360.4	-4,568.2	-157.5	3,935.3	3.24	3.16	-0.74	
16,933.0	90.80	176.90	12,359.0	-4,663.1	-153.5	4,013.2	1.47	0.00	-1.47	
16,973.0	91.40	176.60	12,358.3	-4,703.0	-151.3	4,045.6	1.68	1.50	-0.75	
17,025.0	91.40	176.60	12,357.0	-4,754.9	-148.2	4,087.7	0.00	0.00	0.00	



Microsoft Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well EI Mar 21 W0DM Fed Com 2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Site:	Section 21-26S-33E EI Mar 21 W0DM Fed Com 2H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 231)
Well:	EI Mar 21 W0DM Fed Com 2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17025.0' MD Projected to Bit - PBHL EI Mar 21 W0DM Fed Com 2H									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
854.0	854.0	-1.0	-0.7	853.0' MD Phoenix Gyro Survey	
17,025.0	12,357.0	-4,754.9	-148.2	17025.0' MD Projected to Bit	



December 4, 2017

**New Mexico Energy, Minerals and Natural Resources Department
Attn: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505**

Attn: Jackie Lathan

**Re: Mewbourne Oil Company
El Mar 21 W0DM Federal Com #002H
Wildcat; Upper Wolfcamp
Lea County, New Mexico
API# 30-025-42935**

Enclosed please find the original and one (1) copy of the survey performed on the reference well by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C. Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole No.</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Chris Alley	Original Hole	965ft. to 16,973ft.	10-16-17 to 11-09-17	MWD Survey

A certified plat on which the bottom-hole location is oriented to both surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.



Todd Estes

Enclosures

CC:

Mewbourne Oil Company
Attn: Frosty Lathan
P.O. Box 5720
Hobbs, NM 88241

Mewbourne Oil Company
Attn: Robin Terrell
P.O. Box 5720
Hobbs, NM 88241

NMEMaNRD\Mewbourne Oil Company\EI Mar 21 W0DM Fed Com #2HM171103

**STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.
P.O. Box 1250
Montgomery, TX 77356
Office (936) 582-7296 * Fax (936)-588-4163**



December 4, 2017

Survey Certification Report

STATE OF TEXAS
COUNTY OF Montgomery

I, Todd Estes, certify that I am employed by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C., and that I did on the day(s) of October 16, 2017, through November 09, 2017 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 965 feet to a depth of 16,973 feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the El Mar 21 W0DM Federal Com #2H well, API # 30-025-42935 in Lea County, New Mexico; and that I have reviewed this report and find that it conforms to the principles as set forth by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

A handwritten signature in blue ink that reads "Todd Estes" is written over a horizontal line.

Todd Estes

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.
P.O. Box 1250
Montgomery, TX 77356
Office (936) 582-7296 * Fax (936)-588-4163



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0DM Fed Com
Well: El Mar 21 W0DM Fed Com 2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0DM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Project	Lea County N. M. Nad (83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Section 21-26S-33E El Mar 21 W0DM Fed Com 2H		
Site Position:		Northing:	377,550.50 usft
From:	Map	Easting:	774,280.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 8.656 N
		Longitude:	103° 34' 53.732 W
		Grid Convergence:	0.40 °

Well	El Mar 21 W0DM Fed Com 2H		
Well Position	+N/-S	0.0 usft	Northing: 377,550.50 usft
	+E/-W	0.0 usft	Easting: 774,280.80 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: 27.0 usft
			Latitude: 32° 2' 8.656 N
			Longitude: 103° 34' 53.732 W
			Ground Level: 3,275.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/3/2017	6.91	59.88	47,795.77587035

Design	Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	212.55	-



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0DM Fed Com
Well: El Mar 21 W0DM Fed Com 2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0DM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey Program	Date	11/9/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	854.0	Phoenix Gyro Survey #1 (Original Hole)	NSG-CT_WL	Continuous north-seeking gyro on wireline
965.0	17,025.0	MWD Survey #2 (Original Hole)	MWD	MWD v3:standard declination

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
854.0	1.35	165.17	854.0	-1.0	-0.7	1.2	212.55	Tie-In
965.0	0.50	234.80	965.0	-2.6	-0.7	2.7	195.56	
1,028.0	0.70	244.00	1,028.0	-2.9	-1.3	3.2	203.94	
1,123.0	0.50	258.90	1,123.0	-3.2	-2.2	3.9	214.43	
1,218.0	0.50	238.60	1,218.0	-3.5	-3.0	4.6	220.16	
1,314.0	0.40	255.10	1,314.0	-3.8	-3.7	5.3	223.67	
1,409.0	0.60	232.70	1,409.0	-4.2	-4.4	6.1	226.04	
1,505.0	0.60	259.50	1,505.0	-4.6	-5.3	7.0	228.79	
1,600.0	0.60	258.60	1,599.9	-4.8	-6.2	7.9	232.44	
1,695.0	0.70	260.30	1,694.9	-5.0	-7.3	8.8	235.61	
1,790.0	0.70	274.10	1,789.9	-5.1	-8.5	9.8	239.13	
1,887.0	0.80	263.60	1,886.9	-5.1	-9.7	11.0	242.37	
1,983.0	0.90	266.60	1,982.9	-5.2	-11.1	12.3	244.94	
2,077.0	0.90	264.10	2,076.9	-5.3	-12.6	13.7	247.10	
2,173.0	1.00	275.40	2,172.9	-5.3	-14.2	15.2	249.43	
2,267.0	1.10	267.10	2,266.9	-5.3	-15.9	16.8	251.60	
2,362.0	1.40	264.60	2,361.9	-5.4	-18.0	18.8	253.14	
2,457.0	0.30	2.70	2,456.8	-5.3	-19.1	19.8	254.48	
2,552.0	0.30	85.90	2,551.8	-5.0	-18.9	19.5	255.03	
2,647.0	0.40	34.00	2,646.8	-4.8	-18.4	19.0	255.54	
2,741.0	0.30	3.30	2,740.8	-4.2	-18.2	18.7	256.93	



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0DM Fed Com
Well: El Mar 21 W0DM Fed Com 2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0DM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
2,835.0	0.40	35.60	2,834.8	-3.7	-18.0	18.4	258.34
2,929.0	0.40	58.50	2,928.8	-3.3	-17.6	17.9	259.41
3,024.0	0.10	284.10	3,023.8	-3.1	-17.3	17.6	259.91
3,118.0	0.20	183.80	3,117.8	-3.2	-17.4	17.7	259.50
3,212.0	0.10	243.30	3,211.8	-3.4	-17.5	17.9	258.92
3,307.0	0.30	210.30	3,306.8	-3.7	-17.7	18.1	258.26
3,402.0	0.30	198.10	3,401.8	-4.1	-17.9	18.4	257.01
3,497.0	0.50	128.70	3,496.8	-4.6	-17.7	18.3	255.32
3,591.0	0.70	119.40	3,590.8	-5.2	-16.9	17.6	252.95
3,686.0	1.30	98.10	3,685.8	-5.6	-15.3	16.3	249.86
3,780.0	1.20	98.10	3,779.8	-5.9	-13.3	14.5	246.03
3,875.0	1.40	93.00	3,874.8	-6.1	-11.1	12.7	241.25
3,969.0	0.30	133.30	3,968.8	-6.3	-9.8	11.7	237.13
4,064.0	0.50	270.30	4,063.8	-6.5	-10.0	11.9	237.06
4,159.0	0.50	272.80	4,158.7	-6.5	-10.8	12.6	239.19
4,254.0	0.40	254.00	4,253.7	-6.5	-11.6	13.3	240.54
4,349.0	0.30	157.20	4,348.7	-6.9	-11.8	13.7	239.83
4,444.0	0.40	128.80	4,443.7	-7.3	-11.4	13.6	237.48
4,539.0	0.90	125.30	4,538.7	-7.9	-10.6	13.2	233.12
4,634.0	1.30	125.70	4,633.7	-9.0	-9.1	12.8	225.32
4,730.0	0.10	213.00	4,729.7	-9.7	-8.3	12.7	220.40
4,783.0	0.40	321.50	4,782.7	-9.6	-8.4	12.8	221.19
4,923.0	0.40	265.30	4,922.7	-9.3	-9.2	13.0	224.80
5,018.0	1.80	311.40	5,017.7	-8.3	-10.6	13.5	232.06
5,112.0	2.00	310.10	5,111.6	-6.3	-13.0	14.4	244.28
5,207.0	2.10	315.80	5,206.6	-3.9	-15.5	16.0	255.70
5,301.0	2.20	312.80	5,300.5	-1.5	-18.0	18.1	265.28



Microsoft
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Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0DM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
5,396.0	2.20	319.60	5,395.4	1.1	-20.5	20.6	273.18
5,491.0	2.80	316.10	5,490.3	4.2	-23.3	23.7	280.21
5,586.0	3.20	311.90	5,585.2	7.6	-26.9	28.0	285.86
5,681.0	3.60	313.80	5,680.1	11.5	-31.0	33.1	290.30
5,776.0	2.80	309.80	5,774.9	15.0	-35.0	38.1	293.26
5,871.0	2.60	304.30	5,869.8	17.7	-38.5	42.4	294.71
5,966.0	2.20	311.20	5,964.7	20.1	-41.7	46.3	295.79
6,060.0	2.00	314.00	6,058.7	22.5	-44.2	49.6	296.94
6,155.0	2.10	313.10	6,153.6	24.8	-46.7	52.9	297.99
6,250.0	1.90	309.40	6,248.5	27.0	-49.2	56.1	298.77
6,344.0	2.40	315.40	6,342.5	29.4	-51.8	59.5	299.59
6,439.0	2.50	316.20	6,437.4	32.3	-54.6	63.4	300.62
6,534.0	2.40	316.50	6,532.3	35.2	-57.4	67.3	301.55
6,628.0	2.50	314.30	6,626.2	38.1	-60.2	71.3	302.33
6,723.0	2.70	315.20	6,721.1	41.1	-63.3	75.5	303.03
6,817.0	2.70	317.90	6,815.0	44.3	-66.3	79.8	303.77
6,912.0	2.60	319.50	6,909.9	47.6	-69.2	84.0	304.54
7,007.0	2.50	317.10	7,004.8	50.8	-72.0	88.1	305.20
7,102.0	2.60	314.30	7,099.7	53.8	-75.0	92.3	305.68
7,197.0	2.90	315.40	7,194.6	57.0	-78.2	96.8	306.11
7,292.0	2.20	329.20	7,289.5	60.3	-80.8	100.9	306.73
7,386.0	2.30	333.70	7,383.4	63.6	-82.6	104.2	307.58
7,481.0	2.20	333.20	7,478.4	66.9	-84.3	107.6	308.45
7,576.0	1.90	309.40	7,573.3	69.5	-86.3	110.8	308.86
7,670.0	1.50	305.20	7,667.3	71.2	-88.5	113.6	308.83
7,764.0	1.80	310.90	7,761.2	72.9	-90.6	116.3	308.81
7,859.0	1.70	320.80	7,856.2	75.0	-92.6	119.2	308.98



Microsoft
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Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0DM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
7,954.0	2.50	317.80	7,951.1	77.6	-94.9	122.6	309.26
8,049.0	2.50	316.50	8,046.0	80.6	-97.7	126.7	309.52
8,144.0	2.50	318.30	8,140.9	83.7	-100.5	130.8	309.77
8,239.0	2.20	316.90	8,235.9	86.6	-103.2	134.7	310.00
8,333.0	2.00	321.30	8,329.8	89.2	-105.4	138.1	310.22
8,426.0	1.90	319.60	8,422.7	91.6	-107.4	141.2	310.45
8,521.0	2.00	321.60	8,517.7	94.1	-109.5	144.4	310.68
8,616.0	1.90	325.10	8,612.6	96.7	-111.4	147.5	310.95
8,711.0	1.70	315.70	8,707.6	99.0	-113.3	150.5	311.14
8,806.0	1.80	320.10	8,802.5	101.1	-115.2	153.3	311.27
8,901.0	2.20	305.10	8,897.5	103.3	-117.7	156.6	311.28
8,995.0	1.90	307.40	8,991.4	105.3	-120.4	160.0	311.17
9,091.0	1.70	315.50	9,087.4	107.3	-122.7	163.0	311.18
9,186.0	2.20	332.70	9,182.3	109.9	-124.5	166.1	311.44
9,281.0	2.60	335.90	9,277.2	113.5	-126.2	169.8	311.97
9,375.0	2.30	300.40	9,371.2	116.4	-128.7	173.5	312.13
9,470.0	2.60	290.70	9,466.1	118.1	-132.4	177.4	311.75
9,564.0	3.30	320.70	9,559.9	121.0	-136.1	182.1	311.64
9,660.0	3.40	330.80	9,655.8	125.6	-139.2	187.5	312.06
9,755.0	2.10	321.10	9,750.7	129.4	-141.7	191.9	312.41
9,849.0	2.00	310.00	9,844.6	131.8	-144.0	195.2	312.47
9,944.0	2.80	316.60	9,939.5	134.6	-146.9	199.2	312.49
10,039.0	2.10	296.20	10,034.4	137.0	-150.0	203.2	312.40
10,134.0	2.30	284.00	10,129.4	138.3	-153.5	206.6	312.02
10,229.0	1.90	294.30	10,224.3	139.4	-156.7	209.7	311.64
10,324.0	2.10	286.10	10,319.3	140.5	-159.8	212.8	311.31
10,419.0	2.20	308.90	10,414.2	142.1	-162.9	216.2	311.10



Microsoft
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
10,514.0	1.60	333.60	10,509.1	144.5	-164.9	219.3	311.21
10,610.0	1.50	341.50	10,605.1	146.8	-165.9	221.6	311.51
10,704.0	1.30	354.80	10,699.1	149.1	-166.4	223.4	311.85
10,799.0	1.80	340.80	10,794.0	151.6	-167.0	225.5	312.22
10,894.0	1.80	316.30	10,889.0	154.0	-168.5	228.3	312.43
10,990.0	2.70	298.80	10,984.9	156.2	-171.6	232.0	312.32
11,084.0	1.10	335.10	11,078.9	158.1	-173.9	235.0	312.28
11,180.0	0.90	327.80	11,174.9	159.6	-174.7	236.6	312.42
11,275.0	1.30	295.60	11,269.8	160.7	-176.0	238.3	312.39
11,370.0	1.50	317.50	11,364.8	162.1	-177.9	240.6	312.34
11,466.0	1.60	307.40	11,460.8	163.8	-179.8	243.2	312.34
11,560.0	1.10	322.00	11,554.7	165.3	-181.4	245.4	312.35
11,654.0	0.80	316.10	11,648.7	166.5	-182.4	246.9	312.39
11,705.5	0.80	310.36	11,700.2	167.0	-182.9	247.7	312.40
B.B El Mar 21 W0DM Fed Com 2H							
11,749.0	0.80	305.50	11,743.7	167.4	-183.4	248.3	312.39
11,790.0	0.60	305.20	11,784.7	167.6	-183.8	248.8	312.37
11,835.0	1.20	199.30	11,829.7	167.3	-184.1	248.8	312.26
11,867.0	4.90	180.30	11,861.7	165.7	-184.3	247.8	311.96
11,899.0	9.50	176.80	11,893.4	161.7	-184.1	245.0	311.28
11,930.0	13.40	175.90	11,923.8	155.5	-183.7	240.7	310.25
11,962.0	17.00	175.80	11,954.7	147.1	-183.1	234.9	308.79
11,993.0	20.40	176.40	11,984.0	137.2	-182.4	228.3	306.95
12,024.0	24.20	176.60	12,012.7	125.5	-181.7	220.8	304.63
12,056.0	28.40	177.50	12,041.4	111.3	-181.0	212.5	301.60
12,087.0	32.00	179.70	12,068.2	95.8	-180.6	204.4	297.93
12,119.0	35.80	180.70	12,094.7	77.9	-180.7	196.8	293.32



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 WODM Fed Com
Well: El Mar 21 WODM Fed Com 2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 WODM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
12,151.0	39.10	180.60	12,120.1	58.5	-180.9	190.1	287.90
12,183.0	41.90	179.30	12,144.5	37.7	-180.9	184.8	281.76
12,214.0	46.70	178.10	12,166.6	16.0	-180.4	181.1	275.08
12,246.0	51.70	177.30	12,187.5	-8.2	-179.4	179.6	267.40
12,277.0	54.90	177.00	12,206.1	-33.0	-178.2	181.2	259.51
12,309.0	58.10	178.20	12,223.7	-59.6	-177.1	186.8	251.39
12,340.0	61.40	179.40	12,239.3	-86.4	-176.5	196.5	243.92
12,372.0	66.50	180.10	12,253.4	-115.1	-176.4	210.6	236.86
12,403.0	70.50	179.60	12,264.7	-144.0	-176.3	227.6	230.76
12,414.9	71.57	179.43	12,268.6	-155.2	-176.2	234.8	228.63
LP El Mar 21 WODM Fed Com 2H							
12,424.0	72.40	179.30	12,271.4	-163.9	-176.1	240.6	227.06
12,471.0	75.20	180.20	12,284.5	-209.0	-175.9	273.2	220.09
12,503.0	79.00	179.90	12,291.7	-240.2	-176.0	297.8	216.22
12,535.0	83.00	179.90	12,296.7	-271.8	-175.9	323.8	212.91
12,566.0	84.20	179.70	12,300.1	-302.6	-175.8	350.0	210.15
12,597.0	84.20	179.90	12,303.3	-333.5	-175.7	376.9	207.78
12,629.0	86.00	180.90	12,306.0	-365.3	-175.9	405.5	205.71
12,661.0	88.70	180.60	12,307.5	-397.3	-176.3	434.7	203.93
12,692.0	89.00	180.80	12,308.1	-428.3	-176.7	463.3	202.42
12,787.0	88.60	182.60	12,310.1	-523.2	-179.5	553.2	198.94
12,882.0	86.50	182.70	12,314.2	-618.0	-183.9	644.8	196.57
12,977.0	88.80	184.70	12,318.1	-712.7	-190.0	737.6	194.93
13,071.0	88.40	182.40	12,320.3	-806.5	-195.9	830.0	193.65
13,165.0	89.60	182.50	12,322.0	-900.4	-199.9	922.3	192.52
13,260.0	88.70	179.70	12,323.4	-995.4	-201.7	1,015.6	191.45
13,355.0	90.10	177.10	12,324.4	-1,090.3	-199.0	1,108.3	190.35



Microsoft
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Wellbore: Original Hole
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
13,450.0	87.20	175.50	12,326.6	-1,185.1	-192.9	1,200.7	189.25
13,544.0	88.90	176.60	12,329.8	-1,278.8	-186.4	1,292.3	188.30
13,639.0	89.00	174.30	12,331.6	-1,373.5	-178.9	1,385.1	187.42
13,702.0	91.60	175.40	12,331.2	-1,436.2	-173.3	1,446.6	186.88
13,734.0	93.10	176.70	12,329.9	-1,468.1	-171.1	1,478.0	186.65
13,765.0	91.50	176.20	12,328.7	-1,499.0	-169.1	1,508.5	186.44
13,797.0	92.40	176.40	12,327.6	-1,530.9	-167.1	1,540.0	186.23
13,829.0	92.40	176.80	12,326.3	-1,562.9	-165.2	1,571.6	186.03
13,894.0	91.70	176.80	12,323.9	-1,627.7	-161.5	1,635.7	185.67
13,988.0	90.00	176.90	12,322.5	-1,721.6	-156.4	1,728.7	185.19
14,084.0	90.10	177.50	12,322.5	-1,817.4	-151.7	1,823.8	184.77
14,178.0	87.20	177.30	12,324.7	-1,911.3	-147.4	1,917.0	184.41
14,273.0	88.70	178.60	12,328.1	-2,006.2	-144.0	2,011.4	184.11
14,368.0	87.80	179.30	12,331.0	-2,101.1	-142.3	2,105.9	183.87
14,462.0	87.90	179.90	12,334.5	-2,195.1	-141.6	2,199.6	183.69
14,557.0	89.00	179.70	12,337.1	-2,290.0	-141.3	2,294.4	183.53
14,652.0	88.90	180.20	12,338.8	-2,385.0	-141.2	2,389.2	183.39
14,747.0	88.30	180.40	12,341.1	-2,480.0	-141.7	2,484.0	183.27
14,842.0	88.80	180.40	12,343.5	-2,574.9	-142.4	2,578.9	183.17
14,936.0	90.60	180.30	12,344.0	-2,668.9	-143.0	2,672.8	183.07
15,031.0	91.00	180.60	12,342.7	-2,763.9	-143.7	2,767.7	182.98
15,126.0	90.80	180.90	12,341.2	-2,858.9	-144.9	2,862.6	182.90
15,220.0	91.50	182.20	12,339.3	-2,952.8	-147.5	2,956.5	182.86
15,315.0	86.60	183.40	12,340.9	-3,047.7	-152.1	3,051.5	182.86
15,409.0	87.20	183.70	12,346.0	-3,141.4	-157.9	3,145.3	182.88
15,505.0	86.40	182.80	12,351.3	-3,237.1	-163.4	3,241.2	182.89
15,589.0	87.20	183.30	12,354.9	-3,300.9	-166.8	3,305.1	182.89



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0DM Fed Com
Well: El Mar 21 W0DM Fed Com 2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0DM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
15,601.0	86.90	183.00	12,356.6	-3,332.8	-168.5	3,337.0	182.89
15,632.0	86.90	181.60	12,358.2	-3,363.7	-169.8	3,368.0	182.89
15,665.0	86.90	179.80	12,360.0	-3,396.7	-170.2	3,400.9	182.87
15,697.0	88.00	177.80	12,361.4	-3,428.6	-169.5	3,432.8	182.83
15,729.0	90.80	177.10	12,361.8	-3,460.6	-168.1	3,464.7	182.78
15,761.0	91.30	177.00	12,361.2	-3,492.5	-166.4	3,496.5	182.73
15,793.0	90.90	177.00	12,360.6	-3,524.5	-164.8	3,528.3	182.68
15,825.0	91.70	176.50	12,359.8	-3,556.4	-162.9	3,560.2	182.62
15,857.0	91.70	176.10	12,358.9	-3,588.3	-160.9	3,591.9	182.57
15,889.0	92.60	176.10	12,357.7	-3,620.2	-158.7	3,623.7	182.51
15,921.0	93.60	176.80	12,356.0	-3,652.1	-156.7	3,655.5	182.46
15,985.0	93.80	177.40	12,351.8	-3,715.9	-153.5	3,719.1	182.37
16,080.0	93.10	179.40	12,346.1	-3,810.7	-150.9	3,813.7	182.27
16,143.0	91.50	180.60	12,343.6	-3,873.7	-150.9	3,876.6	182.23
16,175.0	90.60	181.30	12,343.0	-3,905.6	-151.4	3,908.6	182.22
16,206.0	90.50	182.00	12,342.7	-3,936.6	-152.3	3,939.6	182.22
16,237.0	88.70	181.90	12,342.9	-3,967.6	-153.3	3,970.6	182.21
16,269.0	87.00	181.90	12,344.1	-3,999.6	-154.4	4,002.5	182.21
16,301.0	86.70	182.20	12,345.9	-4,031.5	-155.5	4,034.5	182.21
16,364.0	88.10	181.60	12,348.7	-4,094.4	-157.6	4,097.4	182.20
16,395.0	87.80	181.10	12,349.8	-4,125.4	-158.4	4,128.4	182.20
16,459.0	88.90	180.80	12,351.7	-4,189.3	-159.4	4,192.4	182.18
16,553.0	88.70	180.00	12,353.7	-4,283.3	-160.1	4,286.3	182.14
16,648.0	88.40	180.30	12,356.1	-4,378.3	-160.3	4,381.2	182.10
16,743.0	87.80	179.00	12,359.2	-4,473.2	-159.7	4,476.1	182.05
16,838.0	90.80	178.30	12,360.4	-4,568.2	-157.5	4,570.9	181.97
16,933.0	90.80	176.90	12,359.0	-4,663.1	-153.5	4,665.6	181.89



Company: Mewbourne Oil Company
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Site: Section 21-26S-33E EI Mar 21 W0DM Fed Com
Well: EI Mar 21 W0DM Fed Com 2H
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Design: Original Hole

Local Co-ordinate Reference: Well EI Mar 21 W0DM Fed Com 2H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 231)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
16,973.0	91.40	176.60	12,358.3	-4,703.0	-151.3	4,705.4	181.84
17,025.0	91.40	176.60	12,357.0	-4,754.9	-148.2	4,757.2	181.78

17025.0' MD Projected to Bit - PBHL EI Mar 21 W0DM Fed Com 2H

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
17,025.0	12,357.0	-4,754.9	-148.2	17025.0' MD Projected to Bit

GEODETIC ZONE: New Mexico Eastern Zone 3275 + 27 @ 3302.Dusft (Patterson 231) GROUND ELEVATION: 3275.0										
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot				
0.0	0.0	377550.50	774280.80	32° 2' 8.656 N	103° 34' 53.732 W					
PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	V Sect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5000.0	0.00	0.00	5000.0	0.0	0.0	0.00	0.00	0.0	
3	5152.8	2.29	313.16	5152.7	2.1	-2.2	1.50	313.16	-2.0	
4	11552.4	2.29	313.16	11547.3	177.2	-188.9	0.00	0.00	-170.9	
5	11705.2	0.00	0.00	11700.0	179.2	-191.1	1.50	180.00	-173.0	B.B El Mar 21 W0DM Fed Com 2H
6	11839.8	0.00	0.00	11834.6	179.2	-191.1	0.00	0.00	-173.0	
7	12581.3	88.97	179.57	12312.0	-289.7	-187.6	12.00	179.57	295.6	
8	17052.9	88.97	179.57	12392.0	-4760.5	-154.1	0.00	0.00	4763.0	PBHL El Mar 21 W0DM Fed Com 2H

SHL 190 FNL; 1290' FWL
 Section 21-26S-33E
 PBHL 330' FSL; 1100' FWL
 Section 21-26S-33E

