



COMPANY: Mewbourne Oil Company
WELL: El Mar 21 W0CN Fed Com #4H
COUNTY: Lea County N. M. Nad (83)
DATUM: North American Datum 1983
RIG: Patterson Patterson 230



OFFICE: 936.582.7296

Grid Correction MWD: To convert a Magnetic Direction to a Grid Direction, Add 6.50°

GEODETTIC ZONE: New Mexico Eastern Zone

3275 + 27 @ 3302.0usft (Patterson 230)

GROUND ELEVATION: 3275.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot

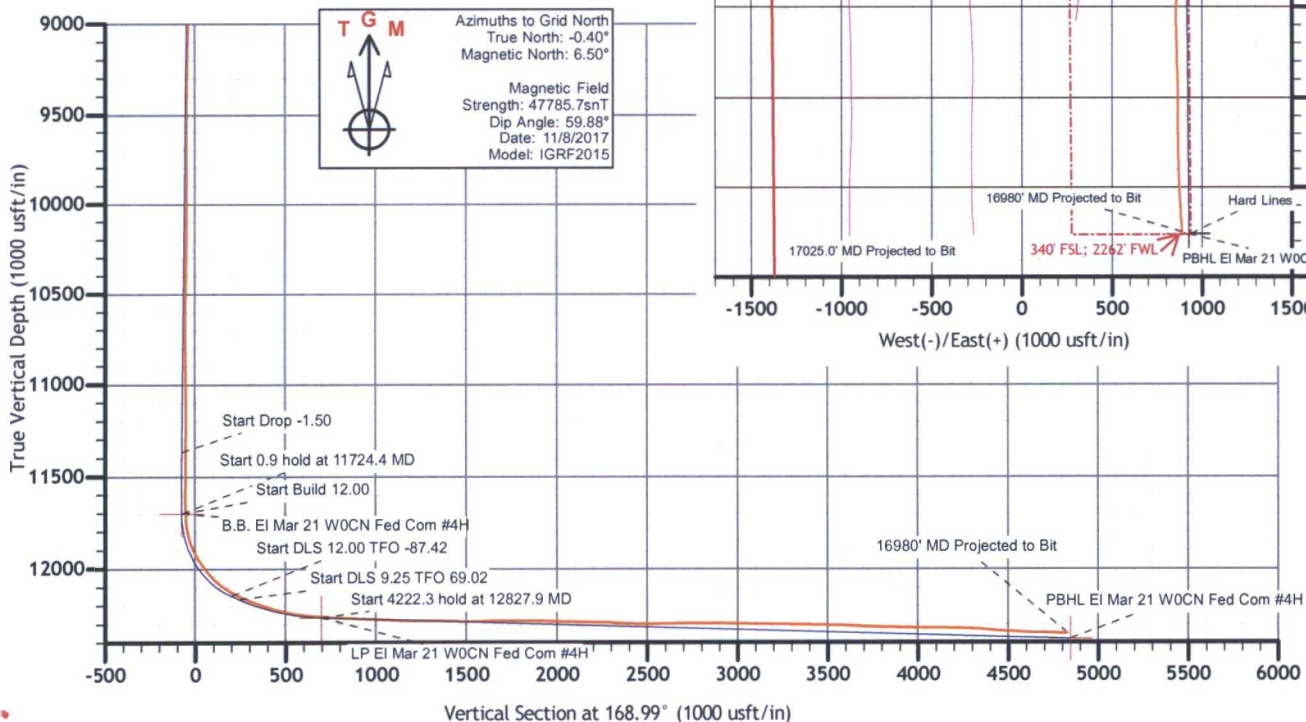
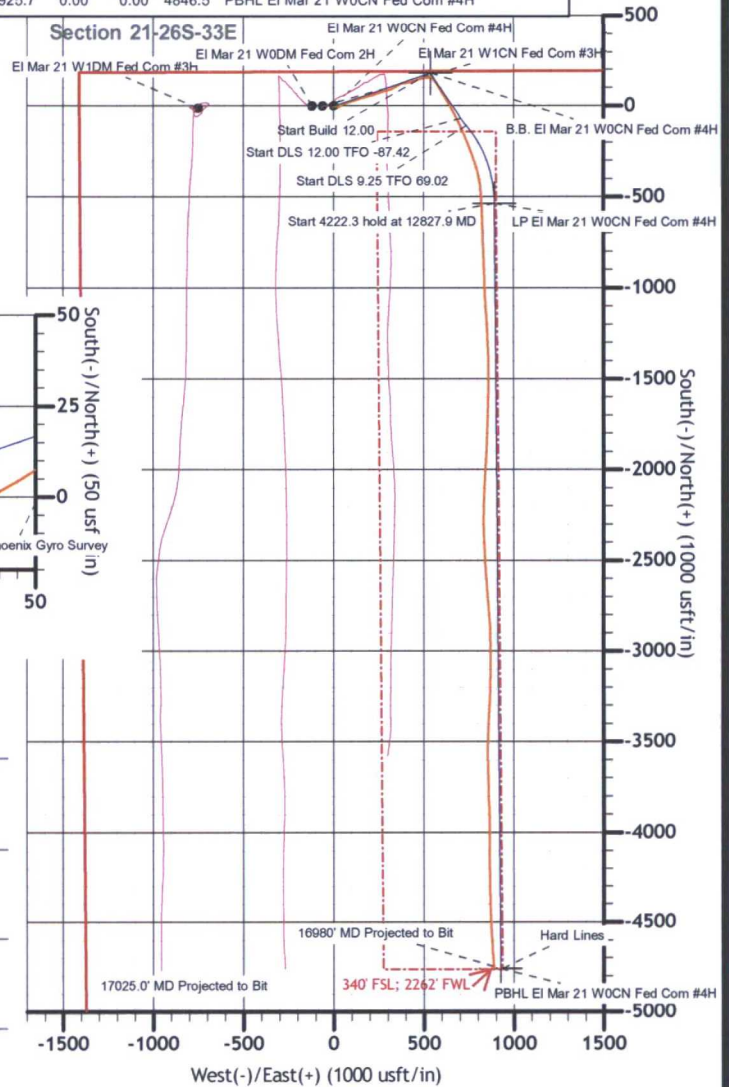
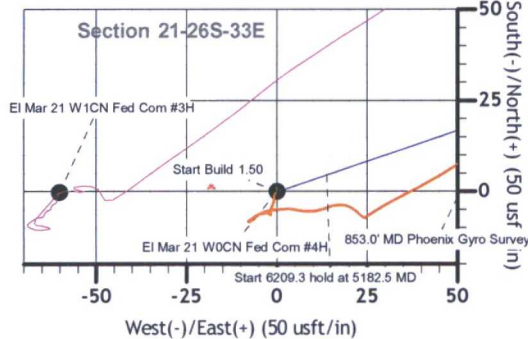
0.0 0.0 377550.90 774400.80 32° 2' 8.652 N 103° 34' 52.338 W

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4850.0	0.00	0.00	4850.0	0.0	0.0	0.00	0.00	0.0	
3	5182.5	4.99	71.34	5182.1	4.6	13.7	1.50	71.34	-1.9	
4	11391.8	4.99	71.34	11367.9	177.3	525.2	0.00	0.00	-73.8	
5	11724.4	0.00	0.00	11700.0	182.0	538.9	1.50	180.00	-75.7	B.B. El Mar 21 W0CN Fed Com #4H
6	11725.2	0.00	0.00	11700.9	182.0	538.9	0.00	0.00	-75.7	
7	12294.1	68.26	146.00	12144.4	-67.3	707.0	12.00	146.00	201.1	
8	12349.3	68.71	138.89	12164.7	-107.9	738.3	12.00	-87.42	247.0	LP El Mar 21 W0CN Fed Com #4H
9	12827.9	88.44	179.58	12263.0	-536.7	894.5	9.25	69.02	697.7	PBHL El Mar 21 W0CN Fed Com #4H
10	17050.2	88.44	179.58	12378.0	-4757.3	925.7	0.00	0.00	4846.5	

HOBBS OCD
APR 30 2018
RECEIVED

SHL 190 FNL; 1410' FWL
Section 21-26S-33E
PBHL 330' FSL; 2300' FWL
Section 21-26S-33E
B.B. 10' FNL; 1950' FWL
Section 21-26S-33E





Mewbourne Oil Company

Lea County N. M. Nad (83)

Section 21-26S-33E El Mar 21 W0CN Fed Com #4H

El Mar 21 W0CN Fed Com #4H

Original Hole

Design: Original Hole

Standard Survey Report

03 January, 2018



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well El Mar 21 W0CN Fed Com #4H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 230)
Site:	Section 21-26S-33E El Mar 21 W0CN Fed Com #4H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 230)
Well:	El Mar 21 W0CN Fed Com #4H	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 El Mar 21 W0CN Fed Com #4H			
Site Position:		Northing:	377,550.90 usft	Latitude: 32° 2' 8.652 N
From: Map		Easting:	774,400.80 usft	Longitude: 103° 34' 52.338 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.40 °

Well	El Mar 21 W0CN Fed Com #4H			
Well Position	+N/-S	0.0 usft	Northing:	377,550.90 usft
	+E/-W	0.0 usft	Easting:	774,400.80 usft
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	11/8/2017	6.90	59.88	47,785.70216341

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	0.45

Survey Program		Date	1/3/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	830.0	Survey ? (Original Hole)	MWD	MWD v3:standard declination	
934.0	16,980.0	MWD Survey (Original Hole)	MWD	MWD v3:standard declination	

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.32	342.55	100.0	0.3	-0.1	0.3	0.32	0.32	0.00
200.0	0.45	193.16	200.0	0.2	-0.3	0.1	0.74	0.13	-149.39
300.0	0.48	62.17	300.0	0.0	0.0	0.0	0.85	0.03	-130.99
400.0	0.42	300.15	400.0	0.3	0.1	0.3	0.79	-0.06	-122.02
500.0	0.56	23.59	500.0	1.0	0.0	1.0	0.66	0.14	83.44
600.0	0.40	244.84	600.0	1.3	-0.2	1.3	0.90	-0.16	-138.75
700.0	0.47	161.56	700.0	0.7	-0.4	0.7	0.58	0.07	-83.28
800.0	0.48	165.31	800.0	-0.1	-0.1	-0.1	0.03	0.01	3.75

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Well:	El Mar 21 W0CN Fed Com #4H	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)
830.0	0.69	224.75	830.0	-0.3	-0.2	-0.3	2.03	0.70	198.13
Rig survey's?									
934.0	0.50	188.20	934.0	-1.2	-0.7	-1.2	0.40	-0.18	-35.14
1,029.0	0.70	186.10	1,029.0	-2.2	-0.8	-2.2	0.21	0.21	-2.21
1,125.0	0.60	198.60	1,125.0	-3.2	-1.1	-3.3	0.18	-0.10	13.02
1,220.0	0.50	203.60	1,220.0	-4.1	-1.4	-4.1	0.12	-0.11	5.26
1,315.0	0.40	202.50	1,315.0	-4.8	-1.7	-4.8	0.11	-0.11	-1.16
1,411.0	0.40	178.30	1,411.0	-5.4	-1.8	-5.4	0.17	0.00	-25.21
1,506.0	0.30	169.40	1,506.0	-6.0	-1.7	-6.0	0.12	-0.11	-9.37
1,601.0	0.10	160.40	1,601.0	-6.3	-1.7	-6.3	0.21	-0.21	-9.47
1,696.0	0.10	291.30	1,696.0	-6.4	-1.7	-6.4	0.19	0.00	137.79
1,791.0	0.00	134.10	1,791.0	-6.3	-1.8	-6.4	0.11	-0.11	0.00
1,889.0	0.00	11.50	1,889.0	-6.3	-1.8	-6.4	0.00	0.00	0.00
1,984.0	0.20	329.80	1,984.0	-6.2	-1.9	-6.2	0.21	0.21	0.00
2,078.0	0.20	284.10	2,078.0	-6.0	-2.1	-6.0	0.17	0.00	-48.62
2,174.0	0.20	290.30	2,174.0	-5.9	-2.4	-5.9	0.02	0.00	6.46
2,268.0	0.40	274.80	2,268.0	-5.8	-2.9	-5.9	0.23	0.21	-16.49
2,363.0	0.40	253.30	2,363.0	-5.9	-3.6	-5.9	0.16	0.00	-22.63
2,508.0	0.50	260.10	2,507.9	-6.2	-4.7	-6.2	0.08	0.07	4.69
2,553.0	0.50	254.20	2,552.9	-6.2	-5.1	-6.3	0.11	0.00	-13.11
2,648.0	0.50	235.00	2,647.9	-6.6	-5.8	-6.6	0.18	0.00	-20.21
2,742.0	0.30	236.90	2,741.9	-7.0	-6.3	-7.0	0.21	-0.21	2.02
2,836.0	0.40	238.80	2,835.9	-7.3	-6.8	-7.3	0.11	0.11	2.02
2,930.0	0.40	235.40	2,929.9	-7.6	-7.4	-7.7	0.03	0.00	-3.62
3,025.0	0.40	221.70	3,024.9	-8.1	-7.9	-8.1	0.10	0.00	-14.42
3,119.0	0.30	92.50	3,118.9	-8.3	-7.8	-8.4	0.67	-0.11	-137.45
3,213.0	0.60	49.70	3,212.9	-8.0	-7.2	-8.1	0.46	0.32	-45.53
3,308.0	0.80	51.40	3,307.9	-7.3	-6.3	-7.3	0.21	0.21	1.79
3,403.0	0.80	51.10	3,402.9	-6.4	-5.3	-6.5	0.00	0.00	-0.32
3,498.0	1.20	66.70	3,497.9	-5.6	-3.9	-5.7	0.51	0.42	16.42
3,592.0	1.80	81.20	3,591.9	-5.0	-1.5	-5.0	0.75	0.64	15.43
3,687.0	2.30	87.90	3,686.8	-4.7	1.9	-4.7	0.58	0.53	7.05
3,781.0	1.20	102.50	3,780.8	-4.9	4.7	-4.8	1.25	-1.17	15.53
3,876.0	1.10	98.60	3,875.7	-5.2	6.6	-5.2	0.13	-0.11	-4.11
3,970.0	1.20	91.70	3,969.7	-5.4	8.5	-5.3	0.18	0.11	-7.34
4,065.0	1.20	82.30	4,064.7	-5.3	10.5	-5.2	0.21	0.00	-9.89
4,160.0	1.40	73.00	4,159.7	-4.8	12.6	-4.7	0.31	0.21	-9.79
4,255.0	1.00	65.00	4,254.7	-4.1	14.4	-4.0	0.46	-0.42	-8.42
4,350.0	1.00	84.30	4,349.6	-3.7	16.0	-3.6	0.35	0.00	20.32
4,445.0	1.40	92.80	4,444.6	-3.7	18.0	-3.5	0.46	0.42	8.95
4,540.0	1.40	114.30	4,539.6	-4.2	20.2	-4.0	0.55	0.00	22.63
4,635.0	1.90	131.80	4,634.6	-5.7	22.4	-5.5	0.74	0.53	18.42

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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)
4,731.0	0.70	118.80	4,730.5	-7.1	24.1	-6.9	1.28	-1.25	-13.54
4,780.0	0.40	57.70	4,779.5	-7.1	24.5	-6.9	1.26	-0.61	-124.69
4,858.0	0.50	27.30	4,857.5	-6.7	24.9	-6.5	0.33	0.13	-38.97
4,954.0	4.30	61.30	4,953.4	-4.6	28.3	-4.3	4.06	3.96	35.42
5,049.0	4.40	62.00	5,048.1	-1.1	34.6	-0.9	0.12	0.11	0.74
5,143.0	4.50	62.00	5,141.9	2.3	41.1	2.6	0.11	0.11	0.00
5,237.0	4.50	57.90	5,235.6	6.0	47.4	6.3	0.34	0.00	-4.36
5,332.0	4.40	59.10	5,330.3	9.8	53.7	10.2	0.14	-0.11	1.26
5,427.0	4.10	58.50	5,425.0	13.5	59.7	13.9	0.32	-0.32	-0.63
5,522.0	4.70	70.70	5,519.8	16.5	66.3	17.0	1.17	0.63	12.84
5,617.0	5.00	72.70	5,614.4	19.0	73.9	19.6	0.36	0.32	2.11
5,712.0	5.00	73.60	5,709.0	21.4	81.9	22.1	0.08	0.00	0.95
5,807.0	4.70	71.70	5,803.7	23.8	89.5	24.5	0.36	-0.32	-2.00
5,901.0	4.50	72.40	5,897.4	26.2	96.7	26.9	0.22	-0.21	0.74
5,996.0	4.20	72.10	5,992.1	28.4	103.6	29.2	0.32	-0.32	-0.32
6,091.0	5.10	71.80	6,086.8	30.7	110.9	31.6	0.95	0.95	-0.32
6,185.0	5.00	72.90	6,180.5	33.3	118.8	34.2	0.15	-0.11	1.17
6,280.0	4.90	72.60	6,275.1	35.7	126.6	36.7	0.11	-0.11	-0.32
6,375.0	4.80	73.00	6,369.8	38.1	134.3	39.1	0.11	-0.11	0.42
6,470.0	5.00	71.00	6,464.4	40.6	142.0	41.7	0.28	0.21	-2.11
6,565.0	5.00	73.60	6,559.1	43.1	149.9	44.3	0.24	0.00	2.74
6,659.0	5.10	72.60	6,652.7	45.5	157.8	46.7	0.14	0.11	-1.06
6,753.0	4.80	73.40	6,746.3	47.9	165.5	49.2	0.33	-0.32	0.85
6,848.0	4.90	74.50	6,841.0	50.1	173.3	51.4	0.14	0.11	1.16
6,943.0	4.50	73.60	6,935.7	52.2	180.7	53.6	0.43	-0.42	-0.95
7,037.0	4.40	75.10	7,029.4	54.2	187.8	55.7	0.16	-0.11	1.60
7,132.0	4.20	74.40	7,124.1	56.1	194.6	57.6	0.22	-0.21	-0.74
7,227.0	4.70	77.90	7,218.8	57.8	201.8	59.4	0.60	0.53	3.68
7,322.0	4.60	75.40	7,313.5	59.6	209.3	61.2	0.24	-0.11	-2.63
7,417.0	4.40	77.10	7,408.2	61.4	216.5	63.0	0.25	-0.21	1.79
7,511.0	5.70	70.00	7,501.9	63.8	224.4	65.5	1.53	1.38	-7.55
7,606.0	5.30	70.80	7,596.4	66.8	233.0	68.6	0.43	-0.42	0.84
7,701.0	4.70	70.50	7,691.1	69.6	240.8	71.4	0.63	-0.63	-0.32
7,795.0	4.00	67.00	7,784.8	72.1	247.5	74.1	0.80	-0.74	-3.72
7,890.0	5.40	69.80	7,879.5	75.0	254.7	76.9	1.49	1.47	2.95
7,985.0	5.30	72.40	7,974.1	77.8	263.1	79.9	0.28	-0.11	2.74
8,080.0	5.10	72.70	8,068.7	80.4	271.3	82.5	0.21	-0.21	0.32
8,174.0	5.00	74.00	8,162.3	82.8	279.2	85.0	0.16	-0.11	1.38
8,269.0	5.20	73.80	8,256.9	85.1	287.3	87.4	0.21	0.21	-0.21
8,364.0	4.90	75.00	8,351.6	87.4	295.4	89.7	0.33	-0.32	1.26
8,457.0	4.90	77.70	8,444.2	89.3	303.1	91.6	0.25	0.00	2.90
8,552.0	4.50	78.40	8,538.9	90.9	310.7	93.3	0.43	-0.42	0.74
8,647.0	4.10	73.80	8,633.6	92.6	317.6	95.0	0.56	-0.42	-4.84

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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)
8,741.0	4.20	62.50	8,727.4	95.1	323.9	97.6	0.87	0.11	-12.02
8,836.0	5.80	59.80	8,822.0	99.1	331.2	101.7	1.70	1.68	-2.84
8,931.0	5.10	61.30	8,916.6	103.6	339.0	106.2	0.75	-0.74	1.58
9,026.0	5.00	57.60	9,011.2	107.8	346.2	110.5	0.36	-0.11	-3.89
9,121.0	4.10	57.70	9,105.9	111.8	352.6	114.6	0.95	-0.95	0.11
9,216.0	4.60	62.00	9,200.7	115.4	358.8	118.2	0.63	0.53	4.53
9,311.0	5.00	56.70	9,295.3	119.5	365.6	122.3	0.63	0.42	-5.58
9,405.0	4.60	67.70	9,389.0	123.2	372.5	126.1	1.07	-0.43	11.70
9,500.0	5.50	80.50	9,483.6	125.4	380.6	128.3	1.51	0.95	13.47
9,595.0	4.20	85.10	9,578.3	126.4	388.5	129.5	1.43	-1.37	4.84
9,691.0	3.40	81.80	9,674.1	127.1	394.8	130.2	0.86	-0.83	-3.44
9,785.0	4.70	76.60	9,767.8	128.4	401.3	131.5	1.44	1.38	-5.53
9,880.0	5.10	76.50	9,862.5	130.3	409.2	133.5	0.42	0.42	-0.11
9,974.0	5.90	83.20	9,956.1	131.9	418.1	135.1	1.09	0.85	7.13
10,069.0	4.50	89.30	10,050.7	132.5	426.7	135.8	1.58	-1.47	6.42
10,164.0	5.10	75.90	10,145.3	133.6	434.5	136.9	1.33	0.63	-14.11
10,260.0	6.20	69.90	10,240.9	136.4	443.5	139.8	1.30	1.15	-6.25
10,354.0	6.20	65.10	10,334.3	140.3	452.9	143.8	0.55	0.00	-5.11
10,450.0	6.40	67.20	10,429.7	144.5	462.5	148.1	0.32	0.21	2.19
10,545.0	5.70	75.00	10,524.2	147.8	471.9	151.5	1.13	-0.74	8.21
10,640.0	5.60	72.40	10,618.7	150.4	480.9	154.2	0.29	-0.11	-2.74
10,734.0	4.90	73.70	10,712.3	152.9	489.1	156.7	0.76	-0.74	1.38
10,830.0	5.10	78.70	10,808.0	154.9	497.3	158.8	0.50	0.21	5.21
10,924.0	5.30	92.50	10,901.6	155.5	505.7	159.5	1.34	0.21	14.68
11,020.0	5.70	92.30	10,997.2	155.2	514.9	159.2	0.42	0.42	-0.21
11,115.0	2.60	84.80	11,091.9	155.2	521.7	159.2	3.31	-3.26	-7.89
11,210.0	3.30	71.90	11,186.8	156.2	526.5	160.3	1.01	0.74	-13.58
11,305.0	3.30	72.70	11,281.6	157.9	531.7	162.0	0.05	0.00	0.84
11,401.0	1.00	86.20	11,377.5	158.8	535.2	162.9	2.44	-2.40	14.06
11,496.0	1.00	54.70	11,472.5	159.3	536.7	163.5	0.57	0.00	-33.16
11,591.0	1.10	72.20	11,567.5	160.0	538.2	164.2	0.35	0.11	18.42
11,676.0	0.90	69.20	11,652.5	160.5	539.6	164.7	0.24	-0.24	-3.53
11,709.0	0.80	84.50	11,685.5	160.6	540.1	164.8	0.75	-0.30	46.36
11,722.7	2.10	113.22	11,699.1	160.6	540.4	164.8	10.64	9.54	210.30
B.B. El Mar 21 W0CN Fed Com #4H									
11,772.0	7.30	124.20	11,748.3	158.4	543.8	162.7	10.64	10.53	22.26
11,804.0	11.60	128.10	11,779.9	155.3	548.1	159.6	13.58	13.44	12.19
11,835.0	16.40	133.60	11,809.9	150.4	553.7	154.7	16.05	15.48	17.74
11,867.0	20.20	140.60	11,840.3	143.0	560.5	147.3	13.70	11.88	21.88
11,899.0	23.40	145.60	11,870.0	133.5	567.6	137.9	11.55	10.00	15.63
11,930.0	27.50	149.90	11,898.0	122.2	574.6	126.6	14.50	13.23	13.87
11,962.0	30.90	150.70	11,925.9	108.6	582.4	113.1	10.69	10.63	2.50
11,993.0	34.30	149.10	11,952.1	94.2	590.8	98.8	11.31	10.97	-5.16

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well El Mar 21 W0CN Fed Com #4H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 230)
Site:	Section 21-26S-33E El Mar 21 W0CN Fed Com #4H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 230)
Well:	El Mar 21 W0CN Fed Com #4H	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)
12,025.0	37.70	147.90	11,977.9	78.1	600.6	82.8	10.85	10.63	-3.75
12,056.0	39.90	147.20	12,002.1	61.8	611.0	66.5	7.24	7.10	-2.26
12,088.0	43.00	147.90	12,026.1	43.9	622.4	48.7	9.79	9.69	2.19
12,119.0	46.70	149.60	12,048.1	25.2	633.7	30.1	12.55	11.94	5.48
12,151.0	51.30	150.80	12,069.0	4.2	645.7	9.3	14.65	14.38	3.75
12,183.0	54.30	152.20	12,088.4	-18.2	657.8	-13.0	10.00	9.38	4.38
12,214.0	57.50	152.70	12,105.8	-40.9	669.7	-35.7	10.41	10.32	1.61
12,246.0	60.70	153.00	12,122.2	-65.4	682.2	-60.0	10.03	10.00	0.94
12,277.0	64.00	153.50	12,136.6	-89.9	694.6	-84.5	10.74	10.65	1.61
12,309.0	66.40	155.30	12,150.0	-116.1	707.1	-110.6	9.07	7.50	5.63
12,341.0	67.90	156.60	12,162.4	-143.0	719.2	-137.4	6.00	4.69	4.06
12,372.0	68.90	157.10	12,173.8	-169.5	730.5	-163.8	3.56	3.23	1.61
12,403.0	70.30	157.60	12,184.7	-196.3	741.7	-190.5	4.76	4.52	1.61
12,435.0	72.50	158.60	12,194.9	-224.4	753.0	-218.6	7.49	6.88	3.13
12,467.0	73.20	159.20	12,204.3	-253.0	764.0	-247.0	2.83	2.19	1.88
12,499.0	74.60	159.90	12,213.2	-281.8	774.7	-275.7	4.85	4.38	2.19
12,510.0	74.90	160.90	12,216.1	-291.8	778.3	-285.7	9.19	2.73	9.09
12,568.0	75.90	162.50	12,230.7	-345.1	795.9	-338.9	3.18	1.72	2.76
12,599.0	77.80	166.20	12,237.7	-374.1	804.1	-367.9	13.14	6.13	11.94
12,631.0	82.00	170.10	12,243.4	-404.9	810.5	-398.6	17.78	13.13	12.19
12,662.0	83.20	172.40	12,247.3	-435.3	815.2	-429.0	8.31	3.87	7.42
12,694.0	83.90	175.00	12,250.9	-466.9	818.7	-460.5	8.36	2.19	8.13
12,725.0	83.80	176.00	12,254.3	-497.7	821.1	-491.3	3.22	-0.32	3.23
12,757.0	85.60	176.90	12,257.2	-529.5	823.1	-523.0	6.28	5.63	2.81
12,767.6	86.16	177.36	12,258.0	-540.0	823.6	-533.6	6.88	5.31	4.38
LP El Mar 21 W0CN Fed Com #4H									
12,789.0	87.30	178.30	12,259.2	-561.4	824.4	-554.9	6.88	5.31	4.37
12,883.0	88.10	177.40	12,263.0	-655.2	827.9	-648.8	1.28	0.85	-0.96
12,978.0	88.10	178.00	12,266.1	-750.1	831.7	-743.6	0.63	0.00	0.63
13,073.0	86.50	177.60	12,270.6	-844.9	835.4	-838.4	1.74	-1.68	-0.42
13,167.0	89.40	178.90	12,274.0	-938.8	838.3	-932.2	3.38	3.09	1.38
13,262.0	87.80	177.40	12,276.3	-1,033.7	841.3	-1,027.1	2.31	-1.68	-1.58
13,357.0	88.50	175.10	12,279.3	-1,128.5	847.5	-1,121.8	2.53	0.74	-2.42
13,451.0	90.60	178.00	12,280.1	-1,222.3	853.2	-1,215.6	3.81	2.23	3.09
13,546.0	87.40	176.50	12,281.7	-1,317.1	857.7	-1,310.4	3.72	-3.37	-1.58
13,641.0	91.10	180.00	12,283.0	-1,412.0	860.6	-1,405.3	5.36	3.89	3.68
13,735.0	91.50	180.00	12,280.9	-1,506.0	860.6	-1,499.3	0.43	0.43	0.00
13,830.0	91.20	181.30	12,278.6	-1,601.0	859.6	-1,594.2	1.40	-0.32	1.37
13,925.0	88.80	182.10	12,278.6	-1,695.9	856.7	-1,689.2	2.66	-2.53	0.84
14,020.0	88.60	182.30	12,280.8	-1,790.8	853.1	-1,784.1	0.30	-0.21	0.21
14,115.0	88.40	182.60	12,283.3	-1,885.7	849.0	-1,879.1	0.38	-0.21	0.32
14,210.0	89.10	184.10	12,285.3	-1,980.5	843.5	-1,973.9	1.74	0.74	1.58

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well El Mar 21 W0CN Fed Com #4H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3275 + 27 @ 3302.0usft (Patterson 230)
Site:	Section 21-26S-33E El Mar 21 W0CN Fed Com #4H	MD Reference:	3275 + 27 @ 3302.0usft (Patterson 230)
Well:	El Mar 21 W0CN Fed Com #4H	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)
14,304.0	89.50	182.50	12,286.5	-2,074.4	838.1	-2,067.8	1.75	0.43	-1.70
14,399.0	87.60	182.40	12,288.9	-2,169.2	834.0	-2,162.7	2.00	-2.00	-0.11
14,494.0	86.10	179.70	12,294.1	-2,264.1	832.3	-2,257.5	3.25	-1.58	-2.84
14,589.0	91.10	177.20	12,296.4	-2,359.0	834.8	-2,352.4	5.88	5.26	-2.63
14,683.0	91.40	178.00	12,294.4	-2,452.9	838.8	-2,446.3	0.91	0.32	0.85
14,778.0	89.70	175.20	12,293.5	-2,547.7	844.4	-2,541.0	3.45	-1.79	-2.95
14,873.0	91.40	176.10	12,292.5	-2,642.4	851.6	-2,635.7	2.02	1.79	0.95
14,968.0	89.10	174.90	12,292.1	-2,737.1	859.1	-2,730.3	2.73	-2.42	-1.26
15,063.0	89.10	176.10	12,293.6	-2,831.8	866.5	-2,825.0	1.26	0.00	1.26
15,158.0	90.40	179.80	12,294.0	-2,926.7	869.9	-2,919.9	4.13	1.37	3.89
15,252.0	87.80	179.20	12,295.5	-3,020.7	870.7	-3,013.8	2.84	-2.77	-0.64
15,346.0	88.80	179.80	12,298.3	-3,114.6	871.6	-3,107.8	1.24	1.06	0.64
15,441.0	89.70	182.50	12,299.6	-3,209.6	869.7	-3,202.7	3.00	0.95	2.84
15,537.0	88.80	182.70	12,300.8	-3,305.5	865.3	-3,298.7	0.96	-0.94	0.21
15,632.0	90.30	184.00	12,301.6	-3,400.3	859.8	-3,393.5	2.09	1.58	1.37
15,727.0	86.00	181.10	12,304.6	-3,495.2	855.5	-3,488.4	5.46	-4.53	-3.05
15,823.0	86.80	178.60	12,310.6	-3,591.0	855.8	-3,584.2	2.73	0.83	-2.60
15,920.0	89.50	178.50	12,313.8	-3,687.9	858.2	-3,681.1	2.79	2.78	-0.10
16,016.0	89.70	178.40	12,314.5	-3,783.8	860.8	-3,777.0	0.23	0.21	-0.10
16,110.0	88.00	177.70	12,316.3	-3,877.7	864.0	-3,870.9	1.96	-1.81	-0.74
16,205.0	90.70	179.60	12,317.4	-3,972.7	866.3	-3,965.8	3.48	2.84	2.00
16,300.0	89.20	180.00	12,317.5	-4,067.7	866.6	-4,060.8	1.63	-1.58	0.42
16,394.0	88.50	179.80	12,319.4	-4,161.7	866.8	-4,154.8	0.77	-0.74	-0.21
16,490.0	86.80	179.80	12,323.3	-4,257.6	867.1	-4,250.7	1.77	-1.77	0.00
16,584.0	83.80	178.80	12,331.0	-4,351.3	868.2	-4,344.4	3.36	-3.19	-1.06
16,679.0	87.10	177.30	12,338.6	-4,445.9	871.5	-4,439.0	3.81	3.47	-1.58
16,774.0	88.30	176.80	12,342.4	-4,540.7	876.3	-4,533.7	1.37	1.26	-0.53
16,869.0	88.70	177.00	12,344.9	-4,635.5	881.5	-4,628.5	0.47	0.42	0.21
16,929.0	88.80	176.20	12,346.2	-4,695.4	885.0	-4,688.4	1.34	0.17	-1.33
16,980.0	88.80	176.20	12,347.2	-4,746.3	888.4	-4,739.2	0.00	0.00	0.00
16980' MD Projected to Bit - PBHL El Mar 21 W0CN Fed Com #4H									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
830.0	830.0	-0.3	-0.2	Rig survey's?
16,980.0	12,347.2	-4,746.3	888.4	16980' MD Projected to Bit



February 5, 2018

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 W0CN Federal Com #004H
Wildcat; Upper Wolfcamp
Lea County, New Mexico
API# 30-025-42929

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	934ft. to 16,929ft.	12-12-17 to 01-01-18	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\El Mar 21 W0CN Fed Com #4H\M171134

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



February 5, 2018

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 December 12, 2017, through January 01, 2018 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 934 feet to a depth of 16,929 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 W0CN Federal Com #4H well, API # **30-025-42929** 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.

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**

Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0CN Fed Com #
Well: El Mar 21 W0CN Fed Com #4H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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 W0CN Fed Com #4H		
Site Position:		Northing:	377,550.90 usft
From:	Map	Easting:	774,400.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 8.652 N
		Longitude:	103° 34' 52.338 W
		Grid Convergence:	0.40 °

Well	El Mar 21 W0CN Fed Com #4H		
Well Position	+N/-S	0.0 usft	Northing: 377,550.90 usft
	+E/-W	0.0 usft	Easting: 774,400.80 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	27.0 usft
		Latitude:	32° 2' 8.652 N
		Longitude:	103° 34' 52.338 W
		Ground Level:	3,275.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/8/2017	6.90	59.88	47,785.70216341

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	0.45	

Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 WOCN Fed Com #
Well: El Mar 21 WOCN Fed Com #4H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 WOCN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey Program Date 1/3/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	830.0	Survey ? (Original Hole)	MWD	MWD v3:standard declination
934.0	16,980.0	MWD Survey (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 (°)	
830.0	0.69	224.75	830.0	-0.3	-0.2	0.4	214.33	Tie-In
934.0	0.50	188.20	934.0	-1.2	-0.7	1.4	210.78	
1,029.0	0.70	186.10	1,029.0	-2.2	-0.8	2.3	200.91	
1,125.0	0.60	198.60	1,125.0	-3.2	-1.1	3.4	198.06	
1,220.0	0.50	203.60	1,220.0	-4.1	-1.4	4.3	198.65	
1,315.0	0.40	202.50	1,315.0	-4.8	-1.7	5.1	199.30	
1,411.0	0.40	178.30	1,411.0	-5.4	-1.8	5.7	198.29	
1,506.0	0.30	169.40	1,506.0	-6.0	-1.7	6.3	196.15	
1,601.0	0.10	160.40	1,601.0	-6.3	-1.7	6.5	194.74	
1,696.0	0.10	291.30	1,696.0	-6.4	-1.7	6.6	195.05	
1,791.0	0.00	134.10	1,791.0	-6.3	-1.8	6.6	195.77	
1,889.0	0.00	11.50	1,889.0	-6.3	-1.8	6.6	195.77	
1,984.0	0.20	329.80	1,984.0	-6.2	-1.9	6.5	196.82	
2,078.0	0.20	284.10	2,078.0	-6.0	-2.1	6.4	199.37	
2,174.0	0.20	290.30	2,174.0	-5.9	-2.4	6.4	202.37	
2,268.0	0.40	274.80	2,268.0	-5.8	-2.9	6.5	206.55	
2,363.0	0.40	253.30	2,363.0	-5.9	-3.6	6.9	211.12	
2,508.0	0.50	260.10	2,507.9	-6.2	-4.7	7.7	217.19	
2,553.0	0.50	254.20	2,552.9	-6.2	-5.1	8.0	218.99	
2,648.0	0.50	235.00	2,647.9	-6.6	-5.8	8.8	221.29	
2,742.0	0.30	236.90	2,741.9	-7.0	-6.3	9.4	222.29	

Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0CN Fed Com #
Well: El Mar 21 W0CN Fed Com #4H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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 (°)
2,836.0	0.40	238.80	2,835.9	-7.3	-6.8	10.0	223.18
2,930.0	0.40	235.40	2,929.9	-7.6	-7.4	10.6	224.03
3,025.0	0.40	221.70	3,024.9	-8.1	-7.9	11.3	224.30
3,119.0	0.30	92.50	3,118.9	-8.3	-7.8	11.4	223.30
3,213.0	0.60	49.70	3,212.9	-8.0	-7.2	10.8	222.02
3,308.0	0.80	51.40	3,307.9	-7.3	-6.3	9.6	220.98
3,403.0	0.80	51.10	3,402.9	-6.4	-5.3	8.3	219.36
3,498.0	1.20	66.70	3,497.9	-5.6	-3.9	6.8	214.39
3,592.0	1.80	81.20	3,591.9	-5.0	-1.5	5.2	196.57
3,687.0	2.30	87.90	3,686.8	-4.7	1.9	5.1	158.24
3,781.0	1.20	102.50	3,780.8	-4.9	4.7	6.8	135.81
3,876.0	1.10	98.60	3,875.7	-5.2	6.6	8.4	128.31
3,970.0	1.20	91.70	3,969.7	-5.4	8.5	10.0	122.40
4,065.0	1.20	82.30	4,064.7	-5.3	10.5	11.7	116.78
4,160.0	1.40	73.00	4,159.7	-4.8	12.6	13.4	110.94
4,255.0	1.00	65.00	4,254.7	-4.1	14.4	15.0	105.93
4,350.0	1.00	84.30	4,349.6	-3.7	16.0	16.4	102.97
4,445.0	1.40	92.80	4,444.6	-3.7	18.0	18.3	101.50
4,540.0	1.40	114.30	4,539.6	-4.2	20.2	20.6	101.73
4,635.0	1.90	131.80	4,634.6	-5.7	22.4	23.1	104.31
4,731.0	0.70	118.80	4,730.5	-7.1	24.1	25.1	106.32
4,780.0	0.40	57.70	4,779.5	-7.1	24.5	25.5	106.17
4,858.0	0.50	27.30	4,857.5	-6.7	24.9	25.8	104.98
4,954.0	4.30	61.30	4,953.4	-4.6	28.3	28.6	99.18
5,049.0	4.40	62.00	5,048.1	-1.1	34.6	34.6	91.90
5,143.0	4.50	62.00	5,141.9	2.3	41.1	41.1	86.82
5,237.0	4.50	57.90	5,235.6	6.0	47.4	47.8	82.83



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0CN Fed Com #
Well: El Mar 21 W0CN Fed Com #4H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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 (°)
5,332.0	4.40	59.10	5,330.3	9.8	53.7	54.6	79.64
5,427.0	4.10	58.50	5,425.0	13.5	59.7	61.2	77.30
5,522.0	4.70	70.70	5,519.8	16.5	66.3	68.3	76.00
5,617.0	5.00	72.70	5,614.4	19.0	73.9	76.3	75.55
5,712.0	5.00	73.60	5,709.0	21.4	81.9	84.6	75.32
5,807.0	4.70	71.70	5,803.7	23.8	89.5	92.6	75.09
5,901.0	4.50	72.40	5,897.4	26.2	96.7	100.2	74.86
5,996.0	4.20	72.10	5,992.1	28.4	103.6	107.4	74.69
6,091.0	5.10	71.80	6,086.8	30.7	110.9	115.1	74.50
6,185.0	5.00	72.90	6,180.5	33.3	118.8	123.3	74.36
6,280.0	4.90	72.60	6,275.1	35.7	126.6	131.5	74.26
6,375.0	4.80	73.00	6,369.8	38.1	134.3	139.6	74.17
6,470.0	5.00	71.00	6,464.4	40.6	142.0	147.7	74.05
6,565.0	5.00	73.60	6,559.1	43.1	149.9	155.9	73.96
6,659.0	5.10	72.60	6,652.7	45.5	157.8	164.2	73.92
6,753.0	4.80	73.40	6,746.3	47.9	165.5	172.3	73.87
6,848.0	4.90	74.50	6,841.0	50.1	173.3	180.4	73.88
6,943.0	4.50	73.60	6,935.7	52.2	180.7	188.1	73.88
7,037.0	4.40	75.10	7,029.4	54.2	187.8	195.4	73.90
7,132.0	4.20	74.40	7,124.1	56.1	194.6	202.5	73.93
7,227.0	4.70	77.90	7,218.8	57.8	201.8	209.9	74.01
7,322.0	4.60	75.40	7,313.5	59.6	209.3	217.6	74.11
7,417.0	4.40	77.10	7,408.2	61.4	216.5	225.1	74.18
7,511.0	5.70	70.00	7,501.9	63.8	224.4	233.3	74.14
7,606.0	5.30	70.80	7,596.4	66.8	233.0	242.4	74.00
7,701.0	4.70	70.50	7,691.1	69.6	240.8	250.7	73.89
7,795.0	4.00	67.00	7,784.8	72.1	247.5	257.8	73.75



Microsoft
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Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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 (°)
7,890.0	5.40	69.80	7,879.5	75.0	254.7	265.5	73.60
7,985.0	5.30	72.40	7,974.1	77.8	263.1	274.4	73.52
8,080.0	5.10	72.70	8,068.7	80.4	271.3	283.0	73.49
8,174.0	5.00	74.00	8,162.3	82.8	279.2	291.2	73.48
8,269.0	5.20	73.80	8,256.9	85.1	287.3	299.7	73.50
8,364.0	4.90	75.00	8,351.6	87.4	295.4	308.0	73.52
8,457.0	4.90	77.70	8,444.2	89.3	303.1	316.0	73.59
8,552.0	4.50	78.40	8,538.9	90.9	310.7	323.7	73.70
8,647.0	4.10	73.80	8,633.6	92.6	317.6	330.9	73.75
8,741.0	4.20	62.50	8,727.4	95.1	323.9	337.6	73.64
8,836.0	5.80	59.80	8,822.0	99.1	331.2	345.7	73.34
8,931.0	5.10	61.30	8,916.6	103.6	339.0	354.5	73.01
9,026.0	5.00	57.60	9,011.2	107.8	346.2	362.6	72.70
9,121.0	4.10	57.70	9,105.9	111.8	352.6	369.9	72.40
9,216.0	4.60	62.00	9,200.7	115.4	358.8	376.9	72.16
9,311.0	5.00	56.70	9,295.3	119.5	365.6	384.7	71.90
9,405.0	4.60	67.70	9,389.0	123.2	372.5	392.4	71.70
9,500.0	5.50	80.50	9,483.6	125.4	380.6	400.7	71.76
9,595.0	4.20	85.10	9,578.3	126.4	388.5	408.6	71.97
9,691.0	3.40	81.80	9,674.1	127.1	394.8	414.8	72.15
9,785.0	4.70	76.60	9,767.8	128.4	401.3	421.4	72.26
9,880.0	5.10	76.50	9,862.5	130.3	409.2	429.5	72.34
9,974.0	5.90	83.20	9,956.1	131.9	418.1	438.4	72.50
10,069.0	4.50	89.30	10,050.7	132.5	426.7	446.8	72.75
10,164.0	5.10	75.90	10,145.3	133.6	434.5	454.6	72.91
10,260.0	6.20	69.90	10,240.9	136.4	443.5	464.0	72.91
10,354.0	6.20	65.10	10,334.3	140.3	452.9	474.1	72.79

Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0CN Fed Com #
Well: El Mar 21 W0CN Fed Com #4H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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 (°)
10,450.0	6.40	67.20	10,429.7	144.5	462.5	484.6	72.65
10,545.0	5.70	75.00	10,524.2	147.8	471.9	494.5	72.61
10,640.0	5.60	72.40	10,618.7	150.4	480.9	503.9	72.63
10,734.0	4.90	73.70	10,712.3	152.9	489.1	512.5	72.64
10,830.0	5.10	78.70	10,808.0	154.9	497.3	520.8	72.70
10,924.0	5.30	92.50	10,901.6	155.5	505.7	529.1	72.90
11,020.0	5.70	92.30	10,997.2	155.2	514.9	537.8	73.23
11,115.0	2.60	84.80	11,091.9	155.2	521.7	544.3	73.44
11,210.0	3.30	71.90	11,186.8	156.2	526.5	549.2	73.47
11,305.0	3.30	72.70	11,281.6	157.9	531.7	554.6	73.46
11,401.0	1.00	86.20	11,377.5	158.8	535.2	558.2	73.48
11,496.0	1.00	54.70	11,472.5	159.3	536.7	559.8	73.47
11,591.0	1.10	72.20	11,567.5	160.0	538.2	561.5	73.44
11,676.0	0.90	69.20	11,652.5	160.5	539.6	563.0	73.43
11,709.0	0.80	84.50	11,685.5	160.6	540.1	563.5	73.44
11,722.7	2.10	113.22	11,699.1	160.6	540.4	563.8	73.45
B.B. El Mar 21 W0CN Fed Com #4H							
11,772.0	7.30	124.20	11,748.3	158.4	543.8	566.5	73.76
11,804.0	11.60	128.10	11,779.9	155.3	548.1	569.6	74.18
11,835.0	16.40	133.60	11,809.9	150.4	553.7	573.7	74.81
11,867.0	20.20	140.60	11,840.3	143.0	560.5	578.4	75.69
11,899.0	23.40	145.60	11,870.0	133.5	567.6	583.0	76.77
11,930.0	27.50	149.90	11,898.0	122.2	574.6	587.5	78.00
11,962.0	30.90	150.70	11,925.9	108.6	582.4	592.4	79.44
11,993.0	34.30	149.10	11,952.1	94.2	590.8	598.2	80.94
12,025.0	37.70	147.90	11,977.9	78.1	600.6	605.6	82.59
12,056.0	39.90	147.20	12,002.1	61.8	611.0	614.1	84.23



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0CN Fed Com #
Well: El Mar 21 W0CN Fed Com #4H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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 (°)
12,088.0	43.00	147.90	12,026.1	43.9	622.4	623.9	85.97
12,119.0	46.70	149.60	12,048.1	25.2	633.7	634.2	87.72
12,151.0	51.30	150.80	12,069.0	4.2	645.7	645.7	89.62
12,183.0	54.30	152.20	12,088.4	-18.2	657.8	658.1	91.58
12,214.0	57.50	152.70	12,105.8	-40.9	669.7	671.0	93.50
12,246.0	60.70	153.00	12,122.2	-65.4	682.2	685.4	95.47
12,277.0	64.00	153.50	12,136.6	-89.9	694.6	700.4	97.37
12,309.0	66.40	155.30	12,150.0	-116.1	707.1	716.6	99.32
12,341.0	67.90	156.60	12,162.4	-143.0	719.2	733.2	101.25
12,372.0	68.90	157.10	12,173.8	-169.5	730.5	749.9	103.06
12,403.0	70.30	157.60	12,184.7	-196.3	741.7	767.2	104.83
12,435.0	72.50	158.60	12,194.9	-224.4	753.0	785.7	106.60
12,467.0	73.20	159.20	12,204.3	-253.0	764.0	804.8	108.32
12,499.0	74.60	159.90	12,213.2	-281.8	774.7	824.4	109.99
12,510.0	74.90	160.90	12,216.1	-291.8	778.3	831.2	110.55
12,568.0	75.90	162.50	12,230.7	-345.1	795.9	867.5	113.44
12,599.0	77.80	166.20	12,237.7	-374.1	804.1	886.8	114.95
12,631.0	82.00	170.10	12,243.4	-404.9	810.5	906.0	116.55
12,662.0	83.20	172.40	12,247.3	-435.3	815.2	924.1	118.10
12,694.0	83.90	175.00	12,250.9	-466.9	818.7	942.5	119.70
12,725.0	83.80	176.00	12,254.3	-497.7	821.1	960.1	121.22
12,757.0	85.60	176.90	12,257.2	-529.5	823.1	978.7	122.75
12,767.6	86.16	177.36	12,258.0	-540.0	823.6	984.8	123.25
LP El Mar 21 W0CN Fed Com #4H							
12,789.0	87.30	178.30	12,259.2	-561.4	824.4	997.4	124.25
12,883.0	88.10	177.40	12,263.0	-655.2	827.9	1,055.8	128.36
12,978.0	88.10	178.00	12,266.1	-750.1	831.7	1,120.0	132.05

Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 21-26S-33E El Mar 21 W0CN Fed Com #
Well: El Mar 21 W0CN Fed Com #4H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
MD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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 (°)
13,073.0	86.50	177.60	12,270.6	-844.9	835.4	1,188.2	135.33
13,167.0	89.40	178.90	12,274.0	-938.8	838.3	1,258.6	138.24
13,262.0	87.80	177.40	12,276.3	-1,033.7	841.3	1,332.8	140.86
13,357.0	88.50	175.10	12,279.3	-1,128.5	847.5	1,411.3	143.09
13,451.0	90.60	178.00	12,280.1	-1,222.3	853.2	1,490.6	145.08
13,546.0	87.40	176.50	12,281.7	-1,317.1	857.7	1,571.8	146.93
13,641.0	91.10	180.00	12,283.0	-1,412.0	860.6	1,653.7	148.64
13,735.0	91.50	180.00	12,280.9	-1,506.0	860.6	1,734.6	150.25
13,830.0	91.20	181.30	12,278.6	-1,601.0	859.6	1,817.1	151.77
13,925.0	88.80	182.10	12,278.6	-1,695.9	856.7	1,900.1	153.20
14,020.0	88.60	182.30	12,280.8	-1,790.8	853.1	1,983.7	154.53
14,115.0	88.40	182.60	12,283.3	-1,885.7	849.0	2,068.0	155.76
14,210.0	89.10	184.10	12,285.3	-1,980.5	843.5	2,152.7	156.93
14,304.0	89.50	182.50	12,286.5	-2,074.4	838.1	2,237.3	158.00
14,399.0	87.60	182.40	12,288.9	-2,169.2	834.0	2,324.1	158.97
14,494.0	86.10	179.70	12,294.1	-2,264.1	832.3	2,412.2	159.82
14,589.0	91.10	177.20	12,296.4	-2,359.0	834.8	2,502.3	160.51
14,683.0	91.40	178.00	12,294.4	-2,452.9	838.8	2,592.3	161.12
14,778.0	89.70	175.20	12,293.5	-2,547.7	844.4	2,684.0	161.66
14,873.0	91.40	176.10	12,292.5	-2,642.4	851.6	2,776.2	162.14
14,968.0	89.10	174.90	12,292.1	-2,737.1	859.1	2,868.8	162.57
15,063.0	89.10	176.10	12,293.6	-2,831.8	866.5	2,961.4	162.99
15,158.0	90.40	179.80	12,294.0	-2,926.7	869.9	3,053.3	163.45
15,252.0	87.80	179.20	12,295.5	-3,020.7	870.7	3,143.7	163.92
15,346.0	88.80	179.80	12,298.3	-3,114.6	871.6	3,234.3	164.37
15,441.0	89.70	182.50	12,299.6	-3,209.6	869.7	3,325.3	164.84
15,537.0	88.80	182.70	12,300.8	-3,305.5	865.3	3,416.9	165.33

Company: Mewbourne Oil Company
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Site: Section 21-26S-33E El Mar 21 W0CN Fed Com #
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Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well El Mar 21 W0CN Fed Com #4H
TVD Reference: 3275 + 27 @ 3302.0usft (Patterson 230)
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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 (°)
15,632.0	90.30	184.00	12,301.6	-3,400.3	859.8	3,507.3	165.81
15,727.0	86.00	181.10	12,304.6	-3,495.2	855.5	3,598.3	166.25
15,823.0	86.80	178.60	12,310.6	-3,591.0	855.8	3,691.5	166.60
15,920.0	89.50	178.50	12,313.8	-3,687.9	858.2	3,786.4	166.90
16,016.0	89.70	178.40	12,314.5	-3,783.8	860.8	3,880.5	167.18
16,110.0	88.00	177.70	12,316.3	-3,877.7	864.0	3,972.8	167.44
16,205.0	90.70	179.60	12,317.4	-3,972.7	866.3	4,066.1	167.70
16,300.0	89.20	180.00	12,317.5	-4,067.7	866.6	4,159.0	167.97
16,394.0	88.50	179.80	12,319.4	-4,161.7	866.8	4,251.0	168.24
16,490.0	86.80	179.80	12,323.3	-4,257.6	867.1	4,345.0	168.49
16,584.0	83.80	178.80	12,331.0	-4,351.3	868.2	4,437.0	168.72
16,679.0	87.10	177.30	12,338.6	-4,445.9	871.5	4,530.5	168.91
16,774.0	88.30	176.80	12,342.4	-4,540.7	876.3	4,624.5	169.08
16,869.0	88.70	177.00	12,344.9	-4,635.5	881.5	4,718.6	169.23
16,929.0	88.80	176.20	12,346.2	-4,695.4	885.0	4,778.1	169.33
16,980.0	88.80	176.20	12,347.2	-4,746.3	888.4	4,828.7	169.40

16980' MD Projected to Bit - PBHL El Mar 21 W0CN Fed Com #4H

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
16,980.0	12,347.2	-4,746.3	888.4	16980' MD Projected to Bit