



Mewbourne Oil Company

Lea County N. M. Nad (83)

Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1

Sand Chute 4/9 B2AP Fed Com #1H

Original Hole

Survey: Stryker Surveys

Standard Survey Report

29 July, 2019





Stryker Energy Directional Services
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Site Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1
Project:	Lea County N. M. Nad (83)	TVD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Site:	Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1	MD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Well:	Sand Chute 4/9 B2AP Fed Com #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

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 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1			
Site Position:		Northing:	586,414.05 usft	Latitude: 32° 36' 32.539 N
From:	Map	Easting:	811,535.41 usft	Longitude: 103° 27' 21.090 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.47 °

Well	Sand Chute 4/9 B2AP Fed Com #1H			
Well Position	+N-S	0.0 usft	Northing: 586,414.05 usft	Latitude: 32° 36' 32.539 N
	+E-W	0.0 usft	Easting: 811,535.41 usft	Longitude: 103° 27' 21.090 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	27.0 usft	Ground Level: 3,686.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/22/19	6.72	60.41	47,977.08870720

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	179.43	

Survey Program	Date 07/29/19				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
136.0	20,370.0	Stryker Surveys (Original Hole)	MWD+IGRF	OWSG MWD + IGRF or WMM	

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
136.0	0.50	20.76	136.0	0.6	0.2	-0.6	0.37	0.37	0.00
265.0	0.40	300.76	265.0	1.3	0.0	-1.3	0.45	-0.08	-62.02
448.0	0.60	30.76	448.0	2.5	0.0	-2.5	0.39	0.11	49.18
630.0	0.30	135.76	630.0	2.9	0.8	-2.9	0.40	-0.16	57.69
816.0	0.60	75.76	816.0	2.8	2.1	-2.8	0.28	0.16	-32.26
1,005.0	1.50	14.76	1,005.0	5.5	3.7	-5.4	0.70	0.48	-32.28
1,195.0	0.60	74.76	1,194.9	8.1	5.3	-8.1	0.69	-0.47	31.58
1,385.0	0.70	346.76	1,384.9	9.5	5.9	-9.5	0.48	0.05	-46.32



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Site:	Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1	MD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Well:	Sand Chute 4/9 B2AP Fed Com #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

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)
1,575.0	0.70	284.76	1,574.9	10.9	4.6	-10.9	0.38	0.00	-32.63
1,763.0	0.60	249.76	1,762.9	10.9	2.5	-10.9	0.21	-0.05	-18.62
1,817.0	1.00	353.76	1,816.9	11.3	2.2	-11.2	2.38	0.74	192.59
1,929.0	0.60	29.50	1,928.9	12.8	2.4	-12.7	0.55	-0.36	31.91
2,118.0	1.30	48.10	2,117.9	15.0	4.5	-15.0	0.40	0.37	9.84
2,308.0	2.30	31.90	2,307.8	19.7	8.1	-19.6	0.59	0.53	-8.53
2,499.0	3.20	1.70	2,498.5	28.3	10.3	-28.2	0.88	0.47	-15.81
2,689.0	3.10	5.70	2,688.3	38.7	10.9	-38.6	0.13	-0.05	2.11
2,880.0	3.70	358.20	2,878.9	50.0	11.3	-49.9	0.39	0.31	-3.93
3,069.0	3.50	10.10	3,067.6	61.8	12.1	-61.7	0.41	-0.11	6.30
3,258.0	4.30	356.10	3,256.1	74.5	12.6	-74.4	0.66	0.42	-7.41
3,448.0	3.70	357.50	3,445.7	87.8	11.9	-87.7	0.32	-0.32	0.74
3,636.0	3.30	350.50	3,633.3	99.2	10.7	-99.1	0.31	-0.21	-3.72
3,826.0	3.20	350.60	3,823.0	109.8	8.9	-109.7	0.05	-0.05	0.05
4,015.0	2.90	350.00	4,011.7	119.7	7.2	-119.6	0.16	-0.16	-0.32
4,205.0	3.20	353.80	4,201.5	129.7	5.8	-129.6	0.19	0.16	2.00
4,394.0	3.10	351.60	4,390.2	140.0	4.5	-140.0	0.08	-0.05	-1.16
4,585.0	3.30	355.50	4,580.9	150.6	3.3	-150.6	0.15	0.10	2.04
4,774.0	2.90	356.70	4,769.6	160.8	2.6	-160.8	0.21	-0.21	0.63
4,964.0	2.60	348.60	4,959.4	169.8	1.5	-169.8	0.26	-0.16	-4.26
5,153.0	2.50	352.50	5,148.2	178.1	0.1	-178.1	0.11	-0.05	2.06
5,343.0	2.60	353.10	5,338.0	186.5	-0.9	-186.5	0.05	0.05	0.32
5,533.0	1.40	354.30	5,527.9	193.1	-1.7	-193.1	0.63	-0.63	0.63
5,630.1	1.24	0.88	5,625.0	195.3	-1.8	-195.3	0.23	-0.17	6.77
B.B. Sand Chute 4/9 B2AP Fed Com #1H									
5,722.0	1.10	8.80	5,716.8	197.2	-1.6	-197.2	0.23	-0.15	8.63
5,911.0	0.40	119.00	5,905.8	198.6	-0.8	-198.6	0.68	-0.37	58.31
6,101.0	1.00	82.40	6,095.8	198.5	1.4	-198.5	0.38	0.32	-19.26
6,290.0	1.50	150.60	6,284.8	196.6	4.3	-196.6	0.77	0.26	36.08
6,480.0	2.00	151.00	6,474.7	191.5	7.1	-191.5	0.26	0.26	0.21
6,671.0	1.80	141.30	6,665.6	186.3	10.6	-186.2	0.20	-0.10	-5.08
6,861.0	0.60	129.70	6,855.5	183.3	13.2	-183.2	0.64	-0.63	-6.11
7,051.0	0.80	159.80	7,045.5	181.4	14.5	-181.3	0.22	0.11	15.84
7,240.0	0.90	129.30	7,234.5	179.3	16.1	-179.1	0.24	0.05	-16.14
7,429.0	0.80	186.40	7,423.5	177.0	17.1	-176.8	0.43	-0.05	30.21
7,620.0	1.40	265.00	7,614.5	175.5	14.6	-175.3	0.77	0.31	41.15
7,810.0	1.20	266.30	7,804.4	175.2	10.3	-175.0	0.11	-0.11	0.68
8,000.0	1.20	290.60	7,994.4	175.7	6.4	-175.7	0.27	0.00	12.79
8,190.0	1.10	289.70	8,184.3	177.0	2.9	-177.0	0.05	-0.05	-0.47
8,381.0	1.00	280.30	8,375.3	178.0	-0.5	-178.0	0.10	-0.05	-4.92
8,571.0	0.80	247.10	8,565.3	177.7	-3.4	-177.8	0.29	-0.11	-17.47
8,761.0	1.60	315.60	8,755.2	179.1	-6.4	-179.2	0.79	0.42	36.05



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Well:	Sand Chute 4/9 B2AP Fed Com #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

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)
8,950.0	2.10	314.30	8,944.1	183.4	-10.8	-183.5	0.27	0.26	-0.69
9,140.0	0.80	293.00	9,134.1	186.4	-14.5	-186.5	0.73	-0.68	-11.21
9,331.0	0.20	86.40	9,325.1	186.9	-15.4	-187.1	0.51	-0.31	80.31
<u>9,521.0</u>	0.70	130.90	9,515.1	<u>186.2</u>	<u>-14.2</u>	-186.3	0.30	0.26	23.42
9,641.0	4.20	139.20	9,634.9	182.4	-10.7	-182.5	2.92	2.92	6.92
9,688.0	11.30	144.70	9,681.5	177.3	-6.9	-177.4	15.17	15.11	11.70
9,736.0	17.90	151.00	9,727.9	167.0	-0.6	-167.0	14.12	13.75	13.13
9,783.0	24.40	148.80	9,771.7	152.4	7.9	-152.3	13.93	13.83	-4.68
9,831.0	31.00	156.90	9,814.2	132.5	17.9	-132.3	15.80	13.75	16.88
9,878.0	38.30	163.70	9,852.9	107.3	26.8	-107.1	17.56	15.53	14.47
9,926.0	43.30	172.90	9,889.2	76.7	33.0	-76.3	16.27	10.42	19.17
9,973.0	48.40	182.50	9,922.0	43.1	34.2	-42.7	18.21	10.85	20.43
10,020.0	53.10	185.10	9,951.7	6.8	31.8	-6.4	10.88	10.00	5.53
10,067.0	55.20	186.00	9,979.2	-31.2	28.1	31.4	4.73	4.47	1.91
10,116.0	57.70	186.40	10,006.3	-71.8	23.7	72.0	5.15	5.10	0.82
10,164.0	61.80	187.40	10,030.5	-112.9	18.7	113.1	8.73	8.54	2.08
10,211.0	65.30	188.30	10,051.4	-154.6	12.9	154.7	7.64	7.45	1.91
<u>10,259.0</u>	68.30	188.40	10,070.3	<u>-198.2</u>	<u>6.5</u>	198.3	6.25	6.25	0.21
10,306.0	71.50	187.70	10,086.5	-241.9	0.3	241.9	6.95	6.81	-1.49
10,338.3	73.49	186.66	10,096.2	-272.5	-3.5	272.5	6.88	6.17	-3.21
LP Sand Chute 4/9 B2AP Fed Com #1H									
10,353.0	74.40	186.20	10,100.3	-286.5	-5.1	286.5	6.88	6.18	-3.16
10,400.0	77.40	184.20	10,111.7	-331.9	-9.2	331.8	7.60	6.38	-4.26
10,433.0	79.00	184.00	10,118.5	-364.1	-11.5	364.0	4.88	4.85	-0.61
10,488.0	85.00	183.60	10,126.1	-418.5	-15.1	418.3	10.93	10.91	-0.73
10,535.0	92.20	180.90	10,127.3	-465.4	-17.0	465.2	16.36	15.32	-5.74
10,604.0	93.80	187.10	10,123.7	-534.1	-21.8	533.8	9.27	2.32	8.99
10,635.0	93.80	188.80	10,121.6	-564.7	-26.1	564.4	5.47	0.00	5.48
10,667.0	93.70	188.60	10,119.5	-596.3	-30.9	595.9	0.70	-0.31	-0.63
10,730.0	90.50	187.60	10,117.2	-658.6	-39.8	658.2	5.32	-5.08	-1.59
10,825.0	88.70	184.00	10,117.9	-753.1	-49.4	752.6	4.24	-1.89	-3.79
10,920.0	92.30	182.50	10,117.0	-847.9	-54.7	847.3	4.11	3.79	-1.58
11,015.0	88.70	179.70	10,116.2	-942.9	-56.6	942.2	4.80	-3.79	-2.95
11,046.0	86.90	178.20	10,117.4	-973.8	-56.0	973.2	7.56	-5.81	-4.84
11,078.0	87.00	177.90	10,119.1	-1,005.8	-54.9	1,005.2	0.99	0.31	-0.94
11,109.0	86.70	178.20	10,120.8	-1,036.7	-53.9	1,036.1	1.37	-0.97	0.97
11,141.0	85.90	178.00	10,122.9	-1,068.6	-52.8	1,068.0	2.58	-2.50	-0.63
11,200.0	86.10	178.20	10,127.0	-1,127.4	-50.8	1,126.9	0.48	0.34	0.34
11,295.0	86.40	177.50	10,133.2	-1,222.2	-47.3	1,221.6	0.80	0.32	-0.74
11,390.0	89.80	177.10	10,136.3	-1,317.0	-42.8	1,316.5	3.60	3.58	-0.42
11,485.0	88.70	176.10	10,137.6	-1,411.8	-37.2	1,411.4	1.56	-1.16	-1.05
11,580.0	90.00	176.70	10,138.7	-1,506.6	-31.2	1,506.2	1.51	1.37	0.63



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Survey Report



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Site:	Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1	MD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Well:	Sand Chute 4/9 B2AP Fed Com #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

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)
11,675.0	89.30	176.00	10,139.2	-1,601.4	-25.2	1,601.1	1.04	-0.74	-0.74
11,769.0	89.40	175.90	10,140.3	-1,695.2	-18.5	1,694.9	0.15	0.11	-0.11
11,864.0	88.60	175.60	10,142.0	-1,789.9	-11.5	1,789.7	0.90	-0.84	-0.32
11,959.0	90.20	178.60	10,143.0	-1,884.8	-6.7	1,884.6	3.58	1.68	3.16
12,054.0	90.30	178.80	10,142.5	-1,979.7	-4.5	1,979.6	0.24	0.11	0.21
12,149.0	90.90	179.30	10,141.6	-2,074.7	-3.0	2,074.6	0.82	0.63	0.53
12,244.0	89.00	178.50	10,141.6	-2,169.7	-1.1	2,169.6	2.17	-2.00	-0.84
12,339.0	89.20	178.30	10,143.1	-2,264.7	1.5	2,264.6	0.30	0.21	-0.21
12,434.0	88.60	178.30	10,145.0	-2,359.6	4.3	2,359.5	0.63	-0.63	0.00
12,529.0	92.10	179.60	10,144.4	-2,454.6	6.1	2,454.5	3.93	3.68	1.37
12,624.0	88.10	179.00	10,144.2	-2,549.5	7.2	2,549.5	4.26	-4.21	-0.63
12,719.0	88.30	179.30	10,147.2	-2,644.5	8.7	2,644.4	0.38	0.21	0.32
12,814.0	87.80	179.10	10,150.4	-2,739.4	10.0	2,739.4	0.57	-0.53	-0.21
12,909.0	87.70	179.20	10,154.2	-2,834.3	11.4	2,834.3	0.15	-0.11	0.11
13,005.0	88.50	179.20	10,157.3	-2,930.3	12.7	2,930.2	0.83	0.83	0.00
13,100.0	89.80	179.20	10,158.7	-3,025.2	14.1	3,025.2	1.37	1.37	0.00
13,195.0	90.60	179.10	10,158.4	-3,120.2	15.5	3,120.2	0.85	0.84	-0.11
13,289.0	90.90	179.00	10,157.2	-3,214.2	17.0	3,214.2	0.34	0.32	-0.11
13,383.0	90.00	179.10	10,156.4	-3,308.2	18.6	3,308.2	0.96	-0.96	0.11
13,478.0	90.50	179.80	10,156.0	-3,403.2	19.5	3,403.2	0.91	0.53	0.74
13,573.0	89.10	180.30	10,156.4	-3,498.2	19.4	3,498.2	1.56	-1.47	0.53
13,667.0	89.90	180.90	10,157.2	-3,592.2	18.4	3,592.2	1.06	0.85	0.64
13,762.0	90.90	180.90	10,156.5	-3,687.2	16.9	3,687.1	1.05	1.05	0.00
13,857.0	89.90	179.80	10,155.9	-3,782.2	16.3	3,782.1	1.56	-1.05	-1.16
13,952.0	89.40	179.80	10,156.4	-3,877.1	16.7	3,877.1	0.53	-0.53	0.00
14,046.0	87.90	179.50	10,158.6	-3,971.1	17.3	3,971.1	1.63	-1.60	-0.32
14,141.0	87.70	180.00	10,162.3	-4,066.0	17.7	4,066.0	0.57	-0.21	0.53
14,237.0	86.60	180.00	10,167.1	-4,161.9	17.7	4,161.9	1.15	-1.15	0.00
14,332.0	88.40	179.30	10,171.2	-4,256.8	18.2	4,256.8	2.03	1.89	-0.74
14,427.0	87.30	179.70	10,174.8	-4,351.8	19.1	4,351.7	1.23	-1.16	0.42
14,523.0	88.40	178.20	10,178.4	-4,447.7	20.8	4,447.7	1.94	1.15	-1.56
14,619.0	87.80	178.00	10,181.6	-4,543.6	24.0	4,543.6	0.66	-0.63	-0.21
14,714.0	89.80	178.50	10,183.5	-4,638.5	26.9	4,638.5	2.17	2.11	0.53
14,809.0	89.10	178.60	10,184.5	-4,733.5	29.3	4,733.5	0.74	-0.74	0.11
14,904.0	89.10	178.10	10,186.0	-4,828.4	32.1	4,828.5	0.53	0.00	-0.53
14,999.0	89.70	178.10	10,186.9	-4,923.3	35.2	4,923.5	0.63	0.63	0.00
15,094.0	89.60	178.70	10,187.5	-5,018.3	37.9	5,018.4	0.64	-0.11	0.63
15,190.0	91.70	179.60	10,186.4	-5,114.3	39.3	5,114.4	2.38	2.19	0.94
15,285.0	87.20	177.60	10,187.4	-5,209.2	41.6	5,209.4	5.18	-4.74	-2.11
15,380.0	89.70	179.30	10,189.9	-5,304.1	44.2	5,304.3	3.18	2.63	1.79
15,474.0	86.20	178.10	10,193.3	-5,398.0	46.3	5,398.2	3.94	-3.72	-1.28
15,569.0	88.30	179.60	10,197.8	-5,492.9	48.2	5,493.1	2.72	2.21	1.58



Stryker Energy Directional Services
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Site Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1
Project:	Lea County N. M. Nad (83)	TVD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Site:	Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1	MD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Well:	Sand Chute 4/9 B2AP Fed Com #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

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)
15,664.0	90.30	180.00	10,189.0	-5,587.9	48.5	5,588.1	2.15	2.11	0.42
15,758.0	93.60	180.20	10,195.8	-5,681.8	48.4	5,682.0	3.52	3.51	0.21
15,853.0	91.70	180.00	10,191.4	-5,776.7	48.2	5,776.9	2.01	-2.00	-0.21
15,948.0	90.50	180.10	10,189.6	-5,871.7	48.1	5,871.9	1.27	-1.26	0.11
16,043.0	88.60	180.00	10,190.3	-5,966.7	48.0	5,966.9	2.00	-2.00	-0.11
16,138.0	89.10	180.30	10,192.2	-6,061.7	47.8	6,061.8	0.61	0.53	0.32
16,233.0	89.60	180.80	10,193.3	-6,156.7	46.9	6,156.8	0.74	0.53	0.53
16,262.0	90.20	181.00	10,193.4	-6,185.7	46.4	6,185.8	2.18	2.07	0.69
16,357.0	89.60	180.40	10,193.5	-6,280.7	45.3	6,280.8	0.89	-0.63	-0.63
16,452.0	89.40	180.40	10,194.4	-6,375.6	44.6	6,375.8	0.21	-0.21	0.00
16,546.0	88.70	180.20	10,195.9	-6,469.6	44.1	6,469.7	0.77	-0.74	-0.21
16,641.0	88.00	180.30	10,198.7	-6,564.6	43.7	6,564.7	0.74	-0.74	0.11
16,736.0	87.10	180.00	10,202.7	-6,659.5	43.4	6,659.6	1.00	-0.95	-0.32
16,830.0	88.70	179.90	10,206.2	-6,753.4	43.5	6,753.5	1.71	1.70	-0.11
16,925.0	91.40	180.30	10,206.1	-6,848.4	43.4	6,848.5	2.87	2.84	0.42
17,020.0	91.70	180.40	10,203.5	-6,943.4	42.8	6,943.5	0.33	0.32	0.11
17,115.0	89.70	178.90	10,202.4	-7,038.4	43.4	7,038.5	2.63	-2.11	-1.58
17,209.0	87.90	178.80	10,204.3	-7,132.3	45.2	7,132.4	1.92	-1.91	-0.11
17,305.0	92.70	180.30	10,203.8	-7,228.3	46.0	7,228.4	5.24	5.00	1.56
17,399.0	91.80	179.00	10,200.1	-7,322.2	46.6	7,322.3	1.68	-0.96	-1.38
17,494.0	88.40	178.90	10,200.0	-7,417.2	48.3	7,417.3	3.58	-3.58	-0.11
17,590.0	86.50	179.10	10,204.2	-7,513.1	50.0	7,513.2	1.99	-1.98	0.21
17,684.0	84.90	178.90	10,211.3	-7,606.8	51.6	7,606.9	1.72	-1.70	-0.21
17,780.0	84.90	177.50	10,219.8	-7,702.4	54.6	7,702.5	1.45	0.00	-1.46
17,812.0	84.00	177.10	10,222.9	-7,734.2	56.1	7,734.4	3.08	-2.81	-1.25
17,843.0	85.40	177.30	10,225.8	-7,765.0	57.6	7,765.2	4.56	4.52	0.65
17,875.0	86.20	177.20	10,228.1	-7,796.9	59.2	7,797.1	2.52	2.50	-0.31
17,907.0	87.80	177.70	10,229.8	-7,828.8	60.6	7,829.0	5.24	5.00	1.56
17,938.0	89.40	178.40	10,230.5	-7,859.8	61.6	7,860.0	5.63	5.16	2.26
17,970.0	90.50	179.20	10,230.6	-7,891.8	62.3	7,892.0	4.25	3.44	2.50
18,001.0	89.80	178.80	10,230.5	-7,922.8	62.9	7,923.0	2.60	-2.26	-1.29
18,033.0	90.40	178.90	10,230.4	-7,954.8	63.5	7,955.0	1.90	1.88	0.31
18,064.0	91.60	179.40	10,229.9	-7,985.7	64.0	7,986.0	4.19	3.87	1.61
18,110.0	92.10	179.40	10,228.4	-8,031.7	64.4	8,032.0	1.09	1.09	0.00
18,158.0	90.40	179.20	10,227.4	-8,079.7	65.0	8,080.0	3.57	-3.54	-0.42
18,253.0	94.50	181.50	10,223.3	-8,174.6	64.4	8,174.8	4.95	4.32	2.42
18,316.0	92.60	180.70	10,219.4	-8,237.5	63.2	8,237.7	3.27	-3.02	-1.27
18,348.0	90.00	180.40	10,218.7	-8,269.4	62.9	8,269.7	8.18	-8.13	-0.94
18,380.0	89.90	180.40	10,218.7	-8,301.4	62.7	8,301.7	0.31	-0.31	0.00
18,411.0	92.10	181.80	10,218.2	-8,332.4	62.1	8,332.6	8.41	7.10	4.52
18,443.0	91.60	181.70	10,217.1	-8,364.4	61.1	8,364.6	1.59	-1.56	-0.31
18,475.0	90.30	182.10	10,216.6	-8,396.4	60.1	8,396.6	4.25	-4.06	1.25



Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Site Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1
Project:	Lea County N. M. Nad (83)	TVD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Site:	Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1	MD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Well:	Sand Chute 4/9 B2AP Fed Com #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

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)
18,507.0	90.20	182.80	10,216.5	-8,428.3	58.7	8,428.5	2.21	-0.31	2.19
18,538.0	90.50	183.60	10,216.3	-8,459.3	57.0	8,459.4	2.76	0.97	2.58
18,570.0	90.00	183.60	10,216.1	-8,491.2	55.0	8,491.4	1.56	-1.56	0.00
18,601.0	90.30	183.80	10,216.1	-8,522.2	53.0	8,522.3	1.16	0.97	0.65
18,633.0	90.20	184.00	10,215.9	-8,554.1	50.8	8,554.2	0.70	-0.31	0.63
18,664.0	88.60	183.40	10,216.2	-8,585.0	48.8	8,585.1	5.51	-5.16	-1.94
18,696.0	87.00	182.70	10,217.5	-8,617.0	47.1	8,617.0	5.46	-5.00	-2.19
18,727.0	86.40	182.10	10,219.2	-8,647.9	45.8	8,647.9	2.73	-1.94	-1.94
18,759.0	86.80	182.40	10,221.1	-8,679.8	44.5	8,679.8	1.56	1.25	0.94
18,790.0	85.90	182.40	10,223.1	-8,710.7	43.2	8,710.7	2.90	-2.90	0.00
18,822.0	86.10	179.50	10,225.4	-8,742.6	42.7	8,742.6	9.06	0.63	-9.06
18,854.0	87.60	179.40	10,227.1	-8,774.6	43.0	8,774.6	4.70	4.69	-0.31
18,886.0	87.60	178.90	10,228.5	-8,808.5	43.5	8,808.5	1.47	0.00	-1.47
18,920.0	88.70	178.70	10,229.6	-8,840.5	44.2	8,840.5	3.49	3.44	-0.63
18,952.0	88.90	178.50	10,230.2	-8,872.5	45.0	8,872.5	0.88	0.63	-0.63
18,983.0	89.20	178.50	10,230.8	-8,903.5	45.8	8,903.5	0.97	0.97	0.00
19,015.0	90.70	179.00	10,230.8	-8,935.5	46.5	8,935.5	4.94	4.69	1.56
19,046.0	91.60	179.30	10,230.2	-8,966.5	46.9	8,966.5	3.06	2.90	0.97
19,110.0	87.80	176.40	10,230.5	-9,030.4	49.3	9,030.4	7.47	-5.94	-4.53
19,204.0	88.60	176.50	10,233.4	-9,124.2	55.2	9,124.3	0.86	0.85	0.11
19,300.0	87.80	176.00	10,236.5	-9,219.9	61.4	9,220.1	0.98	-0.83	-0.52
19,395.0	87.20	176.10	10,240.6	-9,314.6	68.0	9,314.8	0.64	-0.63	0.11
19,490.0	87.70	177.20	10,244.8	-9,409.3	73.5	9,409.6	1.27	0.53	1.16
19,585.0	89.80	177.90	10,246.9	-9,504.2	77.6	9,504.5	2.33	2.21	0.74
19,680.0	90.00	177.10	10,247.1	-9,599.1	81.7	9,599.5	0.87	0.21	-0.84
19,775.0	90.10	178.10	10,247.0	-9,694.0	85.7	9,694.4	1.06	0.11	1.05
19,870.0	89.10	177.60	10,247.6	-9,789.0	89.3	9,789.4	1.18	-1.05	-0.53
19,965.0	89.60	178.00	10,248.7	-9,883.9	92.9	9,884.3	0.67	0.53	0.42
20,061.0	90.10	178.70	10,249.0	-9,979.9	95.7	9,980.3	0.90	0.52	0.73
20,156.0	91.20	179.20	10,247.9	-10,074.8	97.4	10,075.3	1.27	1.16	0.53
20,251.0	90.00	178.70	10,246.9	-10,169.8	99.2	10,170.3	1.37	-1.26	-0.53
20,317.0	88.40	178.20	10,247.8	-10,235.8	100.9	10,236.3	2.54	-2.42	-0.76
20,370.0	88.40	178.20	10,249.3	-10,288.7	102.6	10,289.2	0.00	0.00	0.00

PBHL Sand Chute 4/9 B2AP Fed Com #1H

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N-S (usft)	+E-W (usft)	Comment
20,370.0	10,249.3	-10,288.7	102.6	20370.0' MD Projected to bit



Stryker Energy Directional Services
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Site Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1
Project:	Lea County N. M. Nad (83)	TVD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Site:	Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1	MD Reference:	3686 + 27 @ 3713.0usft (Patterson 562)
Well:	Sand Chute 4/9 B2AP Fed Com #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

Checked By: _____ Approved By: _____ Date: _____

STRYKER

DIRECTIONAL

September 6, 2019

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

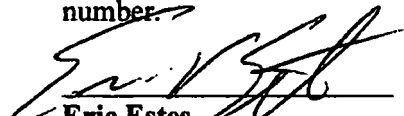
Attn: Jackie Lathan

Re: Mewbourne Oil Company
Sand Chute 4 B2AP Federal Com #001H
PEARL; BONE SPRING, SOUTH
Lea County, New Mexico
API# 30-025-46061

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>
Cody Hash	Original Hole	136ft. to 20,317ft.	06-16-19 to 07-29-19	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.


Eric 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\Sand Chute 4 B2AP Fed Com #1HVM191118

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



September 6, 2019

Survey Certification Report

STATE OF TEXAS
COUNTY OF Montgomery

I, Eric Estes, certify that I am employed by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C., and that I did on the day(s) of June 16, 2019, through July 29, 2019 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 136feet to a depth of 20,317feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the Sand Chute 4 B2AP Federal Com #1H well API # 30-025-46061 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 black ink, appearing to read "Eric Estes", written over a horizontal line.

Eric 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



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #
Well: Sand Chute 4/9 B2AP Fed Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Section 4/9-20S-35E Sand Chute 4/9 B2AP F
3686 + 27 @ 3713.0usft (Patterson 562)
3686 + 27 @ 3713.0usft (Patterson 562)
Grid
Minimum Curvature
EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	588,414.05	811,535.41
136.0	0.50	20.76	136.0	0.6	0.2	0.6	20.76	0.37	588,414.60	811,535.62
265.0	0.40	300.76	265.0	1.3	0.0	1.3	1.00	0.45	588,415.36	811,535.43
448.0	0.60	30.76	448.0	2.5	0.0	2.5	359.16	0.39	588,416.51	811,535.37
630.0	0.30	135.76	630.0	2.9	0.8	3.0	14.93	0.40	588,416.99	811,536.19
816.0	0.60	75.76	816.0	2.8	2.1	3.5	36.15	0.28	588,416.88	811,537.48
1,005.0	1.50	14.76	1,005.0	5.5	3.7	6.6	33.79	0.70	588,419.51	811,539.06
1,195.0	0.60	74.76	1,194.9	8.1	5.3	9.7	32.85	0.69	588,422.18	811,540.66
1,385.0	0.70	346.76	1,384.9	9.5	5.9	11.2	31.97	0.48	588,423.57	811,541.35
1,575.0	0.70	284.76	1,574.9	10.9	4.6	11.9	22.60	0.38	588,425.00	811,539.98
1,763.0	0.60	249.76	1,762.9	10.9	2.5	11.2	13.03	0.21	588,424.95	811,537.93
1,817.0	1.00	353.76	1,816.9	11.3	2.2	11.5	11.07	2.38	588,425.32	811,537.81
1,929.0	0.60	29.50	1,928.9	12.8	2.4	13.0	10.81	0.55	588,426.80	811,537.80
2,118.0	1.30	48.10	2,117.9	15.0	4.5	15.7	16.55	0.40	588,429.09	811,539.88
2,308.0	2.30	31.90	2,307.8	19.7	8.1	21.3	22.30	0.59	588,433.77	811,543.50
2,499.0	3.20	1.70	2,498.5	28.3	10.3	30.1	19.95	0.88	588,442.35	811,545.68
2,689.0	3.10	5.70	2,688.3	38.7	10.9	40.2	15.78	0.13	588,452.77	811,546.35
2,880.0	3.70	358.20	2,878.9	50.0	11.3	51.3	12.69	0.39	588,464.07	811,546.67
3,069.0	3.50	10.10	3,067.6	61.8	12.1	63.0	11.06	0.41	588,475.84	811,547.49
3,258.0	4.30	358.10	3,256.1	74.5	12.6	75.6	9.60	0.66	588,488.59	811,548.02
3,448.0	3.70	357.50	3,445.7	87.8	11.9	88.6	7.89	0.32	588,501.82	811,547.27
3,636.0	3.30	350.50	3,633.3	99.2	10.7	99.7	6.16	0.31	588,513.22	811,546.11
3,826.0	3.20	350.60	3,823.0	109.8	8.9	110.2	4.65	0.05	588,523.84	811,544.34
4,015.0	2.90	350.00	4,011.7	119.7	7.2	119.9	3.46	0.16	588,533.76	811,542.85
4,205.0	3.20	353.80	4,201.5	129.7	5.8	129.8	2.57	0.19	588,543.76	811,541.24
4,394.0	3.10	351.60	4,390.2	140.0	4.5	140.1	1.85	0.08	588,554.06	811,539.93
4,585.0	3.30	355.50	4,580.9	150.6	3.3	150.6	1.27	0.15	588,564.65	811,538.74



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
 Project: Lea County N. M. Nad (83)
 Site: Section 4/8-20S-35E Sand Chute 4/9 B2AP Fed Com #
 Well: Sand Chute 4/9 B2AP Fed Com #1H
 Wellbore: Original Hole
 Design: Original Hole

Local Co-ordinate Reference: Site Section 4/8-20S-35E Sand Chute 4/9 B2AP F
 TVD Reference: 3886 + 27 @ 3713.0usft (Patterson 562)
 MD Reference: 3886 + 27 @ 3713.0usft (Patterson 562)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,774.0	2.90	358.70	4,769.6	160.8	2.6	160.8	0.94	0.21	586,574.85	811,538.04
4,964.0	2.60	348.60	4,959.4	169.8	1.5	169.8	0.51	0.26	586,583.87	811,536.91
5,153.0	2.50	352.50	5,148.2	178.1	0.1	178.1	0.04	0.11	586,592.16	811,535.52
5,343.0	2.60	353.10	5,338.0	186.5	-0.9	186.5	359.71	0.05	586,600.55	811,534.47
5,533.0	1.40	354.30	5,527.9	193.1	-1.7	193.1	359.50	0.63	586,607.13	811,533.72
5,630.1	1.24	0.88	5,625.0	195.3	-1.8	195.3	359.47	0.23	586,609.36	811,533.61
B.B. Sand Chute 4/9 B2AP Fed Com #1H										
5,722.0	1.10	8.80	5,718.8	197.2	-1.6	197.2	359.52	0.23	586,611.22	811,533.76
5,911.0	0.40	119.00	5,905.8	198.6	-0.8	198.7	359.77	0.68	586,612.70	811,534.62
6,101.0	1.00	82.40	6,095.8	198.5	1.4	198.6	0.41	0.38	586,612.59	811,536.84
6,290.0	1.50	150.60	6,284.8	196.6	4.3	196.7	1.25	0.77	586,610.66	811,539.69
6,480.0	2.00	151.00	6,474.7	191.5	7.1	191.7	2.13	0.26	586,605.59	811,542.52
6,671.0	1.80	141.30	6,665.6	188.3	10.6	188.6	3.26	0.20	586,600.34	811,546.01
6,861.0	0.60	129.70	6,855.5	183.3	13.2	183.8	4.13	0.64	586,597.37	811,548.64
7,051.0	0.80	159.80	7,045.5	181.4	14.5	182.0	4.56	0.22	586,595.49	811,549.87
7,240.0	0.90	129.30	7,234.5	179.3	16.1	180.0	5.12	0.24	586,593.31	811,551.47
7,429.0	0.80	186.40	7,423.5	177.0	17.1	177.6	5.51	0.43	586,591.06	811,552.47
7,620.0	1.40	265.00	7,614.5	175.5	14.6	176.1	4.75	0.77	586,589.53	811,550.00
7,810.0	1.20	266.30	7,804.4	175.2	10.3	175.5	3.36	0.11	586,589.20	811,545.70
8,000.0	1.20	290.60	7,994.4	175.7	6.4	175.8	2.10	0.27	586,589.77	811,541.85
8,190.0	1.10	289.70	8,184.3	177.0	2.9	177.1	0.93	0.05	586,591.09	811,538.27
8,381.0	1.00	280.30	8,375.3	178.0	-0.5	178.0	359.84	0.10	586,592.00	811,534.91
8,571.0	0.80	247.10	8,565.3	177.7	-3.4	177.8	358.92	0.29	586,591.78	811,532.06
8,761.0	1.60	315.60	8,755.2	179.1	-6.4	179.2	357.94	0.79	586,593.16	811,528.98
8,950.0	2.10	314.30	8,944.1	183.4	-10.8	183.7	356.64	0.27	586,597.47	811,524.65
9,140.0	0.80	293.00	9,134.1	186.4	-14.5	186.9	355.56	0.73	586,600.42	811,520.94
9,331.0	0.20	86.40	9,325.1	186.9	-15.4	187.5	355.30	0.51	586,600.66	811,520.05



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #1
Well: Sand Chute 4/9 B2AP Fed Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Section 4/9-20S-35E Sand Chute 4/9 B2AP F
 3886 + 27 @ 3713.0usft (Patterson 582)
 3886 + 27 @ 3713.0usft (Patterson 562)
 Grid
 Minimum Curvature
 EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
9,521.0	0.70	130.80	9,515.1	188.2	-14.2	188.7	355.65	0.30	586,600.22	811,521.25
9,641.0	4.20	139.20	9,634.9	182.4	-10.7	182.7	356.63	2.92	586,596.41	811,524.68
9,688.0	11.30	144.70	9,681.5	177.3	-6.9	177.4	357.76	15.17	586,581.34	811,528.47
9,736.0	17.90	151.00	9,727.9	167.0	-0.6	167.0	359.78	14.12	586,581.04	811,534.77
9,783.0	24.40	148.80	9,771.7	152.4	7.9	152.6	2.97	13.93	586,566.41	811,543.31
9,831.0	31.00	156.90	9,814.2	132.5	17.9	133.7	7.70	15.80	586,546.53	811,553.31
9,878.0	38.30	163.70	9,852.9	107.3	28.8	110.6	14.00	17.56	586,521.37	811,562.16
9,926.0	43.30	172.90	9,889.2	76.7	33.0	83.5	23.27	16.27	586,490.71	811,568.38
9,973.0	48.40	182.50	9,922.0	43.1	34.2	55.0	38.46	18.21	586,457.10	811,569.61
10,020.0	53.10	185.10	9,951.7	6.8	31.8	32.5	78.00	10.88	586,420.80	811,567.17
10,067.0	55.20	186.00	9,979.2	-31.2	28.1	41.9	137.98	4.73	586,382.89	811,563.48
10,116.0	57.70	186.40	10,006.3	-71.8	23.7	75.6	161.75	5.15	586,342.29	811,559.07
10,164.0	61.80	187.40	10,030.5	-112.9	18.7	114.4	170.61	8.73	586,301.14	811,554.08
10,211.0	65.30	188.30	10,051.4	-154.6	12.9	155.1	175.22	7.64	586,259.46	811,548.33
10,259.0	68.30	188.40	10,070.3	-198.2	6.5	198.3	178.12	6.25	586,215.82	811,541.93
10,306.0	71.50	187.70	10,086.5	-241.9	0.3	241.9	179.92	6.95	586,172.12	811,535.75
10,338.3	73.49	186.66	10,096.2	-272.5	-3.5	272.5	180.74	6.88	586,141.64	811,531.90
LP Sand Chute 4/9 B2AP Fed Com #1H										
10,353.0	74.40	186.20	10,100.3	-286.5	-5.1	286.6	181.02	6.88	586,127.52	811,530.32
10,400.0	77.40	184.20	10,111.7	-331.9	-9.2	332.0	181.59	7.60	586,082.13	811,526.19
10,433.0	79.00	184.00	10,118.5	-364.1	-11.5	364.3	181.81	4.88	586,049.91	811,523.88
10,488.0	85.00	183.60	10,126.1	-418.5	-15.1	418.7	182.07	10.93	585,995.59	811,520.28
10,535.0	92.20	180.90	10,127.3	-465.4	-17.0	465.7	182.09	16.36	585,948.68	811,518.43
10,604.0	93.80	187.10	10,123.7	-534.1	-21.8	534.5	182.33	9.27	585,879.98	811,513.63
10,635.0	93.80	188.80	10,121.6	-564.7	-26.1	565.3	182.64	5.47	585,849.34	811,509.35
10,667.0	93.70	188.60	10,119.5	-596.3	-30.9	597.1	182.96	0.70	585,817.78	811,504.52
10,730.0	90.50	187.60	10,117.2	-656.6	-39.8	659.8	183.45	5.32	585,755.46	811,495.66



Stryker Energy Directional Services
Survey Report Landscape



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 4/8-20S-35E Sand Chute 4/9 B2AP Fed Com #
Well: Sand Chute 4/9 B2AP Fed Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Section 4/8-20S-35E Sand Chute 4/9 B2AP F
3686 + 27 @ 3713.0usft (Patterson 562)
3686 + 27 @ 3713.0usft (Patterson 562)
Grid
Minimum Curvature
EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,825.0	88.70	184.00	10,117.9	-753.1	-49.4	754.7	183.75	4.24	585,660.97	811,486.08
10,920.0	92.30	182.50	10,117.0	-847.9	-54.7	849.7	183.69	4.11	585,566.14	811,480.67
11,015.0	88.70	179.70	10,116.2	-942.9	-56.6	944.6	183.43	4.80	585,471.19	811,478.85
11,046.0	86.90	178.20	10,117.4	-973.8	-58.0	975.4	183.29	7.58	585,440.22	811,479.42
11,078.0	87.00	177.90	10,119.1	-1,005.8	-54.9	1,007.3	183.12	0.99	585,408.28	811,480.50
11,109.0	86.70	178.20	10,120.8	-1,036.7	-53.9	1,038.1	182.97	1.37	585,377.35	811,481.56
11,141.0	85.90	178.00	10,122.9	-1,068.8	-52.8	1,069.9	182.83	2.58	585,345.43	811,482.62
11,200.0	88.10	178.20	10,127.0	-1,127.4	-50.8	1,128.6	182.58	0.48	585,286.61	811,484.57
11,295.0	86.40	177.50	10,133.2	-1,222.2	-47.3	1,223.1	182.22	0.80	585,191.88	811,488.12
11,390.0	89.80	177.10	10,138.3	-1,317.0	-42.8	1,317.7	181.86	3.60	585,097.05	811,492.60
11,485.0	88.70	176.10	10,137.6	-1,411.8	-37.2	1,412.3	181.51	1.58	585,002.23	811,498.23
11,580.0	90.00	176.70	10,138.7	-1,506.6	-31.2	1,506.9	181.19	1.51	584,907.42	811,504.19
11,675.0	89.30	176.00	10,139.2	-1,601.4	-25.2	1,601.6	180.90	1.04	584,812.62	811,510.24
11,769.0	89.40	175.90	10,140.3	-1,695.2	-18.5	1,695.3	180.63	0.15	584,718.88	811,516.88
11,864.0	88.60	175.60	10,142.0	-1,789.9	-11.5	1,789.9	180.37	0.90	584,624.14	811,523.92
11,959.0	90.20	176.60	10,143.0	-1,884.8	-8.7	1,884.8	180.20	3.58	584,529.28	811,528.72
12,054.0	90.30	178.80	10,142.5	-1,979.7	-4.5	1,979.8	180.13	0.24	584,434.30	811,530.88
12,149.0	90.90	179.30	10,141.6	-2,074.7	-3.0	2,074.7	180.08	0.82	584,339.32	811,532.46
12,244.0	89.00	178.50	10,141.6	-2,169.7	-1.1	2,169.7	180.03	2.17	584,244.34	811,534.28
12,339.0	89.20	178.30	10,143.1	-2,264.7	1.5	2,264.7	179.98	0.30	584,149.39	811,536.93
12,434.0	88.60	178.30	10,145.0	-2,359.6	4.3	2,359.6	179.89	0.63	584,054.45	811,539.75
12,529.0	92.10	179.60	10,144.4	-2,454.6	6.1	2,454.6	179.86	3.93	583,959.49	811,541.49
12,624.0	88.10	179.00	10,144.2	-2,549.5	7.2	2,549.5	179.84	4.26	583,864.51	811,542.65
12,719.0	88.30	179.30	10,147.2	-2,644.5	8.7	2,644.5	179.81	0.38	583,769.57	811,544.06
12,814.0	87.80	179.10	10,150.4	-2,739.4	10.0	2,739.4	179.79	0.57	583,674.64	811,545.38
12,909.0	87.70	179.20	10,154.2	-2,834.3	11.4	2,834.4	179.77	0.15	583,579.72	811,546.79
13,005.0	88.50	179.20	10,157.3	-2,930.3	12.7	2,930.3	179.75	0.83	583,483.78	811,548.13



Stryker Energy Directional Services
Survey Report Landscape



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 4/8-20S-35E Sand Chute 4/8 B2AP Fed Com #
Well: Sand Chute 4/8 B2AP Fed Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Section 4/8-20S-35E Sand Chute 4/8 B2AP F
3686 + 27 @ 3713.0usft (Patterson 562)
3686 + 27 @ 3713.0usft (Patterson 562)
Grid
Minimum Curvature
EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
13,100.0	89.80	179.20	10,158.7	-3,025.2	14.1	3,025.3	179.73	1.37	583,388.80	811,549.48
13,195.0	90.60	179.10	10,158.4	-3,120.2	15.5	3,120.3	179.72	0.85	583,293.82	811,550.87
13,289.0	90.90	179.00	10,157.2	-3,214.2	17.0	3,214.3	179.70	0.34	583,199.84	811,552.43
13,383.0	90.00	179.10	10,156.4	-3,308.2	18.6	3,308.2	179.68	0.96	583,105.85	811,553.98
13,478.0	90.50	179.80	10,158.0	-3,403.2	19.5	3,403.2	179.67	0.91	583,010.88	811,554.90
13,573.0	89.10	180.30	10,156.4	-3,498.2	19.4	3,498.2	179.68	1.56	582,915.88	811,554.81
13,667.0	89.90	180.90	10,157.2	-3,592.2	18.4	3,592.2	179.71	1.08	582,821.87	811,553.83
13,762.0	90.90	180.90	10,156.5	-3,687.2	18.9	3,687.2	179.74	1.05	582,726.89	811,552.34
13,857.0	89.90	179.80	10,155.9	-3,782.2	18.3	3,782.2	179.75	1.56	582,631.90	811,551.76
13,952.0	89.40	179.80	10,156.4	-3,877.1	18.7	3,877.2	179.75	0.53	582,536.90	811,552.09
14,046.0	87.90	179.50	10,158.6	-3,971.1	17.3	3,971.2	179.75	1.63	582,442.93	811,552.66
14,141.0	87.70	180.00	10,162.3	-4,066.0	17.7	4,066.1	179.75	0.57	582,348.00	811,553.08
14,237.0	86.80	180.00	10,167.1	-4,161.9	17.7	4,162.0	179.76	1.15	582,252.12	811,553.08
14,332.0	88.40	179.30	10,171.2	-4,256.8	18.2	4,256.9	179.75	2.03	582,157.22	811,553.66
14,427.0	87.30	179.70	10,174.8	-4,351.8	19.1	4,351.8	179.75	1.23	582,062.29	811,554.48
14,523.0	88.40	178.20	10,178.4	-4,447.7	20.8	4,447.7	179.73	1.94	581,968.38	811,556.24
14,619.0	87.80	178.00	10,181.6	-4,543.6	24.0	4,543.6	179.70	0.66	581,870.48	811,559.42
14,714.0	89.80	178.50	10,183.5	-4,638.5	26.9	4,638.6	179.67	2.17	581,775.55	811,562.32
14,809.0	89.10	178.60	10,184.5	-4,733.5	29.3	4,733.5	179.65	0.74	581,680.59	811,564.73
14,904.0	89.10	178.10	10,186.0	-4,828.4	32.1	4,828.5	179.62	0.53	581,585.64	811,567.46
14,999.0	89.70	178.10	10,186.9	-4,923.3	35.2	4,923.5	179.59	0.63	581,490.70	811,570.81
15,094.0	89.80	178.70	10,187.5	-5,018.3	37.9	5,018.5	179.57	0.64	581,395.74	811,573.27
15,190.0	91.70	179.60	10,186.4	-5,114.3	39.3	5,114.4	179.56	2.38	581,299.76	811,574.69
15,285.0	87.20	177.60	10,187.4	-5,209.2	41.6	5,209.4	179.54	5.18	581,204.82	811,577.01
15,380.0	89.70	179.30	10,188.9	-5,304.1	44.2	5,304.3	179.52	3.18	581,109.90	811,579.58
15,474.0	86.20	178.10	10,193.3	-5,398.0	46.3	5,398.2	179.51	3.94	581,016.00	811,581.71
15,569.0	88.30	179.80	10,197.8	-5,492.9	48.2	5,493.1	179.50	2.72	580,921.14	811,583.61



Stryker Energy Directional Services
Survey Report Landscape



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 4/8-20S-35E Sand Chute 4/8 B2AP Fed Com #
Well: Sand Chute 4/8 B2AP Fed Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Section 4/8-20S-35E Sand Chute 4/8 B2AP F
3686 + 27 @ 3713.0usft (Patterson 562)
3686 + 27 @ 3713.0usft (Patterson 562)
Grid
Minimum Curvature
EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
15,664.0	90.30	180.00	10,189.0	-5,587.9	48.5	5,588.1	179.50	2.15	580,826.15	811,583.94
15,758.0	93.60	180.20	10,185.8	-5,681.8	48.4	5,682.0	179.51	3.52	580,732.22	811,583.78
15,853.0	91.70	180.00	10,191.4	-5,776.7	48.2	5,776.9	179.52	2.01	580,637.33	811,583.61
15,948.0	90.50	180.10	10,189.6	-5,871.7	48.1	5,871.9	179.53	1.27	580,542.35	811,583.53
16,043.0	88.60	180.00	10,190.3	-5,966.7	48.0	5,966.9	179.54	2.00	580,447.35	811,583.45
16,138.0	89.10	180.30	10,192.2	-6,061.7	47.8	6,061.9	179.55	0.61	580,352.37	811,583.20
16,233.0	89.60	180.80	10,193.3	-6,156.7	46.9	6,156.6	179.56	0.74	580,257.38	811,582.29
16,282.0	90.20	181.00	10,193.4	-6,185.7	46.4	6,185.6	179.57	2.18	580,228.39	811,581.83
16,357.0	89.60	180.40	10,193.5	-6,280.7	45.3	6,280.8	179.59	0.89	580,133.40	811,580.67
16,452.0	89.40	180.40	10,194.4	-6,375.6	44.6	6,375.8	179.60	0.21	580,038.40	811,580.01
16,546.0	88.70	180.20	10,195.9	-6,469.6	44.1	6,469.8	179.61	0.77	579,944.42	811,579.51
16,641.0	88.00	180.30	10,198.7	-6,564.6	43.7	6,564.7	179.62	0.74	579,849.46	811,579.10
16,736.0	87.10	180.00	10,202.7	-6,659.5	43.4	6,659.6	179.63	1.00	579,754.55	811,578.85
16,830.0	88.70	179.90	10,206.2	-6,753.4	43.5	6,753.6	179.63	1.71	579,660.61	811,578.93
16,925.0	91.40	180.30	10,206.1	-6,848.4	43.4	6,848.6	179.64	2.87	579,565.62	811,578.77
17,020.0	91.70	180.40	10,203.5	-6,943.4	42.8	6,943.5	179.65	0.33	579,470.66	811,578.19
17,115.0	89.70	178.90	10,202.4	-7,038.4	43.4	7,038.5	179.65	2.63	579,375.67	811,578.77
17,209.0	87.90	178.80	10,204.3	-7,132.3	45.2	7,132.5	179.64	1.92	579,281.72	811,580.65
17,305.0	92.70	180.30	10,203.8	-7,228.3	46.0	7,228.4	179.64	5.24	579,185.75	811,581.41
17,399.0	91.80	179.00	10,200.1	-7,322.2	46.6	7,322.4	179.64	1.68	579,091.83	811,581.98
17,494.0	88.40	178.90	10,200.0	-7,417.2	48.3	7,417.3	179.63	3.58	578,996.86	811,583.72
17,590.0	86.50	179.10	10,204.2	-7,513.1	50.0	7,513.2	179.62	1.99	578,900.97	811,585.40
17,684.0	84.90	178.90	10,211.3	-7,608.8	51.6	7,607.0	179.61	1.72	578,807.26	811,587.03
17,780.0	84.90	177.50	10,219.8	-7,702.4	54.6	7,702.6	179.59	1.45	578,711.69	811,590.04
17,812.0	84.00	177.10	10,222.9	-7,734.2	56.1	7,734.4	179.58	3.08	578,679.87	811,591.54
17,843.0	85.40	177.30	10,225.8	-7,765.0	57.6	7,765.2	179.57	4.56	578,649.04	811,593.04
17,875.0	86.20	177.20	10,228.1	-7,796.9	59.2	7,797.1	179.57	2.52	578,617.16	811,594.57



Stryker Energy Directional Services
Survey Report Landscape



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #
Well: Sand Chute 4/9 B2AP Fed Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Site Section 4/9-20S-35E Sand Chute 4/9 B2AP F
TVD Reference: 3686 + 27 @ 3713.0usft (Patterson 562)
MD Reference: 3686 + 27 @ 3713.0usft (Patterson 562)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
17,907.0	87.80	177.70	10,229.8	-7,828.8	60.6	7,829.0	179.56	5.24	578,585.24	811,596.00
17,938.0	89.40	178.40	10,230.5	-7,859.8	61.6	7,860.0	179.55	5.63	578,554.27	811,597.05
17,970.0	90.50	179.20	10,230.6	-7,891.8	62.3	7,892.0	179.55	4.25	578,522.28	811,597.72
18,001.0	89.80	178.80	10,230.5	-7,922.8	62.9	7,923.0	179.55	2.60	578,491.28	811,598.26
18,033.0	90.40	178.90	10,230.4	-7,954.8	63.5	7,955.0	179.54	1.90	578,459.29	811,598.90
18,064.0	91.60	179.40	10,229.9	-7,985.7	64.0	7,986.0	179.54	4.19	578,428.30	811,599.38
18,110.0	92.10	179.40	10,228.4	-8,031.7	64.4	8,032.0	179.54	1.09	578,382.32	811,599.85
18,158.0	90.40	179.20	10,227.4	-8,079.7	65.0	8,080.0	179.54	3.67	578,334.34	811,600.43
18,253.0	94.50	181.50	10,223.3	-8,174.6	64.4	8,174.8	179.55	4.95	578,239.46	811,599.86
18,316.0	92.60	180.70	10,219.4	-8,237.5	63.2	8,237.7	179.56	3.27	578,176.59	811,598.65
18,348.0	90.00	180.40	10,218.7	-8,269.4	62.9	8,269.7	179.56	8.18	578,144.61	811,598.34
18,380.0	89.90	180.40	10,218.7	-8,301.4	62.7	8,301.7	179.57	0.31	578,112.61	811,598.12
18,411.0	92.10	181.80	10,218.2	-8,332.4	62.1	8,332.7	179.57	8.41	578,081.62	811,597.52
18,443.0	91.60	181.70	10,217.1	-8,364.4	61.1	8,364.6	179.58	1.59	578,049.65	811,598.55
18,475.0	90.30	182.10	10,216.6	-8,396.4	60.1	8,396.6	179.59	4.25	578,017.67	811,595.49
18,507.0	90.20	182.80	10,216.5	-8,428.3	58.7	8,428.5	179.60	2.21	577,985.70	811,594.12
18,538.0	90.50	183.60	10,216.3	-8,459.3	57.0	8,459.5	179.61	2.76	577,954.75	811,592.39
18,570.0	90.00	183.60	10,216.1	-8,491.2	55.0	8,491.4	179.63	1.56	577,922.82	811,590.38
18,601.0	90.30	183.80	10,216.1	-8,522.2	53.0	8,522.3	179.64	1.16	577,891.88	811,588.38
18,633.0	90.20	184.00	10,215.9	-8,554.1	50.8	8,554.2	179.66	0.70	577,859.96	811,586.20
18,664.0	88.60	183.40	10,216.2	-8,585.0	48.8	8,585.2	179.67	5.51	577,829.02	811,584.20
18,696.0	87.00	182.70	10,217.5	-8,617.0	47.1	8,617.1	179.69	5.46	577,797.09	811,582.50
18,727.0	86.40	182.10	10,219.2	-8,647.9	45.8	8,648.0	179.70	2.73	577,766.17	811,581.20
18,759.0	88.80	182.40	10,221.1	-8,679.8	44.5	8,679.9	179.71	1.58	577,734.25	811,579.95
18,790.0	85.90	182.40	10,223.1	-8,710.7	43.2	8,710.8	179.72	2.90	577,703.34	811,578.65
18,822.0	88.10	179.50	10,225.4	-8,742.6	42.7	8,742.7	179.72	9.06	577,671.43	811,578.12
18,854.0	87.60	179.40	10,227.1	-8,774.6	43.0	8,774.7	179.72	4.70	577,639.48	811,578.43



Stryker Energy Directional Services
Survey Report Landscape



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 4/9-20S-35E Sand Chute 4/9 B2AP Fed Com #
Well: Sand Chute 4/9 B2AP Fed Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Section 4/9-20S-35E Sand Chute 4/9 B2AP F
3686 + 27 @ 3713.0usft (Patterson 562)
3686 + 27 @ 3713.0usft (Patterson 562)
Grid
Minimum Curvature
EDM5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
18,888.0	87.60	178.90	10,228.5	-8,808.5	43.5	8,808.8	179.72	1.47	577,605.51	811,578.94
18,920.0	88.70	178.70	10,229.6	-8,840.5	44.2	8,840.8	179.71	3.49	577,573.54	811,579.81
18,952.0	88.90	178.50	10,230.2	-8,872.5	45.0	8,872.8	179.71	0.88	577,541.55	811,580.39
18,983.0	89.20	178.50	10,230.8	-8,903.5	45.8	8,903.6	179.71	0.97	577,510.57	811,581.20
19,015.0	90.70	179.00	10,230.8	-8,935.5	46.5	8,935.6	179.70	4.94	577,478.58	811,581.90
19,046.0	91.60	179.30	10,230.2	-8,966.5	46.9	8,966.8	179.70	3.06	577,447.59	811,582.36
19,110.0	87.80	178.40	10,230.5	-9,030.4	49.3	9,030.5	179.69	7.47	577,383.65	811,584.78
19,204.0	88.60	176.50	10,233.4	-9,124.2	55.2	9,124.3	179.65	0.88	577,289.88	811,590.57
19,300.0	87.80	176.00	10,236.5	-9,219.9	61.4	9,220.1	179.62	0.98	577,194.13	811,596.85
19,395.0	87.20	176.10	10,240.6	-9,314.6	68.0	9,314.8	179.58	0.64	577,099.45	811,603.39
19,490.0	87.70	177.20	10,244.8	-9,409.3	73.5	9,409.8	179.55	1.27	577,004.71	811,608.93
19,585.0	89.80	177.90	10,246.9	-9,504.2	77.6	9,504.5	179.53	2.33	576,909.82	811,612.99
19,680.0	90.00	177.10	10,247.1	-9,599.1	81.7	9,599.5	179.51	0.87	576,814.91	811,617.14
19,775.0	90.10	178.10	10,247.0	-9,694.0	85.7	9,694.4	179.49	1.06	576,720.00	811,621.11
19,870.0	89.10	177.60	10,247.6	-9,789.0	89.3	9,789.4	179.48	1.18	576,625.07	811,624.68
19,965.0	89.60	178.00	10,248.7	-9,883.9	92.9	9,884.3	179.46	0.67	576,530.15	811,628.32
20,061.0	90.10	178.70	10,249.0	-9,979.9	95.7	9,980.3	179.45	0.90	576,434.19	811,631.09
20,156.0	91.20	179.20	10,247.9	-10,074.8	97.4	10,075.3	179.45	1.27	576,339.21	811,632.83
20,251.0	90.00	178.70	10,246.9	-10,169.8	99.2	10,170.3	179.44	1.37	576,244.23	811,634.57
20,317.0	88.40	178.20	10,247.8	-10,235.8	100.9	10,236.3	179.43	2.54	576,178.27	811,636.36
20,370.0	88.40	178.20	10,249.3	-10,288.7	102.6	10,289.2	179.43	0.00	576,125.31	811,638.02

PBHL Sand Chute 4/9 B2AP Fed Com #1H



COMPANY: Mewbourne Oil Company
WELL: Sand Chute 4/9 B2AP Fed Com #1H
COUNTY: Lea County N. M. Nad (83)
DATUM: North American Datum 1983
RIG: Patterson 562

GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 2°

HOBBS OOD

OCT 07 2019

STRYKER
DIRECTIONAL

OFFICE: 936.582.7296

RECEIVED

GEODETTIC ZONE: New Mexico Eastern Zone
3686 + 27 @ 3713.0usft (Patterson 562)
GROUND ELEVATION: 3686.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	586414.05	811535.41	32° 38' 32.539 N	103° 27' 21.090 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	2200.0	0.00	0.00	2200.0	0.0	0.0	0.00	0.00	0.0	
3	2433.1	3.50	359.42	2432.9	7.1	-0.1	1.50	359.42	-7.1	
4	5397.7	3.50	359.42	5392.1	187.9	-1.9	0.00	0.00	-187.9	
5	5630.8	0.00	0.00	5625.0	195.0	-2.0	1.50	180.00	-195.0	B.B. Sand Chute 4/9 B2AP Fed Com #1H
6	9651.4	0.00	0.00	9645.6	195.0	-2.0	0.00	0.00	-195.0	
7	10395.4	89.29	179.55	10123.0	-276.5	1.7	12.00	179.55	276.5	
8	20414.0	89.29	179.55	10248.0	-10294.0	79.6	0.00	0.00	10294.3	PBHL Sand Chute 4/9 B2AP Fed Com #1H

SHL: 205' FNL: 660' FEL
Section 4-20S-35E
PBHL: 100' FSL: 660' FEL
Section 9-20S-35E

