



COMPANY: Mewbourne Oil Company
WELL: Ram 3 B2PA State Com #2H
COUNTY: Lea County N. M. Nad (83)
DATUM: North American Datum 1983
RIG: Patterson 220



OFFICE: 936.582.7296

GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.37°

GEODETIC ZONE: New Mexico Eastern Zone

3590 +27 @ 3617.0usft (Patterson 220)

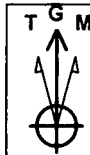
GROUND ELEVATION: 3590.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	515483.10	813607.80	32° 24' 50.547 N	103° 27' 3.727 W	

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	5628.0	2.04	116.72	5625.7	13.1	107.3	0.00	0.00	12.7	
2	5764.0	0.00	0.00	5761.7	12.0	109.4	1.50	180.00	11.6	
3	5999.2	3.53	205.54	5996.8	5.5	106.3	1.50	205.54	5.1	
4	9473.9	3.53	205.54	9464.9	-187.5	14.1	0.00	0.00	-187.5	
5	9709.2	0.00	0.00	9700.0	-194.0	11.0	1.50	180.00	-194.0	B.B. Ram 3 B2PA St Com #2H
6	9838.8	0.00	0.00	9829.6	-194.0	11.0	0.00	0.00	-194.0	
7	10595.1	90.76	359.65	10307.0	289.8	8.1	12.00	359.65	289.8	
8	15113.1	90.76	359.65	10247.0	4807.3	-19.2	0.00	0.00	4807.3	PBHL Ram 3 B2PA State Com #2H

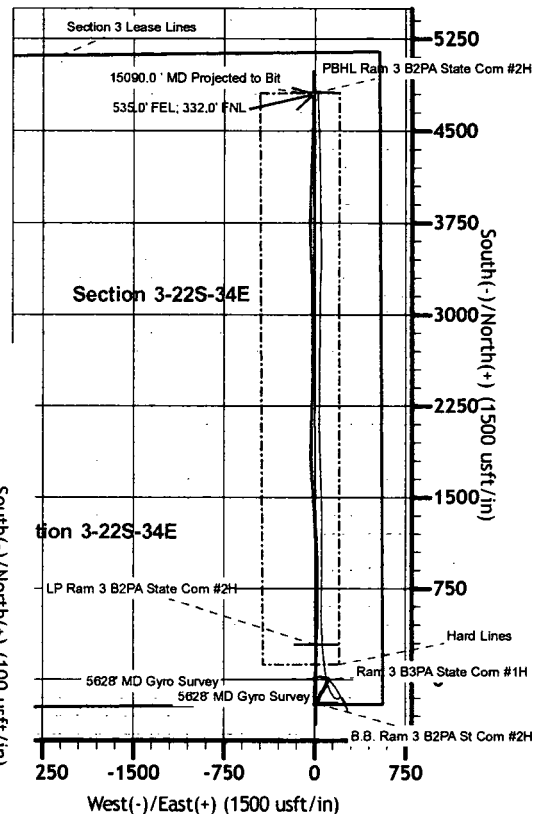
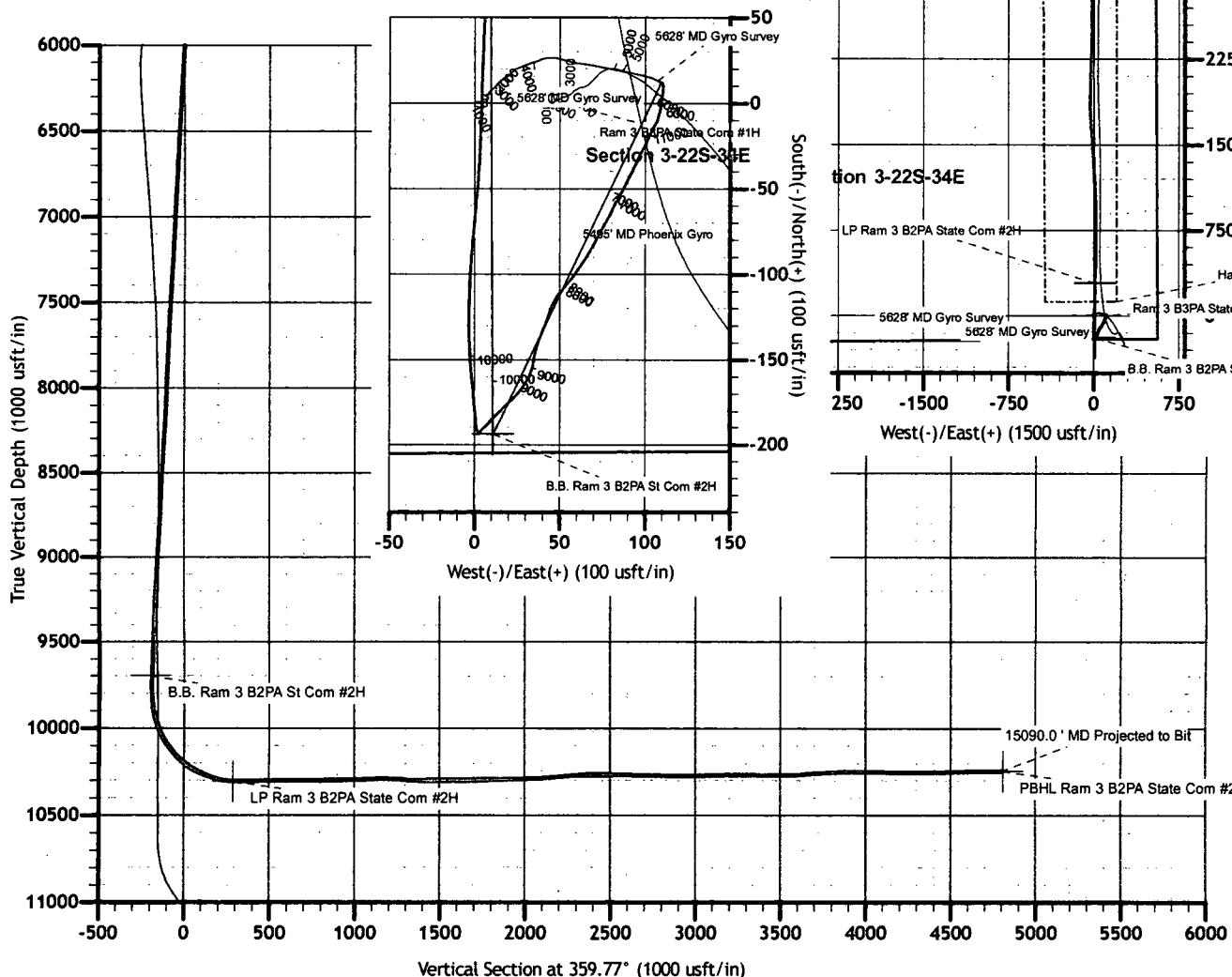
SHL: 205' FSL; 560' FEL
Section 3-22S-34E
PBHL: 330' FNL; 550' FEL
Section 3-22S-34E



Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.37°

Magnetic Field
Strength: 47996.0snT
Dip Angle: 60.25°
Date: 2/7/2016
Model: IGRF2015

HOBBS OCD
SEP 25 2018
RECEIVED





MEWBOURNE
OIL COMPANY

Mewbourne Oil Company

Lea County N. M. Nad (83)

Section 3-22S-34E Ram 3 B2PA State Com #2H

Ram 3 B2PA State Com #2H

Original Hole

Design: Original Hole

Standard Survey Report

22 March, 2018



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Ram 3 B2PA State Com #2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3590 +27 @ 3617.0usft (Patterson 220)
Site:	Section 3-22S-34E Ram 3 B2PA State Com #2H	MD Reference:	3590 +27 @ 3617.0usft (Patterson 220)
Well:	Ram 3 B2PA State 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 3-22S-34E Ram 3 B2PA State Com #2H				
Site Position:		Northing:	515,483.10 usft	Latitude:	32° 24' 50.547 N
From:	Map	Easting:	813,607.80 usft	Longitude:	103° 27' 3.727 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.47 °

Well	Ram 3 B2PA State Com #2H					
Well Position	+N/-S	0.0 usft	Northing:	515,483.10 usft	Latitude:	32° 24' 50.547 N
	+E/-W	0.0 usft	Easting:	813,607.80 usft	Longitude:	103° 27' 3.727 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	27.0 usft	Ground Level:	3,590.0 usft	

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/7/2018	6.84	60.25	47,996.01289477

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	29.51	

Survey Program	Date	3/22/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	5,628.0	Phoenix Tech Survey (Original Hole)	SRG-GYRO-MS	surface readout gyro multishot
5,720.0	15,090.0	MWD2 Survey (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	0.35	33.41	100.0	0.3	0.2	0.3	0.35	0.35	0.00
200.0	0.36	110.60	200.0	0.4	0.6	0.7	0.44	0.01	77.19
300.0	0.25	44.97	300.0	0.4	1.1	0.9	0.34	-0.11	-65.63
400.0	0.20	82.13	400.0	0.6	1.4	1.2	0.15	-0.05	37.16
500.0	0.26	104.24	500.0	0.6	1.8	1.4	0.11	0.06	22.11
600.0	0.42	94.95	600.0	0.5	2.4	1.6	0.17	0.16	-9.29
700.0	0.64	107.29	700.0	0.3	3.3	1.9	0.25	0.22	12.34
800.0	0.39	338.84	800.0	0.5	3.7	2.2	0.93	-0.25	-128.45
900.0	0.15	75.57	900.0	0.8	3.7	2.5	0.43	-0.24	96.73

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Site:	Section 3-22S-34E Ram 3 B2PA State Com #2H	MD Reference:	3590 +27 @ 3617.0usft (Patterson 220)
Well:	Ram 3 B2PA State 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)
1,000.0	0.06	242.46	1,000.0	0.8	3.8	2.6	0.21	-0.09	166.89
1,100.0	0.22	136.69	1,100.0	0.7	3.9	2.5	0.24	0.16	-105.77
1,200.0	0.55	96.96	1,200.0	0.5	4.5	2.6	0.41	0.33	-39.73
1,300.0	0.75	68.94	1,300.0	0.6	5.6	3.3	0.37	0.20	-28.02
1,400.0	0.80	49.60	1,400.0	1.3	6.7	4.4	0.26	0.05	-19.34
1,500.0	0.52	41.65	1,500.0	2.1	7.5	5.5	0.29	-0.28	-7.95
1,600.0	0.70	354.57	1,600.0	3.1	7.8	6.5	0.51	0.18	-47.08
1,700.0	0.58	328.71	1,700.0	4.1	7.5	7.2	0.31	-0.12	-25.86
1,800.0	0.46	283.63	1,799.9	4.6	6.8	7.4	0.41	-0.12	-45.08
1,900.0	0.28	239.67	1,899.9	4.6	6.2	7.1	0.32	-0.18	-43.96
2,000.0	0.47	131.58	1,999.9	4.2	6.3	6.8	0.62	0.19	-108.09
2,100.0	0.41	100.48	2,099.9	3.9	7.0	6.8	0.24	-0.06	-31.10
2,200.0	0.58	23.34	2,199.9	4.3	7.5	7.4	0.63	0.17	-77.14
2,300.0	0.63	58.32	2,299.9	5.0	8.2	8.4	0.37	0.05	34.98
2,400.0	0.39	20.17	2,399.9	5.6	8.8	9.2	0.40	-0.24	-38.15
2,500.0	0.56	29.86	2,499.9	6.4	9.1	10.0	0.19	0.17	9.69
2,600.0	0.67	40.39	2,599.9	7.2	9.7	11.1	0.16	0.11	10.53
2,700.0	0.84	48.62	2,699.9	8.2	10.7	12.4	0.20	0.17	8.23
2,800.0	1.14	46.94	2,799.9	9.3	12.0	14.0	0.30	0.30	-1.68
2,900.0	0.99	37.55	2,899.9	10.7	13.2	15.8	0.23	-0.15	-9.39
3,000.0	1.28	46.06	2,999.9	12.2	14.5	17.7	0.33	0.29	8.51
3,100.0	1.37	54.24	3,099.8	13.6	16.3	19.9	0.21	0.09	8.18
3,200.0	1.24	61.72	3,199.8	14.8	18.2	21.9	0.21	-0.13	7.48
3,300.0	1.52	52.47	3,299.8	16.2	20.2	24.0	0.36	0.28	-9.25
3,400.0	1.49	39.14	3,399.7	18.0	22.1	26.5	0.35	-0.03	-13.33
3,500.0	1.59	62.36	3,499.7	19.6	24.2	29.0	0.63	0.10	23.22
3,600.0	1.22	66.33	3,599.7	20.7	26.4	31.0	0.38	-0.37	3.97
3,700.0	1.21	67.56	3,699.7	21.5	28.3	32.7	0.03	-0.01	1.23
3,800.0	1.20	74.53	3,799.6	22.2	30.3	34.3	0.15	-0.01	6.97
3,900.0	1.20	68.28	3,899.6	22.9	32.3	35.8	0.13	0.00	-6.25
4,000.0	1.52	73.53	3,999.6	23.6	34.5	37.6	0.34	0.32	5.25
4,100.0	1.47	67.73	4,099.5	24.5	37.0	39.5	0.16	-0.05	-5.80
4,200.0	1.51	68.95	4,199.5	25.5	39.4	41.6	0.05	0.04	1.22
4,300.0	2.16	80.20	4,299.5	26.3	42.5	43.8	0.74	0.65	11.25
4,400.0	3.75	94.48	4,399.3	26.3	47.6	46.4	1.74	1.59	14.28
4,500.0	3.81	112.91	4,499.1	24.8	53.9	48.1	1.21	0.06	18.43
4,600.0	3.09	94.04	4,598.9	23.3	59.7	49.7	1.34	-0.72	-18.87
4,700.0	3.70	98.75	4,698.8	22.6	65.6	52.0	0.67	0.61	4.71
4,800.0	3.21	101.26	4,798.6	21.6	71.5	54.0	0.51	-0.49	2.51
4,900.0	2.89	100.08	4,898.4	20.6	76.7	55.7	0.33	-0.32	-1.18
5,000.0	2.75	101.80	4,998.3	19.7	81.5	57.3	0.16	-0.14	1.72
5,100.0	2.71	101.93	5,098.2	18.7	86.2	58.7	0.04	-0.04	0.13
5,200.0	2.36	102.81	5,198.1	17.7	90.5	60.0	0.35	-0.35	0.88

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Well:	Ram 3 B2PA State 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)
5,300.0	2.43	100.69	5,298.0	16.9	94.6	61.3	0.11	0.07	-2.12
5,400.0	2.53	102.61	5,397.9	16.0	98.9	62.6	0.13	0.10	1.92
5,500.0	2.21	107.17	5,497.8	15.0	102.9	63.7	0.37	-0.32	4.56
5,600.0	2.13	116.26	5,597.8	13.6	106.4	64.2	0.35	-0.08	9.09
5,628.0	2.04	116.72	5,625.7	13.1	107.3	64.2	0.33	-0.32	1.64
5628' MD Gyro Survey									
5,720.0	1.50	116.00	5,717.7	11.8	109.8	64.4	0.59	-0.59	-0.78
5,781.0	2.10	178.00	5,778.7	10.4	110.6	63.5	3.15	0.98	101.64
5,876.0	3.30	190.20	5,873.6	5.9	110.2	59.4	1.39	1.26	12.84
5,970.0	3.50	189.00	5,967.4	0.4	109.2	54.2	0.23	0.21	-1.28
6,065.0	3.40	186.20	6,062.2	-5.2	108.5	48.9	0.21	-0.11	-2.95
6,159.0	3.30	207.60	6,156.1	-10.4	106.9	43.6	1.33	-0.11	22.77
6,253.0	3.30	208.60	6,249.9	-15.2	104.4	38.2	0.06	0.00	1.06
6,348.0	3.30	204.20	6,344.8	-20.1	101.9	32.8	0.27	0.00	-4.63
6,443.0	3.20	207.00	6,439.6	-24.9	99.6	27.4	0.20	-0.11	2.95
6,537.0	3.50	207.80	6,533.5	-29.8	97.1	21.9	0.32	0.32	0.85
6,632.0	3.30	201.90	6,628.3	-34.9	94.7	16.3	0.42	-0.21	-6.21
6,726.0	3.30	209.60	6,722.1	-39.8	92.4	10.9	0.47	0.00	8.19
6,820.0	3.50	204.10	6,816.0	-44.7	89.9	5.3	0.41	0.21	-5.85
6,915.0	3.50	208.60	6,910.8	-49.9	87.3	-0.4	0.29	0.00	4.74
7,009.0	3.40	209.20	7,004.6	-54.9	84.5	-6.1	0.11	-0.11	0.64
7,104.0	3.50	205.00	7,099.4	-60.0	81.9	-11.8	0.29	0.11	-4.42
7,199.0	3.70	207.10	7,194.3	-65.3	79.3	-17.8	0.25	0.21	2.21
7,293.0	3.60	212.10	7,288.1	-70.5	76.4	-23.7	0.35	-0.11	5.32
7,388.0	3.20	206.20	7,382.9	-75.4	73.6	-29.4	0.56	-0.42	-6.21
7,482.0	3.10	210.90	7,476.8	-80.0	71.2	-34.5	0.29	-0.11	5.00
7,577.0	3.30	205.80	7,571.6	-84.6	68.6	-39.8	0.37	0.21	-5.37
7,672.0	3.10	214.10	7,666.5	-89.2	66.0	-45.1	0.53	-0.21	8.74
7,766.0	2.70	209.40	7,760.3	-93.2	63.5	-49.9	0.49	-0.43	-5.00
7,861.0	2.70	218.00	7,855.2	-97.0	61.0	-54.3	0.43	0.00	9.05
7,955.0	2.90	215.70	7,949.1	-100.6	58.3	-58.9	0.24	0.21	-2.45
8,050.0	2.60	222.20	8,044.0	-104.2	55.4	-63.4	0.46	-0.32	6.84
8,144.0	3.80	217.00	8,137.9	-108.2	52.1	-68.5	1.31	1.28	-5.53
8,240.0	3.70	218.70	8,233.7	-113.2	48.3	-74.7	0.16	-0.10	1.77
8,334.0	3.80	197.80	8,327.5	-118.5	45.4	-80.8	1.45	0.11	-22.23
8,429.0	3.30	202.50	8,422.3	-124.1	43.4	-86.6	0.61	-0.53	4.95
8,523.0	3.10	197.40	8,516.1	-129.0	41.6	-91.7	0.37	-0.21	-5.43
8,617.0	3.10	205.20	8,610.0	-133.7	39.8	-96.8	0.45	0.00	8.30
8,712.0	2.40	201.20	8,704.9	-137.9	38.0	-101.3	0.76	-0.74	-4.21
8,806.0	3.30	197.80	8,798.8	-142.3	36.4	-105.9	0.97	0.96	-3.62
8,901.0	3.90	188.80	8,893.6	-148.1	35.1	-111.6	0.87	0.63	-9.47
8,995.0	3.50	187.20	8,987.4	-154.1	34.2	-117.2	0.44	-0.43	-1.70
9,090.0	4.40	209.70	9,082.2	-160.1	32.1	-123.6	1.87	0.95	23.68

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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
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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)
9,185.0	4.00	215.60	9,176.9	-166.0	28.3	-130.5	0.62	-0.42	6.21
9,279.0	3.70	221.40	9,270.7	-170.9	24.4	-136.7	0.52	-0.32	6.17
9,374.0	4.20	229.20	9,365.5	-175.5	19.8	-143.0	0.77	0.53	8.21
9,469.0	2.90	227.20	9,460.3	-179.4	15.4	-148.6	1.37	-1.37	-2.11
9,563.0	1.00	215.50	9,554.2	-181.7	13.1	-151.7	2.05	-2.02	-12.45
9,658.0	9.00	222.20	9,648.8	-187.9	7.7	-159.7	8.43	8.42	7.05
9,709.2	4.52	223.49	9,699.7	-192.3	3.6	-165.6	8.75	-8.74	2.51
B.B. Ram 3 B2PA St Com #2H									
9,752.0	0.80	235.60	9,742.4	-193.7	2.2	-167.5	8.75	-8.70	28.34
9,770.0	1.30	351.00	9,760.4	-193.6	2.0	-167.5	9.97	2.78	641.11
9,827.0	3.30	343.20	9,817.3	-191.4	1.5	-165.8	3.54	3.51	-13.68
9,859.0	7.50	353.50	9,849.2	-188.4	1.0	-163.5	13.42	13.13	32.19
9,890.0	11.00	355.90	9,879.8	-183.5	0.5	-159.4	11.36	11.29	7.74
9,922.0	14.20	355.30	9,911.0	-176.5	0.0	-153.6	10.01	10.00	-1.88
9,953.0	16.40	354.80	9,940.9	-168.4	-0.7	-146.9	7.11	7.10	-1.61
9,985.0	19.00	354.50	9,971.4	-158.7	-1.6	-138.9	8.13	8.13	-0.94
10,016.0	22.30	355.60	10,000.4	-147.8	-2.6	-129.9	10.72	10.65	3.55
10,047.0	26.10	358.50	10,028.6	-135.1	-3.2	-119.1	12.84	12.26	9.35
10,079.0	30.40	1.40	10,056.8	-120.0	-3.2	-106.0	14.10	13.44	9.06
10,110.0	34.90	2.70	10,082.9	-103.2	-2.6	-91.1	14.69	14.52	4.19
10,142.0	37.80	5.10	10,108.7	-84.3	-1.3	-74.0	10.09	9.06	7.50
10,174.0	40.70	5.50	10,133.5	-64.2	0.6	-55.6	9.10	9.06	1.25
10,205.0	44.70	3.90	10,156.3	-43.2	2.3	-36.5	13.37	12.90	-5.16
10,237.0	49.40	2.40	10,178.1	-19.8	3.6	-15.5	15.08	14.69	-4.69
10,269.0	53.70	1.40	10,197.9	5.2	4.4	6.7	13.66	13.44	-3.13
10,300.0	57.10	2.20	10,215.5	30.7	5.2	29.3	11.17	10.97	2.58
10,332.0	59.80	2.00	10,232.3	57.9	6.2	53.5	8.45	8.44	-0.63
10,363.0	62.20	1.60	10,247.3	85.0	7.1	77.5	7.82	7.74	-1.29
10,394.0	65.70	1.40	10,260.9	112.9	7.8	102.1	11.31	11.29	-0.65
10,426.0	68.20	1.40	10,273.5	142.3	8.5	128.0	7.81	7.81	0.00
10,457.0	71.00	1.40	10,284.3	171.4	9.2	153.7	9.03	9.03	0.00
10,489.0	75.80	1.00	10,293.4	202.0	9.9	180.7	15.05	15.00	-1.25
10,520.0	80.90	0.90	10,299.7	232.4	10.4	207.3	16.45	16.45	-0.32
10,552.0	85.30	0.70	10,303.5	264.1	10.8	235.2	13.76	13.75	-0.63
10,577.7	88.27	1.02	10,304.9	289.8	11.2	257.7	11.63	11.56	1.25
LP Ram 3 B2PA State Com #2H									
10,584.0	89.00	1.10	10,305.1	296.1	11.3	263.2	11.63	11.56	1.25
10,682.0	91.50	2.40	10,304.7	394.0	14.3	349.9	2.88	2.55	1.33
10,777.0	91.60	1.40	10,302.1	488.9	17.4	434.1	1.06	0.11	-1.05
10,871.0	90.90	0.50	10,300.0	582.9	19.0	516.6	1.21	-0.74	-0.96
10,965.0	90.20	359.80	10,299.1	676.9	19.3	598.5	1.05	-0.74	-0.74
11,059.0	89.90	359.30	10,299.1	770.9	18.5	680.0	0.62	-0.32	-0.53
11,154.0	90.90	359.40	10,298.4	865.9	17.4	762.1	1.06	1.05	0.11
11,248.0	91.40	358.80	10,296.5	959.8	16.0	843.2	0.83	0.53	-0.64

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Ram 3 B2PA State Com #2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3590 +27 @ 3617.0usft (Patterson 220)
Site:	Section 3-22S-34E Ram 3 B2PA State Com #2H	MD Reference:	3590 +27 @ 3617.0usft (Patterson 220)
Well:	Ram 3 B2PA State 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)
11,342.0	91.60	357.80	10,294.1	1,053.8	13.2	923.5	1.08	0.21	-1.06
11,437.0	92.30	357.10	10,290.8	1,148.6	9.0	1,004.0	1.04	0.74	-0.74
11,532.0	86.10	357.10	10,292.1	1,243.4	4.1	1,084.2	6.53	-6.53	0.00
11,626.0	85.50	356.60	10,299.0	1,337.0	-1.0	1,163.1	0.83	-0.64	-0.53
11,721.0	89.20	355.90	10,303.4	1,431.7	-7.2	1,242.4	3.96	3.89	-0.74
11,816.0	91.30	357.10	10,303.0	1,526.5	-13.0	1,322.1	2.55	2.21	1.26
11,910.0	89.90	354.80	10,302.0	1,620.3	-19.6	1,400.4	2.86	-1.49	-2.45
12,005.0	90.90	355.70	10,301.4	1,714.9	-27.5	1,478.9	1.42	1.05	0.95
12,099.0	93.80	358.40	10,297.5	1,808.7	-32.3	1,558.1	4.21	3.09	2.87
12,194.0	90.30	0.40	10,294.1	1,903.6	-33.3	1,640.2	4.24	-3.68	2.11
12,288.0	91.30	1.40	10,292.8	1,997.6	-31.9	1,722.8	1.50	1.06	1.06
12,383.0	94.10	2.40	10,288.3	2,092.4	-28.7	1,806.8	3.13	2.95	1.05
12,472.0	94.80	2.10	10,281.4	2,181.1	-25.2	1,885.7	0.86	0.79	-0.34
12,567.0	95.70	2.60	10,272.7	2,275.6	-21.4	1,969.9	1.08	0.95	0.53
12,661.0	93.10	2.90	10,265.5	2,369.2	-16.9	2,053.6	2.78	-2.77	0.32
12,756.0	88.40	359.90	10,264.3	2,464.2	-14.5	2,137.3	5.87	-4.95	-3.16
12,850.0	88.70	0.00	10,266.6	2,558.1	-14.6	2,219.0	0.34	0.32	0.11
12,944.0	88.40	359.90	10,269.0	2,652.1	-14.7	2,300.8	0.34	-0.32	-0.11
13,039.0	87.80	0.00	10,272.2	2,747.1	-14.8	2,383.4	0.64	-0.63	0.11
13,134.0	90.10	358.90	10,273.9	2,842.0	-15.7	2,465.6	2.68	2.42	-1.16
13,228.0	89.70	358.90	10,274.1	2,936.0	-17.5	2,546.5	0.43	-0.43	0.00
13,322.0	91.30	358.60	10,273.3	3,030.0	-19.6	2,627.2	1.73	1.70	-0.32
13,417.0	91.70	358.60	10,270.8	3,124.9	-21.9	2,708.7	0.42	0.42	0.00
13,511.0	90.60	2.60	10,268.9	3,218.9	-20.9	2,791.0	4.41	-1.17	4.26
13,605.0	89.40	357.30	10,268.9	3,312.8	-21.0	2,872.7	5.78	-1.28	-5.64
13,699.0	89.20	357.10	10,270.0	3,406.7	-25.6	2,952.1	0.30	-0.21	-0.21
13,794.0	90.00	357.30	10,270.7	3,501.6	-30.2	3,032.4	0.87	0.84	0.21
13,889.0	93.20	358.80	10,268.0	3,596.5	-33.4	3,113.4	3.72	3.37	1.58
13,983.0	93.70	358.70	10,262.4	3,690.3	-35.5	3,194.0	0.54	0.53	-0.11
14,078.0	93.50	359.30	10,256.4	3,785.1	-37.1	3,275.7	0.66	-0.21	0.63
14,173.0	92.20	0.70	10,251.7	3,880.0	-37.1	3,358.3	2.01	-1.37	1.47
14,267.0	89.20	1.90	10,250.5	3,973.9	-35.0	3,441.1	3.44	-3.19	1.28
14,362.0	88.60	2.10	10,252.4	4,068.9	-31.7	3,525.4	0.67	-0.63	0.21
14,456.0	88.40	2.20	10,254.8	4,162.8	-28.2	3,608.8	0.24	-0.21	0.11
14,551.0	90.20	1.50	10,256.0	4,257.7	-25.1	3,692.9	2.03	1.89	-0.74
14,645.0	91.00	1.80	10,255.0	4,351.7	-22.4	3,776.0	0.91	0.85	0.32
14,739.0	90.80	2.20	10,253.5	4,445.6	-19.1	3,859.4	0.48	-0.21	0.43
14,833.0	91.60	2.40	10,251.6	4,539.5	-15.3	3,943.0	0.88	0.85	0.21
14,927.0	91.30	2.50	10,249.2	4,633.4	-11.3	4,026.7	0.34	-0.32	0.11
15,021.0	90.90	2.20	10,247.4	4,727.3	-7.5	4,110.3	0.53	-0.43	-0.32
15,034.0	90.10	1.80	10,247.3	4,740.3	-7.0	4,121.8	6.88	-6.15	-3.08
15,090.0	90.10	1.80	10,247.2	4,796.2	-5.3	4,171.4	0.00	0.00	0.00

15090.0 * MD Projected to Bit - PBHL Ram 3 B2PA State Com #2H

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Ram 3 B2PA State Com #2H
Project:	Lea County N. M. Nad (83)	TVD Reference:	3590 +27 @ 3617.0usft (Patterson 220)
Site:	Section 3-22S-34E Ram 3 B2PA State Com #2H	MD Reference:	3590 +27 @ 3617.0usft (Patterson 220)
Well:	Ram 3 B2PA State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,628.0	5,625.7	13.1	107.3	5628' MD Gyro Survey
15,090.0	10,247.2	4,796.2	-5.3	15090.0' MD Projected to Bit



April 3, 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 March 11, 2018, through March 21, 2018 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 5,720 feet to a depth of 15,034 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 Ram 3 B2PA State Com #002H well, API # **30-025-44321** 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**



April 3, 2018

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

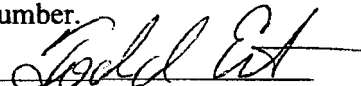
Attn: Jackie Lathan

Re: Mewbourne Oil Company
Ram 3 B2PA State Com #002H
Ojo Chiso; Bone Spring
Lea County, New Mexico
API# 30-025-44321

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>
Victor Anguiano	Original Hole	5,720ft. to 15,034ft.	03-11-18 to 03-21-18	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\Ram 3 B2PA State Com #2H\M181026

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 3-22S-34E Ram 3 B3PA State Com #1H
Well: Ram 3 B3PA State Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Ram 3 B3PA State Com #1H
TVD Reference: 3588 + 27 @ 3615.0usft (Patterson 220)
MD Reference: 3588 + 27 @ 3615.0usft (Patterson 220)
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 3-22S-34E Ram 3 B3PA State Com #1H		
Site Position:		Northing:	515,483.40 usft
From: Map		Easting:	813,657.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 24' 50.546 N
		Longitude:	103° 27' 3.144 W
		Grid Convergence:	0.47 °

Well	Ram 3 B3PA State Com #1H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	27.0 usft
		Latitude:	32° 24' 50.546 N
		Longitude:	103° 27' 3.144 W
		Ground Level:	3,588.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/24/2018	6.85	60.25	48,000.00887323

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	74.97	



Microsoft MWD Surveys



Company: Mewbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 3-22S-34E Ram 3 B3PA State Com #1H
Well: Ram 3 B3PA State Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Ram 3 B3PA State Com #1H
TVD Reference: 3588 + 27 @ 3615.0usft (Patterson 220)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey Program **Date** 2/26/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	5,495.0	Phoenix Gyro Survey (Original Hole)	SRG-GYRO-MS	surface readout gyro multishot
5,684.0	15,980.0	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 (°)	
5,495.0	22.14	145.88	5,477.7	-65.9	119.4	138.4	118.90	Tie-In
5,684.0	26.70	152.90	5,649.8	-133.2	158.7	207.2	130.01	
5,767.0	25.50	152.60	5,724.3	-165.7	175.4	241.3	133.36	
5,862.0	22.50	150.60	5,811.1	-199.7	193.8	278.3	135.86	
5,962.0	16.80	155.20	5,905.2	-229.5	209.2	310.6	137.65	
5,994.0	14.10	156.10	5,936.1	-237.3	212.8	318.7	138.12	
6,026.0	11.60	152.20	5,967.2	-243.7	215.8	325.5	138.47	
6,057.0	10.20	153.50	5,997.7	-248.9	218.5	331.2	138.72	
6,089.0	7.20	157.60	6,029.3	-253.3	220.6	335.9	138.95	
6,120.0	3.90	164.70	6,060.2	-256.1	221.6	338.7	139.14	
6,152.0	2.40	172.50	6,092.1	-257.8	222.0	340.2	139.28	
6,247.0	2.10	343.20	6,187.1	-258.1	221.7	340.3	139.34	
6,341.0	4.00	345.80	6,281.0	-253.3	220.4	335.8	138.97	
6,435.0	4.50	345.40	6,374.7	-246.6	218.7	329.6	138.43	
6,530.0	4.60	344.00	6,469.4	-239.3	216.7	322.8	137.84	
6,624.0	4.60	341.80	6,563.1	-232.1	214.5	316.0	137.26	
6,719.0	4.70	343.30	6,657.8	-224.7	212.2	309.1	136.65	
6,813.0	4.80	341.80	6,751.5	-217.3	209.8	302.1	136.00	
6,908.0	4.60	341.80	6,846.1	-209.9	207.4	295.1	135.35	
7,002.0	4.30	340.10	6,939.9	-203.0	205.0	288.5	134.72	
7,096.0	4.20	337.80	7,033.6	-196.5	202.5	282.2	134.14	



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
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Site: Section 3-22S-34E Ram 3 B3PA State Com #1H
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Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Ram 3 B3PA State Com #1H
TVD Reference: 3588 + 27 @ 3615.0usft (Patterson 220)
MD Reference: 3588 + 27 @ 3615.0usft (Patterson 220)
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 (°)
7,180.0	4.00	336.40	7,127.4	-180.3	189.9	276.0	133.60
7,285.0	3.70	336.30	7,222.1	-184.6	197.3	270.1	133.07
7,378.0	3.60	335.40	7,316.0	-179.0	194.9	284.6	132.57
7,474.0	4.40	320.80	7,410.7	-173.5	191.3	288.3	132.20
7,586.0	4.40	313.70	7,504.4	-168.2	186.5	281.1	132.05
7,683.0	2.20	337.50	7,599.3	-164.0	183.1	245.8	131.85
7,787.0	1.50	360.80	7,693.2	-161.1	182.2	243.3	131.48
7,852.0	1.40	367.30	7,788.2	-158.7	182.0	241.5	131.09
7,946.0	1.20	366.00	7,882.2	-156.6	181.9	240.0	130.73
8,040.0	1.20	363.10	7,976.2	-154.6	181.7	238.6	130.40
8,134.0	1.70	316.60	8,070.1	-152.7	180.8	236.5	130.20
8,226.0	1.80	305.50	8,165.1	-150.8	178.4	233.6	130.19
8,323.0	1.80	307.10	8,259.0	-149.0	176.1	230.6	130.24
8,418.0	1.70	307.00	8,354.0	-147.3	173.7	227.8	130.29
8,512.0	1.80	269.10	8,448.0	-145.7	171.3	224.9	130.38
8,607.0	2.20	266.80	8,542.9	-144.2	168.4	221.7	130.56
8,702.0	2.00	262.70	8,637.8	-143.5	165.1	218.8	131.00
8,798.0	2.20	272.30	8,731.8	-143.7	161.7	216.3	131.62
8,891.0	1.90	254.90	8,826.7	-144.0	158.4	214.1	132.29
8,985.0	2.20	232.30	8,920.7	-145.5	155.4	212.9	133.12
9,079.0	1.80	227.90	9,014.6	-147.6	152.9	212.5	133.99
9,174.0	1.50	230.00	9,109.6	-149.4	150.8	212.3	134.73
9,268.0	2.20	226.40	9,203.5	-151.5	148.6	212.2	135.55
9,363.0	3.40	216.50	9,298.4	-154.9	145.5	212.5	136.79
9,457.0	2.80	246.30	9,392.3	-156.0	141.7	212.2	138.12
9,546.0	1.70	284.60	9,481.2	-158.6	138.4	210.5	138.88
9,640.0	1.50	268.60	9,575.2	-157.8	135.9	208.3	139.27



Microsoft MWD Surveys



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Project: Lea County N. M. Nad (83)
Site: Section 3-22S-34E Ram 3 B3PA State Com #1H
Well: Ram 3 B3PA State Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Ram 3 B3PA State Com #1H
TVD Reference: 3586 + 27 @ 3515.0 feet (Patterson 220)
MD Reference: 3586 + 27 @ 3515.0 feet (Patterson 220)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

MD (feet)	Inc (°)	Azi (azimuth) (°)	TVD (feet)	N/S (feet)	B/W (feet)	Closure Distance (feet)	Closure Azimuth (°)
9,738.0	1.80	282.20	9,870.1	-187.1	133.4	208.1	139.87
9,829.0	1.80	281.80	9,784.1	-188.3	130.7	203.7	140.10
9,924.0	2.10	288.30	9,889.0	-188.0	127.7	200.8	140.82
10,019.0	1.10	311.40	9,964.0	-183.8	126.4	198.3	140.78
10,113.0	1.10	280.20	10,048.0	-182.7	123.9	196.8	140.88
10,207.0	1.80	274.00	10,141.9	-182.3	121.8	195.0	141.35
10,302.0	0.70	288.80	10,238.0	-182.1	120.0	193.7	141.72
10,398.0	0.80	288.70	10,330.0	-181.8	118.9	192.8	141.89
10,491.0	0.80	288.40	10,428.9	-181.1	117.7	191.8	142.08
10,588.0	0.80	241.70	10,519.0	-181.2	116.8	190.8	142.40
10,682.0	1.30	258.80	10,609.0	-181.8	115.8	190.8	142.84
10,688.0	1.73	271.88	10,602.8	-181.8	114.7	190.0	142.87
B.B. Ram 3 B3PA St Com #1H							
10,673.0	1.80	273.20	10,607.9	-181.8	114.8	189.8	142.81
10,737.0	3.40	317.80	10,671.8	-180.1	112.3	187.4	143.20
10,773.0	7.10	321.70	10,707.7	-147.5	110.2	184.1	143.28
10,808.0	12.00	324.00	10,739.2	-143.3	107.0	178.8	143.28
10,838.0	18.80	323.80	10,789.3	-137.3	102.8	171.4	143.23
10,888.0	18.00	323.80	10,789.8	-128.8	98.0	161.8	143.21
10,898.0	22.80	328.30	10,828.8	-120.8	90.8	150.7	143.10
10,931.0	28.00	327.30	10,887.9	-109.8	83.2	137.8	142.79
10,982.0	28.80	330.80	10,888.4	-87.3	78.8	123.3	142.07
10,984.0	31.70	337.20	10,913.0	-82.8	88.7	107.8	140.29
11,028.0	38.30	340.80	10,938.8	-88.8	82.7	91.8	138.83
11,087.0	38.40	344.10	10,984.8	-48.8	88.8	74.8	130.43
11,088.0	42.00	348.10	10,988.2	-28.2	81.8	69.4	110.38
11,118.0	44.80	348.80	11,010.7	-8.8	48.8	47.8	100.28



Microsoft
MWD Surveys



Company: Mewbourne Oil Company
Project: Lee County N. M. Nad (B3)
Site: Section 3-22S-34E Ram 3 B3PA State Com #1H
Well: Ram 3 B3PA State Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Ram 3 B3PA State Com #1H
TVD Reference: 3688 + 27 @ 2618.0usft (Patterson 220)
MD Reference: 3688 + 27 @ 3618.0usft (Patterson 220)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_BDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	B/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
11,181.0	47.40	347.30	11,033.0	13.0	41.8	43.0	71.48
11,183.0	50.50	348.10	11,034.0	37.5	38.5	82.3	44.21
11,214.0	53.30	349.90	11,073.1	61.5	31.9	69.2	27.40
11,240.0	55.80	351.90	11,091.7	87.2	27.7	91.8	17.95
11,277.0	59.00	354.00	11,108.4	113.1	24.5	115.7	12.24
11,308.0	63.00	354.90	11,123.4	140.1	21.9	141.8	8.90
11,340.0	67.60	355.40	11,138.8	169.0	19.5	170.2	6.57
11,372.0	72.60	355.30	11,147.7	199.0	17.0	199.7	4.89
11,403.0	77.80	355.30	11,155.7	228.9	14.6	229.3	3.95
11,435.0	82.30	355.70	11,161.2	260.3	12.1	260.5	2.99
11,463.0	87.00	356.00	11,163.8	286.1	10.2	286.3	2.04
11,484.8	87.09	356.61	11,163.0	289.0	10.1	289.1	2.00
LP Ram 3 B3PA St Com #1H							
11,545.0	91.10	357.20	11,165.2	300.9	8.8	370.0	0.90
11,609.0	91.40	358.50	11,163.2	493.8	2.3	493.8	0.28
11,734.0	93.80	0.10	11,158.8	559.7	1.1	559.7	0.12
11,829.0	91.10	1.00	11,154.8	653.6	2.0	653.6	0.18
11,923.0	91.30	0.80	11,152.8	747.6	3.6	747.6	0.27
12,017.0	91.90	0.70	11,150.2	841.5	4.7	841.5	0.32
12,111.0	99.80	0.70	11,148.8	938.5	5.0	938.5	0.36
12,206.0	88.80	0.80	11,150.5	1,030.5	0.8	1,030.5	0.36
12,301.0	86.30	0.10	11,152.9	1,125.8	7.4	1,125.8	0.38
12,396.0	91.20	359.00	11,153.3	1,220.4	6.6	1,220.9	0.31
12,490.0	90.50	359.10	11,151.6	1,314.4	5.1	1,314.4	0.22
12,584.0	86.50	358.90	11,151.9	1,408.4	3.4	1,408.4	0.14
12,679.0	91.40	357.80	11,151.1	1,503.4	0.7	1,503.4	0.03
12,774.0	91.00	357.90	11,149.1	1,598.3	-2.0	1,598.3	360.00



Microsoft
MWD Surveys



Company: Mawbourne Oil Company
Project: Lea County N. M. Nad (83)
Site: Section 3-228-34E Ram 3 B3PA State Com #1H
Well: Ram 3 B3PA State Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Ram 3 B3PA State Com #1H
TVD Reference: 3555 + 27 @ 3515.0usft (Patterson 220)
MD Reference: 3555 + 27 @ 3515.0usft (Patterson 220)
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 (")
12,888.0	80.10	357.80	11,148.2	1,893.2	-6.3	1,893.2	359.79
12,988.0	81.70	358.40	11,148.8	1,787.1	-9.4	1,787.2	359.70
13,088.0	80.80	357.80	11,144.8	1,892.1	-12.5	1,892.1	359.82
13,188.0	82.00	356.70	11,142.1	1,977.0	-14.5	1,977.0	359.88
13,248.0	80.20	358.80	11,141.2	2,072.0	-15.6	2,072.0	359.86
13,348.0	81.10	0.20	11,141.8	2,186.9	-16.7	2,187.0	359.86
13,438.0	82.80	0.70	11,138.8	2,282.9	-18.0	2,282.9	359.80
13,534.0	82.40	1.10	11,134.7	2,387.8	-14.4	2,387.8	359.85
13,628.0	82.70	358.70	11,130.5	2,482.7	-13.8	2,482.7	359.86
13,723.0	80.30	0.10	11,128.0	2,540.8	-13.9	2,540.7	359.86
13,818.0	82.80	0.80	11,125.8	2,642.8	-13.2	2,642.8	359.71
13,914.0	81.10	0.80	11,122.8	2,737.8	-11.8	2,737.8	359.75
14,008.0	80.20	0.30	11,122.3	2,831.8	-10.8	2,831.8	359.78
14,102.0	81.80	0.70	11,121.8	2,928.8	-10.0	2,928.8	359.80
14,197.0	80.80	1.30	11,119.8	3,020.8	-8.3	3,020.8	359.84
14,292.0	80.80	0.10	11,118.8	3,115.8	-7.1	3,115.8	359.87
14,388.0	88.40	1.80	11,120.8	3,209.4	-5.8	3,209.5	359.90
14,481.0	88.40	2.80	11,123.8	3,304.3	-2.0	3,304.3	359.98
14,575.0	89.10	0.80	11,125.8	3,398.3	0.8	3,398.3	0.01
14,669.0	89.00	0.10	11,123.8	3,492.2	1.6	3,492.2	0.03
14,764.0	82.90	358.40	11,119.8	3,587.1	0.3	3,587.1	0.01
14,858.0	80.20	359.00	11,118.8	3,682.0	-1.8	3,682.0	359.87
14,953.0	80.20	358.80	11,118.1	3,776.0	-3.0	3,776.0	359.84
15,047.0	89.80	358.80	11,118.3	3,870.0	-8.3	3,870.0	359.81
15,142.0	80.80	358.80	11,118.0	3,964.9	-8.5	3,965.0	359.85
15,236.0	81.80	359.00	11,114.8	4,058.9	-10.2	4,058.9	359.86
15,331.0	80.80	358.40	11,112.8	4,153.0	-12.4	4,153.0	359.83



Microsoft
MWD Surveys



Company: Mawbourn Oil Company
Project: Lee County N. M. Ned (83)
Site: Section 3-22B-34E Ram 3 B3PA State Com #1H
Well: Ram 3 B3PA State Com #1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Ram 3 B3PA State Com #1H
TVD Reference: 3588 + 27 @ 3815.0usft (Patterson 220)
MD Reference: 3588 + 27 @ 3815.0usft (Patterson 220)
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 (°)
16,426.0	82.00	359.10	11,111.2	4,247.6	-14.4	4,247.9	359.81
16,619.0	88.80	359.30	11,109.7	4,341.8	-16.7	4,341.8	359.79
16,614.0	87.80	359.90	11,111.9	4,436.8	-16.7	4,436.8	359.78
16,708.0	89.80	359.90	11,113.9	4,530.7	-16.4	4,530.8	359.77
16,802.0	90.80	357.70	11,113.4	4,624.7	-21.6	4,624.7	359.73
16,897.0	90.30	357.00	11,112.4	4,719.8	-25.9	4,719.8	359.69
16,927.0	90.90	357.00	11,112.1	4,749.8	-27.4	4,749.8	359.67
16,980.0	90.90	357.00	11,111.3	4,802.4	-30.2	4,802.8	359.64

16980' MD Projected to Bit - PBHL Ram 3 B3PA St Com 1H

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
16,980.0	11,111.3	4,802.4	-30.2	16980' MD Projected to Bit