

Company Name: Mewbourne Oil Company
 Bilbrey 34-27 B2MD Federal Com #1H
 Lea County, New Mexico (Nad 83)
 Rig: Patterson #243
 Created By: Shante Robbins
 Date: 9/7/2017

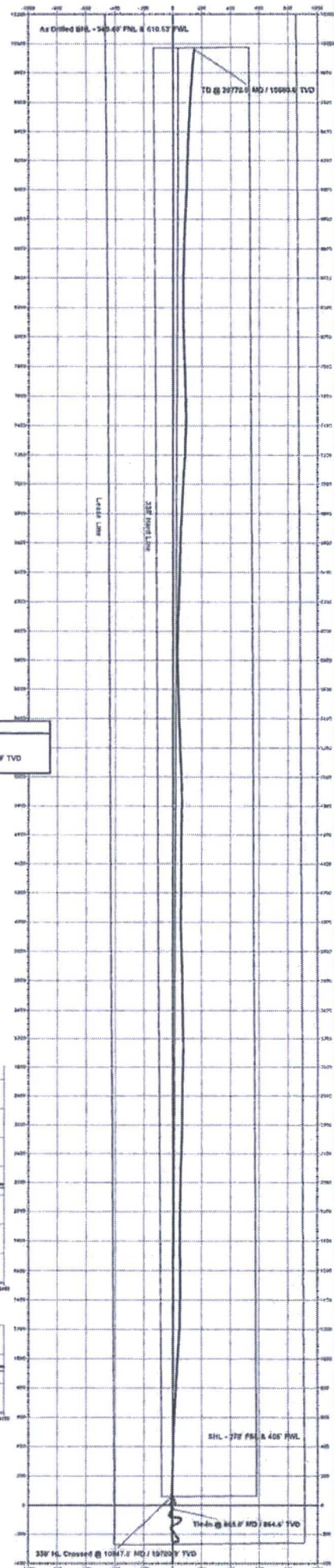
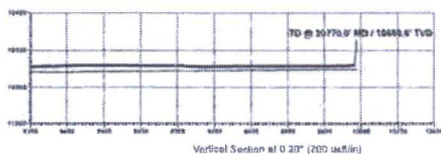
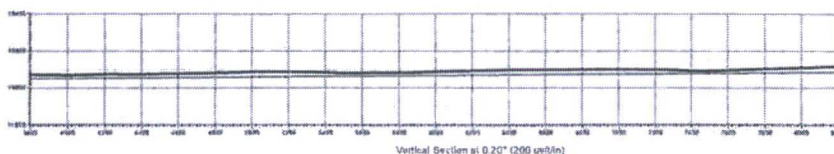
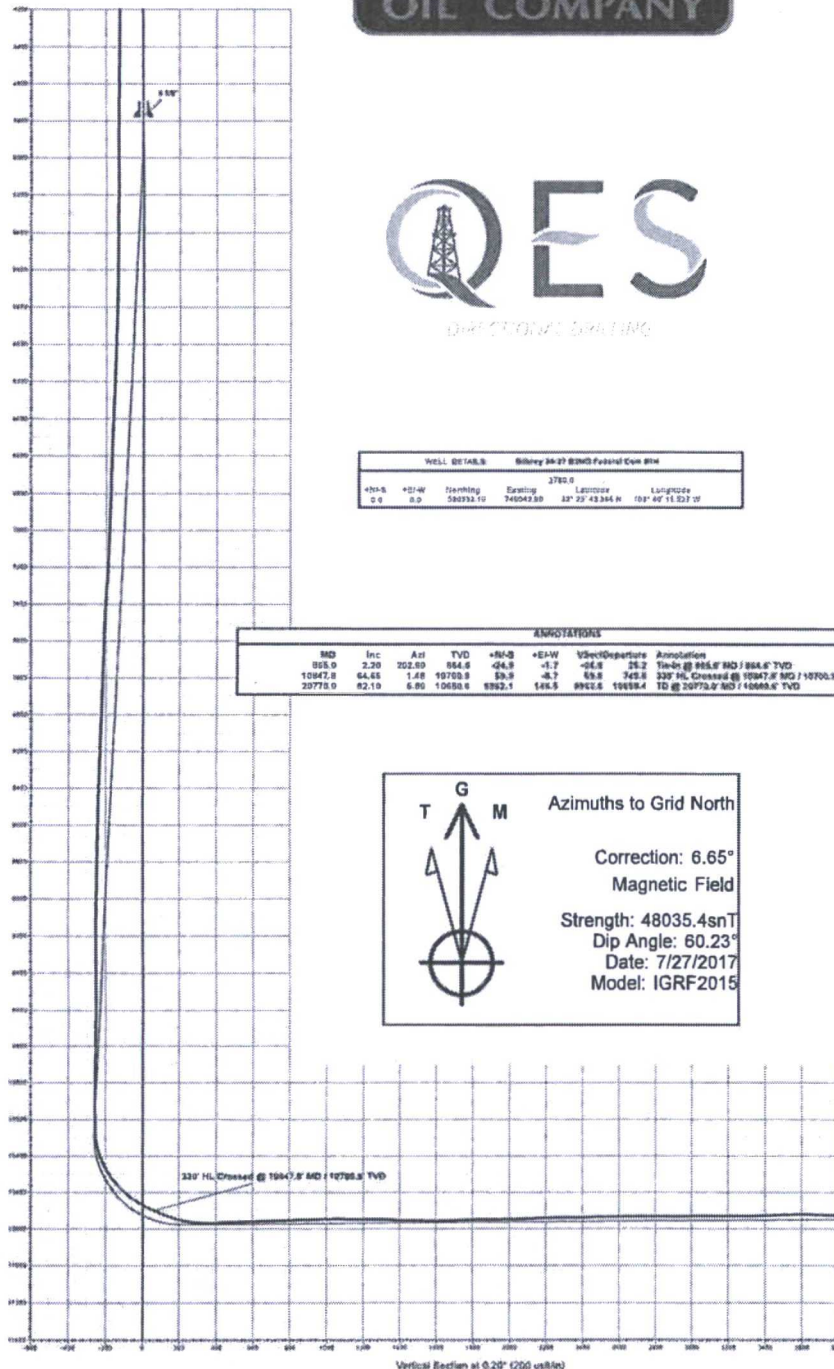
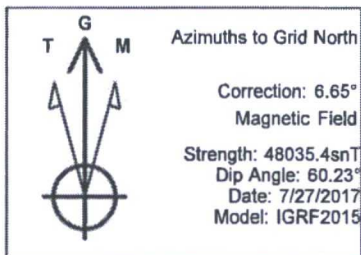
Bilbrey 34-27 B2MD Federal Com #1H
 Lea County, New Mexico (Nad 83)
 Q170995 & WT-170844
 Design #1

PROJECT DETAILS: Lea County, New Mexico (Nad 83)
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level



WELL DETAILS Bilbrey 34-27 B2MD Federal Com #1H						
MD	Inc	Ati	TVD	+RI-B	+EA-W	Vsect/Departure
0.0	0.0	0.0	0.0	0.0	0.0	0.0

ANNOTATIONS						
MD	Inc	Ati	TVD	+RI-B	+EA-W	Vsect/Departure
895.0	2.20	202.80	884.6	-04.9	-1.7	-04.8
10947.0	64.65	1.48	10780.9	39.9	-6.7	69.8
20775.0	82.10	6.80	10692.6	8992.1	546.5	8992.6





HOBBS CCD
JAN 19 2018
RECEIVED

30-025-43872

Mewbourne Oil Company

Lea County, New Mexico (Nad 83)

Sec 34, T21S, R32E

Bilbrey 34-27 B2MD Federal Com #1H

Wellbore #1

Design: Wellbore #1

QES Survey Report

12 September, 2017





Survey Report



Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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

Site Sec 34, T21S, R32E

Site Position: **Northing:** 520,332.20 usft **Latitude:** 32° 25' 43.364 N
From: Map **Easting:** 746,042.90 usft **Longitude:** 103° 40' 11.527 W
Position Uncertainty: 0.0 usft **Slot Radius:** 13-3/16 " **Grid Convergence:** 0.36 °

Well Bilbrey 34-27 B2MD Federal Com #1H

Well Position **+N/-S** 0.0 usft **Northing:** 520,332.19 usft **Latitude:** 32° 25' 43.364 N
+E/-W 0.0 usft **Easting:** 746,042.90 usft **Longitude:** 103° 40' 11.527 W
Position Uncertainty 0.0 usft **Wellhead Elevation:** usft **Ground Level:** 3,780.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/27/2017	7.00	60.23	48,035.42724600

Design Wellbore #1

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	0.20

Survey Program Date 9/12/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
192.0	865.0	Rig Surveys (Wellbore #1)	MWD default	MWD - Standard
960.0	20,770.0	MWD Surveys (Wellbore #1)	MWD default	MWD - Standard

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
192.0	1.20	183.00	192.0	-2.0	-0.1	-2.0	0.63	0.63	0.00
374.0	1.80	182.00	373.9	-6.8	-0.3	-6.8	0.33	0.33	-0.55
560.0	2.10	177.00	559.8	-13.1	-0.2	-13.1	0.19	0.16	-2.69
756.0	2.40	187.60	755.7	-20.7	-0.6	-20.7	0.26	0.15	5.41

Tie-In @ 865.0' MD / 864.6' TVD

865.0	2.20	202.60	864.6	-24.9	-1.7	-24.9	0.58	-0.18	13.76
960.0	2.20	207.20	959.5	-28.2	-3.2	-28.3	0.19	0.00	4.84
1,150.0	2.00	217.80	1,149.4	-34.1	-6.9	-34.1	0.23	-0.11	5.58
1,339.0	1.90	210.60	1,338.3	-39.4	-10.5	-39.4	0.14	-0.05	-3.81



Survey Report



Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
1,528.0	2.10	213.20	1,527.2	-45.0	-14.0	-45.1	0.12	0.11	1.38
1,717.0	2.30	214.90	1,716.0	-51.0	-18.1	-51.1	0.11	0.11	0.90
1,908.0	2.30	208.30	1,906.9	-57.5	-22.1	-57.6	0.14	0.00	-3.46
2,097.0	2.00	203.00	2,095.7	-63.9	-25.2	-64.0	0.19	-0.16	-2.80
2,287.0	1.60	188.40	2,285.6	-69.6	-26.9	-69.7	0.32	-0.21	-7.68
2,478.0	1.40	137.60	2,476.6	-73.9	-25.7	-74.0	0.68	-0.10	-26.60
2,668.0	2.30	101.40	2,666.5	-76.4	-20.4	-76.5	0.75	0.47	-19.05
2,856.0	3.10	91.40	2,854.3	-77.3	-11.6	-77.3	0.49	0.43	-5.32
3,043.0	6.50	98.80	3,040.6	-79.0	3.9	-79.0	1.84	1.82	3.96
3,230.0	6.80	97.50	3,226.3	-82.1	25.3	-82.0	0.18	0.16	-0.70
3,418.0	4.60	94.20	3,413.4	-84.1	43.9	-83.9	1.18	-1.17	-1.76
3,605.0	4.20	130.60	3,599.9	-89.1	56.6	-88.9	1.48	-0.21	19.47
3,793.0	6.90	206.20	3,787.2	-103.7	56.8	-103.5	3.79	1.44	40.21
3,980.0	7.50	242.50	3,972.8	-119.5	41.0	-119.3	2.41	0.32	19.41
4,169.0	2.50	248.00	4,161.0	-126.7	26.3	-126.6	2.65	-2.65	2.91
4,356.0	1.00	228.30	4,347.9	-129.3	21.3	-129.2	0.85	-0.80	-10.53
4,544.0	0.90	240.80	4,535.9	-131.1	18.7	-131.1	0.12	-0.05	6.65
4,731.0	1.10	234.10	4,722.9	-132.9	16.0	-132.8	0.12	0.11	-3.58
4,905.0	1.30	254.30	4,896.8	-134.4	12.8	-134.4	0.27	0.11	11.61
5,093.0	1.40	259.60	5,084.8	-135.4	8.4	-135.4	0.09	0.05	2.82
5,280.0	1.50	262.10	5,271.7	-136.1	3.8	-136.1	0.06	0.05	1.34
5,468.0	1.30	257.80	5,459.7	-136.9	-0.7	-136.9	0.12	-0.11	-2.29
5,655.0	1.80	264.50	5,646.6	-137.7	-5.7	-137.7	0.28	0.27	3.58
5,842.0	1.90	202.10	5,833.5	-140.8	-9.8	-140.9	1.03	0.05	-33.37
6,030.0	2.50	190.70	6,021.4	-147.7	-11.8	-147.8	0.39	0.32	-6.06
6,216.0	2.50	191.60	6,207.2	-155.7	-13.3	-155.7	0.02	0.00	0.48
6,404.0	2.00	159.40	6,395.1	-162.8	-13.0	-162.8	0.71	-0.27	-17.13
6,591.0	2.40	142.50	6,581.9	-168.9	-9.5	-169.0	0.41	0.21	-9.04
6,779.0	2.40	142.50	6,769.8	-175.2	-4.7	-175.2	0.00	0.00	0.00
6,966.0	2.60	139.40	6,956.6	-181.5	0.5	-181.5	0.13	0.11	-1.66
7,153.0	2.70	142.70	7,143.4	-188.2	5.9	-188.2	0.10	0.05	1.76
7,340.0	4.80	150.60	7,330.0	-198.6	12.4	-198.5	1.15	1.12	4.22
7,528.0	2.80	140.20	7,517.6	-208.9	19.2	-208.9	1.12	-1.06	-5.53
7,716.0	2.60	140.80	7,705.4	-215.8	24.8	-215.7	0.11	-0.11	0.32
7,904.0	2.30	146.20	7,893.2	-222.2	29.6	-222.1	0.20	-0.16	2.87
8,091.0	2.20	151.90	8,080.0	-228.5	33.4	-228.4	0.13	-0.05	3.05
8,279.0	1.90	156.40	8,267.9	-234.5	36.4	-234.4	0.18	-0.16	2.39
8,466.0	1.90	172.10	8,454.8	-240.4	38.0	-240.3	0.28	0.00	8.40
8,653.0	0.90	204.40	8,641.8	-244.9	37.8	-244.7	0.66	-0.53	17.27
8,841.0	1.20	220.20	8,829.7	-247.7	36.0	-247.6	0.22	0.16	8.40
9,028.0	1.10	194.60	9,016.7	-250.9	34.2	-250.8	0.28	-0.05	-13.69
9,216.0	0.60	242.50	9,204.7	-253.1	32.9	-253.0	0.44	-0.27	25.48
9,403.0	2.00	277.20	9,391.6	-253.2	28.8	-253.1	0.83	0.75	18.56



Survey Report



Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
9,591.0	2.50	263.10	9,579.5	-253.3	21.5	-253.2	0.39	0.27	-7.50
9,778.0	2.10	244.30	9,766.3	-255.2	14.3	-255.2	0.45	-0.21	-10.05
9,966.0	1.90	270.10	9,954.2	-256.7	8.1	-256.7	0.49	-0.11	13.72
10,154.0	1.70	266.10	10,142.1	-256.9	2.2	-256.9	0.13	-0.11	-2.13
10,215.0	1.60	257.00	10,203.1	-257.2	0.5	-257.2	0.46	-0.16	-14.92
10,250.0	1.50	248.00	10,238.1	-257.4	-0.4	-257.4	0.75	-0.29	-25.71
10,282.0	2.10	326.00	10,270.1	-257.1	-1.1	-257.1	7.23	1.88	243.75
10,313.0	4.80	2.30	10,301.0	-255.3	-1.4	-255.4	10.80	8.71	117.10
10,344.0	9.60	355.00	10,331.8	-251.5	-1.6	-251.5	15.73	15.48	-23.55
10,375.0	14.70	354.70	10,362.1	-245.0	-2.1	-245.0	16.45	16.45	-0.97
10,406.0	18.90	351.90	10,391.7	-236.1	-3.2	-236.1	13.79	13.55	-9.03
10,437.0	22.10	355.40	10,420.8	-225.3	-4.4	-225.3	11.05	10.32	11.29
10,469.0	25.10	359.30	10,450.1	-212.5	-5.0	-212.5	10.56	9.38	12.19
10,500.0	29.00	0.50	10,477.7	-198.4	-5.0	-198.4	12.70	12.58	3.87
10,531.0	33.00	2.80	10,504.3	-182.5	-4.5	-182.5	13.46	12.90	7.42
10,562.0	36.40	2.30	10,529.7	-164.8	-3.7	-164.8	11.01	10.97	-1.61
10,593.0	39.70	1.00	10,554.2	-145.7	-3.2	-145.8	10.95	10.65	-4.19
10,624.0	43.70	358.40	10,577.3	-125.1	-3.3	-125.1	14.06	12.90	-8.39
10,656.0	48.50	357.20	10,599.5	-102.1	-4.2	-102.1	15.24	15.00	-3.75
10,687.0	52.40	356.30	10,619.2	-78.2	-5.6	-78.3	12.78	12.58	-2.90
10,718.0	56.50	356.30	10,637.2	-53.1	-7.2	-53.1	13.23	13.23	0.00
10,749.0	58.90	357.20	10,653.8	-26.9	-8.7	-26.9	8.12	7.74	2.90
10,781.0	60.50	359.60	10,669.9	0.7	-9.4	0.7	8.18	5.00	7.50
10,812.0	62.00	0.70	10,684.9	27.9	-9.4	27.8	5.75	4.84	3.55
10,843.0	64.40	1.40	10,698.8	55.5	-8.8	55.5	8.00	7.74	2.26
330' HL Crossed @ 10847.8' MD / 10700.9' TVD									
10,847.8	64.65	1.48	10,700.9	59.9	-8.7	59.8	5.36	5.16	1.63
10,874.0	66.00	1.90	10,711.8	83.7	-8.0	83.6	5.36	5.16	1.61
10,905.0	67.90	2.10	10,724.0	112.2	-7.0	112.2	6.16	6.13	0.65
10,937.0	70.70	2.30	10,735.3	142.1	-5.9	142.1	8.77	8.75	0.63
10,968.0	73.60	3.00	10,744.8	171.6	-4.5	171.5	9.60	9.35	2.26
10,999.0	75.90	3.00	10,752.9	201.4	-3.0	201.4	7.42	7.42	0.00
11,030.0	79.20	2.30	10,759.6	231.7	-1.6	231.7	10.87	10.65	-2.26
11,061.0	82.90	1.90	10,764.4	262.3	-0.4	262.3	12.00	11.94	-1.29
11,092.0	85.80	1.70	10,767.5	293.1	0.5	293.1	9.38	9.35	-0.65
11,123.0	88.60	1.90	10,769.0	324.0	1.5	324.0	9.06	9.03	0.65
11,155.0	91.10	1.90	10,769.1	356.0	2.6	356.0	7.81	7.81	0.00
11,224.0	93.10	358.90	10,766.6	425.0	3.0	425.0	5.22	2.90	-4.35
11,317.0	91.50	3.50	10,762.8	517.8	5.0	517.8	5.23	-1.72	4.95
11,411.0	91.70	3.00	10,760.2	611.6	10.3	611.7	0.57	0.21	-0.53
11,504.0	91.40	2.80	10,757.7	704.5	15.0	704.5	0.39	-0.32	-0.22
11,598.0	92.40	3.10	10,754.6	798.3	19.9	798.4	1.11	1.06	0.32
11,692.0	90.40	3.10	10,752.3	892.1	24.9	892.2	2.13	-2.13	0.00
11,786.0	93.20	4.20	10,749.3	985.9	30.9	986.0	3.20	2.98	1.17



Survey Report



Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
11,880.0	88.60	3.50	10,747.8	1,079.6	37.2	1,079.8	4.95	-4.89	-0.74
11,973.0	89.60	4.20	10,749.3	1,172.4	43.5	1,172.6	1.31	1.08	0.75
12,067.0	88.50	0.70	10,750.9	1,266.3	47.5	1,266.5	3.90	-1.17	-3.72
12,160.0	87.80	1.00	10,753.9	1,359.2	48.9	1,359.4	0.82	-0.75	0.32
12,253.0	90.10	0.00	10,755.6	1,452.2	49.7	1,452.4	2.70	2.47	-1.08
12,348.0	87.80	0.70	10,757.3	1,547.2	50.3	1,547.4	2.53	-2.42	0.74
12,441.0	91.70	359.10	10,757.7	1,640.2	50.1	1,640.3	4.53	4.19	-1.72
12,535.0	92.90	359.80	10,753.9	1,734.1	49.2	1,734.2	1.48	1.28	0.74
12,628.0	90.80	359.80	10,750.9	1,827.0	48.9	1,827.2	2.26	-2.26	0.00
12,718.0	90.50	359.80	10,749.9	1,917.0	48.6	1,917.2	0.33	-0.33	0.00
12,811.0	91.40	0.50	10,748.4	2,010.0	48.8	2,010.2	1.23	0.97	0.75
12,905.0	92.90	1.20	10,744.9	2,103.9	50.2	2,104.1	1.76	1.60	0.74
12,999.0	91.70	1.20	10,741.1	2,197.8	52.2	2,198.0	1.28	-1.28	0.00
13,093.0	90.00	1.20	10,739.7	2,291.8	54.1	2,292.0	1.81	-1.81	0.00
13,186.0	90.80	2.10	10,739.0	2,384.8	56.8	2,384.9	1.29	0.86	0.97
13,280.0	91.30	2.40	10,737.3	2,478.7	60.5	2,478.9	0.62	0.53	0.32
13,373.0	90.10	0.70	10,736.2	2,571.6	63.0	2,571.8	2.24	-1.29	-1.83
13,467.0	90.70	1.50	10,735.5	2,665.6	64.8	2,665.8	1.06	0.64	0.85
13,561.0	89.60	0.00	10,735.3	2,759.6	66.0	2,759.8	1.98	-1.17	-1.60
13,655.0	90.30	0.90	10,735.4	2,853.6	66.8	2,853.8	1.21	0.74	0.96
13,749.0	90.80	1.50	10,734.5	2,947.6	68.7	2,947.8	0.83	0.53	0.64
13,844.0	89.80	0.70	10,734.0	3,042.5	70.6	3,042.8	1.35	-1.05	-0.84
13,937.0	90.60	1.40	10,733.6	3,135.5	72.3	3,135.8	1.14	0.86	0.75
14,031.0	90.20	358.20	10,733.0	3,229.5	71.9	3,229.7	3.43	-0.43	-3.40
14,125.0	90.80	358.20	10,732.2	3,323.5	69.0	3,323.7	0.64	0.64	0.00
14,219.0	91.70	359.30	10,730.1	3,417.4	66.9	3,417.6	1.51	0.96	1.17
14,313.0	92.20	359.80	10,726.9	3,511.4	66.2	3,511.6	0.75	0.53	0.53
14,407.0	90.30	0.30	10,724.9	3,605.3	66.3	3,605.5	2.09	-2.02	0.53
14,501.0	88.10	357.70	10,726.2	3,699.3	64.7	3,699.5	3.62	-2.34	-2.77
14,594.0	88.80	357.90	10,728.7	3,792.2	61.1	3,792.4	0.78	0.75	0.22
14,688.0	88.90	358.40	10,730.6	3,886.1	58.0	3,886.3	0.54	0.11	0.53
14,783.0	90.10	359.60	10,731.4	3,981.1	56.4	3,981.3	1.79	1.26	1.26
14,876.0	90.60	0.20	10,730.8	4,074.1	56.2	4,074.3	0.84	0.54	0.65
14,970.0	93.40	1.20	10,727.6	4,168.0	57.4	4,168.2	3.16	2.98	1.06
15,065.0	88.60	359.10	10,725.9	4,263.0	57.6	4,263.1	5.51	-5.05	-2.21
15,158.0	90.50	0.00	10,726.6	4,356.0	56.9	4,356.1	2.26	2.04	0.97
15,252.0	91.20	0.30	10,725.2	4,449.9	57.1	4,450.1	0.81	0.74	0.32
15,346.0	91.20	0.90	10,723.3	4,543.9	58.1	4,544.1	0.64	0.00	0.64
15,439.0	90.20	0.90	10,722.1	4,636.9	59.6	4,637.1	1.08	-1.08	0.00
15,533.0	91.40	1.70	10,720.8	4,730.9	61.7	4,731.1	1.53	1.28	0.85
15,627.0	90.90	358.60	10,718.9	4,824.8	62.0	4,825.0	3.34	-0.53	-3.30
15,721.0	91.90	359.30	10,716.6	4,918.8	60.2	4,919.0	1.30	1.06	0.74
15,816.0	91.60	358.40	10,713.7	5,013.7	58.3	5,013.9	1.00	-0.32	-0.95



Survey Report



Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
15,910.0	88.90	357.20	10,713.3	5,107.6	54.7	5,107.8	3.14	-2.87	-1.28
16,004.0	90.10	358.00	10,714.1	5,201.6	50.8	5,201.7	1.53	1.28	0.85
16,097.0	89.00	358.00	10,714.9	5,294.5	47.5	5,294.6	1.18	-1.18	0.00
16,190.0	87.90	357.70	10,717.4	5,387.4	44.1	5,387.5	1.23	-1.18	-0.32
16,283.0	88.60	357.30	10,720.2	5,480.3	40.0	5,480.4	0.87	0.75	-0.43
16,377.0	91.80	358.90	10,719.9	5,574.2	36.9	5,574.3	3.81	3.40	1.70
16,471.0	90.90	358.40	10,717.7	5,668.1	34.7	5,668.2	1.10	-0.96	-0.53
16,564.0	89.00	357.50	10,717.8	5,761.1	31.3	5,761.1	2.26	-2.04	-0.97
16,659.0	91.20	0.20	10,717.6	5,856.0	29.4	5,856.1	3.67	2.32	2.84
16,753.0	92.90	1.40	10,714.2	5,950.0	30.7	5,950.0	2.21	1.81	1.28
16,847.0	90.60	1.50	10,711.4	6,043.9	33.1	6,044.0	2.45	-2.45	0.11
16,941.0	91.70	2.40	10,709.5	6,137.8	36.3	6,137.9	1.51	1.17	0.96
17,034.0	90.10	1.40	10,708.0	6,230.7	39.4	6,230.8	2.03	-1.72	-1.08
17,127.0	93.10	2.40	10,705.4	6,323.6	42.5	6,323.8	3.40	3.23	1.08
17,221.0	90.80	2.80	10,702.2	6,417.5	46.7	6,417.6	2.48	-2.45	0.43
17,314.0	89.80	0.30	10,701.7	6,510.4	49.3	6,510.6	2.90	-1.08	-2.69
17,408.0	89.40	1.40	10,702.4	6,604.4	50.7	6,604.6	1.25	-0.43	1.17
17,501.0	90.80	3.30	10,702.2	6,697.3	54.5	6,697.5	2.54	1.51	2.04
17,595.0	90.60	3.30	10,701.1	6,791.2	59.9	6,791.3	0.21	-0.21	0.00
17,688.0	90.10	2.80	10,700.5	6,884.0	64.8	6,884.2	0.76	-0.54	-0.54
17,782.0	89.70	3.70	10,700.7	6,977.9	70.2	6,978.1	1.05	-0.43	0.96
17,875.0	89.70	3.10	10,701.2	7,070.7	75.7	7,070.9	0.65	0.00	-0.65
17,969.0	89.90	4.40	10,701.5	7,164.5	81.8	7,164.8	1.40	0.21	1.38
18,062.0	88.80	0.90	10,702.6	7,257.4	86.1	7,257.7	3.94	-1.18	-3.76
18,156.0	87.70	2.10	10,705.4	7,351.3	88.6	7,351.6	1.73	-1.17	1.28
18,250.0	88.60	0.30	10,708.5	7,445.2	90.5	7,445.5	2.14	0.96	-1.91
18,343.0	92.80	358.40	10,707.3	7,538.2	89.5	7,538.5	4.96	4.52	-2.04
18,436.0	91.80	358.60	10,703.6	7,631.1	87.1	7,631.4	1.10	-1.08	0.22
18,531.0	92.20	357.30	10,700.3	7,726.0	83.7	7,726.2	1.43	0.42	-1.37
18,625.0	91.10	357.30	10,697.6	7,819.8	79.2	7,820.1	1.17	-1.17	0.00
18,719.0	91.70	358.60	10,695.3	7,913.7	75.9	7,914.0	1.52	0.64	1.38
18,813.0	92.10	358.70	10,692.2	8,007.7	73.7	8,007.9	0.44	0.43	0.11
18,906.0	91.40	359.30	10,689.3	8,100.6	72.0	8,100.8	0.99	-0.75	0.65
19,000.0	91.40	359.80	10,687.0	8,194.6	71.3	8,194.8	0.53	0.00	0.53
19,095.0	92.00	0.00	10,684.2	8,289.5	71.1	8,289.7	0.67	0.63	0.21
19,191.0	90.60	1.00	10,682.0	8,385.5	72.0	8,385.7	1.79	-1.46	1.04
19,286.0	90.90	0.90	10,680.8	8,480.5	73.6	8,480.7	0.33	0.32	-0.11
19,381.0	89.50	0.50	10,680.4	8,575.5	74.7	8,575.7	1.53	-1.47	-0.42
19,477.0	89.40	2.40	10,681.4	8,671.4	77.1	8,671.7	1.98	-0.10	1.98
19,573.0	89.70	2.10	10,682.1	8,767.4	80.9	8,767.6	0.44	0.31	-0.31
19,668.0	90.50	3.30	10,682.0	8,862.2	85.4	8,862.5	1.52	0.84	1.26
19,763.0	89.30	3.10	10,682.1	8,957.1	90.7	8,957.4	1.28	-1.26	-0.21
19,858.0	87.10	1.00	10,685.1	9,052.0	94.1	9,052.3	3.20	-2.32	-2.21



Survey Report



Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
19,953.0	90.30	1.50	10,687.3	9,146.9	96.2	9,147.2	3.41	3.37	0.53
20,048.0	90.80	2.30	10,686.3	9,241.9	99.3	9,242.2	0.99	0.53	0.84
20,143.0	91.20	3.00	10,684.7	9,336.7	103.7	9,337.1	0.85	0.42	0.74
20,239.0	90.00	2.80	10,683.7	9,432.6	108.6	9,432.9	1.27	-1.25	-0.21
20,334.0	90.00	3.10	10,683.7	9,527.5	113.4	9,527.8	0.32	0.00	0.32
20,429.0	89.60	3.30	10,684.0	9,622.3	118.7	9,622.7	0.47	-0.42	0.21
20,524.0	90.00	4.40	10,684.3	9,717.1	125.1	9,717.5	1.23	0.42	1.16
20,619.0	90.00	4.40	10,684.3	9,811.8	132.4	9,812.2	0.00	0.00	0.00
20,715.0	92.10	5.80	10,682.6	9,907.4	140.9	9,907.9	2.63	2.19	1.46
TD @ 20770.0' MD / 10680.6' TVD									
20,770.0	92.10	5.80	10,680.6	9,962.1	146.5	9,962.6	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
865.0	864.6	-24.9	-1.7	Tie-In @ 865.0' MD / 864.6' TVD
10,847.8	10,700.9	59.9	-8.7	330' HL Crossed @ 10847.8' MD / 10700.9' TVD
20,770.0	10,680.6	9,962.1	146.5	TD @ 20770.0' MD / 10680.6' TVD

Checked By: _____ Approved By: _____ Date: _____



Mewbourne Oil Company

Lea County, New Mexico (Nad 83)

Sec 34, T21S, R32E

Bilbrey 34-27 B2MD Federal Com #1H

Wellbore #1

Survey: MWD Surveys

QES Survey Report

16 October, 2017



Quintana Energy Services

11390 FM 830

Willis, TX 77318

Phone: (936) 856-4332

Fax: (936) 856-8678



Survey Certification Sheet

Company	Job Number	Date
Mewbourne Oil Company	WT-170844	10/16/2017

Lease	Well Name	County & State
Sec34,T21S,R32E	Bilbrey 34-27B2MDFed Com1H	Lea, New Mexico

API No.	Survey Depth Range	Survey Type
30-025-43872	865 feet to 20770 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
N/A	Brad Reed

Certification Statement

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Quintana Energy Services (QES). This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature.

Christopher Hughes

Digitally signed by Christopher Hughes

DN: cn=Christopher Hughes, o=QES,

ou=compliance, email=chrish@qeslp.com, c=US

Date: 2017.10.17 11:16:31 -05'00'

Christopher Hughes

MWD Compliance Manager

Quintana Energy Services



Survey Report

QES

Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Lea County, New Mexico (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	Sec 34, T21S, R32E				
Site Position:		Northing:	520,332.20 usft	Latitude:	32° 25' 43.364 N
From:	Map	Easting:	746,042.90 usft	Longitude:	103° 40' 11.527 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.36 °

Well	Bilbrey 34-27 B2MD Federal Com #1H					
Well Position	+N/-S	0.0 usft	Northing:	520,332.19 usft	Latitude:	32° 25' 43.364 N
	+E/-W	0.0 usft	Easting:	746,042.90 usft	Longitude:	103° 40' 11.527 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,780.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/27/2017	7.00	60.23	48,035.42724600

Design	Wellbore #1				
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	0.20	

Survey Program		Date	9/12/2017	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
192.0	865.0	Rig Surveys (Wellbore #1)	MWD default	MWD - Standard
960.0	20,770.0	MWD Surveys (Wellbore #1)	MWD default	MWD - Standard

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)
Tie-In @ 865.0' MD / 864.6' TVD									
865.0	2.20	202.60	864.6	-24.9	-1.7	-24.9	0.00	0.00	0.00
960.0	2.20	207.20	959.5	-28.2	-3.2	-28.3	0.19	0.00	4.84
1,150.0	2.00	217.80	1,149.4	-34.1	-6.9	-34.1	0.23	-0.11	5.58
1,339.0	1.90	210.60	1,338.3	-39.4	-10.5	-39.4	0.14	-0.05	-3.81
1,528.0	2.10	213.20	1,527.2	-45.0	-14.0	-45.1	0.12	0.11	1.38
1,717.0	2.30	214.90	1,716.0	-51.0	-18.1	-51.1	0.11	0.11	0.90
1,908.0	2.30	208.30	1,906.9	-57.5	-22.1	-57.6	0.14	0.00	-3.46
2,097.0	2.00	203.00	2,095.7	-63.9	-25.2	-64.0	0.19	-0.16	-2.80
2,287.0	1.60	188.40	2,285.6	-69.6	-26.9	-69.7	0.32	-0.21	-7.68



Survey Report

QES

Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
10,250.0	1.50	248.00	10,238.1	-257.4	-0.4	-257.4	0.75	-0.29	-25.71
10,282.0	2.10	326.00	10,270.1	-257.1	-1.1	-257.1	7.23	1.88	243.75
10,313.0	4.80	2.30	10,301.0	-255.3	-1.4	-255.4	10.80	8.71	117.10
10,344.0	9.60	355.00	10,331.8	-251.5	-1.6	-251.5	15.73	15.48	-23.55
10,375.0	14.70	354.70	10,362.1	-245.0	-2.1	-245.0	16.45	16.45	-0.97
10,406.0	18.90	351.90	10,391.7	-236.1	-3.2	-236.1	13.79	13.55	-9.03
10,437.0	22.10	355.40	10,420.8	-225.3	-4.4	-225.3	11.05	10.32	11.29
10,469.0	25.10	359.30	10,450.1	-212.5	-5.0	-212.5	10.56	9.38	12.19
10,500.0	29.00	0.50	10,477.7	-198.4	-5.0	-198.4	12.70	12.58	3.87
10,531.0	33.00	2.80	10,504.3	-182.5	-4.5	-182.5	13.46	12.90	7.42
10,562.0	36.40	2.30	10,529.7	-164.8	-3.7	-164.8	11.01	10.97	-1.61
10,593.0	39.70	1.00	10,554.2	-145.7	-3.2	-145.8	10.95	10.65	-4.19
10,624.0	43.70	358.40	10,577.3	-125.1	-3.3	-125.1	14.06	12.90	-8.39
10,656.0	48.50	357.20	10,599.5	-102.1	-4.2	-102.1	15.24	15.00	-3.75
10,687.0	52.40	356.30	10,619.2	-78.2	-5.6	-78.3	12.78	12.58	-2.90
10,718.0	56.50	356.30	10,637.2	-53.1	-7.2	-53.1	13.23	13.23	0.00
10,749.0	58.90	357.20	10,653.8	-26.9	-8.7	-26.9	8.12	7.74	2.90
10,781.0	60.50	359.60	10,669.9	0.7	-9.4	0.7	8.18	5.00	7.50
10,812.0	62.00	0.70	10,684.9	27.9	-9.4	27.8	5.75	4.84	3.55
10,843.0	64.40	1.40	10,698.8	55.5	-8.8	55.5	8.00	7.74	2.26
10,874.0	66.00	1.90	10,711.8	83.7	-8.0	83.6	5.36	5.16	1.61
10,905.0	67.90	2.10	10,724.0	112.2	-7.0	112.2	6.16	6.13	0.65
10,937.0	70.70	2.30	10,735.3	142.1	-5.9	142.1	8.77	8.75	0.63
10,968.0	73.60	3.00	10,744.8	171.6	-4.5	171.5	9.60	9.35	2.26
10,999.0	75.90	3.00	10,752.9	201.4	-3.0	201.4	7.42	7.42	0.00
11,030.0	79.20	2.30	10,759.6	231.7	-1.6	231.7	10.87	10.65	-2.26
11,061.0	82.90	1.90	10,764.4	262.3	-0.4	262.3	12.00	11.94	-1.29
11,092.0	85.80	1.70	10,767.5	293.1	0.5	293.1	9.38	9.35	-0.65
11,123.0	88.60	1.90	10,769.0	324.0	1.5	324.0	9.06	9.03	0.65
11,155.0	91.10	1.90	10,769.1	356.0	2.6	356.0	7.81	7.81	0.00
11,224.0	93.10	358.90	10,766.6	425.0	3.0	425.0	5.22	2.90	-4.35
11,317.0	91.50	3.50	10,762.8	517.8	5.0	517.8	5.23	-1.72	4.95
11,411.0	91.70	3.00	10,760.2	611.6	10.3	611.7	0.57	0.21	-0.53
11,504.0	91.40	2.80	10,757.7	704.5	15.0	704.5	0.39	-0.32	-0.22
11,598.0	92.40	3.10	10,754.6	798.3	19.9	798.4	1.11	1.06	0.32
11,692.0	90.40	3.10	10,752.3	892.1	24.9	892.2	2.13	-2.13	0.00
11,786.0	93.20	4.20	10,749.3	985.9	30.9	986.0	3.20	2.98	1.17
11,880.0	88.60	3.50	10,747.8	1,079.6	37.2	1,079.8	4.95	-4.89	-0.74
11,973.0	89.60	4.20	10,749.3	1,172.4	43.5	1,172.6	1.31	1.08	0.75
12,067.0	88.50	0.70	10,750.9	1,266.3	47.5	1,266.5	3.90	-1.17	-3.72
12,160.0	87.80	1.00	10,753.9	1,359.2	48.9	1,359.4	0.82	-0.75	0.32
12,253.0	90.10	0.00	10,755.6	1,452.2	49.7	1,452.4	2.70	2.47	-1.08
12,348.0	87.80	0.70	10,757.3	1,547.2	50.3	1,547.4	2.53	-2.42	0.74



Survey Report

QES

Company: Mewbourne Oil Company
Project: Lea County, New Mexico (Nad 83)
Site: Sec 34, T21S, R32E
Well: Bilbrey 34-27 B2MD Federal Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Bilbrey 34-27 B2MD Federal Com #1H
TVD Reference: WELL @ 3807.0usft (Patterson #243)
MD Reference: WELL @ 3807.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
16,564.0	89.00	357.50	10,717.8	5,761.1	31.3	5,761.1	2.26	-2.04	-0.97
16,659.0	91.20	0.20	10,717.6	5,856.0	29.4	5,856.1	3.67	2.32	2.84
16,753.0	92.90	1.40	10,714.2	5,950.0	30.7	5,950.0	2.21	1.81	1.28
16,847.0	90.60	1.50	10,711.4	6,043.9	33.1	6,044.0	2.45	-2.45	0.11
16,941.0	91.70	2.40	10,709.5	6,137.8	36.3	6,137.9	1.51	1.17	0.96
17,034.0	90.10	1.40	10,708.0	6,230.7	39.4	6,230.8	2.03	-1.72	-1.08
17,127.0	93.10	2.40	10,705.4	6,323.6	42.5	6,323.8	3.40	3.23	1.08
17,221.0	90.80	2.80	10,702.2	6,417.5	46.7	6,417.6	2.48	-2.45	0.43
17,314.0	89.80	0.30	10,701.7	6,510.4	49.3	6,510.6	2.90	-1.08	-2.69
17,408.0	89.40	1.40	10,702.4	6,604.4	50.7	6,604.6	1.25	-0.43	1.17
17,501.0	90.80	3.30	10,702.2	6,697.3	54.5	6,697.5	2.54	1.51	2.04
17,595.0	90.60	3.30	10,701.1	6,791.2	59.9	6,791.3	0.21	-0.21	0.00
17,688.0	90.10	2.80	10,700.5	6,884.0	64.8	6,884.2	0.76	-0.54	-0.54
17,782.0	89.70	3.70	10,700.7	6,977.9	70.2	6,978.1	1.05	-0.43	0.96
17,875.0	89.70	3.10	10,701.2	7,070.7	75.7	7,070.9	0.65	0.00	-0.65
17,969.0	89.90	4.40	10,701.5	7,164.5	81.8	7,164.8	1.40	0.21	1.38
18,062.0	88.80	0.90	10,702.6	7,257.4	86.1	7,257.7	3.94	-1.18	-3.76
18,156.0	87.70	2.10	10,705.4	7,351.3	88.6	7,351.6	1.73	-1.17	1.28
18,250.0	88.60	0.30	10,708.5	7,445.2	90.5	7,445.5	2.14	0.96	-1.91
18,343.0	92.80	358.40	10,707.3	7,538.2	89.5	7,538.5	4.96	4.52	-2.04
18,436.0	91.80	358.60	10,703.6	7,631.1	87.1	7,631.4	1.10	-1.08	0.22
18,531.0	92.20	357.30	10,700.3	7,726.0	83.7	7,726.2	1.43	0.42	-1.37
18,625.0	91.10	357.30	10,697.6	7,819.8	79.2	7,820.1	1.17	-1.17	0.00
18,719.0	91.70	358.60	10,695.3	7,913.7	75.9	7,914.0	1.52	0.64	1.38
18,813.0	92.10	358.70	10,692.2	8,007.7	73.7	8,007.9	0.44	0.43	0.11
18,906.0	91.40	359.30	10,689.3	8,100.6	72.0	8,100.8	0.99	-0.75	0.65
19,000.0	91.40	359.80	10,687.0	8,194.6	71.3	8,194.8	0.53	0.00	0.53
19,095.0	92.00	0.00	10,684.2	8,289.5	71.1	8,289.7	0.67	0.63	0.21
19,191.0	90.60	1.00	10,682.0	8,385.5	72.0	8,385.7	1.79	-1.46	1.04
19,286.0	90.90	0.90	10,680.8	8,480.5	73.6	8,480.7	0.33	0.32	-0.11
19,381.0	89.50	0.50	10,680.4	8,575.5	74.7	8,575.7	1.53	-1.47	-0.42
19,477.0	89.40	2.40	10,681.4	8,671.4	77.1	8,671.7	1.98	-0.10	1.98
19,573.0	89.70	2.10	10,682.1	8,767.4	80.9	8,767.6	0.44	0.31	-0.31
19,668.0	90.50	3.30	10,682.0	8,862.2	85.4	8,862.5	1.52	0.84	1.26
19,763.0	89.30	3.10	10,682.1	8,957.1	90.7	8,957.4	1.28	-1.26	-0.21
19,858.0	87.10	1.00	10,685.1	9,052.0	94.1	9,052.3	3.20	-2.32	-2.21
19,953.0	90.30	1.50	10,687.3	9,146.9	96.2	9,147.2	3.41	3.37	0.53
20,048.0	90.80	2.30	10,686.3	9,241.9	99.3	9,242.2	0.99	0.53	0.84
20,143.0	91.20	3.00	10,684.7	9,336.7	103.7	9,337.1	0.85	0.42	0.74
20,239.0	90.00	2.80	10,683.7	9,432.6	108.6	9,432.9	1.27	-1.25	-0.21
20,334.0	90.00	3.10	10,683.7	9,527.5	113.4	9,527.8	0.32	0.00	0.32
20,429.0	89.60	3.30	10,684.0	9,622.3	118.7	9,622.7	0.47	-0.42	0.21
20,524.0	90.00	4.40	10,684.3	9,717.1	125.1	9,717.5	1.23	0.42	1.16