



NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 30 2018

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Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 17, T23S, R30E

FNR 17/20 W2IP FED COM #3H

30.015-44578

Wellbore #1

Design: Wellbore #1

QES Survey Report

20 March, 2018





Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 17, T23S, R30E
Well: FNR 17/20 W2IP FED COM #3H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well FNR 17/20 W2IP FED COM #3H
TVD Reference: Well @ 3245.0usft (Patterson #230)
MD Reference: Well @ 3245.0usft (Patterson #230)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Eddy 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 17, T23S, R30E		
Site Position:		Northing:	474,760.00 usft
From:	Map	Easting:	675,368.70 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 18' 15.995 N
		Longitude:	103° 53' 58.273 W
		Grid Convergence:	0.23 °

Well	FNR 17/20 W2IP FED COM #3H		
Well Position	+N/-S	0.0 usft	Northing: 474,760.00 usft
	+E/-W	0.0 usft	Easting: 675,368.70 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 18' 15.995 N
		Longitude:	103° 53' 58.273 W
		Ground Level:	3,218.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/1/2017	7.06	60.08	47,905.44269489

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	171.42	

Survey Program	Date 3/20/2018				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
105.0	19,105.0	QES 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
First MWD Survey @ 105.0' MD / 105.0' TVD									
105.0	0.50	261.80	105.0	-0.1	-0.5	0.0	0.48	0.48	0.00
176.0	0.50	233.80	176.0	-0.3	-1.0	0.1	0.34	0.00	-39.44
292.0	1.30	228.80	292.0	-1.5	-2.4	1.1	0.69	0.69	-4.31
350.0	1.10	230.00	350.0	-2.2	-3.3	1.7	0.35	-0.34	2.07
480.0	1.70	240.10	479.9	-4.0	-6.0	3.1	0.50	0.46	7.77
600.0	1.40	280.90	599.9	-4.6	-8.9	3.2	0.93	-0.25	34.00
721.0	2.00	321.70	720.8	-2.7	-11.7	0.9	1.08	0.50	33.72
848.0	1.80	326.60	847.8	0.7	-14.2	-2.8	0.20	-0.16	3.86
942.0	1.80	321.30	941.7	3.1	-15.9	-5.4	0.18	0.00	-5.64

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well FNR 17/20 W2IP FED COM #3H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	Well @ 3245.0usft (Patterson #230)
Site:	Sec 17, T23S, R30E	MD Reference:	Well @ 3245.0usft (Patterson #230)
Well:	FNR 17/20 W2IP FED COM #3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
1,037.0	1.80	320.20	1,036.7	5.4	-17.8	-8.0	0.04	0.00	-1.16
1,131.0	1.60	312.30	1,130.6	7.4	-19.7	-10.3	0.33	-0.21	-8.40
1,225.0	1.50	312.90	1,224.6	9.2	-21.6	-12.3	0.11	-0.11	0.64
1,320.0	1.60	303.10	1,319.6	10.7	-23.6	-14.1	0.30	0.11	-10.32
1,414.0	1.40	293.50	1,413.5	11.9	-25.8	-15.6	0.34	-0.21	-10.21
1,509.0	1.50	296.70	1,508.5	12.9	-27.9	-16.9	0.14	0.11	3.37
1,604.0	1.40	284.40	1,603.5	13.8	-30.2	-18.1	0.34	-0.11	-12.95
1,698.0	1.50	271.00	1,697.4	14.1	-32.5	-18.8	0.38	0.11	-14.26
1,792.0	1.50	265.90	1,791.4	14.0	-35.0	-19.1	0.14	0.00	-5.43
1,887.0	1.60	261.50	1,886.4	13.7	-37.5	-19.2	0.16	0.11	-4.63
1,982.0	1.50	249.60	1,981.3	13.1	-40.0	-18.9	0.35	-0.11	-12.53
2,076.0	1.60	238.30	2,075.3	12.0	-42.3	-18.1	0.34	0.11	-12.02
2,171.0	1.50	230.40	2,170.3	10.5	-44.4	-17.0	0.25	-0.11	-8.32
2,265.0	1.20	224.60	2,264.2	9.0	-46.0	-15.8	0.35	-0.32	-6.17
2,359.0	1.30	215.30	2,358.2	7.4	-47.3	-14.4	0.24	0.11	-9.89
2,454.0	1.30	213.90	2,453.2	5.7	-48.5	-12.8	0.03	0.00	-1.47
2,549.0	1.40	204.80	2,548.2	3.7	-49.6	-11.1	0.25	0.11	-9.58
2,644.0	1.30	201.60	2,643.1	1.7	-50.5	-9.2	0.13	-0.11	-3.37
2,738.0	1.80	199.70	2,737.1	-0.7	-51.4	-6.9	0.53	0.53	-2.02
2,833.0	2.10	184.90	2,832.1	-3.9	-52.0	-3.9	0.61	0.32	-15.58
2,927.0	2.70	168.90	2,926.0	-7.8	-51.8	0.0	0.95	0.64	-17.02
3,022.0	1.20	169.40	3,020.9	-10.9	-51.1	3.2	1.58	-1.58	0.53
3,116.0	1.40	163.80	3,114.9	-13.0	-50.6	5.3	0.25	0.21	-5.96
3,211.0	1.80	148.70	3,209.9	-15.4	-49.5	7.8	0.61	0.42	-15.89
3,305.0	2.50	152.20	3,303.8	-18.5	-47.8	11.1	0.76	0.74	3.72
3,400.0	1.80	126.00	3,398.7	-21.2	-45.6	14.1	1.25	-0.74	-27.58
3,494.0	1.60	101.60	3,492.7	-22.3	-43.2	15.6	0.79	-0.21	-25.96
3,505.0	1.50	106.80	3,503.7	-22.4	-42.9	15.7	1.57	-0.91	47.27
3,599.0	1.80	104.40	3,597.6	-23.1	-40.3	16.8	0.33	0.32	-2.55
3,694.0	2.60	94.50	3,692.6	-23.6	-36.7	17.9	0.93	0.84	-10.42
3,788.0	4.40	87.70	3,786.4	-23.7	-30.9	18.8	1.96	1.91	-7.23
3,883.0	6.20	82.10	3,881.0	-22.8	-22.2	19.2	1.97	1.89	-5.89
3,977.0	6.50	82.80	3,974.4	-21.5	-11.9	19.4	0.33	0.32	0.74
4,072.0	6.50	82.20	4,068.8	-20.0	-1.3	19.6	0.07	0.00	-0.63
4,167.0	6.40	83.30	4,163.2	-18.7	9.3	19.9	0.17	-0.11	1.16
4,261.0	6.40	82.80	4,256.6	-17.4	19.7	20.2	0.06	0.00	-0.53
4,355.0	6.20	82.40	4,350.0	-16.1	30.0	20.4	0.22	-0.21	-0.43
4,450.0	5.90	82.60	4,444.5	-14.8	39.9	20.6	0.32	-0.32	0.21
4,544.0	5.60	83.10	4,538.0	-13.6	49.2	20.8	0.32	-0.32	0.53
4,640.0	5.30	83.50	4,633.6	-12.6	58.3	21.1	0.31	-0.31	0.42
Crossed LL @ 4714.8' MD / 4708.1' TVD									
4,714.8	5.22	83.58	4,708.1	-11.8	65.1	21.4	0.11	-0.11	0.10
4,735.0	5.20	83.60	4,728.2	-11.6	66.9	21.4	0.11	-0.11	0.11

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,830.0	5.20	83.80	4,822.8	-10.6	75.5	21.8	0.02	0.00	0.21
4,925.0	5.00	85.90	4,917.4	-9.9	83.9	22.3	0.29	-0.21	2.21
5,020.0	4.70	85.20	5,012.1	-9.3	91.9	22.9	0.32	-0.32	-0.74
5,115.0	4.40	85.90	5,106.8	-8.7	99.4	23.4	0.32	-0.32	0.74
5,210.0	4.10	86.80	5,201.5	-8.2	106.4	24.0	0.32	-0.32	0.95
5,304.0	4.00	88.40	5,295.3	-7.9	113.1	24.7	0.16	-0.11	1.70
5,398.0	4.40	78.90	5,389.1	-7.2	119.9	25.0	0.85	0.43	-10.11
5,493.0	4.50	78.20	5,483.8	-5.7	127.1	24.6	0.12	0.11	-0.74
5,587.0	4.70	75.90	5,577.5	-4.0	134.5	24.0	0.29	0.21	-2.45
5,682.0	4.80	76.10	5,672.1	-2.1	142.1	23.3	0.11	0.11	0.21
5,777.0	4.50	76.10	5,766.8	-0.2	149.6	22.6	0.32	-0.32	0.00
5,872.0	4.70	78.70	5,861.5	1.4	157.0	22.0	0.30	0.21	2.74
5,966.0	4.70	81.00	5,955.2	2.8	164.6	21.8	0.20	0.00	2.45
6,061.0	4.30	81.40	6,049.9	3.9	171.9	21.8	0.42	-0.42	0.42
6,155.0	3.50	82.10	6,143.7	4.8	178.3	21.8	0.85	-0.85	0.74
6,250.0	3.30	82.90	6,238.5	5.6	183.9	21.9	0.22	-0.21	0.84
6,344.0	3.30	82.90	6,332.4	6.2	189.2	22.1	0.00	0.00	0.00
6,439.0	3.10	83.60	6,427.2	6.9	194.5	22.2	0.21	-0.21	0.74
6,533.0	3.00	84.30	6,521.1	7.4	199.5	22.4	0.11	-0.11	0.74
6,628.0	3.70	75.40	6,615.9	8.4	204.9	22.3	0.92	0.74	-9.37
6,722.0	3.80	74.90	6,709.7	10.0	210.8	21.6	0.11	0.11	-0.53
6,817.0	3.80	75.60	6,804.5	11.6	216.9	20.9	0.05	0.00	0.74
6,912.0	3.70	77.00	6,899.3	13.1	223.0	20.3	0.14	-0.11	1.47
7,006.0	3.40	77.50	6,993.1	14.3	228.6	19.9	0.32	-0.32	0.53
7,100.0	3.30	77.10	7,087.0	15.6	234.0	19.5	0.11	-0.11	-0.43
7,195.0	2.90	79.30	7,181.8	16.6	239.0	19.2	0.44	-0.42	2.32
7,290.0	3.40	77.80	7,276.7	17.7	244.1	19.0	0.53	0.53	-1.58
7,385.0	3.50	76.80	7,371.5	18.9	249.7	18.6	0.12	0.11	-1.05
7,480.0	3.30	76.10	7,466.3	20.2	255.2	18.1	0.22	-0.21	-0.74
7,575.0	2.60	71.00	7,561.2	21.6	259.9	17.4	0.79	-0.74	-5.37
7,670.0	2.40	61.10	7,656.1	23.3	263.7	16.3	0.50	-0.21	-10.42
7,764.0	3.10	79.10	7,750.0	24.7	267.9	15.6	1.17	0.74	19.15
7,859.0	2.30	54.50	7,844.9	26.3	272.0	14.6	1.46	-0.84	-25.89
7,953.0	4.00	56.90	7,938.8	29.2	276.2	12.4	1.81	1.81	2.55
8,048.0	3.70	59.70	8,033.6	32.5	281.7	9.9	0.37	-0.32	2.95
8,143.0	2.70	61.30	8,128.4	35.1	286.3	8.0	1.06	-1.05	1.68
8,238.0	3.10	77.70	8,223.3	36.8	290.8	7.0	0.97	0.42	17.26
8,333.0	2.60	79.40	8,318.2	37.7	295.4	6.8	0.53	-0.53	1.79
8,428.0	3.30	83.50	8,413.0	38.4	300.2	6.8	0.77	0.74	4.32
8,523.0	5.30	88.20	8,507.8	38.9	307.3	7.4	2.14	2.11	4.95
8,618.0	4.60	90.00	8,602.4	39.0	315.5	8.5	0.75	-0.74	1.89
8,712.0	3.80	92.40	8,696.2	38.9	322.4	9.7	0.87	-0.85	2.55
8,807.0	3.90	99.60	8,791.0	38.2	328.7	11.3	0.52	0.11	7.58

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8,897.0	3.00	104.40	8,880.8	37.1	334.0	13.2	1.05	-1.00	5.33
8,992.0	3.90	92.80	8,975.6	36.3	339.7	14.8	1.19	0.95	-12.21
9,087.0	3.70	90.00	9,070.4	36.2	346.0	15.9	0.29	-0.21	-2.95
9,181.0	1.10	99.60	9,164.3	36.0	349.9	16.6	2.79	-2.77	10.21
9,276.0	2.10	98.10	9,259.3	35.6	352.5	17.4	1.05	1.05	-1.58
9,371.0	3.00	92.60	9,354.2	35.3	356.7	18.4	0.98	0.95	-5.79
9,466.0	2.60	76.80	9,449.1	35.6	361.3	18.7	0.91	-0.42	-16.63
9,561.0	3.70	78.50	9,543.9	36.7	366.4	18.3	1.16	1.16	1.79
9,655.0	4.60	85.60	9,637.7	37.6	373.1	18.5	1.10	0.96	7.55
9,750.0	5.70	96.30	9,732.3	37.4	381.6	19.9	1.53	1.16	11.26
9,844.0	4.00	94.50	9,826.0	36.6	389.5	21.9	1.82	-1.81	-1.91
9,939.0	3.60	95.80	9,920.7	36.1	395.8	23.4	0.43	-0.42	1.37
10,033.0	3.40	108.10	10,014.6	34.9	401.4	25.4	0.82	-0.21	13.09
10,128.0	3.60	113.90	10,109.4	32.8	406.8	28.2	0.43	0.21	6.11
10,223.0	3.40	113.20	10,204.2	30.5	412.1	31.3	0.22	-0.21	-0.74
10,317.0	3.70	112.50	10,298.0	28.3	417.5	34.3	0.32	0.32	-0.74
10,412.0	4.00	102.50	10,392.8	26.4	423.5	37.1	0.77	0.32	-10.53
10,506.0	4.00	103.30	10,486.6	24.9	429.9	39.5	0.06	0.00	0.85
10,601.0	4.30	102.80	10,581.3	23.3	436.6	42.1	0.32	0.32	-0.53
10,695.0	5.70	98.90	10,675.0	21.8	444.7	44.7	1.53	1.49	-4.15
10,789.0	5.70	97.20	10,768.5	20.5	453.9	47.4	0.18	0.00	-1.81
10,884.0	4.40	97.20	10,863.2	19.5	462.2	49.7	1.37	-1.37	0.00
10,979.0	2.60	100.30	10,958.0	18.6	467.9	51.4	1.90	-1.89	3.26
11,073.0	1.60	86.10	11,051.9	18.4	471.3	52.2	1.19	-1.06	-15.11
11,129.0	1.10	94.40	11,107.9	18.4	472.7	52.4	0.96	-0.89	14.82
11,164.0	0.70	104.90	11,142.9	18.3	473.2	52.5	1.23	-1.14	30.00
11,196.0	2.50	122.10	11,174.9	17.9	474.0	53.0	5.76	5.63	53.75
11,228.0	6.30	127.60	11,206.8	16.4	476.0	54.8	11.93	11.88	17.19
11,259.0	11.30	132.30	11,237.4	13.3	479.6	58.4	16.28	16.13	15.16
11,291.0	12.70	141.50	11,268.7	8.5	484.1	63.8	7.39	4.38	28.75
11,322.0	11.50	153.30	11,299.0	3.0	487.6	69.7	8.85	-3.87	38.06
11,354.0	11.50	160.50	11,330.4	-2.8	490.1	75.9	4.48	0.00	22.50
11,385.0	14.90	159.40	11,360.6	-9.5	492.5	82.8	11.00	10.97	-3.55
11,417.0	19.70	157.30	11,391.1	-18.3	496.0	92.1	15.12	15.00	-6.56
11,449.0	25.50	155.40	11,420.6	-29.5	501.0	103.9	18.27	18.13	-5.94
11,480.0	30.20	152.20	11,448.0	-42.5	507.4	117.7	15.90	15.16	-10.32
11,511.0	32.30	149.00	11,474.5	-56.5	515.3	132.8	8.63	6.77	-10.32
11,543.0	35.70	143.80	11,501.1	-71.4	525.2	148.9	13.97	10.63	-16.25
Crossed 330° HL @ 11554.3' MD / 11510.1' TVD									
11,554.3	37.36	143.27	11,510.1	-76.8	529.2	154.9	14.93	14.67	-4.68
11,575.0	40.40	142.40	11,526.3	-87.1	537.1	166.3	14.93	14.70	-4.21
11,606.0	43.40	140.80	11,549.3	-103.4	550.0	184.2	10.27	9.68	-5.16
11,638.0	46.90	141.70	11,571.9	-121.0	564.1	203.9	11.12	10.94	2.81
11,670.0	49.70	144.50	11,593.2	-140.2	578.5	224.9	10.92	8.75	8.75

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well FNR 17/20 W2IP FED COM #3H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	Well @ 3245.0usft (Patterson #230)
Site:	Sec 17, T23S, R30E	MD Reference:	Well @ 3245.0usft (Patterson #230)
Well:	FNR 17/20 W2IP FED COM #3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
11,701.0	52.50	144.50	11,612.6	-159.8	592.5	246.4	9.03	9.03	0.00
11,733.0	55.70	141.80	11,631.4	-180.5	608.0	269.2	12.11	10.00	-8.44
11,764.0	59.40	141.10	11,648.0	-201.0	624.3	291.9	12.09	11.94	-2.26
11,796.0	63.30	142.50	11,663.4	-223.0	641.7	316.3	12.78	12.19	4.38
11,827.0	67.40	143.40	11,676.3	-245.5	658.7	341.0	13.49	13.23	2.90
11,917.0	74.20	143.90	11,705.9	-313.9	709.0	416.2	7.57	7.56	0.56
11,949.0	75.50	145.20	11,714.3	-339.1	726.9	443.8	5.65	4.06	4.06
11,980.0	75.90	145.50	11,721.9	-363.8	744.0	470.7	1.60	1.29	0.97
12,012.0	77.20	146.80	11,729.4	-389.7	761.3	498.9	5.67	4.06	4.06
12,044.0	79.10	146.40	11,735.9	-415.8	778.6	527.3	6.06	5.94	-1.25
12,075.0	80.90	147.40	11,741.3	-441.4	795.2	555.1	6.62	5.81	3.23
12,106.0	83.80	147.30	11,745.4	-467.3	811.8	583.1	9.36	9.35	-0.32
12,138.0	84.40	147.10	11,748.7	-494.0	829.1	612.2	1.98	1.88	-0.63
12,169.0	86.70	147.80	11,751.1	-520.1	845.7	640.4	7.75	7.42	2.26
12,201.0	87.60	148.20	11,752.7	-547.2	862.6	669.7	3.08	2.81	1.25
12,232.0	89.30	147.60	11,753.6	-573.4	879.1	698.1	5.82	5.48	-1.94
12,264.0	90.10	148.50	11,753.7	-600.6	896.0	727.5	3.76	2.50	2.81
12,295.0	89.50	149.00	11,753.8	-627.1	912.1	756.1	2.52	-1.94	1.61
12,334.0	91.10	150.30	11,753.6	-660.7	931.8	792.3	5.29	4.10	3.33
12,397.0	93.30	154.30	11,751.2	-716.4	961.1	851.8	7.24	3.49	6.35
12,491.0	91.50	157.50	11,747.3	-802.2	999.4	942.3	3.90	-1.91	3.40
12,586.0	88.00	159.20	11,747.7	-890.4	1,034.5	1,034.8	4.10	-3.68	1.79
12,681.0	94.00	164.70	11,746.0	-980.7	1,063.9	1,128.4	8.57	6.32	5.79
12,776.0	87.70	168.90	11,744.6	-1,073.1	1,085.5	1,223.0	7.97	-6.63	4.42
12,871.0	91.80	174.90	11,745.0	-1,167.1	1,098.9	1,318.0	7.65	4.32	6.32
12,965.0	88.70	175.60	11,744.6	-1,260.7	1,106.7	1,411.7	3.38	-3.30	0.74
13,059.0	90.60	180.50	11,745.2	-1,354.6	1,109.9	1,505.1	5.59	2.02	5.21
13,154.0	88.00	178.20	11,746.4	-1,449.6	1,111.0	1,599.1	3.65	-2.74	-2.42
13,249.0	86.80	176.80	11,750.7	-1,544.4	1,115.1	1,693.5	1.94	-1.26	-1.47
13,343.0	92.90	181.70	11,750.9	-1,638.3	1,116.3	1,786.6	8.32	6.49	5.21
13,438.0	88.60	179.40	11,749.7	-1,733.3	1,115.4	1,880.3	5.13	-4.53	-2.42
13,533.0	89.70	179.40	11,751.1	-1,828.3	1,116.4	1,974.4	1.16	1.16	0.00
13,627.0	88.60	180.00	11,752.5	-1,922.3	1,116.9	2,067.4	1.33	-1.17	0.64
13,722.0	87.70	180.50	11,755.5	-2,017.2	1,116.5	2,161.2	1.08	-0.95	0.53
13,817.0	90.80	181.90	11,756.8	-2,112.2	1,114.5	2,254.8	3.58	3.26	1.47
13,911.0	89.80	182.80	11,756.3	-2,206.1	1,110.7	2,347.1	1.43	-1.06	0.96
14,006.0	90.00	184.00	11,756.5	-2,300.9	1,105.0	2,440.0	1.28	0.21	1.26
14,100.0	92.80	184.70	11,754.2	-2,394.6	1,097.9	2,531.6	3.07	2.98	0.74
14,194.0	91.60	183.50	11,750.6	-2,488.3	1,091.2	2,623.3	1.80	-1.28	-1.28
14,289.0	88.90	182.10	11,750.1	-2,583.2	1,086.5	2,716.4	3.20	-2.84	-1.47
14,384.0	89.90	182.80	11,751.1	-2,678.1	1,082.5	2,809.6	1.28	1.05	0.74
14,478.0	91.30	180.90	11,750.1	-2,772.0	1,079.4	2,902.0	2.51	1.49	-2.02
14,573.0	93.40	178.70	11,746.3	-2,866.9	1,079.8	2,995.9	3.20	2.21	-2.32

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well FNR 17/20 W2IP FED COM #3H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	Well @ 3245.0usft (Patterson #230)
Site:	Sec 17, T23S, R30E	MD Reference:	Well @ 3245.0usft (Patterson #230)
Well:	FNR 17/20 W2IP FED COM #3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
14,667.0	92.10	180.90	11,741.7	-2,960.8	1,080.1	3,088.8	2.72	-1.38	2.34
14,762.0	92.90	183.30	11,737.6	-3,055.7	1,076.6	3,182.1	2.66	0.84	2.53
14,856.0	91.00	185.60	11,734.4	-3,149.3	1,069.3	3,273.6	3.17	-2.02	2.45
14,951.0	85.60	185.80	11,737.2	-3,243.8	1,059.9	3,365.6	5.69	-5.68	0.21
15,045.0	90.20	182.10	11,740.7	-3,337.4	1,053.4	3,457.2	6.28	4.89	-3.94
15,139.0	86.00	181.00	11,743.8	-3,431.3	1,050.9	3,549.7	4.62	-4.47	-1.17
15,234.0	92.90	180.10	11,744.7	-3,526.3	1,050.0	3,643.4	7.32	7.26	-0.95
15,329.0	90.00	177.30	11,742.3	-3,621.2	1,052.1	3,737.6	4.24	-3.05	-2.95
15,424.0	93.30	175.20	11,739.6	-3,715.9	1,058.4	3,832.2	4.12	3.47	-2.21
15,518.0	92.10	173.10	11,735.1	-3,809.3	1,067.9	3,926.0	2.57	-1.28	-2.23
15,612.0	90.80	171.70	11,732.7	-3,902.5	1,080.3	4,020.0	2.03	-1.38	-1.49
15,694.0	94.00	169.10	11,729.3	-3,983.2	1,094.0	4,101.9	5.03	3.90	-3.17
15,788.0	95.80	171.90	11,721.3	-4,075.6	1,109.5	4,195.5	3.53	1.91	2.98
15,883.0	97.00	179.30	11,710.7	-4,169.6	1,116.7	4,289.6	7.84	1.26	7.79
15,977.0	95.20	184.40	11,700.7	-4,263.0	1,113.7	4,381.5	5.72	-1.91	5.43
16,071.0	93.70	185.90	11,693.4	-4,356.4	1,105.3	4,472.5	2.25	-1.60	1.60
16,166.0	90.20	188.20	11,690.2	-4,450.6	1,093.6	4,563.9	4.41	-3.68	2.42
16,260.0	89.60	188.60	11,690.3	-4,543.6	1,079.9	4,653.8	0.77	-0.64	0.43
16,355.0	87.20	187.40	11,693.0	-4,637.6	1,066.7	4,744.8	2.82	-2.53	-1.26
16,449.0	86.00	185.80	11,698.5	-4,730.8	1,055.9	4,835.4	2.13	-1.28	-1.70
16,544.0	92.30	187.20	11,700.0	-4,825.1	1,045.1	4,927.0	6.79	6.63	1.47
16,639.0	91.30	186.30	11,697.0	-4,919.4	1,034.0	5,018.6	1.42	-1.05	-0.95
16,733.0	87.10	185.40	11,698.3	-5,012.9	1,024.4	5,109.6	4.57	-4.47	-0.96
16,827.0	87.30	185.30	11,702.9	-5,106.4	1,015.6	5,200.8	0.24	0.21	-0.11
16,925.0	88.40	185.30	11,706.6	-5,203.9	1,006.6	5,295.8	1.12	1.12	0.00
17,019.0	89.30	183.50	11,708.4	-5,297.6	999.4	5,387.4	2.14	0.96	-1.91
17,114.0	90.50	182.80	11,708.6	-5,392.4	994.2	5,480.4	1.46	1.26	-0.74
17,208.0	88.70	180.30	11,709.3	-5,486.4	991.6	5,572.9	3.28	-1.91	-2.66
17,303.0	87.60	179.30	11,712.3	-5,581.3	992.0	5,666.9	1.56	-1.16	-1.05
17,398.0	88.60	179.10	11,715.5	-5,676.3	993.3	5,760.9	1.07	1.05	-0.21
17,492.0	90.30	178.90	11,716.4	-5,770.3	994.9	5,854.1	1.82	1.81	-0.21
17,587.0	90.90	180.50	11,715.4	-5,865.2	995.4	5,948.1	1.80	0.63	1.68
17,682.0	89.60	178.90	11,715.0	-5,960.2	995.9	6,042.1	2.17	-1.37	-1.68
17,776.0	88.20	178.60	11,716.8	-6,054.2	998.0	6,135.3	1.52	-1.49	-0.32
17,871.0	89.90	183.00	11,718.3	-6,149.1	996.6	6,229.0	4.96	1.79	4.63
17,967.0	87.80	181.90	11,720.3	-6,245.0	992.5	6,323.2	2.47	-2.19	-1.15
18,063.0	90.20	182.30	11,722.0	-6,340.9	989.0	6,417.5	2.53	2.50	0.42
18,158.0	87.80	182.80	11,723.6	-6,435.8	984.8	6,510.7	2.58	-2.53	0.53
18,254.0	92.90	184.40	11,723.0	-6,531.6	978.8	6,604.5	5.57	5.31	1.67
18,350.0	89.10	180.70	11,721.3	-6,627.5	974.5	6,698.7	5.52	-3.96	-3.85
18,446.0	90.40	180.90	11,721.8	-6,723.4	973.2	6,793.4	1.37	1.35	0.21
18,541.0	87.80	178.90	11,723.3	-6,818.4	973.3	6,887.3	3.45	-2.74	-2.11
18,635.0	88.90	178.40	11,726.0	-6,912.4	975.5	6,980.5	1.29	1.17	-0.53
18,730.0	87.20	176.60	11,729.2	-7,007.2	979.7	7,074.9	2.61	-1.79	-1.89



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well FNR 17/20 W2IP FED COM #3H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	Well @ 3245.0usft (Patterson #230)
Site:	Sec 17, T23S, R30E	MD Reference:	Well @ 3245.0usft (Patterson #230)
Well:	FNR 17/20 W2IP FED COM #3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
18,824.0	89.30	180.90	11,732.1	-7,101.1	981.7	7,168.1	5.09	2.23	4.57
18,918.0	90.10	180.00	11,732.6	-7,195.1	981.0	7,260.9	1.28	0.85	-0.96
19,013.0	87.90	176.50	11,734.2	-7,290.0	983.9	7,355.2	4.35	-2.32	-3.68
19,045.0	87.60	176.10	11,735.5	-7,321.9	986.0	7,387.1	1.56	-0.94	-1.25
Crossed 330' HL @ 19102.0' MD / 11737.9' TVD									
19,102.0	87.60	176.10	11,737.9	-7,378.8	989.8	7,443.8	0.00	0.00	0.00
TD @ 19105.0' MD / 11738.0' TVD									
19,105.0	87.60	176.10	11,738.0	-7,381.7	990.0	7,446.8	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
105.0	105.0	-0.1	-0.5	First MWD Survey @ 105.0' MD / 105.0' TVD
4,714.8	4,708.1	-11.8	65.1	Crossed LL @ 4714.8' MD / 4708.1' TVD
11,554.3	11,510.1	-76.8	529.2	Crossed 330' HL @ 11554.3' MD / 11510.1' TVD
19,102.0	11,737.9	-7,378.8	989.8	Crossed 330' HL @ 19102.0' MD / 11737.9' TVD
19,105.0	11,738.0	-7,381.7	990.0	TD @ 19105.0' MD / 11738.0' TVD

Checked By: _____ Approved By: _____ Date: _____