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Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 22, T23S, R30E

Forty Niner Ridge Unit #106H

30.015-44204

Wellbore #1

Design: Wellbore #1

QES Survey Report

14 December, 2017





Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 22, T23S, R30E
Well: Forty Niner Ridge Unit #106H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Forty Niner Ridge Unit #106H
TVD Reference: WELL @ 3287.0usft (Patterson #230)
MD Reference: WELL @ 3287.0usft (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 22, T23S, R30E		
Site Position:		Northing:	467,607.04 usft
From:	Map	Easting:	687,029.16 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 17' 4.725 N
		Longitude:	103° 51' 42.776 W
		Grid Convergence:	0.25 °

Well	Forty Niner Ridge Unit #106H		
Well Position	+N/-S	0.0 usft	Northing: 467,607.04 usft
	+E/-W	0.0 usft	Easting: 687,029.16 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 17' 4.725 N
		Longitude:	103° 51' 42.776 W
		Ground Level:	3,260.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	9/28/2017	(°)
			7.06
			Dip Angle (°)
			60.07
			Field Strength (nT)
			47,915.43620683

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:		Tie On Depth:	0.0
	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			356.02

Survey Program	Date 11/30/2017		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
127.0	435.0	Mewbourne Surveys (Wellbore #1)	MWD default
482.0	19,580.0	QES MWD (Wellbore #1)	MWD default
			Description
			MWD - Standard
			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
127.0	0.50	0.49	127.0	0.6	0.0	0.6	0.39	0.39	0.00
189.0	0.70	324.00	189.0	1.1	-0.2	1.1	0.68	0.32	-58.85
249.0	0.80	313.00	249.0	1.7	-0.7	1.8	0.29	0.17	-18.33
309.0	1.10	308.00	309.0	2.4	-1.5	2.5	0.52	0.50	-8.33
370.0	0.80	311.00	370.0	3.0	-2.3	3.1	0.50	-0.49	4.92
Tie-In @ 435.0' MD / 435.0' TVD									
435.0	0.40	302.00	435.0	3.4	-2.8	3.6	0.63	-0.62	-13.85
482.0	0.40	282.80	482.0	3.5	-3.1	3.7	0.28	0.00	-40.85
571.0	0.40	279.10	571.0	3.7	-3.7	3.9	0.03	0.00	-4.16



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695.0	0.40	264.90	695.0	3.7	-4.6	4.0	0.08	0.00	-11.45
755.0	0.20	293.20	755.0	3.7	-4.9	4.0	0.41	-0.33	47.17
853.0	0.20	189.80	853.0	3.6	-5.1	3.9	0.32	0.00	-105.51
947.0	0.10	180.50	947.0	3.4	-5.1	3.7	0.11	-0.11	-9.89
1,043.0	0.10	27.00	1,043.0	3.4	-5.1	3.7	0.20	0.00	-159.90
1,138.0	0.10	321.50	1,138.0	3.5	-5.1	3.8	0.11	0.00	-68.95
1,233.0	0.30	354.30	1,233.0	3.8	-5.2	4.2	0.23	0.21	34.53
1,328.0	0.10	347.10	1,328.0	4.1	-5.2	4.5	0.21	-0.21	-7.58
1,423.0	360.00	286.80	1,423.0	4.2	-5.2	4.6	0.11	378.84	-63.47
1,518.0	0.20	49.30	1,518.0	4.3	-5.1	4.7	0.21	-378.74	128.95
1,613.0	0.40	55.00	1,613.0	4.6	-4.7	4.9	0.21	0.21	6.00
1,708.0	0.40	60.60	1,708.0	5.0	-4.1	5.2	0.04	0.00	5.89
1,803.0	0.40	51.10	1,803.0	5.3	-3.6	5.6	0.07	0.00	-10.00
1,899.0	0.50	54.10	1,899.0	5.8	-3.0	6.0	0.11	0.10	3.13
1,995.0	0.50	38.30	1,994.9	6.4	-2.4	6.5	0.14	0.00	-16.46
2,089.0	0.40	41.40	2,088.9	6.9	-1.9	7.1	0.11	-0.11	3.30
2,184.0	0.40	14.50	2,183.9	7.5	-1.6	7.6	0.20	0.00	-28.32
2,278.0	0.50	342.20	2,277.9	8.2	-1.7	8.3	0.29	0.11	-34.36
2,373.0	0.50	359.10	2,372.9	9.0	-1.8	9.1	0.15	0.00	17.79
2,468.0	0.80	355.90	2,467.9	10.1	-1.8	10.2	0.32	0.32	-3.37
2,563.0	0.80	338.00	2,562.9	11.4	-2.1	11.5	0.26	0.00	-18.84
2,657.0	0.70	346.80	2,656.9	12.5	-2.5	12.7	0.16	-0.11	9.36
2,751.0	0.80	349.40	2,750.9	13.8	-2.8	13.9	0.11	0.11	2.77
2,846.0	0.80	357.00	2,845.9	15.1	-2.9	15.2	0.11	0.00	8.00
2,940.0	1.00	2.20	2,939.9	16.5	-2.9	16.7	0.23	0.21	5.53
3,035.0	0.60	43.90	3,034.9	17.7	-2.6	17.9	0.72	-0.42	43.89
3,129.0	0.80	58.30	3,128.9	18.4	-1.7	18.5	0.28	0.21	15.32
3,223.0	1.60	79.10	3,222.8	19.0	0.2	19.0	0.96	0.85	22.13
3,318.0	1.80	76.80	3,317.8	19.6	2.9	19.4	0.22	0.21	-2.42
3,412.0	2.70	77.60	3,411.7	20.4	6.5	19.9	0.96	0.96	0.85
3,507.0	1.90	114.40	3,506.7	20.3	10.2	19.5	1.72	-0.84	38.74
3,601.0	1.80	130.40	3,600.6	18.7	12.7	17.7	0.56	-0.11	17.02
3,682.0	1.80	133.90	3,681.6	16.9	14.6	15.9	0.14	0.00	4.32
3,803.0	1.60	127.70	3,802.5	14.6	17.3	13.4	0.22	-0.17	-5.12
3,898.0	1.50	131.60	3,897.5	13.0	19.3	11.6	0.15	-0.11	4.11
3,992.0	1.50	130.70	3,991.5	11.3	21.1	9.8	0.03	0.00	-0.96
4,086.0	1.50	129.70	4,085.4	9.8	23.0	8.1	0.03	0.00	-1.06
4,181.0	1.20	127.00	4,180.4	8.4	24.8	6.6	0.32	-0.32	-2.84
4,275.0	1.10	129.50	4,274.4	7.2	26.2	5.4	0.12	-0.11	2.66
4,370.0	1.20	127.70	4,369.4	6.0	27.7	4.1	0.11	0.11	-1.89
4,464.0	1.20	131.10	4,463.3	4.8	29.3	2.7	0.08	0.00	3.62
4,559.0	1.20	131.80	4,558.3	3.4	30.8	1.3	0.02	0.00	0.74
4,653.0	1.10	132.00	4,652.3	2.2	32.2	-0.1	0.11	-0.11	0.21

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4,748.0	0.90	139.00	4,747.3	1.0	33.3	-1.3	0.25	-0.21	7.37
4,842.0	0.80	138.80	4,841.3	0.0	34.2	-2.4	0.11	-0.11	-0.21
4,936.0	0.80	146.20	4,935.3	-1.1	35.0	-3.5	0.11	0.00	7.87
5,031.0	0.80	148.30	5,030.3	-2.2	35.8	-4.7	0.03	0.00	2.21
5,126.0	0.90	150.20	5,125.2	-3.4	36.5	-5.9	0.11	0.11	2.00
5,220.0	0.80	144.80	5,219.2	-4.6	37.2	-7.2	0.14	-0.11	-5.74
5,315.0	0.70	159.40	5,314.2	-5.7	37.8	-8.3	0.23	-0.11	15.37
5,409.0	0.60	151.10	5,408.2	-6.6	38.2	-9.3	0.15	-0.11	-8.83
5,504.0	0.70	154.60	5,503.2	-7.6	38.7	-10.3	0.11	0.11	3.68
5,598.0	0.80	157.60	5,597.2	-8.7	39.2	-11.4	0.11	0.11	3.19
5,693.0	0.90	160.40	5,692.2	-10.0	39.7	-12.8	0.11	0.11	2.95
5,787.0	0.90	160.80	5,786.2	-11.4	40.2	-14.2	0.01	0.00	0.43
5,881.0	1.00	163.10	5,880.2	-12.9	40.7	-15.7	0.11	0.11	2.45
5,975.0	1.00	164.80	5,974.2	-14.5	41.2	-17.3	0.03	0.00	1.81
6,070.0	0.80	170.60	6,069.1	-15.9	41.5	-18.8	0.23	-0.21	6.11
6,164.0	0.80	172.40	6,163.1	-17.2	41.7	-20.1	0.03	0.00	1.91
6,259.0	0.90	184.50	6,258.1	-18.6	41.7	-21.5	0.22	0.11	12.74
6,354.0	0.80	194.00	6,353.1	-20.0	41.5	-22.9	0.18	-0.11	10.00
6,448.0	0.90	205.10	6,447.1	-21.3	41.0	-24.1	0.20	0.11	11.81
6,542.0	0.90	203.70	6,541.1	-22.7	40.4	-25.4	0.02	0.00	-1.49
6,636.0	0.90	206.70	6,635.1	-24.0	39.8	-26.7	0.05	0.00	3.19
6,731.0	0.90	205.10	6,730.1	-25.4	39.1	-28.0	0.03	0.00	-1.68
6,825.0	0.90	201.90	6,824.1	-26.7	38.5	-29.3	0.05	0.00	-3.40
6,920.0	1.00	200.50	6,919.0	-28.2	38.0	-30.8	0.11	0.11	-1.47
7,014.0	1.10	194.70	7,013.0	-29.8	37.5	-32.4	0.16	0.11	-6.17
7,108.0	1.10	190.50	7,107.0	-31.6	37.1	-34.1	0.09	0.00	-4.47
7,203.0	1.10	189.60	7,202.0	-33.4	36.7	-35.9	0.02	0.00	-0.95
7,297.0	1.20	188.40	7,296.0	-35.2	36.4	-37.7	0.11	0.11	-1.28
7,392.0	1.30	190.50	7,390.9	-37.3	36.1	-39.7	0.12	0.11	2.21
7,486.0	1.50	186.10	7,484.9	-39.6	35.8	-41.9	0.24	0.21	-4.68
7,581.0	0.50	173.60	7,579.9	-41.2	35.7	-43.6	1.07	-1.05	-13.16
7,676.0	0.60	188.20	7,674.9	-42.1	35.7	-44.5	0.18	0.11	15.37
7,770.0	0.80	171.20	7,768.9	-43.2	35.7	-45.6	0.30	0.21	-18.09
7,865.0	1.30	181.20	7,863.9	-45.0	35.8	-47.4	0.56	0.53	10.53
7,960.0	1.60	165.50	7,958.8	-47.3	36.1	-49.7	0.52	0.32	-16.53
8,055.0	1.30	182.90	8,053.8	-49.7	36.4	-52.1	0.56	-0.32	18.32
8,149.0	1.60	199.50	8,147.8	-52.0	35.9	-54.4	0.55	0.32	17.66
8,244.0	1.50	221.30	8,242.8	-54.2	34.6	-56.5	0.63	-0.11	22.95
8,338.0	1.30	245.30	8,336.7	-55.6	32.8	-57.7	0.65	-0.21	25.53
8,433.0	1.30	242.50	8,431.7	-56.5	30.9	-58.5	0.07	0.00	-2.95
8,527.0	1.00	250.10	8,525.7	-57.3	29.2	-59.2	0.36	-0.32	8.09
8,622.0	1.10	222.70	8,620.7	-58.2	27.8	-60.0	0.53	0.11	-28.84
8,716.0	1.20	208.80	8,714.6	-59.8	26.7	-61.5	0.31	0.11	-14.79



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8,810.0	1.40	198.20	8,808.6	-61.7	25.9	-63.4	0.33	0.21	-11.28
8,905.0	1.90	195.10	8,903.6	-64.3	25.1	-65.9	0.53	0.53	-3.26
8,999.0	1.40	179.30	8,997.5	-67.0	24.7	-68.5	0.71	-0.53	-16.81
9,037.0	1.30	178.70	9,035.5	-67.9	24.7	-69.4	0.27	-0.26	-1.58
9,073.0	1.50	178.00	9,071.5	-68.8	24.7	-70.3	0.56	0.56	-1.94
9,104.0	0.30	173.60	9,102.5	-69.2	24.8	-70.8	3.87	-3.87	-14.19
9,136.0	2.60	357.50	9,134.5	-68.6	24.7	-70.2	9.06	7.19	-550.31
9,167.0	6.30	351.20	9,165.4	-66.2	24.4	-67.8	12.02	11.94	-20.32
9,199.0	10.30	346.40	9,197.1	-61.7	23.5	-63.2	12.68	12.50	-15.00
9,230.0	13.90	340.80	9,227.4	-55.5	21.6	-56.9	12.20	11.61	-18.06
9,262.0	18.90	335.50	9,258.1	-47.1	18.2	-48.3	16.29	15.63	-16.56
9,293.0	23.50	331.80	9,287.0	-37.1	13.2	-37.9	15.45	14.84	-11.94
9,325.0	27.30	328.70	9,315.9	-25.2	6.4	-25.6	12.58	11.88	-9.69
9,356.0	31.90	325.50	9,342.8	-12.4	-2.0	-12.2	15.69	14.84	-10.32
9,388.0	34.50	322.30	9,369.6	1.8	-12.3	2.6	9.80	8.13	-10.00
9,419.0	36.80	322.20	9,394.8	16.0	-23.4	17.6	7.42	7.42	-0.32
9,450.0	39.70	322.00	9,419.1	31.2	-35.1	33.5	9.36	9.35	-0.65
9,482.0	43.80	320.80	9,443.0	47.8	-48.4	51.1	13.05	12.81	-3.75
9,514.0	48.10	320.10	9,465.2	65.6	-63.1	69.8	13.53	13.44	-2.19
9,545.0	53.40	320.10	9,484.8	84.0	-78.5	89.2	17.10	17.10	0.00
9,576.0	57.80	321.10	9,502.4	103.7	-94.7	110.0	14.44	14.19	3.23
9,608.0	61.80	322.20	9,518.4	125.4	-111.9	132.9	12.85	12.50	3.44
9,639.0	67.20	323.20	9,531.8	147.7	-128.8	156.2	17.66	17.42	3.23
9,671.0	72.50	323.20	9,542.8	171.7	-146.8	181.5	16.56	16.56	0.00
9,702.0	76.20	323.90	9,551.2	195.7	-164.5	206.7	12.13	11.94	2.26
9,734.0	77.80	322.90	9,558.4	220.7	-183.1	232.9	5.85	5.00	-3.13
9,765.0	80.00	322.20	9,564.3	244.9	-201.6	258.3	7.43	7.10	-2.26
9,795.0	83.40	322.20	9,568.7	268.4	-219.8	283.0	11.33	11.33	0.00
9,827.0	89.20	323.20	9,577.2	373.1	-299.6	393.0	4.46	4.39	0.76
10,021.0	90.40	326.60	9,577.5	450.0	-353.6	473.4	3.84	1.28	3.62
10,116.0	91.50	330.10	9,575.9	530.8	-403.5	557.6	3.86	1.16	3.68
10,210.0	90.80	334.10	9,574.0	613.9	-447.4	643.4	4.32	-0.74	4.26
10,305.0	90.40	337.10	9,573.0	700.4	-486.7	732.5	3.19	-0.42	3.16
10,399.0	90.50	340.30	9,572.3	787.9	-520.8	822.2	3.41	0.11	3.40
10,494.0	90.00	342.90	9,571.9	878.1	-550.8	914.2	2.79	-0.53	2.74
10,588.0	89.80	346.10	9,572.1	968.6	-575.9	1,006.3	3.41	-0.21	3.40
10,683.0	90.00	349.90	9,572.2	1,061.5	-595.7	1,100.3	4.01	0.21	4.00
10,777.0	90.80	352.60	9,571.6	1,154.4	-610.0	1,194.0	3.00	0.85	2.87
10,872.0	91.40	354.70	9,569.7	1,248.8	-620.5	1,288.9	2.30	0.63	2.21
10,966.0	89.20	355.70	9,569.3	1,342.5	-628.3	1,382.9	2.57	-2.34	1.06
11,061.0	89.30	357.00	9,570.5	1,437.3	-634.4	1,477.9	1.37	0.11	1.37
11,155.0	89.20	356.80	9,571.7	1,531.1	-639.5	1,571.8	0.24	-0.11	-0.21
11,250.0	89.30	357.30	9,573.0	1,626.0	-644.3	1,666.8	0.54	0.11	0.53
11,344.0	89.90	357.80	9,573.6	1,719.9	-648.4	1,760.8	0.83	0.64	0.53



Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 22, T23S, R30E
Well: Forty Niner Ridge Unit #106H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Forty Niner Ridge Unit #106H
TVD Reference: WELL @ 3287.0usft (Patterson #230)
MD Reference: WELL @ 3287.0usft (Patterson #230)
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)
11,439.0	90.30	358.00	9,573.5	1,814.9	-651.8	1,855.7	0.47	0.42	0.21
11,533.0	90.10	358.40	9,573.1	1,908.8	-654.8	1,949.7	0.48	-0.21	0.43
11,628.0	90.00	358.70	9,573.1	2,003.8	-657.2	2,044.6	0.33	-0.11	0.32
11,722.0	90.50	359.40	9,572.6	2,097.8	-658.8	2,138.4	0.92	0.53	0.74
11,816.0	90.70	0.10	9,571.7	2,191.8	-659.2	2,232.2	0.77	0.21	0.74
11,910.0	91.20	0.80	9,570.1	2,285.7	-658.4	2,325.9	0.92	0.53	0.74
12,005.0	89.30	359.30	9,569.7	2,380.7	-658.3	2,420.7	2.55	-2.00	-1.58
12,100.0	89.40	0.50	9,570.8	2,475.7	-658.5	2,515.5	1.27	0.11	1.26
12,194.0	89.50	0.50	9,571.7	2,569.7	-657.7	2,609.2	0.11	0.11	0.00
12,289.0	90.20	1.20	9,571.9	2,664.7	-656.3	2,703.8	1.04	0.74	0.74
12,384.0	91.20	2.10	9,570.8	2,759.7	-653.5	2,798.4	1.42	1.05	0.95
12,479.0	90.40	0.80	9,569.4	2,854.6	-651.1	2,892.9	1.61	-0.84	-1.37
12,573.0	89.90	1.20	9,569.2	2,948.6	-649.5	2,986.6	0.68	-0.53	0.43
12,667.0	89.80	0.80	9,569.4	3,042.6	-647.9	3,080.2	0.44	-0.11	-0.43
12,762.0	89.90	0.00	9,569.7	3,137.6	-647.2	3,174.9	0.85	0.11	-0.84
12,857.0	90.40	359.80	9,569.4	3,232.6	-647.4	3,269.7	0.57	0.53	-0.21
12,952.0	90.90	359.60	9,568.3	3,327.6	-647.9	3,364.5	0.57	0.53	-0.21
13,047.0	91.10	0.00	9,566.7	3,422.6	-648.2	3,459.3	0.47	0.21	0.42
13,141.0	90.70	359.80	9,565.2	3,516.5	-648.4	3,553.1	0.48	-0.43	-0.21
13,236.0	90.20	359.60	9,564.5	3,611.5	-648.9	3,647.9	0.57	-0.53	-0.21
13,331.0	90.40	0.00	9,564.0	3,706.5	-649.2	3,742.7	0.47	0.21	0.42
13,425.0	90.70	0.70	9,563.1	3,800.5	-648.6	3,836.4	0.81	0.32	0.74
13,520.0	91.40	1.20	9,561.3	3,895.5	-647.0	3,931.0	0.91	0.74	0.53
13,615.0	89.20	358.50	9,560.8	3,990.5	-647.3	4,025.8	3.67	-2.32	-2.84
13,709.0	89.40	358.90	9,562.0	4,084.5	-649.4	4,119.7	0.48	0.21	0.43
13,804.0	90.70	358.70	9,561.9	4,179.4	-651.4	4,214.6	1.38	1.37	-0.21
13,899.0	90.00	358.40	9,561.3	4,274.4	-653.8	4,309.5	0.80	-0.74	-0.32
13,993.0	90.60	358.40	9,560.8	4,368.4	-656.4	4,403.4	0.64	0.64	0.00
14,088.0	89.30	358.20	9,560.9	4,463.3	-659.3	4,498.3	1.38	-1.37	-0.21
14,183.0	90.70	359.30	9,560.9	4,558.3	-661.3	4,593.2	1.87	1.47	1.16
14,277.0	90.90	0.30	9,559.6	4,652.3	-661.7	4,687.0	1.08	0.21	1.06
14,372.0	91.40	358.50	9,557.7	4,747.3	-662.7	4,781.8	1.97	0.53	-1.89
14,467.0	89.90	358.40	9,556.6	4,842.2	-665.2	4,876.7	1.58	-1.58	-0.11
14,561.0	90.90	359.60	9,556.0	4,936.2	-666.9	4,970.6	1.66	1.06	1.28
14,655.0	89.60	358.90	9,555.5	5,030.2	-668.1	5,064.4	1.57	-1.38	-0.74
14,749.0	87.50	358.70	9,557.9	5,124.1	-670.1	5,158.3	2.24	-2.23	-0.21
14,844.0	87.90	359.10	9,561.7	5,219.0	-671.9	5,253.1	0.60	0.42	0.42
14,938.0	88.50	358.70	9,564.7	5,313.0	-673.7	5,346.9	0.77	0.64	-0.43
15,032.0	89.20	359.30	9,566.6	5,406.9	-675.3	5,440.8	0.98	0.74	0.64
15,127.0	89.50	359.60	9,567.6	5,501.9	-676.2	5,535.6	0.45	0.32	0.32
15,221.0	90.30	0.00	9,567.8	5,595.9	-676.6	5,629.4	0.95	0.85	0.43
15,315.0	91.10	359.80	9,566.7	5,689.9	-676.7	5,723.2	0.88	0.85	-0.21
15,410.0	91.60	0.50	9,564.4	5,784.9	-676.5	5,817.9	0.91	0.53	0.74



Survey Report



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Project: Eddy County, New Mexico (Nad 83)
Site: Sec 22, T23S, R30E
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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Forty Niner Ridge Unit #106H
TVD Reference: WELL @ 3287.0usft (Patterson #230)
MD Reference: WELL @ 3287.0usft (Patterson #230)
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)
15,505.0	88.50	359.10	9,564.3	5,879.9	-676.8	5,912.7	3.58	-3.26	-1.47
15,600.0	88.90	359.60	9,566.5	5,974.8	-677.9	6,007.5	0.67	0.42	0.53
15,694.0	90.10	0.00	9,567.3	6,068.8	-678.2	6,101.3	1.35	1.28	0.43
15,789.0	90.70	0.50	9,566.7	6,163.8	-677.8	6,196.0	0.82	0.63	0.53
15,883.0	91.80	0.50	9,564.6	6,257.8	-677.0	6,289.7	1.17	1.17	0.00
15,978.0	92.40	0.80	9,561.1	6,352.7	-675.9	6,384.3	0.71	0.63	0.32
16,073.0	90.10	0.80	9,559.1	6,447.7	-674.6	6,479.0	2.42	-2.42	0.00
16,167.0	90.70	1.20	9,558.4	6,541.7	-672.9	6,572.6	0.77	0.64	0.43
16,262.0	89.70	1.20	9,558.1	6,636.6	-671.0	6,667.2	1.05	-1.05	0.00
16,356.0	89.20	1.20	9,559.0	6,730.6	-669.0	6,760.8	0.53	-0.53	0.00
16,451.0	89.50	1.90	9,560.0	6,825.6	-666.4	6,855.4	0.80	0.32	0.74
16,546.0	89.40	1.40	9,561.0	6,920.5	-663.7	6,949.9	0.54	-0.11	-0.53
16,642.0	88.30	1.20	9,562.9	7,016.5	-661.5	7,045.5	1.16	-1.15	-0.21
16,737.0	90.40	0.50	9,564.0	7,111.5	-660.1	7,140.1	2.33	2.21	-0.74
16,832.0	92.30	1.50	9,561.7	7,206.4	-658.4	7,234.7	2.26	2.00	1.05
16,928.0	88.80	0.70	9,560.8	7,302.4	-656.6	7,330.3	3.74	-3.65	-0.83
17,023.0	88.80	1.20	9,562.8	7,397.4	-655.0	7,425.0	0.53	0.00	0.53
17,119.0	91.40	0.30	9,562.6	7,493.3	-653.8	7,520.6	2.87	2.71	-0.94
17,214.0	93.60	359.10	9,558.5	7,588.2	-654.3	7,615.3	2.64	2.32	-1.26
17,309.0	90.50	358.00	9,555.1	7,683.1	-656.7	7,710.2	3.46	-3.26	-1.16
17,404.0	90.50	357.70	9,554.3	7,778.1	-660.2	7,805.1	0.32	0.00	-0.32
17,499.0	90.70	357.80	9,553.3	7,873.0	-664.0	7,900.1	0.24	0.21	0.11
17,594.0	91.80	358.50	9,551.2	7,967.9	-667.0	7,995.0	1.37	1.16	0.74
17,689.0	87.90	358.50	9,551.4	8,062.9	-669.5	8,089.9	4.11	-4.11	0.00
17,785.0	90.30	359.80	9,552.9	8,158.8	-670.9	8,185.7	2.84	2.50	1.35
17,880.0	94.50	6.80	9,549.0	8,253.5	-665.5	8,279.8	8.59	4.42	7.37
17,975.0	90.00	7.70	9,545.2	8,347.6	-653.5	8,372.9	4.83	-4.74	0.95
18,071.0	88.60	5.90	9,546.4	8,443.0	-642.1	8,467.2	2.38	-1.46	-1.88
18,166.0	93.50	4.00	9,544.7	8,537.6	-633.9	8,561.0	5.53	5.16	-2.00
18,260.0	87.80	0.80	9,543.6	8,631.4	-630.0	8,654.3	6.95	-6.06	-3.40
18,356.0	83.20	358.00	9,551.1	8,727.1	-631.0	8,749.8	5.60	-4.79	-2.92
18,451.0	83.80	356.60	9,561.9	8,821.4	-635.4	8,844.2	1.59	0.63	-1.47
18,546.0	88.00	356.80	9,568.7	8,915.9	-640.9	8,938.9	4.43	4.42	0.21
18,641.0	90.60	356.80	9,569.8	9,010.8	-646.2	9,033.9	2.74	2.74	0.00
18,735.0	90.80	357.00	9,568.7	9,104.6	-651.3	9,127.9	0.30	0.21	0.21
18,831.0	91.30	357.30	9,566.9	9,200.5	-656.1	9,223.8	0.61	0.52	0.31
18,926.0	92.50	357.90	9,563.8	9,295.4	-660.0	9,318.8	1.41	1.26	0.63
19,021.0	91.30	357.70	9,560.6	9,390.2	-663.7	9,413.7	1.28	-1.26	-0.21
19,116.0	91.00	357.00	9,558.7	9,485.1	-668.1	9,508.6	0.80	-0.32	-0.74
19,211.0	91.90	357.50	9,556.3	9,580.0	-672.6	9,603.6	1.08	0.95	0.53
19,306.0	91.90	356.80	9,553.2	9,674.8	-677.3	9,698.5	0.74	0.00	-0.74
19,401.0	93.20	359.40	9,548.9	9,769.6	-680.5	9,793.3	3.06	1.37	2.74
19,496.0	89.80	358.90	9,546.5	9,864.6	-681.9	9,888.1	3.62	-3.58	-0.53



Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 22, T23S, R30E
Well: Forty Niner Ridge Unit #106H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Forty Niner Ridge Unit #106H
TVD Reference: WELL @ 3287.0usft (Patterson #230)
MD Reference: WELL @ 3287.0usft (Patterson #230)
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)
19,530.0	90.60	359.40	9,546.3	9,898.6	-682.4	9,922.1	2.77	2.35	1.47
TD @ 19580.0' MD / 9545.8' TVD									
19,580.0	90.60	359.40	9,545.8	9,948.6	-682.9	9,972.0	0.00	0.00	0.00

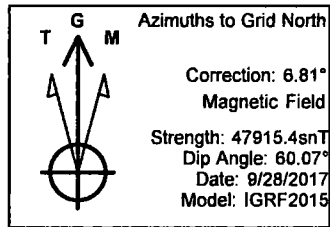
Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
435.0	435.0	3.4	-2.8	Tie-In @ 435.0' MD / 435.0' TVD
19,580.0	9,545.8	9,948.6	-682.9	TD @ 19580.0' MD / 9545.8' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Company
 Forty Niner Ridge Unit #106H
 Eddy County, New Mexico (Nad 83)
 Rig: Patterson #230
 Created By: Shane Robbins
 Date: 11/20/2017

Forty Niner Ridge Unit #106H
 Eddy County, New Mexico (Nad 83)
 Q171442 & WT-171232
 Design #3



PROJECT DETAILS: Eddy 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 Forty Niner Ridge Unit #106H					
2742.9					
+94.5	+E-W	Horizontal	Existing	Latitude	Longitude
0.0	0.0	467807.24	627928.17	32° 17' 4.725 N	102° 51' 43.776 W

ANNOTATIONS									
MD	Inc	Az	TVD	+NA-S	+E-W	VSec	Departure	Annotation	
435.0	0.40	302.00	435.0	3.4	-2.8	2.8	4.7	Tie-In @ 435.0' MD / 435.0' TVD	
19680.0	80.60	358.40	9545.9	9945.6	-62.2	9772.0	10346.9	TD @ 19680.0' MD / 9545.9' TVD	

