



30-D15-45744

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 19 2019

RECEIVED

Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 18,T20S,R29E

Glock 17-16 B3DA Fed Com #2H

Wellbore #1

Design: Wellbore #1

QES Survey Report

17 May, 2019





Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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 18,T20S,R29E		
Site Position:	Map	Northing:	574,535.70 usft
From:		Easting:	606,553.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 34' 45.389 N
		Longitude:	104° 7' 17.790 W
		Grid Convergence:	0.11 °

Well	Glock 17-16 B3DA Fed Com #2H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	
		Latitude:	32° 34' 42.851 N
		Longitude:	104° 6' 27.849 W
		Ground Level:	3,265.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	4/4/2019	7.23
			Dip Angle
			(°)
			60.33
			Field Strength
			(nT)
			47,996.80000000

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			88.88

Survey Program	Date 5/17/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	2,975.0	SFC Surveys (Wellbore #1)	OWSG (Rev2) MWD
3,098.0	19,705.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD
			Description
			OWSG MWD - Standard
			OWSG MWD - Standard

Survey			
Measured	Inclination	Azimuth	Vertical
Depth	(°)	(°)	Depth
(usft)			(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
100.0	0.25	186.33	100.0
200.0	0.31	185.12	200.0
300.0	0.92	202.74	300.0
400.0	1.91	187.59	400.0
500.0	2.92	174.61	499.9
600.0	3.94	152.31	599.7
700.0	6.33	147.63	699.3
800.0	8.82	144.56	798.4
900.0	10.20	143.58	897.0
			-8.3
			-13.9
			-21.6
			-32.5
			-45.8
			-0.9
			-1.1
			0.6
			5.0
			12.2
			21.7
			1.14
			1.66
			2.42
			2.52
			1.39
			1.01
			1.02
			2.39
			2.49
			1.38
			-12.98
			-22.30
			-4.68
			-3.07
			-0.98

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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)
1,000.0	10.11	143.32	995.5	-60.0	33.1	31.9	0.10	-0.09	-0.26
1,100.0	8.85	143.11	1,094.1	-73.2	42.9	41.5	1.26	-1.26	-0.21
1,200.0	7.95	142.61	1,193.0	-84.8	51.7	50.1	0.90	-0.90	-0.50
1,300.0	7.16	144.54	1,292.2	-95.4	59.6	57.7	0.83	-0.79	1.93
1,400.0	6.58	146.29	1,391.4	-105.3	66.4	64.3	0.62	-0.58	1.75
1,500.0	6.26	147.29	1,490.8	-114.6	72.5	70.2	0.34	-0.32	1.00
1,600.0	5.18	148.42	1,590.3	-123.0	77.8	75.4	1.09	-1.08	1.13
1,700.0	4.82	148.87	1,689.9	-130.5	82.3	79.8	0.36	-0.36	0.45
1,800.0	4.60	144.39	1,789.6	-137.3	86.8	84.1	0.43	-0.22	-4.48
1,900.0	4.18	134.45	1,889.3	-143.2	91.8	89.0	0.87	-0.42	-9.94
2,000.0	3.78	143.46	1,989.1	-148.4	96.3	93.4	0.74	-0.40	9.01
2,100.0	3.04	154.88	2,088.9	-153.4	99.4	96.4	1.00	-0.74	11.42
2,200.0	2.89	154.91	2,188.7	-158.1	101.6	98.5	0.15	-0.15	0.03
2,300.0	2.42	154.82	2,288.6	-162.3	103.6	100.4	0.47	-0.47	-0.09
2,400.0	1.81	152.65	2,388.6	-165.6	105.2	102.0	0.62	-0.61	-2.17
2,500.0	1.72	160.01	2,488.5	-168.4	106.4	103.1	0.24	-0.09	7.36
2,600.0	1.87	166.79	2,588.5	-171.4	107.3	104.0	0.26	0.15	6.78
2,700.0	1.63	165.18	2,688.4	-174.4	108.1	104.6	0.24	-0.24	-1.61
2,800.0	1.69	167.81	2,788.4	-177.2	108.7	105.3	0.10	0.06	2.63
2,900.0	1.26	170.86	2,888.4	-179.7	109.2	105.7	0.44	-0.43	3.05
Gyro Tie In @ 2975.0' MD / 2963.3' TVD									
2,975.0	1.26	157.85	2,963.3	-181.3	109.7	106.1	0.38	0.00	-17.35
3,098.0	1.10	150.20	3,086.3	-183.6	110.8	107.2	0.18	-0.13	-6.22
3,284.0	4.80	7.50	3,272.1	-177.4	112.7	109.2	3.07	1.99	-76.72
3,471.0	4.00	10.40	3,458.6	-163.2	114.9	111.7	0.44	-0.43	1.55
3,657.0	4.20	10.80	3,644.1	-150.2	117.3	114.4	0.11	0.11	0.22
3,844.0	4.50	8.20	3,830.6	-136.2	119.7	117.0	0.19	0.16	-1.39
4,032.0	4.60	7.50	4,018.0	-121.4	121.7	119.3	0.06	0.05	-0.37
4,218.0	4.70	9.80	4,203.3	-106.5	124.0	121.9	0.11	0.05	1.24
4,404.0	5.10	9.60	4,388.7	-90.8	126.6	124.8	0.22	0.22	-0.11
4,591.0	4.00	32.30	4,575.1	-77.1	131.5	130.0	1.12	-0.59	12.14
4,777.0	4.50	30.70	4,760.6	-65.4	138.7	137.4	0.28	0.27	-0.86
4,963.0	4.50	31.50	4,946.0	-52.9	146.2	145.2	0.03	0.00	0.43
5,149.0	4.00	18.00	5,131.5	-40.5	152.1	151.2	0.60	-0.27	-7.26
5,335.0	4.00	15.70	5,317.0	-28.1	155.8	155.2	0.09	0.00	-1.24
5,521.0	2.00	13.10	5,502.8	-18.7	158.3	157.9	1.08	-1.08	-1.40
5,707.0	1.90	359.50	5,688.7	-12.4	159.0	158.7	0.25	-0.05	-7.31
5,893.0	1.10	351.10	5,874.6	-7.6	158.7	158.5	0.44	-0.43	-4.52
6,076.0	2.40	44.50	6,057.5	-3.1	161.1	161.0	1.07	0.71	29.18
6,262.0	2.50	33.10	6,243.4	3.1	166.1	166.1	0.27	0.05	-6.13
6,448.0	2.40	36.60	6,429.2	9.6	170.6	170.8	0.10	-0.05	1.88
6,634.0	2.90	41.40	6,615.0	16.3	176.0	176.3	0.29	0.27	2.58
6,821.0	1.90	52.80	6,801.8	21.7	181.6	182.0	0.59	-0.53	6.10

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7,007.0	1.40	18.90	6,987.8	25.7	184.8	185.3	0.58	-0.27	-18.23
7,193.0	1.90	10.80	7,173.7	30.9	186.1	186.7	0.30	0.27	-4.35
7,378.0	3.90	19.60	7,358.4	39.8	188.8	189.6	1.10	1.08	4.76
7,564.0	2.80	23.50	7,544.1	49.9	192.8	193.7	0.60	-0.59	2.10
7,749.0	4.30	44.40	7,728.8	59.0	199.4	200.5	1.06	0.81	11.30
7,935.0	4.00	54.90	7,914.3	67.8	209.6	210.9	0.44	-0.16	5.65
8,120.0	3.90	32.10	8,098.8	76.8	218.2	219.7	0.85	-0.05	-12.32
8,306.0	4.70	15.00	8,284.3	89.5	223.6	225.3	0.81	0.43	-9.19
8,492.0	4.00	9.20	8,469.8	103.3	226.6	228.5	0.44	-0.38	-3.12
8,543.0	4.10	12.00	8,520.7	106.8	227.2	229.3	0.43	0.20	5.49
8,573.0	4.30	13.10	8,550.6	109.0	227.7	229.8	0.72	0.67	3.67
8,604.0	4.50	31.50	8,581.5	111.1	228.6	230.7	4.58	0.65	59.35
8,635.0	6.60	60.40	8,612.4	113.0	230.8	233.0	11.07	6.77	93.23
8,665.0	11.00	73.90	8,642.0	114.7	235.0	237.2	16.10	14.67	45.00
8,697.0	14.30	83.80	8,673.2	116.0	241.9	244.1	12.30	10.31	30.94
8,728.0	16.60	89.20	8,703.1	116.4	250.1	252.4	8.74	7.42	17.42
8,759.0	20.90	90.10	8,732.4	116.5	260.1	262.3	13.90	13.87	2.90
8,789.0	24.80	89.40	8,760.1	116.6	271.8	274.0	13.03	13.00	-2.33
8,820.0	28.50	88.80	8,787.8	116.8	285.7	287.9	11.97	11.94	-1.94
8,851.0	32.80	87.60	8,814.4	117.3	301.4	303.7	14.01	13.87	-3.87
8,882.0	36.50	87.40	8,839.9	118.1	319.1	321.3	11.94	11.94	-0.65
8,913.0	39.80	88.20	8,864.3	118.8	338.2	340.4	10.76	10.65	2.58
8,944.0	43.90	88.30	8,887.4	119.4	358.9	361.1	13.23	13.23	0.32
8,975.0	47.80	86.00	8,909.0	120.5	381.1	383.3	13.66	12.58	-7.42
9,006.0	51.80	84.60	8,929.0	122.5	404.7	407.0	13.36	12.90	-4.52
9,037.0	56.50	84.40	8,947.2	124.9	429.7	432.0	15.17	15.16	-0.65
9,068.0	61.30	83.80	8,963.2	127.6	456.1	458.5	15.57	15.48	-1.94
9,099.0	65.40	82.90	8,977.1	130.8	483.6	486.0	13.48	13.23	-2.90
9,130.0	68.30	80.90	8,989.3	134.9	511.8	514.3	11.08	9.35	-6.45
9,161.0	69.50	79.70	9,000.4	139.7	540.3	542.9	5.29	3.87	-3.87
9,192.0	70.70	77.80	9,011.0	145.4	568.9	571.6	6.94	3.87	-6.13
9,223.0	72.80	77.60	9,020.7	151.7	597.6	600.5	6.80	6.77	-0.65
LL Crossed @ 9224.9'MD / 9021.2' TVD									
9,224.9	72.98	77.58	9,021.2	152.1	599.4	602.3	9.72	9.68	-0.98
9,254.0	75.80	77.30	9,029.1	158.2	626.8	629.7	9.72	9.68	-0.97
9,285.0	78.20	77.60	9,036.0	164.7	656.2	659.3	7.80	7.74	0.97
9,311.0	81.00	78.70	9,040.7	170.0	681.3	684.5	11.55	10.77	4.23
100' HL Crossed @ 9329.7'MD / 9043.4' TVD									
9,329.7	82.34	79.71	9,043.4	173.5	699.4	702.7	8.94	7.17	5.39
9,418.0	88.70	84.40	9,050.3	185.6	786.6	790.0	8.94	7.20	5.31
9,449.0	89.80	87.10	9,050.7	187.9	817.5	821.0	9.40	3.55	8.71
9,480.0	91.80	87.60	9,050.3	189.3	848.4	852.0	6.65	6.45	1.61
9,511.0	91.80	88.00	9,049.3	190.5	879.4	882.9	1.29	0.00	1.29
9,604.0	89.90	88.00	9,048.0	193.8	972.3	975.9	2.04	-2.04	0.00

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9,697.0	88.90	87.80	9,048.9	197.2	1,065.3	1,068.9	1.10	-1.08	-0.22
9,790.0	90.00	88.80	9,049.8	199.9	1,158.2	1,161.9	1.60	1.18	1.08
9,883.0	88.80	88.80	9,050.8	201.9	1,251.2	1,254.9	1.29	-1.29	0.00
9,977.0	88.40	88.70	9,053.1	203.9	1,345.1	1,348.9	0.44	-0.43	-0.11
10,070.0	88.90	91.00	9,055.3	204.2	1,438.1	1,441.8	2.53	0.54	2.47
10,163.0	90.80	93.40	9,055.5	200.6	1,531.0	1,534.6	3.29	2.04	2.58
10,257.0	91.30	93.10	9,053.8	195.3	1,624.8	1,628.4	0.62	0.53	-0.32
10,350.0	89.90	93.60	9,052.8	189.8	1,717.7	1,721.1	1.60	-1.51	0.54
10,443.0	87.20	90.60	9,055.2	186.4	1,810.6	1,813.9	4.34	-2.90	-3.23
10,536.0	87.50	89.40	9,059.5	186.4	1,903.5	1,906.7	1.33	0.32	-1.29
10,629.0	92.10	90.10	9,059.8	186.8	1,996.4	1,999.7	5.00	4.95	0.75
10,723.0	90.80	89.70	9,057.4	187.0	2,090.4	2,093.7	1.45	-1.38	-0.43
10,816.0	87.90	88.00	9,058.5	188.9	2,183.4	2,186.6	3.61	-3.12	-1.83
10,909.0	90.20	88.50	9,060.0	191.7	2,276.3	2,279.6	2.53	2.47	0.54
11,002.0	90.00	88.00	9,059.9	194.5	2,369.3	2,372.6	0.58	-0.22	-0.54
11,095.0	88.90	87.60	9,060.8	198.1	2,462.2	2,465.6	1.26	-1.18	-0.43
11,187.0	88.80	88.70	9,062.6	201.1	2,554.1	2,557.6	1.20	-0.11	1.20
11,280.0	90.90	90.10	9,062.8	202.1	2,647.1	2,650.6	2.71	2.26	1.51
11,373.0	91.00	90.30	9,061.3	201.7	2,740.1	2,743.5	0.24	0.11	0.22
11,466.0	90.00	90.80	9,060.5	200.8	2,833.1	2,836.5	1.20	-1.08	0.54
11,559.0	91.40	91.80	9,059.4	198.7	2,926.1	2,929.4	1.85	1.51	1.08
11,651.0	91.20	89.70	9,057.3	197.5	3,018.0	3,021.3	2.29	-0.22	-2.28
11,745.0	90.80	89.00	9,055.6	198.6	3,112.0	3,115.3	0.86	-0.43	-0.74
11,838.0	89.30	88.50	9,055.5	200.6	3,205.0	3,208.3	1.70	-1.61	-0.54
11,931.0	90.50	89.00	9,055.7	202.6	3,297.9	3,301.3	1.40	1.29	0.54
12,024.0	91.40	89.60	9,054.2	203.8	3,390.9	3,394.3	1.16	0.97	0.65
12,117.0	90.00	89.00	9,053.0	204.9	3,483.9	3,487.2	1.64	-1.51	-0.65
12,210.0	88.40	88.80	9,054.3	206.7	3,576.9	3,580.2	1.73	-1.72	-0.22
12,303.0	89.70	89.20	9,055.9	208.3	3,669.8	3,673.2	1.46	1.40	0.43
12,396.0	86.90	88.80	9,058.6	210.0	3,762.8	3,766.2	3.04	-3.01	-0.43
12,489.0	88.30	89.20	9,062.5	211.6	3,855.7	3,859.1	1.57	1.51	0.43
12,582.0	89.00	89.90	9,064.7	212.3	3,948.7	3,952.1	1.06	0.75	0.75
12,675.0	91.20	90.80	9,064.5	211.7	4,041.6	4,045.0	2.56	2.37	0.97
12,768.0	88.90	90.80	9,064.5	210.4	4,134.6	4,138.0	2.47	-2.47	0.00
12,861.0	88.50	90.80	9,066.6	209.1	4,227.6	4,230.9	0.43	-0.43	0.00
12,954.0	88.90	90.40	9,068.7	208.2	4,320.6	4,323.8	0.61	0.43	-0.43
13,048.0	89.80	90.80	9,069.8	207.2	4,414.6	4,417.8	1.05	0.96	0.43
13,140.0	89.20	90.80	9,070.6	205.9	4,506.5	4,509.7	0.65	-0.65	0.00
13,233.0	89.40	91.10	9,071.7	204.4	4,599.5	4,602.6	0.39	0.22	0.32
13,326.0	89.40	91.50	9,072.7	202.2	4,692.5	4,695.6	0.43	0.00	0.43
13,419.0	88.80	91.00	9,074.1	200.2	4,785.5	4,788.5	0.84	-0.65	-0.54
13,512.0	88.00	91.10	9,076.7	198.5	4,878.4	4,881.4	0.87	-0.86	0.11
13,605.0	90.40	91.80	9,078.0	196.2	4,971.4	4,974.2	2.69	2.58	0.75



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	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)
13,699.0	88.90	91.70	9,078.6	193.3	5,065.3	5,068.1	1.60	-1.60	-0.11
13,792.0	91.10	90.30	9,078.6	191.7	5,158.3	5,161.1	2.80	2.37	-1.51
13,884.0	90.40	90.10	9,077.4	191.3	5,250.3	5,253.0	0.79	-0.76	-0.22
13,978.0	90.60	90.10	9,076.6	191.2	5,344.3	5,347.0	0.21	0.21	0.00
14,070.0	90.50	89.60	9,075.7	191.4	5,436.3	5,439.0	0.55	-0.11	-0.54
14,163.0	88.90	89.20	9,076.2	192.4	5,529.3	5,532.0	1.77	-1.72	-0.43
14,257.0	89.30	89.20	9,077.7	193.7	5,623.2	5,626.0	0.43	0.43	0.00
14,349.0	90.00	89.00	9,078.2	195.2	5,715.2	5,718.0	0.79	0.76	-0.22
14,443.0	88.40	88.30	9,079.5	197.4	5,809.2	5,811.9	1.86	-1.70	-0.74
14,537.0	88.50	88.00	9,082.1	200.4	5,903.1	5,905.9	0.34	0.11	-0.32
14,629.0	89.20	88.20	9,083.9	203.4	5,995.0	5,997.9	0.79	0.76	0.22
14,722.0	88.10	87.60	9,086.1	206.9	6,087.9	6,090.8	1.35	-1.18	-0.65
14,816.0	90.00	88.30	9,087.7	210.2	6,181.9	6,184.8	2.15	2.02	0.74
14,909.0	89.10	88.20	9,088.4	213.1	6,274.8	6,277.8	0.97	-0.97	-0.11
15,002.0	88.80	87.60	9,090.1	216.5	6,367.7	6,370.8	0.72	-0.32	-0.65
15,096.0	89.00	88.30	9,091.9	219.8	6,461.7	6,464.7	0.77	0.21	0.74
15,190.0	90.20	91.00	9,092.6	220.4	6,555.7	6,558.7	3.14	1.28	2.87
15,283.0	87.60	90.60	9,094.3	219.1	6,648.6	6,651.6	2.83	-2.80	-0.43
15,376.0	89.20	91.50	9,096.9	217.4	6,741.6	6,744.5	1.97	1.72	0.97
15,469.0	91.30	93.10	9,096.5	213.7	6,834.5	6,837.3	2.84	2.26	1.72
15,562.0	92.10	92.70	9,093.8	209.0	6,927.3	6,930.1	0.96	0.86	-0.43
15,655.0	91.50	92.90	9,090.9	204.4	7,020.2	7,022.8	0.68	-0.65	0.22
15,748.0	90.80	93.10	9,089.0	199.6	7,113.0	7,115.6	0.78	-0.75	0.22
15,841.0	90.00	92.20	9,088.3	195.3	7,205.9	7,208.3	1.29	-0.86	-0.97
15,934.0	89.90	91.10	9,088.4	192.6	7,298.9	7,301.2	1.19	-0.11	-1.18
16,028.0	91.70	90.40	9,087.1	191.3	7,392.8	7,395.2	2.05	1.91	-0.74
16,121.0	91.00	89.60	9,084.9	191.3	7,485.8	7,488.1	1.14	-0.75	-0.86
16,213.0	90.40	89.00	9,083.8	192.5	7,577.8	7,580.1	0.92	-0.65	-0.65
16,306.0	88.50	88.20	9,084.7	194.7	7,670.8	7,673.1	2.22	-2.04	-0.86
16,400.0	88.20	88.20	9,087.4	197.7	7,764.7	7,767.1	0.32	-0.32	0.00
16,492.0	88.60	88.00	9,090.0	200.7	7,856.6	7,859.0	0.49	0.43	-0.22
16,586.0	88.50	88.00	9,092.3	204.0	7,950.5	7,953.0	0.11	-0.11	0.00
16,678.0	89.90	88.30	9,093.6	207.0	8,042.4	8,045.0	1.56	1.52	0.33
16,773.0	89.70	87.80	9,094.0	210.2	8,137.4	8,139.9	0.57	-0.21	-0.53
16,865.0	89.90	87.60	9,094.3	213.9	8,229.3	8,231.9	0.31	0.22	-0.22
16,958.0	87.80	87.60	9,096.1	217.8	8,322.2	8,324.9	2.26	-2.26	0.00
17,051.0	87.50	87.80	9,100.0	221.5	8,415.1	8,417.8	0.39	-0.32	0.22
17,145.0	87.80	89.60	9,103.8	223.7	8,509.0	8,511.7	1.94	0.32	1.91
17,237.0	86.50	89.90	9,108.4	224.1	8,600.8	8,603.6	1.45	-1.41	0.33
17,329.0	87.20	88.50	9,113.4	225.4	8,692.7	8,695.4	1.70	0.76	-1.52
17,447.0	88.10	88.80	9,118.3	228.1	8,810.6	8,813.3	0.80	0.76	0.25
17,539.0	87.60	88.50	9,121.7	230.3	8,902.5	8,905.3	0.63	-0.54	-0.33
17,632.0	90.30	88.50	9,123.4	232.7	8,995.4	8,998.2	2.90	2.90	0.00

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	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)
17,725.0	91.40	88.00	9,122.1	235.6	9,088.4	9,091.2	1.30	1.18	-0.54
17,817.0	91.60	89.90	9,119.7	237.3	9,180.3	9,183.2	2.08	0.22	2.07
17,910.0	87.10	88.70	9,120.7	238.4	9,273.3	9,276.1	5.01	-4.84	-1.29
18,002.0	86.10	88.80	9,126.2	240.4	9,365.1	9,368.0	1.09	-1.09	0.11
18,096.0	86.40	89.60	9,132.3	241.7	9,458.9	9,461.8	0.91	0.32	0.85
18,127.0	89.20	89.40	9,133.5	242.0	9,489.8	9,492.8	9.06	9.03	-0.65
18,158.0	91.40	88.80	9,133.3	242.5	9,520.8	9,523.8	7.36	7.10	-1.94
18,189.0	92.00	88.80	9,132.4	243.1	9,551.8	9,554.7	1.94	1.94	0.00
18,220.0	92.50	88.80	9,131.2	243.8	9,582.8	9,585.7	1.61	1.61	0.00
18,251.0	94.00	89.70	9,129.4	244.2	9,613.7	9,616.7	5.64	4.84	2.90
18,283.0	94.00	89.70	9,127.2	244.3	9,645.6	9,648.6	0.00	0.00	0.00
18,314.0	94.20	90.10	9,125.0	244.4	9,676.6	9,679.5	1.44	0.65	1.29
18,345.0	94.30	91.30	9,122.7	244.0	9,707.5	9,710.4	3.87	0.32	3.87
18,376.0	94.50	91.70	9,120.3	243.2	9,738.4	9,741.3	1.44	0.65	1.29
18,408.0	94.70	91.80	9,117.8	242.2	9,770.3	9,773.1	0.70	0.63	0.31
18,439.0	93.90	92.00	9,115.4	241.2	9,801.2	9,804.0	2.66	-2.58	0.65
18,470.0	94.10	92.00	9,113.3	240.1	9,832.1	9,834.9	0.65	0.65	0.00
18,502.0	94.20	91.80	9,110.9	239.1	9,864.0	9,866.7	0.70	0.31	-0.63
18,533.0	93.60	91.80	9,108.8	238.1	9,894.9	9,897.6	1.94	-1.94	0.00
18,564.0	91.40	92.40	9,107.5	237.0	9,925.8	9,928.6	7.36	-7.10	1.94
18,595.0	91.40	92.50	9,106.7	235.6	9,956.8	9,959.5	0.32	0.00	0.32
18,627.0	89.70	91.70	9,106.4	234.5	9,988.8	9,991.4	5.87	-5.31	-2.50
18,658.0	87.60	91.00	9,107.2	233.7	10,019.7	10,022.4	7.14	-6.77	-2.26
18,690.0	86.80	91.00	9,108.7	233.2	10,051.7	10,054.3	2.50	-2.50	0.00
18,720.0	86.90	91.10	9,110.4	232.6	10,081.6	10,084.3	0.47	0.33	0.33
18,751.0	89.30	91.50	9,111.4	231.9	10,112.6	10,115.2	7.85	7.74	1.29
18,783.0	90.00	92.00	9,111.6	230.9	10,144.6	10,147.2	2.69	2.19	1.56
18,813.0	90.20	91.80	9,111.5	229.9	10,174.6	10,177.1	0.94	0.67	-0.67
18,844.0	90.10	92.00	9,111.5	228.9	10,205.6	10,208.1	0.72	-0.32	0.65
18,875.0	90.60	92.00	9,111.3	227.8	10,236.5	10,239.0	1.61	1.61	0.00
18,906.0	90.80	92.00	9,110.9	226.8	10,267.5	10,270.0	0.65	0.65	0.00
18,938.0	91.00	91.30	9,110.4	225.8	10,299.5	10,302.0	2.27	0.63	-2.19
18,969.0	90.60	92.00	9,110.0	224.9	10,330.5	10,332.9	2.60	-1.29	2.26
19,001.0	90.40	92.20	9,109.7	223.8	10,362.5	10,364.9	0.88	-0.63	0.63
19,032.0	90.40	92.00	9,109.5	222.6	10,393.4	10,395.8	0.65	0.00	-0.65
19,063.0	90.50	92.00	9,109.2	221.6	10,424.4	10,426.8	0.32	0.32	0.00
19,094.0	91.20	92.00	9,108.8	220.5	10,455.4	10,457.7	2.26	2.26	0.00
19,126.0	91.70	92.40	9,107.9	219.2	10,487.4	10,489.7	2.00	1.56	1.25
19,157.0	91.80	92.40	9,107.0	217.9	10,518.3	10,520.6	0.32	0.32	0.00
19,188.0	91.90	92.20	9,106.0	216.7	10,549.3	10,551.5	0.72	0.32	-0.65
19,219.0	91.30	92.20	9,105.1	215.5	10,580.3	10,582.4	1.94	-1.94	0.00
19,251.0	90.20	91.80	9,104.7	214.4	10,612.2	10,614.4	3.66	-3.44	-1.25
19,282.0	90.40	92.00	9,104.5	213.4	10,643.2	10,645.4	0.91	0.65	0.65
19,313.0	90.10	91.70	9,104.4	212.4	10,674.2	10,676.3	1.37	-0.97	-0.97



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

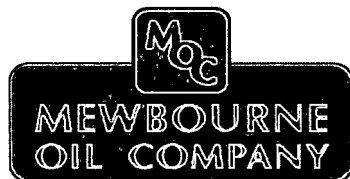
Survey

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)
19,344.0	90.00	91.70	9,104.4	211.4	10,705.2	10,707.3	0.32	-0.32	0.00
19,375.0	90.00	91.80	9,104.4	210.5	10,736.2	10,738.2	0.32	0.00	0.32
19,406.0	90.10	91.70	9,104.4	209.6	10,767.2	10,769.2	0.46	0.32	-0.32
19,438.0	90.00	91.80	9,104.3	208.6	10,799.1	10,801.2	0.44	-0.31	0.31
19,469.0	90.00	92.20	9,104.3	207.5	10,830.1	10,832.1	1.29	0.00	1.29
19,500.0	89.90	92.00	9,104.4	206.4	10,861.1	10,863.1	0.72	-0.32	-0.65
19,531.0	89.30	92.00	9,104.6	205.3	10,892.1	10,894.0	1.94	-1.94	0.00
19,562.0	89.30	92.20	9,105.0	204.1	10,923.1	10,925.0	0.65	0.00	0.65
19,594.0	89.40	92.00	9,105.3	203.0	10,955.0	10,956.9	0.70	0.31	-0.63
19,635.0	89.50	92.20	9,105.7	201.5	10,996.0	10,997.8	0.55	0.24	0.49
TD @ 19705.0' MD / 9106.3' TVD									
19,705.0	89.50	92.20	9,106.3	198.8	11,066.0	11,067.7	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,975.0	2,963.3	-181.3	109.7	Gyro Tie In @ 2975.0' MD / 2963.3' TVD
9,224.9	9,021.2	152.1	599.4	LL Crossed @ 9224.9'MD / 9021.2' TVD
9,329.7	9,043.4	173.5	699.4	100' HL Crossed @ 9329.7'MD / 9043.4' TVD
19,705.0	9,106.3	198.8	11,066.0	TD @ 19705.0' MD / 9106.3' TVD

Checked By: _____ Approved By: _____ Date: _____



NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 19 2019

RECEIVED

Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 18,T20S,R29E

Glock 17-16 B3DA Fed Com #2H

Wellbore #1

Design: Wellbore #1

QES Survey Certification Report

17 May, 2019



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-190511	5/24/2019

Lease	Well Name	County & State
SEC 18, T20S, R29E	Glock 17-16 B3DA Fed Com #2H	Eddy County, NM

API No.	Survey Depth Range	Survey Type
30/015-45794	2975 feet to 19705 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
	Craig Dent

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
MWD Compliance Manager

Quintana Energy Services

**Christopher
Hughes**

Digitally signed by Christopher
Hughes
DN: cn=Christopher Hughes, o=QES,
ou=compliance,
email=chrish@qeslp.com, c=US
Date: 2019.05.24 10:49:29 -05'00'



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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 18,T20S,R29E		
Site Position:		Northing:	574,535.70 usft
From:	Map	Easting:	606,553.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 34' 45.389 N
		Longitude:	104° 7' 17.790 W
		Grid Convergence:	0.11 °

Well	Glock 17-16 B3DA Fed Com #2H		
Well Position	+N/-S	0.0 usft	Northing: 574,288.00 usft
	+E/-W	0.0 usft	Easting: 610,827.40 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 34' 42.851 N
		Longitude:	104° 6' 27.849 W
		Ground Level:	3,265.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	4/4/2019	7.23
			Dip Angle
			(°)
			60.33
			Field Strength
			(nT)
			47,996.80000000

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			88.88

Survey Program	Date 5/17/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	2,975.0	SFC Surveys (Wellbore #1)	OWSG (Rev2) MWD
3,098.0	19,705.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD
			Description
			OWSG MWD - Standard
			OWSG MWD - Standard

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
2,975.0	1.26	157.85	2,963.3	-181.3	109.7	211.9	148.83
Gyro Tie In @ 2975.0' MD / 2963.3' TVD							
3,098.0	1.10	150.20	3,086.3	-183.6	110.8	214.4	148.89
3,284.0	4.80	7.50	3,272.1	-177.4	112.7	210.2	147.58
3,471.0	4.00	10.40	3,458.6	-163.2	114.9	199.6	144.86
3,657.0	4.20	10.80	3,644.1	-150.2	117.3	190.6	142.00
3,844.0	4.50	8.20	3,830.6	-136.2	119.7	181.3	138.70
4,032.0	4.60	7.50	4,018.0	-121.4	121.7	171.9	134.93
4,218.0	4.70	9.80	4,203.3	-106.5	124.0	163.4	130.67
4,404.0	5.10	9.60	4,388.7	-90.8	126.6	155.8	125.65
4,591.0	4.00	32.30	4,575.1	-77.1	131.5	152.5	120.39



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
4,777.0	4.50	30.70	4,760.6	-65.4	138.7	153.3	115.23
4,963.0	4.50	31.50	4,946.0	-52.9	146.2	155.5	109.88
5,149.0	4.00	18.00	5,131.5	-40.5	152.1	157.3	104.91
5,335.0	4.00	15.70	5,317.0	-28.1	155.8	158.3	100.21
5,521.0	2.00	13.10	5,502.8	-18.7	158.3	159.4	96.72
5,707.0	1.90	359.50	5,688.7	-12.4	159.0	159.5	94.46
5,893.0	1.10	351.10	5,874.6	-7.6	158.7	158.9	92.73
6,076.0	2.40	44.50	6,057.5	-3.1	161.1	161.2	91.10
6,262.0	2.50	33.10	6,243.4	3.1	166.1	166.1	88.94
6,448.0	2.40	36.60	6,429.2	9.6	170.6	170.9	86.78
6,634.0	2.90	41.40	6,615.0	16.3	176.0	176.8	84.72
6,821.0	1.90	52.80	6,801.8	21.7	181.6	182.9	83.19
7,007.0	1.40	18.90	6,987.8	25.7	184.8	186.6	82.08
7,193.0	1.90	10.80	7,173.7	30.9	186.1	188.7	80.58
7,378.0	3.90	19.60	7,358.4	39.8	188.8	193.0	78.09
7,564.0	2.80	23.50	7,544.1	49.9	192.8	199.1	75.47
7,749.0	4.30	44.40	7,728.8	59.0	199.4	208.0	73.51
7,935.0	4.00	54.90	7,914.3	67.8	209.6	220.3	72.09
8,120.0	3.90	32.10	8,098.8	76.8	218.2	231.3	70.61
8,306.0	4.70	15.00	8,284.3	89.5	223.6	240.8	68.18
8,492.0	4.00	9.20	8,469.8	103.3	226.6	249.0	65.49
8,543.0	4.10	12.00	8,520.7	106.8	227.2	251.1	64.82
8,573.0	4.30	13.10	8,550.6	109.0	227.7	252.4	64.43
8,604.0	4.50	31.50	8,581.5	111.1	228.6	254.2	64.07
8,635.0	6.60	60.40	8,612.4	113.0	230.8	257.0	63.90
8,665.0	11.00	73.90	8,642.0	114.7	235.0	261.5	63.99
8,697.0	14.30	83.80	8,673.2	116.0	241.9	268.3	64.39
8,728.0	16.60	89.20	8,703.1	116.4	250.1	275.9	65.04
8,759.0	20.90	90.10	8,732.4	116.5	260.1	285.0	65.87
8,789.0	24.80	89.40	8,760.1	116.6	271.8	295.7	66.79
8,820.0	28.50	88.80	8,787.8	116.8	285.7	308.6	67.77
8,851.0	32.80	87.60	8,814.4	117.3	301.4	323.5	68.74
8,882.0	36.50	87.40	8,839.9	118.1	319.1	340.2	69.69
8,913.0	39.80	88.20	8,864.3	118.8	338.2	358.4	70.65
8,944.0	43.90	88.30	8,887.4	119.4	358.9	378.2	71.59
8,975.0	47.80	86.00	8,909.0	120.5	381.1	399.7	72.45
9,006.0	51.80	84.60	8,929.0	122.5	404.7	422.8	73.16
9,037.0	56.50	84.40	8,947.2	124.9	429.7	447.4	73.79
9,068.0	61.30	83.80	8,963.2	127.6	456.1	473.6	74.37
9,099.0	65.40	82.90	8,977.1	130.8	483.6	501.0	74.86
9,130.0	68.30	80.90	8,989.3	134.9	511.8	529.2	75.24
9,161.0	69.50	79.70	9,000.4	139.7	540.3	558.1	75.50
9,192.0	70.70	77.80	9,011.0	145.4	568.9	587.2	75.66
9,223.0	72.80	77.60	9,020.7	151.7	597.6	616.6	75.76
9,254.0	75.80	77.30	9,029.1	158.2	626.8	646.4	75.84



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
9,285.0	78.20	77.60	9,036.0	164.7	656.2	676.6	75.91
9,311.0	81.00	78.70	9,040.7	170.0	681.3	702.2	75.99
9,418.0	88.70	84.40	9,050.3	185.6	786.6	808.2	76.72
9,449.0	89.80	87.10	9,050.7	187.9	817.5	838.8	77.06
9,480.0	91.80	87.60	9,050.3	189.3	848.4	869.3	77.42
9,511.0	91.80	88.00	9,049.3	190.5	879.4	899.8	77.78
9,604.0	89.90	88.00	9,048.0	193.8	972.3	991.4	78.73
9,697.0	88.90	87.80	9,048.9	197.2	1,065.3	1,083.3	79.51
9,790.0	90.00	88.80	9,049.8	199.9	1,158.2	1,175.3	80.21
9,883.0	88.80	88.80	9,050.8	201.9	1,251.2	1,267.4	80.83
9,977.0	88.40	88.70	9,053.1	203.9	1,345.1	1,360.5	81.38
10,070.0	88.90	91.00	9,055.3	204.2	1,438.1	1,452.5	81.92
10,163.0	90.80	93.40	9,055.5	200.6	1,531.0	1,544.1	82.54
10,257.0	91.30	93.10	9,053.8	195.3	1,624.8	1,636.5	83.15
10,350.0	89.90	93.60	9,052.8	189.8	1,717.7	1,728.1	83.69
10,443.0	87.20	90.60	9,055.2	186.4	1,810.6	1,820.1	84.12
10,536.0	87.50	89.40	9,059.5	186.4	1,903.5	1,912.6	84.41
10,629.0	92.10	90.10	9,059.8	186.8	1,996.4	2,005.2	84.65
10,723.0	90.80	89.70	9,057.4	187.0	2,090.4	2,098.8	84.89
10,816.0	87.90	88.00	9,058.5	188.9	2,183.4	2,191.5	85.06
10,909.0	90.20	88.50	9,060.0	191.7	2,276.3	2,284.4	85.19
11,002.0	90.00	88.00	9,059.9	194.5	2,369.3	2,377.2	85.31
11,095.0	88.90	87.60	9,060.8	198.1	2,462.2	2,470.1	85.40
11,187.0	88.80	88.70	9,062.6	201.1	2,554.1	2,562.0	85.50
11,280.0	90.90	90.10	9,062.8	202.1	2,647.1	2,654.8	85.64
11,373.0	91.00	90.30	9,061.3	201.7	2,740.1	2,747.5	85.79
11,466.0	90.00	90.80	9,060.5	200.8	2,833.1	2,840.2	85.95
11,559.0	91.40	91.80	9,059.4	198.7	2,926.1	2,932.8	86.11
11,651.0	91.20	89.70	9,057.3	197.5	3,018.0	3,024.5	86.26
11,745.0	90.80	89.00	9,055.6	198.6	3,112.0	3,118.3	86.35
11,838.0	89.30	88.50	9,055.5	200.6	3,205.0	3,211.2	86.42
11,931.0	90.50	89.00	9,055.7	202.6	3,297.9	3,304.2	86.48
12,024.0	91.40	89.60	9,054.2	203.8	3,390.9	3,397.0	86.56
12,117.0	90.00	89.00	9,053.0	204.9	3,483.9	3,489.9	86.63
12,210.0	88.40	88.80	9,054.3	206.7	3,576.9	3,582.8	86.69
12,303.0	89.70	89.20	9,055.9	208.3	3,669.8	3,675.8	86.75
12,396.0	86.90	88.80	9,058.6	210.0	3,762.8	3,768.6	86.81
12,489.0	88.30	89.20	9,062.5	211.6	3,855.7	3,861.5	86.86
12,582.0	89.00	89.90	9,064.7	212.3	3,948.7	3,954.4	86.92
12,675.0	91.20	90.80	9,064.6	211.7	4,041.6	4,047.2	87.00
12,768.0	88.90	90.80	9,064.5	210.4	4,134.6	4,140.0	87.09
12,861.0	88.50	90.80	9,066.6	209.1	4,227.6	4,232.8	87.17
12,954.0	88.90	90.40	9,068.7	208.2	4,320.6	4,325.6	87.24
13,048.0	89.80	90.80	9,069.8	207.2	4,414.6	4,419.4	87.31



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
13,140.0	89.20	90.80	9,070.6	205.9	4,506.5	4,511.2	87.38	
13,233.0	89.40	91.10	9,071.7	204.4	4,599.5	4,604.1	87.46	
13,326.0	89.40	91.50	9,072.7	202.2	4,692.5	4,696.9	87.53	
13,419.0	88.80	91.00	9,074.1	200.2	4,785.5	4,789.6	87.60	
13,512.0	88.00	91.10	9,076.7	198.5	4,878.4	4,882.4	87.67	
13,605.0	90.40	91.80	9,078.0	196.2	4,971.4	4,975.2	87.74	
13,699.0	88.90	91.70	9,078.6	193.3	5,065.3	5,069.0	87.81	
13,792.0	91.10	90.30	9,078.6	191.7	5,158.3	5,161.9	87.87	
13,884.0	90.40	90.10	9,077.4	191.3	5,250.3	5,253.8	87.91	
13,978.0	90.60	90.10	9,076.6	191.2	5,344.3	5,347.7	87.95	
14,070.0	90.50	89.60	9,075.7	191.4	5,436.3	5,439.6	87.98	
14,163.0	88.90	89.20	9,076.2	192.4	5,529.3	5,532.6	88.01	
14,257.0	89.30	89.20	9,077.7	193.7	5,623.2	5,626.6	88.03	
14,349.0	90.00	89.00	9,078.2	195.2	5,715.2	5,718.6	88.04	
14,443.0	88.40	88.30	9,079.5	197.4	5,809.2	5,812.5	88.05	
14,537.0	88.50	88.00	9,082.1	200.4	5,903.1	5,906.5	88.06	
14,629.0	89.20	88.20	9,083.9	203.4	5,995.0	5,998.5	88.06	
14,722.0	88.10	87.60	9,086.1	206.9	6,087.9	6,091.5	88.05	
14,816.0	90.00	88.30	9,087.7	210.2	6,181.9	6,185.4	88.05	
14,909.0	89.10	88.20	9,088.4	213.1	6,274.8	6,278.4	88.06	
15,002.0	88.80	87.60	9,090.1	216.5	6,367.7	6,371.4	88.05	
15,096.0	89.00	88.30	9,091.9	219.8	6,461.7	6,465.4	88.05	
15,190.0	90.20	91.00	9,092.6	220.4	6,555.7	6,559.4	88.07	
15,283.0	87.60	90.60	9,094.3	219.1	6,648.6	6,652.2	88.11	
15,376.0	89.20	91.50	9,096.9	217.4	6,741.6	6,745.1	88.15	
15,469.0	91.30	93.10	9,096.5	213.7	6,834.5	6,837.8	88.21	
15,562.0	92.10	92.70	9,093.8	209.0	6,927.3	6,930.5	88.27	
15,655.0	91.50	92.90	9,090.9	204.4	7,020.2	7,023.1	88.33	
15,748.0	90.80	93.10	9,089.0	199.6	7,113.0	7,115.8	88.39	
15,841.0	90.00	92.20	9,088.3	195.3	7,205.9	7,208.6	88.45	
15,934.0	89.90	91.10	9,088.4	192.6	7,298.9	7,301.4	88.49	
16,028.0	91.70	90.40	9,087.1	191.3	7,392.8	7,395.3	88.52	
16,121.0	91.00	89.60	9,084.9	191.3	7,485.8	7,488.3	88.54	
16,213.0	90.40	89.00	9,083.8	192.5	7,577.8	7,580.2	88.55	
16,306.0	88.50	88.20	9,084.7	194.7	7,670.8	7,673.2	88.55	
16,400.0	88.20	88.20	9,087.4	197.7	7,764.7	7,767.2	88.54	
16,492.0	88.60	88.00	9,090.0	200.7	7,856.6	7,859.2	88.54	
16,586.0	88.50	88.00	9,092.3	204.0	7,950.5	7,953.1	88.53	
16,678.0	89.90	88.30	9,093.6	207.0	8,042.4	8,045.1	88.53	
16,773.0	89.70	87.80	9,094.0	210.2	8,137.4	8,140.1	88.52	
16,865.0	89.90	87.60	9,094.3	213.9	8,229.3	8,232.1	88.51	
16,958.0	87.80	87.60	9,096.1	217.8	8,322.2	8,325.1	88.50	
17,051.0	87.50	87.80	9,100.0	221.5	8,415.1	8,418.0	88.49	
17,145.0	87.80	89.60	9,103.8	223.7	8,509.0	8,511.9	88.49	



QES Survey Certification Report



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Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
17,237.0	86.50	89.90	9,108.4	224.1	8,600.8	8,603.8	88.51
17,329.0	87.20	88.50	9,113.4	225.4	8,692.7	8,695.6	88.51
17,447.0	88.10	88.80	9,118.3	228.1	8,810.6	8,813.5	88.52
17,539.0	87.60	88.50	9,121.7	230.3	8,902.5	8,905.4	88.52
17,632.0	90.30	88.50	9,123.4	232.7	8,995.4	8,998.4	88.52
17,725.0	91.40	88.00	9,122.1	235.6	9,088.4	9,091.4	88.52
17,817.0	91.60	89.90	9,119.7	237.3	9,180.3	9,183.4	88.52
17,910.0	87.10	88.70	9,120.7	238.4	9,273.3	9,276.3	88.53
18,002.0	86.10	88.80	9,126.2	240.4	9,365.1	9,368.2	88.53
18,096.0	86.40	89.60	9,132.3	241.7	9,458.9	9,462.0	88.54
18,127.0	89.20	89.40	9,133.5	242.0	9,489.8	9,492.9	88.54
18,158.0	91.40	88.80	9,133.3	242.5	9,520.8	9,523.9	88.54
18,189.0	92.00	88.80	9,132.4	243.1	9,551.8	9,554.9	88.54
18,220.0	92.50	88.80	9,131.2	243.8	9,582.8	9,585.9	88.54
18,251.0	94.00	89.70	9,129.4	244.2	9,613.7	9,616.8	88.55
18,283.0	94.00	89.70	9,127.2	244.3	9,645.6	9,648.7	88.55
18,314.0	94.20	90.10	9,125.0	244.4	9,676.6	9,679.7	88.55
18,345.0	94.30	91.30	9,122.7	244.0	9,707.5	9,710.5	88.56
18,376.0	94.50	91.70	9,120.3	243.2	9,738.4	9,741.4	88.57
18,408.0	94.70	91.80	9,117.8	242.2	9,770.3	9,773.3	88.58
18,439.0	93.90	92.00	9,115.4	241.2	9,801.2	9,804.1	88.59
18,470.0	94.10	92.00	9,113.3	240.1	9,832.1	9,835.0	88.60
18,502.0	94.20	91.80	9,110.9	239.1	9,864.0	9,866.9	88.61
18,533.0	93.60	91.80	9,108.8	238.1	9,894.9	9,897.7	88.62
18,564.0	91.40	92.40	9,107.5	237.0	9,925.8	9,928.6	88.63
18,595.0	91.40	92.50	9,106.7	235.6	9,956.8	9,959.6	88.64
18,627.0	89.70	91.70	9,106.4	234.5	9,988.8	9,991.5	88.66
18,658.0	87.60	91.00	9,107.2	233.7	10,019.7	10,022.5	88.66
18,690.0	86.80	91.00	9,108.7	233.2	10,051.7	10,054.4	88.67
18,720.0	86.90	91.10	9,110.4	232.6	10,081.6	10,084.3	88.68
18,751.0	89.30	91.50	9,111.4	231.9	10,112.6	10,115.3	88.69
18,783.0	90.00	92.00	9,111.6	230.9	10,144.6	10,147.2	88.70
18,813.0	90.20	91.80	9,111.5	229.9	10,174.6	10,177.2	88.71
18,844.0	90.10	92.00	9,111.5	228.9	10,205.6	10,208.1	88.72
18,875.0	90.60	92.00	9,111.3	227.8	10,236.5	10,239.1	88.72
18,906.0	90.80	92.00	9,110.9	226.8	10,267.5	10,270.0	88.73
18,938.0	91.00	91.30	9,110.4	225.8	10,299.5	10,302.0	88.74
18,969.0	90.60	92.00	9,110.0	224.9	10,330.5	10,332.9	88.75
19,001.0	90.40	92.20	9,109.7	223.8	10,362.5	10,364.9	88.76
19,032.0	90.40	92.00	9,109.5	222.6	10,393.4	10,395.8	88.77
19,063.0	90.50	92.00	9,109.2	221.6	10,424.4	10,426.8	88.78
19,094.0	91.20	92.00	9,108.8	220.5	10,455.4	10,457.7	88.79
19,126.0	91.70	92.40	9,107.9	219.2	10,487.4	10,489.7	88.80
19,157.0	91.80	92.40	9,107.0	217.9	10,518.3	10,520.6	88.81



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17-16 B3DA Fed Com #2H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3292.0usft (Patterson #250)
Site:	Sec 18,T20S,R29E	MD Reference:	WELL @ 3292.0usft (Patterson #250)
Well:	Glock 17-16 B3DA Fed Com #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
19,188.0	91.90	92.20	9,106.0	216.7	10,549.3	10,551.5	88.82	
19,219.0	91.30	92.20	9,105.1	215.5	10,580.3	10,582.4	88.83	
19,251.0	90.20	91.80	9,104.7	214.4	10,612.2	10,614.4	88.84	
19,282.0	90.40	92.00	9,104.5	213.4	10,643.2	10,645.4	88.85	
19,313.0	90.10	91.70	9,104.4	212.4	10,674.2	10,676.3	88.86	
19,344.0	90.00	91.70	9,104.4	211.4	10,705.2	10,707.3	88.87	
19,375.0	90.00	91.80	9,104.4	210.5	10,736.2	10,738.2	88.88	
19,406.0	90.10	91.70	9,104.4	209.6	10,767.2	10,769.2	88.89	
19,438.0	90.00	91.80	9,104.3	208.6	10,799.1	10,801.2	88.89	
19,469.0	90.00	92.20	9,104.3	207.5	10,830.1	10,832.1	88.90	
19,500.0	89.90	92.00	9,104.4	206.4	10,861.1	10,863.1	88.91	
19,531.0	89.30	92.00	9,104.6	205.3	10,892.1	10,894.0	88.92	
19,562.0	89.30	92.20	9,105.0	204.1	10,923.1	10,925.0	88.93	
19,594.0	89.40	92.00	9,105.3	203.0	10,955.0	10,956.9	88.94	
19,635.0	89.50	92.20	9,105.7	201.5	10,996.0	10,997.9	88.95	
19,705.0	89.50	92.20	9,106.3	198.8	11,066.0	11,067.7	88.97	
TD @ 19705.0' MD / 9106.3' TVD								

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,975.0	2,963.3	-181.3	109.7	Gyro Tie In @ 2975.0' MD / 2963.3' TVD	
19,705.0	9,106.3	198.8	11,066.0	TD @ 19705.0' MD / 9106.3' TVD	

Checked By: _____	Approved By: _____	Date: _____
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