

30-015-44584

Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 11, T26S, R28E

Delaware Ranch 11 W2NC Fee #1H

Wellbore #1

Design: Wellbore #1

QES Survey Report

25 April, 2018

**Provide Signature Page for
Directional Survey**





Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 11, T26S, R28E
Well: Delaware Ranch 11 W2NC Fee #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Delaware Ranch 11 W2NC Fee #1H
TVD Reference: WELL @ 2998.0usft (Patterson #230)
MD Reference: WELL @ 2998.0usft (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 11, T26S, R28E		
Site Position:		Northing:	382,171.70 usft
From:	Map	Easting:	625,583.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 1.362 N
		Longitude:	104° 3' 41.083 W
		Grid Convergence:	0.14 °

Well	Delaware Ranch 11 W2NC Fee #1H		
Well Position	+N/-S	0.0 usft	Northing: 382,171.68 usft
	+E/-W	0.0 usft	Easting: 625,583.90 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 3' 1.362 N
		Longitude:	104° 3' 41.083 W
		Ground Level:	2,971.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	3/13/2018	7.09
		Dip Angle (°)	59.81
		Field Strength (nT)	47,710.28181292

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)
	0.0	0.0	0.0
		Direction (°)	1.19

Survey Program	Date 4/19/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
184.0	15,350.0	QES MWD Surveys (Wellbore #1)	MWD default
			Description
			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 @ 184.0' MD / 184.0' TVD									
184.0	0.50	326.60	184.0	0.7	-0.4	0.7	0.27	0.27	0.00
306.0	1.90	235.00	306.0	0.0	-2.4	-0.1	1.62	1.15	-75.08
461.0	2.20	223.30	460.9	-3.7	-6.5	-3.8	0.33	0.19	-7.55
578.0	2.80	208.20	577.8	-7.8	-9.4	-8.0	0.76	0.51	-12.91
692.0	3.10	205.50	691.6	-13.1	-12.1	-13.3	0.29	0.26	-2.37
796.0	3.60	215.90	795.4	-18.3	-15.2	-18.6	0.75	0.48	10.00
890.0	3.10	216.50	889.3	-22.7	-18.4	-23.1	0.53	-0.53	0.64
984.0	1.70	215.60	983.2	-25.9	-20.8	-26.3	1.49	-1.49	-0.96
1,079.0	1.10	229.30	1,078.2	-27.6	-22.3	-28.1	0.72	-0.63	14.42

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Delaware Ranch 11 W2NC Fee #1H
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Site:	Sec 11, T26S, R28E	MD Reference:	WELL @ 2998.0usft (Patterson #230)
Well:	Delaware Ranch 11 W2NC Fee #1H	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)
1,174.0	1.10	236.30	1,173.1	-28.7	-23.7	-29.2	0.14	0.00	7.37
1,269.0	1.50	248.50	1,268.1	-29.7	-25.6	-30.2	0.51	0.42	12.84
1,364.0	1.60	265.30	1,363.1	-30.2	-28.1	-30.8	0.49	0.11	17.68
1,458.0	2.00	287.10	1,457.0	-29.9	-31.0	-30.5	0.84	0.43	23.19
1,553.0	1.60	312.60	1,552.0	-28.5	-33.6	-29.2	0.93	-0.42	26.84
1,648.0	1.80	309.30	1,647.0	-26.6	-35.7	-27.4	0.23	0.21	-3.47
1,743.0	0.30	295.90	1,741.9	-25.6	-37.1	-26.3	1.59	-1.58	-14.11
1,837.0	0.30	252.90	1,835.9	-25.5	-37.5	-26.3	0.23	0.00	-45.74
1,932.0	0.20	101.70	1,930.9	-25.6	-37.6	-26.4	0.51	-0.11	-159.16
2,026.0	1.30	91.00	2,024.9	-25.7	-36.4	-26.5	1.17	1.17	-11.38
2,120.0	1.10	96.40	2,118.9	-25.8	-34.4	-26.5	0.24	-0.21	5.74
2,215.0	2.10	93.80	2,213.9	-26.0	-31.8	-26.7	1.06	1.05	-2.74
2,310.0	2.80	100.80	2,308.8	-26.6	-27.7	-27.2	0.80	0.74	7.37
2,405.0	2.40	109.10	2,403.7	-27.7	-23.6	-28.2	0.58	-0.42	8.74
2,499.0	0.60	98.20	2,497.6	-28.4	-21.2	-28.8	1.93	-1.91	-11.60
2,594.0	0.10	139.60	2,592.6	-28.5	-20.7	-28.9	0.56	-0.53	43.58
2,653.0	0.50	212.30	2,651.6	-28.8	-20.8	-29.2	0.81	0.68	123.22
2,760.0	0.50	258.80	2,758.6	-29.3	-21.5	-29.7	0.37	0.00	43.46
2,855.0	0.70	253.70	2,853.6	-29.5	-22.5	-30.0	0.22	0.21	-5.37
2,949.0	0.60	243.20	2,947.6	-29.9	-23.5	-30.4	0.17	-0.11	-11.17
3,044.0	0.50	253.90	3,042.6	-30.2	-24.3	-30.7	0.15	-0.11	11.26
3,138.0	0.50	235.10	3,136.6	-30.6	-25.0	-31.1	0.17	0.00	-20.00
3,233.0	0.40	245.10	3,231.6	-31.0	-25.7	-31.5	0.13	-0.11	10.53
3,328.0	0.50	247.10	3,326.6	-31.3	-26.4	-31.8	0.11	0.11	2.11
3,423.0	0.60	230.50	3,421.6	-31.7	-27.1	-32.3	0.20	0.11	-17.47
3,517.0	0.80	232.10	3,515.6	-32.4	-28.0	-33.0	0.21	0.21	1.70
3,612.0	0.70	187.10	3,610.6	-33.4	-28.6	-34.0	0.61	-0.11	-47.37
3,706.0	0.80	185.50	3,704.6	-34.7	-28.7	-35.2	0.11	0.11	-1.70
3,801.0	0.60	173.10	3,799.6	-35.8	-28.8	-36.4	0.26	-0.21	-13.05
3,895.0	1.00	199.10	3,893.6	-37.1	-29.0	-37.7	0.56	0.43	27.66
3,991.0	1.80	154.40	3,989.5	-39.2	-28.6	-39.8	1.35	0.83	-46.56
4,085.0	1.90	157.80	4,083.5	-42.0	-27.4	-42.6	0.16	0.11	3.62
4,180.0	2.00	161.80	4,178.4	-45.0	-26.2	-45.6	0.18	0.11	4.21
4,274.0	1.20	161.40	4,272.4	-47.5	-25.4	-48.0	0.85	-0.85	-0.43
4,369.0	1.20	161.40	4,367.4	-49.4	-24.8	-49.9	0.00	0.00	0.00
4,463.0	1.20	163.20	4,461.4	-51.3	-24.2	-51.8	0.04	0.00	1.91
4,558.0	1.30	174.50	4,556.3	-53.3	-23.8	-53.8	0.28	0.11	11.89
4,652.0	1.40	171.50	4,650.3	-55.5	-23.5	-56.0	0.13	0.11	-3.19
4,747.0	1.40	184.60	4,745.3	-57.8	-23.4	-58.3	0.34	0.00	13.79
4,842.0	1.20	181.50	4,840.3	-60.0	-23.6	-60.4	0.22	-0.21	-3.26
4,937.0	1.40	191.00	4,935.2	-62.1	-23.8	-62.6	0.31	0.21	10.00
5,031.0	1.80	190.50	5,029.2	-64.7	-24.3	-65.2	0.43	0.43	-0.53
5,126.0	1.80	183.80	5,124.2	-67.6	-24.7	-68.1	0.22	0.00	-7.05

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Survey

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5,220.0	1.60	190.50	5,218.1	-70.4	-25.0	-70.9	0.30	-0.21	7.13
5,315.0	1.60	188.90	5,313.1	-73.0	-25.5	-73.5	0.05	0.00	-1.68
5,410.0	1.60	180.40	5,408.0	-75.6	-25.7	-76.2	0.25	0.00	-8.95
5,504.0	1.40	180.30	5,502.0	-78.1	-25.7	-78.6	0.21	-0.21	-0.11
5,599.0	1.40	180.30	5,597.0	-80.4	-25.7	-80.9	0.00	0.00	0.00
5,693.0	1.50	178.90	5,690.9	-82.8	-25.7	-83.3	0.11	0.11	-1.49
5,787.0	1.50	170.20	5,784.9	-85.2	-25.4	-85.8	0.24	0.00	-9.26
5,881.0	1.50	166.60	5,878.9	-87.7	-25.0	-88.2	0.10	0.00	-3.83
5,975.0	1.60	178.00	5,972.8	-90.2	-24.6	-90.7	0.34	0.11	12.13
6,070.0	1.60	166.60	6,067.8	-92.8	-24.3	-93.3	0.33	0.00	-12.00
6,164.0	1.80	166.60	6,161.8	-95.5	-23.6	-96.0	0.21	0.21	0.00
6,258.0	1.70	172.00	6,255.7	-98.3	-23.1	-98.8	0.21	-0.11	5.74
6,353.0	1.60	158.50	6,350.7	-100.9	-22.4	-101.4	0.42	-0.11	-14.21
6,447.0	1.60	162.00	6,444.6	-103.4	-21.5	-103.8	0.10	0.00	3.72
6,542.0	1.50	166.60	6,539.6	-105.9	-20.8	-106.3	0.17	-0.11	4.84
6,636.0	1.50	177.80	6,633.6	-108.3	-20.5	-108.7	0.31	0.00	11.91
6,731.0	1.10	169.50	6,728.6	-110.4	-20.3	-110.8	0.46	-0.42	-8.74
6,826.0	1.30	165.30	6,823.5	-112.4	-19.8	-112.8	0.23	0.21	-4.42
6,920.0	1.50	150.60	6,917.5	-114.5	-19.0	-114.9	0.44	0.21	-15.64
7,015.0	1.60	146.20	7,012.5	-116.7	-17.6	-117.0	0.16	0.11	-4.63
7,110.0	1.80	140.50	7,107.4	-118.9	-15.9	-119.2	0.28	0.21	-6.00
7,205.0	1.90	132.60	7,202.4	-121.1	-13.8	-121.4	0.29	0.11	-8.32
7,299.0	1.30	135.10	7,296.3	-123.0	-11.9	-123.2	0.64	-0.64	2.66
7,394.0	1.20	146.20	7,391.3	-124.5	-10.6	-124.7	0.28	-0.11	11.68
7,489.0	1.10	152.10	7,486.3	-126.2	-9.6	-126.3	0.16	-0.11	6.21
7,583.0	1.20	169.00	7,580.3	-127.9	-9.0	-128.1	0.37	0.11	17.98
7,677.0	1.10	175.20	7,674.3	-129.8	-8.7	-130.0	0.17	-0.11	6.60
7,772.0	1.00	192.70	7,769.3	-131.5	-8.9	-131.7	0.35	-0.11	18.42
7,867.0	0.80	191.30	7,864.2	-133.0	-9.2	-133.1	0.21	-0.21	-1.47
7,961.0	1.10	215.60	7,958.2	-134.4	-9.8	-134.5	0.53	0.32	25.85
8,055.0	1.60	217.20	8,052.2	-136.1	-11.1	-136.3	0.53	0.53	1.70
8,150.0	1.50	220.70	8,147.2	-138.1	-12.7	-138.4	0.14	-0.11	3.68
8,244.0	1.10	211.70	8,241.1	-139.8	-14.0	-140.1	0.48	-0.43	-9.57
8,338.0	1.60	220.70	8,335.1	-141.6	-15.4	-141.9	0.58	0.53	9.57
8,433.0	1.50	196.30	8,430.1	-143.8	-16.6	-144.1	0.70	-0.11	-25.68
8,527.0	1.60	180.80	8,524.0	-146.3	-16.9	-146.6	0.46	0.11	-16.49
8,621.0	1.60	183.40	8,618.0	-148.9	-17.0	-149.2	0.08	0.00	2.77
8,717.0	1.40	181.30	8,714.0	-151.4	-17.1	-151.7	0.22	-0.21	-2.19
8,811.0	1.50	186.80	8,807.9	-153.8	-17.3	-154.1	0.18	0.11	5.85
8,906.0	1.40	189.10	8,902.9	-156.2	-17.6	-156.5	0.12	-0.11	2.42
9,000.0	1.40	193.30	8,996.9	-158.4	-18.1	-158.8	0.11	0.00	4.47
9,095.0	1.30	192.40	9,091.9	-160.6	-18.6	-161.0	0.11	-0.11	-0.95
9,190.0	1.40	197.10	9,186.8	-162.8	-19.2	-163.1	0.16	0.11	4.95

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9,285.0	1.40	207.00	9,281.8	-164.9	-20.0	-165.3	0.25	0.00	10.42
9,379.0	1.40	205.20	9,375.8	-167.0	-21.0	-167.4	0.05	0.00	-1.91
9,474.0	1.50	204.50	9,470.7	-169.2	-22.0	-169.6	0.11	0.11	-0.74
9,568.0	1.50	196.40	9,564.7	-171.5	-22.9	-171.9	0.23	0.00	-8.62
9,663.0	1.60	205.80	9,659.7	-173.8	-23.8	-174.3	0.29	0.11	9.89
9,757.0	1.40	196.30	9,753.7	-176.1	-24.7	-176.6	0.34	-0.21	-10.11
9,852.0	1.20	204.70	9,848.6	-178.1	-25.5	-178.6	0.29	-0.21	8.84
9,947.0	1.00	215.80	9,943.6	-179.7	-26.4	-180.2	0.31	-0.21	11.68
10,010.0	0.90	220.90	10,006.6	-180.5	-27.0	-181.1	0.21	-0.16	8.10
10,062.0	0.50	343.60	10,058.6	-180.6	-27.3	-181.2	2.39	-0.77	235.96
10,094.0	5.00	5.00	10,090.6	-179.1	-27.3	-179.6	14.18	14.06	66.88
10,125.0	11.20	5.20	10,121.2	-174.8	-26.9	-175.3	20.00	20.00	0.65
10,157.0	16.40	4.10	10,152.3	-167.2	-26.3	-167.7	16.27	16.25	-3.44
10,188.0	21.90	358.90	10,181.6	-157.0	-26.1	-157.5	18.56	17.74	-16.77
10,220.0	24.70	1.50	10,211.0	-144.3	-26.0	-144.9	9.32	8.75	8.13
10,251.0	28.00	2.90	10,238.7	-130.6	-25.5	-131.1	10.83	10.65	4.52
10,282.0	30.00	3.40	10,265.8	-115.6	-24.6	-116.1	6.50	6.45	1.61
10,314.0	32.60	6.10	10,293.2	-99.0	-23.2	-99.5	9.23	8.13	8.44
10,345.0	34.40	8.50	10,319.0	-82.1	-21.1	-82.5	7.21	5.81	7.74
10,377.0	35.70	0.80	10,345.2	-63.8	-19.6	-64.2	14.39	4.06	-24.06
10,408.0	35.10	0.80	10,370.5	-45.8	-19.3	-46.2	1.94	-1.94	0.00
10,440.0	36.40	1.80	10,396.5	-27.1	-18.9	-27.5	4.45	4.06	3.13
10,472.0	37.70	3.40	10,422.0	-7.9	-18.0	-8.2	5.06	4.06	5.00
10,504.0	40.50	4.30	10,446.9	12.3	-16.7	11.9	8.93	8.75	2.81
10,536.0	44.10	4.80	10,470.5	33.7	-15.0	33.4	11.30	11.25	1.56
10,568.0	48.80	4.70	10,492.6	56.8	-13.0	56.5	14.69	14.69	-0.31
10,600.0	54.20	4.70	10,512.5	81.8	-11.0	81.5	16.88	16.88	0.00
10,634.0	60.30	5.20	10,530.9	110.3	-8.5	110.1	17.98	17.94	1.47
10,666.0	64.90	5.70	10,545.6	138.5	-5.8	138.4	14.44	14.38	1.56
330' HL Crossed @ 10673.2' MD / 10548.6' TVD									
10,673.2	65.17	5.81	10,548.6	145.0	-5.2	144.9	4.01	3.75	1.57
10,698.0	66.10	6.20	10,558.9	167.5	-2.8	167.4	4.01	3.75	1.56
10,730.0	68.80	6.60	10,571.1	196.9	0.5	196.8	8.52	8.44	1.25
10,762.0	69.70	6.40	10,582.5	226.6	3.9	226.6	2.87	2.81	-0.63
10,794.0	70.90	5.50	10,593.2	256.6	7.0	256.6	4.59	3.75	-2.81
10,826.0	72.30	5.00	10,603.3	286.8	9.8	286.9	4.62	4.38	-1.56
10,858.0	76.60	4.30	10,611.9	317.5	12.3	317.7	13.60	13.44	-2.19
10,890.0	79.10	3.80	10,618.7	348.7	14.5	348.9	7.96	7.81	-1.56
10,921.0	80.70	2.70	10,624.1	379.2	16.2	379.4	6.23	5.16	-3.55
10,953.0	82.80	2.40	10,628.7	410.8	17.6	411.1	6.63	6.56	-0.94
10,984.0	84.90	2.20	10,632.0	441.6	18.9	441.9	6.80	6.77	-0.65
11,016.0	87.70	1.10	10,634.1	473.5	19.8	473.8	9.40	8.75	-3.44
11,047.0	88.60	0.60	10,635.1	504.5	20.2	504.8	3.32	2.90	-1.61
11,142.0	89.10	0.10	10,637.0	599.5	20.8	599.8	0.74	0.53	-0.53



Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 11, T26S, R28E
Well: Delaware Ranch 11 W2NC Fee #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Delaware Ranch 11 W2NC Fee #1H
TVD Reference: WELL @ 2998.0usft (Patterson #230)
MD Reference: WELL @ 2998.0usft (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)
11,236.0	89.30	1.10	10,638.3	693.5	21.8	693.8	1.08	0.21	1.06
11,331.0	89.60	4.30	10,639.2	788.3	26.3	788.7	3.38	0.32	3.37
11,426.0	88.50	4.00	10,640.8	883.1	33.1	883.6	1.20	-1.16	-0.32
11,521.0	87.50	2.50	10,644.1	977.9	38.5	978.5	1.90	-1.05	-1.58
11,616.0	87.40	3.60	10,648.3	1,072.6	43.6	1,073.3	1.16	-0.11	1.16
11,713.0	89.70	4.10	10,650.8	1,169.4	50.1	1,170.2	2.43	2.37	0.52
11,808.0	89.40	2.20	10,651.5	1,264.2	55.3	1,265.1	2.02	-0.32	-2.00
11,904.0	88.70	3.30	10,653.1	1,360.1	59.9	1,361.1	1.36	-0.73	1.15
12,000.0	91.40	2.70	10,653.0	1,456.0	64.9	1,457.0	2.88	2.81	-0.63
12,097.0	89.90	359.20	10,651.9	1,552.9	66.5	1,554.0	3.93	-1.55	-3.61
12,193.0	88.50	1.10	10,653.3	1,648.9	66.8	1,649.9	2.46	-1.46	1.98
12,289.0	89.50	0.80	10,654.9	1,744.9	68.4	1,745.9	1.09	1.04	-0.31
12,385.0	85.90	359.40	10,658.8	1,840.8	68.6	1,841.8	4.02	-3.75	-1.46
12,481.0	86.80	359.70	10,664.9	1,936.6	67.8	1,937.6	0.99	0.94	0.31
12,576.0	89.80	1.70	10,667.7	2,031.5	69.0	2,032.5	3.79	3.16	2.11
12,672.0	91.40	2.70	10,666.7	2,127.4	72.7	2,128.5	1.97	1.67	1.04
12,767.0	89.90	1.80	10,665.6	2,222.4	76.4	2,223.5	1.84	-1.58	-0.95
12,863.0	88.80	1.00	10,666.7	2,318.3	78.7	2,319.5	1.42	-1.15	-0.83
12,959.0	89.10	0.30	10,668.5	2,414.3	79.8	2,415.4	0.79	0.31	-0.73
13,055.0	92.90	0.60	10,666.8	2,510.3	80.6	2,511.4	3.97	3.96	0.31
13,152.0	93.00	0.80	10,661.8	2,607.1	81.8	2,608.3	0.23	0.10	0.21
13,247.0	91.00	359.90	10,658.5	2,702.1	82.3	2,703.2	2.31	-2.11	-0.95
13,341.0	88.60	359.60	10,658.8	2,796.1	81.9	2,797.2	2.57	-2.55	-0.32
13,436.0	92.90	3.40	10,657.6	2,891.0	84.4	2,892.1	6.04	4.53	4.00
13,530.0	88.60	359.90	10,656.4	2,984.9	87.1	2,986.1	5.90	-4.57	-3.72
13,625.0	91.80	3.30	10,656.0	3,079.8	89.8	3,081.0	4.91	3.37	3.58
13,719.0	91.00	2.00	10,653.7	3,173.7	94.1	3,175.0	1.62	-0.85	-1.38
13,813.0	90.20	1.50	10,652.8	3,267.6	97.0	3,269.0	1.00	-0.85	-0.53
13,908.0	88.80	1.10	10,653.6	3,362.6	99.1	3,363.9	1.53	-1.47	-0.42
14,002.0	86.80	1.30	10,657.2	3,456.5	101.1	3,457.9	2.14	-2.13	0.21
14,096.0	86.10	1.70	10,663.0	3,550.3	103.6	3,551.7	0.86	-0.74	0.43
14,191.0	86.70	1.00	10,669.0	3,645.1	105.8	3,646.5	0.97	0.63	-0.74
14,285.0	88.10	2.70	10,673.2	3,738.9	108.8	3,740.4	2.34	1.49	1.81
14,379.0	92.20	2.20	10,673.0	3,832.8	112.8	3,834.3	4.39	4.36	-0.53
14,474.0	91.40	0.80	10,670.0	3,927.7	115.3	3,929.3	1.70	-0.84	-1.47
14,568.0	88.90	359.70	10,669.8	4,021.7	115.7	4,023.3	2.91	-2.66	-1.17
14,663.0	87.60	358.90	10,672.7	4,116.7	114.6	4,118.2	1.61	-1.37	-0.84
14,757.0	92.00	359.00	10,673.0	4,210.6	112.8	4,212.1	4.68	4.68	0.11
14,852.0	93.40	359.40	10,668.5	4,305.5	111.5	4,306.9	1.53	1.47	0.42
14,947.0	91.00	359.70	10,664.9	4,400.4	110.8	4,401.8	2.55	-2.53	0.32
15,042.0	91.50	0.10	10,662.8	4,495.4	110.6	4,496.8	0.67	0.53	0.42
15,136.0	90.40	0.10	10,661.2	4,589.4	110.8	4,590.7	1.17	-1.17	0.00
15,231.0	89.10	359.90	10,661.7	4,684.4	110.8	4,685.7	1.38	-1.37	-0.21



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Delaware Ranch 11 W2NC Fee #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 2998.0usft (Patterson #230)
Site:	Sec 11, T26S, R28E	MD Reference:	WELL @ 2998.0usft (Patterson #230)
Well:	Delaware Ranch 11 W2NC Fee #1H	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)
15,293.0	88.30	359.70	10,663.1	4,746.4	110.6	4,747.7	1.33	-1.29	-0.32
TD @ 15350.0' MD / 10664.8' TVD									
15,350.0	88.30	359.70	10,664.8	4,803.4	110.3	4,804.6	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
184.0	184.0	0.7	-0.4	First MWD Survey @ 184.0' MD / 184.0' TVD
10,673.2	10,548.6	145.0	-5.2	330' HL Crossed @ 10673.2' MD / 10548.6' TVD
15,350.0	10,664.8	4,803.4	110.3	TD @ 15350.0' MD / 10664.8' TVD

Checked By: _____	Approved By: _____	Date: _____
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Company Name: Newbourne Oil Company
 Delaware Ranch 11 W2NC Fee #1H
 Eddy County, New Mexico (Nad 83)
 Rig: Patterson 8230
 Created By: Shane Robbins
 Date: 4/19/2018

Delaware Ranch 11 W2NC Fee #1H
 Eddy County, New Mexico (Nad 83)
 Q180320 & WT-180280
 Design #2



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: Delaware Ranch 11 W2NC Fee #1H

		2971.0			
*N-S	*E-W	Northing	Easting	Latitude	Longitude
0.0	0.0	387171.68	825583.90	32° 3' 1.382 N	104° 3' 41.083 W



Azimuths to Grid North

Correction: 6.94°

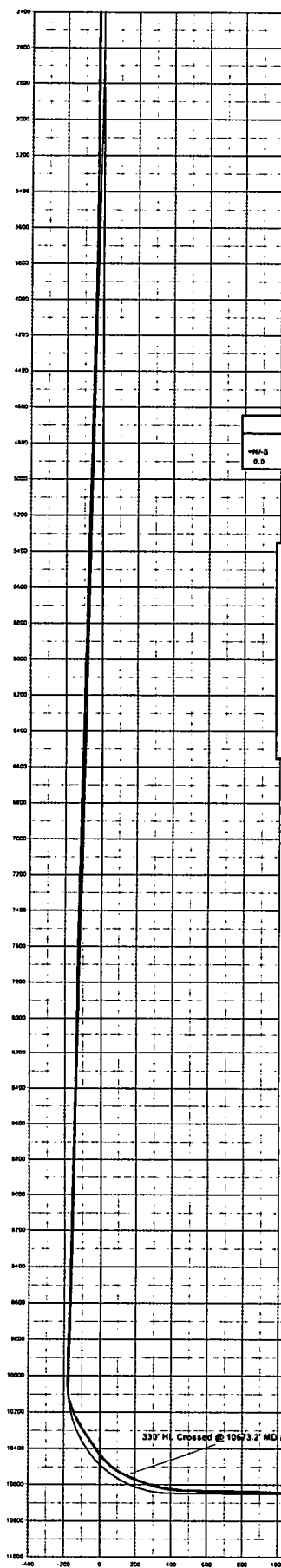
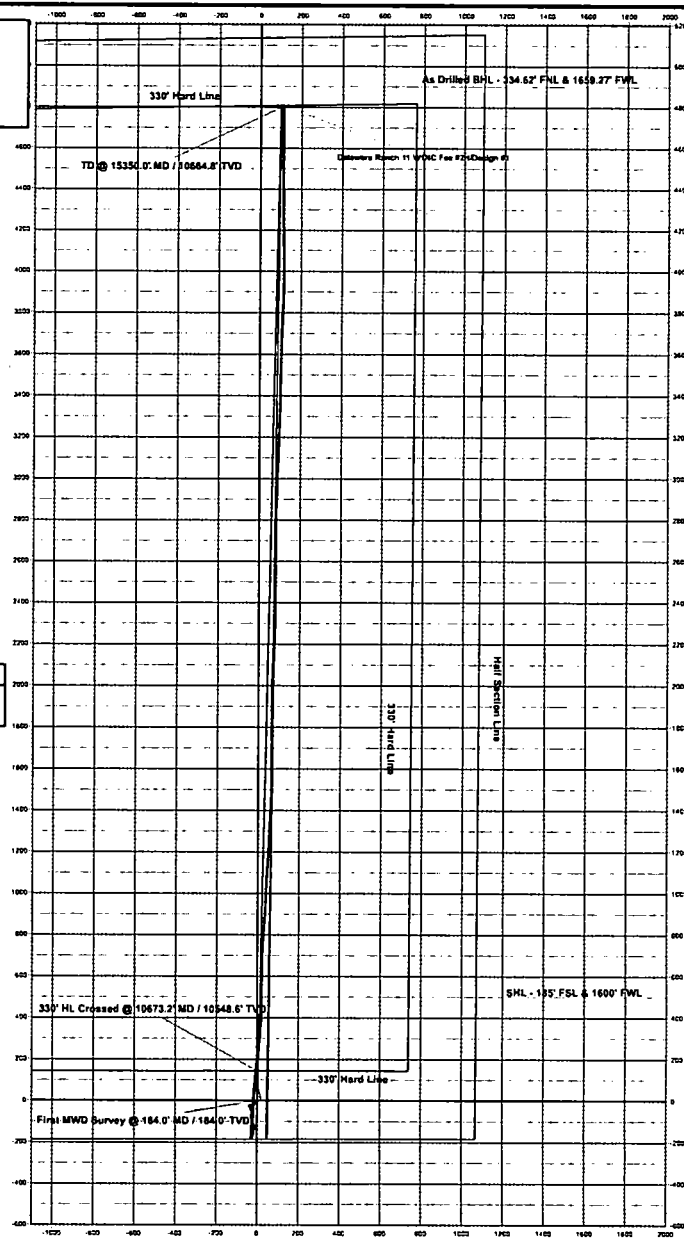
Magnetic Field

Strength: 47710.3nT

Dip Angle: 59.81°

Date: 3/13/2018

Model: IGRF2015



ANNOTATIONS

MD	Inc	Azi	TVD	*N-S	*E-W	Vsect	Departure	Annotation
194.0	0.50	326.60	194.0	0.7	-0.4	0.7	0.8	First MWD Survey @ 194.0' MD / 194.0' TVD
10873.2	85.17	5.81	10548.6	145.0	-5.2	144.8	587.4	330° HL Crossed @ 10873.2' MD / 10548.6' TVD
15350.0	88.30	359.70	10664.8	4803.4	110.3	4804.6	5226.0	TD @ 15350.0' MD / 10664.8' TVD

330° HL Crossed @ 10873.2' MD / 10548.6' TVD

TD @ 15350.0' MD / 10664.8' TVD

Vertical Section at 1.19° (200 usft/in)