

November 7, 2017

**NM OIL CONSERVATION
ARTESIA DISTRICT**

MAR 14 2018

RECEIVED

**New Mexico Energy, Minerals and Natural Resources Department
Attn: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505**

Attn: Jackie Lathan

**Re: Mewbourne Oil Company
Queen 23 24 W00P Federal Com #001H
Purple Sage; Wolfcamp (Gas)
Eddy County, New Mexico
API# 30-015-44250**

Enclosed please find the original and one (1) copy of the survey performed on the reference well by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C. Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole No.</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
David Calabrese	Original Hole	696ft. to 17,613ft.	08-29-17 to 09-23-17	MWD Survey

A certified plat on which the bottom-hole location is oriented to both surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.


Todd Estes

Enclosures
CC:

Mewbourne Oil Company
Attn: Frosty Lathan
P.O. Box 5720
Hobbs, NM 88241

Mewbourne Oil Company
Attn: Robin Terrell
P.O. Box 5720
Hobbs, NM 88241

NMEManRD\Mewbourne Oil Company\Queen 23 24 W00P Federal Com#1H\M171075

**STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.
P.O. Box 1250
Montgomery, TX 77356
Office (936) 582-7296 * Fax (936)-588-4163**



November 7, 2017

Survey Certification Report

STATE OF TEXAS

COUNTY OF Montgomery

I, Todd Estes, certify that I am employed by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C., and that I did on the day(s) of August 29, 2017, through September 23, 2017 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 696 feet to a depth of 17,613 feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the Queen 23 24 W00P Federal Com #001H well, API # **30-015-44250** in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles as set forth by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

A handwritten signature in black ink, appearing to read "Todd Estes", written over a horizontal line.

Todd Estes

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**MEWBOURNE
OIL COMPANY**

Mewbourne Oil Company

Eddy County, New Mexico

Section 23-24-24S-28E Queen 23-24 W0OP Fed Com 1H

Queen 23-24 W0OP Fed Com 1H

Original Hole

Design: Original Hole

Standard Survey Report

27 September, 2017





Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 23-24-24S-28E Queen 23-24 W0OP Fed Com 1H
Well: Queen 23-24 W0OP Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Queen 23-24 W0OP Fed Com 1H
TVD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
MD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Project Eddy County, New Mexico

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site Section 23-24-24S-28E Queen 23-24 W0OP Fed Com 1H

Site Position: Northing: 435,818.70 usft Latitude: 32° 11' 52.389 N
From: Map Easting: 584,774.50 usft Longitude: 104° 3' 33.382 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0.15 °

Well Queen 23-24 W0OP Fed Com 1H

Well Position +N/-S 0.0 usft Northing: 435,818.70 usft Latitude: 32° 11' 52.389 N
+E/-W 0.0 usft Easting: 584,774.50 usft Longitude: 104° 3' 33.382 W
Position Uncertainty 0.0 usft Wellhead Elevation: 2,982.0 usft Ground Level: 2,955.0 usft

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/21/2017	7.18	59.96	47,872.57427999

Design Original Hole

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	91.71

Survey Program Date 9/27/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
297.0	600.0	Rig Survey (Original Hole)	MWD	MWD v3: standard declination
696.0	17,680.0	MWD Survey (Original Hole)	MWD+IGRF	OWSG MWD + IGRF or WMM

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
297.0	0.30	61.00	297.0	0.4	0.7	0.7	0.10	0.10	0.00
419.0	0.60	122.00	419.0	0.2	1.5	1.5	0.43	0.25	50.00
600.0	0.50	74.00	600.0	-0.1	3.1	3.1	0.25	-0.06	-26.52
600' MD Rig Surveys									
696.0	0.40	68.60	696.0	0.1	3.8	3.8	0.11	-0.10	-5.63
758.0	0.40	353.80	758.0	0.4	4.0	3.9	0.78	0.00	-120.65
819.0	0.40	336.70	819.0	0.8	3.8	3.8	0.19	0.00	-28.03
880.0	0.40	17.80	880.0	1.2	3.8	3.8	0.46	0.00	67.38



Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 23-24-24S-28E Queen 23-24 W00P
Fed Com 1H
Well: Queen 23-24 W00P Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Queen 23-24 W00P Fed Com 1H
TVD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
MD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

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)
942.0	0.40	21.50	942.0	1.7	4.0	3.9	0.04	0.00	5.97
1,003.0	0.40	9.30	1,003.0	2.1	4.1	4.0	0.14	0.00	-20.00
1,099.0	0.40	285.10	1,099.0	2.5	3.8	3.7	0.56	0.00	-87.71
1,162.0	0.80	298.50	1,162.0	2.7	3.2	3.1	0.67	0.63	21.27
1,226.0	0.90	294.50	1,226.0	3.2	2.4	2.3	0.18	0.16	-6.25
1,289.0	1.10	284.20	1,289.0	3.5	1.3	1.2	0.43	0.32	-16.35
1,352.0	1.00	283.10	1,351.9	3.8	0.2	0.1	0.16	-0.16	-1.75
1,416.0	0.70	259.10	1,415.9	3.8	-0.7	-0.8	0.72	-0.47	-37.50
1,479.0	0.70	265.10	1,478.9	3.7	-1.5	-1.6	0.12	0.00	9.52
1,543.0	1.00	280.20	1,542.9	3.8	-2.4	-2.5	0.58	0.47	23.59
1,606.0	1.30	271.80	1,605.9	3.9	-3.7	-3.8	0.54	0.48	-13.33
1,669.0	1.30	283.90	1,668.9	4.1	-5.1	-5.2	0.43	0.00	19.21
1,733.0	1.70	278.30	1,732.9	4.4	-6.7	-6.9	0.66	0.63	-8.75
1,796.0	0.20	272.80	1,795.9	4.6	-7.8	-7.9	2.38	-2.38	-8.73
1,860.0	1.30	118.40	1,859.9	4.2	-7.2	-7.4	2.32	1.72	-241.25
1,923.0	1.90	112.50	1,922.8	3.5	-5.6	-5.7	0.99	0.95	-9.37
1,987.0	1.10	104.40	1,986.8	2.9	-4.1	-4.1	1.29	-1.25	-12.66
2,050.0	0.70	90.70	2,049.8	2.8	-3.1	-3.2	0.72	-0.63	-21.75
2,177.0	1.10	102.40	2,176.8	2.5	-1.1	-1.2	0.35	0.31	9.21
2,271.0	2.10	116.00	2,270.8	1.6	1.3	1.3	1.13	1.06	14.47
2,364.0	2.20	118.70	2,363.7	0.0	4.4	4.4	0.15	0.11	2.90
2,458.0	0.50	156.80	2,457.7	-1.3	6.1	6.2	1.95	-1.81	40.53
2,502.0	0.50	246.80	2,501.7	-1.5	6.0	6.1	1.61	0.00	204.55
2,551.0	1.00	279.80	2,550.7	-1.6	5.4	5.5	1.31	1.02	67.35
2,644.0	1.30	286.90	2,643.6	-1.1	3.6	3.6	0.36	0.32	7.63
2,738.0	1.50	281.40	2,737.6	-0.6	1.4	1.4	0.26	0.21	-5.85
2,831.0	1.40	272.60	2,830.6	-0.3	-0.9	-0.9	0.26	-0.11	-9.46
2,925.0	1.50	271.20	2,924.5	-0.2	-3.3	-3.3	0.11	0.11	-1.49
3,018.0	1.50	282.40	3,017.5	0.1	-5.7	-5.7	0.31	0.00	12.04
3,112.0	1.30	274.50	3,111.5	0.5	-8.0	-8.0	0.30	-0.21	-8.40
3,205.0	1.50	274.60	3,204.5	0.6	-10.2	-10.3	0.22	0.22	0.11
3,299.0	0.30	16.70	3,298.4	1.0	-11.4	-11.4	1.69	-1.28	108.62
3,392.0	0.30	49.60	3,391.4	1.4	-11.2	-11.2	0.18	0.00	35.38
3,485.0	0.30	10.20	3,484.4	1.8	-10.9	-11.0	0.22	0.00	-42.37
3,579.0	0.10	316.30	3,578.4	2.1	-10.9	-11.0	0.27	-0.21	-57.34
3,672.0	0.20	311.60	3,671.4	2.2	-11.1	-11.2	0.11	0.11	-5.05
3,766.0	0.40	336.40	3,765.4	2.6	-11.4	-11.4	0.25	0.21	26.38
3,859.0	0.40	338.20	3,858.4	3.2	-11.6	-11.7	0.01	0.00	1.94
3,953.0	0.40	339.20	3,952.4	3.8	-11.9	-12.0	0.01	0.00	1.06
4,046.0	0.40	326.40	4,045.4	4.4	-12.2	-12.3	0.10	0.00	-13.76
4,139.0	0.40	290.00	4,138.4	4.8	-12.6	-12.8	0.27	0.00	-39.14
4,233.0	0.60	274.90	4,232.4	5.0	-13.4	-13.6	0.25	0.21	-16.06



Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 23-24-24S-28E Queen 23-24 W00P
 Fed Com 1H
Well: Queen 23-24 W00P Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Queen 23-24 W00P Fed Com 1H
TVD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
MD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

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)
4,326.0	0.50	255.00	4,325.4	4.9	-14.3	-14.4	0.23	-0.11	-21.40
4,420.0	0.40	248.70	4,419.4	4.7	-15.0	-15.1	0.12	-0.11	-6.70
4,513.0	0.50	238.50	4,512.4	4.3	-15.7	-15.8	0.14	0.11	-10.97
4,607.0	0.70	221.30	4,606.4	3.7	-16.4	-16.5	0.28	0.21	-18.30
4,700.0	1.00	210.00	4,699.4	2.6	-17.2	-17.2	0.37	0.32	-12.15
4,794.0	1.30	213.50	4,793.4	1.0	-18.2	-18.2	0.33	0.32	3.72
4,887.0	0.20	126.20	4,886.4	0.0	-18.6	-18.6	1.40	-1.18	-93.87
4,980.0	0.40	90.30	4,979.4	-0.1	-18.2	-18.2	0.29	0.22	-38.60
5,074.0	0.20	41.80	5,073.4	0.0	-17.7	-17.7	0.33	-0.21	-51.60
5,167.0	0.30	284.30	5,166.4	0.2	-17.9	-17.9	0.46	0.11	-126.34
5,261.0	0.40	295.00	5,260.4	0.4	-18.4	-18.4	0.13	0.11	11.38
5,355.0	0.80	50.10	5,354.4	0.9	-18.2	-18.2	1.10	0.43	122.45
5,448.0	0.80	52.60	5,447.4	1.8	-17.2	-17.2	0.04	0.00	2.69
5,541.0	0.70	60.60	5,540.4	2.4	-16.2	-16.2	0.16	-0.11	8.60
5,635.0	0.80	52.90	5,634.3	3.1	-15.1	-15.2	0.15	0.11	-8.19
5,728.0	0.70	61.30	5,727.3	3.8	-14.1	-14.2	0.16	-0.11	9.03
5,821.0	0.80	57.50	5,820.3	4.4	-13.1	-13.2	0.12	0.11	-4.09
5,915.0	0.80	67.80	5,914.3	5.0	-11.9	-12.1	0.15	0.00	10.96
6,009.0	0.70	74.90	6,008.3	5.4	-10.8	-10.9	0.15	-0.11	7.55
6,102.0	0.80	78.40	6,101.3	5.7	-9.6	-9.7	0.12	0.11	3.76
6,195.0	0.80	81.20	6,194.3	5.9	-8.3	-8.5	0.04	0.00	3.01
6,289.0	0.70	108.90	6,288.3	5.8	-7.1	-7.3	0.40	-0.11	29.47
6,382.0	0.80	82.80	6,381.3	5.7	-5.9	-6.1	0.38	0.11	-28.06
6,475.0	0.30	84.30	6,474.3	5.8	-5.0	-5.2	0.54	-0.54	1.61
6,569.0	0.40	329.30	6,568.3	6.1	-5.0	-5.1	0.63	0.11	-122.34
6,663.0	1.10	315.10	6,662.3	7.0	-5.8	-6.0	0.76	0.74	-15.11
6,756.0	0.80	340.00	6,755.3	8.3	-6.6	-6.9	0.54	-0.32	26.77
6,849.0	0.20	126.80	6,848.3	8.8	-6.7	-7.0	1.05	-0.65	157.85
6,942.0	1.50	21.40	6,941.2	9.8	-6.1	-6.4	1.68	1.40	-113.33
7,036.0	1.50	64.00	7,035.2	11.5	-4.6	-4.9	1.16	0.00	45.32
7,129.0	1.00	174.40	7,128.2	11.2	-3.4	-3.7	2.23	-0.54	118.71
7,223.0	1.50	205.50	7,222.2	9.3	-3.8	-4.1	0.88	0.53	33.09
7,316.0	1.30	205.40	7,315.1	7.3	-4.8	-5.0	0.22	-0.22	-0.11
7,410.0	0.80	234.80	7,409.1	5.9	-5.8	-6.0	0.77	-0.53	31.28
7,503.0	0.60	234.90	7,502.1	5.3	-6.7	-6.9	0.22	-0.22	0.11
7,597.0	0.70	178.30	7,596.1	4.4	-7.1	-7.3	0.66	0.11	-60.21
7,690.0	1.30	142.60	7,689.1	3.0	-6.5	-6.6	0.90	0.65	-38.39
7,784.0	2.50	146.00	7,783.1	0.5	-4.7	-4.7	1.28	1.28	3.62
7,877.0	1.10	217.40	7,876.0	-1.9	-4.1	-4.0	2.57	-1.51	76.77
7,971.0	2.00	219.50	7,970.0	-3.9	-5.7	-5.6	0.96	0.96	2.23
8,064.0	1.10	249.80	8,062.9	-5.5	-7.6	-7.4	1.28	-0.97	32.58
8,157.0	0.90	264.90	8,155.9	-5.8	-9.1	-8.9	0.35	-0.22	16.24
8,251.0	1.20	264.40	8,249.9	-6.0	-10.8	-10.6	0.32	0.32	-0.53



Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 23-24-24S-28E Queen 23-24 W00P
Fed Com 1H
Well: Queen 23-24 W00P Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Queen 23-24 W00P Fed Com 1H
TVD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
MD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Buidl Rate (°/100usft)	Turn Rate (°/100usft)
8,344.0	1.40	260.30	8,342.9	-6.3	-12.9	-12.7	0.24	0.22	-4.41
8,438.0	0.90	297.00	8,436.9	-6.1	-14.7	-14.5	0.92	-0.53	39.04
8,532.0	2.60	272.70	8,530.8	-5.7	-17.5	-17.3	1.93	1.81	-25.85
8,625.0	1.70	302.00	8,623.8	-4.9	-20.8	-20.6	1.50	-0.97	31.51
8,718.0	0.60	8.30	8,716.7	-3.7	-21.9	-21.8	1.68	-1.18	71.29
8,812.0	0.40	212.70	8,810.7	-3.5	-22.0	-21.9	1.04	-0.21	-165.53
8,905.0	1.30	233.50	8,903.7	-4.4	-23.0	-22.9	1.01	0.97	22.37
8,999.0	0.60	348.60	8,997.7	-4.5	-24.0	-23.8	1.74	-0.74	120.32
9,092.0	0.50	345.80	9,090.7	-3.6	-24.2	-24.1	0.11	-0.11	-0.86
9,116.0	0.40	56.40	9,114.7	-3.5	-24.1	-24.0	2.19	-0.42	294.17
9,147.0	2.40	109.40	9,145.7	-3.7	-23.4	-23.3	7.04	6.45	170.97
9,178.0	6.40	111.40	9,176.6	-4.5	-21.2	-21.1	12.91	12.90	6.45
9,210.0	10.10	112.90	9,208.3	-6.2	-17.0	-16.8	11.58	11.56	4.69
9,241.0	13.80	110.70	9,238.6	-8.6	-11.0	-10.7	12.02	11.94	-7.10
9,272.0	18.60	112.20	9,268.4	-11.8	-3.0	-2.6	15.54	15.48	4.84
9,303.0	23.10	113.90	9,297.3	-16.1	7.2	7.7	14.65	14.52	5.48
9,334.0	26.60	114.80	9,325.4	-21.5	19.0	19.7	11.36	11.29	2.90
9,366.0	30.20	116.20	9,353.6	-28.1	32.8	33.6	11.44	11.25	4.38
9,397.0	34.00	115.50	9,379.8	-35.2	47.6	48.6	12.32	12.26	-2.26
9,428.0	37.00	112.90	9,405.1	-42.6	64.0	65.3	10.83	9.68	-8.39
9,459.0	39.80	109.70	9,429.4	-49.6	82.0	83.4	11.07	9.03	-10.32
9,490.0	43.10	107.70	9,452.6	-56.1	101.4	103.0	11.47	10.65	-6.45
9,522.0	46.90	106.10	9,475.2	-62.7	123.0	124.8	12.39	11.88	-5.00
9,553.0	51.70	104.30	9,495.4	-68.9	145.7	147.7	16.10	15.48	-5.81
9,584.0	56.10	103.00	9,513.7	-74.8	170.0	172.2	14.59	14.19	-4.19
9,615.0	59.50	103.40	9,530.2	-80.7	195.6	197.9	11.02	10.97	1.29
9,646.0	62.90	105.30	9,545.2	-87.5	221.9	224.4	12.21	10.97	6.13
9,677.0	65.70	107.50	9,558.6	-95.4	248.7	251.4	11.07	9.03	7.10
9,708.0	68.50	109.00	9,570.7	-104.3	275.8	278.8	10.07	9.03	4.84
9,739.0	73.50	110.60	9,580.8	-114.3	303.4	306.6	16.85	16.13	5.16
9,776.0	78.90	110.90	9,589.6	-127.0	337.0	340.6	14.62	14.59	0.81
9,855.0	83.70	110.70	9,601.5	-154.7	409.9	414.4	6.08	6.08	-0.25
9,886.0	85.80	108.90	9,604.4	-165.2	439.0	443.7	8.91	6.77	-5.81
9,887.0	85.91	108.84	9,604.4	-165.5	439.9	444.7	12.26	10.96	-5.50
LP Queen 23/24 W00P Fed Com 1H									
9,917.0	89.20	107.20	9,605.7	-174.8	468.4	473.4	12.26	10.97	-5.48
9,948.0	89.10	105.30	9,606.2	-183.4	498.2	503.4	6.14	-0.32	-6.13
9,980.0	88.90	103.50	9,606.7	-191.4	529.2	534.6	5.66	-0.63	-5.63
10,011.0	88.40	102.90	9,607.5	-198.5	559.3	565.0	2.52	-1.61	-1.94
10,042.0	88.75	102.00	9,608.2	-205.1	589.6	595.4	3.11	1.13	-2.90
10,073.0	89.90	101.20	9,608.6	-211.4	620.0	626.0	4.52	3.71	-2.58
10,104.0	90.81	100.90	9,608.4	-217.3	650.4	656.6	3.09	2.94	-0.97
10,135.0	91.03	99.84	9,607.9	-222.9	680.9	687.2	3.49	0.71	-3.42



Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 23-24-24S-28E Queen 23-24 W00P
Fed Com 1H
Well: Queen 23-24 W00P Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Queen 23-24 W00P Fed Com 1H
TVD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
MD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,198.0	90.51	98.08	9,607.1	-232.7	743.1	749.7	2.91	-0.83	-2.79
10,291.0	88.44	94.20	9,607.9	-242.6	835.5	842.4	4.73	-2.23	-4.17
10,354.0	89.82	93.15	9,608.9	-246.7	898.4	905.4	2.75	2.19	-1.66
First Legal Take Point									
10,385.0	90.50	92.64	9,608.8	-248.3	929.4	936.3	2.75	2.19	-1.66
10,478.0	90.10	92.60	9,608.3	-252.5	1,022.3	1,029.3	0.43	-0.43	-0.04
10,572.0	89.50	92.30	9,608.6	-256.5	1,116.2	1,123.3	0.71	-0.64	-0.32
10,665.0	90.10	92.50	9,608.9	-260.4	1,209.1	1,216.3	0.68	0.65	0.22
10,758.0	89.50	92.70	9,609.3	-264.6	1,302.0	1,309.3	0.68	-0.65	0.22
10,852.0	88.90	92.30	9,610.6	-268.7	1,395.9	1,403.3	0.77	-0.64	-0.43
10,945.0	88.50	91.60	9,612.7	-271.9	1,488.8	1,496.2	0.87	-0.43	-0.75
11,039.0	88.00	92.10	9,615.6	-274.9	1,582.7	1,590.2	0.75	-0.53	0.53
11,132.0	88.80	89.80	9,618.2	-276.5	1,675.7	1,683.2	2.62	0.86	-2.47
11,226.0	87.50	89.20	9,621.2	-275.7	1,769.6	1,777.0	1.52	-1.38	-0.64
11,319.0	88.44	89.40	9,624.5	-274.5	1,862.5	1,869.9	1.03	1.01	0.22
11,412.0	89.20	88.42	9,626.4	-272.8	1,955.5	1,962.8	1.33	0.82	-1.05
11,506.0	88.10	88.20	9,628.6	-270.0	2,049.4	2,056.6	1.19	-1.17	-0.23
11,599.0	89.50	88.20	9,630.6	-267.1	2,142.4	2,149.4	1.51	1.51	0.00
11,693.0	89.20	88.20	9,631.6	-264.1	2,236.3	2,243.2	0.32	-0.32	0.00
11,787.0	88.30	88.00	9,633.7	-261.0	2,330.2	2,337.0	0.98	-0.96	-0.21
11,880.0	90.30	90.30	9,634.8	-259.6	2,423.2	2,429.9	3.28	2.15	2.47
11,974.0	88.80	89.60	9,635.6	-259.5	2,517.2	2,523.8	1.76	-1.60	-0.74
12,068.0	89.30	91.10	9,637.1	-260.1	2,611.2	2,617.8	1.68	0.53	1.60
12,161.0	88.10	90.60	9,639.2	-261.5	2,704.2	2,710.7	1.40	-1.29	-0.54
12,255.0	90.00	91.80	9,640.8	-263.5	2,798.1	2,804.7	2.39	2.02	1.28
12,348.0	89.10	91.60	9,641.5	-266.2	2,891.1	2,897.7	0.99	-0.97	-0.22
12,442.0	87.80	91.80	9,644.1	-269.0	2,985.0	2,991.7	1.40	-1.38	0.21
12,535.0	88.40	92.20	9,647.1	-272.2	3,077.9	3,084.6	0.78	0.65	0.43
12,629.0	89.50	92.30	9,648.9	-275.9	3,171.8	3,178.6	1.18	1.17	0.11
12,723.0	90.20	92.60	9,649.1	-280.0	3,265.7	3,272.6	0.81	0.74	0.32
12,816.0	89.50	92.60	9,649.4	-284.2	3,358.6	3,365.6	0.75	-0.75	0.00
12,909.0	88.50	91.90	9,651.0	-287.8	3,451.5	3,458.6	1.31	-1.08	-0.75
13,003.0	87.80	92.00	9,654.0	-291.0	3,545.4	3,552.5	0.75	-0.74	0.11
13,096.0	88.10	91.80	9,657.3	-294.1	3,638.3	3,645.4	0.39	0.32	-0.22
13,189.0	89.10	90.50	9,659.6	-296.0	3,731.3	3,738.4	1.76	1.08	-1.40
13,283.0	88.00	90.30	9,662.0	-296.6	3,825.2	3,832.4	1.19	-1.17	-0.21
13,376.0	89.90	90.50	9,663.7	-297.3	3,918.2	3,925.3	2.05	2.04	0.22
13,470.0	89.90	90.40	9,663.9	-298.0	4,012.2	4,019.3	0.11	0.00	-0.11
13,563.0	88.20	90.40	9,665.4	-298.7	4,105.2	4,112.2	1.83	-1.83	0.00
13,656.0	88.00	90.10	9,668.5	-299.1	4,198.1	4,205.2	0.39	-0.22	-0.32
13,750.0	88.30	89.60	9,671.5	-298.8	4,292.1	4,299.1	0.62	0.32	-0.53
13,843.0	88.80	88.40	9,673.9	-297.2	4,385.0	4,391.9	1.40	0.54	-1.29



Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 23-24-24S-28E Queen 23-24 W00P
Fed Com 1H
Well: Queen 23-24 W00P Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Queen 23-24 W00P Fed Com 1H
TVD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
MD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

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)
13,936.0	88.50	88.00	9,676.1	-294.3	4,478.0	4,484.7	0.54	-0.32	-0.43
14,030.0	89.70	89.30	9,677.5	-292.1	4,571.9	4,578.6	1.88	1.28	1.38
14,123.0	89.40	89.00	9,678.3	-290.7	4,664.9	4,671.5	0.46	-0.32	-0.32
14,217.0	88.40	88.90	9,680.1	-289.0	4,758.9	4,765.4	1.07	-1.06	-0.11
14,310.0	88.50	89.10	9,682.6	-287.3	4,851.8	4,858.2	0.24	0.11	0.22
14,404.0	88.30	89.60	9,685.2	-286.3	4,945.8	4,952.1	0.57	-0.21	0.53
14,497.0	89.60	90.90	9,686.9	-286.7	5,038.8	5,045.1	1.98	1.40	1.40
14,591.0	87.10	88.80	9,689.6	-286.4	5,132.7	5,139.0	3.47	-2.66	-2.23
14,684.0	90.90	89.90	9,691.2	-285.4	5,225.7	5,231.8	4.25	4.09	1.18
14,777.0	89.00	88.50	9,691.3	-284.1	5,318.7	5,324.8	2.54	-2.04	-1.51
14,871.0	88.00	88.10	9,693.8	-281.3	5,412.6	5,418.6	1.15	-1.06	-0.43
14,964.0	88.00	88.42	9,697.0	-278.5	5,505.5	5,511.3	0.34	0.00	0.34
15,058.0	90.20	89.50	9,698.5	-276.8	5,599.4	5,605.2	2.61	2.34	1.15
15,151.0	87.50	87.40	9,700.4	-274.2	5,692.4	5,698.0	3.68	-2.90	-2.26
15,245.0	89.70	88.30	9,702.7	-270.7	5,786.3	5,791.8	2.53	2.34	0.96
15,338.0	88.80	87.60	9,703.9	-267.4	5,879.2	5,884.6	1.23	-0.97	-0.75
15,432.0	87.90	88.90	9,706.6	-264.5	5,973.1	5,978.3	1.68	-0.96	1.38
15,525.0	89.70	90.40	9,708.5	-264.0	6,066.1	6,071.3	2.52	1.94	1.61
15,619.0	89.10	91.10	9,709.5	-265.2	6,160.1	6,165.2	0.98	-0.64	0.74
15,712.0	89.20	91.90	9,710.9	-267.6	6,253.0	6,258.2	0.87	0.11	0.86
15,805.0	87.50	93.00	9,713.6	-271.6	6,345.9	6,351.2	2.18	-1.83	1.18
15,899.0	88.40	92.80	9,717.0	-276.4	6,439.7	6,445.1	0.98	0.96	-0.21
15,993.0	89.40	94.70	9,718.8	-282.5	6,533.5	6,539.0	2.28	1.06	2.02
16,086.0	89.60	95.50	9,719.6	-290.8	6,626.1	6,631.8	0.89	0.22	0.86
16,106.0	89.60	95.40	9,719.7	-292.7	6,646.0	6,651.8	0.50	0.00	-0.50
16,199.0	88.20	95.10	9,721.5	-301.2	6,738.6	6,744.6	1.54	-1.51	-0.32
16,293.0	88.00	94.50	9,724.6	-309.0	6,832.2	6,838.4	0.67	-0.21	-0.64
16,386.0	88.10	93.00	9,727.8	-315.1	6,925.0	6,931.3	1.62	0.11	-1.61
16,480.0	87.80	93.30	9,731.1	-320.3	7,018.8	7,025.2	0.45	-0.32	0.32
16,573.0	88.80	93.00	9,733.9	-325.4	7,111.6	7,118.1	1.12	1.08	-0.32
16,666.0	89.50	94.20	9,735.3	-331.2	7,204.4	7,211.1	1.49	0.75	1.29
16,759.0	89.40	92.30	9,736.2	-336.5	7,297.3	7,304.0	2.05	-0.11	-2.04
16,852.0	90.60	93.10	9,736.2	-340.9	7,390.1	7,397.0	1.55	1.29	0.86
16,946.0	87.60	91.40	9,737.6	-344.6	7,484.0	7,491.0	3.67	-3.19	-1.81
17,038.0	89.20	91.20	9,740.2	-346.6	7,576.0	7,582.9	1.75	1.74	-0.22
17,133.0	90.00	90.50	9,740.9	-348.1	7,671.0	7,677.9	1.12	0.84	-0.74
17,229.0	88.60	90.90	9,742.0	-349.2	7,767.0	7,773.9	1.52	-1.46	0.42
17,324.0	87.50	91.20	9,745.3	-351.0	7,861.9	7,868.8	1.20	-1.16	0.32
17,419.0	89.50	91.10	9,747.8	-352.9	7,956.8	7,963.8	2.11	2.11	-0.11
17,514.0	88.90	90.70	9,749.1	-354.4	8,051.8	8,058.8	0.76	-0.63	-0.42
17,613.0	87.60	90.70	9,752.1	-355.6	8,150.7	8,157.7	1.31	-1.31	0.00
17,680.0	87.60	90.70	9,754.9	-356.4	8,217.7	8,224.7	0.00	0.00	0.00

17680' MD Projected to Bit - PBHL Queen 23/24 W00P Fed Com 1H



Microsoft Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Section 23-24-24S-28E Queen 23-24 W00P
Fed Com 1H
Well: Queen 23-24 W00P Fed Com 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Queen 23-24 W00P Fed Com 1H
TVD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
MD Reference: 2955 + 27 @ 2982.0usft (Patterson 245)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Stryker_EDM

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)
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Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
600.0	600.0	-0.1	3.1	600' MD Rig Surveys
17,680.0	9,754.9	-356.4	8,217.7	17680' MD Projected to Bit



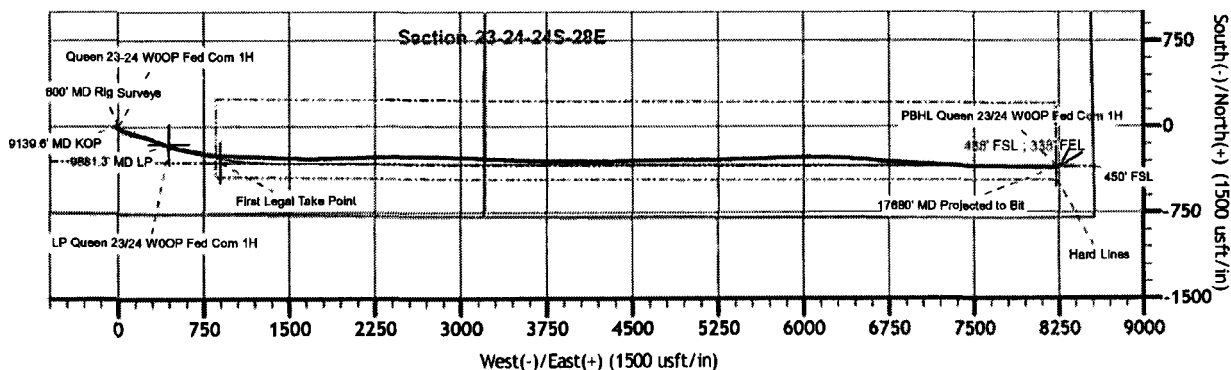
COMPANY: Mewbourne Oil Company
WELL: Queen 23-24 W00P Fed Com 1H
COUNTY: Eddy County, New Mexico
DATUM: NAD 1927 (NADCON CONUS)
RIG: Patterson Patterson 245



GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.03°

OFFICE: 936.582.7296

GEODETIC ZONE: New Mexico East 3001										
2955 + 27 @ 2982.0usft (Patterson 245)										
GROUND ELEVATION: 2955.0										
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot			
	0.0	0.0	435818.70	584774.50	32° 11' 52.389 N	104° 3' 33.582 W				
PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	9139.6	0.00	0.00	9139.6	0.0	0.0	0.00	0.00	0.0	
3	9881.3	89.00	109.20	9617.0	-154.3	443.0	12.00	109.20	449.1	
4	10828.8	89.00	90.25	9633.7	-313.6	1372.6	2.00	-90.18	1384.5	
5	17682.2	89.00	90.25	9753.0	-343.0	8224.8	0.00	0.00	8232.0	PBHL Queen 23/24 W00P Fed Com 1H



SHL 750' FSL; 2175' FWL
Section 23-24S-28E
PBHL 450' FSL; 330' FEL
Section 24-24S-28E

