



15- 39582



Mewbourne Oil Company .

Eddy County, New Mexico

URSA 27 Federal Com Section 27-18S-30E

URSA 27 Fed Com #4H

OH

Design: OH

Standard Survey Report

12 November, 2013





Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well URSA 27 Fed Com #4H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3400 + 20' @ 3460.0usft (Trinidad 110)
Site:	URSA 27 Federal Com Section 27-18S-30E	MD Reference:	GL 3400 + 20' @ 3460.0usft (Trinidad 110)
Well:	URSA 27 Fed Com #4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project:	Eddy County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	URSA 27 Federal Com Section 27-18S-30E
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Site Position:	Map	Northing:	627,011.64 usft	Latitude:	32° 43' 23.584 N
From:		Easting:	612,460.98 usft	Longitude:	103° 58' 3.545 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.20 °

Well:	URSA 27 Fed Com #4H					
Well Position	+N/-S	0.0 usft	Northing:	627,011.64 usft	Latitude:	32° 43' 23.584 N
	+E/-W	0.0 usft	Easting:	612,460.98 usft	Longitude:	103° 58' 3.545 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,440.0 usft

Wellbore:	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/2/2013	7.54	60.53	48,660

Survey Program		Date	11/12/2013	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,700.0	VES Gyro Survey #1 (OH)	GyroFlex	
7,744.0	12,770.0	Survey #2 (OH)	MWD	MWD - Standard

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
100.0	0.27	127.12	100.0	-0.1	0.2	0.2	0.27	0.27	0.00
200.0	0.21	344.82	200.0	-0.1	0.3	0.3	0.45	-0.06	-142.30
300.0	0.45	344.60	300.0	0.4	0.2	0.2	0.24	0.24	-0.22
400.0	0.38	337.25	400.0	1.1	-0.1	0.0	0.09	-0.07	-7.35
500.0	0.63	341.83	500.0	2.0	-0.4	-0.3	0.25	0.25	4.58
600.0	0.76	357.13	600.0	3.1	-0.6	-0.4	0.23	0.13	15.30
700.0	0.26	19.14	700.0	4.0	-0.5	-0.4	0.53	-0.50	22.01
800.0	0.43	21.24	800.0	4.6	-0.3	-0.1	0.17	0.17	2.10
900.0	0.42	25.75	900.0	5.3	0.0	0.2	0.03	-0.01	4.51
1,000.0	0.30	22.18	1,000.0	5.8	0.2	0.5	0.12	-0.12	-3.57
1,100.0	0.64	22.00	1,100.0	6.6	0.6	0.8	0.34	0.34	-0.18
1,200.0	0.77	43.07	1,200.0	7.6	1.2	1.5	0.29	0.13	21.07
1,300.0	1.59	62.99	1,299.9	8.7	2.9	3.3	0.90	0.82	19.92
1,400.0	1.84	68.25	1,399.9	10.0	5.6	6.1	0.30	0.25	5.26
1,500.0	1.39	62.61	1,499.9	11.1	8.2	8.7	0.48	-0.45	-5.64



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well:URSA 27 Fed Com #4H
Project:	Eddy County New Mexico	TVD Reference:	GL 3400 + 20 @ 3460.0usft (Trinidad 110)
Site:	URSA 27 Federal Com Section 27-18S-30E	MD Reference:	GL 3400 + 20 @ 3460.0usft (Trinidad 110)
Well:	URSA 27 Fed Com #4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
1,600.0	1.28	50.05	1,599.8	12.4	10.1	10.7	0.31	-0.11	-12.56
1,700.0	0.93	49.76	1,699.8	13.6	11.6	12.2	0.35	-0.35	-0.29
1,800.0	0.67	27.69	1,799.8	14.7	12.5	13.1	0.40	-0.26	-22.07
1,900.0	0.57	19.32	1,899.8	15.7	12.9	13.6	0.13	-0.10	-8.37
2,000.0	0.66	6.11	1,999.8	16.7	13.2	13.9	0.17	0.09	-13.21
2,100.0	0.57	2.15	2,099.8	17.8	13.3	14.0	0.10	-0.09	-3.96
2,200.0	0.59	1.26	2,199.8	18.8	13.3	14.1	0.02	0.02	-0.89
2,300.0	0.80	5.05	2,299.8	20.0	13.4	14.2	0.21	0.21	3.79
2,400.0	0.64	12.99	2,399.8	21.2	13.5	14.4	0.19	-0.16	7.94
2,500.0	0.45	13.90	2,499.8	22.2	13.8	14.7	0.19	-0.19	0.91
2,600.0	0.47	16.96	2,599.8	22.9	14.0	14.9	0.03	0.02	3.06
2,700.0	0.33	16.98	2,699.8	23.6	14.2	15.2	0.14	-0.14	0.02
2,800.0	0.39	31.49	2,799.8	24.2	14.4	15.4	0.11	0.06	14.51
2,900.0	0.29	38.97	2,899.7	24.6	14.8	15.8	0.11	-0.10	7.48
3,000.0	0.49	26.30	2,999.7	25.2	15.1	16.2	0.22	0.20	-12.67
3,100.0	0.34	23.73	3,099.7	25.9	15.4	16.5	0.15	-0.15	-2.57
3,200.0	0.39	25.56	3,199.7	26.5	15.7	16.8	0.05	0.05	1.83
3,300.0	0.47	23.75	3,299.7	27.1	16.0	17.1	0.08	0.08	-1.81
3,400.0	0.36	20.20	3,399.7	27.8	16.3	17.4	0.11	-0.11	-3.55
3,500.0	0.57	14.90	3,499.7	28.6	16.5	17.7	0.21	0.21	-5.30
3,600.0	0.66	17.14	3,599.7	29.6	16.8	18.0	0.09	0.09	2.24
3,700.0	0.72	19.67	3,699.7	30.8	17.2	18.5	0.07	0.06	2.53
3,800.0	0.43	28.65	3,799.7	31.7	17.6	18.9	0.30	-0.29	8.98
3,900.0	0.46	29.45	3,899.7	32.4	18.0	19.3	0.03	0.03	0.80
4,000.0	0.43	36.81	3,999.7	33.0	18.4	19.8	0.06	-0.03	7.36
4,100.0	0.38	42.11	4,099.7	33.6	18.8	20.2	0.06	-0.05	5.30
4,200.0	0.37	49.35	4,199.7	34.0	19.3	20.7	0.05	-0.01	7.24
4,300.0	0.61	58.81	4,299.7	34.5	20.0	21.4	0.25	0.24	9.46
4,400.0	0.79	64.46	4,399.7	35.1	21.1	22.5	0.19	0.18	5.65
4,500.0	0.77	61.51	4,499.7	35.7	22.3	23.8	0.04	-0.02	-2.95
4,600.0	0.97	57.06	4,599.7	36.5	23.6	25.1	0.21	0.20	-4.45
4,700.0	0.33	17.26	4,699.7	37.2	24.4	25.9	0.75	-0.64	-39.80
4,800.0	0.69	321.51	4,799.7	38.0	24.1	25.7	0.57	0.36	-55.75
4,900.0	0.85	307.37	4,899.7	38.9	23.1	24.7	0.25	0.16	-14.14
5,000.0	0.89	305.72	4,999.6	39.8	21.9	23.6	0.05	0.04	-1.65
5,100.0	0.85	311.46	5,099.6	40.7	20.7	22.4	0.10	-0.04	5.74
5,200.0	0.63	312.69	5,199.6	41.6	19.8	21.5	0.22	-0.22	1.23
5,300.0	1.12	341.75	5,299.6	42.9	19.1	20.8	0.65	0.49	29.06
5,400.0	1.16	347.73	5,399.6	44.8	18.5	20.4	0.13	0.04	5.98
5,500.0	0.95	358.12	5,499.6	46.6	18.3	20.2	0.28	-0.21	10.39
5,600.0	1.07	354.06	5,599.6	48.4	18.2	20.2	0.14	0.12	-4.06
5,700.0	1.58	346.80	5,699.5	50.6	17.8	19.9	0.54	0.51	-7.26
5,800.0	2.19	344.33	5,799.5	53.8	16.9	19.2	0.62	0.61	-2.47
5,900.0	2.82	341.15	5,899.4	58.0	15.6	18.0	0.64	0.63	-3.18



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: URSA-27 Fed Com #4H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3400 + 20 @ 3460.0usft (Trinidad 110)
Site:	URSA-27 Federal Com Section 27-18S-30E	MD Reference:	GL 3400 + 20 @ 3460.0usft (Trinidad 110)
Well:	URSA-27 Fed Com #4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
6,000.0	3.07	342.63	5,999.2	62.9	14.0	16.7	0.26	0.25	1.48
6,100.0	2.74	346.70	6,099.1	67.8	12.7	15.5	0.39	-0.33	4.07
6,200.0	2.80	347.22	6,199.0	72.5	11.6	14.6	0.07	0.06	0.52
6,300.0	3.31	343.44	6,298.9	77.6	10.2	13.5	0.55	0.51	-3.78
6,400.0	3.88	339.63	6,398.7	83.6	8.2	11.7	0.62	0.57	-3.81
6,500.0	4.25	344.77	6,498.4	90.3	6.1	9.9	0.52	0.37	5.14
6,600.0	4.40	343.77	6,598.1	97.6	4.0	8.1	0.17	0.15	-1.00
6,700.0	3.89	342.89	6,697.9	104.5	2.0	6.3	0.51	-0.51	-0.88
6,800.0	3.45	340.97	6,797.7	110.6	0.0	4.6	0.46	-0.44	-1.92
6,900.0	3.49	342.71	6,897.5	116.3	-1.9	3.0	0.11	0.04	1.74
7,000.0	2.75	341.89	6,997.3	121.5	-3.6	1.5	0.74	-0.74	-0.82
7,100.0	2.20	342.96	7,097.2	125.6	-4.9	0.4	0.55	-0.55	1.07
7,200.0	1.76	353.54	7,197.2	129.0	-5.6	-0.2	0.57	-0.44	10.58
7,300.0	1.50	353.38	7,297.1	131.8	-5.9	-0.4	0.26	-0.26	-0.16
7,400.0	1.37	355.42	7,397.1	134.3	-6.2	-0.5	0.14	-0.13	2.04
7,500.0	1.04	341.60	7,497.1	136.4	-6.5	-0.8	0.44	-0.33	-13.82
7,600.0	0.95	340.93	7,597.1	138.0	-7.1	-1.3	0.09	-0.09	-0.67
7,700.0	0.40	344.38	7,697.1	139.1	-7.5	-1.6	0.55	-0.55	3.45
7,700.0 MD VES Gyro Survey									
7,744.0	0.70	176.60	7,741.1	139.0	-7.5	-1.7	2.49	0.68	-381.32
7,789.0	6.20	136.20	7,786.0	137.0	-5.8	-0.1	12.63	12.22	-89.78
7,835.0	13.60	123.50	7,831.2	132.2	0.4	6.0	16.68	16.09	-27.61
7,880.0	20.00	125.30	7,874.3	124.8	11.1	16.4	14.27	14.22	4.00
7,925.0	24.80	125.30	7,915.9	114.9	25.1	29.9	10.67	10.67	0.00
7,970.0	29.20	124.90	7,956.0	103.2	41.8	46.1	9.79	9.78	-0.89
8,015.0	32.40	126.70	7,994.6	89.7	60.5	64.2	7.40	7.11	4.00
8,060.0	36.10	126.50	8,031.8	74.6	80.9	83.9	8.23	8.22	-0.44
8,105.0	39.70	121.30	8,067.3	59.2	103.8	106.2	10.69	8.00	-11.56
8,150.0	43.00	113.50	8,101.1	45.6	130.2	132.0	13.59	7.33	-17.33
8,195.0	45.80	105.10	8,133.3	35.3	159.9	161.2	14.46	6.22	-18.67
8,240.0	47.50	96.80	8,164.2	29.1	191.9	193.0	13.93	3.78	-18.44
8,285.0	52.10	90.70	8,193.3	26.9	226.2	227.1	14.54	10.22	-13.56
8,331.0	57.00	89.80	8,220.0	26.8	263.7	264.5	10.77	10.65	-1.96
8,376.0	61.60	89.40	8,242.9	27.1	302.3	303.2	10.25	10.22	-0.89
8,421.0	65.00	90.80	8,263.1	27.0	342.5	343.4	8.05	7.56	3.11
8,467.0	68.50	91.00	8,281.3	26.3	384.8	385.6	7.62	7.61	0.43
8,512.0	71.80	92.10	8,296.6	25.2	427.1	427.8	7.69	7.33	2.44
8,557.0	76.90	92.10	8,308.7	23.6	470.4	471.0	11.33	11.33	0.00
8,602.0	80.60	90.50	8,317.5	22.6	514.5	515.0	8.93	8.22	-3.56
8,627.0	83.40	89.60	8,321.0	22.6	539.2	539.7	11.75	11.20	-3.60
8,717.0	90.00	86.50	8,326.1	25.6	629.0	629.5	8.10	7.33	-3.44
8,748.0	90.00	86.50	8,326.1	27.5	659.9	660.5	0.00	0.00	0.00
8,780.0	91.10	87.30	8,325.8	29.2	691.9	692.5	4.25	3.44	2.50



Stryker Directional Survey Report



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Project:	Eddy County, New Mexico	TVD Reference:	GL 3400 +20 @ 3460.0usft (Tinidad 110)
Site:	URSA 27/Federal Com Section 27-18S-30E	MD Reference:	GL 3400 +20 @ 3460.0usft (Tinidad 110)
Well:	URSA 27/Fed Com #4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
8,812.0	91.50	87.50	8,325.1	30.7	723.8	724.5	1.40	1.25	0.63
8,875.0	91.90	87.30	8,323.2	33.6	786.7	787.5	0.71	0.63	-0.32
8,970.0	91.00	87.50	8,320.8	37.9	881.6	882.4	0.97	-0.95	0.21
9,065.0	91.10	86.60	8,319.1	42.7	976.5	977.4	0.95	0.11	-0.95
9,160.0	90.80	87.30	8,317.5	47.8	1,071.3	1,072.4	0.80	-0.32	0.74
9,255.0	90.70	86.30	8,316.3	53.1	1,166.2	1,167.4	1.06	-0.11	-1.05
9,350.0	90.80	88.20	8,315.0	57.7	1,261.0	1,262.4	2.00	0.11	2.00
9,444.0	90.50	87.20	8,314.0	61.4	1,355.0	1,356.3	1.11	-0.32	-1.06
9,539.0	90.90	87.90	8,312.8	65.5	1,449.9	1,451.3	0.85	0.42	0.74
9,634.0	90.30	86.80	8,311.8	69.9	1,544.8	1,546.3	1.32	-0.63	-1.16
9,729.0	91.00	88.40	8,310.7	73.9	1,639.7	1,641.3	1.84	0.74	1.68
9,824.0	90.20	86.80	8,309.7	77.8	1,734.6	1,736.3	1.88	-0.84	-1.68
9,919.0	90.60	89.10	8,309.1	81.2	1,829.5	1,831.3	2.46	0.42	2.42
10,014.0	90.40	88.90	8,308.2	82.9	1,924.5	1,926.3	0.30	-0.21	-0.21
10,109.0	89.70	88.90	8,308.2	84.7	2,019.5	2,021.2	0.74	-0.74	0.00
10,204.0	91.40	88.90	8,307.3	86.5	2,114.4	2,116.2	1.79	1.79	0.00
10,298.0	90.70	87.70	8,305.5	89.3	2,208.4	2,210.2	1.48	-0.74	-1.28
10,394.0	90.60	88.90	8,304.4	92.2	2,304.3	2,306.2	1.25	-0.10	1.25
10,488.0	89.70	87.50	8,304.2	95.1	2,398.3	2,400.2	1.77	-0.96	-1.49
10,583.0	89.10	86.80	8,305.2	99.9	2,493.2	2,495.2	0.97	-0.63	-0.74
10,678.0	88.50	88.40	8,307.2	103.8	2,588.1	2,590.1	1.80	-0.63	1.68
10,773.0	88.50	88.20	8,309.7	106.7	2,683.0	2,685.1	0.21	0.00	-0.21
10,867.0	88.80	86.50	8,311.9	111.0	2,776.8	2,779.1	1.84	0.32	-1.81
10,962.0	90.40	87.00	8,312.5	116.4	2,871.7	2,874.0	1.76	1.68	0.53
11,057.0	90.10	88.90	8,312.1	119.8	2,966.6	2,969.0	2.02	-0.32	2.00
11,151.0	89.60	88.60	8,312.4	121.8	3,060.6	3,063.0	0.62	-0.53	-0.32
11,246.0	88.80	88.60	8,313.7	124.2	3,155.6	3,158.0	0.84	-0.84	0.00
11,340.0	89.70	87.00	8,314.9	127.8	3,249.5	3,252.0	1.95	0.96	-1.70
11,435.0	89.70	85.60	8,315.4	133.9	3,344.3	3,347.0	1.47	0.00	-1.47
11,529.0	88.50	87.20	8,316.9	139.8	3,438.1	3,440.9	2.13	-1.28	1.70
11,624.0	90.40	86.80	8,317.8	144.8	3,532.9	3,535.9	2.04	2.00	-0.42
11,719.0	90.00	85.80	8,317.5	150.9	3,627.7	3,630.9	1.13	-0.42	-1.05
11,813.0	90.60	87.90	8,317.0	156.1	3,721.6	3,724.9	2.32	0.64	2.23
11,908.0	90.50	89.10	8,316.1	158.5	3,816.5	3,819.8	1.27	-0.11	1.26
12,002.0	88.70	89.10	8,316.7	160.0	3,910.5	3,913.8	1.91	-1.91	0.00
12,097.0	90.30	89.10	8,317.6	161.5	4,005.5	4,008.8	1.68	1.68	0.00
12,192.0	87.80	89.30	8,319.1	162.8	4,100.5	4,103.7	2.64	-2.63	0.21
12,287.0	87.40	89.40	8,323.1	163.9	4,195.4	4,198.6	0.43	-0.42	0.11
12,382.0	87.30	88.60	8,327.5	165.6	4,290.3	4,293.4	0.85	-0.11	-0.84
12,476.0	89.60	87.50	8,330.1	168.8	4,384.2	4,387.4	2.71	2.45	-1.17
12,571.0	88.60	86.30	8,331.5	173.9	4,479.0	4,482.4	1.64	-1.05	-1.26
12,770.0	88.60	86.30	8,336.4	186.7	4,677.6	4,681.3	0.00	0.00	0.00

12770 MD Projected to Bit



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference	Well URSA 27 Fed Com #4H
Project:	Eddy County New Mexico	TVD Reference:	GL 3400 + 20 @ 3460.0usft (Trinidad 110)
Site:	URSA 27 Federal Com Section 27-18S-30E	MD Reference:	GL 3400 + 20 @ 3460.0usft (Trinidad 110)
Well:	URSA 27 Fed Com #4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
7,700.0	7,697.1	139.1	-7.5	7700' MD VES Gyro Survey
12,770.0	8,336.4	186.7	4,677.6	12770' MD Projected to Bit

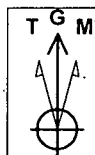


COMPANY: Mewbourne Oil Company
 WELL: URSA 27 Fed Com #4H
 COUNTY: Eddy County, New Mexico
 DATUM: NAD 1927 (NADCON CONUS)
 RIG: Trinidad 110



OFFICE: 936.582.7296

GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.35°



Azimuths to Grid North
 True North: -0.20°
 Magnetic North: 7.35°
 Magnetic Field
 Strength: 48659.7snT
 Dip Angle: 60.53°
 Date: 8/2/2013
 Model: IGRF2010

GEODETTIC ZONE: New Mexico East 3001
 GL 3400 + 20 @ 3460.0usft (Trinidad 110)
 GROUND ELEVATION: 3440.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	627011.64	612460.98	32° 43' 23.584 N	103° 58' 3.545 W	

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	7700.0	0.40	344.38	7697.1	139.1	-7.5	0.00	0.00	-1.6	
2	7742.0	0.40	344.38	7739.1	139.4	-7.6	0.00	0.00	-1.7	
3	7882.3	16.44	169.38	7877.5	120.2	-4.0	12.00	-175.11	1.0	
4	8608.1	88.96	87.52	8320.0	13.9	471.9	11.95	-82.48	472.1	LP Ursa 27 Fed Com #4H
5	13020.4	88.96	87.52	8400.0	204.5	4879.3	0.00	0.00	4883.6	PBHL Ursa 27 Fed Com #4H

