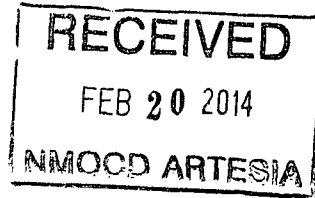


15-41448



Mewbourne Oil Co

Eddy County, New Mexico

Sec 14,T26S, R27E

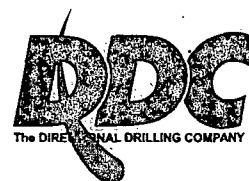
Owl Draw 23 DM Fed Com #1H

Wellbore #1

Design: Wellbore #1

DDC Survey Report

21 October, 2013



DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Owl Draw/23 DM Fed Com #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3172.0usft (Patterson #46)
Site:	Sec 14 T26S R27E	MD Reference:	WELL @ 3172.0usft (Patterson #46)
Well:	Owl Draw/23 DM Fed Com #1H	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			
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		Sec 14 T26S R27E			
Site Position:		Northing:	376,774.54 usft	Latitude:	32° 2' 8.725 N
From:	Map	Easting:	551,931.04 usft	Longitude:	104° 9' 56.686 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.09 °

Well:	Owl Draw/23 DM Fed Com #1H					
Well Position	+N/-S	0.0 usft	Northing:	376,774.54 usft	Latitude:	32° 2' 8.725 N
	+E/-W	0.0 usft	Easting:	551,931.04 usft	Longitude:	104° 9' 56.686 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,152.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/6/2013	7.57	59.86	48,217

Design:	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	183.71	

Survey Program		Date	10/21/2013	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
4,800.0	8,468.0	Gyro (Wellbore #1)	Good_gyro	Good Gyro
8,539.0	14,900.0	DDC MWD (Wellbore #1)	MWD default	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)
4,717.0	1.24	167.59	4,714.0	-18.9	61.9	14.8	0.00	0.00	0.00
4,800.0	0.82	178.70	4,797.0	-20.4	62.1	16.3	0.56	-0.51	13.39
4,900.0	0.65	204.91	4,897.0	-21.6	61.9	17.5	0.37	-0.17	26.21
5,000.0	0.71	220.02	4,997.0	-22.6	61.2	18.6	0.19	0.06	15.11
5,100.0	0.77	210.87	5,097.0	-23.6	60.5	19.7	0.13	0.06	-9.15
5,200.0	0.65	209.59	5,197.0	-24.7	59.8	20.8	0.12	-0.12	-1.28
5,300.0	0.92	206.12	5,296.9	-25.9	59.2	22.0	0.27	0.27	-3.47
5,400.0	0.91	204.61	5,396.9	-27.3	58.5	23.5	0.03	-0.01	-1.51
5,500.0	1.58	201.54	5,496.9	-29.4	57.7	25.6	0.67	0.67	-3.07
5,600.0	1.72	204.62	5,596.9	-32.0	56.6	28.3	0.17	0.14	3.08

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Owl Draw 23 DM Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3172.0usft (Patterson #46)
Site:	Sec 14 T26S R27E	MD Reference:	WELL @ 3172.0usft (Patterson #46)
Well:	Owl Draw 23 DM Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
5,700.0	2.02	209.34	5,696.8	-34.9	55.1	31.3	0.34	0.30	4.72
5,800.0	1.87	212.09	5,796.8	-37.8	53.3	34.3	0.18	-0.15	-2.75
5,900.0	1.80	205.14	5,896.7	-40.6	51.8	37.2	0.23	-0.07	-6.95
6,000.0	1.82	193.94	5,996.7	-43.6	50.8	40.2	0.35	0.02	-11.20
6,100.0	1.23	212.11	6,096.6	-46.0	49.8	42.7	0.76	-0.59	18.17
6,200.0	1.53	214.81	6,196.6	-48.0	48.5	44.8	0.31	0.30	2.70
6,300.0	1.96	211.27	6,296.5	-50.6	46.8	47.5	0.44	0.43	-3.54
6,400.0	3.04	210.83	6,396.4	-54.3	44.6	51.3	1.08	1.08	-0.44
6,500.0	3.85	209.67	6,496.3	-59.5	41.6	56.7	0.81	0.81	-1.16
6,600.0	3.91	216.09	6,596.0	-65.2	37.9	62.6	0.44	0.06	6.42
6,700.0	3.93	214.34	6,695.8	-70.8	33.9	68.4	0.12	0.02	-1.75
6,800.0	3.77	212.64	6,795.6	-76.4	30.2	74.3	0.20	-0.16	-1.70
6,900.0	3.67	211.01	6,895.4	-81.9	26.8	80.0	0.15	-0.10	-1.63
7,000.0	3.30	213.90	6,995.2	-87.0	23.6	85.3	0.41	-0.37	2.89
7,100.0	2.42	216.84	7,095.1	-91.1	20.7	89.6	0.89	-0.88	2.94
7,200.0	2.18	237.22	7,195.0	-93.8	17.8	92.5	0.85	-0.24	20.38
7,300.0	2.02	229.14	7,294.9	-96.0	14.9	94.8	0.34	-0.16	-8.08
7,400.0	1.58	212.68	7,394.9	-98.3	12.8	97.3	0.67	-0.44	-16.46
7,500.0	0.62	207.87	7,494.8	-100.0	11.8	99.0	0.96	-0.96	-4.81
7,600.0	0.64	104.25	7,594.8	-100.6	12.1	99.6	0.99	0.02	-103.62
7,700.0	1.37	116.86	7,694.8	-101.3	13.7	100.2	0.76	0.73	12.61
7,800.0	2.66	125.80	7,794.8	-103.2	16.7	101.9	1.32	1.29	8.94
7,900.0	3.06	133.35	7,894.6	-106.3	20.5	104.8	0.55	0.40	7.55
8,000.0	3.40	147.35	7,994.5	-110.7	24.0	108.9	0.86	0.34	14.00
8,100.0	4.23	153.46	8,094.3	-116.5	27.3	114.5	0.92	0.83	6.11
8,200.0	4.82	163.60	8,193.9	-123.8	30.1	121.6	0.99	0.59	10.14
8,300.0	4.40	172.21	8,293.6	-131.6	31.8	129.3	0.81	-0.42	8.61
8,400.0	3.81	177.75	8,393.4	-138.8	32.5	136.4	0.71	-0.59	5.54
Tie In @ 8468 MD / 8461 TVD									
8,468.0	3.36	176.36	8,461.2	-143.0	32.7	140.6	0.67	-0.66	-2.04
8,539.0	3.40	181.00	8,532.1	-147.2	32.8	144.7	0.39	0.06	6.54
8,634.0	3.50	182.60	8,626.9	-152.9	32.6	150.5	0.15	0.11	1.68
8,730.0	3.30	189.20	8,722.8	-158.5	32.0	156.1	0.46	-0.21	6.88
8,825.0	2.80	188.90	8,817.6	-163.5	31.2	161.2	0.53	-0.53	-0.32
8,920.0	2.80	187.50	8,912.5	-168.1	30.6	165.8	0.07	0.00	-1.47
9,016.0	2.50	188.40	9,008.4	-172.5	30.0	170.2	0.32	-0.31	0.94
9,110.0	2.90	186.10	9,102.3	-176.9	29.4	174.6	0.44	0.43	-2.45
9,204.0	2.30	192.40	9,196.2	-181.1	28.7	178.9	0.71	-0.64	6.70
9,253.0	1.90	198.70	9,245.2	-182.9	28.3	180.6	0.94	-0.82	12.86
9,301.0	2.00	205.60	9,293.2	-184.4	27.7	182.2	0.53	0.21	14.38
9,365.0	2.20	208.40	9,357.1	-186.5	26.6	184.3	0.35	0.31	4.38
9,397.0	2.20	208.20	9,389.1	-187.5	26.0	185.5	0.02	0.00	-0.63
9,429.0	4.20	186.30	9,421.0	-189.2	25.6	187.2	7.22	6.25	-68.44

DDC
Survey Report



Company:	Mewbourne Oil Co.	Local Co-ordinate Reference:	Well Owl Draw 23 DM Fed Com #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3172.0usft (Patterson #46)
Site:	Sec. 14, T26S, R27E	MD Reference:	WELL @ 3172.0usft (Patterson #46)
Well:	Owl Draw 23 DM Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User.Dbt

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)
9,460.0	7.10	179.00	9,451.9	-192.3	25.5	190.2	9.62	9.35	-23.55
9,492.0	9.70	172.70	9,483.5	-196.9	25.9	194.9	8.61	8.13	-19.69
9,524.0	11.50	171.00	9,515.0	-202.8	26.7	200.6	5.71	5.63	-5.31
9,556.0	13.40	170.60	9,546.2	-209.6	27.8	207.3	5.94	5.94	-1.25
9,588.0	16.40	169.90	9,577.2	-217.7	29.2	215.3	9.39	9.38	-2.19
9,620.0	20.00	169.70	9,607.6	-227.5	31.0	225.0	11.25	11.25	-0.63
9,652.0	23.00	172.20	9,637.3	-239.1	32.8	236.5	9.80	9.38	7.81
9,684.0	25.80	172.70	9,666.5	-252.2	34.5	249.4	8.77	8.75	1.56
9,716.0	29.50	171.50	9,694.8	-266.9	36.6	264.0	11.69	11.56	-3.75
9,747.0	33.40	171.00	9,721.2	-282.9	39.1	279.8	12.61	12.58	-1.61
9,779.0	37.50	170.60	9,747.3	-301.2	42.0	297.9	12.83	12.81	-1.25
9,811.0	41.80	170.10	9,771.9	-321.3	45.5	317.7	13.47	13.44	-1.56
9,842.0	46.10	169.40	9,794.3	-342.5	49.3	338.6	13.96	13.87	-2.26
9,874.0	50.70	168.90	9,815.5	-366.0	53.8	361.7	14.42	14.38	-1.56
Crossed Lease Line @ 9886 MD / 9823 TVD									
9,886.0	52.31	168.67	9,823.0	-375.2	55.6	370.8	13.52	13.43	-1.94
9,906.0	55.00	168.30	9,834.8	-391.0	58.8	386.4	13.52	13.44	-1.83
9,937.0	58.00	169.60	9,851.9	-416.4	63.8	411.4	10.29	9.68	4.19
9,969.0	60.80	169.90	9,868.2	-443.5	68.7	438.1	8.79	8.75	0.94
10,001.0	63.60	169.20	9,883.1	-471.3	73.8	465.5	8.96	8.75	-2.19
10,033.0	66.60	169.20	9,896.6	-499.8	79.3	493.6	9.38	9.38	0.00
10,065.0	68.80	170.40	9,908.7	-528.9	84.5	522.4	7.70	6.88	3.75
10,097.0	69.80	171.80	9,920.1	-558.5	89.1	551.6	5.15	3.13	4.38
Crossed Hard Line @ 10123 MD / 9929 TVD									
10,122.5	71.55	172.52	9,928.5	-582.3	92.4	575.1	7.37	6.87	2.82
10,129.0	72.00	172.70	9,930.5	-588.5	93.2	581.2	7.37	6.88	2.78
10,142.0	73.30	173.10	9,934.4	-600.8	94.7	593.4	10.42	10.00	3.08
10,211.0	76.50	173.60	9,952.4	-666.9	102.5	658.9	4.69	4.64	0.72
10,243.0	76.50	175.20	9,959.8	-697.9	105.5	689.6	4.86	0.00	5.00
10,275.0	77.70	175.70	9,967.0	-729.0	108.0	720.5	4.05	3.75	1.56
10,306.0	78.10	176.60	9,973.5	-759.2	110.0	750.5	3.12	1.29	2.90
10,338.0	78.70	177.60	9,979.9	-790.5	111.6	781.7	3.59	1.88	3.13
10,369.0	79.80	179.00	9,985.7	-821.0	112.5	812.0	5.68	3.55	4.52
10,401.0	80.10	179.80	9,991.3	-852.5	112.8	843.4	2.63	0.94	2.50
10,432.0	79.70	179.60	9,996.7	-883.0	113.0	873.9	1.44	-1.29	-0.65
10,464.0	79.50	179.60	10,002.5	-914.5	113.2	905.2	0.63	-0.63	0.00
10,495.0	80.00	180.10	10,008.0	-945.0	113.3	935.7	2.26	1.61	1.61
10,527.0	80.60	181.00	10,013.4	-976.5	113.0	967.2	3.35	1.88	2.81
10,558.0	82.60	181.70	10,017.9	-1,007.2	112.3	997.8	6.83	6.45	2.26
10,590.0	85.00	181.50	10,021.4	-1,039.0	111.4	1,029.6	7.53	7.50	-0.63
10,622.0	87.00	182.20	10,023.6	-1,070.9	110.3	1,061.5	6.62	6.25	2.19
10,653.0	87.30	182.20	10,025.2	-1,101.8	109.1	1,092.5	0.97	0.97	0.00
10,685.0	88.90	183.40	10,026.2	-1,133.8	107.6	1,124.4	6.25	5.00	3.75
10,717.0	90.60	184.70	10,026.4	-1,165.7	105.3	1,156.4	6.69	5.31	4.06

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well: Owl Draw 23 DM Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3172.0usft (Patterson #46)
Site:	Sec 14 T26S R27E	MD Reference:	WELL @ 3172.0usft (Patterson #46)
Well:	Owl Draw 23 DM Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM5000.1 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)
10,748.0	91.00	185.00	10,025.9	-1,196.6	102.7	1,187.4	1.61	1.29	0.97
10,780.0	89.70	184.80	10,025.7	-1,228.5	100.0	1,219.4	4.11	-4.06	-0.63
10,812.0	89.30	185.40	10,026.0	-1,260.3	97.1	1,251.4	2.25	-1.25	1.88
10,843.0	90.00	185.40	10,026.2	-1,291.2	94.2	1,282.4	2.26	2.26	0.00
10,875.0	91.10	184.70	10,025.9	-1,323.1	91.4	1,314.4	4.07	3.44	-2.19
10,906.0	89.70	184.10	10,025.7	-1,354.0	89.0	1,345.4	4.91	-4.52	-1.94
10,938.0	90.40	184.70	10,025.7	-1,385.9	86.6	1,377.4	2.88	2.19	1.88
10,970.0	88.60	183.60	10,025.9	-1,417.8	84.2	1,409.4	6.59	-5.63	-3.44
11,001.0	89.20	183.80	10,026.5	-1,448.7	82.2	1,440.4	2.04	1.94	0.65
11,033.0	90.40	184.10	10,026.6	-1,480.6	80.0	1,472.4	3.87	3.75	0.94
11,064.0	90.70	184.10	10,026.3	-1,511.6	77.8	1,503.4	0.97	0.97	0.00
11,128.0	90.80	184.30	10,025.5	-1,575.4	73.1	1,567.4	0.35	0.16	0.31
11,191.0	92.70	184.30	10,023.6	-1,638.2	68.4	1,630.3	3.02	3.02	0.00
11,223.0	91.60	183.40	10,022.4	-1,670.1	66.3	1,662.3	4.44	-3.44	-2.81
11,255.0	92.70	184.30	10,021.2	-1,702.0	64.1	1,694.3	4.44	3.44	2.81
11,286.0	91.00	183.30	10,020.2	-1,732.9	62.1	1,725.3	6.36	-5.48	-3.23
11,318.0	88.30	183.40	10,020.4	-1,764.8	60.2	1,757.2	8.44	-8.44	0.31
11,350.0	87.20	182.90	10,021.6	-1,796.8	58.4	1,789.2	3.78	-3.44	-1.56
11,381.0	87.90	183.80	10,023.0	-1,827.7	56.6	1,820.2	3.68	2.26	2.90
11,413.0	88.50	184.10	10,024.0	-1,859.6	54.4	1,852.2	2.10	1.88	0.94
11,444.0	86.90	183.10	10,025.2	-1,890.5	52.5	1,883.1	6.09	-5.16	-3.23
11,476.0	84.70	181.70	10,027.6	-1,922.4	51.1	1,915.1	8.14	-6.88	-4.38
11,508.0	84.40	180.60	10,030.6	-1,954.2	50.5	1,946.9	3.55	-0.94	-3.44
11,540.0	83.40	180.40	10,034.0	-1,986.1	50.2	1,978.6	3.19	-3.13	-0.63
11,571.0	85.30	180.10	10,037.0	-2,016.9	50.1	2,009.4	6.20	6.13	-0.97
11,603.0	89.00	179.60	10,038.6	-2,048.9	50.2	2,041.3	11.67	11.56	-1.56
11,619.0	89.70	180.10	10,038.8	-2,064.9	50.2	2,057.3	5.38	4.38	3.13
11,634.0	90.20	179.90	10,038.8	-2,079.9	50.2	2,072.2	3.59	3.33	-1.33
11,666.0	88.70	180.40	10,039.1	-2,111.9	50.1	2,104.2	4.94	-4.69	1.56
11,698.0	90.20	182.90	10,039.4	-2,143.8	49.2	2,136.2	9.11	4.69	7.81
11,729.0	93.30	184.00	10,038.5	-2,174.8	47.3	2,167.1	10.61	10.00	3.55
11,745.0	94.30	184.10	10,037.4	-2,190.7	46.2	2,183.1	6.28	6.25	0.63
11,761.0	95.70	183.80	10,036.0	-2,206.6	45.1	2,199.0	8.95	8.75	-1.88
11,793.0	96.90	183.30	10,032.5	-2,238.3	43.2	2,230.8	4.06	3.75	-1.56
11,824.0	97.40	182.90	10,028.7	-2,269.0	41.5	2,261.6	2.06	1.61	-1.29
11,856.0	97.40	182.00	10,024.6	-2,300.7	40.1	2,293.3	2.79	0.00	-2.81
11,887.0	97.50	182.20	10,020.5	-2,331.5	39.0	2,324.1	0.72	0.32	0.65
11,919.0	96.80	182.70	10,016.6	-2,363.2	37.6	2,355.8	2.68	-2.19	1.56
11,951.0	94.80	183.10	10,013.3	-2,395.0	36.0	2,387.6	6.37	-6.25	1.25
11,983.0	93.10	184.00	10,011.1	-2,426.8	34.1	2,419.6	6.01	-5.31	2.81
12,014.0	92.30	183.60	10,009.7	-2,457.7	32.0	2,450.5	2.88	-2.58	-1.29
12,046.0	90.80	184.50	10,008.8	-2,489.6	29.7	2,482.5	5.47	-4.69	2.81
12,078.0	90.50	185.60	10,008.4	-2,521.5	26.9	2,514.5	3.56	-0.94	3.44

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Owl Draw 23 DM Fed Com #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3172.0usft (Patterson #46)
Site:	Sec 14 T26S R27E	MD Reference:	WELL @ 3172.0usft (Patterson #46)
Well:	Owl Draw 23 DM Fed Com #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)
12,109.0	90.90	184.80	10,008.0	-2,552.4	24.1	2,545.5	2.89	1.29	-2.58
12,141.0	90.80	185.00	10,007.6	-2,584.3	21.4	2,577.5	0.70	-0.31	0.63
12,172.0	89.40	184.70	10,007.5	-2,615.2	18.8	2,608.5	4.62	-4.52	-0.97
12,204.0	89.00	184.80	10,008.0	-2,647.0	16.1	2,640.5	1.29	-1.25	0.31
12,236.0	89.10	184.70	10,008.5	-2,678.9	13.5	2,672.4	0.44	0.31	-0.31
12,267.0	89.20	184.50	10,009.0	-2,709.8	11.0	2,703.4	0.72	0.32	-0.65
12,299.0	89.60	184.10	10,009.3	-2,741.7	8.6	2,735.4	1.77	1.25	-1.25
12,331.0	90.90	184.70	10,009.1	-2,773.6	6.1	2,767.4	4.47	4.06	1.88
12,362.0	90.50	184.50	10,008.8	-2,804.5	3.6	2,798.4	1.44	-1.29	-0.65
12,393.0	89.30	185.40	10,008.8	-2,835.4	1.0	2,829.4	4.84	-3.87	2.90
12,425.0	87.50	185.90	10,009.7	-2,867.3	-2.2	2,861.4	5.84	-5.63	1.56
12,457.0	87.30	186.30	10,011.2	-2,899.0	-5.6	2,893.3	1.40	-0.63	1.25
12,488.0	87.50	186.30	10,012.6	-2,929.8	-9.0	2,924.3	0.65	0.65	0.00
12,520.0	89.30	185.00	10,013.5	-2,961.6	-12.1	2,956.2	6.94	5.63	-4.06
12,552.0	91.00	185.00	10,013.4	-2,993.5	-14.9	2,988.2	5.31	5.31	0.00
12,583.0	91.10	185.20	10,012.8	-3,024.4	-17.7	3,019.2	0.72	0.32	0.65
12,615.0	90.00	185.40	10,012.5	-3,056.3	-20.6	3,051.2	3.49	-3.44	0.63
12,647.0	89.10	185.60	10,012.8	-3,088.1	-23.7	3,083.2	2.88	-2.81	0.63
12,678.0	89.10	185.60	10,013.2	-3,119.0	-26.7	3,114.2	0.00	0.00	0.00
12,710.0	89.20	185.60	10,013.7	-3,150.8	-29.8	3,146.1	0.31	0.31	0.00
12,742.0	89.40	185.60	10,014.1	-3,182.6	-33.0	3,178.1	0.63	0.63	0.00
12,773.0	89.30	185.40	10,014.5	-3,213.5	-35.9	3,209.1	0.72	-0.32	-0.65
12,805.0	89.30	184.80	10,014.9	-3,245.4	-38.8	3,241.1	1.87	0.00	-1.88
12,837.0	89.00	185.60	10,015.3	-3,277.2	-41.7	3,273.1	2.67	-0.94	2.50
12,868.0	88.30	185.00	10,016.1	-3,308.1	-44.5	3,304.0	2.97	-2.26	-1.94
12,900.0	88.60	185.70	10,016.9	-3,339.9	-47.5	3,336.0	2.38	0.94	2.19
12,932.0	87.20	183.80	10,018.1	-3,371.8	-50.2	3,368.0	7.37	-4.38	-5.94
12,963.0	85.40	185.20	10,020.1	-3,402.6	-52.6	3,398.9	7.35	-5.81	4.52
12,995.0	85.00	185.00	10,022.8	-3,434.4	-55.4	3,430.8	1.40	-1.25	-0.63
13,027.0	86.80	187.30	10,025.1	-3,466.1	-58.8	3,462.7	9.11	5.63	7.19
13,058.0	87.00	187.10	10,026.7	-3,496.9	-62.7	3,493.6	0.91	0.65	-0.65
13,090.0	88.50	186.80	10,028.0	-3,528.6	-66.6	3,525.5	4.78	4.69	-0.94
13,122.0	89.00	187.10	10,028.7	-3,560.3	-70.5	3,557.4	1.82	1.56	0.94
13,153.0	89.30	187.10	10,029.2	-3,591.1	-74.3	3,588.4	0.97	0.97	0.00
13,185.0	89.30	186.60	10,029.5	-3,622.9	-78.1	3,620.3	1.56	0.00	-1.56
13,216.0	89.30	186.40	10,029.9	-3,653.7	-81.6	3,651.3	0.65	0.00	-0.65
13,248.0	89.60	187.10	10,030.2	-3,685.5	-85.4	3,683.3	2.38	0.94	2.19
13,280.0	89.20	187.10	10,030.6	-3,717.2	-89.3	3,715.2	1.25	-1.25	0.00
13,312.0	92.90	190.80	10,030.0	-3,748.8	-94.3	3,747.0	16.35	11.56	11.56
13,344.0	94.00	191.20	10,028.1	-3,780.2	-100.4	3,778.7	3.66	3.44	1.25
13,375.0	93.00	190.80	10,026.2	-3,810.5	-106.3	3,809.4	3.47	-3.23	-1.29
13,407.0	91.70	191.00	10,024.9	-3,841.9	-112.4	3,841.1	4.11	-4.06	0.63
13,439.0	92.00	191.70	10,023.8	-3,873.3	-118.7	3,872.8	2.38	0.94	2.19

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Owl Draw 23 DM Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3172.0usft (Patterson #46)
Site:	Sec 14 T26S R27E	MD Reference:	WELL @ 3172.0usft (Patterson #46)
Well:	Owl Draw 23 DM Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
13,470.0	91.90	191.20	10,022.8	-3,903.6	-124.8	3,903.5	1.64	-0.32	-1.61
13,502.0	90.80	191.50	10,022.0	-3,935.0	-131.1	3,935.2	3.56	-3.44	0.94
13,534.0	90.90	191.50	10,021.5	-3,966.4	-137.5	3,966.9	0.31	0.31	0.00
13,566.0	90.20	191.90	10,021.2	-3,997.7	-144.0	3,998.6	2.52	-2.19	1.25
13,597.0	90.50	191.00	10,021.0	-4,028.1	-150.1	4,029.4	3.06	0.97	-2.90
13,629.0	89.40	191.40	10,021.1	-4,059.5	-156.3	4,061.1	3.66	-3.44	1.25
13,661.0	89.30	191.00	10,021.4	-4,090.9	-162.6	4,092.8	1.29	-0.31	-1.25
13,692.0	90.50	189.20	10,021.5	-4,121.4	-168.0	4,123.6	6.98	3.87	-5.81
13,724.0	89.80	189.80	10,021.4	-4,152.9	-173.3	4,155.4	2.88	-2.19	1.88
13,755.0	88.10	189.90	10,022.0	-4,183.5	-178.6	4,186.3	5.49	-5.48	0.32
13,787.0	86.80	189.10	10,023.4	-4,215.0	-183.8	4,218.1	4.77	-4.06	-2.50
13,819.0	86.00	188.40	10,025.4	-4,246.6	-188.7	4,249.9	3.32	-2.50	-2.19
13,851.0	85.90	187.80	10,027.7	-4,278.2	-193.2	4,281.7	1.90	-0.31	-1.88
13,882.0	85.70	188.00	10,029.9	-4,308.8	-197.5	4,312.5	0.91	-0.65	0.65
13,914.0	85.80	187.70	10,032.3	-4,340.4	-201.8	4,344.4	0.99	0.31	-0.94
13,946.0	85.50	187.70	10,034.7	-4,372.0	-206.1	4,376.2	0.94	-0.94	0.00
13,977.0	85.60	188.20	10,037.1	-4,402.6	-210.4	4,407.0	1.64	0.32	1.61
14,009.0	85.10	188.20	10,039.7	-4,434.2	-214.9	4,438.8	1.56	-1.56	0.00
14,040.0	84.60	188.00	10,042.5	-4,464.8	-219.3	4,469.6	1.74	-1.61	-0.65
14,072.0	83.50	187.10	10,045.8	-4,496.3	-223.4	4,501.4	4.43	-3.44	-2.81
14,104.0	82.70	187.30	10,049.7	-4,527.8	-227.4	4,533.1	2.58	-2.50	0.63
14,135.0	82.50	187.50	10,053.7	-4,558.3	-231.4	4,563.7	0.91	-0.65	0.65
14,167.0	83.10	187.00	10,057.7	-4,589.8	-235.4	4,595.4	2.43	1.88	-1.56
14,198.0	83.40	187.80	10,061.3	-4,620.3	-239.4	4,626.2	2.74	0.97	2.58
14,227.0	84.20	187.50	10,064.5	-4,648.9	-243.2	4,654.9	2.94	2.76	-1.03
14,258.0	84.70	187.30	10,067.5	-4,679.5	-247.2	4,685.7	1.74	1.61	-0.65
14,290.0	84.40	186.90	10,070.5	-4,711.1	-251.1	4,717.5	1.56	-0.94	-1.25
14,322.0	85.00	187.30	10,073.4	-4,742.7	-255.0	4,749.3	2.25	1.88	1.25
14,353.0	85.10	186.10	10,076.1	-4,773.4	-258.6	4,780.2	3.87	0.32	-3.87
14,385.0	85.00	187.70	10,078.9	-4,805.1	-262.5	4,812.0	4.99	-0.31	5.00
14,416.0	85.10	187.70	10,081.6	-4,835.7	-266.6	4,842.8	0.32	0.32	0.00
14,448.0	84.90	187.10	10,084.3	-4,867.3	-270.7	4,874.6	1.97	-0.63	-1.88
14,480.0	85.10	187.10	10,087.1	-4,898.9	-274.7	4,906.4	0.63	0.63	0.00
14,511.0	85.10	186.90	10,089.8	-4,929.6	-278.4	4,937.3	0.64	0.00	-0.65
14,543.0	84.80	187.30	10,092.6	-4,961.2	-282.4	4,969.1	1.56	-0.94	1.25
14,575.0	87.10	187.50	10,094.9	-4,992.9	-286.5	5,000.9	7.21	7.19	0.63
14,606.0	88.80	187.70	10,096.0	-5,023.6	-290.6	5,031.8	5.52	5.48	0.65
14,638.0	90.30	187.50	10,096.2	-5,055.3	-294.8	5,063.8	4.73	4.69	-0.63
Crossed Hard Line @ 14661' MD / 10096' TVD									
14,660.7	90.37	187.07	10,096.1	-5,077.8	-297.7	5,086.4	1.90	0.31	-1.87
14,670.0	90.40	186.90	10,096.0	-5,087.0	-298.8	5,095.7	1.90	0.31	-1.88
14,701.0	90.70	187.50	10,095.7	-5,117.8	-302.7	5,126.6	2.16	0.97	1.94
14,733.0	90.80	187.50	10,095.3	-5,149.5	-306.9	5,158.6	0.31	0.31	0.00
14,764.0	91.10	188.20	10,094.8	-5,180.2	-311.1	5,189.5	2.46	0.97	2.26

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Owl Draw 23 DM Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3172.0usft (Patterson #46)
Site:	Sec 14, T26S, R27E	MD Reference:	WELL @ 3172.0usft (Patterson #46)
Well:	Owl Draw 23 DM Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
14,796.0	91.10	187.70	10,094.2	-5,211.9	-315.5	5,221.4	1.56	0.00	-1.56
14,828.0	91.50	188.00	10,093.5	-5,243.6	-319.9	5,253.3	1.56	1.25	0.94
14,849.0	92.40	188.70	10,092.7	-5,264.4	-323.0	5,274.2	5.43	4.29	3.33
TD @ 14900' MD / 10091' TVD									
14,900.0	92.40	188.70	10,090.6	-5,314.7	-330.7	5,325.0	0.00	0.00	0.00

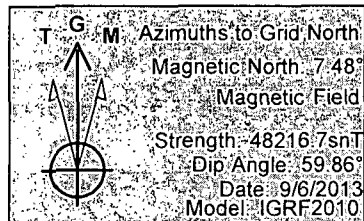
Measured Depth (usft)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Comment
8,468.0	8,461.2	-143.0	32.7	Tie In @ 8468' MD / 8461' TVD
9,886.0	9,823.0	-375.2	55.6	Crossed Lease Line @ 9886' MD / 9823' TVD
10,122.5	9,928.5	-582.3	92.4	Crossed Hard Line @ 10123' MD / 9929' TVD
14,660.7	10,096.1	-5,077.8	-297.7	Crossed Hard Line @ 14661' MD / 10096' TVD
14,900.0	10,090.6	-5,314.7	-330.7	TD @ 14900' MD / 10091' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
Owl Draw 23 DM Fed Com #1H
Eddy County, New Mexico
Rig: Patterson #46
Created By: James Dawson
Date: 10/21/2013

Owl Draw 23 DM Fed Com #1H
Eddy County, New Mexico
Q130197 & WT-13675
Design #4

Mewbourne Oil Company



PROJECT DETAILS: Eddy County, New Mexico

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level



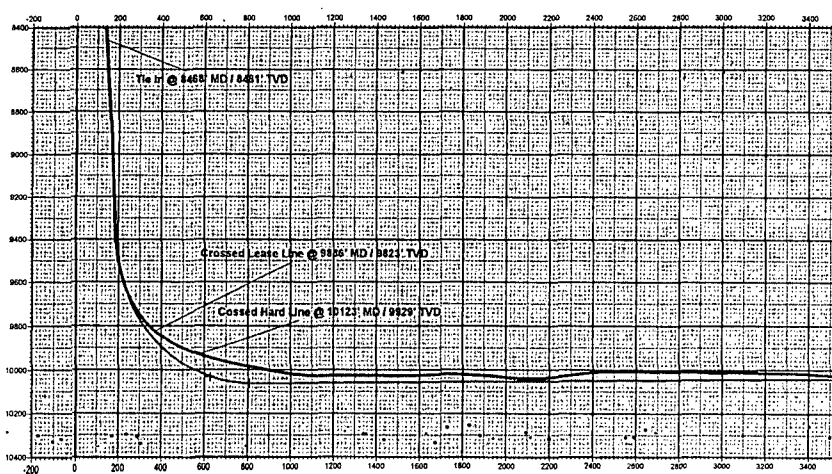
WELL DETAILS: Owl Draw 23 DM Fed Com #1H				
	Ground Level:	3152.0		
+N-S	+E-W	Northing	Eastings	Latitude
0.0	0.0	378774.54	651931.04	32° 2' 8.725 N
				104° 8' 56.686 W

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Eastings	Latitude	Longitude
LP - Owl Draw 23 DM Fed Com #1H DMS	10032.0	-824.1	-34.1	376150.38	651036.91	32° 2' 2.549 N	104° 8' 57.093 W
- plan misses target center by 47.7' at 10223.5' MD (10030.8 TVD, -827.4 N, 13.5 E)							
PRPT, Owl Draw 23 DM Fed Com #1H Design #2	10032.0	-8334.0	-294.4	371440.84	651636.6432	1° 16.941 N	104° 10' 0.201 W
- plan hits target center							
80' target	10062.0	-808.2	-44.0	375969.37	651987.01	32° 2' 0.768 N	104° 8' 57.212 W
- plan misses target center by 44.1' at 10408.2' MD (10062.0 TVD, -808.2 N, 2.0 E)							

ANNOTATIONS

MD	Inc	Az	TVD	+N-S	+E-W	Vsect	Departure	Annotation
8468.0	3.36	178.38	8461.2	-145.0	32.7	140.6	147.6	Tie In @ 8468' MD / 8461' TVD
8888.0	52.31	165.67	8825.0	-375.2	85.6	370.8	383.6	Crossed Lease Line @ 8888' MD / 8825' TVD
10122.6	71.55	172.52	9925.6	-492.3	92.4	876.1	853.8	Crossed Hard Line @ 10122' MD / 9925' TVD
14660.7	90.37	187.07	10086.1	-6077.8	-297.7	6086.4	5118.3	Crossed Hard Line @ 14661' MD / 10095' TVD
14900.0	92.40	188.70	10090.8	-6314.7	-330.7	6325.0	5364.5	TD @ 14900' MD / 10091' TVD



Vertical Section at 183.16° (200 us/in)

