Mewbourne Oil Co

Eddy County, New Mexico
Sec 7, T25S, R28E
Black Lake 7 NC State Com #1H

Wellbore #1

30-015-40984

Design: Wellbore #1

DDC Survey Report

17 September, 2013

DDC
The DIRECTIONAL DRILLING COMPANY

DDC
Survey Report

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Black Lake 7 NC State Com #1H
Project:	Eddy County, New Mexico	**TVD Reference:**	WELL @ 3083.0usft (Patterson #75)
Site:	Sec 7, T25S, R28E	**MD Reference:**	WELL @ 3083.0usft (Patterson #75)
Well:	Black Lake 7 NC State 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 7, T25S, R28E

Site Position:		**Northing:**	413,856.40 usft	**Latitude:**	32° 8' 15.509 N
From:	Map	**Easting:**	563,555.00 usft	**Longitude:**	104° 7' 40.824 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.11 °

Well Black Lake 7 NC State Com #1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	413,856.40 usft	**Latitude:**	32° 8' 15.509 N
	+E/-W	0.0 usft	**Easting:**	563,555.00 usft	**Longitude:**	104° 7' 40.824 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,063.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/9/2013	7.57	59.96	48,291

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)	Direction (°)
	0.0	0.0	0.0	359.67

Survey Program **Date** 9/17/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,300.0	MS Gyro Survey (Wellbore #1)	Good_gyro	Good Gyro
7,328.0	12,540.0	DDC MWD (Wellbore #1)	MWD default	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
100.0	0.28	213.60	100.0	-0.2	-0.1	-0.2	0.28	0.28	0.00
200.0	0.41	243.52	200.0	-0.6	-0.6	-0.6	0.22	0.13	29.92
300.0	0.42	242.64	300.0	-0.9	-1.2	-0.9	0.01	0.01	-0.88
400.0	0.25	279.24	400.0	-1.0	-1.8	-1.0	0.27	-0.17	36.60
500.0	0.55	284.45	500.0	-0.9	-2.5	-0.9	0.30	0.30	5.21
600.0	0.94	283.50	600.0	-0.6	-3.7	-0.5	0.39	0.39	-0.95
700.0	1.27	297.48	700.0	0.1	-5.5	0.2	0.42	0.33	13.98
800.0	0.95	300.93	799.9	1.1	-7.2	1.1	0.33	-0.32	3.45
900.0	1.18	292.85	899.9	1.9	-8.9	2.0	0.27	0.23	-8.08

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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	1.37	285.56	999.9	2.6	-11.0	2.7	0.25	0.19	-7.29
1,100.0	1.67	281.12	1,099.9	3.2	-13.5	3.3	0.32	0.30	-4.44
1,200.0	1.80	279.64	1,199.8	3.8	-16.5	3.9	0.14	0.13	-1.48
1,300.0	1.82	286.13	1,299.8	4.5	-19.6	4.6	0.21	0.02	6.49
1,400.0	1.58	289.11	1,399.7	5.4	-22.4	5.5	0.26	-0.24	2.98
1,500.0	1.47	285.78	1,499.7	6.2	-25.0	6.3	0.14	-0.11	-3.33
1,600.0	1.35	281.07	1,599.7	6.7	-27.3	6.9	0.17	-0.12	-4.71
1,700.0	0.55	265.92	1,699.6	6.9	-29.0	7.1	0.83	-0.80	-15.15
1,800.0	0.23	228.02	1,799.6	6.8	-29.6	6.9	0.39	-0.32	-37.90
1,900.0	0.11	200.63	1,899.6	6.5	-29.8	6.7	0.14	-0.12	-27.39
2,000.0	0.71	87.33	1,999.6	6.5	-29.2	6.6	0.76	0.60	-113.30
2,100.0	1.52	87.12	2,099.6	6.6	-27.3	6.7	0.81	0.81	-0.21
2,200.0	2.13	99.59	2,199.6	6.3	-24.1	6.5	0.72	0.61	12.47
2,300.0	2.07	104.48	2,299.5	5.6	-20.5	5.7	0.19	-0.06	4.89
2,400.0	1.87	107.56	2,399.4	4.6	-17.2	4.7	0.23	-0.20	3.08
2,500.0	1.56	98.18	2,499.4	3.9	-14.3	4.0	0.42	-0.31	-9.38
2,600.0	1.75	97.44	2,599.4	3.6	-11.5	3.6	0.19	0.19	-0.74
2,700.0	1.84	95.92	2,699.3	3.2	-8.3	3.2	0.10	0.09	-1.52
2,800.0	1.82	92.65	2,799.3	2.9	-5.2	3.0	0.11	-0.02	-3.27
2,900.0	1.48	72.77	2,899.2	3.3	-2.3	3.3	0.66	-0.34	-19.88
3,000.0	1.57	67.15	2,999.2	4.2	0.2	4.2	0.17	0.09	-5.62
3,100.0	1.44	63.49	3,099.1	5.3	2.5	5.3	0.16	-0.13	-3.66
3,200.0	1.54	58.82	3,199.1	6.5	4.8	6.5	0.16	0.10	-4.67
3,300.0	1.46	62.82	3,299.1	7.8	7.1	7.8	0.13	-0.08	4.00
3,400.0	1.38	68.48	3,399.0	8.8	9.4	8.8	0.16	-0.08	5.66
3,500.0	1.29	67.52	3,499.0	9.7	11.5	9.6	0.09	-0.09	-0.96
3,600.0	1.21	70.72	3,599.0	10.5	13.5	10.4	0.11	-0.08	3.20
3,700.0	0.95	73.80	3,699.0	11.1	15.3	11.0	0.27	-0.26	3.08
3,800.0	0.84	63.23	3,799.0	11.6	16.8	11.5	0.20	-0.11	-10.57
3,900.0	0.66	60.96	3,899.0	12.2	18.0	12.1	0.18	-0.18	-2.27
4,000.0	0.93	74.37	3,999.0	12.7	19.2	12.6	0.33	0.27	13.41
4,100.0	0.87	90.00	4,098.9	12.9	20.8	12.8	0.25	-0.06	15.63
4,200.0	0.77	99.19	4,198.9	12.8	22.2	12.7	0.16	-0.10	9.19
4,300.0	0.61	84.18	4,298.9	12.8	23.4	12.6	0.24	-0.16	-15.01
4,400.0	0.77	74.66	4,398.9	13.0	24.6	12.9	0.20	0.16	-9.52
4,500.0	0.56	125.20	4,498.9	12.9	25.6	12.8	0.60	-0.21	50.54
4,600.0	0.80	195.77	4,598.9	12.0	25.8	11.8	0.81	0.24	70.57
4,700.0	1.14	216.27	4,698.9	10.5	25.0	10.3	0.48	0.34	20.50
4,800.0	1.00	221.50	4,798.9	9.0	23.9	8.9	0.17	-0.14	5.23
4,900.0	0.86	221.52	4,898.9	7.8	22.8	7.7	0.14	-0.14	0.02
5,000.0	0.91	203.92	4,998.8	6.5	22.0	6.4	0.28	0.05	-17.60
5,100.0	1.16	203.09	5,098.8	4.9	21.3	4.7	0.25	0.25	-0.83
5,200.0	1.35	212.51	5,198.8	2.9	20.2	2.8	0.28	0.19	9.42

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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)
5,300.0	1.19	219.92	5,298.8	1.2	18.9	1.0	0.23	-0.16	7.41
5,400.0	0.93	228.73	5,398.8	-0.2	17.7	-0.3	0.31	-0.26	8.81
5,500.0	0.92	212.93	5,498.8	-1.4	16.6	-1.5	0.25	-0.01	-15.80
5,600.0	1.00	205.65	5,598.7	-2.8	15.8	-2.9	0.15	0.08	-7.28
5,700.0	1.32	202.15	5,698.7	-4.7	15.0	-4.8	0.33	0.32	-3.50
5,800.0	1.48	203.48	5,798.7	-7.0	14.0	-7.0	0.16	0.16	1.33
5,900.0	1.33	203.34	5,898.7	-9.2	13.1	-9.3	0.15	-0.15	-0.14
6,000.0	1.47	210.71	5,998.6	-11.4	12.0	-11.4	0.23	0.14	7.37
6,100.0	1.38	254.24	6,098.6	-12.8	10.1	-12.9	1.06	-0.09	43.53
6,200.0	1.29	294.27	6,198.6	-12.7	8.0	-12.7	0.92	-0.09	40.03
6,300.0	1.26	306.02	6,298.5	-11.6	6.0	-11.6	0.26	-0.03	11.75
6,400.0	1.76	276.74	6,398.5	-10.7	3.6	-10.8	0.90	0.50	-29.28
6,500.0	2.76	282.15	6,498.4	-10.0	-0.3	-10.0	1.02	1.00	5.41
6,600.0	1.46	299.56	6,598.4	-8.9	-3.7	-8.9	1.43	-1.30	17.41
6,700.0	1.44	342.67	6,698.3	-7.1	-5.2	-7.1	1.07	-0.02	43.11
6,800.0	1.97	353.25	6,798.3	-4.2	-5.8	-4.1	0.61	0.53	10.58
6,900.0	1.72	334.27	6,898.2	-1.1	-6.6	-1.1	0.66	-0.25	-18.98
7,000.0	0.92	327.61	6,998.2	0.9	-7.7	1.0	0.81	-0.80	-6.66
7,100.0	0.53	307.12	7,098.2	1.9	-8.5	1.9	0.46	-0.39	-20.49
7,200.0	0.74	264.92	7,198.2	2.1	-9.5	2.1	0.50	0.21	-42.20
Tie into Gyro @ 7300' MD / 7298' TVD									
7,300.0	0.71	248.54	7,298.2	1.8	-10.7	1.9	0.21	-0.03	-16.38
7,328.0	1.10	226.80	7,326.2	1.6	-11.1	1.6	1.83	1.39	-77.64
7,358.0	0.80	221.40	7,356.2	1.2	-11.4	1.3	1.04	-1.00	-18.00
7,390.0	1.40	346.00	7,388.2	1.4	-11.7	1.5	6.15	1.88	389.38
7,421.0	3.90	354.80	7,419.1	2.8	-11.9	2.9	8.15	8.06	28.39
7,453.0	6.20	4.80	7,451.0	5.6	-11.8	5.7	7.67	7.19	31.25
7,485.0	7.90	5.00	7,482.8	9.6	-11.5	9.6	5.31	5.31	0.63
7,517.0	10.30	1.00	7,514.4	14.6	-11.3	14.7	7.75	7.50	-12.50
7,549.0	13.00	356.20	7,545.7	21.1	-11.4	21.1	8.96	8.44	-15.00
7,581.0	15.90	355.90	7,576.7	29.0	-12.0	29.1	9.07	9.06	-0.94
7,612.0	18.80	354.50	7,606.3	38.2	-12.8	38.3	9.45	9.35	-4.52
7,644.0	22.00	354.10	7,636.3	49.3	-13.9	49.4	10.01	10.00	-1.25
7,676.0	25.20	353.90	7,665.6	62.1	-15.2	62.2	10.00	10.00	-0.63
7,708.0	28.40	355.50	7,694.2	76.4	-16.6	76.5	10.25	10.00	5.00
7,740.0	31.30	356.40	7,721.9	92.3	-17.7	92.4	9.17	9.06	2.81
7,772.0	34.60	356.90	7,748.8	109.7	-18.7	109.8	10.35	10.31	1.56
7,804.0	37.60	356.70	7,774.6	128.5	-19.7	128.6	9.38	9.38	-0.63
7,836.0	41.20	356.90	7,799.3	148.8	-20.9	148.9	11.26	11.25	0.63
7,867.0	44.40	357.30	7,822.1	169.8	-21.9	170.0	10.36	10.32	1.29
Crossed Hard Line @ 7881' MD / 7832' TVD									
7,881.2	45.86	357.53	7,832.1	179.9	-22.4	180.0	10.37	10.31	1.61
7,899.0	47.70	357.80	7,844.3	192.8	-22.9	193.0	10.37	10.31	1.52
7,931.0	52.20	357.40	7,864.9	217.3	-23.9	217.4	14.09	14.06	-1.25

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7,963.0	56.60	356.90	7,883.5	243.3	-25.2	243.4	13.81	13.75	-1.56
7,994.0	61.60	356.90	7,899.4	269.8	-26.7	270.0	16.13	16.13	0.00
8,026.0	66.30	356.60	7,913.4	298.5	-28.3	298.7	14.71	14.69	-0.94
8,058.0	71.10	356.40	7,925.1	328.3	-30.1	328.5	15.01	15.00	-0.63
8,090.0	76.60	356.20	7,934.0	358.9	-32.1	359.1	17.20	17.19	-0.63
8,112.0	80.70	356.60	7,938.3	380.5	-33.5	380.7	18.72	18.64	1.82
8,208.0	89.00	357.80	7,946.9	475.9	-38.1	476.1	8.73	8.65	1.25
8,271.0	90.70	358.50	7,947.1	538.8	-40.2	539.1	2.92	2.70	1.11
8,334.0	90.80	358.90	7,946.2	601.8	-41.6	602.1	0.65	0.16	0.63
8,398.0	90.80	1.50	7,945.4	665.8	-41.4	666.0	4.06	0.00	4.06
8,461.0	91.10	1.70	7,944.3	728.8	-39.6	729.0	0.57	0.48	0.32
8,525.0	91.40	2.50	7,942.9	792.7	-37.3	792.9	1.33	0.47	1.25
8,588.0	90.50	3.40	7,941.9	855.6	-34.0	855.8	2.02	-1.43	1.43
8,651.0	89.70	2.20	7,941.8	918.6	-30.9	918.7	2.29	-1.27	-1.90
8,714.0	89.70	2.20	7,942.1	981.5	-28.5	981.7	0.00	0.00	0.00
8,777.0	90.00	2.50	7,942.3	1,044.5	-25.9	1,044.6	0.67	0.48	0.48
8,841.0	89.90	2.40	7,942.3	1,108.4	-23.2	1,108.5	0.22	-0.16	-0.16
8,904.0	88.50	1.50	7,943.2	1,171.3	-21.1	1,171.4	2.64	-2.22	-1.43
8,968.0	90.20	1.10	7,943.9	1,235.3	-19.6	1,235.4	2.73	2.66	-0.63
9,031.0	90.50	1.80	7,943.5	1,298.3	-18.0	1,298.4	1.21	0.48	1.11
9,094.0	90.20	1.30	7,943.1	1,361.3	-16.3	1,361.4	0.93	-0.48	-0.79
9,157.0	90.90	2.00	7,942.5	1,424.2	-14.5	1,424.3	1.57	1.11	1.11
9,220.0	89.50	1.50	7,942.3	1,487.2	-12.6	1,487.3	2.36	-2.22	-0.79
9,284.0	89.30	1.30	7,943.0	1,551.2	-11.0	1,551.2	0.44	-0.31	-0.31
9,347.0	89.30	1.70	7,943.8	1,614.2	-9.4	1,614.2	0.63	0.00	0.63
9,411.0	89.70	2.40	7,944.3	1,678.1	-7.1	1,678.1	1.26	0.63	1.09
9,474.0	87.60	1.10	7,945.8	1,741.1	-5.1	1,741.1	3.92	-3.33	-2.06
9,538.0	87.60	1.00	7,948.5	1,805.0	-4.0	1,805.0	0.16	0.00	-0.16
9,601.0	88.30	0.80	7,950.7	1,868.0	-3.0	1,867.9	1.16	1.11	-0.32
9,664.0	89.60	359.00	7,951.9	1,930.9	-3.1	1,930.9	3.52	2.06	-2.86
9,728.0	89.80	359.90	7,952.2	1,994.9	-3.7	1,994.9	1.44	0.31	1.41
9,791.0	89.90	359.40	7,952.4	2,057.9	-4.1	2,057.9	0.81	0.16	-0.79
9,854.0	90.20	359.50	7,952.3	2,120.9	-4.7	2,120.9	0.50	0.48	0.16
9,917.0	90.30	359.70	7,952.1	2,183.9	-5.1	2,183.9	0.35	0.16	0.32
9,980.0	90.30	0.40	7,951.7	2,246.9	-5.1	2,246.9	1.11	0.00	1.11
10,044.0	90.50	0.60	7,951.3	2,310.9	-4.5	2,310.9	0.44	0.31	0.31
10,107.0	90.90	1.00	7,950.5	2,373.9	-3.6	2,373.9	0.90	0.63	0.63
10,170.0	89.60	1.10	7,950.2	2,436.9	-2.5	2,436.9	2.07	-2.06	0.16
10,233.0	89.60	1.00	7,950.7	2,499.9	-1.3	2,499.9	0.16	0.00	-0.16
10,297.0	90.10	1.70	7,950.8	2,563.9	0.2	2,563.8	1.34	0.78	1.09
10,360.0	89.40	1.10	7,951.1	2,626.9	1.7	2,626.8	1.46	-1.11	-0.95
10,424.0	89.60	1.00	7,951.7	2,690.8	2.9	2,690.8	0.35	0.31	-0.16
10,487.0	88.30	359.70	7,952.8	2,753.8	3.3	2,753.8	2.92	-2.06	-2.06

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Black Lake 7 NC State Com #1H
Project:	Eddy County, New Mexico	**TVD Reference:**	WELL @ 3083.0usft (Patterson #75)
Site:	Sec 7, T25S, R28E	**MD Reference:**	WELL @ 3083.0usft (Patterson #75)
Well:	Black Lake 7 NC State 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)
10,550.0	88.00	359.40	7,954.9	2,816.8	2.8	2,816.7	0.67	-0.48	-0.48
10,613.0	88.40	358.00	7,956.8	2,879.7	1.3	2,879.7	2.31	0.63	-2.22
10,676.0	88.60	358.00	7,958.5	2,942.7	-0.9	2,942.6	0.32	0.32	0.00
10,739.0	89.10	357.80	7,959.8	3,005.6	-3.2	3,005.6	0.85	0.79	-0.32
10,803.0	89.30	358.30	7,960.7	3,069.6	-5.3	3,069.6	0.84	0.31	0.78
10,866.0	89.50	358.30	7,961.3	3,132.5	-7.2	3,132.5	0.32	0.32	0.00
10,929.0	89.60	358.70	7,961.8	3,195.5	-8.9	3,195.5	0.65	0.16	0.63
10,992.0	89.70	358.30	7,962.2	3,258.5	-10.5	3,258.5	0.65	0.16	-0.63
11,056.0	90.00	358.70	7,962.4	3,322.5	-12.2	3,322.5	0.78	0.47	0.63
11,119.0	90.00	359.20	7,962.4	3,385.5	-13.3	3,385.5	0.79	0.00	0.79
11,183.0	90.40	359.20	7,962.1	3,449.5	-14.2	3,449.5	0.63	0.63	0.00
11,246.0	90.70	359.50	7,961.5	3,512.5	-14.9	3,512.5	0.67	0.48	0.48
11,309.0	90.80	359.50	7,960.7	3,575.4	-15.5	3,575.5	0.16	0.16	0.00
11,373.0	91.10	359.70	7,959.6	3,639.4	-15.9	3,639.5	0.56	0.47	0.31
11,436.0	91.30	0.30	7,958.3	3,702.4	-15.9	3,702.5	1.00	0.32	0.95
11,499.0	91.60	0.60	7,956.7	3,765.4	-15.4	3,765.4	0.67	0.48	0.48
11,562.0	90.40	1.00	7,955.6	3,828.4	-14.6	3,828.4	2.01	-1.90	0.63
11,625.0	90.40	0.80	7,955.2	3,891.4	-13.6	3,891.4	0.32	0.00	-0.32
11,688.0	90.80	1.10	7,954.5	3,954.4	-12.5	3,954.4	0.79	0.63	0.48
11,752.0	90.00	359.90	7,954.1	4,018.4	-12.0	4,018.4	2.25	-1.25	-1.88
11,815.0	88.70	359.00	7,954.8	4,081.3	-12.6	4,081.4	2.51	-2.06	-1.43
11,879.0	88.40	359.00	7,956.4	4,145.3	-13.7	4,145.3	0.47	-0.47	0.00
11,942.0	88.60	359.20	7,958.1	4,208.3	-14.7	4,208.3	0.45	0.32	0.32
12,005.0	88.80	359.50	7,959.5	4,271.3	-15.4	4,271.3	0.57	0.32	0.48
12,068.0	89.20	359.40	7,960.6	4,334.3	-16.0	4,334.3	0.65	0.63	-0.16
12,132.0	89.50	359.50	7,961.3	4,398.2	-16.6	4,398.3	0.49	0.47	0.16
12,195.0	89.70	359.90	7,961.8	4,461.2	-17.0	4,461.3	0.71	0.32	0.63
12,259.0	90.00	0.10	7,961.9	4,525.2	-17.0	4,525.3	0.56	0.47	0.31
12,322.0	90.30	0.10	7,961.8	4,588.2	-16.8	4,588.3	0.48	0.48	0.00
12,385.0	90.60	0.10	7,961.3	4,651.2	-16.7	4,651.3	0.48	0.48	0.00
12,448.0	91.00	0.30	7,960.4	4,714.2	-16.5	4,714.3	0.71	0.63	0.32
12,492.0	91.40	0.10	7,959.5	4,758.2	-16.4	4,758.2	1.02	0.91	-0.45
TD @ 12540' MD / 7958' TVD									
12,540.0	91.40	0.10	7,958.3	4,806.2	-16.3	4,806.2	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,300.0	7,298.2	1.8	-10.7	Tie into Gyro @ 7300' MD / 7298' TVD
7,881.2	7,832.1	179.9	-22.4	Crossed Hard Line @ 7881' MD / 7832' TVD
12,540.0	7,958.3	4,806.2	-16.3	TD @ 12540' MD / 7958' TVD

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Black Lake 7 NC State Com #1H
Project:	Eddy County, New Mexico	**TVD Reference:**	WELL @ 3083.0usft (Patterson #75)
Site:	Sec 7, T25S, R28E	**MD Reference:**	WELL @ 3083.0usft (Patterson #75)
Well:	Black Lake 7 NC State Com #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
Black Lake 7 NC State Com #1H
Eddy County, New Mexico
Rig: Patterson #75
Created By: James Dawson
Date: 09/17/2013

Black Lake 7 NC State Com #1H
Eddy County, New Mexico
Q130699 & WT-13695
Design #2 - Tied to Gyro

Mewbourne Oil Company

RDC
The DIRECTIONAL DRILLING COMPANY

T G M
Azimuths to Grid North
Magnetic North: 7.46°
Magnetic Field
Strength: 48290.7snT
Dip Angle: 59.96°
Date: 8/9/2013
Model: IGRF2010

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: Black Lake 7 NC State Com #1H

Ground Level: 3063.0

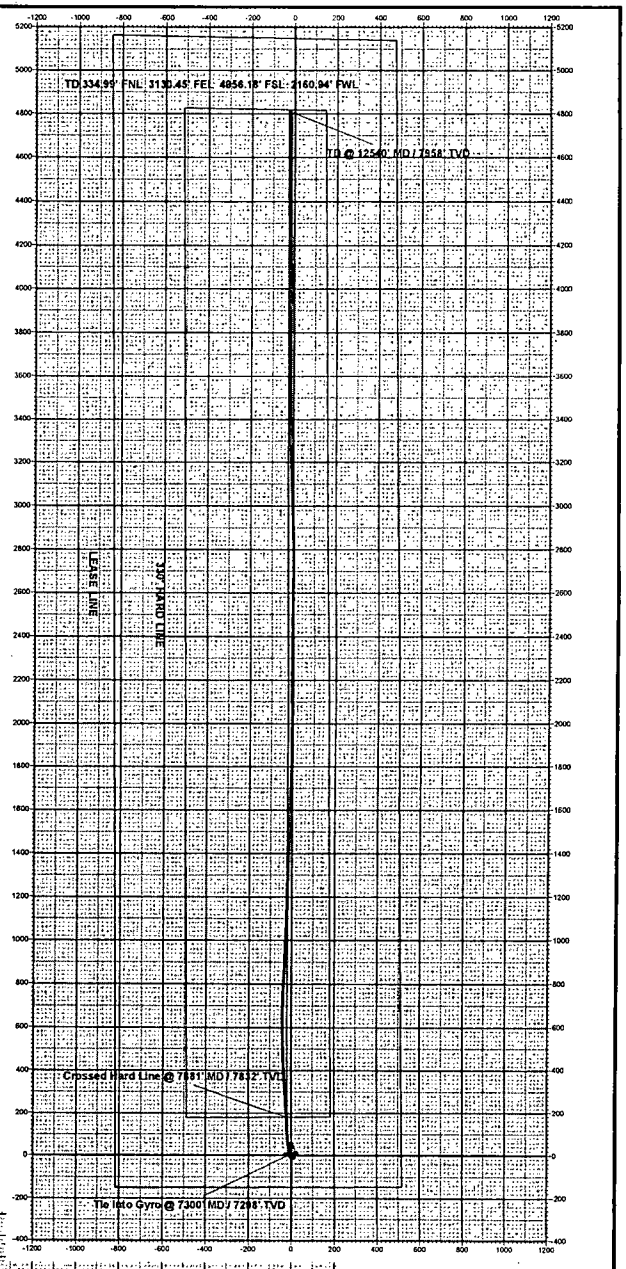
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	413856.40	563565.00	32° 8' 15.509 N	104° 7' 40.824 W

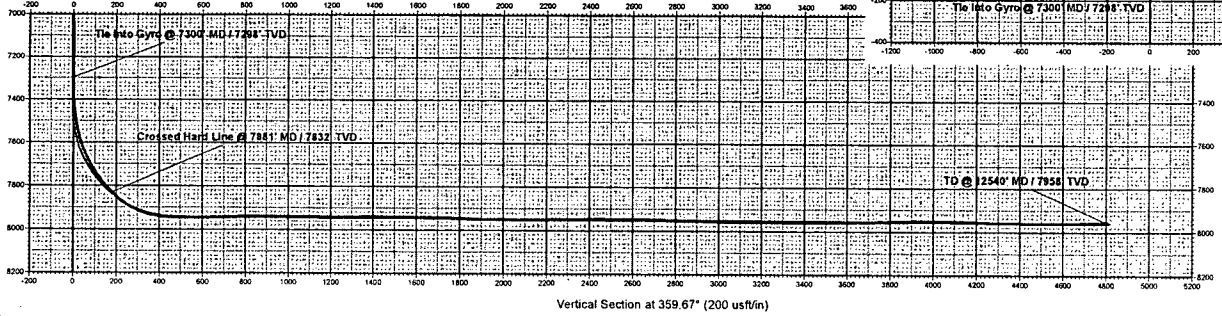
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL - Black Lake 7 NC State Com #1H - plan hits target center	7960.0	4816.5	-27.9	418672.94	563527.12	32° 9' 3.176 N	104° 7' 41.041 W

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
7300.0	0.71	248.84	7298.2	1.9	-10.7	1.9	160.6	Tie into Gyro @ 7300' MD / 7298' TVD
7881.0	45.84	357.63	7831.9	179.7	-22.4	179.9	331.0	Crossed Hard Line @ 7881' MD / 7832' TVD
12540.0	91.40	0.10	7958.3	4806.2	-16.3	4806.2	4958.9	TD @ 12540' MD / 7960' TVD





Vertical Section at 359.67° (200 usft/in)