

Mewbourne Oil Co

Eddy County, New Mexico

Sec 15-25S-28E

San Lorenzo 15 OB #1H

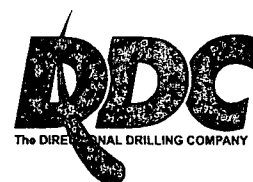
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Wellbore #1

Design: Wellbore #1

DDC Survey Report

21 November, 2013



DDC
Survey Report



Company:	Mawbourne Oil Co.	Local Co-ordinate Reference:	Well San Lorenzo 15'OB #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 2996.0usft (Patterson #187)
Site:	Sec 15-25S-28E	MD Reference:	WELL @ 2996.0usft (Patterson #187)
Well:	San Lorenzo 15'OB #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 15-25S-28E			
Site Position:		Northing:	413,409.51 usft	Latitude:	32° 8' 10.781 N
From:	Map	Easting:	578,072.26 usft	Longitude:	104° 4' 51.994 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.13 °

Well	San Lorenzo 15'OB #1H					
Well Position	+N/-S	0.0 usft	Northing:	408,749.83 usft	Latitude:	32° 7' 24.595 N
	+E/-W	0.0 usft	Easting:	581,112.48 usft	Longitude:	104° 4' 16.767 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	2,976.0 usft

Wellbore:		Wellbore #1			
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	9/9/2013	7.53	59.95	48,281

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	359.79	

Survey Program		Date	11/21/2013	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	9,800.0	VES Gyro Survey (Wellbore #1)	Good_gyro	Good Gyro
9,910.0	15,040.0	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.49	97.26	100.0	-0.1	0.4	-0.1	0.49	0.49	0.00
200.0	0.94	83.96	200.0	0.0	1.7	0.0	0.48	0.45	-13.30
300.0	1.44	77.59	300.0	0.3	3.7	0.3	0.52	0.50	-6.37
400.0	0.94	92.17	399.9	0.6	5.8	0.6	0.58	-0.50	14.58
500.0	1.05	129.30	499.9	0.0	7.3	-0.1	0.64	0.11	37.13
600.0	1.10	132.04	599.9	-1.3	8.7	-1.3	0.07	0.05	2.74
700.0	1.26	140.78	699.9	-2.8	10.1	-2.8	0.24	0.16	8.74
800.0	0.54	145.62	799.9	-4.0	11.1	-4.0	0.72	-0.72	4.84
900.0	0.70	146.47	899.9	-4.9	11.7	-4.9	0.16	0.16	0.85

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Well:	San Lorenzo 15 OB: #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)
1,000.0	0.64	151.06	999.9	-5.9	12.3	-5.9	0.08	-0.06	4.59
1,100.0	0.71	166.09	1,099.9	-7.0	12.7	-7.0	0.19	0.07	15.03
1,200.0	0.57	147.09	1,199.9	-8.0	13.1	-8.0	0.25	-0.14	-19.00
1,300.0	0.33	132.60	1,299.9	-8.6	13.6	-8.7	0.26	-0.24	-14.49
1,400.0	0.43	156.72	1,399.9	-9.2	14.0	-9.2	0.19	0.10	24.12
1,500.0	0.70	161.71	1,499.8	-10.1	14.3	-10.1	0.27	0.27	4.99
1,600.0	0.29	188.46	1,599.8	-10.9	14.5	-11.0	0.46	-0.41	26.75
1,700.0	0.74	204.56	1,699.8	-11.7	14.2	-11.8	0.47	0.45	16.10
1,800.0	1.15	244.70	1,799.8	-12.8	13.0	-12.8	0.75	0.41	40.14
1,900.0	0.98	94.02	1,899.8	-13.3	12.9	-13.3	2.06	-0.17	-150.68
2,000.0	2.48	96.22	1,999.8	-13.5	15.9	-13.6	1.50	1.50	2.20
2,100.0	2.78	95.62	2,099.7	-14.0	20.5	-14.1	0.30	0.30	-0.60
2,200.0	4.02	93.55	2,199.5	-14.5	26.4	-14.6	1.25	1.24	-2.07
2,300.0	4.87	94.70	2,299.2	-15.0	34.1	-15.2	0.85	0.85	1.15
2,400.0	4.68	87.14	2,398.8	-15.2	42.4	-15.3	0.66	-0.19	-7.56
2,500.0	3.50	102.32	2,498.6	-15.6	49.5	-15.8	1.59	-1.18	15.18
2,600.0	2.14	101.77	2,598.5	-16.7	54.3	-16.9	1.36	-1.36	-0.55
2,700.0	1.87	109.05	2,698.4	-17.6	57.7	-17.8	0.37	-0.27	7.28
2,800.0	1.73	105.01	2,798.4	-18.5	60.7	-18.7	0.19	-0.14	-4.04
2,900.0	1.29	111.33	2,898.3	-19.3	63.2	-19.5	0.47	-0.44	6.32
3,000.0	1.39	110.12	2,998.3	-20.1	65.4	-20.4	0.10	0.10	-1.21
3,100.0	1.17	126.61	3,098.3	-21.2	67.3	-21.4	0.43	-0.22	16.49
3,200.0	0.93	130.96	3,198.2	-22.3	68.8	-22.5	0.25	-0.24	4.35
3,300.0	0.71	139.94	3,298.2	-23.3	69.8	-23.6	0.25	-0.22	8.98
3,400.0	0.68	144.91	3,398.2	-24.3	70.5	-24.5	0.07	-0.03	4.97
3,500.0	0.56	155.45	3,498.2	-25.2	71.1	-25.4	0.17	-0.12	10.54
3,600.0	0.53	169.75	3,598.2	-26.1	71.3	-26.3	0.14	-0.03	14.30
3,700.0	0.22	109.30	3,698.2	-26.6	71.6	-26.9	0.46	-0.31	-60.45
3,800.0	0.17	112.72	3,798.2	-26.7	71.9	-27.0	0.05	-0.05	3.42
3,900.0	0.13	144.81	3,898.2	-26.9	72.1	-27.1	0.09	-0.04	32.09
4,000.0	0.32	204.39	3,998.2	-27.2	72.1	-27.5	0.28	0.19	59.58
4,100.0	0.23	217.09	4,098.2	-27.6	71.8	-27.9	0.11	-0.09	12.70
4,200.0	0.34	226.11	4,198.2	-28.0	71.5	-28.3	0.12	0.11	9.02
4,300.0	0.25	226.38	4,298.2	-28.4	71.1	-28.6	0.09	-0.09	0.27
4,400.0	0.53	221.69	4,398.2	-28.9	70.7	-29.1	0.28	0.28	-4.69
4,500.0	0.62	227.38	4,498.2	-29.6	70.0	-29.8	0.11	0.09	5.69
4,600.0	0.67	238.83	4,598.2	-30.2	69.1	-30.5	0.14	0.05	11.45
4,700.0	1.11	227.64	4,698.2	-31.2	67.8	-31.4	0.47	0.44	-11.19
4,800.0	1.30	217.28	4,798.2	-32.7	66.4	-33.0	0.29	0.19	-10.36
4,900.0	1.29	219.78	4,898.1	-34.5	65.0	-34.8	0.06	-0.01	2.50
5,000.0	1.18	209.54	4,998.1	-36.3	63.8	-36.5	0.25	-0.11	-10.24
5,100.0	1.17	208.20	5,098.1	-38.1	62.8	-38.3	0.03	-0.01	-1.34
5,200.0	0.53	213.19	5,198.1	-39.4	62.1	-39.6	0.64	-0.64	4.99

DDC Survey Report



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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)
5,300.0	0.66	212.70	5,298.1	-40.2	61.5	-40.5	0.13	0.13	-0.49
5,400.0	0.84	213.40	5,398.1	-41.3	60.8	-41.5	0.18	0.18	0.70
5,500.0	0.90	218.59	5,498.1	-42.6	59.9	-42.8	0.10	0.06	5.19
5,600.0	0.86	212.00	5,598.0	-43.8	59.0	-44.0	0.11	-0.04	-6.59
5,700.0	1.25	209.07	5,698.0	-45.4	58.1	-45.6	0.39	0.39	-2.93
5,800.0	0.93	200.17	5,798.0	-47.1	57.3	-47.3	0.36	-0.32	-8.90
5,900.0	0.78	217.93	5,898.0	-48.4	56.6	-48.6	0.30	-0.15	17.76
6,000.0	1.27	218.64	5,998.0	-49.8	55.5	-50.0	0.49	0.49	0.71
6,100.0	1.35	212.77	6,098.0	-51.7	54.1	-51.9	0.16	0.08	-5.87
6,200.0	1.49	239.47	6,197.9	-53.3	52.4	-53.5	0.67	0.14	26.70
6,300.0	1.28	263.40	6,297.9	-54.1	50.2	-54.3	0.61	-0.21	23.93
6,400.0	1.15	295.75	6,397.9	-53.8	48.1	-54.0	0.69	-0.13	32.35
6,500.0	2.08	287.99	6,497.8	-52.8	45.5	-53.0	0.95	0.93	-7.76
6,600.0	1.65	276.92	6,597.8	-52.1	42.4	-52.2	0.56	-0.43	-11.07
6,700.0	2.09	284.16	6,697.7	-51.4	39.2	-51.6	0.50	0.44	7.24
6,800.0	2.46	272.95	6,797.7	-50.9	35.3	-51.0	0.58	0.37	-11.21
6,900.0	2.71	289.16	6,897.6	-50.0	30.9	-50.1	0.77	0.25	16.21
7,000.0	2.80	290.83	6,997.4	-48.4	26.4	-48.5	0.12	0.09	1.67
7,100.0	3.65	299.63	7,097.3	-45.9	21.3	-46.0	0.98	0.85	8.80
7,200.0	2.35	282.41	7,197.1	-43.9	16.5	-44.0	1.57	-1.30	-17.22
7,300.0	2.35	264.13	7,297.1	-43.7	12.5	-43.7	0.75	0.00	-18.28
7,400.0	2.44	261.97	7,397.0	-44.2	8.4	-44.2	0.13	0.09	-2.16
7,500.0	2.10	247.54	7,496.9	-45.2	4.6	-45.2	0.66	-0.34	-14.43
7,600.0	2.33	237.94	7,596.8	-47.0	1.1	-47.0	0.44	0.23	-9.60
7,700.0	1.93	215.97	7,696.7	-49.4	-1.6	-49.4	0.90	-0.40	-21.97
7,800.0	1.43	171.45	7,796.7	-52.0	-2.4	-52.0	1.35	-0.50	-44.52
7,900.0	1.23	173.54	7,896.7	-54.3	-2.1	-54.3	0.21	-0.20	2.09
8,000.0	0.51	204.29	7,996.7	-55.8	-2.1	-55.8	0.83	-0.72	30.75
8,100.0	1.14	220.13	8,096.7	-56.9	-3.0	-56.9	0.66	0.63	15.84
8,200.0	0.99	240.25	8,196.6	-58.1	-4.4	-58.1	0.40	-0.15	20.12
8,300.0	0.70	243.00	8,296.6	-58.8	-5.6	-58.8	0.29	-0.29	2.75
8,400.0	1.02	228.23	8,396.6	-59.7	-6.9	-59.7	0.39	0.32	-14.77
8,500.0	1.05	216.62	8,496.6	-61.0	-8.1	-61.0	0.21	0.03	-11.61
8,600.0	2.11	209.08	8,596.6	-63.4	-9.5	-63.3	1.08	1.06	-7.54
8,700.0	2.42	205.66	8,696.5	-66.9	-11.3	-66.8	0.34	0.31	-3.42
8,800.0	2.07	213.47	8,796.4	-70.3	-13.2	-70.2	0.46	-0.35	7.81
8,900.0	1.79	217.53	8,896.4	-73.0	-15.2	-73.0	0.31	-0.28	4.06
9,000.0	1.92	225.25	8,996.3	-75.5	-17.3	-75.4	0.28	0.13	7.72
9,100.0	1.70	215.51	9,096.3	-77.8	-19.4	-77.8	0.38	-0.22	-9.74
9,200.0	1.39	219.04	9,196.2	-80.0	-21.0	-79.9	0.32	-0.31	3.53
9,300.0	1.47	209.00	9,296.2	-82.1	-22.4	-82.0	0.26	0.08	-10.04
9,400.0	1.65	206.48	9,396.1	-84.5	-23.6	-84.4	0.19	0.18	-2.52
9,500.0	1.59	201.78	9,496.1	-87.0	-24.8	-87.0	0.15	-0.06	-4.70

DDC
Survey Report



Company:	Mewbourne Oil Co.	Local Co-ordinate Reference:	Well: San Lorenzo 15 OB #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 2996.0usft (Patterson #187)
Site:	Sec 15-25S-28E	MD Reference:	WELL @ 2996.0usft (Patterson #187)
Well:	San Lorenzo 15 OB #1H	North Reference:	Grid
Wellbore:	Wellbore #1H	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1H	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)
9,600.0	1.82	203.18	9,596.1	-89.8	-25.9	-89.7	0.23	0.23	1.40
9,700.0	1.61	205.86	9,696.0	-92.5	-27.2	-92.4	0.22	-0.21	2.68
Tie In @ 9800 MD / 9796 TVD									
9,800.0	1.54	221.51	9,796.0	-94.8	-28.7	-94.7	0.43	-0.07	15.65
9,910.0	1.20	228.00	9,906.0	-96.7	-30.5	-96.6	0.34	-0.31	5.90
9,941.0	1.10	271.60	9,936.9	-96.9	-31.1	-96.8	2.77	-0.32	140.65
9,973.0	2.60	319.00	9,968.9	-96.3	-31.8	-96.2	6.33	4.69	148.13
10,005.0	4.80	335.20	10,000.9	-94.6	-32.9	-94.4	7.55	6.88	50.63
10,036.0	5.40	341.20	10,031.7	-92.0	-33.9	-91.9	2.59	1.94	19.35
10,068.0	6.50	343.50	10,063.6	-88.8	-34.9	-88.7	3.52	3.44	7.19
10,099.0	10.10	344.50	10,094.2	-84.5	-36.1	-84.4	11.62	11.61	3.23
10,131.0	13.60	342.80	10,125.5	-78.2	-38.0	-78.1	10.99	10.94	-5.31
10,162.0	17.10	341.70	10,155.4	-70.4	-40.5	-70.3	11.33	11.29	-3.55
10,194.0	18.70	343.50	10,185.9	-61.0	-43.4	-60.9	5.29	5.00	5.63
10,226.0	21.70	346.30	10,215.9	-50.4	-46.3	-50.2	9.85	9.38	8.75
10,258.0	25.10	346.30	10,245.3	-38.0	-49.3	-37.8	10.63	10.63	0.00
10,289.0	28.30	345.40	10,273.0	-24.5	-52.7	-24.3	10.40	10.32	-2.90
10,320.0	31.20	344.90	10,299.9	-9.6	-56.6	-9.4	9.39	9.35	-1.61
Crossed Hard Line @ 10338 MD / 10315 TVD									
10,338.2	33.08	344.66	10,315.3	-0.3	-59.2	-0.1	10.35	10.32	-1.34
10,351.0	34.40	344.50	10,325.9	6.5	-61.1	6.8	10.35	10.32	-1.23
10,383.0	37.50	344.50	10,351.8	24.6	-66.1	24.9	9.69	9.69	0.00
10,414.0	40.50	345.60	10,375.9	43.5	-71.1	43.8	9.93	9.68	3.55
10,446.0	44.00	346.30	10,399.6	64.4	-76.3	64.6	11.04	10.94	2.19
10,478.0	47.40	346.50	10,422.0	86.6	-81.7	86.9	10.63	10.63	0.63
10,509.0	50.60	346.50	10,442.3	109.4	-87.2	109.7	10.32	10.32	0.00
10,541.0	54.60	347.00	10,461.7	134.1	-93.0	134.4	12.56	12.50	1.56
10,572.0	58.40	348.40	10,478.8	159.4	-98.5	159.7	12.82	12.26	4.52
10,596.0	61.50	348.80	10,490.8	179.7	-102.6	180.1	13.00	12.92	1.67
10,681.0	67.50	350.20	10,527.4	255.1	-116.6	255.6	7.21	7.06	1.65
10,713.0	68.70	351.00	10,539.4	284.4	-121.4	284.9	4.41	3.75	2.50
10,744.0	71.10	353.10	10,550.0	313.2	-125.4	313.7	10.02	7.74	6.77
10,776.0	73.00	355.10	10,559.9	343.5	-128.6	344.0	8.40	5.94	6.25
10,807.0	73.90	356.70	10,568.7	373.2	-130.7	373.6	5.74	2.90	5.16
10,839.0	75.10	357.00	10,577.3	404.0	-132.4	404.4	3.86	3.75	0.94
10,870.0	76.40	357.00	10,584.9	434.0	-133.9	434.4	4.19	4.19	0.00
10,902.0	78.30	357.20	10,591.9	465.1	-135.5	465.6	5.97	5.94	0.63
10,934.0	81.40	358.60	10,597.5	496.6	-136.7	497.1	10.60	9.69	4.38
10,966.0	85.40	0.70	10,601.2	528.4	-136.9	528.9	14.10	12.50	6.56
10,997.0	90.60	2.10	10,602.3	559.3	-136.1	559.8	17.37	16.77	4.52
11,029.0	87.80	0.90	10,602.7	591.3	-135.3	591.8	9.52	-8.75	-3.75
11,060.0	90.40	3.00	10,603.2	622.3	-134.2	622.8	10.78	8.39	6.77
11,092.0	90.00	2.10	10,603.1	654.3	-132.8	654.8	3.08	-1.25	-2.81
11,123.0	88.90	1.10	10,603.4	685.3	-131.9	685.7	4.80	-3.55	-3.23

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well San Lorenzo 15 OB #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 2996.0usft (Patterson #187)
Site:	Sec 15-25S-28E	MD Reference:	WELL @ 2996.0usft (Patterson #187)
Well:	San Lorenzo 15 OB #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)
11,155.0	86.20	359.80	10,604.8	717.2	-131.7	717.7	9.36	-8.44	-4.06
11,186.0	86.00	359.70	10,606.9	748.2	-131.8	748.6	0.72	-0.65	-0.32
11,218.0	88.50	359.70	10,608.4	780.1	-132.0	780.6	7.81	7.81	0.00
11,250.0	91.50	0.90	10,608.4	812.1	-131.8	812.6	10.10	9.38	3.75
11,281.0	91.60	0.50	10,607.6	843.1	-131.4	843.6	1.33	0.32	-1.29
11,313.0	91.90	0.70	10,606.6	875.1	-131.1	875.6	1.13	0.94	0.63
11,345.0	89.20	359.10	10,606.3	907.1	-131.2	907.5	9.81	-8.44	-5.00
11,376.0	89.40	0.40	10,606.7	938.1	-131.3	938.5	4.24	0.65	4.19
11,408.0	88.50	0.20	10,607.3	970.1	-131.1	970.5	2.88	-2.81	-0.63
11,439.0	87.10	358.60	10,608.5	1,001.0	-131.4	1,001.5	6.86	-4.52	-5.16
11,471.0	86.50	357.90	10,610.2	1,033.0	-132.4	1,033.4	2.88	-1.88	-2.19
11,503.0	88.50	358.40	10,611.6	1,064.9	-133.5	1,065.4	6.44	6.25	1.56
11,534.0	89.80	359.00	10,612.1	1,095.9	-134.2	1,096.4	4.62	4.19	1.94
11,566.0	89.90	358.40	10,612.2	1,127.9	-134.9	1,128.4	1.90	0.31	-1.88
11,629.0	88.70	357.90	10,613.0	1,190.9	-136.9	1,191.4	2.06	-1.90	-0.79
11,693.0	90.00	359.30	10,613.7	1,254.8	-138.5	1,255.3	2.99	2.03	2.19
11,756.0	89.30	359.50	10,614.1	1,317.8	-139.1	1,318.3	1.16	-1.11	0.32
11,819.0	90.60	359.80	10,614.1	1,380.8	-139.5	1,381.3	2.12	2.06	0.48
11,882.0	91.30	0.90	10,613.1	1,443.8	-139.1	1,444.3	2.07	1.11	1.75
11,946.0	91.70	1.40	10,611.4	1,507.8	-137.9	1,508.3	1.00	0.63	0.78
12,009.0	92.40	2.60	10,609.1	1,570.7	-135.7	1,571.2	2.20	1.11	1.90
12,072.0	90.80	3.20	10,607.4	1,633.6	-132.5	1,634.1	2.71	-2.54	0.95
12,136.0	88.10	2.30	10,608.0	1,697.5	-129.4	1,698.0	4.45	-4.22	-1.41
12,199.0	88.60	2.60	10,609.8	1,760.4	-126.7	1,760.9	0.93	0.79	0.48
12,262.0	90.00	3.70	10,610.6	1,823.3	-123.3	1,823.8	2.83	2.22	1.75
12,325.0	89.80	5.60	10,610.7	1,886.1	-118.1	1,886.5	3.03	-0.32	3.02
12,388.0	89.30	6.00	10,611.2	1,948.8	-111.8	1,949.2	1.02	-0.79	0.63
12,452.0	89.40	6.30	10,611.9	2,012.4	-104.9	2,012.8	0.49	0.16	0.47
12,483.0	87.60	8.10	10,612.7	2,043.2	-101.0	2,043.5	8.21	-5.81	5.81
12,609.0	87.90	8.60	10,617.7	2,167.7	-82.8	2,168.0	0.46	0.24	0.40
12,641.0	87.10	5.50	10,619.1	2,199.5	-78.8	2,199.7	10.00	-2.50	-9.69
12,704.0	88.40	5.60	10,621.5	2,262.1	-72.7	2,262.4	2.07	2.06	0.16
12,767.0	88.90	4.60	10,623.0	2,324.8	-67.1	2,325.1	1.77	0.79	-1.59
12,799.0	88.50	4.10	10,623.8	2,356.7	-64.7	2,357.0	2.00	-1.25	-1.56
12,862.0	90.40	4.90	10,624.4	2,419.5	-59.8	2,419.7	3.27	3.02	1.27
12,925.0	91.70	5.30	10,623.2	2,482.3	-54.2	2,482.5	2.16	2.06	0.63
12,988.0	90.10	5.30	10,622.2	2,545.0	-48.4	2,545.2	2.54	-2.54	0.00
13,052.0	90.80	3.70	10,621.7	2,608.8	-43.3	2,608.9	2.73	1.09	-2.50
13,084.0	91.40	3.90	10,621.1	2,640.7	-41.2	2,640.9	1.98	1.88	0.63
13,115.0	92.40	4.40	10,620.1	2,671.6	-39.0	2,671.7	3.61	3.23	1.61
13,147.0	92.10	4.90	10,618.8	2,703.5	-36.4	2,703.6	1.82	-0.94	1.56
13,178.0	91.70	4.60	10,617.8	2,734.4	-33.8	2,734.5	1.61	-1.29	-0.97
13,210.0	92.10	5.10	10,616.7	2,766.2	-31.1	2,766.3	2.00	1.25	1.56

DDC
Survey Report



Company:	Mewbourne Oil Co.	Local Co-ordinate Reference:	Well: San Lorenzo 15 OB #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 2996.0usft (Patterson #187)
Site:	Sec 15-25S-28E	MD Reference:	WELL @ 2996.0usft (Patterson #187)
Well:	San Lorenzo 15 OB #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)
13,241.0	92.20	5.10	10,615.6	2,797.1	-28.4	2,797.2	0.32	0.32	0.00
13,273.0	91.10	4.90	10,614.6	2,829.0	-25.6	2,829.0	3.49	-3.44	-0.63
13,305.0	89.30	5.80	10,614.5	2,860.8	-22.6	2,860.9	6.29	-5.63	2.81
13,336.0	89.00	6.00	10,615.0	2,891.6	-19.4	2,891.7	1.16	-0.97	0.65
13,368.0	89.50	5.60	10,615.4	2,923.5	-16.2	2,923.5	2.00	1.56	-1.25
13,400.0	89.70	5.30	10,615.6	2,955.3	-13.1	2,955.4	1.13	0.63	-0.94
13,431.0	90.10	5.30	10,615.7	2,986.2	-10.3	2,986.2	1.29	1.29	0.00
13,463.0	89.50	4.80	10,615.8	3,018.1	-7.4	3,018.1	2.44	-1.88	-1.56
13,494.0	89.70	5.10	10,616.0	3,049.0	-4.8	3,049.0	1.16	0.65	0.97
13,526.0	89.70	4.60	10,616.2	3,080.8	-2.1	3,080.8	1.56	0.00	-1.56
13,558.0	88.10	4.60	10,616.8	3,112.7	0.5	3,112.7	5.00	-5.00	0.00
13,589.0	87.80	3.20	10,617.9	3,143.6	2.6	3,143.6	4.62	-0.97	-4.52
13,621.0	87.80	4.10	10,619.1	3,175.6	4.6	3,175.5	2.81	0.00	2.81
13,653.0	87.90	4.20	10,620.3	3,207.4	7.0	3,207.4	0.44	0.31	0.31
13,684.0	88.60	4.20	10,621.3	3,238.3	9.2	3,238.3	2.26	2.26	0.00
13,716.0	88.50	5.50	10,622.1	3,270.2	11.9	3,270.2	4.07	-0.31	4.06
13,748.0	88.20	4.10	10,623.0	3,302.1	14.6	3,302.0	4.47	-0.94	-4.38
13,811.0	87.50	2.60	10,625.4	3,364.9	18.3	3,364.9	2.63	-1.11	-2.38
13,843.0	87.40	2.60	10,626.8	3,396.9	19.7	3,396.8	0.31	-0.31	0.00
13,874.0	88.30	3.00	10,628.0	3,427.8	21.2	3,427.7	3.18	2.90	1.29
13,906.0	88.60	4.10	10,628.8	3,459.7	23.2	3,459.6	3.56	0.94	3.44
13,937.0	89.30	3.50	10,629.4	3,490.7	25.3	3,490.6	2.97	2.26	-1.94
14,001.0	90.20	2.60	10,629.7	3,554.6	28.7	3,554.5	1.99	1.41	-1.41
14,064.0	90.80	4.20	10,629.1	3,617.5	32.4	3,617.3	2.71	0.95	2.54
14,127.0	90.50	3.90	10,628.4	3,680.3	36.9	3,680.1	0.67	-0.48	-0.48
14,191.0	90.50	4.60	10,627.9	3,744.1	41.6	3,743.9	1.09	0.00	1.09
14,254.0	89.40	4.40	10,627.9	3,806.9	46.6	3,806.7	1.77	-1.75	-0.32
14,317.0	90.10	3.20	10,628.2	3,869.8	50.7	3,869.6	2.21	1.11	-1.90
14,380.0	88.70	2.50	10,628.8	3,932.7	53.9	3,932.5	2.48	-2.22	-1.11
14,443.0	90.50	4.10	10,629.3	3,995.6	57.5	3,995.4	3.82	2.86	2.54
14,506.0	90.30	3.50	10,628.8	4,058.5	61.7	4,058.2	1.00	-0.32	-0.95
14,570.0	91.20	3.20	10,628.0	4,122.3	65.4	4,122.1	1.48	1.41	-0.47
14,633.0	90.60	3.50	10,627.0	4,185.2	69.1	4,184.9	1.06	-0.95	0.48
14,696.0	91.20	2.10	10,626.0	4,248.1	72.2	4,247.8	2.42	0.95	-2.22
14,759.0	91.90	3.00	10,624.3	4,311.1	75.0	4,310.7	1.81	1.11	1.43
14,823.0	92.90	4.40	10,621.6	4,374.9	79.1	4,374.5	2.69	1.56	2.19
14,854.0	93.70	4.60	10,619.9	4,405.7	81.5	4,405.4	2.66	2.58	0.65
14,886.0	94.00	6.20	10,617.7	4,437.5	84.5	4,437.2	5.08	0.94	5.00
14,918.0	93.50	6.30	10,615.6	4,469.2	88.0	4,468.9	1.59	-1.56	0.31
14,950.0	93.10	5.30	10,613.8	4,501.0	91.2	4,500.7	3.36	-1.25	-3.13
14,981.0	92.60	4.40	10,612.2	4,531.9	93.8	4,531.5	3.32	-1.61	-2.90
14,990.0	92.10	3.70	10,611.9	4,540.8	94.5	4,540.5	9.55	-5.56	-7.78
TD @ 15,040 MD / 10610 TVD									
15,040.0	92.10	3.70	10,610.0	4,590.7	97.7	4,590.3	0.00	0.00	0.00

DDC
Survey Report



Company:	Mewbourne Oil Co.	Local Co-ordinate Reference:	Well San Lorenzo 15' OB' #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 2996.0usft (Patterson #187)
Site:	Sec 15:25S-28E	MD Reference:	WELL @ 2996.0usft (Patterson #187)
Well:	San Lorenzo 15' OB' #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)

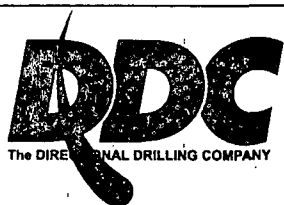
Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,800.0	9,796.0	-94.8	-28.7	Tie In @ 9800' MD / 9796' TVD
10,338.2	10,315.3	-0.3	-59.2	Crossed Hard Line @ 10338' MD / 10315' TVD
15,040.0	10,610.0	4,590.7	97.7	TD @ 15040' MD / 10610' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
San Lorenzo 15 OB #1H
Eddy County, New Mexico
Rig: Patterson #167
Created By: James Dawson
Date: 11/21/2013

San Lorenzo 15 OB #1H
Eddy County, New Mexico
Q130781 & WT-13782
Design #2 - Tied to Gyro

Mewbourne Oil Company



Azimuths to Grid North

Correction: 7.39°
Magnetic Field

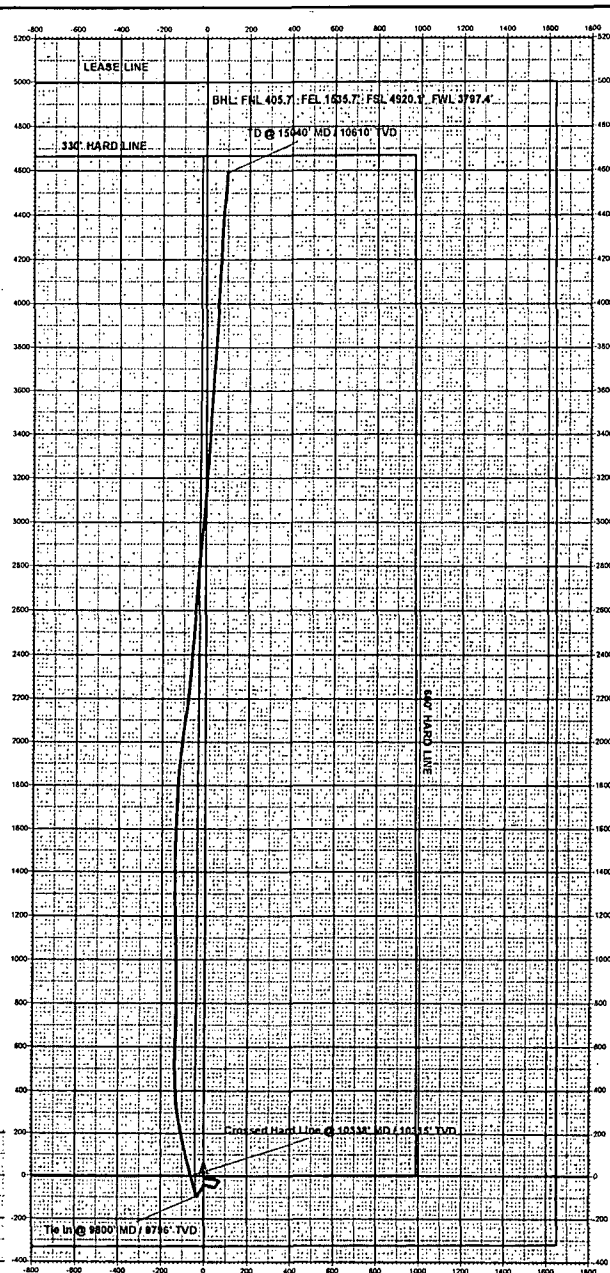
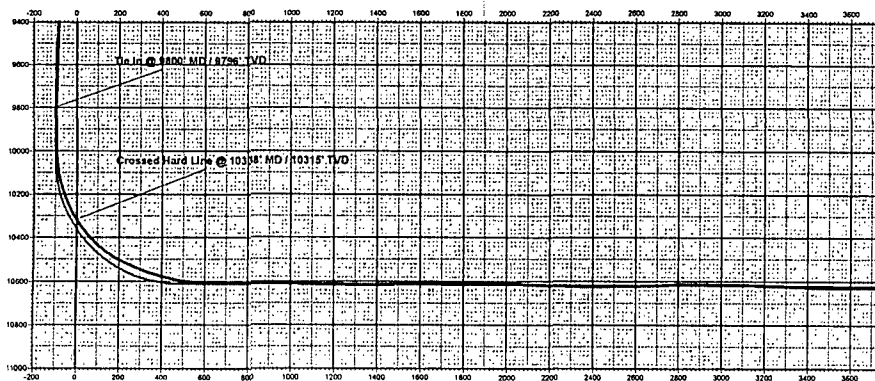
Strength: 48280.7snT
Dip Angle: 59.95°
Date: 9/9/2013
Model: IGRF2010

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: San Lorenzo 15 OB #1H					
Ground Level:	2276.0				
+N-S	+E-W	North	East	Latitude	Longitude
0.0	0.0	408749.83	601112.48	32° 7' 24.596 N	104° 4' 16.767 W

DESIGN TARGET DETAILS						
Name	TVD	+N-S	+E-W	North	East	Latitude
PBHL San Lorenzo 15 OB Fee #1H DM2	10626.0	4656.1	-16.3	413415.84	561056.68	32° 8' 10.773 N
plan hits target center						

ANNOTATIONS									
MD	Inc	Azi	TVD	+N-S	+E-W	V-Sect	Departure	Annotation	
9800.0	1.54	221.51	9796.0	-84.8	-28.7	-84.7	234.8	Tie in @ 9800' MD / 9796' TVD	
10338.2	13.08	344.68	10315.3	-4.3	-49.2	-4.1	339.1	Crossed Hard Line @ 10338' MD / 10315' TVD	
10640.0	92.10	5.70	10610.0	4590.7	97.7	4590.3	4847.6	TD @ 10640' MD / 10610' TVD	



Vertical Section at 359.79° (200 usf/in)