

OPERATOR
WELL/LEASE
COUNTY

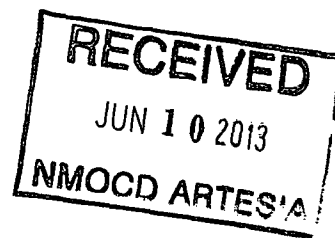
MEWBOURNE OIL COMPANY
SAN LORENZO 9 MD FEE 1H
EDDY

075-0092

STATE OF NEW MEXICO
DEVIATION REPORT

30-015-40749

378	1.21
806	1.32
1,202	0.94
1,634	0.75
1,921	3.89
2,079	6.08
2,206	5.80
2,654	2.14
2,877	1.47
3,131	1.28
3,513	0.74
3,864	0.60
4,214	1.54
4,564	0.61
4,915	1.58
5,264	1.03
5,615	1.27
5,963	2.06
6,312	2.81
6,692	1.93
7,041	1.58



STATE OF TEXAS

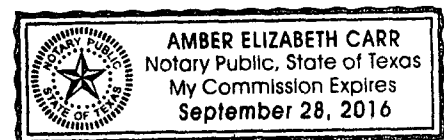
BY: Steve Moore

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on
Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

1/17/13, by

Amber Elizabeth Carr
Notary Public for Midland County, Texas
My Commission Expires:





Company: Mewbourne Oil Company
Lease/Well: San Lorenzo 9 MD FEE/No 001H
Location: S9 T25s R28e
Rig Name: Patterson 75
State/County: New Mexico/Eddy
Latitude: 32.14, Longitude: -104.10
GRID North is 0.12 Degrees East of True North
VS-Azi: 359.49 Degrees

NC



RKB : 22 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...o 9 md fee #1h gyro survey.ut

Minimum Curvature Method

Report Date/Time: 1/21/2013 / 13:02

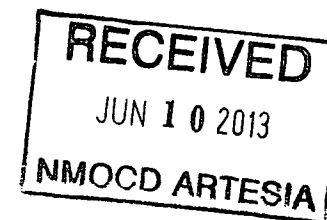
Vaughn Energy Services

(432) 563-5444

Gardendale, TX

Surveyor: Dustin Wedel

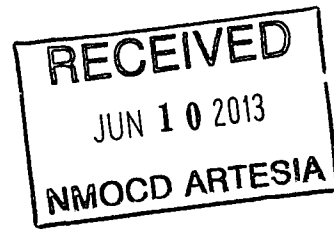
San Lorenzo 9 MD FEE No 001H / API 30-015-40749



Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.29	28.62	100.00	0.23	0.12	0.22	0.26	28.62	0.29
200.00	0.45	351.09	200.00	0.84	0.19	0.84	0.86	12.49	0.28
300.00	0.58	347.18	299.99	1.71	0.01	1.71	1.71	0.45	0.13
400.00	0.67	356.97	399.99	2.79	-0.13	2.79	2.79	357.35	0.14
500.00	0.44	18.07	499.98	3.75	-0.04	3.75	3.75	359.38	0.31
600.00	0.35	336.73	599.98	4.39	-0.04	4.39	4.39	359.47	0.29
700.00	0.65	74.50	699.98	4.82	0.39	4.82	4.84	4.59	0.78
800.00	0.95	116.94	799.97	4.60	1.67	4.58	4.90	20.00	0.64
900.00	0.89	121.42	899.96	3.82	3.08	3.79	4.90	38.89	0.09
1000.00	0.76	117.61	999.95	3.11	4.33	3.07	5.33	54.34	0.15
1100.00	0.73	118.34	1099.94	2.50	5.47	2.45	6.02	65.46	0.03
1200.00	0.55	129.03	1199.93	1.89	6.41	1.84	6.68	73.53	0.21
1300.00	0.87	132.05	1299.92	1.08	7.34	1.02	7.42	81.62	0.32
1400.00	0.57	154.74	1399.92	0.12	8.12	0.05	8.12	89.13	0.41
1500.00	0.63	191.28	1499.91	-0.87	8.22	-0.94	8.27	96.05	0.38
1600.00	0.24	216.70	1599.91	-1.58	7.99	-1.65	8.14	101.21	0.43
1700.00	0.51	198.38	1699.91	-2.18	7.72	-2.25	8.02	105.75	0.29
1800.00	1.60	79.22	1799.89	-2.34	8.95	-2.42	9.25	104.67	1.90
1900.00	4.13	90.22	1899.76	-2.10	13.92	-2.22	14.07	98.56	2.58
2000.00	6.01	86.47	1999.37	-1.79	22.74	-1.99	22.81	94.49	1.91

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
2100.00	5.81	90.49	2098.83	-1.51	33.02	-1.80	33.06	92.62	0.46
2200.00	5.36	92.17	2198.36	-1.73	42.75	-2.11	42.78	92.32	0.48
2300.00	4.90	94.94	2297.96	-2.27	51.67	-2.73	51.72	92.52	0.52
2400.00	3.84	95.06	2397.67	-2.94	59.27	-3.47	59.34	92.84	1.06
2500.00	2.59	93.36	2497.51	-3.37	64.86	-3.94	64.95	92.97	1.26
2600.00	2.04	92.71	2597.43	-3.58	68.89	-4.20	68.98	92.98	0.55
2700.00	1.79	99.60	2697.37	-3.93	72.20	-4.57	72.31	93.11	0.34
2800.00	1.55	92.89	2797.33	-4.26	75.09	-4.92	75.21	93.24	0.31
2900.00	1.70	96.68	2897.29	-4.50	77.92	-5.19	78.05	93.30	0.18
3000.00	1.49	101.06	2997.25	-4.92	80.67	-5.64	80.82	93.49	0.25
3100.00	1.05	109.88	3097.22	-5.48	82.80	-6.21	82.98	93.79	0.47
3200.00	1.39	106.29	3197.20	-6.13	84.83	-6.89	85.05	94.13	0.35
3300.00	1.13	129.78	3297.18	-7.10	86.76	-7.87	87.05	94.68	0.57
3400.00	0.21	147.86	3397.17	-7.88	87.61	-8.66	87.96	95.14	0.94
3500.00	0.45	187.98	3497.17	-8.42	87.65	-9.20	88.05	95.49	0.32
3600.00	0.56	159.13	3597.16	-9.27	87.77	-10.05	88.26	96.03	0.28
3700.00	0.36	218.25	3697.16	-9.98	87.75	-10.76	88.32	96.49	0.49
3800.00	0.53	153.00	3797.16	-10.64	87.76	-11.42	88.41	96.91	0.50
3900.00	0.62	190.39	3897.15	-11.59	87.88	-12.37	88.64	97.51	0.38
4000.00	0.53	251.46	3997.15	-12.26	87.34	-13.04	88.20	97.99	0.59
4100.00	0.40	229.67	4097.15	-12.64	86.63	-13.41	87.55	98.30	0.22
4200.00	0.50	239.89	4197.14	-13.09	85.98	-13.85	86.97	98.65	0.12
4300.00	0.50	249.97	4297.14	-13.46	85.20	-14.21	86.25	98.98	0.09
4400.00	0.44	224.03	4397.14	-13.88	84.52	-14.63	85.65	99.33	0.22
4500.00	0.51	216.15	4497.13	-14.52	83.99	-15.27	85.23	99.81	0.10
4600.00	0.48	209.79	4597.13	-15.24	83.52	-15.99	84.90	100.34	0.06
4700.00	0.94	210.65	4697.12	-16.31	82.89	-17.05	84.48	101.13	0.46
4800.00	0.90	191.82	4797.11	-17.78	82.31	-18.52	84.21	102.19	0.30
4900.00	0.96	207.99	4897.10	-19.29	81.76	-20.02	84.00	103.28	0.27
5000.00	1.03	207.35	4997.08	-20.83	80.95	-21.55	83.59	104.43	0.07
5100.00	1.36	207.43	5097.06	-22.67	80.00	-23.39	83.15	105.82	0.33
5200.00	1.20	203.72	5197.03	-24.68	79.03	-25.38	82.80	107.34	0.18
5300.00	1.27	216.26	5297.01	-26.53	77.96	-27.22	82.35	108.79	0.28
5400.00	1.18	212.92	5396.99	-28.29	76.74	-28.97	81.79	110.23	0.12
5500.00	1.42	227.30	5496.96	-29.99	75.27	-30.66	81.03	111.72	0.41
5600.00	1.01	243.76	5596.94	-31.22	73.57	-31.87	79.92	113.00	0.53
5700.00	1.06	239.14	5696.92	-32.08	71.98	-32.72	78.81	114.02	0.09
5800.00	1.24	229.18	5796.90	-33.27	70.37	-33.89	77.84	115.30	0.27
5900.00	1.51	194.21	5896.88	-35.25	69.23	-35.86	77.69	116.98	0.86
6000.00	1.60	208.85	5996.84	-37.75	68.23	-38.35	77.98	118.95	0.41
6100.00	1.44	211.39	6096.81	-40.04	66.91	-40.64	77.97	120.90	0.17
6200.00	1.76	228.54	6196.77	-42.13	65.10	-42.71	77.54	122.91	0.57

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
6300.00	2.03	226.76	6296.71	-44.36	62.66	-44.92	76.77	125.30	0.27
6400.00	2.11	216.70	6396.65	-47.05	60.27	-47.58	76.46	127.98	0.37
6500.00	2.11	224.22	6496.58	-49.85	57.88	-50.36	76.39	130.73	0.28
6600.00	2.21	232.30	6596.51	-52.35	55.07	-52.84	75.98	133.55	0.32
6700.00	2.12	210.73	6696.44	-55.11	52.61	-55.58	76.19	136.33	0.81
6800.00	2.33	192.65	6796.36	-58.69	51.22	-59.14	77.89	138.89	0.73
6900.00	2.66	206.31	6896.27	-62.75	49.74	-63.20	80.08	141.60	0.68
7000.00	3.08	204.60	6996.14	-67.28	47.59	-67.70	82.41	144.72	0.42
7100.00	2.57	194.54	7096.02	-71.88	45.92	-72.29	85.30	147.43	0.71
7200.00	2.21	216.21	7195.94	-75.60	44.22	-76.00	87.58	149.68	0.96
7300.00	3.05	207.19	7295.83	-79.53	41.86	-79.90	89.87	152.24	0.94
7400.00	2.09	211.19	7395.73	-83.46	39.70	-83.81	92.42	154.56	0.98
7465.00	1.80	215.50	7460.69	-85.30	38.49	-85.64	93.58	155.71	0.51



Mewbourne Oil Co

Eddy County, New Mexico (Nad 83)

Sec 9, T25S, R28E

San Lorenzo 9 NC #1H

Wellbore #1

Design: Wellbore #1

DDC Survey Report

29 January, 2013



DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well San Lorenzo 9 NC #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Site:	Sec 9, T25S, R28E	MD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Well:	San Lorenzo 9 NC #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 (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 9, T25S, R28E		
Site Position:		Northing:	413,937.30 usft
From:	Map	Easting:	613,914.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 8' 15.991 N
		Longitude:	104° 5' 55.879 W
		Grid Convergence:	0.12 °

Well	San Lorenzo 9 NC #1H		
Well Position	+N-S	0.0 usft	Northing: 413,937.30 usft
	+E-W	0.0 usft	Easting: 613,914.10 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 8' 15.991 N
		Longitude:	104° 5' 55.879 W
		Ground Level:	3,005.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/4/2012	7.66	59.98	48,378.

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	14.87

Survey Program	Date 1/29/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,465.0	Gyro (Wellbore #1)	Good_gyro	Good Gyro
7,559.0	13,450.0	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	0.29	28.62	100.0	0.2	0.1	0.2	0.29	0.29	0.00	
200.0	0.45	351.09	200.0	0.8	0.2	0.9	0.28	0.16	-37.53	
300.0	0.58	347.18	300.0	1.7	0.0	1.7	0.13	0.13	-3.91	
400.0	0.67	356.97	400.0	2.8	-0.1	2.7	0.14	0.09	9.79	
500.0	0.44	18.07	500.0	3.7	0.0	3.6	0.30	-0.23	21.10	
600.0	0.35	336.73	600.0	4.4	0.0	4.2	0.29	-0.09	-41.34	
700.0	0.65	74.50	700.0	4.8	0.4	4.8	0.78	0.30	97.77	
800.0	0.95	116.94	800.0	4.6	1.7	4.9	0.64	0.30	42.44	
900.0	0.89	121.42	900.0	3.8	3.1	4.5	0.09	-0.06	4.48	

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well San Lorenzo 9 NC #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Site:	Sec 9, T25S, R28E	MD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Well:	San Lorenzo 9 NC #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)
1,000.0	0.76	117.61	999.9	3.1	4.3	4.1	0.14	-0.13	-3.81
1,100.0	0.73	118.34	1,099.9	2.5	5.5	3.8	0.03	-0.03	0.73
1,200.0	0.55	129.03	1,199.9	1.9	6.4	3.5	0.22	-0.18	10.69
1,300.0	0.87	132.05	1,299.9	1.1	7.3	2.9	0.32	0.32	3.02
1,400.0	0.57	154.74	1,399.9	0.1	8.1	2.2	0.41	-0.30	22.69
1,500.0	0.63	191.28	1,499.9	-0.9	8.2	1.3	0.38	0.06	36.54
1,600.0	0.24	216.70	1,599.9	-1.6	8.0	0.5	0.43	-0.39	25.42
1,700.0	0.51	198.38	1,699.9	-2.2	7.7	-0.1	0.29	0.27	-18.32
1,800.0	1.60	79.22	1,799.9	-2.3	8.9	0.0	1.90	1.09	-119.16
1,900.0	4.13	90.22	1,899.8	-2.1	13.9	1.6	2.58	2.53	11.00
2,000.0	6.01	86.47	1,999.4	-1.8	22.7	4.1	1.91	1.88	-3.75
2,100.0	5.81	90.49	2,098.8	-1.5	33.0	7.0	0.46	-0.20	4.02
2,200.0	5.36	92.17	2,198.4	-1.7	42.8	9.3	0.48	-0.45	1.68
2,300.0	4.90	94.94	2,298.0	-2.3	51.7	11.1	0.52	-0.46	2.77
2,400.0	3.84	95.06	2,397.7	-2.9	59.3	12.4	1.06	-1.06	0.12
2,500.0	2.59	93.36	2,497.5	-3.4	64.9	13.4	1.25	-1.25	-1.70
2,600.0	2.04	92.71	2,597.4	-3.6	68.9	14.2	0.55	-0.55	-0.65
2,700.0	1.79	99.60	2,697.4	-3.9	72.2	14.8	0.34	-0.25	6.89
2,800.0	1.55	92.89	2,797.3	-4.2	75.1	15.2	0.31	-0.24	-6.71
2,900.0	1.70	96.68	2,897.3	-4.5	77.9	15.7	0.18	0.15	3.79
3,000.0	1.49	101.06	2,997.2	-4.9	80.7	16.0	0.24	-0.21	4.38
3,100.0	1.05	109.88	3,097.2	-5.5	82.8	16.0	0.48	-0.44	8.82
3,200.0	1.39	106.29	3,197.2	-6.1	84.8	15.9	0.35	0.34	-3.59
3,300.0	1.13	129.78	3,297.2	-7.1	86.8	15.4	0.57	-0.26	23.49
3,400.0	0.21	147.86	3,397.2	-7.9	87.6	14.9	0.93	-0.92	18.08
3,500.0	0.45	187.98	3,497.2	-8.4	87.7	14.4	0.32	0.24	40.12
3,600.0	0.56	159.13	3,597.2	-9.3	87.8	13.6	0.27	0.11	-28.85
3,700.0	0.36	218.25	3,697.2	-10.0	87.8	12.9	0.49	-0.20	59.12
3,800.0	0.53	153.00	3,797.2	-10.6	87.8	12.3	0.50	0.17	-65.25
3,900.0	0.62	190.39	3,897.2	-11.6	87.9	11.4	0.38	0.09	37.39
4,000.0	0.53	251.46	3,997.1	-12.2	87.4	10.6	0.59	-0.09	61.07
4,100.0	0.40	229.67	4,097.1	-12.6	86.7	10.0	0.22	-0.13	-21.79
4,200.0	0.50	239.89	4,197.1	-13.1	86.0	9.4	0.13	0.10	10.22
4,300.0	0.50	249.97	4,297.1	-13.4	85.2	8.9	0.09	0.00	10.08
4,400.0	0.44	224.03	4,397.1	-13.9	84.5	8.3	0.22	-0.06	-25.94
4,500.0	0.51	216.15	4,497.1	-14.5	84.0	7.6	0.10	0.07	-7.88
4,600.0	0.48	209.79	4,597.1	-15.2	83.5	6.7	0.06	-0.03	-6.36
4,700.0	0.94	210.65	4,697.1	-16.3	82.9	5.5	0.46	0.46	0.86
4,800.0	0.90	191.82	4,797.1	-17.8	82.3	4.0	0.30	-0.04	-18.83
4,900.0	0.96	207.99	4,897.1	-19.3	81.8	2.4	0.27	0.06	16.17
5,000.0	1.03	207.35	4,997.1	-20.8	81.0	0.7	0.07	0.07	-0.64
5,100.0	1.36	207.43	5,097.1	-22.7	80.0	-1.4	0.33	0.33	0.08
5,200.0	1.20	203.72	5,197.0	-24.7	79.1	-3.6	0.18	-0.16	-3.71

DDC Survey Report



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Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Site:	Sec 9, T25S, R28E	MD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Well:	San Lorenzo 9 NC #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)
5,300.0	1.27	216.26	5,297.0	-26.5	78.0	-5.6	0.28	0.07	12.54
5,400.0	1.18	212.92	5,397.0	-28.3	76.8	-7.6	0.11	-0.09	-3.34
5,500.0	1.42	227.30	5,497.0	-30.0	75.3	-9.7	0.40	0.24	14.38
5,600.0	1.01	243.76	5,596.9	-31.2	73.6	-11.3	0.53	-0.41	16.46
5,700.0	1.06	239.14	5,696.9	-32.1	72.0	-12.5	0.10	0.05	-4.62
5,800.0	1.24	229.18	5,796.9	-33.3	70.4	-14.1	0.27	0.18	-9.96
5,900.0	1.51	194.21	5,896.9	-35.2	69.2	-16.3	0.87	0.27	-34.97
6,000.0	1.60	208.85	5,996.8	-37.7	68.3	-19.0	0.41	0.09	14.64
6,100.0	1.44	211.39	6,096.8	-40.0	66.9	-21.5	0.17	-0.16	2.54
6,200.0	1.76	228.54	6,196.8	-42.1	65.1	-24.0	0.57	0.32	17.15
6,300.0	2.03	226.76	6,296.7	-44.4	62.7	-26.8	0.28	0.27	-1.78
6,400.0	2.11	216.70	6,396.6	-47.1	60.3	-30.0	0.37	0.08	-10.06
6,500.0	2.11	224.22	6,496.6	-49.8	57.9	-33.3	0.28	0.00	7.52
6,600.0	2.21	232.30	6,596.5	-52.3	55.1	-36.5	0.32	0.10	8.08
6,700.0	2.12	210.73	6,696.4	-55.1	52.6	-39.8	0.81	-0.09	-21.57
6,800.0	2.33	192.65	6,796.4	-58.7	51.2	-43.6	0.73	0.21	-18.08
6,900.0	2.66	206.31	6,896.3	-62.8	49.8	-47.9	0.68	0.33	13.66
7,000.0	3.08	204.60	6,996.1	-67.3	47.6	-52.8	0.43	0.42	-1.71
7,100.0	2.57	194.54	7,096.0	-71.9	45.9	-57.7	0.71	-0.51	-10.06
7,200.0	2.21	216.21	7,195.9	-75.6	44.2	-61.7	0.97	-0.36	21.67
7,300.0	3.05	207.19	7,295.8	-79.5	41.9	-66.1	0.93	0.84	-9.02
7,400.0	2.09	211.19	7,395.7	-83.5	39.7	-70.5	0.98	-0.96	4.00
Tie in @ 7465' MD / 7461' TVD									
7,465.0	1.80	215.50	7,460.7	-85.3	38.5	-72.6	0.50	-0.45	6.63
7,559.0	1.50	259.90	7,554.7	-86.7	36.4	-74.5	1.36	-0.32	47.23
7,590.0	0.60	334.40	7,585.7	-86.6	36.0	-74.5	4.71	-2.90	240.32
7,622.0	4.20	53.30	7,617.6	-85.8	36.8	-73.5	12.90	11.25	246.56
7,654.0	8.40	54.50	7,649.4	-83.7	39.7	-70.8	13.13	13.13	3.75
7,686.0	12.00	44.80	7,680.9	-80.0	43.9	-66.1	12.43	11.25	-30.31
7,718.0	15.10	50.50	7,712.0	-75.0	49.5	-59.8	10.54	9.69	17.81
7,749.0	19.00	55.00	7,741.7	-69.5	56.7	-52.7	13.27	12.58	14.52
7,782.0	22.90	58.10	7,772.5	-63.1	66.6	-43.9	12.28	11.82	9.39
7,813.0	26.80	61.50	7,800.6	-56.5	77.9	-34.7	13.39	12.58	10.97
7,845.0	29.70	60.50	7,828.8	-49.2	91.1	-24.2	9.18	9.06	-3.13
7,877.0	32.50	63.80	7,856.2	-41.5	105.7	-13.0	10.24	8.75	10.31
7,909.0	35.90	67.10	7,882.6	-34.0	122.1	-1.6	12.10	10.63	10.31
7,941.0	38.50	65.30	7,908.1	-26.2	139.8	10.5	8.81	8.13	-5.63
7,973.0	41.60	66.40	7,932.6	-17.8	158.6	23.5	9.94	9.69	3.44
8,005.0	43.10	67.00	7,956.3	-9.3	178.4	36.8	4.85	4.69	1.88
8,037.0	46.00	70.90	7,979.1	-1.2	199.3	49.9	12.46	9.06	12.19
8,069.0	49.10	74.80	8,000.7	5.7	221.9	62.4	13.21	9.69	12.19
8,101.0	53.20	76.80	8,020.7	11.8	246.0	74.5	13.70	12.81	6.25
8,132.0	57.10	79.00	8,038.5	17.1	270.9	86.1	13.86	12.58	7.10

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well San Lorenzo 9 NC #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Site:	Sec 9, T25S, R28E	MD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Well:	San Lorenzo 9 NC #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)
8,164.0	61.30	80.40	8,054.8	22.0	297.9	97.7	13.65	13.13	4.38
8,196.0	65.30	82.60	8,069.2	26.2	326.2	109.1	13.93	12.50	6.88
8,228.0	69.70	84.10	8,081.5	29.7	355.6	119.9	14.42	13.75	4.69
8,260.0	74.00	85.90	8,091.4	32.3	385.8	130.2	14.46	13.44	5.63
8,289.0	78.00	87.20	8,098.4	34.0	413.9	139.1	14.46	13.79	4.48
8,355.0	85.20	95.80	8,108.1	32.2	479.1	154.1	16.88	10.91	13.03
8,385.0	87.10	85.10	8,110.1	32.0	509.0	161.5	36.14	6.33	-35.67
8,417.0	87.30	79.60	8,111.7	36.3	540.6	173.8	17.18	0.63	-17.19
8,449.0	86.80	75.00	8,113.3	43.3	571.8	188.6	14.44	-1.56	-14.38
8,481.0	86.70	72.10	8,115.1	52.3	602.4	205.2	9.05	-0.31	-9.06
8,513.0	88.20	70.40	8,116.6	62.6	632.7	222.9	7.08	4.69	-5.31
Crossed Lease Line @ 8544' MD / 8117' TVD									
8,544.0	90.30	69.90	8,117.0	73.1	661.9	240.5	6.96	6.77	-1.61
8,576.0	90.20	67.70	8,116.8	84.7	691.7	259.4	6.88	-0.31	-6.88
8,608.0	90.10	64.10	8,116.8	97.8	720.9	279.5	11.25	-0.31	-11.25
8,639.0	90.40	60.40	8,116.6	112.2	748.3	300.5	11.97	0.97	-11.94
8,671.0	89.50	56.80	8,116.6	128.9	775.6	323.6	11.60	-2.81	-11.25
8,703.0	88.40	52.90	8,117.2	147.3	801.8	348.1	12.66	-3.44	-12.19
8,735.0	88.60	50.30	8,118.1	167.1	826.9	373.7	8.15	0.63	-8.13
8,766.0	89.70	48.10	8,118.5	187.4	850.3	399.3	7.93	3.55	-7.10
8,798.0	91.60	45.20	8,118.2	209.4	873.6	426.5	10.83	5.94	-9.06
8,830.0	92.70	42.30	8,117.0	232.5	895.7	454.5	9.69	3.44	-9.06
8,862.0	92.20	39.10	8,115.6	256.7	916.6	483.3	10.11	-1.56	-10.00
8,893.0	92.30	36.40	8,114.4	281.2	935.5	511.8	8.71	0.32	-8.71
8,925.0	90.90	33.60	8,113.5	307.4	953.9	541.9	9.78	-4.38	-8.75
8,957.0	90.60	32.10	8,113.1	334.3	971.2	572.3	4.78	-0.94	-4.69
8,989.0	90.40	30.20	8,112.8	361.6	987.8	603.0	5.97	-0.63	-5.94
Crossed Hardline @ 8992' MD / 8113' TVD									
8,992.0	90.52	29.97	8,112.8	364.2	989.3	605.9	8.65	3.87	-7.74
9,020.0	91.60	27.80	8,112.2	388.8	1,002.8	633.1	8.65	3.87	-7.74
9,052.0	91.80	23.70	8,111.3	417.6	1,016.7	664.5	12.82	0.63	-12.81
9,084.0	88.40	20.40	8,111.2	447.2	1,028.7	696.2	14.81	-10.63	-10.31
9,115.0	85.60	16.30	8,112.9	476.6	1,038.4	727.1	16.00	-9.03	-13.23
9,147.0	83.80	11.90	8,115.8	507.5	1,046.2	759.0	14.80	-5.63	-13.75
9,179.0	84.90	7.90	8,119.0	538.8	1,051.7	790.7	12.91	3.44	-12.50
9,211.0	87.10	4.70	8,121.2	570.6	1,055.2	822.2	12.11	6.88	-10.00
9,243.0	90.20	1.80	8,122.0	602.5	1,057.0	853.6	13.26	9.69	-9.06
9,274.0	90.50	1.60	8,121.8	633.5	1,057.9	883.8	1.16	0.97	-0.65
9,306.0	90.60	2.00	8,121.5	665.5	1,058.9	914.9	1.29	0.31	1.25
9,338.0	90.50	1.50	8,121.2	697.4	1,059.9	946.1	1.59	-0.31	-1.56
9,369.0	90.60	1.40	8,120.9	728.4	1,060.7	976.2	0.46	0.32	-0.32
9,401.0	90.60	1.20	8,120.5	760.4	1,061.4	1,007.3	0.62	0.00	-0.63
9,433.0	90.80	2.60	8,120.1	792.4	1,062.5	1,038.5	4.42	0.63	4.38
9,465.0	90.90	2.50	8,119.7	824.4	1,063.9	1,069.8	0.44	0.31	-0.31

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well San Lorenzo 9 NC #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Site:	Sec 9, T25S, R28E	MD Reference:	WELL @ 3025.0usft (Patterson-UTI)
Well:	San Lorenzo 9 NC #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)
9,497.0	91.10	2.50	8,119.1	856.3	1,065.3	1,101.0	0.63	0.63	0.00
9,528.0	91.50	3.10	8,118.4	887.3	1,066.8	1,131.3	2.33	1.29	1.94
9,560.0	91.40	3.50	8,117.6	919.2	1,068.6	1,162.7	1.29	-0.31	1.25
9,592.0	90.10	4.40	8,117.2	951.1	1,070.8	1,194.1	4.94	-4.06	2.81
9,624.0	89.80	4.40	8,117.2	983.0	1,073.3	1,225.6	0.94	-0.94	0.00
9,656.0	89.80	4.60	8,117.3	1,015.0	1,075.8	1,257.0	0.62	0.00	0.63
9,719.0	89.80	4.60	8,117.5	1,077.7	1,080.9	1,319.0	0.00	0.00	0.00
9,783.0	89.80	4.50	8,117.7	1,141.5	1,085.9	1,382.0	0.16	0.00	-0.16
9,847.0	89.70	2.40	8,118.0	1,205.4	1,089.8	1,444.7	3.28	-0.16	-3.28
9,910.0	89.70	1.10	8,118.4	1,268.4	1,091.7	1,506.1	2.06	0.00	-2.06
9,973.0	90.70	2.20	8,118.1	1,331.4	1,093.5	1,567.4	2.36	1.59	1.75
10,036.0	91.10	2.70	8,117.1	1,394.3	1,096.2	1,628.9	1.02	0.63	0.79
10,100.0	91.30	2.00	8,115.8	1,458.2	1,098.8	1,691.4	1.14	0.31	-1.09
10,163.0	91.20	3.60	8,114.4	1,521.1	1,101.9	1,753.0	2.54	-0.16	2.54
10,227.0	89.60	3.90	8,114.0	1,585.0	1,106.1	1,815.8	2.54	-2.50	0.47
10,291.0	89.60	3.70	8,114.4	1,648.9	1,110.3	1,878.6	0.31	0.00	-0.31
10,354.0	89.80	4.20	8,114.8	1,711.7	1,114.7	1,940.4	0.85	0.32	0.79
10,418.0	90.00	4.00	8,114.9	1,775.5	1,119.3	2,003.3	0.44	0.31	-0.31
10,482.0	89.10	4.10	8,115.4	1,839.4	1,123.8	2,066.2	1.41	-1.41	0.16
10,545.0	88.70	3.90	8,116.6	1,902.2	1,128.2	2,128.0	0.71	-0.63	-0.32
10,608.0	89.10	4.10	8,117.8	1,965.0	1,132.6	2,189.9	0.71	0.63	0.32
10,672.0	89.60	4.20	8,118.5	2,028.9	1,137.2	2,252.8	0.80	0.78	0.16
10,735.0	90.00	4.30	8,118.7	2,091.7	1,141.9	2,314.7	0.65	0.63	0.16
10,799.0	90.80	4.90	8,118.3	2,155.5	1,147.0	2,377.7	1.56	1.25	0.94
10,864.0	89.50	3.60	8,118.0	2,250.2	1,154.0	2,471.0	1.94	-1.37	-1.37
10,958.0	89.50	2.70	8,118.6	2,314.1	1,157.6	2,533.7	1.41	0.00	-1.41
11,021.0	89.90	3.00	8,118.9	2,377.0	1,160.7	2,595.3	0.79	0.63	0.48
11,085.0	91.40	2.80	8,118.2	2,441.0	1,163.9	2,657.9	2.36	2.34	-0.31
11,148.0	90.10	2.40	8,117.4	2,503.9	1,166.8	2,719.5	2.16	-2.06	-0.63
11,212.0	90.40	2.50	8,117.1	2,567.8	1,169.5	2,782.0	0.49	0.47	0.16
11,275.0	88.20	1.70	8,117.9	2,630.8	1,171.8	2,843.4	3.72	-3.49	-1.27
11,339.0	87.70	1.70	8,120.2	2,694.7	1,173.7	2,905.7	0.78	-0.78	0.00
11,403.0	88.80	1.60	8,122.1	2,758.7	1,175.6	2,967.9	1.73	1.72	-0.16
11,466.0	89.00	1.50	8,123.3	2,821.6	1,177.3	3,029.2	0.35	0.32	-0.16
11,530.0	89.60	1.80	8,124.1	2,885.6	1,179.1	3,091.5	1.05	0.94	0.47
11,594.0	89.70	2.00	8,124.5	2,949.5	1,181.2	3,153.9	0.35	0.16	0.31
11,657.0	89.60	1.90	8,124.9	3,012.5	1,183.4	3,215.3	0.22	-0.16	-0.16
11,721.0	90.70	2.50	8,124.7	3,076.5	1,185.8	3,277.8	1.96	1.72	0.94
11,784.0	91.20	2.40	8,123.7	3,139.4	1,188.5	3,339.3	0.81	0.79	-0.16
11,848.0	91.30	2.40	8,122.3	3,203.3	1,191.2	3,401.7	0.16	0.16	0.00
11,911.0	91.60	3.60	8,120.7	3,266.2	1,194.5	3,463.4	1.96	0.48	1.90
11,975.0	89.90	4.60	8,119.8	3,330.0	1,199.1	3,526.2	3.08	-2.66	1.56
12,039.0	89.50	5.10	8,120.2	3,393.8	1,204.5	3,589.3	1.00	-0.63	0.78

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well San Lorenzo 9 NC #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3025.0usft (Patterson-UT1)
Site:	Sec 9, T25S, R28E	MD Reference:	WELL @ 3025.0usft (Patterson-UT1)
Well:	San Lorenzo 9 NC #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)	
12,102.0	89.40	4.60	8,120.8	3,456.6	1,209.8	3,651.3	0.81	-0.16	-0.79	
12,166.0	89.50	4.60	8,121.4	3,520.4	1,214.9	3,714.3	0.16	0.16	0.00	
12,229.0	89.30	4.20	8,122.1	3,583.2	1,219.8	3,776.2	0.71	-0.32	-0.63	
12,293.0	89.10	3.80	8,123.0	3,647.0	1,224.2	3,839.1	0.70	-0.31	-0.63	
12,349.0	89.10	3.30	8,123.8	3,702.9	1,227.7	3,894.0	0.89	0.00	-0.89	
12,412.0	89.50	2.80	8,124.6	3,765.8	1,231.1	3,955.6	1.02	0.63	-0.79	
12,476.0	89.80	2.80	8,125.0	3,829.7	1,234.2	4,018.2	0.47	0.47	0.00	
12,539.0	90.30	2.40	8,124.9	3,892.7	1,237.0	4,079.8	1.02	0.79	-0.63	
12,603.0	90.80	2.70	8,124.3	3,956.6	1,239.9	4,142.3	0.91	0.78	0.47	
12,666.0	91.00	2.30	8,123.3	4,019.5	1,242.6	4,203.8	0.71	0.32	-0.63	
12,729.0	91.10	2.30	8,122.2	4,082.5	1,245.2	4,265.3	0.16	0.16	0.00	
12,793.0	90.00	3.60	8,121.6	4,146.4	1,248.5	4,327.9	2.66	-1.72	2.03	
12,857.0	89.50	3.30	8,121.8	4,210.3	1,252.3	4,390.6	0.91	-0.78	-0.47	
12,920.0	89.70	3.20	8,122.3	4,273.2	1,255.9	4,452.4	0.35	0.32	-0.16	
12,983.0	90.10	2.80	8,122.4	4,336.1	1,259.2	4,514.0	0.90	0.63	-0.63	
13,046.0	89.30	3.50	8,122.7	4,399.0	1,262.6	4,575.7	1.69	-1.27	1.11	
13,110.0	88.80	3.80	8,123.8	4,462.8	1,266.7	4,638.5	0.91	-0.78	0.47	
13,173.0	89.10	3.80	8,124.9	4,525.7	1,270.9	4,700.3	0.48	0.48	0.00	
13,237.0	89.20	3.40	8,125.9	4,589.6	1,274.9	4,763.0	0.64	0.16	-0.63	
13,300.0	89.50	2.50	8,126.6	4,652.5	1,278.2	4,824.7	1.51	0.48	-1.43	
13,398.0	90.10	1.80	8,126.9	4,750.4	1,281.8	4,920.3	0.94	0.61	-0.71	
TD @ 13450' MD / 8127' TVD										
13,450.0	90.10	1.80	8,126.9	4,802.4	1,283.5	4,970.9	0.00	0.00	0.00	

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,465.0	7,460.7	-85.3	38.5	Tie in @ 7465' MD / 7461' TVD
8,544.0	8,117.0	73.1	661.9	Crossed Lease Line @ 8544' MD / 8117' TVD
8,992.0	8,112.8	364.2	989.3	Crossed Hardline @ 8992' MD / 8113' TVD
13,450.0	8,126.9	4,802.4	1,283.5	TD @ 13450' MD / 8127' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
 San Lorenzo 9 NC #1H
 Eddy County, New Mexico (Nad 83)
 Rig: Patterson-UTI
 Created By: TIFFANI MIZELL
 Date: 1/29/2013

San Lorenzo 9 NC #1H
 Eddy County, New Mexico (Nad 83)
 Q120737 & WT-13038
 Design #5 - NC Unit - 10° Turn

Mewbourne Oil Company



Azimuths to Grid North
 Magnetic North: 7.54°

Magnetic Field
 Strength: 48378.3snT
 Dip Angle: 59.98°
 Date: 10/4/2012
 Model: IGRF2010

PROJECT DETAILS: Eddy County, New Mexico (Nad 83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

WELL DETAILS: San Lorenzo 9 NC #1H

Ground Level:		3005.0	
+N/-S	+E/-W	North	East
0.0	0.0	413937.30	613914.10
		32° 8' 15.991 N 104° 5' 55.679 W	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	East	Latitude	Longitude
BHL San Lorenzo 9 NC #1H	8125.0	4827.5	1281.5	418764.85	616195.66	32° 9' 3.737 N	104° 5' 40.549 W
- plan hits target center							

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
7465.0	1.80	215.50	7460.7	-85.3	38.5	-72.6	194.1	Tie in @ 7465' MD / 7461' TVD
8544.0	90.50	89.90	8117.0	73.1	661.9	240.5	855.0	Crossed Lease Line @ 8544' MD / 8117' TVD
8992.0	90.52	23.97	8112.8	364.2	988.3	665.9	1302.9	Crossed Hardline @ 8992' MD / 8113' TVD
13450.0	90.10	1.80	8126.9	4802.4	1283.5	4970.9	5760.1	TD @ 13450' MD / 8127' TVD

