

OPERATOR
WELL/LEASE
COUNTY

MEWBOURNE OIL COMPANY
Brushy Draw 1 DM Federal 1H
Eddy

160-0002

STATE OF NEW MEXICO
DEVIATION REPORT

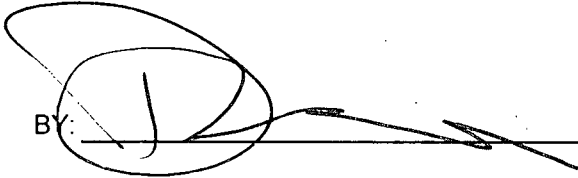
30-015-41284

500	0	7,799	2.7
931	1.20	7,988	1.8
1,182	1.40	8,179	1.6
1,276	0.70		
1,588	0.80		
1,661	1.00		
1,757	0.50		
1,903	0.50		
2,223	0.20		
2,328	0.30		
2,614	0.30		
2,760	0.40		
2,950	1.40		
3,045	1.50		
3,140	1.70		
3,236	0.70		
3,425	1.40		
3,710	1.20		
4,091	0.30		
4,281	0.40		
4,556	0.10		
4,958	0.30		
5,434	0.70		
5,623	0.90		
5,993	0.90		
6,088	0.90		
6,278	0.80		
6,563	0.80		
6,669	1.90		
6,860	1.20		
6,955	1.80		
7,145	2.60		
7,335	2.40		
7,419	2.30		
7,609	2.90		

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 28 2014

RECEIVED

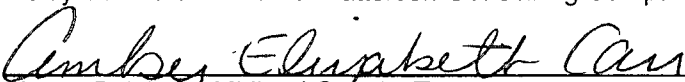
BY: 

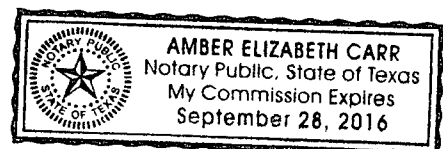
STATE OF TEXAS

COUNTY OF MIDLAND

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

6/13/14, by


Notary Public for Midland County, Texas
My Commission Expires:





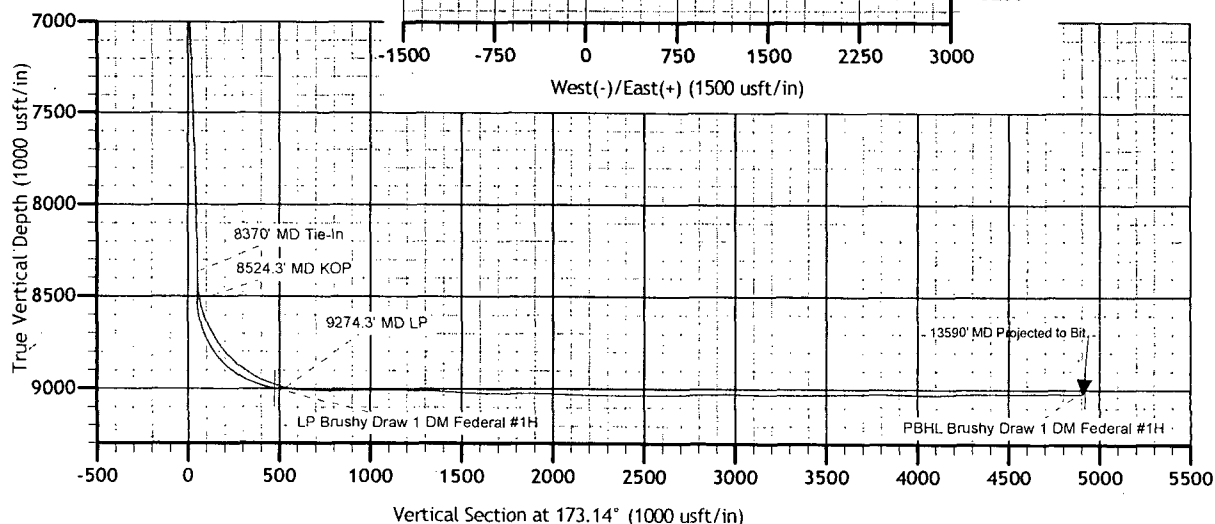
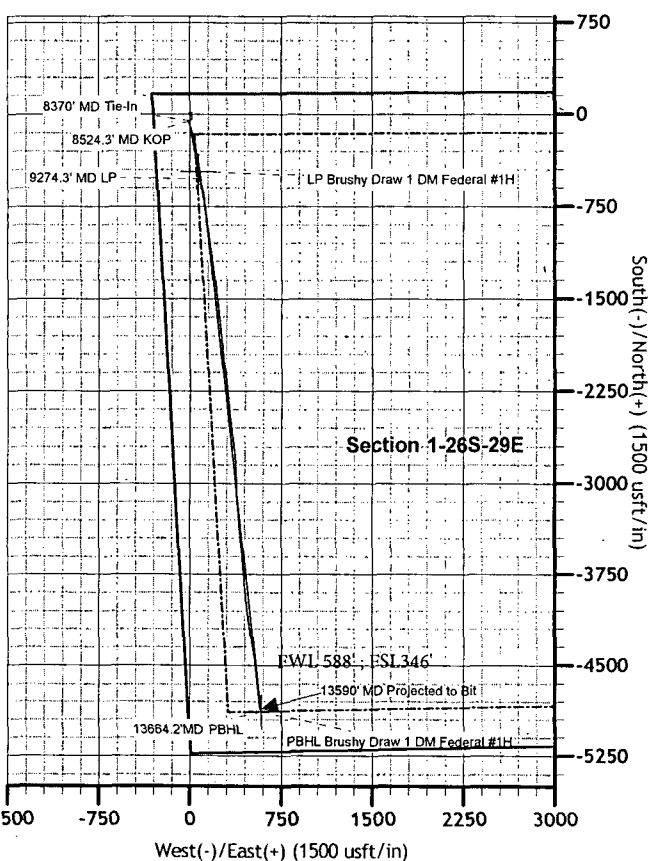
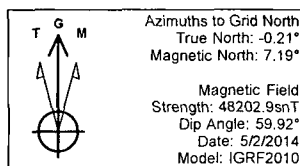
COMPANY: Mewbourne Oil Company
 WELL: Brushy Draw 1 DM Federal #1H
 COUNTY: Eddy County, New Mexico
 DATUM: NAD 1927 (NADCON CONUS)
 RIG: Patterson#160

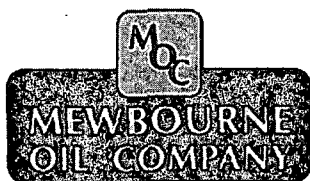


GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.19°

GEODETIC ZONE: New Mexico East 3001 GL 3050 + 30 @ 3080.0usft (Patterson#160) GROUND ELEVATION: 3050.0						Slot	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
0.0	0.0	392456.26	620290.74	32° 4' 42.178 N	103° 56' 41.865 W		

PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	8370.0	2.04	222.48	8368.2	-54.2	-2.7	0.00	0.00	53.5	
2	8475.0	0.00	221.46	8473.2	-55.9	-4.2	2.00	180.00	55.0	
3	8524.3	0.00	221.46	8522.5	-55.9	-4.2	0.00	221.46	55.0	
4	9274.3	90.00	169.46	9000.0	-525.3	83.2	12.00	169.46	531.5	
5	9688.1	90.00	173.60	9000.0	-934.5	144.1	1.00	90.01	945.0	
6	13664.2	90.00	173.60	9000.0	-4885.8	587.5	0.00	0.00	4921.0	PBHL Brushy Draw 1 DM Federal #1H





NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 28 2014

RECEIVED

Mewbourne Oil Company .

Eddy County, New Mexico

Section 1-26S-29E Brushy Draw 1 DM Fed #1H

Brushy Draw 1 DM Federal #1H

Original Hole

Design: Original Hole

Standard Survey Report

09 June, 2014





Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Brushy Draw 1 DM Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Site:	Section 1-26S-29E Brushy Draw 1 DM Fed #1H	MD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Well:	Brushy Draw 1 DM Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db Bob

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	Section 1-26S-29E Brushy Draw 1 DM Fed #1H		
Site Position:		Northing:	392,456.26 usft
From:	Map	Easting:	620,290.75 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 4' 42.178 N
		Longitude:	103° 56' 41.865 W
		Grid Convergence:	0.21 °

Well	Brushy Draw 1 DM Federal #1H		
Well Position	+N/-S	0.0 usft	Northing: 392,456.26 usft
	+E/-W	0.0 usft	Easting: 620,290.75 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 4' 42.178 N
		Longitude:	103° 56' 41.865 W
		Ground Level:	3,050.0 usft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	5/2/2014	(°)
			7.39
			Dip Angle (°)
			59.92
			Field Strength (nT)
			48,203

Design	Original Hole		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			173.14

Survey Program	Date 6/9/2014		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	8,370.0	VES GyroSurvey #1 (Original Hole)	GyroFlex
8,437.0	13,590.0	MWD Survey #2 (Original Hole)	MWD
			MWD - Standard

Survey	Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
	(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	100.0	0.34	186.93	100.0	-0.3	0.0	0.3	0.34	0.34	0.00
	200.0	0.09	69.28	200.0	-0.6	0.0	0.6	0.39	-0.25	-117.65
	300.0	0.50	281.72	300.0	-0.4	-0.4	0.4	0.58	0.41	-147.56
	400.0	0.64	291.65	400.0	-0.2	-1.3	0.0	0.17	0.14	9.93
	500.0	0.54	292.73	500.0	0.2	-2.3	-0.5	0.10	-0.10	1.08
	600.0	0.42	270.33	600.0	0.4	-3.1	-0.8	0.22	-0.12	-22.40
	700.0	0.87	282.37	700.0	0.6	-4.2	-1.1	0.47	0.45	12.04
	800.0	0.78	295.93	800.0	1.0	-5.5	-1.7	0.21	-0.09	13.56
	900.0	0.72	3.63	900.0	2.0	-6.1	-2.7	0.84	-0.06	-67.70



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Brushy Draw 1 DM Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Site:	Section 1-26S-29E, Brushy Draw 1 DM Fed #1H	MD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Well:	Brushy Draw 1 DM Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db Bob

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	1.19	18.84	999.9	3.6	-5.7	-4.2	0.53	0.47	15.21
1,100.0	0.93	26.74	1,099.9	5.3	-5.0	-5.8	0.30	-0.26	7.90
1,200.0	1.16	22.12	1,199.9	7.0	-4.3	-7.4	0.24	0.23	-4.62
1,300.0	1.04	25.12	1,299.9	8.7	-3.5	-9.1	0.13	-0.12	3.00
1,400.0	0.93	28.74	1,399.9	10.2	-2.7	-10.5	0.13	-0.11	3.62
1,500.0	1.03	37.56	1,499.9	11.7	-1.8	-11.8	0.18	0.10	8.82
1,600.0	1.08	56.71	1,599.8	12.9	-0.4	-12.9	0.35	0.05	19.15
1,700.0	0.84	50.81	1,699.8	13.9	0.9	-13.7	0.26	-0.24	-5.90
1,800.0	0.48	15.75	1,799.8	14.7	1.6	-14.4	0.53	-0.36	-35.06
1,900.0	0.31	23.54	1,899.8	15.4	1.8	-15.1	0.18	-0.17	7.79
2,000.0	0.34	20.69	1,999.8	15.9	2.0	-15.6	0.03	0.03	-2.85
2,100.0	0.42	307.49	2,099.8	16.4	1.8	-16.1	0.46	0.08	-73.20
2,200.0	0.12	248.68	2,199.8	16.6	1.4	-16.3	0.37	-0.30	-58.81
2,300.0	0.49	306.91	2,299.8	16.8	1.0	-16.6	0.44	0.37	58.23
2,400.0	0.52	308.33	2,399.8	17.4	0.3	-17.2	0.03	0.03	1.42
2,500.0	0.78	295.14	2,499.8	17.9	-0.7	-17.9	0.30	0.26	-13.19
2,600.0	0.38	328.63	2,599.8	18.5	-1.4	-18.5	0.51	-0.40	33.49
2,700.0	0.43	53.18	2,699.8	19.0	-1.3	-19.0	0.55	0.05	84.55
2,800.0	0.55	91.64	2,799.8	19.2	-0.5	-19.2	0.34	0.12	38.46
2,900.0	0.47	103.10	2,899.8	19.1	0.3	-18.9	0.13	-0.08	11.46
3,000.0	1.80	108.20	2,999.8	18.5	2.2	-18.1	1.33	1.33	5.10
3,100.0	1.73	117.62	3,099.7	17.3	5.1	-16.6	0.30	-0.07	9.42
3,200.0	1.40	106.20	3,199.7	16.3	7.6	-15.3	0.45	-0.33	-11.42
3,300.0	0.81	116.89	3,299.7	15.6	9.4	-14.4	0.62	-0.59	10.69
3,400.0	0.68	101.10	3,399.7	15.2	10.6	-13.8	0.24	-0.13	-15.79
3,500.0	0.69	96.32	3,499.7	15.0	11.8	-13.5	0.06	0.01	-4.78
3,600.0	0.47	102.26	3,599.6	14.9	12.8	-13.2	0.23	-0.22	5.94
3,700.0	0.93	89.60	3,699.6	14.8	14.0	-13.0	0.48	0.46	-12.66
3,800.0	0.85	81.56	3,799.6	14.9	15.5	-12.9	0.15	-0.08	-8.04
3,900.0	0.64	112.30	3,899.6	14.8	16.8	-12.7	0.44	-0.21	30.74
4,000.0	0.59	79.39	3,999.6	14.7	17.8	-12.5	0.35	-0.05	-32.91
4,100.0	0.30	68.43	4,099.6	14.9	18.5	-12.6	0.30	-0.29	-10.96
4,200.0	0.15	287.84	4,199.6	15.0	18.7	-12.7	0.43	-0.15	-140.59
4,300.0	0.17	251.76	4,299.6	15.0	18.4	-12.7	0.10	0.02	-36.08
4,400.0	0.05	209.77	4,399.6	14.9	18.2	-12.6	0.14	-0.12	-41.99
4,500.0	0.30	289.87	4,499.6	15.0	18.0	-12.7	0.30	0.25	80.10
4,600.0	0.51	323.16	4,599.6	15.4	17.5	-13.2	0.31	0.21	33.29
4,700.0	0.26	324.57	4,699.6	16.0	17.1	-13.8	0.25	-0.25	1.41
4,800.0	0.64	313.26	4,799.6	16.5	16.5	-14.4	0.39	0.38	-11.31
4,900.0	0.20	275.55	4,899.6	16.9	15.9	-14.9	0.50	-0.44	-37.71
5,000.0	0.11	145.77	4,999.6	16.9	15.8	-14.9	0.28	-0.09	-129.78
5,100.0	0.12	140.66	5,099.6	16.7	15.9	-14.7	0.01	0.01	-5.11
5,200.0	0.23	178.39	5,199.6	16.4	16.0	-14.4	0.15	0.11	37.73



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Brushy Draw-1-DM Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Site:	Section 1-26S-29E-Brushy Draw-1 DM Fed #1H	MD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Well:	Brushy Draw-1-DM Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db Bob

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	0.44	228.32	5,299.6	16.0	15.7	-14.0	0.34	0.21	49.93
5,400.0	0.76	206.72	5,399.6	15.1	15.1	-13.2	0.39	0.32	-21.60
5,500.0	0.84	210.95	5,499.6	13.9	14.5	-12.1	0.10	0.08	4.23
5,600.0	0.85	211.33	5,599.6	12.6	13.7	-10.9	0.01	0.01	0.38
5,700.0	0.90	214.87	5,699.6	11.4	12.9	-9.7	0.07	0.05	3.54
5,800.0	0.89	211.49	5,799.5	10.1	12.0	-8.5	0.05	-0.01	-3.38
5,900.0	0.98	212.07	5,899.5	8.7	11.2	-7.3	0.09	0.09	0.58
6,000.0	0.98	178.43	5,999.5	7.1	10.7	-5.8	0.57	0.00	-33.64
6,100.0	0.85	181.01	6,099.5	5.5	10.7	-4.2	0.14	-0.13	2.58
6,200.0	0.32	152.65	6,199.5	4.5	10.9	-3.2	0.59	-0.53	-28.36
6,300.0	0.87	153.32	6,299.5	3.6	11.3	-2.2	0.55	0.55	0.67
6,400.0	0.99	152.50	6,399.5	2.1	12.1	-0.7	0.12	0.12	-0.82
6,500.0	1.01	158.88	6,499.5	0.5	12.8	1.0	0.11	0.02	6.38
6,600.0	1.08	172.70	6,599.5	-1.2	13.2	2.8	0.26	0.07	13.82
6,700.0	1.14	166.28	6,699.4	-3.1	13.6	4.7	0.14	0.06	-6.42
6,800.0	1.25	166.97	6,799.4	-5.1	14.1	6.8	0.11	0.11	0.69
6,900.0	1.37	173.25	6,899.4	-7.4	14.4	9.1	0.19	0.12	6.28
7,000.0	1.85	164.42	6,999.3	-10.1	15.0	11.9	0.54	0.48	-8.83
7,100.0	1.74	162.20	7,099.3	-13.1	15.9	14.9	0.13	-0.11	-2.22
7,200.0	2.43	163.67	7,199.2	-16.6	17.0	18.5	0.69	0.69	1.47
7,300.0	2.67	167.54	7,299.1	-20.9	18.1	22.9	0.30	0.24	3.87
7,400.0	2.49	169.91	7,399.0	-25.3	19.0	27.4	0.21	-0.18	2.37
7,500.0	1.38	176.97	7,499.0	-28.7	19.4	30.8	1.13	-1.11	7.06
7,600.0	2.85	191.30	7,598.9	-32.3	19.0	34.4	1.55	1.47	14.33
7,700.0	3.17	223.52	7,698.8	-36.8	16.6	38.5	1.70	0.32	32.22
7,800.0	2.77	218.19	7,798.6	-40.7	13.2	42.0	0.49	-0.40	-5.33
7,900.0	2.52	231.77	7,898.5	-43.9	10.0	44.8	0.67	-0.25	13.58
8,000.0	2.38	238.98	7,998.4	-46.4	6.5	46.8	0.34	-0.14	7.21
8,100.0	1.95	233.60	8,098.4	-48.4	3.3	48.5	0.48	-0.43	-5.38
8,200.0	1.82	220.23	8,198.3	-50.7	0.9	50.4	0.46	-0.13	-13.37
8,300.0	1.70	230.07	8,298.3	-52.8	-1.2	52.3	0.32	-0.12	9.84
8,370.0	2.10	221.46	8,368.2	-54.5	-2.9	53.7	0.70	0.57	-12.30

8370 MD VES Gyro Survey

8,437.0	3.80	192.60	8,435.1	-57.5	-4.2	56.6	3.29	2.54	-43.07
8,469.0	7.60	178.80	8,467.0	-60.7	-4.4	59.7	12.54	11.88	-43.13
8,501.0	11.10	172.20	8,498.5	-65.9	-3.9	64.9	11.42	10.94	-20.63
8,532.0	13.30	166.60	8,528.8	-72.3	-2.7	71.4	8.05	7.10	-18.06
8,564.0	15.70	161.10	8,559.8	-80.0	-0.4	79.3	8.64	7.50	-17.19
8,595.0	18.30	161.50	8,589.5	-88.5	2.5	88.2	8.40	8.39	1.29
8,627.0	21.50	162.10	8,619.6	-98.9	5.9	98.9	10.02	10.00	1.88
8,659.0	26.20	163.10	8,648.8	-111.2	9.7	111.6	14.74	14.69	3.13
8,690.0	30.30	164.10	8,676.1	-125.3	13.9	126.1	13.31	13.23	3.23
8,722.0	31.70	163.90	8,703.5	-141.2	18.4	142.3	4.39	4.38	-0.63



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Brushy Draw 1 DM Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Site:	Section 1-26S-29E Brushy Draw 1 DM Fed #1H	MD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Well:	Brushy Draw 1 DM Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db Bob

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)
8,754.0	33.40	162.80	8,730.5	-157.7	23.3	159.3	5.63	5.31	-3.44
8,785.0	36.00	164.80	8,756.0	-174.6	28.3	176.7	9.16	8.39	6.45
8,817.0	38.80	166.40	8,781.4	-193.4	33.1	196.0	9.26	8.75	5.00
8,849.0	42.80	168.40	8,805.6	-213.8	37.6	216.8	13.15	12.50	6.25
8,880.0	46.90	169.20	8,827.6	-235.3	41.9	238.6	13.35	13.23	2.58
8,912.0	49.60	169.30	8,848.9	-258.7	46.3	262.4	8.44	8.44	0.31
8,944.0	51.80	168.50	8,869.2	-283.0	51.1	287.1	7.14	6.88	-2.50
8,976.0	54.40	168.10	8,888.4	-308.1	56.3	312.6	8.19	8.13	-1.25
9,007.0	56.70	168.40	8,905.9	-333.1	61.5	338.1	7.46	7.42	0.97
9,039.0	60.40	169.40	8,922.6	-359.9	66.7	365.3	11.87	11.56	3.13
9,071.0	64.70	170.10	8,937.4	-387.8	71.8	393.6	13.58	13.44	2.19
9,103.0	67.50	170.30	8,950.3	-416.6	76.8	422.8	8.77	8.75	0.63
9,134.0	70.00	170.60	8,961.6	-445.1	81.6	451.7	8.11	8.06	0.97
9,164.8	72.12	170.98	8,971.6	-473.9	86.2	480.8	6.98	6.87	1.25
LP Brushy Draw 1 DM Federal #1H									
9,166.0	72.20	171.00	8,971.9	-475.0	86.4	481.9	6.98	6.88	1.23
9,198.0	75.60	171.40	8,980.8	-505.4	91.1	512.7	10.69	10.63	1.25
9,229.0	79.80	171.40	8,987.4	-535.3	95.6	542.9	13.55	13.55	0.00
9,261.0	82.20	171.20	8,992.4	-566.6	100.4	574.5	7.53	7.50	-0.63
9,293.0	84.20	171.40	8,996.2	-598.0	105.2	606.3	6.28	6.25	0.63
9,324.0	85.40	171.80	8,999.0	-628.5	109.7	637.1	4.08	3.87	1.29
9,384.0	87.90	173.30	9,002.5	-687.9	117.5	697.0	4.86	4.17	2.50
9,479.0	90.50	172.30	9,003.9	-782.1	129.4	792.0	2.93	2.74	-1.05
9,574.0	91.30	172.10	9,002.4	-876.3	142.3	887.0	0.87	0.84	-0.21
9,670.0	91.60	172.10	8,999.9	-971.3	155.5	982.9	0.31	0.31	0.00
9,765.0	91.30	171.20	8,997.5	-1,065.3	169.3	1,077.9	1.00	-0.32	-0.95
9,859.0	88.50	172.10	8,997.7	-1,158.3	182.9	1,171.8	3.13	-2.98	0.96
9,955.0	88.20	172.70	9,000.5	-1,253.4	195.6	1,267.8	0.70	-0.31	0.63
10,050.0	88.10	173.00	9,003.5	-1,347.6	207.4	1,362.7	0.33	-0.11	0.32
10,145.0	86.50	173.30	9,008.0	-1,441.8	218.7	1,457.6	1.71	-1.68	0.32
10,240.0	87.00	173.00	9,013.4	-1,536.0	230.0	1,552.5	0.61	0.53	-0.32
10,335.0	88.80	173.50	9,016.9	-1,630.3	241.2	1,647.4	1.97	1.89	0.53
10,430.0	90.80	173.70	9,017.2	-1,724.7	251.8	1,742.4	2.12	2.11	0.21
10,525.0	89.90	174.30	9,016.6	-1,819.1	261.7	1,837.4	1.14	-0.95	0.63
10,621.0	90.10	173.90	9,016.6	-1,914.6	271.6	1,933.4	0.47	0.21	-0.42
10,716.0	87.20	174.00	9,018.9	-2,009.1	281.6	2,028.3	3.05	-3.05	0.11
10,811.0	88.00	173.00	9,022.8	-2,103.4	292.3	2,123.2	1.35	0.84	-1.05
10,906.0	89.20	174.00	9,025.2	-2,197.7	303.1	2,218.2	1.64	1.26	1.05
11,001.0	89.80	174.40	9,026.0	-2,292.2	312.7	2,313.2	0.76	0.63	0.42
11,096.0	90.20	174.00	9,026.0	-2,386.7	322.3	2,408.2	0.60	0.42	-0.42
11,191.0	90.00	173.20	9,025.8	-2,481.2	332.9	2,503.2	0.87	-0.21	-0.84
11,286.0	91.30	172.80	9,024.7	-2,575.4	344.5	2,598.1	1.43	1.37	-0.42
11,381.0	91.30	171.50	9,022.6	-2,669.5	357.4	2,693.1	1.37	0.00	-1.37
11,477.0	91.40	174.30	9,020.3	-2,764.7	369.3	2,789.1	2.92	0.10	2.92



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well/Brushy Draw 1 DM Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Site:	Section 1-26S-29E Brushy Draw 1 DM Fed #1H	MD Reference:	GL 3050 @ 3070.0usft (Patterson #160)
Well:	Brushy Draw 1 DM Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db Bob

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)
11,572.0	91.30	177.20	9,018.1	-2,859.4	376.3	2,883.9	3.05	-0.11	3.05
11,666.0	89.00	177.70	9,017.8	-2,953.3	380.5	2,977.7	2.50	-2.45	0.53
11,761.0	88.80	178.80	9,019.7	-3,048.3	383.4	3,072.3	1.18	-0.21	1.16
11,856.0	88.60	174.70	9,021.8	-3,143.1	388.8	3,167.0	4.32	-0.21	-4.32
11,951.0	90.10	175.00	9,022.9	-3,237.7	397.3	3,262.0	1.61	1.58	0.32
12,047.0	90.30	175.20	9,022.6	-3,333.3	405.5	3,357.9	0.29	0.21	0.21
12,142.0	90.50	175.60	9,021.9	-3,428.0	413.1	3,452.8	0.47	0.21	0.42
12,237.0	90.60	175.10	9,021.0	-3,522.7	420.8	3,547.8	0.54	0.11	-0.53
12,332.0	90.80	175.10	9,019.8	-3,617.4	429.0	3,642.7	0.21	0.21	0.00
12,401.0	90.90	175.40	9,018.8	-3,686.1	434.7	3,711.7	0.46	0.14	0.43
12,497.0	89.50	174.60	9,018.5	-3,781.8	443.0	3,807.6	1.68	-1.46	-0.83
12,592.0	88.80	174.60	9,019.9	-3,876.3	452.0	3,902.6	0.74	-0.74	0.00
12,687.0	88.80	173.30	9,021.9	-3,970.8	462.0	3,997.5	1.37	0.00	-1.37
12,782.0	90.90	172.80	9,022.1	-4,065.1	473.5	4,092.5	2.27	2.21	-0.53
12,877.0	91.30	172.50	9,020.3	-4,159.3	485.6	4,187.5	0.53	0.42	-0.32
12,972.0	91.30	170.80	9,018.1	-4,253.2	499.4	4,282.4	1.79	0.00	-1.79
13,067.0	89.80	171.60	9,017.2	-4,347.1	514.0	4,377.4	1.79	-1.58	0.84
13,162.0	89.50	170.50	9,017.8	-4,440.9	528.7	4,472.3	1.20	-0.32	-1.16
13,257.0	91.30	174.70	9,017.1	-4,535.1	541.0	4,567.3	4.81	1.89	4.42
13,352.0	90.90	173.80	9,015.3	-4,629.6	550.5	4,662.2	1.04	-0.42	-0.95
13,447.0	88.40	173.70	9,015.9	-4,724.1	560.8	4,757.2	2.63	-2.63	-0.11
13,542.0	88.70	173.30	9,018.3	-4,818.4	571.6	4,852.2	0.53	0.32	-0.42
13,547.0	88.80	173.30	9,018.4	-4,823.4	572.2	4,857.2	2.00	2.00	0.00
13,590.0	88.90	173.30	9,019.3	-4,866.1	577.2	4,900.2	0.23	0.23	0.00

13590' MD Projected to Bit - PBHL Brushy Draw 1 DM Federal #1H

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,370.0	8,368.2	-54.5	-2.9	8370' MD VES Gyro Survey
13,590.0	9,019.3	-4,866.1	577.2	13590' MD Projected to Bit