



COMPANY: Mewbourne Oil Company
WELL: Glock 17 B2EH Federal #1H
COUNTY: Eddy County, New Mexico
DATUM: NAD 1927 (NADCON CONUS)
RIG: Patterson #41



GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.33°

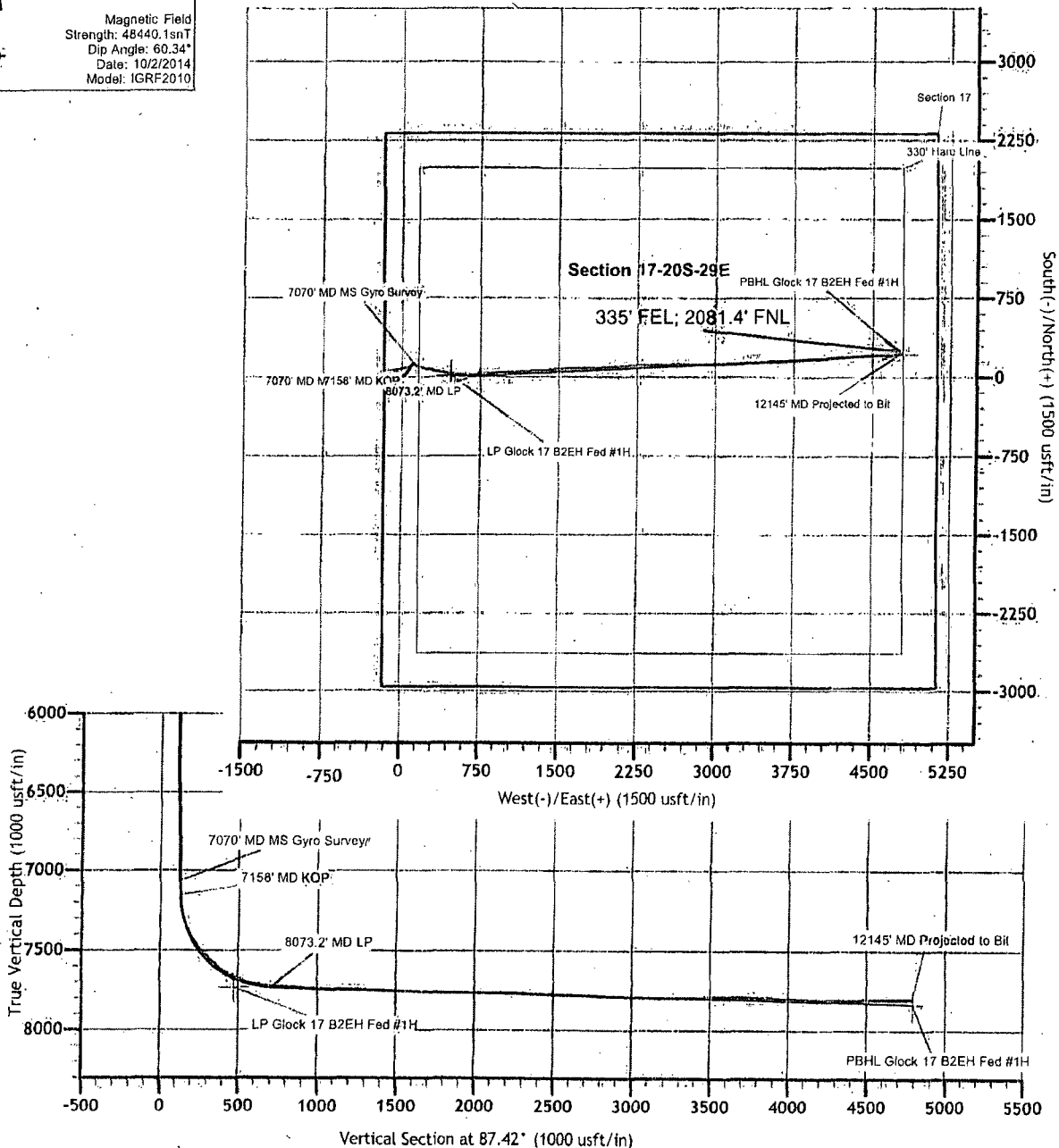
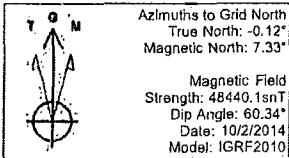
OFFICE: 936.582.7296

GEODETIC ZONE: New Mexico East 3001
3274 + 20 @ 3294.0usft (Patterson #41)
GROUND ELEVATION: 3274.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	572707.50	570420.50	32° 34' 27.378 N	104° 6' 17.030 W	

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSect	Target
1	7070.0	1.08	120.24	7065.5	110.1	127.5	0.00	0.00	132.4	
2	7158.0	1.08	120.24	7153.5	109.3	129.0	0.00	0.00	133.8	
3	7655.0	50.00	105.48	7588.5	52.6	328.8	9.85	-15.00	330.8	
4	8073.2	88.68	89.24	7734.1	10.8	708.8	9.90	-25.00	708.6	
5	8180.8	88.60	87.09	7735.7	14.2	816.4	2.00	-92.19	816.2	
6	12160.1	88.60	87.09	7834.0	216.1	4789.4	0.00	0.00	4794.2	PBHL Glock 17 B2EH Fed #1H





Mewbourne Oil Company .

Eddy County, New Mexico

Section 17-20S-29E Glock 17 B2EH Federal #1H

Glock 17 B2EH Federal #1H

Original Hole

Design: Original Hole

Standard Survey Report

31 October, 2014





Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17 B2EH Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	3274 + 20 @ 3294.0usft (Patterson #4.1)
Site:	Section 17-20S-29E Glock 17 B2EH Federal #1H	MD Reference:	3274 + 20 @ 3294.0usft (Patterson #4.1)
Well:	Glock 17 B2EH Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

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 17-20S-29E Glock 17 B2EH Federal #1H					
Site Position:		Northing:	572,707.50 usft	Latitude:	32° 34' 27.378 N
From:	Map	Easting:	570,420.50 usft	Longitude:	104° 6' 17.030 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.12 °

Well:	Glock 17 B2EH Federal #1H					
Well Position	+N/-S	0.0 usft	Northing:	572,707.50 usft	Latitude:	32° 34' 27.378 N
	+E/-W	0.0 usft	Easting:	570,420.50 usft	Longitude:	104° 6' 17.030 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,274.0 usft	

Wellbore:	Original Hole
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/2/2014	7.45	60.34	48,440

Design:	Original Hole
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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	87.42

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	10/31/2014	100.0	7,070.0	MS Gyro Survey (Original Hole)	GyroFlex	
		7,186.0	12,145.0	MWD Survey (Original Hole)	MWD	MWD v3: standard declination

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	0.34	69.79	100.0	0.1	0.3	0.3	0.34	0.34	0.00
	200.0	0.69	86.36	200.0	0.2	1.2	1.2	0.38	0.35	16.57
	300.0	1.78	58.15	300.0	1.1	3.1	3.1	1.22	1.09	-28.21
	400.0	1.74	44.04	399.9	3.0	5.5	5.6	0.43	-0.04	-14.11
	500.0	1.92	45.96	499.9	5.3	7.7	7.9	0.19	0.18	1.92
	600.0	3.03	45.64	599.8	8.3	10.8	11.2	1.11	1.11	-0.32
	700.0	4.00	56.81	699.6	12.0	15.6	16.1	1.18	0.97	11.17
	800.0	4.18	59.77	799.3	15.8	21.7	22.4	0.28	0.18	2.96



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Glock 17 B2EH Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Site:	Section 17-20S-29E Glock 17 B2EH Federal #1H	MD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Well:	Glock 17 B2EH Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker EDM

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)
900.0	4.01	59.08	899.1	19.4	27.8	28.7	0.18	-0.17	-0.69
1,000.0	3.63	53.07	998.9	23.1	33.4	34.4	0.55	-0.38	-6.01
1,100.0	3.19	46.79	1,098.7	26.9	37.9	39.1	0.58	-0.44	-6.28
1,200.0	3.06	38.37	1,198.5	30.9	41.6	43.0	0.48	-0.13	-8.42
1,300.0	3.07	31.43	1,298.4	35.3	44.7	46.2	0.37	0.01	-6.94
1,400.0	3.13	34.92	1,398.2	39.8	47.6	49.4	0.20	0.06	3.49
1,500.0	3.43	35.99	1,498.1	44.5	50.9	52.9	0.31	0.30	-1.07
1,600.0	3.53	36.44	1,597.9	49.4	54.5	56.7	0.10	0.10	0.45
1,700.0	3.29	34.42	1,697.7	54.2	58.0	60.4	0.27	-0.24	-2.02
1,800.0	3.22	39.66	1,797.6	58.7	61.4	64.0	0.31	-0.07	5.24
1,900.0	2.76	37.57	1,897.4	62.8	64.6	67.4	0.47	-0.46	-2.09
2,000.0	2.61	31.51	1,997.3	66.7	67.3	70.2	0.32	-0.15	-6.06
2,100.0	2.68	21.70	2,097.2	70.8	69.4	72.5	0.46	0.07	-9.81
2,200.0	2.68	18.30	2,197.1	75.2	71.0	74.3	0.16	0.00	-3.40
2,300.0	2.84	14.73	2,297.0	79.8	72.3	75.8	0.23	0.16	-3.57
2,400.0	2.91	21.45	2,396.9	84.5	73.9	77.6	0.34	0.07	6.72
2,500.0	2.78	32.45	2,496.7	89.0	76.1	80.0	0.56	-0.13	11.00
2,600.0	2.44	29.46	2,596.6	92.9	78.5	82.6	0.37	-0.34	-2.99
2,700.0	2.77	33.92	2,696.5	96.7	80.9	85.1	0.39	0.33	4.46
2,800.0	2.46	41.12	2,796.4	100.3	83.6	88.0	0.45	-0.31	7.20
2,900.0	2.30	39.55	2,896.3	103.5	86.3	90.9	0.17	-0.16	-1.57
3,000.0	2.28	50.97	2,996.3	106.3	89.1	93.8	0.46	-0.02	11.42
3,100.0	1.66	47.82	3,096.2	108.5	91.7	96.5	0.63	-0.62	-3.15
3,200.0	1.90	41.14	3,196.1	110.7	93.9	98.8	0.32	0.24	-6.68
3,300.0	1.80	47.47	3,296.1	113.1	96.2	101.1	0.23	-0.10	6.33
3,400.0	1.77	52.27	3,396.0	115.1	98.5	103.6	0.15	-0.03	4.80
3,500.0	1.30	46.79	3,496.0	116.8	100.6	105.7	0.49	-0.47	-5.48
3,600.0	1.17	37.92	3,596.0	118.4	102.0	107.3	0.23	-0.13	-8.87
3,700.0	1.38	31.54	3,696.0	120.2	103.3	108.6	0.25	0.21	-6.38
3,800.0	1.31	45.03	3,795.9	122.0	104.7	110.1	0.32	-0.07	13.49
3,900.0	0.84	32.74	3,895.9	123.5	105.9	111.4	0.52	-0.47	-12.29
4,000.0	0.98	7.15	3,995.9	124.9	106.4	112.0	0.43	0.14	-25.59
4,100.0	0.85	34.86	4,095.9	126.4	107.0	112.6	0.46	-0.13	27.71
4,200.0	1.48	140.63	4,195.9	126.0	108.2	113.8	1.90	0.63	105.77
4,300.0	1.66	149.49	4,295.8	123.7	109.8	115.2	0.30	0.18	8.86
4,400.0	1.48	147.24	4,395.8	121.4	111.2	116.6	0.19	-0.18	-2.25
4,500.0	1.13	149.28	4,495.8	119.5	112.4	117.7	0.35	-0.35	2.04
4,600.0	0.88	126.41	4,595.8	118.2	113.5	118.7	0.47	-0.25	-22.87
4,700.0	0.62	102.65	4,695.8	117.6	114.7	119.9	0.40	-0.26	-23.76
4,800.0	0.49	155.97	4,795.8	117.1	115.4	120.5	0.51	-0.13	53.32
4,900.0	0.27	157.96	4,895.7	116.5	115.6	120.8	0.22	-0.22	1.99
5,000.0	0.32	74.60	4,995.7	116.3	116.0	121.1	0.39	0.05	-83.36



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Glock 17 B2EH Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Site:	Section 17-20S-29E Glock 17 B2EH Federal #1H	MD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Well:	Glock 17 B2EH Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey/Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker EDM

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)
5,100.0	0.38	63.48	5,095.7	116.6	116.6	121.7	0.09	0.06	-11.12
5,200.0	0.56	95.24	5,195.7	116.7	117.3	122.5	0.31	0.18	31.76
5,300.0	0.31	109.08	5,295.7	116.5	118.1	123.2	0.27	-0.25	13.84
5,400.0	0.10	10.42	5,395.7	116.5	118.4	123.5	0.34	-0.21	-98.66
5,500.0	0.24	298.14	5,495.7	116.7	118.2	123.3	0.23	0.14	-72.28
5,600.0	0.50	272.23	5,595.7	116.8	117.6	122.7	0.30	0.26	-25.91
5,700.0	0.73	261.72	5,695.7	116.8	116.5	121.6	0.26	0.23	-10.51
5,800.0	0.68	243.09	5,795.7	116.4	115.3	120.5	0.23	-0.05	-18.63
5,900.0	0.72	247.59	5,895.7	115.9	114.2	119.3	0.07	0.04	4.50
6,000.0	0.50	279.09	5,995.7	115.7	113.2	118.3	0.39	-0.22	31.50
6,100.0	0.17	309.76	6,095.7	115.9	112.7	117.8	0.36	-0.33	30.67
6,200.0	0.29	96.43	6,195.7	115.9	112.8	117.9	0.44	0.12	146.67
6,300.0	0.23	105.91	6,295.7	115.9	113.3	118.4	0.07	-0.06	9.48
6,400.0	0.72	109.85	6,395.7	115.6	114.0	119.1	0.49	0.49	3.94
6,500.0	0.91	99.81	6,495.7	115.2	115.4	120.5	0.24	0.19	-10.04
6,600.0	1.09	97.32	6,595.7	115.0	117.1	122.2	0.19	0.18	-2.49
6,700.0	1.36	102.60	6,695.7	114.6	119.2	124.3	0.29	0.27	5.28
6,800.0	1.65	115.10	6,795.6	113.7	121.7	126.7	0.44	0.29	12.50
6,900.0	1.57	122.60	6,895.6	112.4	124.2	129.1	0.23	-0.08	7.50
7,000.0	1.38	126.64	6,995.5	110.9	126.3	131.2	0.22	-0.19	4.04
7,070.0	1.08	120.24	7,065.5	110.1	127.5	132.4	0.47	-0.43	-9.14
7070' MD:MS Gyro Survey									
7,186.0	1.80	116.80	7,181.5	108.7	130.1	134.9	0.62	0.62	-2.97
7,217.0	6.00	115.00	7,212.4	107.8	132.0	136.7	13.55	13.55	-5.81
7,249.0	11.40	116.20	7,244.0	105.7	136.4	141.0	16.88	16.88	3.75
7,280.0	17.30	113.50	7,274.1	102.5	143.3	147.8	19.15	19.03	-8.71
7,312.0	21.20	111.70	7,304.3	98.5	153.1	157.4	12.33	12.19	-5.63
7,343.0	22.30	108.20	7,333.1	94.6	163.9	168.0	5.48	3.55	-11.29
7,375.0	23.50	108.80	7,362.5	90.6	175.7	179.6	3.82	3.75	1.88
7,406.0	26.40	108.10	7,390.6	86.5	188.1	191.8	9.40	9.35	-2.26
7,438.0	31.10	105.20	7,418.7	82.1	202.8	206.3	15.32	14.69	-9.06
7,469.0	34.30	102.00	7,444.8	78.2	219.1	222.4	11.73	10.32	-10.32
7,501.0	36.50	100.70	7,470.9	74.5	237.3	240.4	7.27	6.88	-4.06
7,532.0	38.50	99.90	7,495.4	71.2	255.9	258.8	6.64	6.45	-2.58
7,564.0	42.40	100.30	7,519.8	67.5	276.3	279.1	12.21	12.19	1.25
7,595.0	45.80	100.90	7,542.1	63.6	297.5	300.1	11.05	10.97	1.94
7,627.0	48.10	101.50	7,563.9	59.0	320.4	322.8	7.32	7.19	1.88
7,658.0	49.50	102.30	7,584.3	54.2	343.3	345.3	4.92	4.52	2.58
7,690.0	52.50	102.30	7,604.5	48.9	367.5	369.4	9.38	9.38	0.00
7,721.0	55.80	100.80	7,622.6	43.9	392.2	393.7	11.34	10.65	-4.84
7,753.0	59.10	99.60	7,639.8	39.1	418.7	420.0	10.79	10.31	-3.75
7,785.0	62.00	99.10	7,655.6	34.6	446.2	447.3	9.16	9.06	-1.56
7,816.0	64.60	99.40	7,669.5	30.1	473.5	474.4	8.43	8.39	0.97



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Glock 17 B2EH Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Site:	Section 17-20S-29E Glock 17 B2EH Federal #1H	MD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Well:	Glock 17 B2EH Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker EDM

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)
7,843.0	67.05	98.21	7,680.6	26.4	497.9	498.6	9.91	9.06	-4.39
LP: Glock 17 B2EH Fed #1H									
7,848.0	67.50	98.00	7,682.5	25.7	502.4	503.1	9.91	9.08	-4.29
7,879.0	70.00	95.30	7,693.7	22.4	531.1	531.6	11.44	8.06	-8.71
7,910.0	73.00	93.40	7,703.5	20.2	560.4	560.8	11.29	9.68	-6.13
7,942.0	76.20	90.00	7,712.0	19.2	591.3	591.5	14.31	10.00	-10.63
7,974.0	79.30	89.00	7,718.8	19.5	622.5	622.8	10.16	9.69	-3.13
8,005.0	81.80	88.30	7,723.9	20.2	653.1	653.3	8.37	8.06	-2.26
8,037.0	82.50	88.00	7,728.3	21.3	684.8	685.0	2.38	2.19	-0.94
8,085.0	88.30	88.10	7,732.1	22.9	732.6	732.9	12.09	12.08	0.21
8,180.0	89.80	87.50	7,733.7	26.5	827.5	827.9	1.70	1.58	-0.63
8,275.0	84.50	85.40	7,738.4	32.4	922.2	922.7	6.00	-5.58	-2.21
8,369.0	88.00	87.70	7,744.6	38.0	1,015.8	1,016.4	4.45	3.72	2.45
8,464.0	90.00	87.10	7,746.2	42.4	1,110.6	1,111.4	2.20	2.11	-0.63
8,559.0	88.50	86.70	7,747.5	47.5	1,205.5	1,206.4	1.63	-1.58	-0.42
8,653.0	88.50	85.80	7,749.9	53.6	1,299.3	1,300.4	0.96	0.00	-0.96
8,748.0	88.80	84.80	7,752.2	61.4	1,393.9	1,395.3	1.10	0.32	-1.05
8,843.0	88.60	83.80	7,754.3	70.9	1,488.4	1,490.1	1.07	-0.21	-1.05
8,937.0	87.10	85.90	7,757.9	79.3	1,582.0	1,583.9	2.74	-1.60	2.23
9,032.0	87.90	88.60	7,762.0	83.8	1,676.8	1,678.8	2.96	0.84	2.84
9,126.0	89.20	89.70	7,764.4	85.2	1,770.7	1,772.8	1.81	1.38	1.17
9,221.0	89.70	89.20	7,765.3	86.1	1,865.7	1,867.7	0.74	0.53	-0.53
9,315.0	90.20	87.30	7,765.4	89.0	1,959.7	1,961.7	2.09	0.53	-2.02
9,410.0	90.40	85.40	7,764.9	95.1	2,054.5	2,056.7	2.01	0.21	-2.00
9,504.0	89.50	86.20	7,765.0	101.9	2,148.2	2,150.6	1.28	-0.96	0.85
9,599.0	88.60	87.30	7,766.5	107.3	2,243.0	2,245.6	1.50	-0.95	1.16
9,694.0	87.10	88.40	7,770.1	110.9	2,337.9	2,340.5	1.96	-1.58	1.16
9,788.0	88.00	89.90	7,774.1	112.3	2,431.8	2,434.4	1.86	0.96	1.60
9,883.0	88.30	88.80	7,777.2	113.4	2,526.7	2,529.3	1.20	0.32	-1.16
9,977.0	89.10	87.80	7,779.3	116.2	2,620.7	2,623.2	1.36	0.85	-1.06
10,072.0	88.70	89.20	7,781.1	118.6	2,715.6	2,718.2	1.53	-0.42	1.47
10,166.0	86.20	89.20	7,785.3	119.9	2,809.5	2,812.1	2.66	-2.66	0.00
10,261.0	87.40	89.20	7,790.6	121.3	2,904.4	2,906.9	1.26	1.26	0.00
10,356.0	88.10	89.40	7,794.4	122.4	2,999.3	3,001.7	0.77	0.74	0.21
10,451.0	88.60	88.90	7,797.1	123.8	3,094.2	3,096.7	0.74	0.53	-0.53
10,546.0	89.40	87.70	7,798.8	126.7	3,189.2	3,191.6	1.52	0.84	-1.26
10,640.0	91.00	87.00	7,798.4	131.0	3,283.1	3,285.6	1.86	1.70	-0.74
10,735.0	92.30	86.70	7,795.7	136.2	3,377.9	3,380.6	1.40	1.37	-0.32
10,830.0	90.30	87.50	7,793.5	141.0	3,472.7	3,475.5	2.27	-2.11	0.84
10,924.0	91.00	87.00	7,792.5	145.5	3,566.6	3,569.5	0.92	0.74	-0.53
11,019.0	88.60	86.30	7,792.8	151.1	3,661.4	3,664.5	2.63	-2.53	-0.74
11,114.0	89.30	85.60	7,794.5	157.8	3,756.2	3,759.5	1.04	0.74	-0.74
11,208.0	88.50	86.40	7,796.3	164.4	3,849.9	3,853.4	1.20	-0.85	0.85



Stryker Directional Survey Report



Company:	Mawbourn Oil Company .	Local Co-ordinate Reference:	Well Glock 17 B2EH Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Site:	Section 17-20S-29E Glock 17 B2EH Federal #1H	MD Reference:	3274 + 20 @ 3294.0usft (Patterson #41)
Well:	Glock 17 B2EH Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

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)
11,303.0	86.50	87.30	7,800.5	169.6	3,944.7	3,948.3	2.31	-2.11	0.95
11,398.0	87.50	86.70	7,805.5	174.5	4,039.4	4,043.2	1.23	1.05	-0.63
11,492.0	87.60	85.30	7,809.5	181.1	4,133.1	4,137.1	1.49	0.11	-1.49
11,587.0	89.20	86.00	7,812.1	188.3	4,227.8	4,232.0	1.84	1.68	0.74
11,681.0	89.80	85.30	7,813.0	195.4	4,321.5	4,325.9	0.98	0.64	-0.74
11,790.0	91.10	84.30	7,812.1	205.3	4,430.1	4,434.8	1.50	1.19	-0.92
11,885.0	92.40	84.60	7,809.2	214.5	4,524.6	4,529.6	1.40	1.37	0.32
11,979.0	91.20	85.60	7,806.2	222.5	4,618.2	4,623.5	1.66	-1.28	1.06
12,074.0	91.30	85.60	7,804.2	229.8	4,712.9	4,718.4	0.11	0.11	0.00
12,145.0	91.30	85.60	7,802.6	235.2	4,783.7	4,789.4	0.00	0.00	0.00

12145' MD Projected to Bit - PBHL Glock 17 B2EH Fed #1H

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	Comment
7,070.0	7,065.5	110.1 127.5	7070' MD MS Gyro Survey
12,145.0	7,802.6	235.2 4,783.7	12145' MD Projected to Bit



Job Number: SVMO-141400
 Company: Mewbourne Oil & Gas
 Lease/Well: Glock 17 B2EH Federal 1H
 Location: Eddy County, NM
 Rig Name: Patterson #41
 RKB: 20'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.33°
 Grid: East To Grid North
 File name: S:\2014SU~1\MEWBOU~1\MO\GLOCK1~1\B2EHFED1H.SVY
 Date/Time: 23-Oct-14 / 09:33
 Curve Name: Surface - 7070' M.D. (Rate Gyro)

MS SURVEY

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 7,070 MD is, to the best of
 our knowledge a true and accurate account of the
 well bore.
Clayton Turner 10/23/14
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.34	69.79	100.00	.10	.28	.10	.30	69.79	.34
200.00	.69	86.36	200.00	.24	1.16	.24	1.18	78.14	.38
300.00	1.78	58.15	299.97	1.10	3.08	1.10	3.27	70.32	1.22
400.00	1.74	44.04	399.92	3.01	5.45	3.01	6.23	61.08	.43
500.00	1.92	45.96	499.87	5.27	7.71	5.27	9.34	55.66	.19
600.00	3.03	45.64	599.78	8.28	10.81	8.28	13.61	52.54	1.11
700.00	4.00	56.81	699.59	12.04	15.61	12.04	19.72	52.37	1.18
800.00	4.18	59.77	799.34	15.78	21.68	15.78	26.82	53.95	.28
900.00	4.01	59.08	899.08	19.41	27.83	19.41	33.93	55.10	.18

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1000.00	3.63	53.07	998.86	23.11	33.36	23.11	40.59	55.29	.55
1100.00	3.19	46.79	1098.68	26.92	37.92	26.92	46.50	54.63	.58
1200.00	3.06	38.37	1198.53	30.92	41.60	30.92	51.83	53.38	.48
1300.00	3.07	31.43	1298.39	35.29	44.66	35.29	56.92	51.68	.37
1400.00	3.13	34.92	1398.24	39.82	47.62	39.82	62.07	50.10	.20
1500.00	3.43	35.99	1498.08	44.48	50.94	44.48	67.62	48.87	.31
1600.00	3.53	36.44	1597.90	49.37	54.52	49.37	73.56	47.84	.10
1700.00	3.29	34.42	1697.72	54.22	57.97	54.22	79.38	46.92	.27
1800.00	3.22	39.66	1797.56	58.75	61.39	58.75	84.97	46.26	.31
1900.00	2.76	37.57	1897.42	62.82	64.65	62.82	90.14	45.82	.47
2000.00	2.61	31.51	1997.31	66.67	67.31	66.67	94.74	45.27	.32
2100.00	2.68	21.70	2097.21	70.78	69.36	70.78	99.10	44.42	.46
2200.00	2.68	18.30	2197.10	75.17	70.96	75.17	103.37	43.35	.16
2300.00	2.84	14.73	2296.98	79.79	72.32	79.79	107.69	42.19	.23
2400.00	2.91	21.45	2396.86	84.55	73.88	84.55	112.28	41.15	.34
2500.00	2.78	32.45	2496.73	88.96	76.11	88.96	117.07	40.55	.56
2600.00	2.44	29.46	2596.63	92.85	78.46	92.85	121.57	40.20	.37
2700.00	2.77	33.92	2696.53	96.71	80.86	96.71	126.06	39.90	.39
2800.00	2.46	41.12	2796.42	100.34	83.62	100.34	130.61	39.81	.45
2900.00	2.30	39.55	2896.34	103.50	86.30	103.50	134.76	39.82	.17
3000.00	2.28	50.97	2996.26	106.30	89.13	106.30	138.72	39.98	.46
3100.00	1.66	47.82	3096.20	108.52	91.75	108.52	142.11	40.21	.63
3200.00	1.90	41.14	3196.15	110.75	93.91	110.75	145.20	40.30	.32
3300.00	1.80	47.47	3296.10	113.06	96.16	113.06	148.42	40.38	.23
3400.00	1.77	52.27	3396.05	115.06	98.54	115.06	151.49	40.58	.15
3500.00	1.30	46.79	3496.01	116.78	100.58	116.78	154.13	40.74	.49
3600.00	1.17	37.92	3595.99	118.37	102.04	118.37	156.28	40.76	.23
3700.00	1.38	31.54	3695.96	120.20	103.30	120.20	158.49	40.68	.25
3800.00	1.31	45.03	3795.94	122.03	104.74	122.03	160.81	40.64	.32

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3900.00	.84	32.74	3895.92	123.46	105.94	123.46	162.68	40.63	.52
4000.00	.98	7.15	3995.91	124.92	106.44	124.92	164.12	40.43	.43
4100.00	.85	34.86	4095.89	126.38	106.97	126.38	165.57	40.25	.46
4200.00	1.48	140.63	4195.88	125.99	108.22	125.99	166.08	40.66	1.90
4300.00	1.66	149.49	4295.84	123.74	109.77	123.74	165.41	41.58	.30
4400.00	1.48	147.24	4395.81	121.41	111.21	121.41	164.64	42.49	.19
4500.00	1.13	149.28	4495.78	119.48	112.41	119.48	164.04	43.25	.35
4600.00	.88	126.41	4595.76	118.17	113.53	118.17	163.87	43.85	.47
4700.00	.62	102.65	4695.76	117.60	114.68	117.60	164.25	44.28	.40
4800.00	.49	155.97	4795.75	117.09	115.38	117.09	164.38	44.58	.51
4900.00	.27	157.96	4895.75	116.48	115.64	116.48	164.13	44.79	.22
5000.00	.32	74.60	4995.75	116.34	116.00	116.34	164.28	44.92	.39
5100.00	.38	63.48	5095.75	116.56	116.56	116.56	164.84	45.00	.09
5200.00	.56	95.24	5195.74	116.66	117.35	116.66	165.47	45.17	.31
5300.00	.31	109.08	5295.74	116.53	118.09	116.53	165.90	45.38	.27
5400.00	.10	10.42	5395.74	116.53	118.36	116.53	166.09	45.45	.34
5500.00	.24	298.14	5495.74	116.71	118.19	116.71	166.10	45.36	.23
5600.00	.50	272.23	5595.74	116.83	117.57	116.83	165.74	45.18	.30
5700.00	.73	261.72	5695.73	116.75	116.50	116.75	164.94	44.94	.26
5800.00	.68	243.09	5795.72	116.39	115.35	116.39	163.86	44.74	.23
5900.00	.72	247.59	5895.72	115.88	114.24	115.88	162.72	44.59	.07
6000.00	.50	279.09	5995.71	115.71	113.22	115.71	161.89	44.38	.39
6100.00	.17	309.76	6095.71	115.88	112.68	115.88	161.63	44.20	.36
6200.00	.29	96.43	6195.71	115.94	112.82	115.94	161.77	44.22	.44
6300.00	.23	105.91	6295.71	115.86	113.26	115.86	162.02	44.35	.07
6400.00	.72	109.85	6395.70	115.59	114.04	115.59	162.38	44.61	.49
6500.00	.91	99.81	6495.69	115.24	115.42	115.24	163.10	45.04	.24
6600.00	1.09	97.32	6595.68	114.99	117.14	114.99	164.15	45.53	.19
6700.00	1.36	102.60	6695.66	114.61	119.25	114.61	165.39	46.14	.29

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
6800.00	1.65	115.10	6795.62	113.74	121.71	113.74	166.58	46.94	.44
6900.00	1.57	122.60	6895.58	112.39	124.17	112.39	167.47	47.85	.23
7000.00	1.38	126.64	6995.55	110.93	126.29	110.93	168.09	48.70	.22
Last Survey Depth Recorded									
7070.00	1.08	120.24	7065.53	110.09	127.53	110.09	168.48	49.20	.47