

Results of Directional Survey

API number:	30-025-41129		
OGRID:		Operator:	MEWBOURNE OIL CO
		Property:	RED HILLS 21 BO FEDERAL COM # 1H

surface	ULSTR:	B	21	T	26S	R	32E
				150	FNL	2310	FEL

BH Loc	ULSTR:	O	21	T	26S	R	32E
13760	MD	9337.7	TVD	273	FSL	2287	FEL
				5007	FNL		

Top Perf/OH	ULSTR:	B	21	T	26S	R	32E
9606	MD	9293.4	TVD	855	FNL	2318	FEL

Bot Perf/OH	ULSTR:	O	21	T	26S	R	32E
13566	MD	9342.5	TVD	467	FSL	2293	FEL
				4813	FNL		

	MD	N/S	E/W	VD
	9598	-696.90	-7.90	9292.8
TOP PERFS/OH	9606	-704.87	-7.51	9293.42
	9629	-727.80	-6.40	9295.20
	13553	-4650.20	17.10	9342.80
BOT PERFS/OH	13566	-4663.20	17.30	9342.54
	13617	-4714.20	18.10	9341.50

NEXT TO LAST	13710	-4807.10	21.00	9339.10
LAST READING	13760	-4857.00	23.10	9337.70
TD	13760	-4857.00	23.10	9337.70

Surface Location	150	FN	2310	FE
Projected BHL	5007	FN	2287	FE
Location of				
Top Perfs/OH	855	FN	2318	FE
Bottom Perfs/OH	4813	FN	2293	FE

SUMMARY of Subsurface Locations

Surface Location	B-21-26S-32E	150	FN	2310	FE	Vert. Depth
Top Perfs/OH	B-21-26S-32E	855	FN	2318	FE	9293.42
Bottom Perfs/OH	O-21-26S-32E	4813	FN	2293	FE	9342.54
Projected TD	O-21-26S-32E	5007	FN	2287	FE	9337.70

APR 02 2014



COMPANY: Mewbourne Oil Company
 WELL: Red Hills West 21 BO Federal Com #1H
 COUNTY: Lea County N.M.
 DATUM: NAD 1927 (NADCON CONUS)
 RIG: Patterson 36

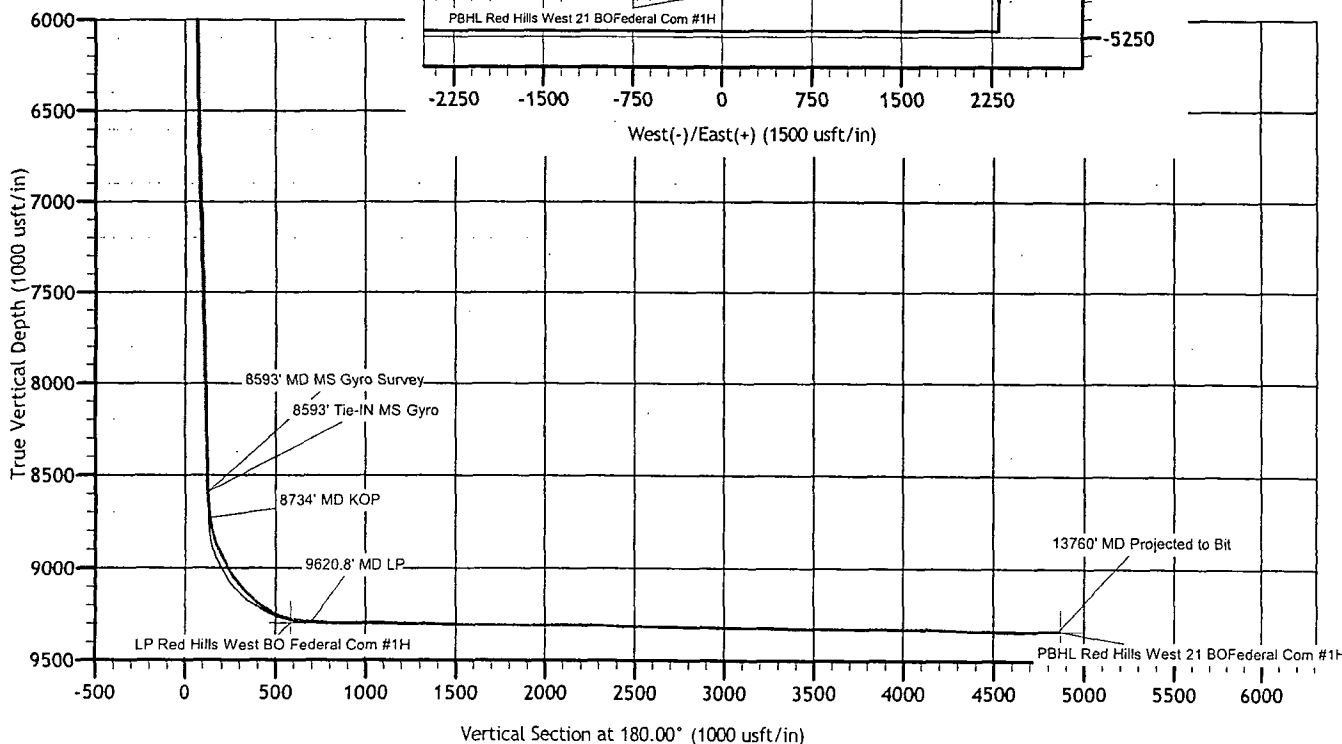
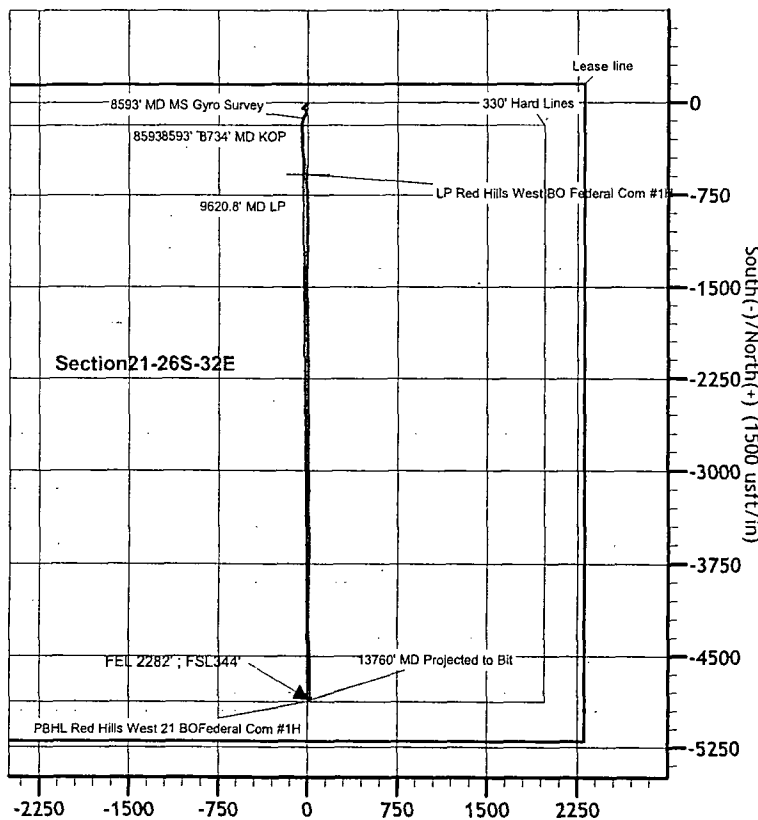
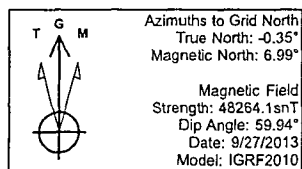


GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.99°

OFFICE: 936.582.7296

GEODETIC ZONE: New Mexico East 3001							Slot
GL 3157 + 20 @ 3177.0usft (Patterson 36)							
GROUND ELEVATION: 3157.0							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
0.0	0.0	377065.16	702972.55	32° 2' 5.910 N	103° 40' 41.986 W		

PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Target
1	8593.0	1.07	223.15	8590.9	-124.1	-36.6	0.00	0.00	124.1	
2	8734.0	1.07	223.15	8731.9	-126.0	-38.4	0.00	0.00	126.0	
3	9620.8	89.45	179.45	9297.1	-693.5	-40.1	10.00	-43.71	693.5	
4	13797.9	89.45	179.45	9337.0	-4870.2	0.0	0.00	0.00	4870.2	PBHL Red Hills West 21 BO Federal Com #1H





HOBBS OCD
MAR 31 2014

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Mewbourne Oil Company .

Lea County N.M.

Section 21-26S-32E Red Hills West 21 BO

Red Hills West 21 BO Federal Com #1H

OH

Design: OH

Standard Survey Report

12 February, 2014





Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157' + 20' @ 3177.0usft (Patterson) 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157' + 20' @ 3177.0usft (Patterson) 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project: Lea County N.M.			
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 21-26S-32E Red Hills West 21 BO					
Site Position:		Northing:	377,065.16 usft	Latitude:	32° 2' 5.910 N
From:	Map	Easting:	702,972.54 usft	Longitude:	103° 40' 41.986 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.35 °

Well:	Red Hills West 21 BO Federal Com #1H					
Well Position	+N-S	0.0 usft	Northing:	377,065.16 usft	Latitude:	32° 2' 5.910 N
	+E-W	0.0 usft	Easting:	702,972.54 usft	Longitude:	103° 40' 41.986 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,157.0 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/27/2013	7.34	59.94	48,264

Design:	OH				
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	180.00

Survey Program		Date: 2/12/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	8,593.0	MS Gyro Survey #1 (OH)	GyroFlex	
8,644.0	13,760.0	Survey #2 (OH)	MWD	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	0.13	279.21	100.0	0.0	-0.1	0.0	0.13	0.13	0.00
200.0	0.49	250.01	200.0	-0.1	-0.6	0.1	0.38	0.36	-29.20
300.0	0.80	240.77	300.0	-0.6	-1.6	0.6	0.33	0.31	-9.24
400.0	0.85	239.80	400.0	-1.3	-2.9	1.3	0.05	0.05	-0.97
500.0	1.06	231.26	500.0	-2.3	-4.2	2.3	0.25	0.21	-8.54
600.0	1.28	233.08	599.9	-3.5	-5.9	3.5	0.22	0.22	1.82
700.0	1.33	230.01	699.9	-4.9	-7.6	4.9	0.09	0.05	-3.07
800.0	1.35	227.83	799.9	-6.5	-9.4	6.5	0.05	0.02	-2.18
900.0	0.97	217.13	899.9	-7.9	-10.8	7.9	0.44	-0.38	-10.70



Stryker Directional Survey Report



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Project:	Lea County N.M.	TVD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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	0.95	216.02	999.9	-9.3	-11.8	9.3	0.03	-0.02	-1.11
1,100.0	0.95	215.10	1,099.8	-10.6	-12.8	10.6	0.02	0.00	-0.92
1,200.0	0.91	214.01	1,199.8	-12.0	-13.7	12.0	0.04	-0.04	-1.09
1,300.0	0.98	218.22	1,299.8	-13.3	-14.6	13.3	0.10	0.07	4.21
1,400.0	0.95	216.40	1,399.8	-14.6	-15.7	14.6	0.04	-0.03	-1.82
1,500.0	0.98	216.95	1,499.8	-16.0	-16.7	16.0	0.03	0.03	0.55
1,600.0	1.06	212.79	1,599.8	-17.4	-17.7	17.4	0.11	0.08	-4.16
1,700.0	1.08	214.50	1,699.8	-19.0	-18.7	19.0	0.04	0.02	1.71
1,800.0	1.09	221.55	1,799.7	-20.5	-19.9	20.5	0.13	0.01	7.05
1,900.0	1.32	224.51	1,899.7	-22.0	-21.3	22.0	0.24	0.23	2.96
2,000.0	1.41	225.68	1,999.7	-23.7	-23.0	23.7	0.09	0.09	1.17
2,100.0	1.34	222.56	2,099.7	-25.4	-24.7	25.4	0.10	-0.07	-3.12
2,200.0	1.39	223.67	2,199.6	-27.2	-26.3	27.2	0.06	0.05	1.11
2,300.0	1.34	232.59	2,299.6	-28.7	-28.1	28.7	0.22	-0.05	8.92
2,400.0	1.57	237.58	2,399.6	-30.2	-30.2	30.2	0.26	0.23	4.99
2,500.0	1.98	239.82	2,499.5	-31.8	-32.8	31.8	0.42	0.41	2.24
2,600.0	1.97	239.39	2,599.5	-33.5	-35.8	33.5	0.02	-0.01	-0.43
2,700.0	1.83	232.78	2,699.4	-35.4	-38.5	35.4	0.26	-0.14	-6.61
2,800.0	1.86	222.27	2,799.4	-37.5	-40.9	37.5	0.34	0.03	-10.51
2,900.0	1.56	219.67	2,899.3	-39.8	-42.9	39.8	0.31	-0.30	-2.60
3,000.0	1.06	197.84	2,999.3	-41.7	-44.0	41.7	0.70	-0.50	-21.83
3,100.0	0.83	165.04	3,099.3	-43.3	-44.1	43.3	0.58	-0.23	-32.80
3,200.0	0.79	136.06	3,199.3	-44.5	-43.4	44.5	0.41	-0.04	-28.98
3,300.0	0.67	116.93	3,299.3	-45.3	-42.4	45.3	0.27	-0.12	-19.13
3,400.0	0.88	91.29	3,399.2	-45.5	-41.2	45.5	0.40	0.21	-25.64
3,500.0	0.69	98.11	3,499.2	-45.6	-39.8	45.6	0.21	-0.19	6.82
3,600.0	0.28	116.35	3,599.2	-45.8	-39.0	45.8	0.43	-0.41	18.24
3,700.0	0.40	99.26	3,699.2	-46.0	-38.4	46.0	0.16	0.12	-17.09
3,800.0	1.21	102.51	3,799.2	-46.3	-37.0	46.3	0.81	0.81	3.25
3,900.0	1.53	103.19	3,899.2	-46.8	-34.7	46.8	0.32	0.32	0.68
4,000.0	2.03	106.22	3,999.1	-47.6	-31.7	47.6	0.51	0.50	3.03
4,100.0	2.70	117.47	4,099.1	-49.2	-27.9	49.2	0.81	0.67	11.25
4,200.0	2.81	118.96	4,198.9	-51.5	-23.7	51.5	0.13	0.11	1.49
4,300.0	2.17	123.96	4,298.8	-53.7	-20.0	53.7	0.68	-0.64	5.00
4,400.0	1.50	130.76	4,398.8	-55.6	-17.4	55.6	0.70	-0.67	6.80
4,500.0	1.31	129.32	4,498.8	-57.2	-15.5	57.2	0.19	-0.19	-1.44
4,600.0	0.97	134.64	4,598.7	-58.5	-14.0	58.5	0.36	-0.34	5.32
4,700.0	0.93	140.74	4,698.7	-59.8	-12.9	59.8	0.11	-0.04	6.10
4,800.0	0.70	148.73	4,798.7	-60.9	-12.1	60.9	0.26	-0.23	7.99
4,900.0	0.57	166.92	4,898.7	-61.9	-11.7	61.9	0.24	-0.13	18.19
5,000.0	0.53	186.41	4,998.7	-62.9	-11.6	62.9	0.19	-0.04	19.49
5,100.0	0.59	184.68	5,098.7	-63.8	-11.7	63.8	0.06	0.06	-1.73
5,200.0	0.61	181.57	5,198.7	-64.9	-11.8	64.9	0.04	0.02	-3.11



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Site:	Section 21 26S 32E Red Hills West 21 BO	MD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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	0.64	184.45	5,298.7	-66.0	-11.8	66.0	0.04	0.03	2.88	
5,400.0	0.62	176.70	5,398.7	-67.1	-11.8	67.1	0.09	-0.02	-7.75	
5,500.0	0.70	180.92	5,498.7	-68.2	-11.8	68.2	0.09	0.08	4.22	
5,600.0	0.50	177.50	5,598.7	-69.3	-11.8	69.3	0.20	-0.20	-3.42	
5,700.0	0.48	180.95	5,698.7	-70.1	-11.8	70.1	0.04	-0.02	3.45	
5,800.0	0.37	181.24	5,798.7	-70.9	-11.8	70.9	0.11	-0.11	0.29	
5,900.0	0.38	182.03	5,898.7	-71.5	-11.8	71.5	0.01	0.01	0.79	
6,000.0	0.43	188.40	5,998.7	-72.2	-11.9	72.2	0.07	0.05	6.37	
6,100.0	0.65	196.98	6,098.7	-73.1	-12.1	73.1	0.23	0.22	8.58	
6,200.0	0.77	210.25	6,198.7	-74.2	-12.6	74.2	0.20	0.12	13.27	
6,300.0	0.70	210.08	6,298.6	-75.4	-13.3	75.4	0.07	-0.07	-0.17	
6,400.0	0.83	205.05	6,398.6	-76.5	-13.9	76.5	0.15	0.13	-5.03	
6,500.0	0.93	199.29	6,498.6	-78.0	-14.4	78.0	0.13	0.10	-5.76	
6,600.0	1.16	191.43	6,598.6	-79.7	-14.9	79.7	0.27	0.23	-7.86	
6,700.0	1.14	191.87	6,698.6	-81.7	-15.3	81.7	0.02	-0.02	0.44	
6,800.0	1.34	190.43	6,798.6	-83.8	-15.7	83.8	0.20	0.20	-1.44	
6,900.0	1.30	188.87	6,898.5	-86.1	-16.1	86.1	0.05	-0.04	-1.56	
7,000.0	1.73	204.87	6,998.5	-88.6	-16.9	88.6	0.60	0.43	16.00	
7,100.0	1.74	205.53	7,098.5	-91.3	-18.2	91.3	0.02	0.01	0.66	
7,200.0	1.84	217.57	7,198.4	-94.0	-19.9	94.0	0.39	0.10	12.04	
7,300.0	1.94	214.26	7,298.4	-96.6	-21.8	96.6	0.15	0.10	-3.31	
7,400.0	1.95	214.59	7,398.3	-99.4	-23.7	99.4	0.02	0.01	0.33	
7,500.0	1.69	213.17	7,498.2	-102.1	-25.5	102.1	0.26	-0.26	-1.42	
7,600.0	1.74	217.81	7,598.2	-104.5	-27.2	104.5	0.15	0.05	4.64	
7,700.0	1.62	210.57	7,698.2	-106.9	-28.9	106.9	0.24	-0.12	-7.24	
7,800.0	1.50	209.15	7,798.1	-109.3	-30.2	109.3	0.13	-0.12	-1.42	
7,900.0	1.31	196.83	7,898.1	-111.5	-31.2	111.5	0.36	-0.19	-12.32	
8,000.0	1.23	191.35	7,998.1	-113.7	-31.7	113.7	0.15	-0.08	-5.48	
8,100.0	1.26	190.00	8,098.0	-115.8	-32.1	115.8	0.04	0.03	-1.35	
8,200.0	1.23	192.23	8,198.0	-117.9	-32.5	117.9	0.06	-0.03	2.23	
8,300.0	1.09	208.87	8,298.0	-119.8	-33.2	119.8	0.36	-0.14	16.64	
8,400.0	0.98	214.44	8,398.0	-121.3	-34.2	121.3	0.15	-0.11	5.57	
8,500.0	1.14	223.22	8,498.0	-122.8	-35.3	122.8	0.23	0.16	8.78	
8,593.0	1.07	223.15	8,590.9	-124.1	-36.6	124.1	0.08	-0.08	-0.08	
8593 MD MS Gyro Survey										
8,644.0	1.80	224.30	8,641.9	-125.0	-37.5	125.0	1.43	1.43	2.25	
8,676.0	4.70	190.10	8,673.9	-126.6	-38.0	126.6	10.52	9.06	-106.88	
PBHL Red Hills West 21 BO Federal Com #1H2										
8,708.0	8.10	190.40	8,705.7	-130.2	-38.7	130.2	10.63	10.63	0.94	
8,740.0	11.40	191.40	8,737.2	-135.5	-39.7	135.5	10.33	10.31	3.13	
8,772.0	13.90	197.40	8,768.4	-142.2	-41.5	142.2	8.82	7.81	18.75	
8,803.0	15.80	195.80	8,798.4	-149.9	-43.7	149.9	6.27	6.13	-5.16	
8,835.0	18.50	191.20	8,829.0	-159.0	-45.9	159.0	9.44	8.44	-14.38	
8,867.0	20.40	185.70	8,859.1	-169.6	-47.5	169.6	8.24	5.94	-17.19	



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Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
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8,898.0	22.80	180.50	8,888.0	-181.0	-48.0	181.0	9.90	7.74	-16.77
8,930.0	24.40	180.40	8,917.3	-193.8	-48.1	193.8	5.00	5.00	-0.31
8,962.0	25.20	183.00	8,946.3	-207.2	-48.5	207.2	4.23	2.50	8.13
8,994.0	26.80	183.50	8,975.1	-221.2	-49.3	221.2	5.05	5.00	1.56
9,026.0	29.80	183.70	9,003.3	-236.3	-50.3	236.3	9.38	9.38	0.63

9,057.0	34.10	182.70	9,029.6	-252.7	-51.2	252.7	13.98	13.87	-3.23
9,091.0	37.60	183.30	9,057.1	-272.6	-52.3	272.6	10.35	10.29	1.76
9,123.0	39.30	179.70	9,082.2	-292.5	-52.8	292.5	8.78	5.31	-11.25
9,154.0	41.70	177.80	9,105.8	-312.6	-52.3	312.6	8.70	7.74	-6.13
9,186.0	44.20	174.30	9,129.2	-334.3	-50.8	334.3	10.79	7.81	-10.94

9,218.0	46.10	171.60	9,151.8	-356.8	-48.0	356.8	8.43	5.94	-8.44
9,250.0	48.80	172.50	9,173.4	-380.2	-44.8	380.2	8.69	8.44	2.81
9,281.0	52.20	172.00	9,193.1	-403.9	-41.5	403.9	11.04	10.97	-1.61
9,312.0	55.70	171.40	9,211.3	-428.7	-37.9	428.7	11.40	11.29	-1.94
9,344.0	59.70	170.40	9,228.4	-455.4	-33.6	455.4	12.78	12.50	-3.13

9,376.0	64.10	170.30	9,243.5	-483.2	-28.9	483.2	13.75	13.75	-0.31
9,407.0	68.30	170.40	9,256.0	-511.2	-24.1	511.2	13.55	13.55	0.32
9,439.0	73.10	170.90	9,266.6	-540.9	-19.2	540.9	15.07	15.00	1.56
9,471.0	76.70	173.30	9,274.9	-571.5	-15.0	571.5	13.38	11.25	7.50
9,487.0	78.66	174.76	9,278.4	-587.1	-13.4	587.1	15.12	12.24	9.09

LP Red Hills West BO Federal Com #1H

9,502.0	80.50	176.10	9,281.1	-601.8	-12.2	601.8	15.12	12.28	8.97
9,534.0	82.30	177.80	9,285.8	-633.4	-10.5	633.4	7.70	5.63	5.31
9,566.0	83.70	177.80	9,289.7	-665.1	-9.3	665.1	4.38	4.38	0.00
9,598.0	85.30	177.10	9,292.8	-696.9	-7.9	696.9	5.45	5.00	-2.19
9,629.0	86.00	177.30	9,295.2	-727.8	-6.4	727.8	2.35	2.26	0.65

9,657.0	87.60	177.40	9,296.7	-755.7	-5.1	755.7	5.73	5.71	0.36
9,689.0	88.50	178.10	9,297.8	-787.7	-3.8	787.7	3.56	2.81	2.19
9,721.0	90.50	178.70	9,298.1	-819.7	-2.9	819.7	6.53	6.25	1.88
9,753.0	91.30	178.90	9,297.6	-851.7	-2.3	851.7	2.58	2.50	0.63
9,784.0	91.70	179.10	9,296.8	-882.7	-1.7	882.7	1.44	1.29	0.65

9,816.0	90.30	179.30	9,296.2	-914.6	-1.3	914.6	4.42	-4.38	0.63
9,847.0	90.50	179.20	9,296.0	-945.6	-0.9	945.6	0.72	0.65	-0.32
9,911.0	89.80	179.80	9,295.8	-1,009.6	-0.3	1,009.6	1.44	-1.09	0.94
9,973.0	89.60	182.00	9,296.2	-1,071.6	-1.3	1,071.6	3.56	-0.32	3.55
10,036.0	88.60	181.70	9,297.1	-1,134.6	-3.3	1,134.6	1.66	-1.59	-0.48

10,068.0	88.40	181.60	9,298.0	-1,166.6	-4.2	1,166.6	0.70	-0.63	-0.31
10,131.0	89.40	182.20	9,299.2	-1,229.5	-6.3	1,229.5	1.85	1.59	0.95
10,195.0	88.70	181.50	9,300.3	-1,293.5	-8.4	1,293.5	1.55	-1.09	-1.09
10,258.0	89.40	181.40	9,301.3	-1,356.4	-10.0	1,356.4	1.12	1.11	-0.16
10,321.0	89.70	180.40	9,301.8	-1,419.4	-11.0	1,419.4	1.66	0.48	-1.59

10,385.0	88.40	179.00	9,302.9	-1,483.4	-10.6	1,483.4	2.98	-2.03	-2.19
10,448.0	88.90	177.90	9,304.3	-1,546.4	-8.9	1,546.4	1.92	0.79	-1.75



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
10,511.0	89.00	179.00	9,305.5	-1,609.3	-7.2	1,609.3	1.75	0.16	1.75
10,575.0	89.60	179.10	9,306.3	-1,673.3	-6.2	1,673.3	0.95	0.94	0.16
10,639.0	88.60	178.50	9,307.3	-1,737.3	-4.8	1,737.3	1.82	-1.56	-0.94
10,702.0	89.10	178.60	9,308.5	-1,800.3	-3.2	1,800.3	0.81	0.79	0.16
10,766.0	90.10	178.10	9,309.0	-1,864.2	-1.4	1,864.2	1.75	1.56	-0.78
10,829.0	89.40	179.10	9,309.3	-1,927.2	0.2	1,927.2	1.94	-1.11	1.59
10,893.0	89.90	179.80	9,309.7	-1,991.2	0.8	1,991.2	1.34	0.78	1.09
10,956.0	92.40	180.50	9,308.4	-2,054.2	0.6	2,054.2	4.12	3.97	1.11
11,020.0	91.60	179.70	9,306.2	-2,118.2	0.5	2,118.2	1.77	-1.25	-1.25
11,083.0	89.10	179.70	9,305.8	-2,181.2	0.8	2,181.2	3.97	-3.97	0.00
11,146.0	86.50	179.90	9,308.2	-2,244.1	1.0	2,244.1	4.14	-4.13	0.32
11,209.0	86.80	180.00	9,311.9	-2,307.0	1.1	2,307.0	0.50	0.48	0.16
11,272.0	87.60	180.20	9,315.0	-2,369.9	1.0	2,369.9	1.31	1.27	0.32
11,335.0	88.80	179.80	9,316.9	-2,432.9	1.0	2,432.9	2.01	1.90	-0.63
11,399.0	90.00	179.40	9,317.6	-2,496.9	1.4	2,496.9	1.98	1.88	-0.63
11,462.0	89.90	180.00	9,317.7	-2,559.9	1.8	2,559.9	0.97	-0.16	0.95
11,525.0	89.80	179.80	9,317.8	-2,622.9	1.9	2,622.9	0.35	-0.16	-0.32
11,589.0	90.20	179.30	9,317.8	-2,686.9	2.4	2,686.9	1.00	0.63	-0.78
11,652.0	88.50	179.90	9,318.5	-2,749.9	2.8	2,749.9	2.86	-2.70	0.95
11,715.0	89.70	180.00	9,319.5	-2,812.9	2.9	2,812.9	1.91	1.90	0.16
11,779.0	89.10	179.50	9,320.2	-2,876.9	3.2	2,876.9	1.22	-0.94	-0.78
11,842.0	89.40	179.30	9,321.0	-2,939.8	3.8	2,939.8	0.57	0.48	-0.32
11,905.0	89.70	178.90	9,321.5	-3,002.8	4.8	3,002.8	0.79	0.48	-0.63
11,969.0	89.80	178.90	9,321.8	-3,066.8	6.0	3,066.8	0.16	0.16	0.00
12,032.0	88.70	180.10	9,322.6	-3,129.8	6.6	3,129.8	2.58	-1.75	1.90
12,095.0	88.90	180.40	9,323.9	-3,192.8	6.3	3,192.8	0.57	0.32	0.48
12,159.0	89.80	180.10	9,324.7	-3,256.8	6.0	3,256.8	1.48	1.41	-0.47
12,222.0	88.70	179.70	9,325.5	-3,319.8	6.1	3,319.8	1.86	-1.75	-0.63
12,285.0	89.00	179.50	9,326.8	-3,382.8	6.6	3,382.8	0.57	0.48	-0.32
12,348.0	89.70	179.10	9,327.5	-3,445.8	7.3	3,445.8	1.28	1.11	-0.63
12,410.0	89.90	179.70	9,327.7	-3,507.8	8.0	3,507.8	1.02	0.32	0.97
12,473.0	90.20	179.40	9,327.6	-3,570.8	8.5	3,570.8	0.67	0.48	-0.48
12,537.0	90.10	180.00	9,327.5	-3,634.8	8.8	3,634.8	0.95	-0.16	0.94
12,600.0	89.10	180.00	9,327.9	-3,697.7	8.8	3,697.7	1.59	-1.59	0.00
12,664.0	90.90	180.70	9,327.9	-3,761.7	8.4	3,761.7	3.02	2.81	1.09
12,727.0	90.40	180.70	9,327.2	-3,824.7	7.7	3,824.7	0.79	-0.79	0.00
12,791.0	90.50	180.60	9,326.7	-3,888.7	6.9	3,888.7	0.22	0.16	-0.16
12,854.0	90.30	180.90	9,326.2	-3,951.7	6.1	3,951.7	0.57	-0.32	0.48
12,919.0	89.20	180.90	9,326.5	-4,016.7	5.1	4,016.7	1.69	-1.69	0.00
12,981.0	90.30	180.40	9,326.8	-4,078.7	4.4	4,078.7	1.95	1.77	-0.81
13,044.0	88.60	179.60	9,327.4	-4,141.7	4.4	4,141.7	2.98	-2.70	-1.27
13,108.0	87.10	179.40	9,329.8	-4,205.7	4.9	4,205.7	2.36	-2.34	-0.31
13,172.0	87.60	178.70	9,332.8	-4,269.6	6.0	4,269.6	1.34	0.78	-1.09



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

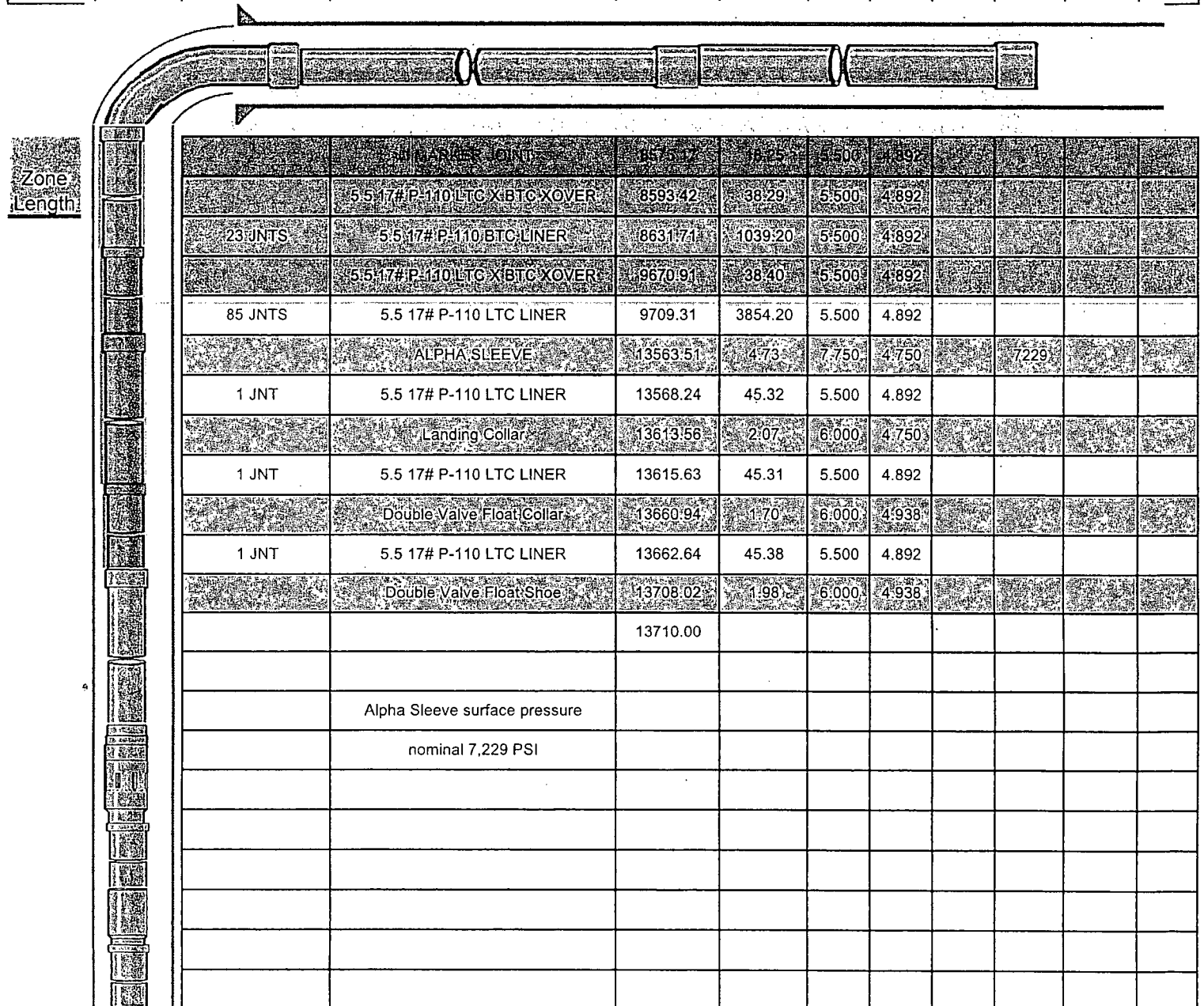
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,235.0	88.00	178.50	9,335.2	-4,332.5	7.5	4,332.5	0.71	0.63	-0.32
13,299.0	87.30	177.30	9,337.8	-4,396.4	9.9	4,396.4	2.17	-1.09	-1.88
13,362.0	87.80	177.00	9,340.5	-4,459.3	13.0	4,459.3	0.93	0.79	-0.48
13,426.0	88.90	179.00	9,342.3	-4,523.2	15.2	4,523.2	3.57	1.72	3.13
13,490.0	89.80	179.20	9,343.1	-4,587.2	16.3	4,587.2	1.44	1.41	0.31
13,553.0	90.70	179.20	9,342.8	-4,650.2	17.1	4,650.2	1.43	1.43	0.00
13,617.0	91.60	179.00	9,341.5	-4,714.2	18.1	4,714.2	1.44	1.41	-0.31
13,681.0	91.40	177.90	9,339.8	-4,778.1	19.9	4,778.1	1.75	-0.31	-1.72
13,710.0	91.60	177.60	9,339.1	-4,807.1	21.0	4,807.1	1.24	0.69	-1.03
13,760.0	91.60	177.60	9,337.7	-4,857.0	23.1	4,857.0	0.00	0.00	0.00
13760' MD Projected to Bit PBHL Red Hills West 21 BO Federal Com #1H									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,593.0	8,590.9	-124.1	-36.6	8593' MD MS Gyro Survey
13,760.0	9,337.7	-4,857.0	23.1	13760' MD Projected to Bit

Company Rep	Frank Midkiff
Field	HILLS WEST 21 BO FED
BOT Service Rep	Dustin Butler
District Location	Odessa, TX



		Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
Liner Top	1	195 JNTS	5.5 17# P-110 LTC LINER	-6.28	8581.45	5.750	4.000				



Company Rep	Frank Midkiff
Field	HILLS WEST 21 BO FED
BOT Service Rep	Dustin Butler



District Location	Odessa, TX
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