

OPERATOR
WELL/LEASE
COUNTY

MEWBOURNE OIL COMPANY
RUGER 31 DA FEDERAL 1H
EDDY

045-0102

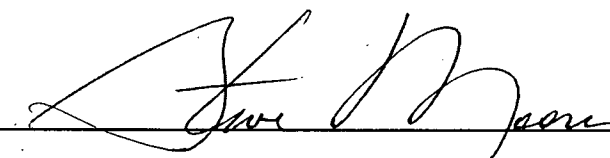
STATE OF NEW MEXICO
DEVIATION REPORT

15-4952

321	1.03
663	1.66
1,071	2.25
1,483	1.50
1,818	1.50
2,270	1.00
2,656	1.00
2,922	1.41
3,399	0.84
3,874	0.11
4,355	1.75
4,509	1.52
4,699	2.01
4,790	1.83
4,885	1.93
5,012	2.10
5,107	1.54
5,202	1.85
5,394	2.66
5,522	2.43
5,617	2.46
5,805	4.26
5,900	4.00
5,996	3.61
6,090	3.36
6,218	2.56
6,472	1.63
6,844	0.81

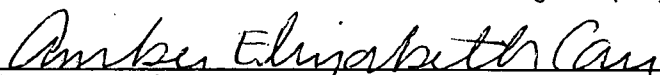
STATE OF TEXAS

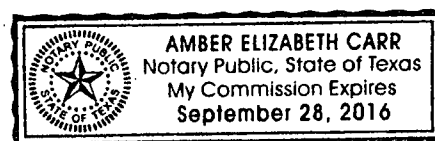
COUNTY OF MIDLAND

BY: 

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

3/20/14, by


Notary Public for Midland County, Texas
My Commission Expires:



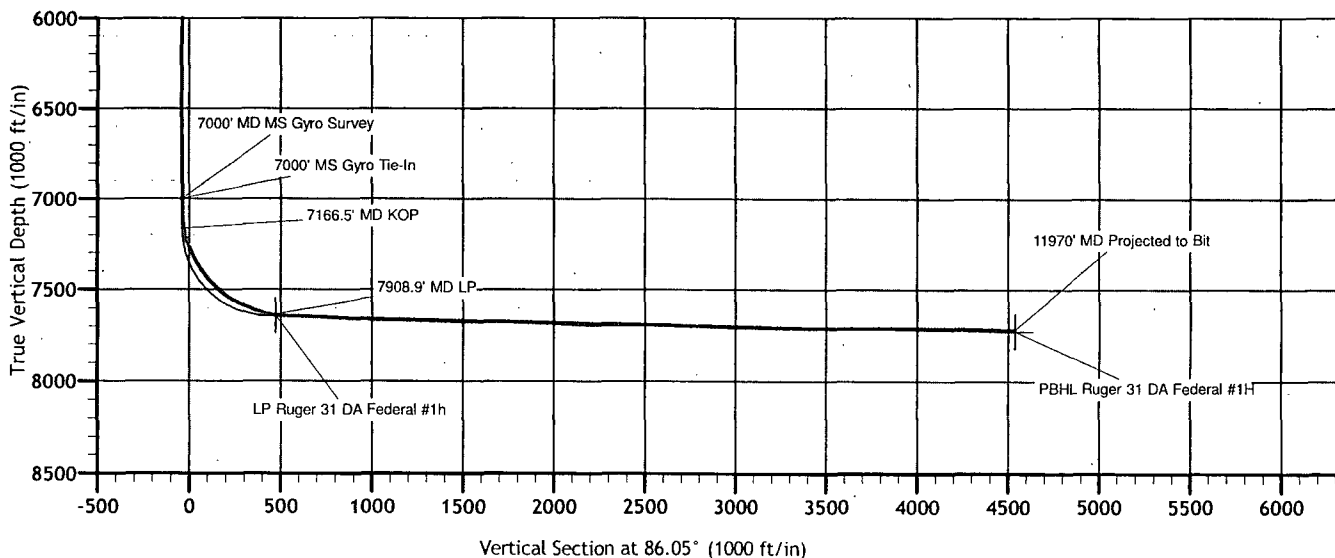
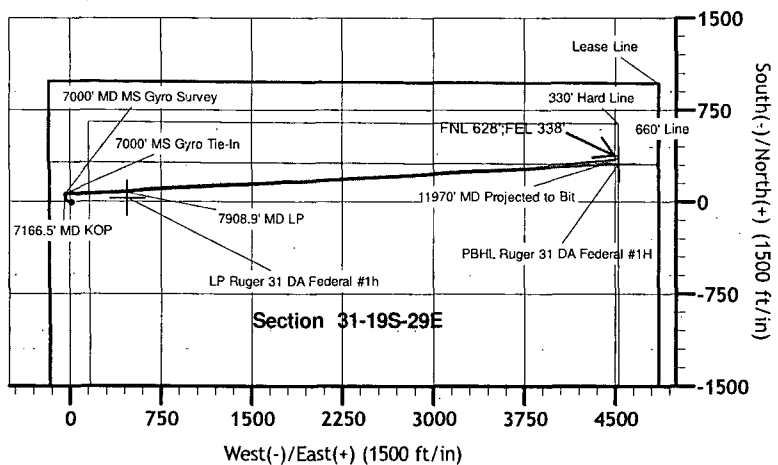
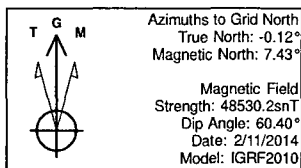


COMPANY: Mewbourne Oil Company
 WELL: Ruger 31 DA Federal #1H
 COUNTY: Eddy County, New Mexico
 DATUM: NAD 1927 (NADCON CONUS)
 RIG: Patterson #45

GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.43°

GEODETTIC ZONE: New Mexico East 3001					
GL 3298 + 20 @ 3318.0ft (Patterson #45)					
GROUND ELEVATION: 3298.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	179832.51	172341.46	32° 37' 18.607 N	104° 7' 15.022 W
					Slot

PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	7000.0	1.03	192.14	6997.0	66.0	-40.9	0.00	0.00	-36.3	
2	7166.5	1.03	192.14	7163.4	63.1	-41.6	0.00	0.00	-37.1	
3	7908.9	88.81	86.77	7643.0	81.3	425.7	12.00	-105.39	430.3	
4	12017.4	88.81	86.77	7728.0	312.9	4526.8	0.00	0.00	4537.6	PBHL Ruger 31 DA Federal #1H





Mewbourne Oil Company .

Eddy County, New Mexico

Section 31-19S-29E Ruger 31 DA Federal #1H

Rugers 31 DA Federal #1H

Original Hole

Design: Original Hole

Standard Survey Report

12 March, 2014



Stryker Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Rutgers 31 DA Federal #1H
Project:	Eddy County New Mexico	TVD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Site:	Section 31-19S-29E Rutgers 31 DA Federal #1H	MD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Well:	Rugers 31 DA Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Stryker-1

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 31-19S-29E Rutgers 31 DA Federal #1H		
Site Position:		Northing:	179,832.52 m
From:	Map	Easting:	172,341.46 m
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in
		Latitude:	32° 37' 18.607 N
		Longitude:	104° 7' 15.022 W
		Grid Convergence:	0.11°

Well:	Rugers 31 DA Federal #1H		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	0.0 ft
		Latitude:	32° 37' 18.607 N
		Longitude:	104° 7' 15.022 W
		Ground Level:	3,298.0 ft

Wellbore:	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	2/11/2014	7.54
			Dip Angle
			60.40
			Field Strength
			48,530

Design:	Original Hole		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			(°)
			86.05

Survey Program	Date 3/12/2014		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100.0	7,000.0	MS Gyro Survey #1 (Original Hole)	GyroFlex
7,082.0	11,970.0	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
	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	100.0	0.93	39.68	100.0	0.6	0.5	0.6	0.93	0.93	0.00
	200.0	1.04	43.12	200.0	1.9	1.7	1.8	0.12	0.11	3.44
	300.0	1.13	44.87	300.0	3.3	3.0	3.2	0.10	0.09	1.75
	400.0	1.10	44.46	399.9	4.7	4.3	4.7	0.03	-0.03	-0.41
	500.0	1.27	49.10	499.9	6.1	5.9	6.3	0.20	0.17	4.64
	600.0	1.74	61.03	599.9	7.5	8.0	8.5	0.56	0.47	11.93
	700.0	2.09	70.22	699.8	8.9	11.1	11.6	0.46	0.35	9.19
	800.0	2.05	72.69	799.8	10.0	14.5	15.1	0.10	-0.04	2.47
	900.0	1.47	89.80	899.7	10.6	17.5	18.2	0.78	-0.58	17.11



Stryker Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well, Rutgers 31, DA Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Site:	Section 31-19S-29E-Ruger 31, DA Federal #1H	MD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Well:	Rugers 31, DA Federal #1H	North Reference:	Grid:
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Stryker-1

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.0	1.25	103.23	999.7	10.3	19.8	20.5	0.39	-0.22	13.43
1,100.0	1.14	118.76	1,099.7	9.6	21.8	22.4	0.34	-0.11	15.53
1,200.0	1.09	139.46	1,199.7	8.4	23.2	23.8	0.40	-0.05	20.70
1,300.0	1.12	147.56	1,299.6	6.8	24.4	24.8	0.16	0.03	8.10
1,400.0	1.13	149.57	1,399.6	5.2	25.4	25.7	0.04	0.01	2.01
1,500.0	1.14	149.28	1,499.6	3.5	26.4	26.6	0.01	0.01	-0.29
1,600.0	1.24	155.52	1,599.6	1.6	27.4	27.4	0.16	0.10	6.24
1,700.0	1.47	173.02	1,699.5	-0.6	28.0	27.9	0.47	0.23	17.50
1,800.0	1.46	177.32	1,799.5	-3.2	28.2	27.9	0.11	-0.01	4.30
1,900.0	1.35	176.58	1,899.5	-5.6	28.3	27.9	0.11	-0.11	-0.74
2,000.0	1.25	186.54	1,999.5	-7.9	28.3	27.7	0.25	-0.10	9.96
2,100.0	1.41	202.46	2,099.4	-10.1	27.7	26.9	0.40	0.16	15.92
2,200.0	1.24	208.92	2,199.4	-12.2	26.7	25.8	0.23	-0.17	6.46
2,300.0	1.12	228.29	2,299.4	-13.8	25.4	24.4	0.41	-0.12	19.37
2,400.0	1.13	242.71	2,399.4	-14.9	23.8	22.7	0.28	0.01	14.42
2,500.0	1.09	243.50	2,499.4	-15.8	22.1	21.0	0.04	-0.04	0.79
2,600.0	0.91	242.89	2,599.3	-16.6	20.5	19.3	0.18	-0.18	-0.61
2,700.0	0.81	241.68	2,699.3	-17.3	19.2	18.0	0.10	-0.10	-1.21
2,800.0	0.79	258.56	2,799.3	-17.7	17.9	16.6	0.24	-0.02	16.88
2,900.0	0.85	255.38	2,899.3	-18.0	16.5	15.2	0.08	0.06	-3.18
3,000.0	0.75	253.16	2,999.3	-18.4	15.2	13.9	0.10	-0.10	-2.22
3,100.0	0.60	251.74	3,099.3	-18.8	14.0	12.7	0.15	-0.15	-1.42
3,200.0	0.59	251.44	3,199.3	-19.1	13.1	11.7	0.01	-0.01	-0.30
3,300.0	0.65	256.25	3,299.3	-19.4	12.0	10.7	0.08	0.06	4.81
3,400.0	0.54	273.12	3,399.3	-19.5	11.0	9.6	0.21	-0.11	16.87
3,500.0	0.62	287.09	3,499.3	-19.3	10.0	8.7	0.16	0.08	13.97
3,600.0	0.65	278.38	3,599.3	-19.1	8.9	7.6	0.10	0.03	-8.71
3,700.0	0.63	277.96	3,699.3	-18.9	7.8	6.5	0.02	-0.02	-0.42
3,800.0	0.58	272.84	3,799.2	-18.8	6.8	5.5	0.07	-0.05	-5.12
3,900.0	0.58	292.99	3,899.2	-18.6	5.8	4.5	0.20	0.00	20.15
4,000.0	0.96	353.64	3,999.2	-17.6	5.3	4.0	0.84	0.38	60.65
4,100.0	0.94	0.17	4,099.2	-15.9	5.2	4.1	0.11	-0.02	6.53
4,200.0	0.98	352.25	4,199.2	-14.3	5.0	4.1	0.14	0.04	-7.92
4,300.0	1.30	322.08	4,299.2	-12.5	4.2	3.4	0.67	0.32	-30.17
4,400.0	1.67	314.37	4,399.2	-10.6	2.5	1.8	0.42	0.37	-7.71
4,500.0	1.91	313.35	4,499.1	-8.4	0.2	-0.3	0.24	0.24	-1.02
4,600.0	1.91	311.09	4,599.1	-6.2	-2.2	-2.6	0.08	0.00	-2.26
4,700.0	1.89	313.94	4,699.0	-4.0	-4.7	-4.9	0.10	-0.02	2.85
4,800.0	1.83	311.86	4,798.9	-1.7	-7.0	-7.1	0.09	-0.06	-2.08
4,900.0	1.74	312.53	4,898.9	0.3	-9.4	-9.3	0.09	-0.09	0.67
5,000.0	1.78	311.96	4,998.9	2.4	-11.6	-11.4	0.04	0.04	-0.57
5,100.0	1.70	309.96	5,098.8	4.4	-13.9	-13.6	0.10	-0.08	-2.00
5,200.0	1.99	308.39	5,198.8	6.4	-16.4	-15.9	0.29	0.29	-1.57



Stryker Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Rùgers 31 DA Federal #1H
Project:	Eddy County New Mexico	TVD Reference:	GL 3298 + 20' @ 3318.0ft (Patterson #45)
Site:	Section 31-19S-29E Rùgers 31 DA Federal #1H	MD Reference:	GL 3298 + 20' @ 3318.0ft (Patterson #45)
Well:	Rùgers 31 DA Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Stryker.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.0	2.36	306.22	5,298.7	8.7	-19.4	-18.8	0.38	0.37	-2.17
5,400.0	2.76	311.26	5,398.6	11.5	-22.9	-22.1	0.46	0.40	5.04
5,500.0	2.89	318.90	5,498.5	15.0	-26.4	-25.3	0.40	0.13	7.64
5,600.0	3.16	326.16	5,598.3	19.2	-29.6	-28.2	0.47	0.27	7.26
5,700.0	3.68	338.18	5,698.1	24.5	-32.3	-30.5	0.88	0.52	12.02
5,800.0	3.77	338.28	5,797.9	30.5	-34.7	-32.5	0.09	0.09	0.10
5,900.0	3.63	338.08	5,897.7	36.5	-37.1	-34.5	0.14	-0.14	-0.20
6,000.0	3.65	338.54	5,997.5	42.4	-39.5	-36.4	0.04	0.02	0.46
6,100.0	3.37	343.68	6,097.3	48.2	-41.4	-38.0	0.42	-0.28	5.14
6,200.0	2.66	344.84	6,197.2	53.2	-42.9	-39.1	0.71	-0.71	1.16
6,300.0	2.03	353.67	6,297.1	57.2	-43.7	-39.6	0.72	-0.63	8.83
6,400.0	1.66	2.86	6,397.1	60.5	-43.8	-39.5	0.47	-0.37	9.19
6,500.0	1.21	6.70	6,497.0	62.9	-43.6	-39.2	0.46	-0.45	3.84
6,600.0	1.23	42.21	6,597.0	64.8	-42.8	-38.2	0.74	0.02	35.51
6,700.0	1.37	49.62	6,697.0	66.4	-41.1	-36.5	0.22	0.14	7.41
6,800.0	0.02	33.05	6,797.0	67.1	-40.2	-35.5	1.35	-1.35	-16.57
6,900.0	0.34	244.63	6,897.0	67.0	-40.5	-35.8	0.36	0.32	-148.42
7,000.0	1.03	192.14	6,997.0	66.0	-40.9	-36.3	0.87	0.69	-52.49
7000 MD MS Gyro Survey									
7,082.0	0.60	128.40	7,079.0	65.0	-40.7	-36.2	1.14	-0.52	-77.73
7,114.0	3.10	90.20	7,110.9	64.9	-39.7	-35.2	8.30	7.81	-119.37
7,146.0	6.90	87.60	7,142.8	65.0	-37.0	-32.4	11.89	11.87	-8.12
7,178.0	10.90	84.90	7,174.4	65.4	-32.0	-27.4	12.56	12.50	-8.44
7,210.0	15.10	84.90	7,205.6	66.0	-24.9	-20.2	13.12	13.12	0.00
7,241.0	19.50	86.70	7,235.2	66.7	-15.7	-11.0	14.30	14.19	5.81
7,273.0	22.40	87.80	7,265.1	67.2	-4.2	0.4	9.15	9.06	3.44
7,305.0	25.20	87.80	7,294.3	67.7	8.7	13.3	8.75	8.75	0.00
7,337.0	27.40	90.60	7,323.0	67.9	22.8	27.5	7.89	6.87	8.75
7,369.0	29.70	91.60	7,351.1	67.6	38.1	42.7	7.34	7.19	3.12
7,401.0	32.40	90.90	7,378.6	67.2	54.6	59.1	8.51	8.44	-2.19
7,433.0	36.20	90.80	7,405.0	67.0	72.7	77.1	11.88	11.87	-0.31
7,464.0	38.60	90.80	7,429.6	66.7	91.5	95.9	7.74	7.74	0.00
7,497.0	41.50	90.40	7,454.9	66.5	112.7	117.0	8.82	8.79	-1.21
7,530.0	44.90	88.50	7,478.9	66.7	135.3	139.6	11.03	10.30	-5.76
7,562.0	48.50	87.60	7,500.9	67.5	158.6	162.8	11.43	11.25	-2.81
7,594.0	53.00	86.50	7,521.1	68.8	183.3	187.6	14.31	14.06	-3.44
7,626.0	57.50	86.40	7,539.3	70.4	209.5	213.9	14.06	14.06	-0.31
7,658.0	60.40	86.20	7,555.8	72.2	236.9	241.3	9.08	9.06	-0.62
7,690.0	62.30	86.50	7,571.2	74.0	264.9	269.4	5.99	5.94	0.94
7,723.0	64.70	86.70	7,585.9	75.7	294.4	298.9	7.29	7.27	0.61
7,755.0	67.40	87.10	7,598.9	77.3	323.6	328.2	8.51	8.44	1.25
7,787.0	69.10	87.10	7,610.8	78.8	353.3	357.9	5.31	5.31	0.00
7,819.0	71.30	87.20	7,621.6	80.3	383.4	388.0	6.88	6.87	0.31



Stryker Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well/Rugers 31 DA Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Site:	Section 31-19S-29E, Rugers 31 DA Federal #1H	MD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Well:	Rugers 31 DA Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Stryker 1

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,851.0	76.00	87.10	7,630.6	81.8	414.0	418.7	14.69	14.69	-0.31
7,883.0	80.10	87.10	7,637.2	83.4	445.3	450.0	12.81	12.81	0.00
7,915.0	84.10	86.50	7,641.6	85.2	476.9	481.6	12.64	12.50	-1.87
7,946.0	87.60	84.00	7,643.9	87.7	507.7	512.6	13.86	11.29	-8.06
8,010.0	89.10	84.10	7,645.7	94.4	571.3	576.5	2.35	2.34	0.16
8,074.0	88.20	85.10	7,647.2	100.4	635.0	640.4	2.10	-1.41	1.56
8,138.0	87.50	86.20	7,649.6	105.2	698.8	704.4	2.04	-1.09	1.72
8,203.0	87.00	86.70	7,652.7	109.3	763.6	769.3	1.09	-0.77	0.77
8,267.0	87.90	86.50	7,655.6	113.1	827.4	833.3	1.44	1.41	-0.31
8,331.0	87.50	86.20	7,658.1	117.1	891.3	897.2	0.78	-0.62	-0.47
8,396.0	86.50	86.00	7,661.6	121.5	956.0	962.1	1.57	-1.54	-0.31
8,460.0	88.80	86.70	7,664.2	125.6	1,019.8	1,026.1	3.76	3.59	1.09
8,524.0	89.40	86.50	7,665.2	129.4	1,083.7	1,090.0	0.99	0.94	-0.31
8,589.0	90.40	86.50	7,665.3	133.4	1,148.6	1,155.0	1.54	1.54	0.00
8,653.0	89.20	87.20	7,665.5	136.9	1,212.5	1,219.0	2.17	-1.87	1.09
8,718.0	87.70	88.50	7,667.3	139.3	1,277.4	1,284.0	3.05	-2.31	2.00
8,782.0	88.30	88.30	7,669.5	141.1	1,341.3	1,347.9	0.99	0.94	-0.31
8,846.0	88.40	87.90	7,671.4	143.2	1,405.3	1,411.8	0.64	0.16	-0.62
8,911.0	88.90	87.60	7,672.9	145.8	1,470.2	1,476.8	0.90	0.77	-0.46
8,974.0	89.40	87.00	7,673.8	148.8	1,533.1	1,539.7	1.24	0.79	-0.95
9,040.0	90.00	86.50	7,674.2	152.5	1,599.0	1,605.7	1.18	0.91	-0.76
9,104.0	90.00	86.50	7,674.2	156.4	1,662.9	1,669.7	0.00	0.00	0.00
9,167.0	89.20	86.50	7,674.6	160.3	1,725.8	1,732.7	1.27	-1.27	0.00
9,262.0	87.90	87.90	7,677.0	164.9	1,820.6	1,827.7	2.01	-1.37	1.47
9,357.0	87.80	87.60	7,680.6	168.6	1,915.5	1,922.6	0.33	-0.11	-0.32
9,452.0	86.90	87.40	7,685.0	172.8	2,010.3	2,017.4	0.97	-0.95	-0.21
9,550.0	88.20	86.90	7,689.2	177.6	2,108.1	2,115.3	1.42	1.33	-0.51
9,646.0	89.80	87.20	7,690.8	182.6	2,204.0	2,211.3	1.70	1.67	0.31
9,743.0	89.90	86.70	7,691.1	187.7	2,300.8	2,308.3	0.53	0.10	-0.52
9,840.0	89.80	86.50	7,691.3	193.5	2,397.6	2,405.3	0.23	-0.10	-0.21
9,935.0	89.60	86.70	7,691.8	199.1	2,492.5	2,500.3	0.30	-0.21	0.21
10,031.0	89.00	86.40	7,693.0	204.9	2,588.3	2,596.3	0.70	-0.62	-0.31
10,126.0	88.50	86.50	7,695.1	210.8	2,683.1	2,691.2	0.54	-0.53	0.11
10,221.0	87.70	86.00	7,698.2	217.0	2,777.8	2,786.2	0.99	-0.84	-0.53
10,317.0	88.50	86.40	7,701.4	223.3	2,873.6	2,882.1	0.93	0.83	0.42
10,412.0	88.20	86.40	7,704.1	229.3	2,968.3	2,977.1	0.32	-0.32	0.00
10,506.0	89.50	86.50	7,706.0	235.1	3,062.1	3,071.1	1.39	1.38	0.11
10,601.0	88.80	86.20	7,707.4	241.2	3,156.9	3,166.1	0.80	-0.74	-0.32
10,696.0	89.30	86.90	7,709.0	246.9	3,251.8	3,261.0	0.91	0.53	0.74
10,791.0	88.80	86.50	7,710.6	252.4	3,346.6	3,356.0	0.67	-0.53	-0.42
10,887.0	89.60	87.40	7,711.9	257.5	3,442.4	3,452.0	1.25	0.83	0.94
10,982.0	89.60	87.60	7,712.6	261.6	3,537.3	3,547.0	0.21	0.00	0.21
11,077.0	90.30	87.20	7,712.7	265.9	3,632.2	3,641.9	0.85	0.74	-0.42
11,173.0	90.40	86.90	7,712.1	270.9	3,728.1	3,737.9	0.33	0.10	-0.31



Stryker Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Rutgers 31-DA Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Site:	Section 31-19S-29E, Ruger 31-DA Federal #1H	MD Reference:	GL 3298 + 20 @ 3318.0ft (Patterson #45)
Well:	Rugers 31-DA Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1, Stryker-1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,268.0	89.90	86.00	7,711.8	276.7	3,822.9	3,832.9	1.08	-0.53	-0.95
11,363.0	88.90	84.20	7,712.8	284.8	3,917.6	3,927.9	2.17	-1.05	-1.89
11,458.0	89.80	84.10	7,713.9	294.5	4,012.1	4,022.8	0.95	0.95	-0.11
11,554.0	90.40	84.20	7,713.7	304.3	4,107.6	4,118.8	0.63	0.62	0.10
11,649.0	88.60	84.80	7,714.6	313.4	4,202.1	4,213.7	2.00	-1.89	0.63
11,744.0	89.00	85.00	7,716.6	321.9	4,296.7	4,308.7	0.47	0.42	0.21
11,840.0	88.80	84.50	7,718.4	330.6	4,392.3	4,404.7	0.56	-0.21	-0.52
11,911.0	88.40	81.60	7,720.1	339.2	4,462.8	4,475.5	4.12	-0.56	-4.08
11,970.0	88.40	81.60	7,721.8	347.8	4,521.1	4,534.3	0.00	0.00	0.00
11970' MD Projected to Bit									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,000.0	6,997.0	66.0	-40.9	7000' MD MS Gyro Survey
11,970.0	7,721.8	347.8	4,521.1	11970' MD Projected to Bit