

OPERATOR
WELL/LEASE
COUNTY

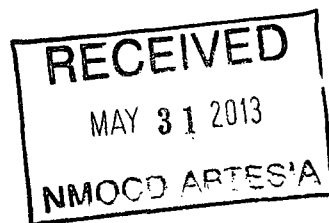
MEWBOURNE OIL COMPANY
RUGER 31 MP FED 1H
EDDY

046-0086

STATE OF NEW MEXICO
DEVIATION REPORT

30-015-40242

355	0.05
747	0.71
1,120	0.58
1,525	0.85
2,981	2.08
3,390	1.75
3,773	1.98
4,186	3.11
4,441	3.00
4,690	2.87
4,950	3.60
5,077	2.70
5,177	2.96
5,394	2.49
5,743	4.10
5,909	4.72
6,001	3.58
6,096	0.63
6,161	2.58
6,287	2.98
6,380	2.46
6,507	1.99
6,635	1.48
6,918	1.56
7,128	1.69
7,668	1.41



Received

APR 01 2013

Mewbourne Oil Company
Notar

BY:

Steve Moore

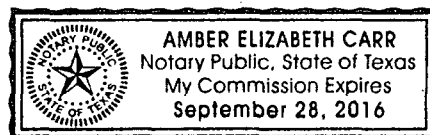
STATE OF TEXAS

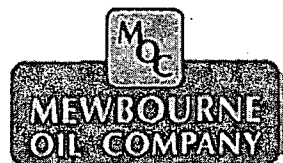
COUNTY OF MIDLAND

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

3/26/13, by

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





Company: Mewbourne Oil Company
Lease/Well: Rugar 31 MP Federal / No. 001H
Location: 14.5 miles NE of Carlsbad
Rig Name: Patterson 46
State/County: New Mexico/ Eddy
Latitude: 32.61, Longitude: -104.12
GRID North is 0.11 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB= 20.5'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut

Minimum Curvature Method

Report Date/Time: 3/25/2013 / 09:30

Vaughn Energy Services

Midland, Texas

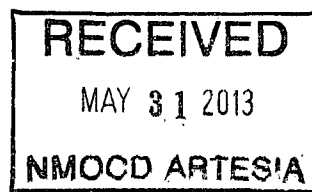
432-563-5444

Survey Engineer: Tim Dillon

Rugar 31 MP Federal No. 001H / API 30-015-40242

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	0.04	55.13	100.00	0.02	0.03	0.02	0.03	55.13	0.04
200.00	0.13	16.40	200.00	0.14	0.09	0.14	0.17	30.84	0.10
300.00	0.14	34.27	300.00	0.35	0.19	0.35	0.40	27.92	0.04
400.00	0.13	52.13	400.00	0.52	0.35	0.52	0.63	33.51	0.04
500.00	0.75	61.49	500.00	0.91	1.02	0.91	1.36	48.22	0.62
600.00	1.38	70.85	599.98	1.61	2.73	1.61	3.17	59.37	0.64
700.00	1.32	70.25	699.95	2.40	4.95	2.40	5.50	64.14	0.05
800.00	1.29	69.66	799.92	3.18	7.10	3.18	7.78	65.84	0.03
900.00	0.88	57.73	899.91	3.99	8.81	3.99	9.67	65.64	0.47
1000.00	0.47	45.81	999.90	4.69	9.75	4.69	10.82	64.34	0.43
1100.00	0.57	357.52	1099.90	5.47	10.03	5.47	11.43	61.38	0.44
1200.00	0.67	311.24	1199.89	6.36	9.57	6.36	11.49	56.40	0.50
1300.00	0.61	315.40	1299.88	7.12	8.75	7.12	11.29	50.87	0.08
1400.00	0.55	319.55	1399.88	7.87	8.07	7.87	11.27	45.74	0.07
1500.00	0.69	351.33	1499.87	8.83	7.67	8.83	11.69	40.99	0.37
1600.00	0.83	23.10	1599.86	10.09	7.86	10.09	12.79	37.93	0.44
1700.00	1.20	35.78	1699.85	11.60	8.76	11.60	14.54	37.05	0.43
1800.00	1.57	48.45	1799.82	13.36	10.39	13.36	16.93	37.88	0.48

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
5800.00	4.68	334.96	5794.74	194.42	22.85	194.42	195.76	6.70	0.15
5900.00	4.11	335.72	5894.45	201.39	19.65	201.39	202.34	5.57	0.57
6000.00	3.56	336.49	5994.22	207.50	16.93	207.50	208.19	4.67	0.55
6100.00	3.20	334.21	6094.05	212.87	14.48	212.87	213.36	3.89	0.38
6200.00	2.86	331.92	6193.91	217.59	12.09	217.59	217.92	3.18	0.36
6300.00	2.25	327.29	6293.81	221.44	9.85	221.44	221.66	2.55	0.65
6400.00	1.64	322.66	6393.75	224.23	7.92	224.23	224.37	2.02	0.63
6500.00	1.48	318.91	6493.71	226.34	6.21	226.34	226.42	1.57	0.19
6600.00	1.34	315.16	6593.68	228.14	4.54	228.14	228.18	1.14	0.17
6700.00	1.29	313.71	6693.66	229.74	2.90	229.74	229.76	0.72	0.06
6800.00	1.26	312.25	6793.63	231.26	1.28	231.26	231.26	0.32	0.04
6900.00	1.18	302.36	6893.61	232.54	-0.40	232.54	232.54	359.90	0.22
7000.00	1.09	282.46	6993.59	233.30	-2.20	233.30	233.31	359.46	0.40
7100.00	1.25	238.90	7093.57	232.94	-4.06	232.94	232.98	359.00	0.88
7200.00	1.40	195.35	7193.55	231.20	-5.32	231.20	231.26	358.68	0.99
7300.00	1.50	199.53	7293.52	228.78	-6.08	228.78	228.87	358.48	0.14
7400.00	1.59	213.71	7393.48	226.40	-7.29	226.40	226.52	358.16	0.39
7500.00	1.58	209.08	7493.44	224.04	-8.73	224.04	224.21	357.77	0.13
7600.00	1.57	206.45	7593.40	221.60	-10.01	221.60	221.83	357.41	0.07
7700.00	1.24	213.19	7693.37	219.47	-11.22	219.47	219.76	357.07	0.38
7800.00	0.90	219.93	7793.36	217.97	-12.31	217.97	218.32	356.77	0.36
7900.00	0.72	228.29	7893.35	216.95	-13.28	216.95	217.36	356.50	0.22
8000.00	0.53	236.65	7993.34	216.28	-14.13	216.28	216.74	356.26	0.20
8100.00	0.97	309.13	8093.33	216.56	-15.18	216.56	217.09	355.99	0.96
8200.00	0.78	304.25	8193.32	217.48	-16.40	217.48	218.10	355.69	0.20
8259.00	1.46	278.16	8252.31	217.81	-17.48	217.81	218.51	355.41	1.41



Mewbourne Oil Co

Eddy County, New Mexico

Sec 31-19S-29E

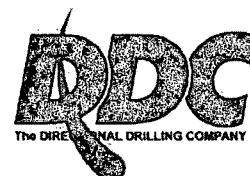
Ruger 31MP Fed #1H

Wellbore #1

Survey: MWD

DDC Survey Report

03 April, 2013



DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Ruger 31 MP Fed #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3315.0usft (Patterson)
Site:	Sec 31-19S-29E	MD Reference:	WELL @ 3315.0usft (Patterson)
Well:	Ruger 31 MP Fed #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		
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		Sec 31-19S-29E			
Site Position:		Northing:	586,420.00 usft	Latitude:	32° 36' 43.178 N
From:	Map	Easting:	565,319.60 usft	Longitude:	104° 7' 16.322 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.11 °

Well	Ruger 31 MP Fed #1H					
Well Position	+N/-S	0.0 usft	Northing:	586,420.00 usft	Latitude:	32° 36' 43.178 N
	+E/-W	0.0 usft	Easting:	565,319.60 usft	Longitude:	104° 7' 16.322 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,295.0 usft

Wellbore						Wellbore #1									
Magnetics						Model Name		Sample Date		Declination (°)		Dip Angle (°)		Field Strength (nT)	
						IGRF2010		3/11/2013		7.66		60.41		48,616	

Design:	Wellbore #1
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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	87.21

Survey Program		Date 4/3/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	8,259.0	GYRO (Wellbore #1)	Good_gyro	Good Gyro
8,440.0	13,365.0	MWD (Wellbore #1)	MWD default	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)
TIE IN @ 8259 MD / 8252.3 TVD									
8,259.0	1.46	278.16	8,252.3	217.8	-17.5	-6.9	0.00	0.00	0.00
8,440.0	1.10	50.00	8,433.3	219.3	-18.4	-7.8	1.29	-0.20	72.84
8,471.0	4.60	79.80	8,464.2	219.7	-17.0	-6.3	11.89	11.29	96.13
8,503.0	8.00	80.30	8,496.0	220.3	-13.5	-2.8	10.63	10.63	1.56
8,535.0	11.60	77.00	8,527.6	221.4	-8.2	2.6	11.38	11.25	-10.31
8,566.0	15.30	74.60	8,557.7	223.2	-1.2	9.6	12.07	11.94	-7.74
8,598.0	18.90	74.90	8,588.3	225.6	7.9	18.8	11.25	11.25	0.94
8,630.0	22.50	77.60	8,618.2	228.3	18.8	29.9	11.64	11.25	8.44
8,661.0	26.20	80.20	8,646.5	230.7	31.4	42.6	12.42	11.94	8.39

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Ruger 31 MP Fed #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3315.0usft (Patterson)
Site:	Sec 31-19S-29E	MD Reference:	WELL @ 3315.0usft (Patterson)
Well:	Ruger 31 MP Fed #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)
8,693.0	30.00	81.90	8,674.7	233.1	46.3	57.6	12.13	11.88	5.31
8,725.0	33.70	83.50	8,701.9	235.2	63.0	74.4	11.86	11.56	5.00
8,757.0	37.40	85.40	8,727.9	237.0	81.5	93.0	12.07	11.56	5.94
8,788.0	40.70	86.80	8,752.0	238.3	101.0	112.5	11.02	10.65	4.52
8,820.0	44.30	87.60	8,775.6	239.4	122.6	134.1	11.38	11.25	2.50
8,852.0	47.80	87.40	8,797.8	240.4	145.6	157.1	10.95	10.94	-0.63
8,883.0	51.30	87.30	8,817.9	241.5	169.2	180.7	11.29	11.29	-0.32
8,916.0	55.30	87.00	8,837.6	242.8	195.6	207.2	12.14	12.12	-0.91
8,947.0	60.40	87.20	8,854.1	244.1	221.8	233.4	16.46	16.45	0.65
8,979.0	66.70	88.10	8,868.3	245.3	250.4	262.1	19.85	19.69	2.81
CROSSED HARDLINE @ 9010' MD / 8879.1' TVD									
9,010.0	72.70	89.40	8,879.1	245.9	279.5	291.1	19.75	19.35	4.19
9,042.0	79.00	91.30	8,886.9	245.7	310.5	322.1	20.51	19.69	5.94
9,140.0	87.10	92.50	8,898.8	242.5	407.6	418.9	8.35	8.27	1.22
9,172.0	86.60	92.40	8,900.5	241.1	439.5	450.8	1.59	-1.56	-0.31
9,203.0	87.60	92.40	8,902.1	239.8	470.5	481.6	3.23	3.23	0.00
9,235.0	89.10	93.20	8,903.0	238.3	502.4	513.4	5.31	4.69	2.50
9,267.0	90.80	93.80	8,903.0	236.3	534.4	545.2	5.63	5.31	1.88
9,299.0	91.00	94.30	8,902.5	234.0	566.3	577.0	1.68	0.63	1.56
9,330.0	91.20	94.60	8,901.9	231.6	597.2	607.7	1.16	0.65	0.97
9,362.0	91.10	94.30	8,901.3	229.2	629.1	639.5	0.99	-0.31	-0.94
9,394.0	90.90	94.40	8,900.7	226.7	661.0	671.2	0.70	-0.63	0.31
9,426.0	90.80	94.30	8,900.3	224.3	692.9	703.0	0.44	-0.31	-0.31
9,458.0	90.50	94.50	8,899.9	221.8	724.8	734.7	1.13	-0.94	0.63
9,489.0	91.40	93.80	8,899.4	219.6	755.7	765.5	3.68	2.90	-2.26
9,553.0	91.50	93.80	8,897.8	215.4	819.5	829.0	0.16	0.16	0.00
9,584.0	91.40	93.10	8,897.0	213.5	850.5	859.9	2.28	-0.32	-2.26
9,616.0	91.10	92.20	8,896.3	212.0	882.4	891.7	2.96	-0.94	-2.81
9,648.0	90.10	90.30	8,895.9	211.3	914.4	923.6	6.71	-3.13	-5.94
9,680.0	88.10	89.40	8,896.4	211.4	946.4	955.6	6.85	-6.25	-2.81
9,743.0	89.00	89.90	8,898.0	211.8	1,009.4	1,018.5	1.63	1.43	0.79
9,807.0	89.20	89.00	8,899.0	212.4	1,073.4	1,082.4	1.44	0.31	-1.41
9,870.0	89.20	90.20	8,899.9	212.8	1,136.4	1,145.4	1.90	0.00	1.90
9,933.0	89.20	90.90	8,900.8	212.2	1,199.4	1,208.3	1.11	0.00	1.11
9,996.0	88.70	90.20	8,902.0	211.6	1,262.3	1,271.2	1.37	-0.79	-1.11
10,060.0	90.00	90.70	8,902.7	211.1	1,326.3	1,335.0	2.18	2.03	0.78
10,123.0	90.90	90.50	8,902.2	210.5	1,389.3	1,397.9	1.46	1.43	-0.32
10,186.0	89.60	90.00	8,901.9	210.2	1,452.3	1,460.8	2.21	-2.06	-0.79
10,248.0	89.00	89.80	8,902.7	210.3	1,514.3	1,522.8	1.02	-0.97	-0.32
10,311.0	89.80	89.90	8,903.3	210.5	1,577.3	1,585.7	1.28	1.27	0.16
10,374.0	90.00	89.20	8,903.4	211.0	1,640.3	1,648.6	1.16	0.32	-1.11
10,437.0	90.00	89.00	8,903.4	212.0	1,703.3	1,711.6	0.32	0.00	-0.32
10,500.0	90.20	88.80	8,903.3	213.2	1,766.3	1,774.6	0.45	0.32	-0.32

DDC
Survey Report



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Site:	Sec 31-19S-29E	MD Reference:	WELL @ 3315.0usft (Patterson)
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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)
10,564.0	90.80	89.90	8,902.8	213.9	1,830.3	1,838.5	1.96	0.94	1.72
10,627.0	91.50	89.50	8,901.5	214.2	1,893.3	1,901.5	1.28	1.11	-0.63
10,690.0	90.10	89.20	8,900.6	214.9	1,956.3	1,964.4	2.27	-2.22	-0.48
10,754.0	88.60	89.10	8,901.4	215.9	2,020.3	2,028.4	2.35	-2.34	-0.16
10,818.0	89.50	90.60	8,902.4	216.0	2,084.2	2,092.3	2.73	1.41	2.34
10,881.0	89.40	92.50	8,903.0	214.3	2,147.2	2,155.1	3.02	-0.16	3.02
10,944.0	88.70	93.10	8,904.1	211.3	2,210.1	2,217.8	1.46	-1.11	0.95
10,976.0	88.20	93.30	8,904.9	209.5	2,242.1	2,249.6	1.68	-1.56	0.63
11,008.0	88.90	94.00	8,905.7	207.4	2,274.0	2,281.4	3.09	2.19	2.19
11,040.0	89.20	94.90	8,906.3	205.0	2,305.9	2,313.1	2.96	0.94	2.81
11,071.0	89.30	95.80	8,906.7	202.1	2,336.8	2,343.8	2.92	0.32	2.90
11,103.0	90.50	95.70	8,906.7	198.9	2,368.6	2,375.5	3.76	3.75	-0.31
11,135.0	92.40	95.50	8,905.9	195.7	2,400.4	2,407.1	5.97	5.94	-0.63
11,166.0	93.20	95.10	8,904.4	192.9	2,431.3	2,437.8	2.88	2.58	-1.29
11,198.0	93.80	94.60	8,902.5	190.2	2,463.1	2,469.4	2.44	1.88	-1.56
11,230.0	92.80	94.00	8,900.6	187.8	2,494.9	2,501.1	3.64	-3.13	-1.88
11,262.0	91.50	93.40	8,899.4	185.7	2,526.8	2,532.9	4.47	-4.06	-1.88
11,293.0	90.20	92.60	8,899.0	184.1	2,557.8	2,563.7	4.92	-4.19	-2.58
11,325.0	89.90	91.90	8,898.9	182.8	2,589.8	2,595.6	2.38	-0.94	-2.19
11,357.0	89.90	91.90	8,899.0	181.8	2,621.8	2,627.5	0.00	0.00	0.00
11,388.0	89.80	91.90	8,899.1	180.8	2,652.7	2,658.4	0.32	-0.32	0.00
11,420.0	90.10	92.00	8,899.1	179.7	2,684.7	2,690.3	0.99	0.94	0.31
11,483.0	91.30	90.90	8,898.3	178.1	2,747.7	2,753.1	2.58	1.90	-1.75
11,547.0	90.90	89.50	8,897.1	177.9	2,811.7	2,817.0	2.27	-0.63	-2.19
11,610.0	88.30	89.40	8,897.5	178.5	2,874.7	2,879.9	4.13	-4.13	-0.16
11,673.0	87.30	88.80	8,899.9	179.4	2,937.6	2,942.9	1.85	-1.59	-0.95
11,705.0	86.90	88.60	8,901.6	180.2	2,969.6	2,974.8	1.40	-1.25	-0.63
11,737.0	87.90	89.30	8,903.0	180.8	3,001.5	3,006.8	3.81	3.13	2.19
11,769.0	89.40	90.10	8,903.8	180.9	3,033.5	3,038.7	5.31	4.69	2.50
11,800.0	90.30	90.90	8,903.9	180.7	3,064.5	3,069.7	3.88	2.90	2.58
11,864.0	90.80	91.10	8,903.2	179.5	3,128.5	3,133.5	0.84	0.78	0.31
11,927.0	90.90	90.90	8,902.3	178.4	3,191.5	3,196.4	0.35	0.16	-0.32
11,991.0	90.50	89.40	8,901.5	178.3	3,255.5	3,260.3	2.43	-0.63	-2.34
12,054.0	90.90	89.60	8,900.8	178.8	3,318.5	3,323.2	0.71	0.63	0.32
12,085.0	91.30	89.80	8,900.2	179.0	3,349.5	3,354.2	1.44	1.29	0.65
12,149.0	90.30	89.50	8,899.3	179.4	3,413.5	3,418.1	1.63	-1.56	-0.47
12,212.0	90.20	87.70	8,899.0	180.9	3,476.4	3,481.1	2.86	-0.16	-2.86
12,244.0	90.20	87.10	8,898.9	182.4	3,508.4	3,513.1	1.87	0.00	-1.88
12,276.0	90.20	88.10	8,898.8	183.7	3,540.4	3,545.1	3.12	0.00	3.13
12,307.0	89.10	89.50	8,899.0	184.4	3,571.4	3,576.1	5.74	-3.55	4.52
12,339.0	88.40	89.40	8,899.7	184.7	3,603.4	3,608.1	2.21	-2.19	-0.31
12,371.0	88.40	89.20	8,900.5	185.0	3,635.3	3,640.0	0.62	0.00	-0.63
12,402.0	89.60	90.50	8,901.1	185.1	3,666.3	3,671.0	5.71	3.87	4.19
12,434.0	91.50	91.70	8,900.8	184.5	3,698.3	3,702.9	7.02	5.94	3.75

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Ruger 31 MP Fed #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3315.0usft (Patterson)
Site:	Sec 31-19S-29E	MD Reference:	WELL @ 3315.0usft (Patterson)
Well:	Ruger 31 MP Fed #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

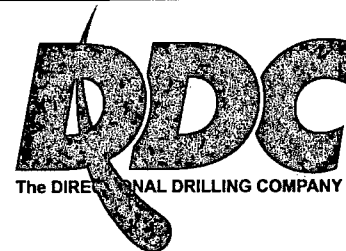
Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,466.0	90.80	90.70	8,900.1	183.8	3,730.3	3,734.8	3.81	-2.19	-3.13
12,496.0	89.70	90.20	8,900.0	183.6	3,760.3	3,764.8	4.03	-3.67	-1.67
12,528.0	88.90	89.40	8,900.4	183.7	3,792.3	3,796.8	3.54	-2.50	-2.50
12,560.0	88.20	89.30	8,901.2	184.1	3,824.3	3,828.7	2.21	-2.19	-0.31
12,587.0	89.00	89.50	8,901.9	184.4	3,851.3	3,855.7	3.05	2.96	0.74
12,619.0	89.80	89.70	8,902.2	184.6	3,883.3	3,887.7	2.58	2.50	0.63
12,682.0	89.90	90.10	8,902.4	184.7	3,946.3	3,950.6	0.65	0.16	0.63
12,745.0	91.00	89.50	8,901.9	184.9	4,009.3	4,013.5	1.99	1.75	-0.95
12,808.0	91.30	89.00	8,900.6	185.7	4,072.3	4,076.5	0.93	0.48	-0.79
12,871.0	91.10	89.60	8,899.3	186.5	4,135.2	4,139.4	1.00	-0.32	0.95
12,935.0	89.90	90.20	8,898.7	186.6	4,199.2	4,203.3	2.10	-1.88	0.94
12,967.0	88.90	90.80	8,899.1	186.3	4,231.2	4,235.3	3.64	-3.13	1.88
12,998.0	88.60	90.80	8,899.7	185.9	4,262.2	4,266.2	0.97	-0.97	0.00
13,029.0	88.70	90.90	8,900.5	185.5	4,293.2	4,297.1	0.46	0.32	0.32
13,061.0	88.90	90.50	8,901.1	185.1	4,325.2	4,329.1	1.40	0.63	-1.25
13,092.0	89.70	90.70	8,901.5	184.7	4,356.2	4,360.0	2.66	2.58	0.65
13,124.0	90.30	90.80	8,901.5	184.3	4,388.2	4,392.0	1.90	1.88	0.31
13,156.0	91.60	90.40	8,901.0	184.0	4,420.2	4,423.9	4.25	4.06	-1.25
13,188.0	91.50	90.20	8,900.1	183.8	4,452.2	4,455.8	0.70	-0.31	-0.63
13,219.0	90.90	90.10	8,899.5	183.7	4,483.2	4,486.8	1.96	-1.94	-0.32
13,283.0	89.90	90.20	8,899.0	183.6	4,547.2	4,550.7	1.57	-1.56	0.16
13,314.0	90.50	90.30	8,898.9	183.4	4,578.2	4,581.7	1.96	1.94	0.32
TD @ 13365' MD / 8898.5' TVD									
13,365.0	90.50	90.30	8,898.5	183.2	4,629.2	4,632.6	0.00	0.00	0.00

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,259.0	8,252.3	217.8	-17.5	TIE IN @ 8259' MD / 8252.3' TVD
9,010.0	8,879.1	245.9	279.5	CROSSED HARDLINE @ 9010' MD / 8879.1' TVD
13,365.0	8,898.5	183.2	4,629.2	TD @ 13365' MD / 8898.5' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
Ruger 31 MP Fed #1H
Eddy County, New Mexico
Rig: Patterson #46
Created By: TIFFANI MIZELL
Date: 4/3/2013

Ruger 31 MP Fed #1H
Eddy County, New Mexico
Q120052 & WT-130204
Design #2



Mewbourne Oil Company

PROJECT DETAILS: Eddy County, New Mexico

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

ANNOTATIONS

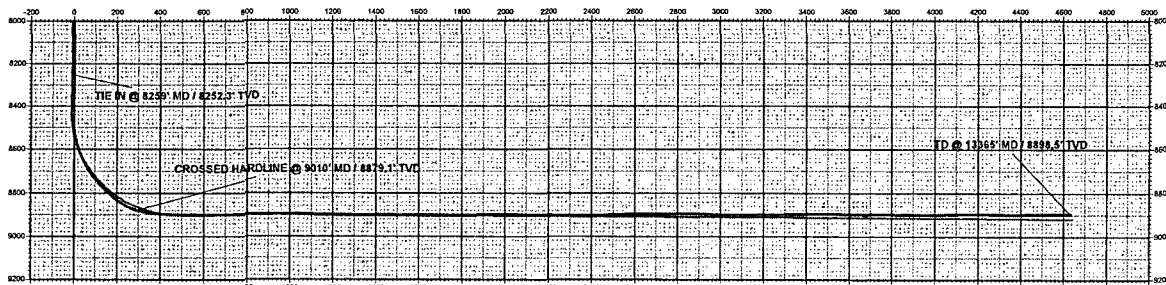
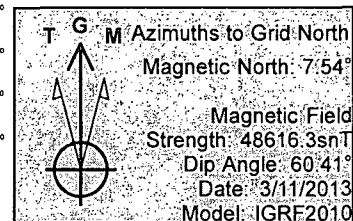
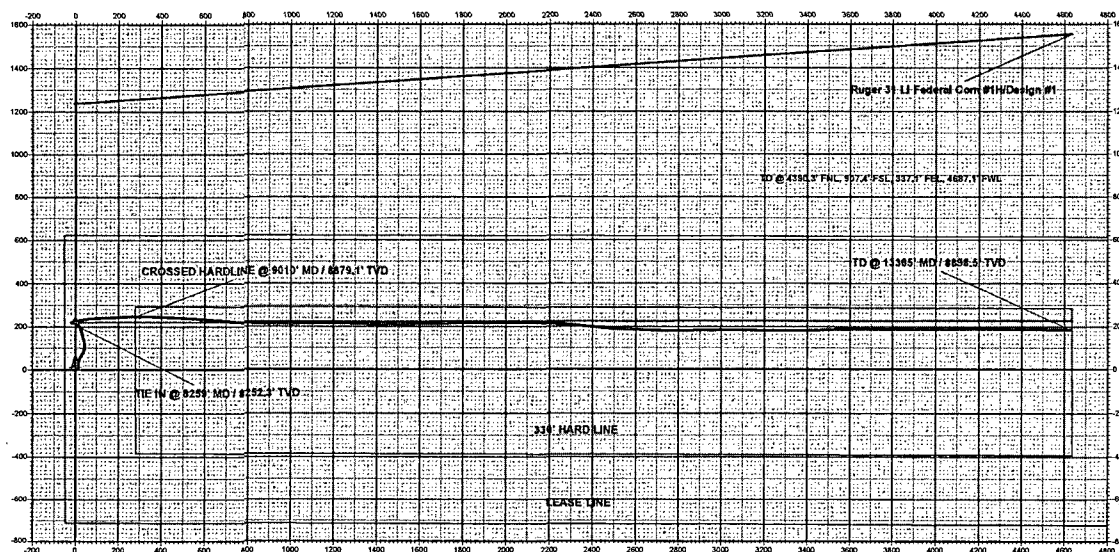
MD	Inc	Azi	TVD	+N-S	+E-W	Vsect	Departure	Annotation
8259.0	1.46	278.16	8252.3	217.8	-17.5	-6.9	287.3	TIE IN @ 8259' MD / 8252.3' TVD
9010.0	72.70	89.40	8879.1	245.9	278.5	281.1	591.3	CROSSED HARDLINE @ 9010' MD / 8879.1' TVD
13365.0	90.50	90.30	8898.5	183.2	4629.2	4632.6	4943.6	TD @ 13365' MD / 8898.5' TVD

WELL DETAILS: Ruger 31 MP Fed #1H

Ground Level: 5295.0
Northing: 85419.39 Easting: 565919.50
Latitude: 32° 36' 43.178 N Longitude: 104° 7' 16.322 W

DESIGN TARGET DETAILS

Name: PBL Ruger 31 MP Fed #1H
TVD: 8920.0
+N-S: 275.9 +E-W: 4636.1
Northing: 68646.90 Easting: 569955.70
Latitude: 32° 36' 46.318 N Longitude: 104° 6' 22.114 W
- plan hits target center



Vertical Section at 87.21° (200 usf/in)

Company Rep	Lynn Simmons
Field	
BOT Service Rep	Hector R Magallanes
District Location	Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	9,095.00	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	8,882.73	12,410	10,680	
Bott Liner											
TVD	8,902.00		KOP		8,420.00		Open Hole	6.125	Casing Vol. (bbl)	339.9	
Carry Fluid Weight (ppg)			8.6		Propant Content (ppa)				Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press.	Max Rate (BPM)	Displ. (BBL)
Liner Top 1		JR Setting Sleeve_RH Profile	8882.73							

Zone Length	JR Setti Slv. S3 Hyd Set Packer	8882.73	8.65	5.813	3.875				
	4-1/2-13.5 LTC Nipple	8891.38	10.80	4.500	3.920				
20	8 Joints of 4-1/2-13.5 LTC Casing	8902.18	304.92	4.500	3.920				
405.7	3.625 EX Frac Sleeve	9207.10	2.36	5.625		3.525	2286		345
	2 Joint of 4-1/2-13.5 LTC Casing	9209.46	75.06	4.500	3.920				
	Baker Open Hole Packer	9284.52	3.89	5.820	3.875		2154		
	3 Joints of 4-1/2-13.5 LTC Casing	9288.41	113.13	4.500	3.920				
	Baker Open Hole Packer	9401.54	3.89	5.820	3.875		2154		
19	1 Joints of 4-1/2-13.5 LTC Casing	9405.43	38.53	4.500	3.920				
124.2	3.500 EX Frac Sleeve	9443.96	2.36	5.625		3.400	2286		348
	2 Joint of 4-1/2-13.5 LTC Casing	9446.32	75.54	4.500	3.920				
	Baker Open Hole Packer	9521.86	3.89	5.820	3.875		2154		
18	3 Joints of 4-1/2-13.5 LTC Casing	9525.75	114.40	4.500	3.920				
238.6	3.375 EX Frac Sleeve	9640.15	2.36	5.625		3.275	2286		351
	3 Joint of 4-1/2-13.5 LTC Casing	9642.51	114.09	4.500	3.920				
	Baker Open Hole Packer	9756.60	3.89	5.820	3.875		2154		
17	2 Joints of 4-1/2-13.5 LTC Casing	9760.49	75.18	4.500	3.920				
161.9	3.250 EX Frac Sleeve	9835.67	2.36	5.625		3.150	2286		354
	2 Joint of 4-1/2-13.5 LTC Casing	9838.03	76.57	4.500	3.920				
	Baker Open Hole Packer	9914.60	3.89	5.820	3.875		2154		
16	3 Joints of 4-1/2-13.5 LTC Casing	9918.49	112.70	4.500	3.920				
237.7	3.125 EX Frac Sleeve	10031.19	2.36	5.625		3.025	2286		357

Operating Company Mewbourne
 Well Name & Number Ruger 31 MP Fed Com 1H
 Sales Ticket Number _____
 Date 4/2/2013

Company Rep Lynn Simmons
 Field _____
 BOT Service Rep Hector R Magallanes
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	9,095.00	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	8,882.73	12,410	10,680	
Bott Liner											
TVD		8,902.00		KOP		8,420.00		Open Hole	6.125	Casing Vol. (bbl)	339.9
Carry Fluid Weight (ppg)			8.6		Propan Content (ppa)				Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Disp (BBL)
15 201.5		3 Joints of 4-1/2-13.5 LTC Casing	10033.55	114.81	4.500	3.920				
		Baker Open Hole Packer	10148.36	3.89	5.820	3.875		2154		
14 201.6		2 Joints of 4-1/2-13.5 LTC Casing	10152.25	76.58	4.500	3.920				
		3.000 EX Frac Sleeve	10228.83	2.36	5.625		2.900	2286		360
13 201.3		3 Joint of 4-1/2-13.5 LTC Casing	10231.19	114.78	4.500	3.920				
		Baker Open Hole Packer	10345.97	3.89	5.820	3.875		2154		
12 199.6		2 Joints of 4-1/2-13.5 LTC Casing	10349.86	76.57	4.500	3.920				
		2.875 EX Frac Sleeve	10426.43	2.36	5.625		2.775	2286		363
11 200.7		3 Joints of 4-1/2-13.5 LTC Casing	10428.79	114.90	4.500	3.920				
		Baker Open Hole Packer	10543.69	3.89	5.820	3.875		2154		
10 201		3 Joints of 4-1/2-13.5 LTC Casing	10547.58	113.99	4.500	3.920				
		2.750 EX Frac Sleeve	10661.57	2.36	5.625		2.650	2286		366
		2 Joint of 4-1/2-13.5 LTC Casing	10663.93	77.14	4.500	3.920				
		Baker Open Hole Packer	10741.07	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10744.96	75.69	4.500	3.920				
		2.625 EX Frac Sleeve	10820.65	2.36	5.625		2.525	2286		369
		3 Joints of 4-1/2-13.5 LTC Casing	10823.01	113.79	4.500	3.920				
		Baker Open Hole Packer	10936.80	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10940.69	76.19	4.500	3.920				
		2.500 EX Frac sleeve	11016.88	2.36	5.625		2.400	2286		372
		3 Joint of 4-1/2-13.5 LTC Casing	11019.24	114.33	4.500	3.920				
		Baker Open Hole Packer	11133.57	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	11137.46	76.57	4.500	3.920				
		2.375 EX Frac Sleeve	11214.03	2.36	5.625		2.275	2286		375
		3 Joints of 4-1/2-13.5 LTC Casing	11216.39	114.25	4.500	3.920				
		Baker Open Hole Packer	11330.64	3.89	5.820	3.875		2154		

Operating Company Mewbourne
 Well Name & Number Ruger 31 MP Fed Com 1H
 Sales Ticket Number _____
 Date 4/2/2013

Company Rep Lynn Simmons
 Field _____
 BOT Service Rep Hector R Magallanes
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	9,095.00	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	8,882.73	12,410	10,680	
Bott Liner											
TVD	8,902.00		KOP		8,420.00		Open Hole		6.125	Casing Vol. (bbl)	339.9
Carry Fluid Weight (ppg)			8.6		Propant Content (ppa)				Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press.	Max Rate (BPM)	Displ (BBL)
9		2 Joint of 4-1/2-13.5 LTC Casing	11334.53	76.05	4.500	3.920				
162.5		2.250 EX Frac Sleeve	11410.58	2.36	5.625		2.150	2286		378
		2 Joints of 4-1/2-13.5 LTC Casing	11412.94	76.31	4.500	3.920				
		Baker Open Hole Packer	11489.25	3.89	5.820	3.875		2154		
8		3 Joint of 4-1/2-13.5 LTC Casing	11493.14	115.11	4.500	3.920				
163.8		2.125 EX Frac Sleeve	11608.25	2.36	5.625		2.025	2286		381
		1 Joint of 4-1/2-13.5 LTC Casing	11610.61	38.58	4.500	3.920				
		Baker Open Hole Packer	11649.19	3.89	5.820	3.875		2154		
		5 Joint of 4-1/2-13.5 LTC Casing	11653.08	190.84	4.500	3.920				
		Baker Open Hole Packer	11843.92	3.89	5.820	3.875		2154		
7		2 Joint of 4-1/2-13.5 LTC Casing	11847.81	76.57	4.500	3.920				
163.3		2.000 EX Frac Sleeve	11924.38	2.36	5.625		1.900	2286		385
		2 Joints of 4-1/2-13.5 LTC Casing	11926.74	76.56	4.500	3.920				
		Baker Open Hole Packer	12003.30	3.89	5.820	3.875		2154		
6		3 Joint of 4-1/2-13.5 LTC Casing	12007.19	114.72	4.500	3.920				
239.7		1.875 EX Frac Sleeve	12121.91	2.36	5.625		1.775	2286		388
		3 Joints of 4-1/2-13.5 LTC Casing	12124.27	114.83	4.500	3.920				
		Baker Open Hole Packer	12239.10	3.89	5.820	3.875		2154		
5		3 Joints of 4-1/2-13.5 LTC Casing	12242.99	114.52	4.500	3.920				
239.5		1.750 EX Frac Sleeve	12357.51	2.36	5.625		1.650	2286		392
		3 Joint of 4-1/2-13.5 LTC Casing	12359.87	114.83	4.500	3.920				
		Baker Open Hole Packer	12474.70	3.89	5.820	3.875		2154		
4		2 Joints of 4-1/2-13.5 LTC Casing	12478.59	76.57	4.500	3.920				
163.3		1.625 EX Frac Sleeve	12555.16	2.36	5.625		1.525	2286		395
		2 Joints of 4-1/2-13.5 LTC Casing	12557.52	76.57	4.500	3.920				
		Baker Open Hole Packer	12634.09	3.89	5.820	3.875		2154		

Operating Company	Mewbourne
Well Name & Number	Ruger 31 MP Fed Com 1H
Sales Ticket Number	

Company Rep	Lynn Simmons
Field	
BOT Service Rep	Hector R Magallanes

Date 4/2/2013

District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	9,095.00	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	8,882.73	12,410	10,680	
Bott Liner											
TVD		8,902.00		KOP		8,420.00		Open Hole	6.125	Casing Vol. (bbl)	339.9
Carry Fluid Weight (ppg)			8.6		Propant Content (ppa)				Max Drill Out Size		0

[illegible]