

OPERATOR
WELL/LEASE
COUNTY

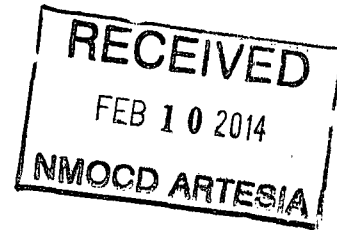
MEWBOURNE OIL COMPANY
TWO MESAS 7 MP FEDERAL 1H
EDDY

041-0117

STATE OF NEW MEXICO
DEVIATION REPORT

30-015-41420

200	0.24
440	0.24
706	0.72
800	2.39
948	2.85
1,135	3.89
1,365	2.40
1,523	3.85



BY: Steve Moore

STATE OF TEXAS

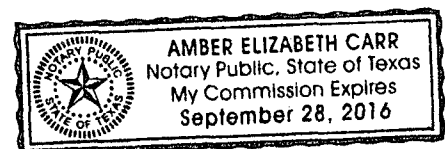
COUNTY OF MIDLAND

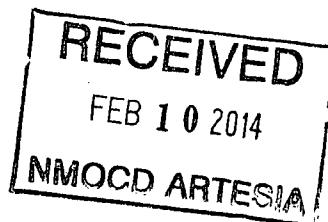
The foregoing instrument was acknowledged before me on
Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

12/18/13, by

Amber Elizabeth Carr

Notary Public for Midland County, Texas
My Commission Expires:





Mewbourne Oil Company .

Eddy County, New Mexico

Section 7-20S-30E Two Mesas 7 MP

Two Mesas 7 MP Federal #1H

Original Hole

Design: Original Hole

Standard Survey Report

02 December, 2013





Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Two Mesas 7 MP Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Site:	Section 7-20S-30E Two Mesas 7 MP	MD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Well:	Two Mesas 7 MP Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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	Section 7-20S-30E Two Mesas 7 MP		
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Site Position:		Northing:	575,453.88 usft	Latitude:	32° 34' 53.886 N
From:	Map	Easting:	596,908.58 usft	Longitude:	104° 1' 7.385 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.17 °

Well	Two Mesas 7 MP Federal #1H					
Well Position	+N/-S	0.0 usft	Northing:	575,453.88 usft	Latitude:	32° 34' 53.886 N
	+E/-W	0.0 usft	Easting:	596,908.58 usft	Longitude:	104° 1' 7.385 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,314.0 usft	

Wellbore	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/19/2013	7.52	60.38	48,540

Survey Program		Date: 12/2/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	7,728.0	VES Gyro Survey #1 (Original Hole)	MWD	MWD - Standard	
7,827.0	12,770.0	Survey #2 (Original Hole)	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	0.16	220.33	100.0	-0.1	-0.1	-0.1	0.16	0.16	0.00
200.0	0.61	328.41	200.0	0.2	-0.5	-0.5	0.68	0.45	108.08
300.0	0.68	313.01	300.0	1.1	-1.2	-1.2	0.19	0.07	-15.40
400.0	0.51	323.44	400.0	1.9	-1.9	-1.9	0.20	-0.17	10.43
500.0	0.87	321.01	500.0	2.8	-2.6	-2.6	0.36	0.36	-2.43
600.0	0.66	306.59	600.0	3.7	-3.6	-3.5	0.28	-0.21	-14.42
700.0	0.76	354.74	700.0	4.7	-4.1	-4.1	0.59	0.10	48.15
800.0	1.82	51.83	799.9	6.4	-2.9	-2.9	1.54	1.06	57.09
900.0	2.88	81.98	899.9	7.7	0.8	0.9	1.59	1.06	30.15
1,000.0	3.07	76.91	999.7	8.7	5.9	6.0	0.32	0.19	-5.07
1,100.0	3.07	74.25	1,099.6	10.0	11.1	11.1	0.14	0.00	-2.66
1,200.0	2.98	67.89	1,199.4	11.7	16.1	16.1	0.35	-0.09	-6.36
1,300.0	2.99	62.58	1,299.3	13.9	20.8	20.9	0.28	0.01	-5.31
1,400.0	3.34	64.44	1,399.2	16.4	25.8	25.8	0.36	0.35	1.86
1,500.0	3.67	67.86	1,499.0	18.8	31.4	31.4	0.39	0.33	3.42



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Two Mesas 7 MP Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Site:	Section 7-20S-30E Two Mesas 7 MP	MD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Well:	Two Mesas 7 MP Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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)
1,600.0	3.71	62.41	1,598.8	21.5	37.2	37.2	0.35	0.04	-5.45
1,700.0	3.88	60.74	1,698.5	24.7	43.0	43.1	0.20	0.17	-1.67
1,800.0	3.92	54.70	1,798.3	28.3	48.8	48.8	0.41	0.04	-6.04
1,900.0	3.29	61.98	1,898.1	31.6	54.1	54.1	0.78	-0.63	7.28
2,000.0	3.34	51.24	1,997.9	34.8	58.9	59.0	0.62	0.05	-10.74
2,100.0	2.96	48.40	2,097.8	38.3	63.1	63.2	0.41	-0.38	-2.84
2,200.0	2.54	55.73	2,197.7	41.3	66.9	66.9	0.55	-0.42	7.33
2,300.0	2.43	70.83	2,297.6	43.2	70.7	70.8	0.66	-0.11	15.10
2,400.0	2.04	61.59	2,397.5	44.8	74.3	74.3	0.53	-0.39	-9.24
2,500.0	1.31	66.98	2,497.5	46.1	76.9	77.0	0.75	-0.73	5.39
2,600.0	1.49	86.02	2,597.4	46.6	79.2	79.3	0.50	0.18	19.04
2,700.0	1.54	53.25	2,697.4	47.5	81.6	81.7	0.86	0.05	-32.77
2,800.0	1.38	31.29	2,797.4	49.3	83.3	83.4	0.58	-0.16	-21.96
2,900.0	1.24	24.27	2,897.3	51.4	84.4	84.5	0.21	-0.14	-7.02
3,000.0	1.12	13.20	2,997.3	53.3	85.0	85.1	0.26	-0.12	-11.07
3,100.0	1.07	4.05	3,097.3	55.2	85.3	85.4	0.18	-0.05	-9.15
3,200.0	0.78	37.15	3,197.3	56.7	85.8	85.9	0.60	-0.29	33.10
3,300.0	0.87	40.55	3,297.3	57.8	86.7	86.8	0.10	0.09	3.40
3,400.0	0.80	30.14	3,397.3	59.0	87.6	87.7	0.17	-0.07	-10.41
3,500.0	0.69	36.44	3,497.3	60.0	88.3	88.4	0.14	-0.11	6.30
3,600.0	0.71	35.86	3,597.3	61.0	89.0	89.1	0.02	0.02	-0.58
3,700.0	0.66	29.65	3,697.2	62.0	89.6	89.7	0.09	-0.05	-6.21
3,800.0	0.63	28.73	3,797.2	63.0	90.2	90.3	0.03	-0.03	-0.92
3,900.0	0.62	22.53	3,897.2	64.0	90.7	90.8	0.07	-0.01	-6.20
4,000.0	0.83	27.99	3,997.2	65.1	91.2	91.3	0.22	0.21	5.46
4,100.0	0.87	33.86	4,097.2	66.4	92.0	92.1	0.10	0.04	5.87
4,200.0	1.09	41.93	4,197.2	67.7	93.0	93.1	0.26	0.22	8.07
4,300.0	1.23	43.20	4,297.2	69.2	94.4	94.5	0.14	0.14	1.27
4,400.0	1.42	50.18	4,397.2	70.8	96.1	96.2	0.25	0.19	6.98
4,500.0	1.41	50.91	4,497.1	72.4	98.0	98.1	0.02	-0.01	0.73
4,600.0	1.47	37.00	4,597.1	74.2	99.7	99.8	0.35	0.06	-13.91
4,700.0	1.38	40.06	4,697.1	76.1	101.3	101.4	0.12	-0.09	3.06
4,800.0	1.30	36.70	4,797.0	78.0	102.7	102.8	0.11	-0.08	-3.36
4,900.0	1.32	31.74	4,897.0	79.8	104.0	104.1	0.12	0.02	-4.96
5,000.0	1.35	29.99	4,997.0	81.8	105.2	105.3	0.05	0.03	-1.75
5,100.0	1.31	24.39	5,097.0	83.9	106.2	106.4	0.14	-0.04	-5.60
5,200.0	1.19	17.69	5,196.9	85.9	107.0	107.2	0.19	-0.12	-6.70
5,300.0	0.93	18.38	5,296.9	87.7	107.6	107.8	0.26	-0.26	0.69
5,400.0	1.22	15.23	5,396.9	89.5	108.1	108.3	0.30	0.29	-3.15
5,500.0	0.89	17.91	5,496.9	91.3	108.7	108.8	0.33	-0.33	2.68
5,600.0	0.94	8.50	5,596.9	92.8	109.0	109.2	0.16	0.05	-9.41
5,700.0	0.96	4.16	5,696.9	94.5	109.2	109.4	0.07	0.02	-4.34
5,800.0	1.07	4.05	5,796.8	96.2	109.3	109.5	0.11	0.11	-0.11
5,900.0	1.14	0.52	5,896.8	98.1	109.4	109.6	0.10	0.07	-3.53



Stryker Directional Survey Report



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Project:	Eddy County New Mexico	TVD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Site:	Section 7-20S-30E Two Mesas 7 MP	MD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Well:	Two Mesas 7 MP Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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)
6,000.0	0.92	11.68	5,996.8	99.9	109.6	109.8	0.30	-0.22	11.16
6,100.0	0.54	16.03	6,096.8	101.2	109.9	110.0	0.38	-0.38	4.35
6,200.0	0.16	32.38	6,196.8	101.7	110.1	110.3	0.39	-0.38	16.35
6,300.0	0.08	261.32	6,296.8	101.8	110.1	110.3	0.22	-0.08	-131.06
6,400.0	0.33	231.93	6,396.8	101.7	109.8	110.0	0.26	0.25	-29.39
6,500.0	0.67	238.71	6,496.8	101.2	109.1	109.2	0.34	0.34	6.78
6,600.0	0.73	241.35	6,596.8	100.6	108.0	108.2	0.07	0.06	2.64
6,700.0	0.88	240.25	6,696.8	99.9	106.8	106.9	0.15	0.15	-1.10
6,800.0	0.63	237.63	6,796.8	99.2	105.6	105.8	0.25	-0.25	-2.62
6,900.0	0.87	240.17	6,896.8	98.5	104.5	104.7	0.24	0.24	2.54
7,000.0	1.41	239.24	6,996.7	97.5	102.8	103.0	0.54	0.54	-0.93
7,100.0	2.05	239.01	7,096.7	96.0	100.2	100.4	0.64	0.64	-0.23
7,200.0	2.26	227.43	7,196.6	93.7	97.2	97.4	0.48	0.21	-11.58
7,300.0	2.75	218.06	7,296.5	90.5	94.3	94.5	0.64	0.49	-9.37
7,400.0	3.09	210.41	7,396.4	86.3	91.5	91.6	0.52	0.34	-7.65
7,500.0	2.98	220.92	7,496.3	82.0	88.4	88.5	0.57	-0.11	10.51
7,600.0	2.47	220.36	7,596.1	78.4	85.3	85.4	0.51	-0.51	-0.56
7,700.0	2.22	218.72	7,696.1	75.2	82.7	82.8	0.26	-0.25	-1.64
7,728.0	2.34	212.90	7,724.0	74.3	82.0	82.2	0.93	0.43	-20.79
7,728.0 MD VES Gyro Survey									
7,827.0	3.10	154.50	7,822.9	70.2	82.1	82.2	2.76	0.77	-58.99
7,859.0	6.30	127.00	7,854.8	68.4	83.9	84.0	11.96	10.00	-85.94
7,890.0	10.00	117.10	7,885.5	66.1	87.6	87.7	12.72	11.94	-31.94
7,922.0	13.80	112.20	7,916.8	63.4	93.6	93.7	12.28	11.88	-15.31
7,953.0	16.00	111.60	7,946.8	60.5	101.0	101.1	7.11	7.10	-1.94
7,985.0	17.80	109.20	7,977.4	57.2	109.7	109.8	6.03	5.63	-7.50
8,017.0	21.30	106.70	8,007.5	53.9	119.9	120.0	11.24	10.94	-7.81
8,048.0	24.70	104.50	8,036.1	50.7	131.6	131.7	11.31	10.97	-7.10
8,080.0	28.30	101.80	8,064.7	47.5	145.5	145.6	11.86	11.25	-8.44
8,111.0	30.80	99.50	8,091.7	44.7	160.5	160.6	8.85	8.06	-7.42
8,143.0	33.50	96.50	8,118.8	42.3	177.4	177.5	9.80	8.44	-9.38
8,174.0	36.50	94.10	8,144.2	40.7	195.1	195.2	10.65	9.68	-7.74
8,206.0	39.60	92.10	8,169.4	39.6	214.8	214.8	10.42	9.69	-6.25
8,237.0	43.50	91.70	8,192.6	38.9	235.3	235.4	12.61	12.58	-1.29
8,269.0	47.50	91.00	8,215.0	38.4	258.1	258.2	12.60	12.50	-2.19
8,300.0	50.50	90.60	8,235.3	38.1	281.5	281.6	9.73	9.68	-1.29
8,332.0	53.10	90.40	8,255.1	37.9	306.7	306.7	8.14	8.13	-0.63
8,363.0	56.80	90.40	8,272.9	37.7	332.0	332.1	11.94	11.94	0.00
8,395.0	60.00	90.90	8,289.7	37.4	359.3	359.4	10.09	10.00	1.56
8,426.0	62.40	91.00	8,304.6	36.9	386.5	386.5	7.75	7.74	0.32
8,458.0	64.70	91.40	8,318.9	36.3	415.1	415.2	7.27	7.19	1.25
8,489.0	67.40	90.30	8,331.4	35.9	443.4	443.5	9.29	8.71	-3.55
8,521.0	69.20	89.60	8,343.3	35.9	473.2	473.2	5.98	5.63	-2.19



Stryker Directional Survey Report



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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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)
8,552.0	71.20	89.30	8,353.8	36.2	502.3	502.4	6.52	6.45	-0.97
8,584.0	75.20	89.50	8,363.0	36.5	532.9	533.0	12.51	12.50	0.63
8,616.0	79.20	89.30	8,370.1	36.9	564.1	564.2	12.51	12.50	-0.63
8,647.0	81.80	89.30	8,375.2	37.2	594.7	594.8	8.39	8.39	0.00
8,679.0	83.60	89.30	8,379.3	37.6	626.4	626.5	5.63	5.63	0.00
8,710.0	86.20	89.20	8,382.0	38.0	657.3	657.4	8.39	8.39	-0.32
8,725.0	87.30	89.20	8,382.9	38.2	672.3	672.4	7.33	7.33	0.00
8,814.0	89.40	91.70	8,385.5	37.5	761.2	761.3	3.67	2.36	2.81
8,846.0	88.50	91.70	8,386.0	36.6	793.2	793.3	2.81	-2.81	0.00
8,877.0	88.10	91.30	8,387.0	35.8	824.2	824.3	1.82	-1.29	-1.29
8,909.0	87.20	90.50	8,388.3	35.3	856.2	856.2	3.76	-2.81	-2.50
8,940.0	85.80	90.20	8,390.2	35.1	887.1	887.2	4.62	-4.52	-0.97
8,972.0	85.40	90.20	8,392.6	35.0	919.0	919.1	1.25	-1.25	0.00
9,003.0	85.20	89.80	8,395.2	35.0	949.9	950.0	1.44	-0.65	-1.29
9,035.0	85.50	90.30	8,397.8	35.0	981.8	981.9	1.82	0.94	1.56
9,066.0	85.70	90.60	8,400.1	34.7	1,012.7	1,012.8	1.16	0.65	0.97
9,098.0	85.40	90.60	8,402.6	34.4	1,044.6	1,044.7	0.94	-0.94	0.00
9,129.0	85.90	90.40	8,405.0	34.1	1,075.5	1,075.6	1.74	1.61	-0.65
9,161.0	86.50	90.20	8,407.1	33.9	1,107.5	1,107.5	1.98	1.88	-0.63
9,193.0	86.00	90.20	8,409.2	33.8	1,139.4	1,139.4	1.56	-1.56	0.00
9,225.0	85.60	90.00	8,411.5	33.8	1,171.3	1,171.4	1.40	-1.25	-0.63
9,256.0	86.20	90.10	8,413.7	33.7	1,202.2	1,202.3	1.96	1.94	0.32
9,288.0	87.00	90.50	8,415.6	33.6	1,234.2	1,234.2	2.79	2.50	1.25
9,319.0	87.80	90.70	8,417.0	33.3	1,265.1	1,265.2	2.66	2.58	0.65
9,351.0	87.50	90.30	8,418.4	33.0	1,297.1	1,297.2	1.56	-0.94	-1.25
9,382.0	87.40	90.10	8,419.7	32.9	1,328.1	1,328.1	0.72	-0.32	-0.65
9,414.0	86.90	90.00	8,421.3	32.8	1,360.0	1,360.1	1.59	-1.56	-0.31
9,445.0	87.50	89.70	8,422.8	32.9	1,391.0	1,391.0	2.16	1.94	-0.97
9,477.0	88.70	88.90	8,423.9	33.3	1,423.0	1,423.0	4.51	3.75	-2.50
9,509.0	89.80	88.50	8,424.3	34.0	1,455.0	1,455.0	3.66	3.44	-1.25
9,540.0	89.50	88.00	8,424.5	35.0	1,485.9	1,486.0	1.88	-0.97	-1.61
9,572.0	89.40	88.70	8,424.8	35.9	1,517.9	1,518.0	2.21	-0.31	2.19
9,635.0	88.40	88.10	8,426.0	37.7	1,580.9	1,581.0	1.85	-1.59	-0.95
9,698.0	88.00	88.40	8,428.0	39.6	1,643.8	1,643.9	0.79	-0.63	0.48
9,762.0	88.00	90.60	8,430.2	40.1	1,707.8	1,707.9	3.44	0.00	3.44
9,825.0	90.20	91.60	8,431.2	38.9	1,770.8	1,770.8	3.84	3.49	1.59
9,888.0	88.90	90.30	8,431.7	37.9	1,833.7	1,833.8	2.92	-2.06	-2.06
9,919.0	89.20	89.50	8,432.2	37.9	1,864.7	1,864.8	2.76	0.97	-2.58
9,951.0	90.30	89.50	8,432.4	38.2	1,896.7	1,896.8	3.44	3.44	0.00
9,983.0	90.50	88.80	8,432.2	38.7	1,928.7	1,928.8	2.27	0.63	-2.19
10,014.0	90.00	88.90	8,432.0	39.3	1,959.7	1,959.8	1.64	-1.61	0.32
10,078.0	90.30	91.50	8,431.9	39.1	2,023.7	2,023.8	4.09	0.47	4.06
10,109.0	90.00	91.30	8,431.8	38.3	2,054.7	2,054.8	1.16	-0.97	-0.65



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Two Mesas 7 MP Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Site:	Section 7-20S-30E Two Mesas 7 MP	MD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Well:	Two Mesas 7 MP Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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)
10,141.0	89.80	91.00	8,431.8	37.7	2,086.7	2,086.8	1.13	-0.63	-0.94
10,204.0	90.20	90.80	8,431.8	36.7	2,149.7	2,149.8	0.71	0.63	-0.32
10,267.0	89.90	91.00	8,431.8	35.7	2,212.7	2,212.7	0.57	-0.48	0.32
10,299.0	90.80	91.00	8,431.6	35.2	2,244.7	2,244.7	2.81	2.81	0.00
10,362.0	90.00	91.00	8,431.1	34.1	2,307.7	2,307.7	1.27	-1.27	0.00
10,425.0	89.30	90.80	8,431.5	33.1	2,370.7	2,370.7	1.16	-1.11	-0.32
10,488.0	90.20	90.80	8,431.8	32.2	2,433.7	2,433.7	1.43	1.43	0.00
10,552.0	91.10	91.40	8,431.1	31.0	2,497.6	2,497.7	1.69	1.41	0.94
10,615.0	90.00	91.20	8,430.5	29.5	2,560.6	2,560.7	1.77	-1.75	-0.32
10,679.0	92.10	92.30	8,429.3	27.6	2,624.6	2,624.6	3.70	3.28	1.72
10,742.0	92.50	92.10	8,426.8	25.2	2,687.5	2,687.5	0.71	0.63	-0.32
10,805.0	91.80	92.10	8,424.4	22.9	2,750.4	2,750.4	1.11	-1.11	0.00
10,868.0	90.60	92.70	8,423.1	20.2	2,813.3	2,813.3	2.13	-1.90	0.95
10,900.0	88.90	91.70	8,423.2	19.0	2,845.3	2,845.3	6.16	-5.31	-3.13
10,932.0	87.80	91.10	8,424.1	18.2	2,877.3	2,877.3	3.92	-3.44	-1.88
10,963.0	87.40	90.10	8,425.4	17.9	2,908.2	2,908.3	3.47	-1.29	-3.23
11,026.0	87.60	89.90	8,428.2	17.9	2,971.2	2,971.2	0.45	0.32	-0.32
11,090.0	88.30	89.90	8,430.5	18.0	3,035.1	3,035.2	1.09	1.09	0.00
11,153.0	89.90	90.80	8,431.5	17.6	3,098.1	3,098.2	2.91	2.54	1.43
11,216.0	89.50	91.40	8,431.8	16.4	3,161.1	3,161.1	1.14	-0.63	0.95
11,280.0	89.00	91.00	8,432.6	15.1	3,225.1	3,225.1	1.00	-0.78	-0.63
11,343.0	88.80	91.10	8,433.8	13.9	3,288.1	3,288.1	0.35	-0.32	0.16
11,375.0	89.20	90.80	8,434.4	13.4	3,320.1	3,320.1	1.56	1.25	-0.94
11,438.0	89.80	90.30	8,435.0	12.8	3,383.1	3,383.1	1.24	0.95	-0.79
11,469.0	91.20	89.50	8,434.7	12.8	3,414.1	3,414.1	5.20	4.52	-2.58
11,533.0	89.90	89.10	8,434.1	13.6	3,478.0	3,478.1	2.13	-2.03	-0.63
11,596.0	90.50	88.70	8,433.8	14.8	3,541.0	3,541.1	1.14	0.95	-0.63
11,690.0	90.00	89.10	8,433.4	16.6	3,635.0	3,635.0	0.68	-0.53	0.43
11,786.0	91.10	89.50	8,432.5	17.8	3,731.0	3,731.0	1.22	1.15	0.42
11,881.0	89.50	87.70	8,432.0	20.1	3,826.0	3,826.0	2.54	-1.68	-1.89
11,975.0	90.50	87.40	8,432.0	24.1	3,919.9	3,919.9	1.11	1.06	-0.32
12,102.0	89.80	87.50	8,431.7	29.8	4,046.8	4,046.8	0.56	-0.55	0.08
12,197.0	89.80	88.80	8,432.0	32.8	4,141.7	4,141.7	1.37	0.00	1.37
12,292.0	88.30	88.30	8,433.6	35.3	4,236.7	4,236.7	1.66	-1.58	-0.53
12,387.0	90.10	89.50	8,434.9	37.1	4,331.6	4,331.7	2.28	1.89	1.26
12,482.0	88.50	88.80	8,436.1	38.5	4,426.6	4,426.7	1.84	-1.68	-0.74
12,577.0	91.30	90.90	8,436.2	38.7	4,521.6	4,521.6	3.68	2.95	2.21
12,671.0	89.60	91.30	8,435.5	36.9	4,615.6	4,615.6	1.86	-1.81	0.43
12,710.0	89.90	91.70	8,435.7	35.9	4,654.5	4,654.6	1.28	0.77	1.03
12,770.0	89.90	91.70	8,435.8	34.1	4,714.5	4,714.6	0.00	0.00	0.00
12770' MD Projected to Bit									



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Two Mesas 7 MP Federal #1H
Project:	Eddy County-New Mexico	TVD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Site:	Section 7-20S-30E Two Mesas 7 MP	MD Reference:	GL 3314 + 20 @ 3334.0usft (Patterson #41)
Well:	Two Mesas 7 MP Federal #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N-S (usft)	+E-W (usft)	Comment	
7,728.0	7,724.0	74.3	82.0	7728'MD VES Gyro Survey	
12,770.0	8,435.8	34.1	4,714.5	12770' MD Projected to Bit	



Company: Mewbourne Oil
Lease/Well: Two Mesas 7 MP Federal/No. 001H
Location: S7, T20, R30
Rig Name: Patterson 41
State/County: New Mexico/Eddy
Latitude: 32.58, Longitude: -104.02
GRID North is 0.17 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB - 17

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...p federal #1h gyro survey].ut

Minimum Curvature Method

Report Date/Time: 12/10/2013 / 08:58

Vaughn Energy Services

Midland, TX

432-563-5444

Surveyor: Chris Ellis

Two Mesas 7 MP Federal No. 001H / API 30-015-41420

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	0.16	220.33	100.00	-0.11	-0.09	-0.11	0.14	220.33	0.16
200.00	0.61	328.41	200.00	0.24	-0.46	0.24	0.52	297.09	0.68
300.00	0.68	313.01	299.99	1.09	-1.17	1.09	1.60	312.96	0.18
400.00	0.51	323.44	399.99	1.85	-1.87	1.85	2.63	314.74	0.20
500.00	0.87	321.01	499.98	2.80	-2.62	2.80	3.83	316.99	0.36
600.00	0.66	306.59	599.97	3.74	-3.56	3.74	5.16	316.43	0.29
700.00	0.76	354.74	699.96	4.74	-4.08	4.74	6.25	319.28	0.58
800.00	1.82	51.83	799.94	6.38	-2.89	6.38	7.00	335.63	1.55
900.00	2.88	81.98	899.86	7.71	0.85	7.71	7.76	6.27	1.59
1000.00	3.07	76.91	999.72	8.67	5.95	8.67	10.51	34.45	0.33
1100.00	3.07	74.25	1099.58	10.00	11.14	10.00	14.97	48.07	0.14
1200.00	2.98	67.89	1199.44	11.71	16.13	11.71	19.93	54.02	0.35
1300.00	2.99	62.58	1299.30	13.89	20.85	13.89	25.06	56.33	0.28
1400.00	3.34	64.44	1399.15	16.35	25.80	16.35	30.55	57.64	0.37
1500.00	3.67	67.86	1498.96	18.82	31.40	18.82	36.61	59.07	0.39
1600.00	3.71	62.41	1598.76	21.52	37.23	21.52	43.01	59.97	0.35
1700.00	3.88	60.74	1698.54	24.67	43.05	24.67	49.62	60.18	0.21
1800.00	3.92	54.70	1798.31	28.31	48.80	28.31	56.41	59.88	0.41



COMPANY: Mewbourne Oil Company
 WELL: Two Mesas 7 MP Federal #1H
 COUNTY: Eddy County, New Mexico
 DATUM: NAD 1927 (NADCON CONUS)
 RIG: Patterson #41

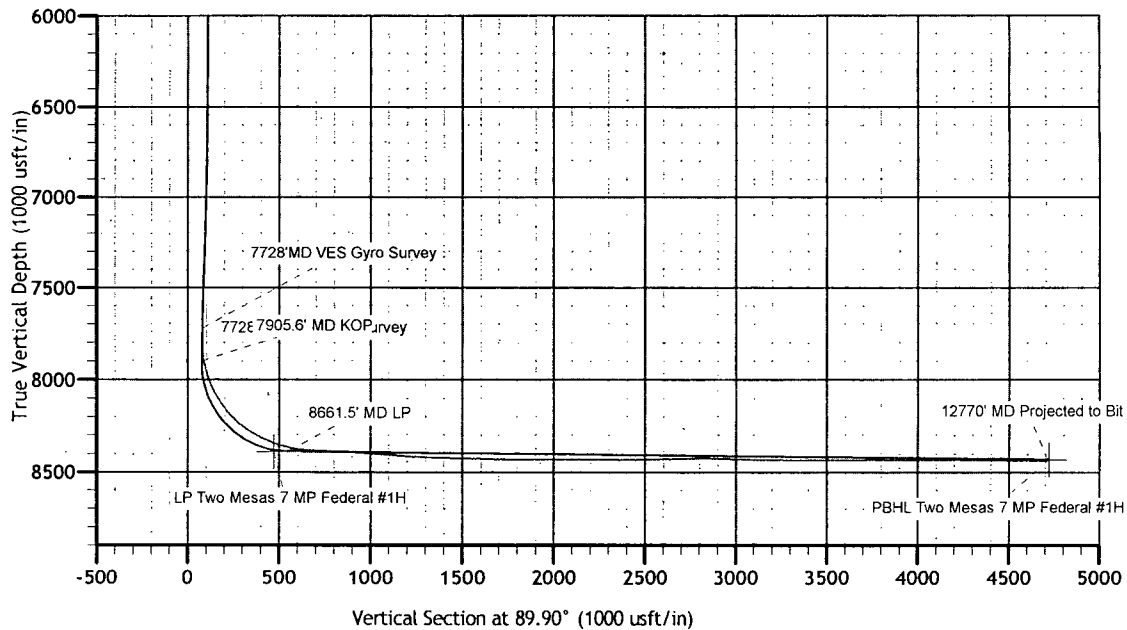
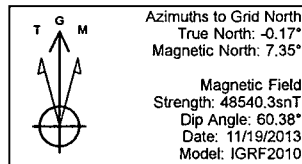
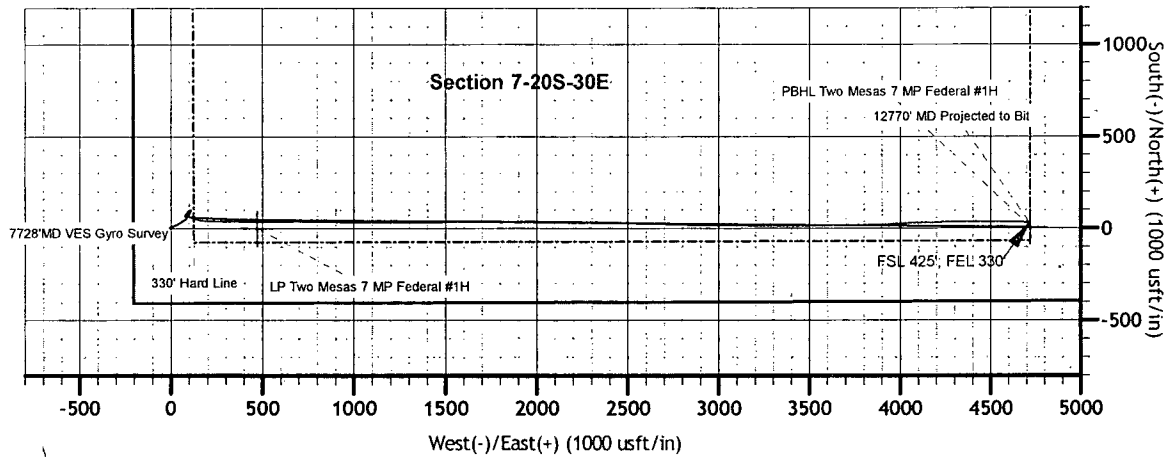


GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.35°

OFFICE: 936.582.7296

GEODETTIC ZONE: New Mexico East 3001							
GL 3314 + 20 @ 3334.0usft (Patterson #41)							
GROUND ELEVATION: 3314.0							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.0	0.0	575453.88	596908.57	32° 34' 53.886 N	104° 1' 7.385 W		

PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	7728.0	2.34	212.90	7724.0	74.3	82.0	0.00	0.00	82.2	
2	7905.6	2.34	212.90	7901.5	68.2	78.1	0.00	0.00	78.2	
3	8661.5	89.45	90.54	8389.1	47.1	550.7	12.00	-122.36	550.8	
4	12831.9	89.45	90.54	8429.0	8.0	4720.8	0.00	0.00	4720.8	PBHL Two Mesas 7 MP Federal #1H



Operating Company Mewbourne Oil Co.
 Well Name & Number Two Mesas 7 MP Fed #1H
 Sales Ticket Number 5985228
 Date 11/29/2013

Company Rep Josh Proise
 Field
 BOT Service Rep Joseph Haynes
 District Location Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	110000	6.276	6.151	LTC / 8RD	0.03826	8,788.00	9,960	6,230	
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,220.96	12,410	10,680	
Bott Liner											
TVD		8435.00		KOP		7827.00	Open Hole		6.125	Casing Vol. (bbl)	325.9
Carry Fluid Weight (ppg)			8.4		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 Sleeve S3 Hyd Set Packer	8516.77	8.65						

Zone Length		4-1/2-13.5 LTC Nipple	8525.42	8.06	5.813	3.875				
		8 Joints of 4-1/2-13.5 LTC Casing	8533.48	316.42	4.500	3.920				
	20	3.625 EX Frac Sleeve	8849.90	2.40	5.750		3.525	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	8852.30	119.77	4.500	3.920				
		Baker Open Hole Packer	8972.07	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	8975.96	79.05	4.500	3.920				
	19	3.500 EX Frac Sleeve	9055.01	2.40	5.750		3.400	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	9057.41	117.95	4.500	3.920				
		Baker Open Hole Packer	9175.38	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9179.25	77.80	4.500	3.920				
	18	3.375 EX Frac Sleeve	9257.05	2.40	5.750		3.275	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	9259.45	120.28	4.500	3.920				
		Baker Open Hole Packer	9379.73	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9383.62	78.38	4.500	3.920				
	17	3.250 EX Frac Sleeve	9462.00	2.40	5.750		3.150	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	9464.40	119.96	4.500	3.920				
		Baker Open Hole Packer	9584.36	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9588.25	78.44	4.500	3.920				
	16	3.125 EX Frac Sleeve	9666.69	2.40	5.750		3.025	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	9669.09	117.20	4.500	3.920				
		Baker Open Hole Packer	9786.29	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9790.18	80.16	4.500	3.920				

Operating Company Mewbourne Oil Co.
 Well Name & Number Two Mesas 7 MP Fed #1H
 Sales Ticket Number 5985228
 Date 11/29/2013

Company Rep Josh Prociase
 Field
 BOT Service Rep Joseph Haynes
 District Location Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	110000	6.276	6.151	LTC / 8RD	0.03826	8,788.00	9,960	6,230	
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,220.96	12,410	10,680	
Bott Liner											
TVD		8435.00		KOP		7827.00		Open Hole	6.125	Casing Vol. (bbl)	325.9
Carry Fluid Weight (ppg)			8.4		Propan Content (ppa)				Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
15		3'000 EX Frac sleeve	9870.34	2.40	5.750		2.900	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	9872.74	119.05	4.500	3.920				
		Baker Open Hole Packer	9991.79	3.89	5.820	3.875		2154		
14		2 Joints of 4-1/2-13.5 LTC Casing	9995.68	78.57	4.500	3.920				
		2.875 EX Frac Sleeve	10074.25	2.40	5.750		2.775	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	10076.65	117.72	4.500	3.920				
13		Baker Open Hole Packer	10194.37	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10198.26	82.23	4.500	3.920				
		2.750 EX Frac Sleeve	10280.49	2.40	5.750		2.650	2286		
12		3 Joint of 4-1/2-13.5 LTC Casing	10282.89	120.06	4.500	3.920				
		Baker Open Hole Packer	10402.95	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10406.84	77.55	4.500	3.920				
11		2.625 EX Frac Sleeve	10484.39	2.40	5.750		2.525	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	10486.79	117.82	4.500	3.920				
		Baker Open Hole Packer	10604.61	3.89	5.820	3.875		2154		
10		2 Joints of 4-1/2-13.5 LTC Casing	10608.50	78.04	4.500	3.920				
		2.500 EX Frac Sleeve	10686.54	2.40	5.750		2.400	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	10688.94	121.35	4.500	3.920				
9		Baker Open Hole Packer	10810.29	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10814.18	76.16	4.500	3.920				
		2.375 EX Frac Sleeve	10890.34	2.40	5.750		2.275	2286		
8		3 Joints of 4-1/2-13.5 LTC Casing	10892.74	118.67	4.500	3.920				
		Baker Open Hole Packer	11011.41	3.89	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	11015.30	78.32	4.500	3.920				
7		2.250 EX Frac Sleeve	11093.62	2.40	5.750		2.150	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	11096.02	122.61	4.500	3.920				

Operating Company Mewbourne Oil Co.
Well Name & Number Two Mesas 7 MP Fed #1H
Sales Ticket Number 5985228
Date 11/29/2013

Company Rep Josh Procise
Field
BOT Service Rep Joseph Haynes
District Location Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	110000	6.276	6.151	LTC / 8RD	0.03826	8,788.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,220.96	12,410	10,680
Bott Liner										
TVD	8435.00		KOP	7827.00		Open Hole	6.125		Casing Vol. (bbl)	325.9
Carry Fluid Weight (ppg)	8.4		Propan Content (ppa)			Max Drill Out Size	0			

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
		Baker Open Hole Packer	11218.63	3.89	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	11222.52	77.22	4.500	3.920				
8		2.125 EX Frac Sleeve	11299.74	2.40	5.750		2.025	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	11302.14	119.29	4.500	3.920				
		Baker Open Hole Packer	11421.43	3.89	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	11425.32	78.79	4.500	3.920				
7		2.000 EX Frac Sleeve	11504.11	2.40	5.750		1.900	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	11506.51	117.17	4.500	3.920				
		Baker Open Hole Packer	11623.68	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	11627.57	118.61	4.500	3.920				
6		1.875 EX Frac Sleeve	11746.18	2.40	5.750		1.775	2286		
		2 Joints of 4-1/2-13.5 LTC Casing	11748.58	77.22	4.500	3.920				
		Baker Open Hole Packer	11825.80	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	11829.69	78.81	4.500	3.920				
5		1.750 EX Frac Sleeve	11908.50	2.40	5.750		1.650	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	11910.90	116.03	4.500	3.920				
		Baker Open Hole Packer	12026.93	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12030.82	80.39	4.500	3.920				
4		1.625 EX Frac Sleeve	12111.21	2.40	5.750		1.525	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	12113.61	120.36	4.500	3.920				
		Baker Open Hole Packer	12233.97	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12237.86	78.77	4.500	3.920				
3		1.500 DBL Ball Frac Sleeve	12316.63	2.40	5.750		1.400	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	12319.03	119.13	4.500	3.920				
		Baker Open Hole Packer	12438.16	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	12442.05	117.75	4.500	3.920				

Company Rep	Josh Procise
Field	
BOT Service Rep	Joseph Haynes
District Location	Odessa, TX

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