

NM OIL CONSERVATION
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Mewbourne Oil Company .

Eddy County, New Mexico

Section 7-21S-25E Rio Bravo 7 B3NC Fed #1H

Rio Bravo 7 B3NC Fed #1H

Original Hole

Design: Original Hole

Standard Survey Report

20 March, 2015

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Stryker Directional Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Rio Bravo 7 B3NC Fed #1H
Project:	Eddy County, New Mexico	TVD Reference:	3498 + 20 @ 3518.0usft (Patterson #41)
Site:	Section 7-21S-25E Rio Bravo 7 B3NC Fed #1H	MD Reference:	3498 + 20 @ 3518.0usft (Patterson #41)
Well:	Rio Bravo 7 B3NC Fed #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Project	Eddy County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Section 7-21S-25E Rio Bravo 7 B3NC Fed #1H		
Site Position:		Northing:	541,025.90 usft
From:	Map	Easting:	468,447.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 29' 14.459 N
		Longitude:	104° 26' 8.389 W
		Grid Convergence:	-0.05 °

Well	Rio Bravo 7 B3NC Fed #1H		
Well Position	+N/-S	0.0 usft	Northing: 541,025.90 usft
	+E/-W	0.0 usft	Easting: 468,447.10 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 29' 14.459 N
		Longitude:	104° 26' 8.389 W
		Ground Level:	3,498.0 usft

Wellbore	Original Hole		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/23/2015	7.63	60.19	48,246

Design	Original Hole		
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Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	0.31

Survey Program		Date 2/23/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	6,200.0	VES Gyro Survey (Original Hole)	GyroFlex	
6,540.0	12,775.0	MWD Survey (Original Hole)	MWD	MWD v3:standard declination

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.78	150.07	100.0	-0.6	0.3	-0.6	0.78	0.78	0.00
200.0	1.46	149.42	200.0	-2.3	1.3	-2.3	0.68	0.68	-0.65
300.0	2.72	126.62	299.9	-4.8	3.9	-4.8	1.49	1.26	-22.80
400.0	3.86	127.57	399.7	-8.3	8.5	-8.2	1.14	1.14	0.95
500.0	3.85	135.56	499.5	-12.7	13.5	-12.6	0.54	-0.01	7.99
600.0	4.03	129.25	599.3	-17.3	18.5	-17.2	0.47	0.18	-6.31
700.0	4.12	138.53	699.0	-22.2	23.6	-22.1	0.66	0.09	9.28
800.0	4.08	141.86	798.8	-27.7	28.2	-27.6	0.24	-0.04	3.33
900.0	3.94	144.61	898.5	-33.3	32.4	-33.2	0.24	-0.14	2.75

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Well:	Rio Bravo 7 B3NC Fed #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	4.10	145.06	998.3	-39.1	36.4	-38.9	0.16	0.16	0.45
1,100.0	4.15	140.84	1,098.0	-44.8	40.8	-44.6	0.31	0.05	-4.22
1,200.0	4.35	148.24	1,197.8	-50.8	45.1	-50.6	0.58	0.20	7.40
1,300.0	4.12	157.46	1,297.5	-57.4	48.4	-57.1	0.72	-0.23	9.22
1,400.0	3.06	158.14	1,397.3	-63.2	50.8	-62.9	1.06	-1.06	0.68
1,500.0	2.73	174.13	1,497.2	-68.0	52.0	-67.7	0.87	-0.33	15.99
1,600.0	2.64	177.92	1,597.0	-72.7	52.4	-72.4	0.20	-0.09	3.79
1,700.0	2.71	185.66	1,696.9	-77.3	52.2	-77.1	0.37	0.07	7.74
1,800.0	2.78	191.14	1,796.8	-82.1	51.5	-81.8	0.27	0.07	5.48
1,900.0	2.95	195.15	1,896.7	-86.9	50.4	-86.7	0.26	0.17	4.01
2,000.0	3.25	190.95	1,996.6	-92.2	49.2	-91.9	0.38	0.30	-4.20
2,100.0	3.66	198.54	2,096.4	-98.0	47.6	-97.7	0.61	0.41	7.59
2,200.0	4.33	197.85	2,196.1	-104.6	45.4	-104.4	0.67	0.67	-0.69
2,300.0	4.64	199.42	2,295.8	-112.0	42.9	-111.8	0.33	0.31	1.57
2,400.0	4.70	198.30	2,395.5	-119.7	40.3	-119.5	0.11	0.06	-1.12
2,500.0	4.56	200.52	2,495.2	-127.4	37.6	-127.1	0.23	-0.14	2.22
2,600.0	4.27	200.70	2,594.9	-134.6	34.9	-134.4	0.29	-0.29	0.18
2,700.0	3.91	194.60	2,694.6	-141.3	32.7	-141.2	0.56	-0.36	-6.10
2,800.0	3.93	205.47	2,794.4	-147.7	30.4	-147.6	0.74	0.02	10.87
2,900.0	3.98	203.79	2,894.1	-154.0	27.5	-153.9	0.13	0.05	-1.68
3,000.0	4.05	203.90	2,993.9	-160.4	24.7	-160.3	0.07	0.07	0.11
3,100.0	4.06	207.25	3,093.6	-166.8	21.6	-166.7	0.24	0.01	3.35
3,200.0	4.11	220.82	3,193.4	-172.6	17.7	-172.5	0.97	0.05	13.57
3,300.0	4.80	229.82	3,293.1	-178.1	12.1	-178.0	0.98	0.69	9.00
3,400.0	4.94	234.68	3,392.7	-183.2	5.4	-183.2	0.44	0.14	4.86
3,500.0	5.64	242.24	3,492.3	-188.0	-2.4	-188.0	0.99	0.70	7.56
3,600.0	6.58	244.74	3,591.7	-192.8	-12.0	-192.8	0.98	0.94	2.50
3,700.0	7.46	247.91	3,691.0	-197.6	-23.2	-197.8	0.96	0.88	3.17
3,800.0	8.33	251.21	3,790.0	-202.4	-36.0	-202.6	0.98	0.87	3.30
3,900.0	9.05	253.82	3,888.9	-206.9	-50.4	-207.2	0.82	0.72	2.61
4,000.0	9.55	251.87	3,987.6	-211.7	-65.9	-212.1	0.59	0.50	-1.95
4,100.0	10.95	249.02	4,086.0	-217.7	-82.6	-218.1	1.49	1.40	-2.85
4,200.0	12.64	246.78	4,183.9	-225.4	-101.6	-226.0	1.75	1.69	-2.24
4,300.0	14.31	246.22	4,281.1	-234.7	-122.9	-235.4	1.68	1.67	-0.56
4,400.0	15.84	252.42	4,377.7	-243.8	-147.2	-244.6	2.22	1.53	6.20
4,500.0	17.28	247.54	4,473.5	-253.6	-174.0	-254.5	2.00	1.44	-4.88
4,600.0	18.47	243.09	4,568.7	-266.5	-201.8	-267.5	1.81	1.19	-4.45
4,700.0	20.03	241.44	4,663.1	-281.8	-231.0	-283.1	1.65	1.56	-1.65
4,800.0	21.38	244.59	4,756.6	-297.8	-262.5	-299.2	1.75	1.35	3.15
4,900.0	22.06	240.29	4,849.6	-315.0	-295.3	-316.5	1.73	0.68	-4.30
5,000.0	22.87	240.91	4,942.0	-333.7	-328.6	-335.5	0.84	0.81	0.62
5,100.0	23.48	240.11	5,033.9	-353.1	-362.8	-355.0	0.69	0.61	-0.80
5,200.0	23.89	234.87	5,125.5	-374.7	-396.7	-376.8	2.14	0.41	-5.24

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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	24.92	240.35	5,216.6	-396.7	-431.5	-399.1	2.49	1.03	5.48
5,400.0	25.83	241.23	5,306.9	-417.6	-468.9	-420.2	0.99	0.91	0.88
5,500.0	26.37	238.34	5,396.7	-439.8	-506.9	-442.5	1.38	0.54	-2.89
5,600.0	26.61	238.32	5,486.2	-463.2	-544.9	-466.2	0.24	0.24	-0.02
5,700.0	27.04	237.19	5,575.5	-487.3	-583.1	-490.4	0.67	0.43	-1.13
5,800.0	26.57	239.12	5,664.7	-511.1	-621.4	-514.4	0.99	-0.47	1.93
5,900.0	24.80	238.59	5,754.8	-533.5	-658.5	-537.0	1.78	-1.77	-0.53
6,000.0	23.64	237.84	5,846.0	-555.1	-693.3	-558.8	1.20	-1.16	-0.75
6,100.0	22.34	236.69	5,938.1	-576.2	-726.2	-580.1	1.38	-1.30	-1.15
6,200.0	21.64	235.19	6,030.8	-597.2	-757.2	-601.3	0.90	-0.70	-1.50
6200' MD VES Gyro									
6,540.0	18.70	225.80	6,350.0	-671.0	-847.8	-675.6	1.28	-0.86	-2.76
6,572.0	18.10	224.80	6,380.4	-678.1	-855.0	-682.7	2.12	-1.88	-3.13
6,603.0	20.40	233.90	6,409.6	-684.7	-862.8	-689.4	12.17	7.42	29.35
6,635.0	16.10	250.10	6,440.0	-689.5	-871.4	-694.2	20.67	-13.44	50.63
6,667.0	11.00	276.00	6,471.2	-690.7	-878.7	-695.4	24.40	-15.94	80.94
6,699.0	8.10	313.50	6,502.7	-688.8	-883.3	-693.6	20.95	-9.06	117.19
6,731.0	7.40	9.00	6,534.5	-685.2	-884.7	-690.0	22.58	-2.19	173.44
6,762.0	11.50	45.20	6,565.1	-681.1	-882.1	-685.8	22.67	13.23	116.77
6,794.0	17.10	51.80	6,596.1	-675.9	-876.2	-680.6	18.20	17.50	20.63
6,826.0	23.10	48.50	6,626.1	-668.8	-867.8	-673.5	19.07	18.75	-10.31
6,858.0	25.80	45.90	6,655.3	-659.8	-858.1	-664.5	9.08	8.44	-8.13
6,890.0	27.70	42.30	6,683.8	-649.5	-848.1	-654.1	7.80	5.94	-11.25
6,921.0	29.80	40.60	6,711.0	-638.3	-838.2	-642.8	7.27	6.77	-5.48
6,953.0	33.70	42.90	6,738.2	-625.8	-827.0	-630.2	12.76	12.19	7.19
6,984.0	36.50	45.80	6,763.6	-613.0	-814.5	-617.4	10.51	9.03	9.35
7,016.0	39.10	47.40	6,788.9	-599.6	-800.3	-603.9	8.68	8.13	5.00
7,048.0	40.20	45.60	6,813.5	-585.5	-785.4	-589.7	4.97	3.44	-5.63
7,078.0	41.50	44.80	6,836.2	-571.7	-771.5	-575.8	4.67	4.33	-2.67
7,110.0	44.40	44.90	6,859.6	-556.2	-756.2	-560.3	9.06	9.06	0.31
7,142.0	48.50	46.40	6,881.7	-540.0	-739.6	-544.0	13.25	12.81	4.69
7,174.0	51.60	44.80	6,902.2	-522.9	-722.0	-526.7	10.42	9.69	-5.00
7,205.0	54.40	45.10	6,920.9	-505.3	-704.6	-509.1	9.07	9.03	0.97
7,237.0	56.10	44.40	6,939.1	-486.7	-686.0	-490.4	5.61	5.31	-2.19
7,269.0	58.00	42.90	6,956.5	-467.2	-667.5	-470.8	7.12	5.94	-4.69
7,301.0	60.00	44.20	6,973.0	-447.4	-648.6	-450.9	7.15	6.25	4.06
7,333.0	61.50	44.80	6,988.6	-427.4	-629.0	-430.8	4.96	4.69	1.88
7,365.0	63.30	44.50	7,003.4	-407.3	-609.1	-410.6	5.69	5.63	-0.94
7,397.0	64.40	42.90	7,017.6	-386.5	-589.3	-389.7	5.65	3.44	-5.00
7,428.0	66.00	42.30	7,030.6	-365.8	-570.2	-368.9	5.45	5.16	-1.94
7,460.0	68.50	41.10	7,042.9	-343.8	-550.6	-346.7	8.54	7.81	-3.75
7,492.0	72.00	40.70	7,053.7	-321.0	-530.9	-323.9	11.00	10.94	-1.25
7,522.0	75.30	42.40	7,062.2	-299.5	-511.8	-302.2	12.27	11.00	5.67

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7,553.0	78.20	45.00	7,069.3	-277.6	-490.9	-280.3	12.42	9.35	8.39
7,583.0	80.90	46.10	7,074.7	-257.0	-469.9	-259.5	9.70	9.00	3.67
7,615.0	82.60	46.60	7,079.3	-235.1	-447.0	-237.5	5.53	5.31	1.56
7,647.0	82.60	46.40	7,083.4	-213.3	-424.0	-215.6	0.62	0.00	-0.63
7,679.0	83.50	46.40	7,087.3	-191.4	-401.0	-193.5	2.81	2.81	0.00
7,711.0	83.30	46.40	7,091.0	-169.5	-377.9	-171.5	0.63	-0.63	0.00
7,743.0	85.40	46.50	7,094.1	-147.5	-354.9	-149.4	6.57	6.56	0.31
7,774.0	87.00	46.30	7,096.2	-126.2	-332.5	-128.0	5.20	5.16	-0.65
7,806.0	91.40	45.10	7,096.6	-103.8	-309.6	-105.5	14.25	13.75	-3.75
7,838.0	92.40	43.70	7,095.6	-81.0	-287.2	-82.5	5.37	3.13	-4.38
7,932.0	87.80	43.20	7,095.4	-12.8	-222.6	-14.0	4.92	-4.89	-0.53
7,996.0	84.90	38.20	7,099.5	35.6	-180.9	34.6	9.02	-4.53	-7.81
8,058.0	89.30	34.80	7,102.6	85.4	-144.1	84.6	8.96	7.10	-5.48
8,090.0	89.70	34.80	7,102.9	111.7	-125.8	111.0	1.25	1.25	0.00
8,153.0	87.80	32.50	7,104.3	164.1	-90.9	163.6	4.73	-3.02	-3.65
8,248.0	87.20	25.30	7,108.4	247.1	-45.1	246.9	7.60	-0.63	-7.58
8,343.0	89.50	12.60	7,111.2	336.7	-14.3	336.7	13.58	2.42	-13.37
8,439.0	86.70	4.00	7,114.4	431.6	-0.5	431.6	9.42	-2.92	-8.96
8,534.0	86.20	2.80	7,120.3	526.2	5.1	526.3	1.37	-0.53	-1.26
8,628.0	90.90	1.40	7,122.6	620.1	8.6	620.2	5.22	5.00	-1.49
8,723.0	93.90	0.10	7,118.7	715.0	9.8	715.1	3.44	3.16	-1.37
8,818.0	92.10	359.20	7,113.7	809.9	9.2	809.9	2.12	-1.89	-0.95
8,913.0	90.80	359.20	7,111.3	904.8	7.9	904.9	1.37	-1.37	0.00
9,009.0	92.00	357.40	7,108.9	1,000.8	5.1	1,000.8	2.25	1.25	-1.88
9,104.0	91.40	356.20	7,106.1	1,095.6	-0.2	1,095.5	1.41	-0.63	-1.26
9,199.0	91.40	358.50	7,103.8	1,190.4	-4.6	1,190.4	2.42	0.00	2.42
9,294.0	93.80	0.20	7,099.5	1,285.3	-5.7	1,285.3	3.09	2.53	1.79
9,389.0	91.80	0.30	7,094.8	1,380.2	-5.3	1,380.1	2.11	-2.11	0.11
9,484.0	90.80	358.90	7,092.7	1,475.2	-6.0	1,475.1	1.81	-1.05	-1.47
9,579.0	91.20	1.20	7,091.0	1,570.1	-5.9	1,570.1	2.46	0.42	2.42
9,675.0	92.40	1.20	7,088.0	1,666.1	-3.9	1,666.0	1.25	1.25	0.00
9,769.0	91.90	0.60	7,084.5	1,760.0	-2.4	1,760.0	0.83	-0.53	-0.64
9,864.0	90.70	359.30	7,082.3	1,855.0	-2.5	1,854.9	1.86	-1.26	-1.37
9,960.0	91.60	1.50	7,080.4	1,950.9	-1.8	1,950.9	2.48	0.94	2.29
10,055.0	92.00	0.40	7,077.4	2,045.9	-0.2	2,045.8	1.23	0.42	-1.16
10,150.0	94.20	2.10	7,072.3	2,140.7	1.8	2,140.7	2.92	2.32	1.79
10,245.0	93.90	0.60	7,065.6	2,235.4	4.1	2,235.4	1.61	-0.32	-1.58
10,340.0	94.30	2.10	7,058.8	2,330.2	6.3	2,330.2	1.63	0.42	1.58
10,436.0	94.00	0.50	7,051.8	2,425.9	8.5	2,425.9	1.69	-0.31	-1.67
10,530.0	92.10	3.60	7,046.8	2,519.7	11.8	2,519.7	3.86	-2.02	3.30
10,626.0	90.90	3.60	7,044.3	2,615.5	17.9	2,615.5	1.25	-1.25	0.00
10,721.0	90.50	2.10	7,043.2	2,710.3	22.6	2,710.4	1.63	-0.42	-1.58
10,815.0	90.40	1.90	7,042.4	2,804.3	25.9	2,804.4	0.24	-0.11	-0.21
10,911.0	90.50	0.80	7,041.7	2,900.2	28.1	2,900.3	1.15	0.10	-1.15

Stryker Directional Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Rio Bravo 7 B3NC Fed #1H
Project:	Eddy County, New Mexico	TVD Reference:	3498 + 20 @ 3518.0usft (Patterson #41)
Site:	Section 7-21S-25E Rio Bravo 7 B3NC Fed #1H	MD Reference:	3498 + 20 @ 3518.0usft (Patterson #41)
Well:	Rio Bravo 7 B3NC Fed #1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,005.0	90.10	359.90	7,041.2	2,994.2	28.7	2,994.3	1.05	-0.43	-0.96
11,101.0	89.90	358.90	7,041.2	3,090.2	27.7	3,090.3	1.06	-0.21	-1.04
11,196.0	91.00	358.90	7,040.4	3,185.2	25.9	3,185.3	1.16	1.16	0.00
11,291.0	90.70	358.20	7,039.0	3,280.2	23.5	3,280.2	0.80	-0.32	-0.74
11,387.0	91.20	359.90	7,037.4	3,376.1	21.9	3,376.2	1.85	0.52	1.77
11,482.0	90.80	1.20	7,035.8	3,471.1	22.8	3,471.2	1.43	-0.42	1.37
11,577.0	91.30	1.70	7,034.0	3,566.1	25.2	3,566.1	0.74	0.53	0.53
11,673.0	91.10	0.80	7,032.0	3,662.0	27.3	3,662.1	0.96	-0.21	-0.94
11,768.0	90.60	359.60	7,030.6	3,757.0	27.6	3,757.1	1.37	-0.53	-1.26
11,864.0	90.60	358.80	7,029.6	3,853.0	26.3	3,853.1	0.83	0.00	-0.83
11,959.0	90.70	358.20	7,028.5	3,947.9	23.8	3,948.0	0.64	0.11	-0.63
12,052.0	89.10	357.00	7,028.7	4,040.9	19.9	4,040.9	2.15	-1.72	-1.29
12,148.0	89.50	358.10	7,029.9	4,136.8	15.8	4,136.8	1.22	0.42	1.15
12,243.0	90.20	1.20	7,030.1	4,231.8	15.2	4,231.8	3.35	0.74	3.26
12,338.0	90.30	0.20	7,029.7	4,326.7	16.4	4,326.8	1.06	0.11	-1.05
12,433.0	90.20	359.40	7,029.3	4,421.7	16.0	4,421.8	0.85	-0.11	-0.84
12,528.0	89.90	358.80	7,029.2	4,516.7	14.5	4,516.7	0.71	-0.32	-0.63
12,623.0	89.70	357.70	7,029.5	4,611.7	11.6	4,611.7	1.18	-0.21	-1.16
12,718.0	89.50	355.80	7,030.2	4,706.5	6.3	4,706.5	2.01	-0.21	-2.00
12,732.0	89.50	355.60	7,030.3	4,720.5	5.2	4,720.4	1.43	0.00	-1.43
12,775.0	89.50	355.60	7,030.7	4,763.4	1.9	4,763.3	0.00	0.00	0.00

12775' MD Projected to Bit

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,200.0	6,030.8	-597.2	-757.2	6200' MD VES Gyro
12,775.0	7,030.7	4,763.4	1.9	12775' MD Projected to Bit



Company: Mewbourne Oil
Lease/Well: Rio Bravo 7 B3NC Federal /1H
Location: Eddy County, New Mexico
Rig Name: Patterson 41



Latitude: 32.49, Longitude: -104.44
GRID North is 0.05 Degrees West of True North
VS-Azi: 0.00 Degrees

Depth Reference : RKB = 16 feet

DRILLOG HA GYRO SURVEY CALCULATIONS

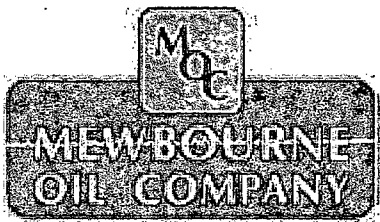
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Minimum Curvature Method
Report Date/Time: 2/20/2015 / 16:29

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Midland, Texas
432-563-5444
Surveyor: Adam Askew
Rio Bravo 7 B3NC Federal 1H / API 30-015-42918

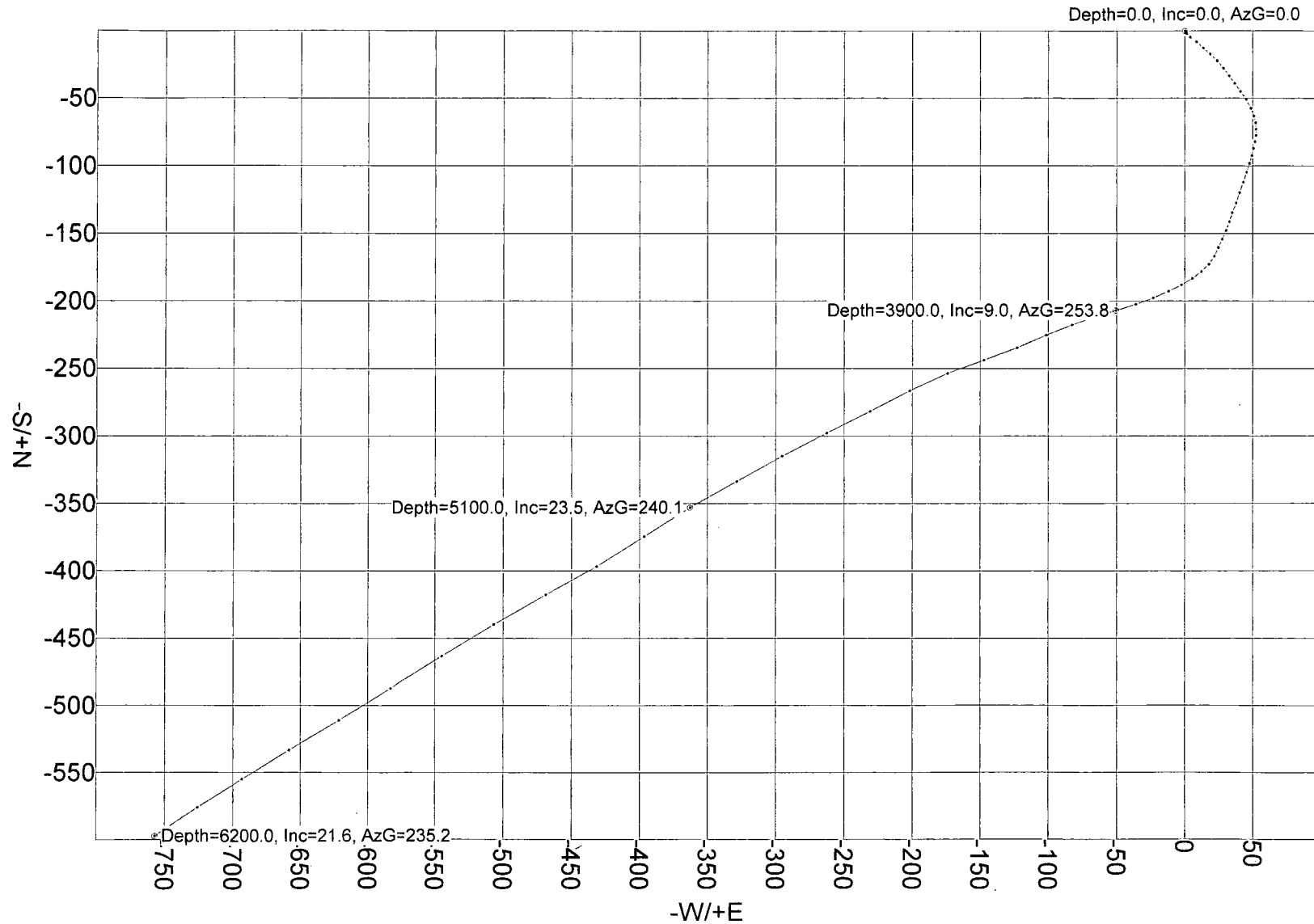
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.78	150.07	100.00	-0.59	0.34	-0.59	0.68	150.07	0.78
200.00	1.46	149.42	199.98	-2.28	1.33	-2.28	2.64	149.75	0.67
300.00	2.72	126.62	299.91	-4.79	3.88	-4.79	6.17	140.98	1.49
400.00	3.86	127.57	399.74	-8.26	8.46	-8.26	11.82	134.33	1.14
500.00	3.85	135.56	499.52	-12.71	13.48	-12.71	18.52	133.33	0.54
600.00	4.03	129.25	599.28	-17.33	18.55	-17.33	25.39	133.06	0.47
700.00	4.12	138.53	699.03	-22.25	23.65	-22.25	32.47	133.25	0.66
800.00	4.08	141.86	798.77	-27.74	28.22	-27.74	39.57	134.50	0.24
900.00	3.94	144.61	898.53	-33.34	32.41	-33.34	46.50	135.81	0.24
1000.00	4.10	145.06	998.28	-39.07	36.45	-39.07	53.43	136.99	0.16
1100.00	4.15	140.84	1098.02	-44.80	40.78	-44.80	60.58	137.69	0.31
1200.00	4.35	148.24	1197.75	-50.83	45.06	-50.83	67.93	138.44	0.58
1300.00	4.12	157.46	1297.48	-57.37	48.43	-57.37	75.08	139.83	0.72
1400.00	3.06	158.14	1397.28	-63.16	50.80	-63.16	81.06	141.19	1.06
1500.00	2.73	174.13	1497.16	-68.01	52.04	-68.01	85.64	142.58	0.87
1600.00	2.64	177.92	1597.05	-72.68	52.37	-72.68	89.58	144.23	0.20
1700.00	2.71	185.66	1696.94	-77.34	52.22	-77.34	93.31	145.97	0.37
1800.00	2.78	191.14	1796.82	-82.07	51.51	-82.07	96.90	147.89	0.27

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
1900.00	2.95	195.15	1896.70	-86.94	50.37	-86.94	100.48	149.91	0.26
2000.00	3.25	190.95	1996.55	-92.20	49.16	-92.20	104.49	151.93	0.37
2100.00	3.66	198.54	2096.37	-98.00	47.61	-98.00	108.96	154.09	0.62
2200.00	4.33	197.85	2196.13	-104.62	45.44	-104.62	114.06	156.52	0.67
2300.00	4.64	199.42	2295.82	-112.02	42.94	-112.02	119.97	159.03	0.33
2400.00	4.70	198.30	2395.49	-119.72	40.31	-119.72	126.33	161.39	0.11
2500.00	4.56	200.52	2495.16	-127.34	37.63	-127.34	132.78	163.54	0.23
2600.00	4.27	200.70	2594.87	-134.54	34.92	-134.54	139.00	165.45	0.29
2700.00	3.91	194.60	2694.61	-141.33	32.74	-141.33	145.07	166.96	0.57
2800.00	3.93	205.47	2794.38	-147.72	30.41	-147.72	150.82	168.37	0.74
2900.00	3.98	203.79	2894.14	-154.00	27.54	-154.00	156.44	169.86	0.13
3000.00	4.05	203.90	2993.90	-160.40	24.70	-160.40	162.29	171.24	0.06
3100.00	4.06	207.25	3093.65	-166.77	21.66	-166.77	168.17	172.60	0.24
3200.00	4.11	220.82	3193.39	-172.62	17.69	-172.62	173.53	174.15	0.97
3300.00	4.80	229.82	3293.09	-178.03	12.16	-178.03	178.45	176.09	0.98
3400.00	4.94	234.68	3392.73	-183.22	5.45	-183.22	183.30	178.30	0.44
3500.00	5.64	242.24	3492.31	-188.00	-2.41	-188.00	188.01	180.73	0.99
3600.00	6.58	244.74	3591.74	-192.73	-11.94	-192.73	193.10	183.55	0.98
3700.00	7.46	247.91	3690.99	-197.62	-23.15	-197.62	198.97	186.68	0.96
3800.00	8.33	251.21	3790.04	-202.40	-36.02	-202.40	205.58	190.09	0.97
3900.00	9.05	253.82	3888.89	-206.92	-50.43	-206.92	212.97	193.70	0.82
4000.00	9.55	251.87	3987.58	-211.69	-65.86	-211.69	221.70	197.28	0.59
4100.00	10.95	249.02	4085.98	-217.67	-82.62	-217.67	232.82	200.78	1.49
4200.00	12.64	246.78	4183.86	-225.39	-101.54	-225.39	247.20	204.25	1.75
4300.00	14.31	246.22	4281.11	-234.68	-122.91	-234.68	264.92	207.64	1.68
4400.00	15.84	252.42	4377.67	-243.79	-147.23	-243.79	284.80	211.13	2.22
4500.00	17.28	247.54	4473.52	-253.59	-173.97	-253.59	307.53	214.45	2.00
4600.00	18.47	243.09	4568.70	-266.43	-201.82	-266.43	334.24	217.14	1.81
4700.00	20.03	241.44	4663.11	-281.79	-230.99	-281.79	364.36	219.34	1.65
4800.00	21.38	244.59	4756.65	-297.80	-262.50	-297.80	396.97	221.39	1.75
4900.00	22.06	240.29	4849.56	-314.93	-295.27	-314.93	431.70	223.15	1.73
5000.00	22.87	240.91	4941.97	-333.68	-328.56	-333.68	468.29	224.56	0.85
5100.00	23.48	240.11	5033.90	-353.05	-362.81	-353.05	506.24	225.78	0.69
5200.00	23.89	234.87	5125.49	-374.63	-396.64	-374.63	545.60	226.63	2.14
5300.00	24.92	240.35	5216.56	-396.71	-431.52	-396.71	586.16	227.41	2.48
5400.00	25.83	241.23	5306.92	-417.62	-468.92	-417.62	627.93	228.31	0.99
5500.00	26.37	238.34	5396.72	-439.76	-506.92	-439.76	671.09	229.06	1.38
5600.00	26.61	238.32	5486.23	-463.18	-544.88	-463.18	715.14	229.63	0.24
5700.00	27.04	237.19	5575.47	-487.26	-583.04	-487.26	759.84	230.11	0.67

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	26.57	239.12	5664.73	-511.05	-621.33	-511.05	804.51	230.56	0.99
5900.00	24.80	238.59	5754.84	-533.46	-658.43	-533.46	847.41	230.99	1.79
6000.00	23.64	237.84	5846.04	-555.06	-693.30	-555.06	888.12	231.32	1.20
6100.00	22.34	236.69	5938.10	-576.17	-726.16	-576.17	926.97	231.57	1.38
6200.00	21.64	235.19	6030.82	-597.14	-757.18	-597.14	964.31	231.74	0.89



VES Survey International
Midland, Texas
432-563-5444
Surveyor: Adam Askew
Rio Bravo 7 B3NC Federal 1H / API 30-015-42918



VES Survey Date: 2/13/2015