

Whiting Oil and Gas Corporation

Weld County, CO

Sec. 27-T10N-R58W (Razor #27J Pad)

Razor #27J-2209A

Plan C

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

24 October, 2014

Well Coordinates: 1,541,693.77 N, 3,457,069.90 E (40° 48' 31.14" N, 103° 50' 55.78" W)

Ground Level: 4,767.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Razor #27J-2209A

KB 22 ft @ 4789.00usft (Frontier 26)

N

True

API - US Survey Feet - Custom

HALLIBURTON

Design Report for Razor #27J-2209A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.00	0.60	124.76	175.00	-0.52	0.75	-0.58	0.34
First Sperry MWD Survey @ 175.00 ft							
266.00	0.84	124.27	265.99	-1.17	1.70	-1.30	0.26
357.00	0.97	128.19	356.98	-2.02	2.85	-2.24	0.16
449.00	1.78	142.58	448.95	-3.64	4.33	-3.97	0.95
541.00	0.92	165.11	540.93	-5.49	5.39	-5.89	1.08
633.00	0.80	168.46	632.91	-6.83	5.71	-7.26	0.14
725.00	0.59	173.46	724.91	-7.93	5.89	-8.37	0.24
817.00	0.62	166.37	816.90	-8.88	6.06	-9.33	0.09
909.00	0.63	161.35	908.90	-9.85	6.34	-10.32	0.06
1,001.00	1.13	256.83	1,000.89	-10.53	5.62	-10.94	1.46
1,092.00	2.08	266.38	1,091.85	-10.84	3.10	-11.05	1.08
1,184.00	2.73	280.35	1,183.77	-10.55	-0.72	-10.46	0.95
1,276.00	4.01	276.38	1,275.61	-9.80	-6.08	-9.29	1.41
1,368.00	5.40	274.55	1,367.30	-9.10	-13.59	-8.00	1.52
1,459.00	7.05	267.83	1,457.76	-8.97	-23.44	-7.09	1.98
1,550.00	8.04	266.69	1,547.97	-9.55	-35.37	-6.73	1.10
1,559.00	8.21	266.52	1,556.88	-9.63	-36.64	-6.70	1.91
1,640.00	9.99	269.09	1,636.86	-10.09	-49.44	-6.16	2.25
1,731.00	9.73	270.52	1,726.52	-10.15	-65.02	-4.98	0.39
1,824.00	11.17	272.35	1,817.97	-9.70	-81.88	-3.21	1.59
1,915.00	10.13	268.08	1,907.40	-9.61	-98.69	-1.79	1.43
2,006.00	9.14	263.78	1,997.12	-10.66	-113.87	-1.64	1.34
2,098.00	10.87	268.55	2,087.72	-11.67	-129.81	-1.39	2.08
2,189.00	12.62	267.85	2,176.81	-12.26	-148.32	-0.52	1.93
2,281.00	11.51	267.22	2,266.78	-13.09	-167.53	0.18	1.21
2,373.00	10.75	267.44	2,357.05	-13.91	-185.27	0.75	0.83
2,464.00	10.74	255.00	2,446.46	-16.49	-201.94	-0.50	2.54
2,555.00	10.60	254.76	2,535.89	-20.88	-218.21	-3.59	0.16
2,647.00	12.61	258.00	2,626.00	-25.20	-236.20	-6.47	2.30
2,738.00	12.01	257.30	2,714.91	-29.34	-255.15	-9.11	0.68
2,829.00	11.51	255.54	2,804.00	-33.69	-273.18	-12.02	0.68
2,921.00	10.67	255.65	2,894.28	-38.09	-290.32	-15.06	0.91
3,013.00	11.36	260.01	2,984.59	-41.78	-307.49	-17.38	1.18
3,104.00	9.68	260.62	3,074.06	-44.58	-323.87	-18.88	1.85
3,195.00	11.52	262.45	3,163.50	-47.02	-340.43	-20.00	2.06
3,288.00	11.57	261.71	3,254.62	-49.58	-358.86	-21.10	0.17
3,379.00	12.66	261.67	3,343.59	-52.35	-377.76	-22.36	1.20
3,471.00	12.84	259.21	3,433.32	-55.72	-397.78	-24.15	0.62
3,562.00	13.58	258.49	3,521.91	-59.74	-418.18	-26.55	0.83
3,653.00	10.98	261.73	3,610.83	-63.12	-437.23	-28.42	2.95
3,745.00	10.75	259.10	3,701.18	-66.01	-454.32	-29.94	0.59
3,836.00	9.60	256.26	3,790.74	-69.41	-470.03	-32.10	1.38
3,928.00	10.58	259.89	3,881.32	-72.72	-485.80	-34.15	1.27
4,019.00	11.49	265.03	3,970.64	-74.97	-503.05	-35.03	1.47
4,111.00	10.29	264.89	4,060.98	-76.50	-520.36	-35.18	1.30
4,202.00	11.69	261.65	4,150.31	-78.56	-537.58	-35.88	1.68
4,293.00	10.66	261.91	4,239.58	-81.08	-555.04	-37.02	1.13
4,384.00	10.63	266.70	4,329.02	-82.75	-571.75	-37.36	0.97

Design Report for Razor #27J-2209A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
4,477.00	9.03	262.71	4,420.65	-84.17	-587.55	-37.53	1.87
4,567.00	8.23	260.70	4,509.63	-86.11	-600.92	-38.41	0.95
4,659.00	6.93	258.20	4,600.83	-88.31	-612.85	-39.66	1.46
4,751.00	5.40	256.75	4,692.29	-90.43	-622.49	-41.02	1.67
4,843.00	3.15	260.21	4,784.03	-91.86	-629.20	-41.90	2.46
4,935.00	1.38	329.06	4,875.97	-91.33	-632.26	-41.14	3.20
5,026.00	1.62	42.53	4,966.95	-89.45	-631.96	-39.29	1.98
5,057.00	1.69	50.23	4,997.93	-88.83	-631.31	-38.72	0.75
5,088.00	3.17	25.27	5,028.90	-87.76	-630.59	-37.72	5.76
5,119.00	6.71	1.37	5,059.79	-85.18	-630.18	-35.17	12.97
5,149.00	11.82	354.58	5,089.39	-80.36	-630.43	-30.35	17.39
5,180.00	16.08	352.56	5,119.47	-72.94	-631.29	-22.89	13.83
5,210.00	19.64	354.07	5,148.02	-63.80	-632.35	-13.69	11.97
5,241.00	21.73	355.26	5,177.02	-52.90	-633.36	-2.75	6.88
5,272.00	23.80	356.74	5,205.60	-40.94	-634.19	9.25	6.93
5,302.00	25.26	357.79	5,232.89	-28.50	-634.78	21.70	5.08
5,333.00	26.53	358.70	5,260.78	-14.97	-635.19	35.22	4.29
5,363.00	28.23	358.55	5,287.42	-1.17	-635.52	48.99	5.67
5,393.00	29.78	357.64	5,313.65	13.36	-636.01	63.52	5.37
5,424.00	31.67	356.19	5,340.30	29.18	-636.87	79.36	6.55
5,455.00	33.94	356.64	5,366.36	45.94	-637.91	96.15	7.36
5,486.00	36.70	357.47	5,391.65	63.84	-638.83	114.06	9.04
5,516.00	40.02	358.76	5,415.17	82.44	-639.44	132.66	11.38
5,547.00	43.38	359.51	5,438.31	103.06	-639.74	153.23	10.96
5,578.00	46.19	359.45	5,460.31	124.89	-639.94	175.01	9.07
5,609.00	48.31	359.45	5,481.35	147.65	-640.16	197.72	6.84
5,641.00	51.27	359.29	5,502.01	172.09	-640.43	222.10	9.26
5,673.00	53.45	359.03	5,521.55	197.42	-640.80	247.39	6.84
5,705.00	56.16	359.29	5,539.99	223.57	-641.18	273.48	8.49
5,736.00	58.72	359.72	5,556.67	249.69	-641.41	299.54	8.34
5,768.00	61.25	358.35	5,572.68	277.39	-641.88	327.19	8.73
5,799.00	66.37	358.81	5,586.36	305.19	-642.57	354.96	16.57
5,831.00	71.71	358.77	5,597.80	335.06	-643.20	384.78	16.69
5,863.00	72.24	359.21	5,607.70	365.48	-643.73	415.15	2.11
5,894.00	73.02	359.63	5,616.96	395.07	-644.03	444.67	2.83
5,926.00	76.50	359.98	5,625.37	425.94	-644.14	475.45	10.93
5,957.00	79.21	0.41	5,631.89	456.24	-644.03	505.65	8.85
5,989.00	80.86	0.56	5,637.43	487.76	-643.77	537.05	5.18
5,992.00	81.06	0.51	5,637.90	490.72	-643.74	540.00	6.87
7" Casing Pt. ~2614 FEL, ~168' FMSL							
6,020.00	82.92	0.01	5,641.80	518.44	-643.61	567.63	6.87
6,052.00	85.80	359.99	5,644.94	550.28	-643.61	599.37	9.00
6,089.00	88.86	359.84	5,646.67	587.24	-643.67	636.21	8.28
6,184.00	87.69	357.21	5,649.53	682.16	-646.11	731.03	3.03
6,278.00	89.01	358.29	5,652.23	776.04	-649.80	824.91	1.81
6,373.00	91.23	0.26	5,652.04	871.02	-651.00	919.69	3.12
6,467.00	91.48	359.28	5,649.81	964.99	-651.38	1,013.40	1.08
6,562.00	92.71	359.13	5,646.34	1,059.92	-652.70	1,108.13	1.30
6,656.00	89.38	357.96	5,644.63	1,153.86	-655.08	1,201.97	3.75
6,751.00	90.15	1.75	5,645.02	1,248.84	-655.32	1,296.67	4.07
6,846.00	90.99	0.59	5,644.07	1,343.81	-653.38	1,391.19	1.51

Design Report for Razor #27J-2209A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
6,941.00	90.92	2.18	5,642.49	1,438.77	-651.09	1,485.67	1.68
7,035.00	90.22	3.26	5,641.55	1,532.66	-646.63	1,578.91	1.37
7,129.00	89.41	2.31	5,641.86	1,626.54	-642.06	1,672.15	1.33
7,224.00	89.82	2.52	5,642.49	1,721.46	-638.06	1,766.45	0.48
7,318.00	88.83	1.27	5,643.60	1,815.39	-634.95	1,859.85	1.70
7,413.00	89.48	1.82	5,645.00	1,910.35	-632.39	1,954.30	0.90
7,508.00	88.67	359.39	5,646.54	2,005.32	-631.38	2,048.90	2.70
7,602.00	90.12	359.73	5,647.53	2,099.31	-632.11	2,142.66	1.58
7,697.00	89.63	359.33	5,647.74	2,194.31	-632.89	2,237.42	0.67
7,792.00	88.92	357.63	5,648.94	2,289.26	-635.40	2,332.28	1.94
7,886.00	88.09	356.18	5,651.39	2,383.09	-640.48	2,426.21	1.78
7,981.00	88.86	356.14	5,653.92	2,477.84	-646.84	2,521.17	0.81
8,076.00	88.89	355.25	5,655.78	2,572.56	-653.97	2,616.15	0.94
8,168.00	89.41	356.73	5,657.15	2,664.32	-660.40	2,708.13	1.70
8,260.00	90.49	359.04	5,657.23	2,756.25	-663.80	2,800.04	2.77
8,351.00	90.06	0.67	5,656.79	2,847.24	-664.03	2,890.77	1.85
8,442.00	88.37	1.50	5,658.04	2,938.21	-662.30	2,981.32	2.07
8,533.00	87.63	0.64	5,661.21	3,029.14	-660.60	3,071.83	1.25
8,624.00	87.44	359.77	5,665.13	3,120.06	-660.28	3,162.44	0.98
8,715.00	87.23	359.26	5,669.36	3,210.95	-661.05	3,253.11	0.61
8,806.00	88.80	358.80	5,672.51	3,301.88	-662.59	3,343.88	1.80
8,897.00	89.11	0.54	5,674.17	3,392.86	-663.11	3,434.62	1.94
8,988.00	90.22	1.91	5,674.70	3,483.84	-661.17	3,525.15	1.94
9,080.00	91.45	1.71	5,673.36	3,575.78	-658.26	3,616.58	1.35
9,171.00	91.20	0.97	5,671.26	3,666.73	-656.13	3,707.08	0.86
9,263.00	91.42	0.92	5,669.16	3,758.69	-654.62	3,798.64	0.25
9,355.00	91.82	0.72	5,666.55	3,850.65	-653.30	3,890.20	0.49
9,446.00	90.56	0.73	5,664.66	3,941.62	-652.15	3,980.80	1.38
9,537.00	89.51	1.47	5,664.61	4,032.60	-650.40	4,071.36	1.41
9,627.00	90.40	2.77	5,664.68	4,122.53	-647.07	4,160.75	1.75
9,718.00	88.86	0.54	5,665.27	4,213.49	-644.45	4,251.21	2.98
9,811.00	88.92	0.01	5,667.07	4,306.47	-644.00	4,343.86	0.57
9,902.00	88.74	359.61	5,668.93	4,397.45	-644.30	4,434.58	0.48
9,993.00	88.15	359.56	5,671.40	4,488.41	-644.96	4,525.32	0.65
10,085.00	88.40	359.06	5,674.17	4,580.36	-646.07	4,617.07	0.61
10,176.00	88.55	358.88	5,676.59	4,671.32	-647.70	4,707.87	0.26
10,268.00	88.89	358.06	5,678.64	4,763.26	-650.16	4,799.72	0.96
10,360.00	89.20	359.54	5,680.18	4,855.22	-652.08	4,891.55	1.64
10,451.00	89.75	359.82	5,681.01	4,946.22	-652.59	4,982.30	0.68
10,542.00	89.48	0.80	5,681.62	5,037.21	-652.10	5,072.97	1.12
10,634.00	90.31	1.00	5,681.79	5,129.20	-650.66	5,164.56	0.93
10,725.00	89.38	0.90	5,682.04	5,220.19	-649.15	5,255.14	1.03
10,816.00	88.74	1.77	5,683.53	5,311.15	-647.03	5,345.65	1.19
10,908.00	89.32	0.61	5,685.09	5,403.11	-645.12	5,437.18	1.41
11,000.00	87.47	0.89	5,687.66	5,495.07	-643.91	5,528.75	2.03
11,091.00	87.38	359.40	5,691.75	5,585.97	-643.68	5,619.35	1.64
11,182.00	88.80	358.49	5,694.79	5,676.90	-645.36	5,710.13	1.85
11,274.00	87.93	359.32	5,697.41	5,768.85	-647.12	5,801.93	1.31
11,367.00	85.95	358.59	5,702.37	5,861.69	-648.81	5,894.62	2.27
11,457.00	85.96	358.72	5,708.72	5,951.44	-650.92	5,984.25	0.14
11,549.00	86.67	358.42	5,714.64	6,043.22	-653.21	6,075.93	0.84

Design Report for Razor #27J-2209A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
11,641.00	88.58	359.32	5,718.45	6,135.12	-655.02	6,167.68	2.29
11,733.00	89.94	359.05	5,719.64	6,227.10	-656.33	6,259.48	1.51
11,825.00	90.93	358.25	5,718.94	6,319.07	-658.49	6,351.33	1.38
11,917.00	91.88	0.45	5,716.68	6,411.03	-659.54	6,443.09	2.60
12,009.00	92.07	0.98	5,713.51	6,502.97	-658.39	6,534.65	0.61
12,100.00	91.82	2.34	5,710.42	6,593.88	-655.76	6,625.06	1.52
12,193.00	88.61	0.88	5,710.07	6,686.83	-653.14	6,717.52	3.79
12,283.00	88.89	0.45	5,712.04	6,776.80	-652.10	6,807.13	0.57
12,376.00	89.97	0.84	5,712.96	6,869.79	-651.05	6,899.74	1.23
12,468.00	90.65	0.31	5,712.46	6,961.78	-650.13	6,991.37	0.94
12,559.00	90.92	0.38	5,711.22	7,052.77	-649.58	7,082.04	0.31
12,651.00	90.93	0.13	5,709.73	7,144.76	-649.17	7,173.70	0.27
12,743.00	92.93	0.86	5,706.63	7,236.69	-648.38	7,265.29	2.31
12,834.00	90.65	0.74	5,703.79	7,327.64	-647.11	7,355.85	2.51
12,926.00	90.34	0.95	5,703.00	7,419.62	-645.75	7,447.44	0.41
13,017.00	89.51	0.24	5,703.12	7,510.62	-644.81	7,538.08	1.20
13,108.00	90.25	0.62	5,703.31	7,601.61	-644.12	7,628.74	0.91
13,200.00	89.78	359.92	5,703.28	7,693.61	-643.69	7,720.41	0.92
13,291.00	88.98	358.82	5,704.27	7,784.60	-644.69	7,811.20	1.49
13,383.00	91.27	359.39	5,704.07	7,876.58	-646.13	7,903.00	2.57
13,473.00	91.30	359.39	5,702.05	7,966.55	-647.09	7,992.77	0.03
13,565.00	91.02	358.95	5,700.19	8,058.52	-648.42	8,084.56	0.57
13,634.00	89.97	359.38	5,699.59	8,127.51	-649.42	8,153.41	1.64
Final Sperry MWD Survey @ 13634.00 ft							
13,677.00	89.97	359.38	5,699.61	8,170.51	-649.89	8,196.31	0.00
Straight Line Projection to TD @ 13677.00 ft							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,992.00	5,637.90	490.72	-643.74	7" Casing Pt. ~2614 FEL, ~168' FMSL
13,634.00	5,699.59	8,127.51	-649.42	Final Sperry MWD Survey @ 13634.00 ft
13,677.00	5,699.61	8,170.51	-649.89	Straight Line Projection to TD @ 13677.00 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
Target	Razor #27J-2209A_Rev C0_BHL Tgt	355.47	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
175.00	1,559.00	Surface_Sperry MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
1,640.00	6,052.00	Vertical & Build_Sperry MWD++IFR1+MS+sag	MWD+IFR1+MS+sag
6,089.00	13,634.00	Lateral_Sperry MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
13,677.00	13,677.00	Projection to Bit_BLIND	BLIND

Design Report for Razor #27J-2209A - Actual Field Surveys**Casing Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,597.00	1,594.45	9 5/8"	9-5/8	9-5/8
5,992.00	5,637.90	7"	7	8-3/4

Wellbore Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Razor #27J_Northern_	0.00	0.00	0.00	0.03	0.00	1,541,693.80	3,457,069.90	40° 48' 31.140 N	103° 50' 55.781 W
- actual wellpath misses target center by 0.03usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	2,930.24	-3,343.16	1,544,561.30	3,453,672.75	
Point 2				0.00	2,969.37	-695.04	1,544,649.73	3,456,319.69	
Point 3				0.00	3,008.05	1,931.48	1,544,737.31	3,458,945.05	
Point 4				0.00	-2,286.13	2,017.17	1,539,445.62	3,459,129.30	
Point 5				0.00	-2,373.07	-3,265.25	1,539,260.33	3,453,849.39	
Point 6				0.00	2,930.24	-3,343.16	1,544,561.30	3,453,672.75	
Point 7				0.00	8,221.18	-3,387.54	1,549,850.52	3,453,529.86	
Point 8				0.00	8,324.12	1,825.08	1,550,050.49	3,458,739.68	
Point 9				0.00	3,008.05	1,931.48	1,544,737.31	3,458,945.05	
Point 10				0.00	2,969.37	-695.04	1,544,649.73	3,456,319.69	
Razor #27J_Sec 27_1'	0.00	0.00	0.00	0.03	0.00	1,541,693.80	3,457,069.90	40° 48' 31.140 N	103° 50' 55.781 W
- actual wellpath misses target center by 0.03usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	378.58	-3,304.21	1,542,010.79	3,453,759.20	
Point 2				0.00	461.51	1,974.88	1,542,192.00	3,459,035.86	
Razor #27J_Northern_	0.00	0.00	0.00	0.03	0.00	1,541,693.80	3,457,069.90	40° 48' 31.140 N	103° 50' 55.781 W
- actual wellpath misses target center by 0.03usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	3,008.05	1,831.48	1,544,735.44	3,458,845.07	
Point 2				0.00	-2,186.13	1,917.17	1,539,543.74	3,459,027.45	
Point 3				0.00	-2,273.07	-3,165.25	1,539,362.18	3,453,947.51	
Point 4				0.00	2,930.24	-3,243.16	1,544,563.16	3,453,772.73	
Point 5				0.00	8,121.18	-3,287.54	1,549,752.39	3,453,631.71	
Point 6				0.00	8,224.12	1,725.08	1,549,948.65	3,458,641.56	
Point 7				0.00	3,008.05	1,831.48	1,544,735.44	3,458,845.07	
Razor #27J_Sec 27_IV	0.00	0.00	3.00	0.03	0.00	1,541,693.80	3,457,069.90	40° 48' 31.140 N	103° 50' 55.781 W
- actual wellpath misses target center by 0.03usft at 3.00usft MD (3.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				3.00	278.58	-3,304.21	1,541,910.81	3,453,761.07	
Point 2				3.00	361.51	1,974.88	1,542,092.02	3,459,037.72	
Razor #27J-2209A_Re	0.00	0.00	5,642.00	8,175.02	-647.29	1,549,855.36	3,456,270.51	40° 49' 51.916 N	103° 51' 4.201 W
- actual wellpath misses target center by 57.85usft at 13677.00usft MD (5699.61 TVD, 8170.51 N, -649.89 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	1.91 °/100usft	Maximum Dogleg over Survey:	17.39 °/100usft at 5,149.00 usft
Net Tortosity applicable to Plans:	1.08 °/100usft	Directional Difficulty Index:	6.745

Audit Info

North Reference Sheet for Sec. 27-T10N-R58W (Razor #27J Pad) - Razor #27J-2209A - Plan C

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference .

Vertical Depths are relative to KB 22 ft @ 4789.00usft (Frontier 26). Northing and Easting are relative to Razor #27J-2209A

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 105° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 47' 0.000 N°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 1.00000421

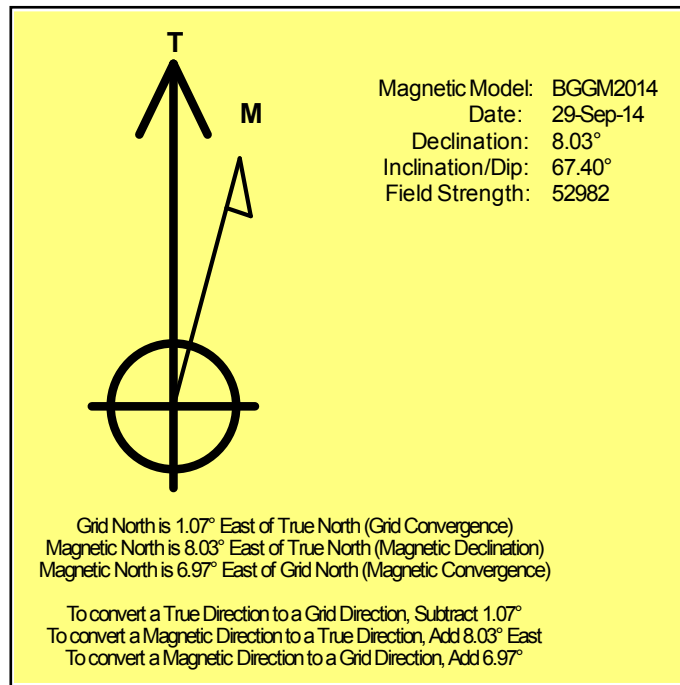
Grid Coordinates of Well: 1,541,693.77 usft N, 3,457,069.90 usft E

Geographical Coordinates of Well: 40° 48' 31.14" N, 103° 50' 55.78" W

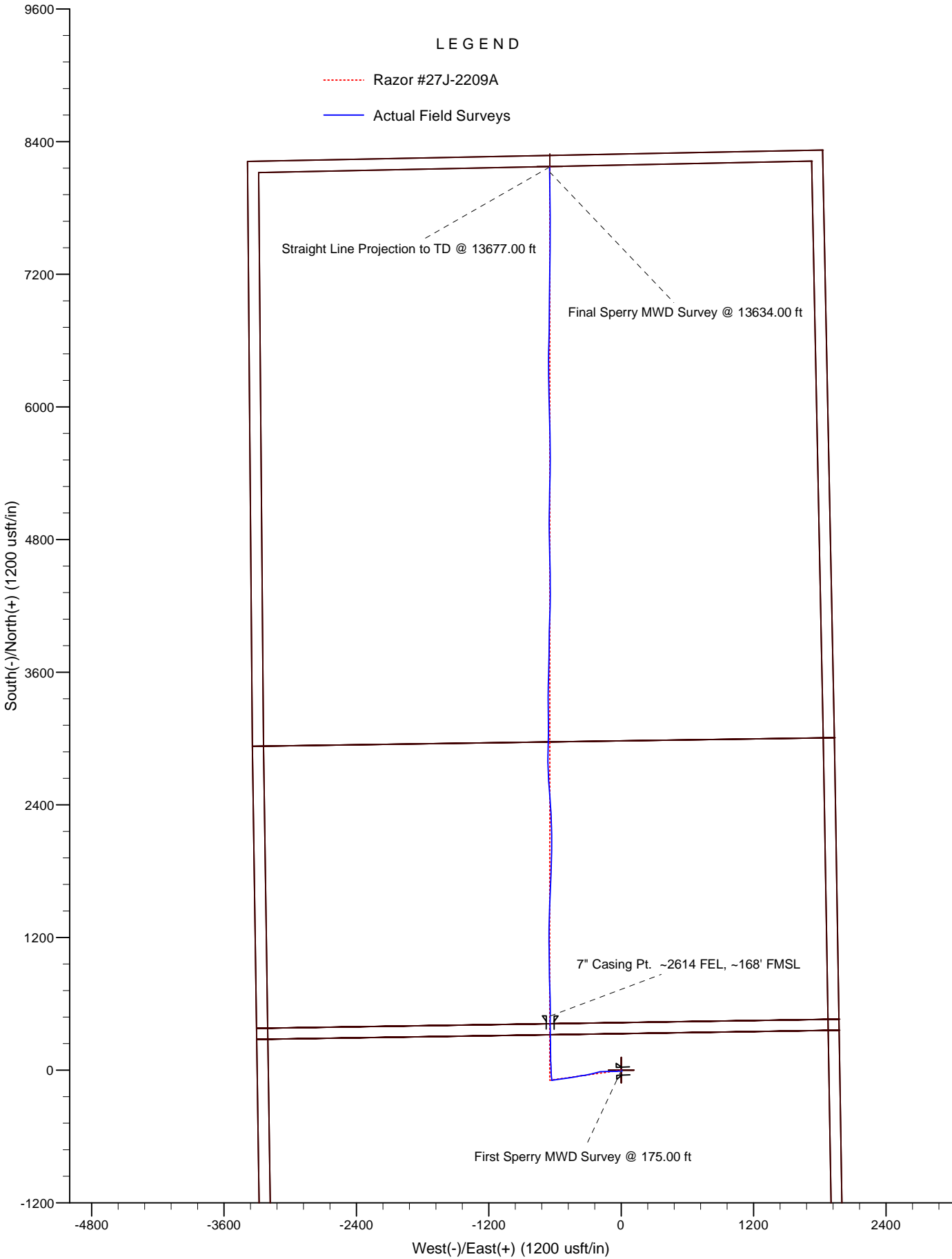
Grid Convergence at Surface is: 1.07°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,677.00usft the Bottom Hole Displacement is 8,196.31usft in the Direction of 355.45° (True).

Magnetic Convergence at surface is: -6.97° (29 September 2014, , BGGM2014)



Whiting Oil and Gas Corporation



Project: Weld County, CO

Site: Sec. 27-T10N-R58W (Razor #27J Pad)

Well: Razor #27J-2209A

Whiting Oil and Gas Corporation

