

Whiting Oil & Gas

Well Name: **Razor 33-2813H**

Surface Location: Razor 33-2813H Pad Sec.33-T10N-R58W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

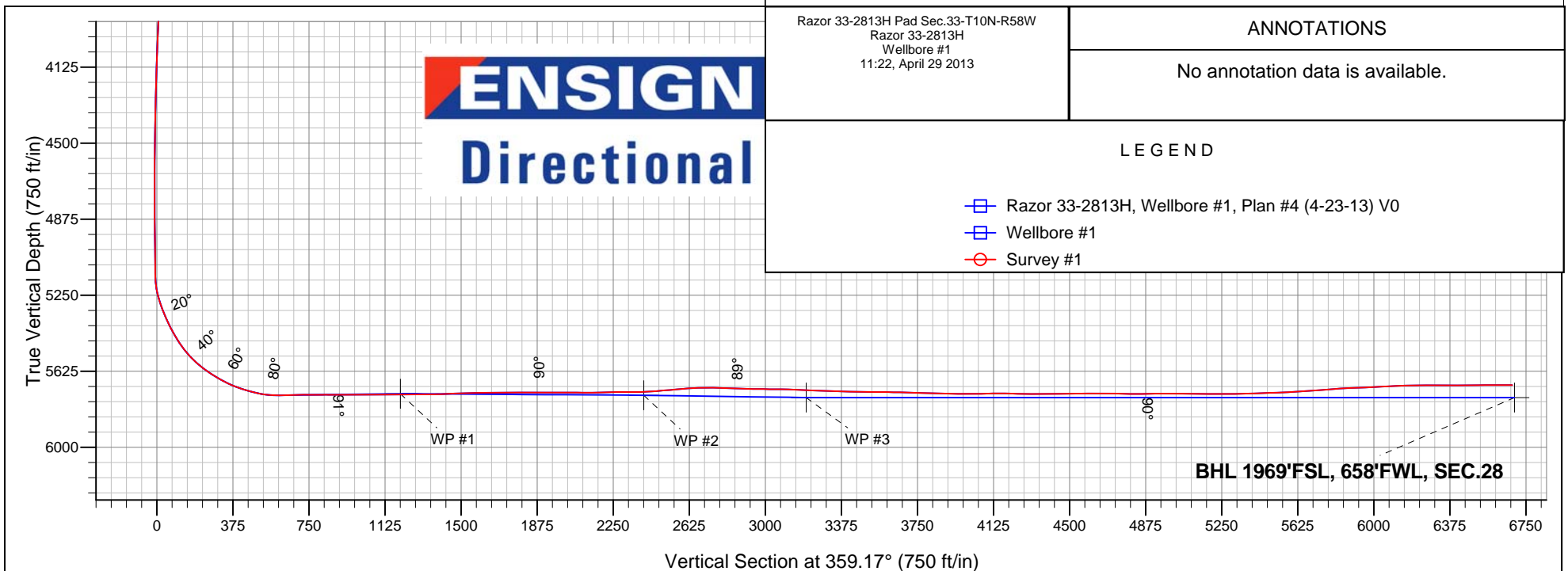
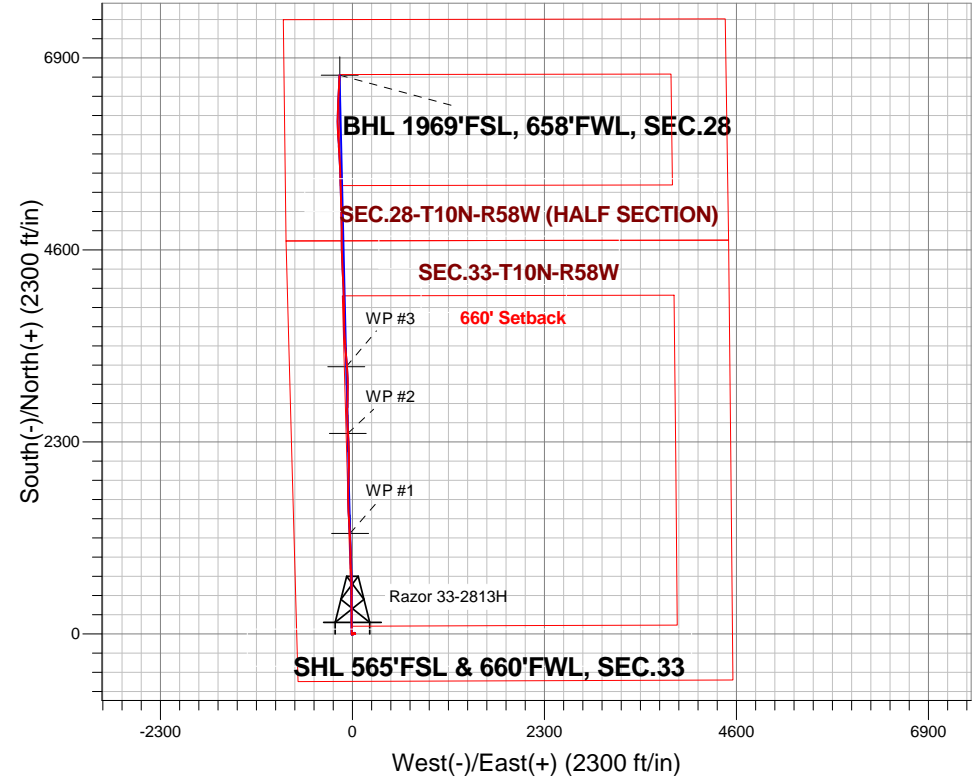
Ground Elevation: 4729.7

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1534459.92	3449422.89	40.789186	-103.876925	

RKB - 16.5' WELL @ 4746.2ft (RKB - 16.5')

FINAL SURVEY

Projected Bottom Hole Location
12175' MD 5693' TVD 6681' N & 154' W of SHL
90.3 degree Incl @ 2.5 degree AZM



Razor 33-2813H Pad Sec.33-T10N-R58W
Razor 33-2813H
Wellbore #1
11:22, April 29 2013

ANNOTATIONS

No annotation data is available.

LEGEND

- Razor 33-2813H, Wellbore #1, Plan #4 (4-23-13) V0
- Wellbore #1
- Survey #1



Whiting Oil & Gas

SEC.33-T10N-R58W

Razor 33-2813H Pad Sec.33-T10N-R58W

Razor 33-2813H

Wellbore #1

Survey: Survey #1

Standard Survey Report

29 April, 2013

Survey	Wellbore Data									
	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Main Wellbore	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	195.0	1.10	47.80	195.0	1.3	1.4	1.2	0.56	0.56	0.00
	289.0	1.10	42.70	289.0	2.5	2.7	2.5	0.10	0.00	-5.43
	383.0	1.10	61.10	383.0	3.6	4.1	3.6	0.37	0.00	19.57
	478.0	1.10	61.10	477.9	4.5	5.7	4.4	0.00	0.00	0.00
	573.0	0.80	72.90	572.9	5.1	7.1	5.0	0.38	-0.32	12.42
	667.0	0.80	75.90	666.9	5.5	8.4	5.4	0.04	0.00	3.19
	763.0	0.80	91.40	762.9	5.6	9.7	5.5	0.22	0.00	16.15
	858.0	0.80	94.30	857.9	5.6	11.0	5.4	0.04	0.00	3.05
	953.0	0.80	83.10	952.9	5.6	12.3	5.4	0.16	0.00	-11.79
	1,048.0	1.10	87.50	1,047.9	5.7	13.9	5.5	0.32	0.32	4.63
	1,142.0	1.10	93.50	1,141.9	5.7	15.7	5.5	0.12	0.00	6.38
	1,236.0	1.10	94.50	1,235.8	5.6	17.5	5.3	0.02	0.00	1.06

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 33-2813H
Project:	SEC.33-T10N-R58W	TVD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Site:	Razor 33-2813H Pad Sec.33-T10N-R58W	MD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Well:	Razor 33-2813H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,328.0	1.30	91.70	1,327.8	5.5	19.4	5.2	0.23	0.22	-3.04
1,420.0	1.40	95.70	1,419.8	5.3	21.6	5.0	0.15	0.11	4.35
1,535.0	1.80	106.50	1,534.7	4.7	24.7	4.3	0.43	0.35	9.39
1,648.0	1.80	113.20	1,647.7	3.5	28.0	3.1	0.19	0.00	5.93
1,709.0	1.10	111.90	1,708.7	2.9	29.5	2.5	1.15	-1.15	-2.13
1,801.0	0.70	95.00	1,800.7	2.5	30.8	2.1	0.52	-0.43	-18.37
1,894.0	0.70	124.40	1,893.7	2.1	31.9	1.7	0.38	0.00	31.61
1,986.0	0.40	189.10	1,985.7	1.5	32.3	1.0	0.70	-0.33	70.33
2,076.0	0.80	195.90	2,075.6	0.6	32.1	0.1	0.45	0.44	7.56
2,168.0	0.60	204.90	2,167.6	-0.5	31.7	-0.9	0.25	-0.22	9.78
2,266.0	1.10	216.90	2,265.6	-1.7	30.9	-2.1	0.54	0.51	12.24
2,360.0	0.60	207.90	2,359.6	-2.8	30.1	-3.3	0.55	-0.53	-9.57
2,444.0	0.80	313.90	2,443.6	-2.8	29.5	-3.2	1.34	0.24	126.19
2,549.0	0.80	286.50	2,548.6	-2.1	28.3	-2.5	0.36	0.00	-26.10
2,634.0	1.10	302.50	2,633.6	-1.5	27.0	-1.9	0.47	0.35	18.82
2,739.0	0.50	302.30	2,738.6	-0.7	25.8	-1.1	0.57	-0.57	-0.19
2,834.0	0.40	351.50	2,833.6	-0.2	25.4	-0.5	0.41	-0.11	51.79
2,929.0	1.10	2.90	2,928.6	1.1	25.4	0.7	0.75	0.74	12.00
3,024.0	0.80	7.90	3,023.6	2.6	25.5	2.3	0.33	-0.32	5.26
3,119.0	1.10	1.50	3,118.5	4.2	25.6	3.8	0.33	0.32	-6.74
3,214.0	0.80	12.60	3,213.5	5.8	25.8	5.4	0.37	-0.32	11.68
3,308.0	0.50	18.90	3,307.5	6.8	26.1	6.4	0.33	-0.32	6.70
3,403.0	0.80	20.90	3,402.5	7.8	26.5	7.4	0.32	0.32	2.11
3,498.0	1.10	26.80	3,497.5	9.2	27.1	8.9	0.33	0.32	6.21
3,593.0	0.70	16.80	3,592.5	10.6	27.7	10.2	0.45	-0.42	-10.53
3,688.0	1.10	29.00	3,687.5	12.0	28.3	11.6	0.46	0.42	12.84
3,783.0	3.10	242.20	3,782.4	11.6	26.5	11.2	4.28	2.11	-154.53
3,877.0	3.30	229.50	3,876.3	8.6	22.2	8.3	0.78	0.21	-13.51
3,973.0	3.40	227.60	3,972.1	4.9	17.9	4.7	0.16	0.10	-1.98
4,067.0	2.70	218.30	4,066.0	1.3	14.5	1.1	0.91	-0.74	-9.89
4,162.0	2.10	218.10	4,160.9	-1.8	12.1	-2.0	0.63	-0.63	-0.21
4,257.0	2.10	220.00	4,255.9	-4.5	9.9	-4.7	0.07	0.00	2.00
4,352.0	1.60	221.40	4,350.8	-6.9	7.9	-7.0	0.53	-0.53	1.47
4,446.0	1.20	205.60	4,444.8	-8.7	6.6	-8.8	0.59	-0.43	-16.81
4,541.0	1.20	248.70	4,539.8	-10.0	5.2	-10.1	0.93	0.00	45.37
4,636.0	1.10	260.60	4,634.7	-10.5	3.4	-10.5	0.27	-0.11	12.53
4,731.0	1.10	256.10	4,729.7	-10.9	1.6	-10.9	0.09	0.00	-4.74
4,826.0	1.10	301.40	4,824.7	-10.6	-0.1	-10.6	0.89	0.00	47.68
4,920.0	1.10	292.10	4,918.7	-9.8	-1.7	-9.8	0.19	0.00	-9.89
5,016.0	1.10	296.50	5,014.7	-9.0	-3.3	-9.0	0.09	0.00	4.58
5,110.0	1.50	289.60	5,108.6	-8.2	-5.3	-8.2	0.46	0.43	-7.34
5,142.0	2.20	289.60	5,140.6	-7.9	-6.3	-7.8	2.19	2.19	0.00
5,174.0	4.00	331.50	5,172.6	-6.7	-7.4	-6.6	8.69	5.63	130.94
5,206.0	8.00	351.90	5,204.4	-3.5	-8.2	-3.4	13.98	12.50	63.75
5,237.0	12.10	357.50	5,234.9	1.9	-8.7	2.0	13.58	13.23	18.06
5,269.0	15.90	0.80	5,266.0	9.6	-8.8	9.7	12.13	11.88	10.31
5,300.0	18.80	2.20	5,295.6	18.8	-8.5	19.0	9.45	9.35	4.52
5,332.0	21.40	359.90	5,325.6	29.8	-8.3	30.0	8.49	8.13	-7.19
5,364.0	23.60	358.90	5,355.2	42.1	-8.5	42.2	6.98	6.88	-3.13
5,396.0	25.20	358.70	5,384.3	55.3	-8.7	55.4	5.01	5.00	-0.63
5,427.0	26.70	357.70	5,412.2	68.9	-9.2	69.0	5.04	4.84	-3.23
5,458.0	29.30	359.90	5,439.5	83.4	-9.5	83.5	9.02	8.39	7.10
5,490.0	31.90	359.80	5,467.1	99.7	-9.5	99.8	8.13	8.13	-0.31
5,521.0	35.10	359.40	5,492.9	116.8	-9.6	116.9	10.35	10.32	-1.29

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Design:	Wellbore #1	Database:	Landmark

Survey									
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5,553.0	37.40	358.90	5,518.7	135.7	-9.9	135.8	7.25	7.19	-1.56
5,585.0	41.20	359.60	5,543.5	156.0	-10.2	156.1	11.96	11.88	2.19
5,616.0	44.80	0.80	5,566.2	177.1	-10.1	177.2	11.91	11.61	3.87
5,648.0	49.30	2.10	5,588.0	200.5	-9.5	200.6	14.37	14.06	4.06
5,680.0	53.20	0.70	5,608.0	225.5	-8.9	225.6	12.66	12.19	-4.38
5,711.0	55.50	0.30	5,626.1	250.7	-8.7	250.8	7.49	7.42	-1.29
5,743.0	57.30	359.80	5,643.8	277.3	-8.6	277.4	5.77	5.63	-1.56
5,774.0	59.30	359.80	5,660.1	303.7	-8.7	303.8	6.45	6.45	0.00
5,806.0	62.50	359.80	5,675.6	331.6	-8.8	331.7	10.00	10.00	0.00
5,838.0	65.20	358.50	5,689.7	360.4	-9.3	360.5	9.19	8.44	-4.06
5,869.0	69.30	358.40	5,701.7	388.9	-10.0	389.0	13.23	13.23	-0.32
5,901.0	72.10	358.20	5,712.3	419.1	-10.9	419.2	8.77	8.75	-0.63
5,933.0	74.20	358.70	5,721.6	449.7	-11.8	449.9	6.73	6.56	1.56
5,964.0	76.00	3.00	5,729.5	479.7	-11.3	479.8	14.61	5.81	13.87
5,996.0	79.00	2.10	5,736.5	510.9	-9.9	511.0	9.77	9.38	-2.81
6,028.0	83.50	1.90	5,741.3	542.5	-8.8	542.6	14.08	14.06	-0.63
6,060.0	88.00	0.50	5,743.7	574.4	-8.2	574.4	14.72	14.06	-4.38
6,091.0	91.10	358.70	5,743.9	605.4	-8.4	605.4	11.56	10.00	-5.81
6,136.0	91.30	358.70	5,743.0	650.3	-9.4	650.4	0.44	0.44	0.00
6,144.0	91.90	358.00	5,742.8	658.3	-9.6	658.4	11.52	7.50	-8.75
6,175.0	90.90	356.90	5,742.0	689.3	-11.0	689.4	4.79	-3.23	-3.55
6,207.0	90.50	356.20	5,741.6	721.2	-12.9	721.4	2.52	-1.25	-2.19
6,239.0	89.60	355.70	5,741.6	753.2	-15.2	753.3	3.22	-2.81	-1.56
6,270.0	90.30	357.30	5,741.6	784.1	-17.1	784.3	5.63	2.26	5.16
6,302.0	90.70	358.10	5,741.3	816.1	-18.4	816.3	2.80	1.25	2.50
6,333.0	89.60	357.10	5,741.3	847.0	-19.7	847.2	4.80	-3.55	-3.23
6,365.0	90.10	358.30	5,741.3	879.0	-20.9	879.2	4.06	1.56	3.75
6,397.0	90.90	359.20	5,741.1	911.0	-21.6	911.2	3.76	2.50	2.81
6,428.0	89.80	358.70	5,740.9	942.0	-22.2	942.2	3.90	-3.55	-1.61
6,460.0	89.80	358.70	5,741.0	974.0	-22.9	974.2	0.00	0.00	0.00
6,491.0	90.70	359.70	5,740.9	1,005.0	-23.4	1,005.2	4.34	2.90	3.23
6,523.0	89.90	359.20	5,740.7	1,037.0	-23.7	1,037.2	2.95	-2.50	-1.56
6,554.0	90.40	358.70	5,740.6	1,068.0	-24.2	1,068.2	2.28	1.61	-1.61
6,586.0	90.30	358.50	5,740.4	1,100.0	-25.0	1,100.2	0.70	-0.31	-0.63
6,618.0	90.20	357.60	5,740.3	1,132.0	-26.1	1,132.2	2.83	-0.31	-2.81
6,649.0	90.30	356.90	5,740.1	1,162.9	-27.6	1,163.2	2.28	0.32	-2.26
6,681.0	90.30	356.20	5,740.0	1,194.9	-29.5	1,195.2	2.19	0.00	-2.19
6,687.2	90.34	356.20	5,739.9	1,201.1	-29.9	1,201.4	0.65	0.65	0.00
WP #1									
6,712.0	90.50	356.20	5,739.8	1,225.8	-31.6	1,226.1	0.65	0.65	0.00
6,744.0	90.20	355.90	5,739.6	1,257.7	-33.8	1,258.1	1.33	-0.94	-0.94
6,776.0	90.30	356.70	5,739.4	1,289.6	-35.9	1,290.0	2.52	0.31	2.50
6,807.0	90.30	356.00	5,739.3	1,320.6	-37.8	1,321.0	2.26	0.00	-2.26
6,839.0	90.00	357.10	5,739.2	1,352.5	-39.8	1,353.0	3.56	-0.94	3.44
6,871.0	91.40	357.30	5,738.8	1,384.5	-41.3	1,384.9	4.42	4.38	0.63
6,902.0	92.50	358.00	5,737.7	1,415.4	-42.6	1,415.9	4.21	3.55	2.26
6,934.0	92.60	357.60	5,736.3	1,447.4	-43.8	1,447.9	1.29	0.31	-1.25
6,965.0	92.50	357.80	5,734.9	1,478.3	-45.1	1,478.8	0.72	-0.32	0.65
6,997.0	92.30	357.40	5,733.6	1,510.3	-46.4	1,510.8	1.40	-0.63	-1.25
7,028.0	91.80	357.30	5,732.5	1,541.2	-47.8	1,541.7	1.64	-1.61	-0.32
7,060.0	90.00	357.80	5,732.0	1,573.2	-49.2	1,573.7	5.84	-5.63	1.56
7,092.0	90.00	357.80	5,732.0	1,605.2	-50.4	1,605.7	0.00	0.00	0.00
7,123.0	90.70	358.70	5,731.8	1,636.1	-51.4	1,636.7	3.68	2.26	2.90
7,155.0	90.80	0.20	5,731.4	1,668.1	-51.7	1,668.7	4.70	0.31	4.69

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Survey										
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7,187.0	90.90	0.40	5,730.9	1,700.1	-51.5	1,700.7	0.70	0.31	0.63	
7,218.0	90.90	0.80	5,730.4	1,731.1	-51.2	1,731.7	1.29	0.00	1.29	
7,249.0	90.40	1.30	5,730.0	1,762.1	-50.6	1,762.7	2.28	-1.61	1.61	
7,280.0	90.30	1.50	5,729.9	1,793.1	-49.9	1,793.6	0.72	-0.32	0.65	
7,310.0	89.70	1.80	5,729.9	1,823.1	-49.0	1,823.6	2.24	-2.00	1.00	
7,342.0	89.50	2.70	5,730.1	1,855.1	-47.7	1,855.6	2.88	-0.63	2.81	
7,372.0	89.50	3.20	5,730.3	1,885.0	-46.2	1,885.5	1.67	0.00	1.67	
7,403.0	90.00	2.70	5,730.5	1,916.0	-44.6	1,916.4	2.28	1.61	-1.61	
7,434.0	90.00	1.70	5,730.5	1,947.0	-43.4	1,947.4	3.23	0.00	-3.23	
7,464.0	90.10	1.80	5,730.5	1,977.0	-42.5	1,977.4	0.47	0.33	0.33	
7,495.0	89.80	2.70	5,730.5	2,007.9	-41.3	2,008.3	3.06	-0.97	2.90	
7,525.0	89.90	2.00	5,730.6	2,037.9	-40.0	2,038.3	2.36	0.33	-2.33	
7,556.0	89.60	359.20	5,730.7	2,068.9	-39.7	2,069.3	9.08	-0.97	-9.03	
7,587.0	88.90	358.50	5,731.1	2,099.9	-40.3	2,100.3	3.19	-2.26	-2.26	
7,617.0	90.10	359.20	5,731.4	2,129.9	-40.9	2,130.3	4.63	4.00	2.33	
7,648.0	91.60	358.50	5,730.9	2,160.9	-41.6	2,161.2	5.34	4.84	-2.26	
7,679.0	92.10	358.10	5,729.9	2,191.8	-42.5	2,192.2	2.07	1.61	-1.29	
7,710.0	91.50	358.10	5,728.9	2,222.8	-43.5	2,223.2	1.94	-1.94	0.00	
7,741.0	91.10	357.80	5,728.2	2,253.8	-44.6	2,254.2	1.61	-1.29	-0.97	
7,772.0	89.70	356.70	5,728.0	2,284.7	-46.1	2,285.2	5.74	-4.52	-3.55	
7,802.0	89.10	356.40	5,728.3	2,314.7	-47.9	2,315.1	2.24	-2.00	-1.00	
7,833.0	90.70	356.90	5,728.4	2,345.6	-49.7	2,346.1	5.41	5.16	1.61	
7,864.0	91.30	356.90	5,727.8	2,376.6	-51.4	2,377.1	1.94	1.94	0.00	
7,887.9	92.38	357.05	5,727.1	2,400.4	-52.7	2,400.9	4.56	4.52	0.65	
WP #2										
7,895.0	92.70	357.10	5,726.8	2,407.5	-53.0	2,408.0	4.56	4.52	0.65	
7,925.0	94.00	357.80	5,725.0	2,437.4	-54.4	2,438.0	4.92	4.33	2.33	
7,956.0	94.80	358.10	5,722.6	2,468.3	-55.5	2,468.9	2.76	2.58	0.97	
7,987.0	95.00	357.60	5,720.0	2,499.2	-56.6	2,499.7	1.73	0.65	-1.61	
8,018.0	94.70	358.00	5,717.4	2,530.1	-57.8	2,530.6	1.61	-0.97	1.29	
8,049.0	94.80	358.10	5,714.8	2,560.9	-58.9	2,561.5	0.46	0.32	0.32	
8,080.0	94.40	358.70	5,712.3	2,591.8	-59.7	2,592.4	2.32	-1.29	1.94	
8,111.0	94.00	358.80	5,710.0	2,622.7	-60.4	2,623.3	1.33	-1.29	0.32	
8,142.0	92.90	359.90	5,708.2	2,653.7	-60.7	2,654.3	5.01	-3.55	3.55	
8,172.0	91.70	0.10	5,707.0	2,683.6	-60.7	2,684.2	4.06	-4.00	0.67	
8,203.0	91.10	1.30	5,706.2	2,714.6	-60.4	2,715.2	4.33	-1.94	3.87	
8,233.0	89.30	1.50	5,706.1	2,744.6	-59.6	2,745.2	6.04	-6.00	0.67	
8,264.0	88.30	1.50	5,706.7	2,775.6	-58.8	2,776.2	3.23	-3.23	0.00	
8,295.0	87.10	1.00	5,708.0	2,806.6	-58.1	2,807.1	4.19	-3.87	-1.61	
8,326.0	87.00	1.10	5,709.6	2,837.5	-57.6	2,838.1	0.46	-0.32	0.32	
8,356.0	87.30	0.40	5,711.1	2,867.5	-57.2	2,868.0	2.54	1.00	-2.33	
8,387.0	87.80	0.40	5,712.4	2,898.5	-57.0	2,899.0	1.61	1.61	0.00	
8,418.0	89.30	0.40	5,713.2	2,929.4	-56.8	2,930.0	4.84	4.84	0.00	
8,448.0	90.20	359.70	5,713.3	2,959.4	-56.7	2,960.0	3.80	3.00	-2.33	
8,479.0	89.60	359.50	5,713.4	2,990.4	-56.9	2,991.0	2.04	-1.94	-0.65	
8,509.0	89.60	359.40	5,713.6	3,020.4	-57.2	3,021.0	0.33	0.00	-0.33	
8,540.0	89.50	359.40	5,713.8	3,051.4	-57.6	3,052.0	0.32	-0.32	0.00	
8,570.0	89.00	358.80	5,714.2	3,081.4	-58.0	3,082.0	2.60	-1.67	-2.00	
8,601.0	89.00	358.70	5,714.8	3,112.4	-58.7	3,112.9	0.32	0.00	-0.32	
8,632.0	87.80	357.30	5,715.6	3,143.4	-59.8	3,143.9	5.95	-3.87	-4.52	
8,663.0	86.90	355.30	5,717.1	3,174.3	-61.8	3,174.9	7.07	-2.90	-6.45	
8,692.2	86.99	355.30	5,718.6	3,203.4	-64.2	3,203.9	0.32	0.32	0.00	
WP #3										
8,694.0	87.00	355.30	5,718.7	3,205.1	-64.3	3,205.7	0.32	0.32	0.00	

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 33-2813H
Project:	SEC.33-T10N-R58W	TVD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Site:	Razor 33-2813H Pad Sec.33-T10N-R58W	MD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Well:	Razor 33-2813H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,724.0	87.60	354.40	5,720.1	3,235.0	-67.0	3,235.6	3.60	2.00	-3.00
8,755.0	87.90	354.10	5,721.3	3,265.8	-70.1	3,266.5	1.37	0.97	-0.97
8,785.0	87.80	354.80	5,722.5	3,295.6	-73.0	3,296.4	2.36	-0.33	2.33
8,816.0	87.70	355.20	5,723.7	3,326.5	-75.7	3,327.3	1.33	-0.32	1.29
8,847.0	88.00	354.40	5,724.8	3,357.4	-78.5	3,358.1	2.75	0.97	-2.58
8,877.0	88.90	354.80	5,725.7	3,387.2	-81.3	3,388.0	3.28	3.00	1.33
8,908.0	89.00	355.50	5,726.2	3,418.1	-84.0	3,418.9	2.28	0.32	2.26
8,938.0	89.30	356.20	5,726.7	3,448.0	-86.1	3,448.9	2.54	1.00	2.33
8,968.0	89.70	357.10	5,726.9	3,478.0	-87.9	3,478.9	3.28	1.33	3.00
8,998.0	89.80	357.10	5,727.1	3,507.9	-89.4	3,508.8	0.33	0.33	0.00
9,029.0	89.50	356.20	5,727.2	3,538.9	-91.2	3,539.8	3.06	-0.97	-2.90
9,059.0	89.70	356.90	5,727.5	3,568.8	-93.0	3,569.8	2.43	0.67	2.33
9,090.0	88.50	357.60	5,727.9	3,599.8	-94.5	3,600.8	4.48	-3.87	2.26
9,121.0	89.10	358.50	5,728.6	3,630.7	-95.6	3,631.7	3.49	1.94	2.90
9,152.0	89.20	359.20	5,729.1	3,661.7	-96.2	3,662.7	2.28	0.32	2.26
9,183.0	88.80	359.20	5,729.6	3,692.7	-96.6	3,693.7	1.29	-1.29	0.00
9,213.0	88.30	358.80	5,730.4	3,722.7	-97.1	3,723.7	2.13	-1.67	-1.33
9,244.0	87.90	358.30	5,731.4	3,753.7	-97.9	3,754.7	2.06	-1.29	-1.61
9,275.0	87.60	357.80	5,732.6	3,784.6	-99.0	3,785.7	1.88	-0.97	-1.61
9,306.0	87.90	358.10	5,733.8	3,815.6	-100.1	3,816.6	1.37	0.97	0.97
9,336.0	87.80	358.50	5,734.9	3,845.6	-101.0	3,846.6	1.37	-0.33	1.33
9,366.0	88.30	358.80	5,736.0	3,875.5	-101.7	3,876.6	1.94	1.67	1.00
9,397.0	89.30	359.20	5,736.6	3,906.5	-102.2	3,907.6	3.47	3.23	1.29
9,428.0	89.90	359.40	5,736.8	3,937.5	-102.6	3,938.6	2.04	1.94	0.65
9,458.0	89.70	359.00	5,736.9	3,967.5	-103.0	3,968.6	1.49	-0.67	-1.33
9,488.0	90.30	359.40	5,736.9	3,997.5	-103.4	3,998.6	2.40	2.00	1.33
9,519.0	91.40	359.00	5,736.5	4,028.5	-103.9	4,029.6	3.78	3.55	-1.29
9,550.0	91.70	359.00	5,735.6	4,059.5	-104.4	4,060.6	0.97	0.97	0.00
9,580.0	90.40	359.40	5,735.1	4,089.5	-104.8	4,090.6	4.53	-4.33	1.33
9,611.0	90.30	359.50	5,734.9	4,120.5	-105.1	4,121.6	0.46	-0.32	0.32
9,641.0	89.90	358.70	5,734.8	4,150.5	-105.6	4,151.6	2.98	-1.33	-2.67
9,671.0	88.80	356.70	5,735.2	4,180.5	-106.8	4,181.6	7.61	-3.67	-6.67
9,702.0	88.50	355.90	5,735.9	4,211.4	-108.8	4,212.5	2.76	-0.97	-2.58
9,733.0	88.80	355.30	5,736.6	4,242.3	-111.2	4,243.4	2.16	0.97	-1.94
9,764.0	89.60	355.30	5,737.1	4,273.2	-113.7	4,274.4	2.58	2.58	0.00
9,794.0	89.80	356.70	5,737.2	4,303.1	-115.8	4,304.3	4.71	0.67	4.67
9,825.0	90.00	356.90	5,737.3	4,334.0	-117.5	4,335.3	0.91	0.65	0.65
9,856.0	90.40	357.30	5,737.2	4,365.0	-119.1	4,366.3	1.82	1.29	1.29
9,887.0	89.90	358.00	5,737.1	4,396.0	-120.4	4,397.3	2.77	-1.61	2.26
9,918.0	90.30	359.00	5,737.0	4,427.0	-121.2	4,428.3	3.47	1.29	3.23
9,948.0	90.80	359.40	5,736.8	4,457.0	-121.6	4,458.3	2.13	1.67	1.33
9,979.0	91.10	359.00	5,736.2	4,488.0	-122.0	4,489.3	1.61	0.97	-1.29
10,009.0	91.40	358.10	5,735.6	4,517.9	-122.8	4,519.2	3.16	1.00	-3.00
10,040.0	90.60	357.80	5,735.0	4,548.9	-123.9	4,550.2	2.76	-2.58	-0.97
10,071.0	90.00	357.10	5,734.9	4,579.9	-125.3	4,581.2	2.97	-1.94	-2.26
10,101.0	89.70	357.80	5,735.0	4,609.9	-126.6	4,611.2	2.54	-1.00	2.33
10,132.0	90.00	358.70	5,735.0	4,640.8	-127.6	4,642.2	3.06	0.97	2.90
10,163.0	89.30	0.40	5,735.2	4,671.8	-127.8	4,673.2	5.93	-2.26	5.48
10,194.0	88.90	0.60	5,735.7	4,702.8	-127.6	4,704.2	1.44	-1.29	0.65
10,225.0	88.80	0.10	5,736.3	4,733.8	-127.4	4,735.2	1.64	-0.32	-1.61
10,255.0	89.00	359.70	5,736.9	4,763.8	-127.4	4,765.2	1.49	0.67	-1.33
10,286.0	89.90	359.90	5,737.2	4,794.8	-127.5	4,796.2	2.97	2.90	0.65
10,317.0	90.10	0.20	5,737.2	4,825.8	-127.5	4,827.2	1.16	0.65	0.97
10,347.0	90.30	359.50	5,737.1	4,855.8	-127.6	4,857.2	2.43	0.67	-2.33

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 33-2813H
Project:	SEC.33-T10N-R58W	TVD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Site:	Razor 33-2813H Pad Sec.33-T10N-R58W	MD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Well:	Razor 33-2813H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,378.0	90.40	359.40	5,736.9	4,886.8	-127.9	4,888.2	0.46	0.32	-0.32	
10,409.0	90.70	358.50	5,736.6	4,917.8	-128.4	4,919.2	3.06	0.97	-2.90	
10,439.0	91.00	358.30	5,736.2	4,947.8	-129.3	4,949.1	1.20	1.00	-0.67	
10,470.0	90.30	358.70	5,735.8	4,978.8	-130.1	4,980.1	2.60	-2.26	1.29	
10,501.0	89.80	359.00	5,735.8	5,009.8	-130.7	5,011.1	1.88	-1.61	0.97	
10,532.0	89.70	358.70	5,735.9	5,040.8	-131.3	5,042.1	1.02	-0.32	-0.97	
10,563.0	89.50	358.80	5,736.2	5,071.8	-132.0	5,073.1	0.72	-0.65	0.32	
10,594.0	89.60	358.50	5,736.4	5,102.8	-132.7	5,104.1	1.02	0.32	-0.97	
10,625.0	89.70	358.00	5,736.6	5,133.7	-133.7	5,135.1	1.64	0.32	-1.61	
10,655.0	90.00	358.10	5,736.7	5,163.7	-134.7	5,165.1	1.05	1.00	0.33	
10,686.0	90.00	358.30	5,736.7	5,194.7	-135.7	5,196.1	0.65	0.00	0.65	
10,717.0	89.30	358.50	5,736.9	5,225.7	-136.5	5,227.1	2.35	-2.26	0.65	
10,748.0	89.20	358.10	5,737.3	5,256.7	-137.5	5,258.1	1.33	-0.32	-1.29	
10,779.0	89.40	358.10	5,737.6	5,287.7	-138.5	5,289.1	0.65	0.65	0.00	
10,810.0	90.60	358.70	5,737.6	5,318.6	-139.4	5,320.1	4.33	3.87	1.94	
10,841.0	91.80	359.00	5,737.0	5,349.6	-140.0	5,351.1	3.99	3.87	0.97	
10,871.0	92.30	359.20	5,735.9	5,379.6	-140.5	5,381.1	1.79	1.67	0.67	
10,902.0	92.30	359.00	5,734.7	5,410.6	-140.9	5,412.0	0.64	0.00	-0.65	
10,920.0	92.40	358.10	5,733.9	5,428.6	-141.4	5,430.0	5.03	0.56	-5.00	
10,951.0	92.00	358.00	5,732.7	5,459.5	-142.4	5,461.0	1.33	-1.29	-0.32	
10,982.0	91.50	356.90	5,731.8	5,490.5	-143.8	5,492.0	3.90	-1.61	-3.55	
11,013.0	91.90	357.10	5,730.9	5,521.4	-145.4	5,522.9	1.44	1.29	0.65	
11,044.0	92.40	357.40	5,729.7	5,552.4	-146.9	5,553.9	1.88	1.61	0.97	
11,076.0	92.80	357.30	5,728.3	5,584.3	-148.4	5,585.8	1.29	1.25	-0.31	
11,107.0	93.20	357.10	5,726.6	5,615.2	-149.9	5,616.8	1.44	1.29	-0.65	
11,139.0	94.00	357.10	5,724.6	5,647.1	-151.5	5,648.7	2.50	2.50	0.00	
11,179.0	94.40	356.90	5,721.7	5,686.9	-153.6	5,688.6	1.12	1.00	-0.50	
11,202.0	94.40	357.10	5,719.9	5,709.8	-154.8	5,711.5	0.87	0.00	0.87	
11,234.0	94.10	357.30	5,717.6	5,741.7	-156.4	5,743.4	1.13	-0.94	0.63	
11,265.0	94.40	356.70	5,715.3	5,772.6	-158.0	5,774.3	2.16	0.97	-1.94	
11,297.0	94.40	356.60	5,712.8	5,804.4	-159.9	5,806.1	0.31	0.00	-0.31	
11,329.0	93.90	356.40	5,710.5	5,836.3	-161.8	5,838.0	1.68	-1.56	-0.63	
11,360.0	92.80	356.90	5,708.7	5,867.2	-163.6	5,868.9	3.90	-3.55	1.61	
11,392.0	92.00	357.30	5,707.3	5,899.1	-165.2	5,900.9	2.79	-2.50	1.25	
11,423.0	92.40	356.70	5,706.2	5,930.1	-166.9	5,931.8	2.32	1.29	-1.94	
11,469.0	92.90	356.70	5,704.0	5,975.9	-169.5	5,977.8	1.09	1.09	0.00	
11,500.0	93.20	356.20	5,702.4	6,006.8	-171.4	6,008.7	1.88	0.97	-1.61	
11,532.0	92.50	357.30	5,700.8	6,038.7	-173.2	6,040.6	4.07	-2.19	3.44	
11,564.0	92.70	357.60	5,699.3	6,070.7	-174.7	6,072.6	1.13	0.63	0.94	
11,596.0	92.70	358.50	5,697.8	6,102.6	-175.7	6,104.5	2.81	0.00	2.81	
11,628.0	91.50	359.20	5,696.7	6,134.6	-176.4	6,136.5	4.34	-3.75	2.19	
11,660.0	91.10	0.20	5,695.9	6,166.6	-176.6	6,168.5	3.36	-1.25	3.13	
11,691.0	90.60	0.40	5,695.5	6,197.6	-176.4	6,199.5	1.74	-1.61	0.65	
11,723.0	91.30	0.60	5,694.9	6,229.6	-176.1	6,231.5	2.28	2.19	0.63	
11,754.0	90.60	1.70	5,694.4	6,260.6	-175.5	6,262.4	4.21	-2.26	3.55	
11,786.0	90.60	1.70	5,694.1	6,292.5	-174.5	6,294.4	0.00	0.00	0.00	
11,818.0	89.20	3.40	5,694.1	6,324.5	-173.1	6,326.3	6.88	-4.38	5.31	
11,849.0	89.40	3.60	5,694.5	6,355.4	-171.2	6,357.3	0.91	0.65	0.65	
11,881.0	89.40	3.40	5,694.9	6,387.4	-169.3	6,389.2	0.62	0.00	-0.63	
11,913.0	91.00	5.00	5,694.8	6,419.3	-166.9	6,421.0	7.07	5.00	5.00	
11,944.0	90.40	3.60	5,694.4	6,450.2	-164.6	6,451.9	4.91	-1.94	-4.52	
11,976.0	90.00	1.80	5,694.3	6,482.2	-163.1	6,483.8	5.76	-1.25	-5.63	
12,007.0	90.20	3.20	5,694.2	6,513.1	-161.7	6,514.8	4.56	0.65	4.52	
12,039.0	90.60	3.20	5,694.0	6,545.1	-160.0	6,546.7	1.25	1.25	0.00	

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 33-2813H
Project:	SEC.33-T10N-R58W	TVD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Site:	Razor 33-2813H Pad Sec.33-T10N-R58W	MD Reference:	WELL @ 4746.2ft (RKB - 16.5')
Well:	Razor 33-2813H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,071.0	90.00	1.80	5,693.8	6,577.1	-158.6	6,578.7	4.76	-1.88	-4.38	
12,103.0	90.40	2.90	5,693.7	6,609.0	-157.3	6,610.6	3.66	1.25	3.44	
12,125.0	90.30	2.50	5,693.6	6,631.0	-156.2	6,632.6	1.87	-0.45	-1.82	
12,175.0	90.30	2.50	5,693.3	6,681.0	-154.0	6,682.5	0.00	0.00	0.00	
BHL 1980'FSL, 660'FWL, SEC.28										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
WP #1 - hit/miss target - Shape - Point	0.00	0.00	5,736.0	1,201.2	-27.3	1,535,660.42	3,449,373.61	40.792483	-103.877024	
- survey misses target center by 4.7ft at 6687.2ft MD (5739.9 TVD, 1201.0 N, -29.9 E)										
WP #2 - survey misses target center by 17.0ft at 7887.9ft MD (5727.1 TVD, 2400.4 N, -52.7 E) - Point	0.00	0.00	5,744.0	2,400.9	-54.6	1,536,859.42	3,449,324.36	40.795776	-103.877122	
WP #3 - survey misses target center by 37.5ft at 8692.2ft MD (5718.6 TVD, 3203.4 N, -64.2 E) - Point	0.00	0.00	5,755.0	3,200.7	-72.8	1,537,658.75	3,449,291.52	40.797971	-103.877188	
BHL 1980'FSL, 660'FWL - survey misses target center by 62.7ft at 12175.0ft MD (5693.3 TVD, 6681.0 N, -154.0 E) - Point	0.00	0.00	5,755.0	6,691.8	-152.3	1,541,147.81	3,449,148.18	40.807553	-103.877475	

Checked By: _____	Approved By: _____	Date: _____
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