

Whiting Oil & Gas

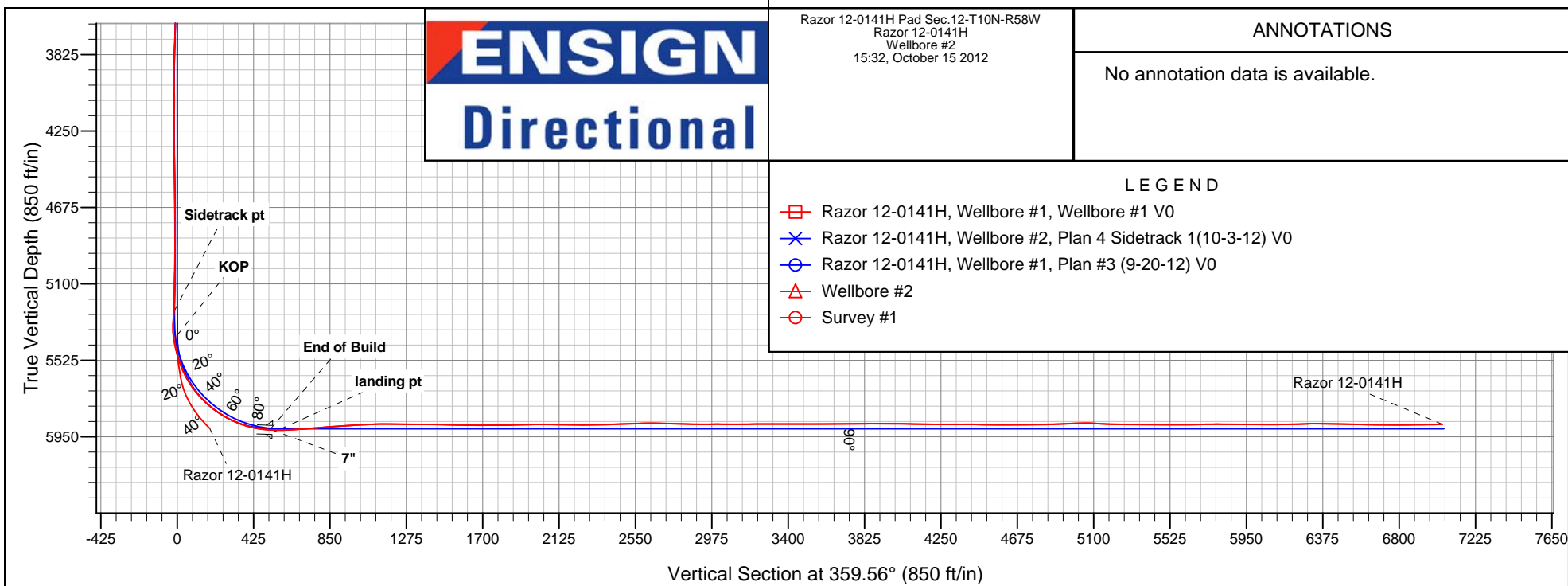
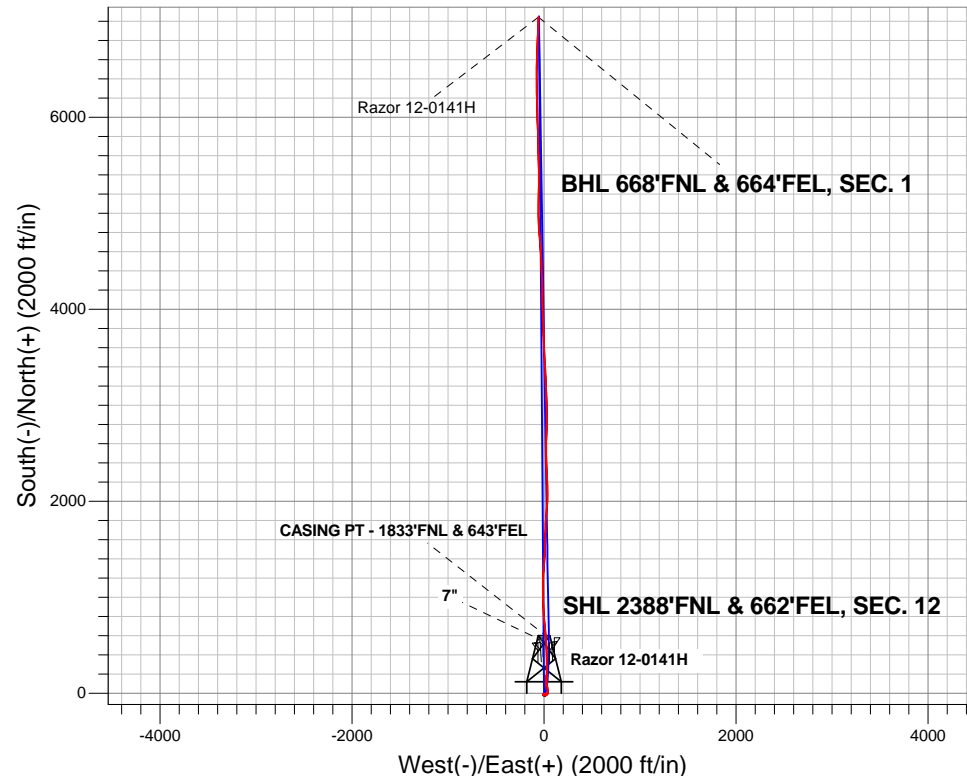
Well Name: Razor 12-0141H

Surface Location: Razor 12-0141H Pad Sec.12-T10N-R58W
North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4947.9

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1558479.43	3468486.86	40.854122	-103.806436	
		(RKB - 16.5')		WELL @ 4964.4ft ((RKB - 16.5'))		

FINAL SURVEY

Projected Bottom Hole Location
12745'MD 5880'TVD 7041'N & 58'W of SHL
91.50 degree Incl @ 1.70 degree AZM



Razor 12-0141H Pad Sec.12-T10N-R58W
Razor 12-0141H
Wellbore #2
15:32, October 15 2012

ANNOTATIONS

No annotation data is available.

LEGEND

- Razor 12-0141H, Wellbore #1, Wellbore #1 V0
- ✕ Razor 12-0141H, Wellbore #2, Plan 4 Sidetrack 1(10-3-12) V0
- Razor 12-0141H, Wellbore #1, Plan #3 (9-20-12) V0
- △ Wellbore #2
- Survey #1



Directional

Whiting Oil & Gas

SEC.12-T10N-R58W

Razor 12-0141H Pad Sec.12-T10N-R58W

Razor 12-0141H

Wellbore #1

Survey: Survey #1

Standard Survey Report

15 October, 2012

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	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)
1,078.0	0.30	107.50	1,077.9	-13.8	4.9	-13.8	0.90	-0.87	-20.40
1,141.0	0.40	130.50	1,140.9	-14.0	5.2	-14.0	0.27	0.16	36.51
1,236.0	0.40	128.20	1,235.9	-14.4	5.7	-14.4	0.02	0.00	-2.42
1,326.0	0.70	110.90	1,325.9	-14.8	6.5	-14.8	0.38	0.33	-19.22
1,415.0	1.10	112.10	1,414.8	-15.3	7.8	-15.3	0.45	0.45	1.35
1,539.0	0.80	110.30	1,538.8	-16.0	9.7	-16.1	0.24	-0.24	-1.45
1,631.0	0.60	116.80	1,630.8	-16.5	10.8	-16.5	0.23	-0.22	7.07
1,723.0	0.60	127.40	1,722.8	-17.0	11.6	-17.1	0.12	0.00	11.52
1,815.0	0.90	120.20	1,814.8	-17.6	12.6	-17.7	0.34	0.33	-7.83
1,847.0	0.80	119.30	1,846.8	-17.9	13.0	-18.0	0.32	-0.31	-2.81
1,908.0	0.40	199.30	1,907.8	-18.3	13.3	-18.4	1.36	-0.66	131.15
2,031.0	1.30	190.80	2,030.8	-20.1	12.9	-20.2	0.74	0.73	-6.91
2,094.0	1.80	220.40	2,093.8	-21.5	12.1	-21.6	1.47	0.79	46.98
2,185.0	1.50	221.80	2,184.7	-23.5	10.4	-23.6	0.33	-0.33	1.54
2,311.0	1.80	354.50	2,310.7	-22.7	9.1	-22.8	2.40	0.24	105.32
2,375.0	1.80	20.90	2,374.7	-20.8	9.4	-20.9	1.28	0.00	41.25
2,469.0	2.90	1.50	2,468.6	-17.0	10.0	-17.1	1.43	1.17	-20.64
2,565.0	0.60	71.70	2,564.5	-14.5	10.5	-14.5	2.87	-2.40	73.13
2,659.0	1.90	357.50	2,658.5	-12.8	10.9	-12.8	1.95	1.38	-78.94
2,753.0	2.00	356.20	2,752.5	-9.6	10.7	-9.6	0.12	0.11	-1.38
2,848.0	0.50	109.60	2,847.5	-8.0	11.0	-8.1	2.36	-1.58	119.37
2,944.0	1.00	24.40	2,943.4	-7.4	11.7	-7.5	1.12	0.52	-88.75
3,037.0	0.90	52.10	3,036.4	-6.2	12.6	-6.3	0.50	-0.11	29.79
3,133.0	1.00	25.80	3,132.4	-5.0	13.6	-5.1	0.46	0.10	-27.40
3,229.0	1.00	53.40	3,228.4	-3.8	14.6	-3.9	0.50	0.00	28.75
3,323.0	1.30	150.60	3,322.4	-4.2	15.8	-4.3	1.85	0.32	103.40
3,418.0	0.90	165.20	3,417.4	-5.9	16.5	-6.0	0.51	-0.42	15.37
3,513.0	1.20	157.80	3,512.4	-7.5	17.1	-7.6	0.35	0.32	-7.79
3,608.0	1.30	166.60	3,607.3	-9.5	17.7	-9.6	0.23	0.11	9.26
3,703.0	1.80	199.30	3,702.3	-11.9	17.5	-12.1	1.05	0.53	34.42
3,798.0	3.10	240.60	3,797.2	-14.6	14.8	-14.7	2.22	1.37	43.47
3,893.0	3.00	245.70	3,892.1	-16.9	10.3	-17.0	0.30	-0.11	5.37
3,989.0	1.60	310.40	3,988.0	-17.0	6.9	-17.1	2.84	-1.46	67.40
4,084.0	1.00	269.40	4,083.0	-16.2	5.1	-16.2	1.13	-0.63	-43.16
4,179.0	1.60	248.70	4,178.0	-16.7	3.0	-16.7	0.79	0.63	-21.79
4,273.0	1.60	264.50	4,271.9	-17.3	0.5	-17.3	0.47	0.00	16.81
4,368.0	1.40	297.90	4,366.9	-16.9	-1.8	-16.9	0.93	-0.21	35.16
4,463.0	1.80	320.90	4,461.9	-15.2	-3.8	-15.1	0.79	0.42	24.21
4,558.0	1.40	298.20	4,556.8	-13.5	-5.8	-13.4	0.78	-0.42	-23.89
4,653.0	1.30	294.90	4,651.8	-12.5	-7.8	-12.4	0.13	-0.11	-3.47
4,748.0	0.80	292.80	4,746.8	-11.8	-9.3	-11.7	0.53	-0.53	-2.21
4,843.0	0.60	237.80	4,841.8	-11.8	-10.4	-11.7	0.71	-0.21	-57.89
4,938.0	0.80	229.00	4,936.8	-12.5	-11.3	-12.4	0.24	0.21	-9.26
5,033.0	0.70	195.40	5,031.8	-13.5	-12.0	-13.4	0.47	-0.11	-35.37
5,127.0	1.20	140.70	5,125.8	-14.8	-11.5	-14.7	1.04	0.53	-58.19
5,223.0	3.10	88.90	5,221.7	-15.5	-8.3	-15.4	2.65	1.98	-53.96
5,317.0	3.30	63.00	5,315.6	-14.2	-3.3	-14.2	1.54	0.21	-27.55
5,349.0	3.40	46.00	5,347.5	-13.1	-1.8	-13.1	3.11	0.31	-53.13
5,380.0	3.00	17.90	5,378.5	-11.7	-0.9	-11.7	5.16	-1.29	-90.65
5,413.0	5.00	20.90	5,411.4	-9.6	-0.1	-9.6	6.09	6.06	9.09
5,444.0	7.10	4.70	5,442.2	-6.4	0.5	-6.4	8.67	6.77	-52.26
5,475.0	7.30	1.00	5,473.0	-2.5	0.7	-2.5	1.63	0.65	-11.94
5,507.0	8.50	4.50	5,504.7	1.9	0.9	1.9	4.04	3.75	10.94
5,539.0	8.50	4.00	5,536.3	6.6	1.3	6.6	0.23	0.00	-1.56

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	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)	
5,561.0	8.10	22.30	5,558.1	9.6	2.0	9.6	12.09	-1.82	83.18	
5,593.0	9.10	25.30	5,589.7	14.0	3.9	14.0	3.42	3.13	9.38	
5,619.0	10.40	22.60	5,615.3	18.0	5.7	18.0	5.30	5.00	-10.38	
5,651.0	14.30	16.10	5,646.6	24.5	7.9	24.4	12.92	12.19	-20.31	
5,683.0	18.00	10.80	5,677.3	33.2	9.9	33.1	12.44	11.56	-16.56	
5,714.0	22.20	9.10	5,706.4	43.7	11.8	43.6	13.68	13.55	-5.48	
5,746.0	25.90	6.60	5,735.6	56.6	13.5	56.5	11.99	11.56	-7.81	
5,777.0	29.40	4.20	5,763.1	70.9	14.9	70.8	11.85	11.29	-7.74	
5,809.0	32.50	2.60	5,790.5	87.3	15.8	87.2	10.02	9.69	-5.00	
5,841.0	36.10	1.90	5,817.0	105.3	16.5	105.2	11.32	11.25	-2.19	
5,872.0	39.70	1.20	5,841.4	124.4	17.0	124.2	11.70	11.61	-2.26	
5,904.0	41.50	358.50	5,865.7	145.2	17.0	145.1	7.86	5.63	-8.44	
5,956.0	47.50	358.50	5,902.8	181.6	16.0	181.5	11.54	11.54	0.00	
BHL 660'FNL, 660'FEL, SEC.1										

Wellbore Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude		Longitude
SHL 2388'FNL & 662'	0.00	0.00	1.0	70.0	1.4	1,558,549.40	3,468,486.91	40.854314		-103.806431
- hit/miss target										
- Shape										
- survey misses target center by 70.0ft at 0.7ft MD (0.7 TVD, 0.0 N, 0.0 E)										
- Point										
HARDLINES BHL 660'	0.00	0.00	1.0	7,049.0	-454.5	1,565,518.49	3,467,897.80	40.873469		-103.808079
- survey misses target center by 7063.6ft at 0.7ft MD (0.7 TVD, 0.0 N, 0.0 E)										
- Polygon										
Point 1			1.0	0.0	0.0	1,565,518.49	3,467,897.80			
Point 2			1.0	0.0	800.0	1,565,533.77	3,468,697.67			
HARDLINES SHL 660'	0.00	0.00	1.0	400.0	-398.6	1,558,871.70	3,468,080.68	40.855220		-103.807877
- survey misses target center by 564.7ft at 0.7ft MD (0.7 TVD, 0.0 N, 0.0 E)										
- Polygon										
Point 1			1.0	0.0	0.0	1,558,871.70	3,468,080.68			
Point 2			1.0	0.0	800.0	1,558,886.98	3,468,880.54			
BHL 660'FNL, 660'FE	0.00	0.00	5,905.0	7,048.9	-54.5	1,565,526.11	3,468,297.77	40.873469		-103.806633
- survey misses target center by 6867.7ft at 5956.0ft MD (5902.8 TVD, 181.6 N, 16.0 E)										
- Point										

Checked By: _____ Approved By: _____ Date: _____



Whiting Oil & Gas

SEC.12-T10N-R58W

Razor 12-0141H Pad Sec.12-T10N-R58W

Razor 12-0141H

Wellbore #2

Survey: Survey #1

Standard Survey Report

15 October, 2012

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #2	Database:	Landmark

Project	SEC.12-T10N-R58W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Razor 12-0141H Pad Sec.12-T10N-R58W			
Site Position:		Northing:	1,558,549.40 ft	Latitude:	40.854314
From:	Lat/Long	Easting:	3,468,486.91 ft	Longitude:	-103.806431
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	1.09 °

Well	Razor 12-0141H					
Well Position	+N/-S	0.0 ft	Northing:	1,558,479.43 ft	Latitude:	40.854122
	+E/-W	0.0 ft	Easting:	3,468,486.86 ft	Longitude:	-103.806436
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,947.9 ft

Wellbore #2					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/3/2012	8.20	67.52	53,327

Design	Wellbore #2			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 5,033.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	359.56

Survey Program		Date	10/15/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
109.0	5,033.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	
5,057.0	12,745.0	Survey #1 (Wellbore #2)	MWD	MWD - Standard	

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)
	5,033.0	0.70	195.40	5,031.8	-13.5	-12.0	-13.4	0.00	0.00	0.00
	SHL 2388°FNL & 662°FEL SEC 12 - HARDLINES SHL 660°FSL									
	5,057.0	0.80	188.20	5,055.8	-13.8	-12.0	-13.7	0.57	0.42	-30.00
	5,089.0	1.00	181.70	5,087.8	-14.3	-12.1	-14.2	0.70	0.63	-20.31
	5,120.0	1.10	164.60	5,118.8	-14.8	-12.0	-14.7	1.06	0.32	-55.16
	5,152.0	1.50	141.60	5,150.8	-15.4	-11.6	-15.4	2.03	1.25	-71.88
	5,183.0	2.20	117.90	5,181.7	-16.0	-10.9	-16.0	3.30	2.26	-76.45
	5,215.0	4.10	114.90	5,213.7	-16.8	-9.3	-16.7	5.96	5.94	-9.38
	5,247.0	6.30	120.70	5,245.6	-18.2	-6.7	-18.1	7.06	6.88	18.13
	5,278.0	9.10	119.80	5,276.3	-20.3	-3.2	-20.3	9.04	9.03	-2.90
	5,310.0	10.70	106.10	5,307.8	-22.4	1.9	-22.4	8.86	5.00	-42.81
	5,342.0	12.20	91.00	5,339.2	-23.2	8.1	-23.3	10.43	4.69	-47.19

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #2	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)
5,374.0	13.40	75.50	5,370.4	-22.4	15.1	-22.5	11.33	3.75	-48.44
5,405.0	14.50	59.90	5,400.5	-19.5	21.9	-19.7	12.60	3.55	-50.32
5,437.0	15.90	45.10	5,431.4	-14.4	28.5	-14.6	12.85	4.38	-46.25
5,469.0	16.60	31.10	5,462.1	-7.4	34.0	-7.7	12.41	2.19	-43.75
5,501.0	16.80	16.60	5,492.8	0.9	37.7	0.6	13.00	0.63	-45.31
5,532.0	17.50	3.10	5,522.4	9.9	39.2	9.6	13.01	2.26	-43.55
5,564.0	20.00	353.60	5,552.7	20.1	38.9	19.8	12.31	7.81	-29.69
5,596.0	23.70	351.70	5,582.4	31.9	37.3	31.7	11.77	11.56	-5.94
5,627.0	27.60	350.80	5,610.3	45.2	35.3	44.9	12.64	12.58	-2.90
5,659.0	31.50	351.30	5,638.2	60.8	32.8	60.5	12.21	12.19	1.56
5,691.0	34.70	352.60	5,665.0	78.1	30.4	77.9	10.24	10.00	4.06
5,723.0	37.90	355.70	5,690.8	96.9	28.5	96.7	11.53	10.00	9.69
5,754.0	40.80	358.40	5,714.7	116.6	27.5	116.3	10.86	9.35	8.71
5,786.0	44.20	358.90	5,738.3	138.2	27.0	138.0	10.68	10.63	1.56
5,818.0	47.30	0.10	5,760.7	161.1	26.8	160.9	10.05	9.69	3.75
5,849.0	50.40	359.80	5,781.1	184.4	26.7	184.2	10.03	10.00	-0.97
5,881.0	53.10	0.80	5,800.9	209.5	26.9	209.3	8.79	8.44	3.13
5,913.0	56.60	1.70	5,819.3	235.7	27.5	235.5	11.18	10.94	2.81
5,945.0	59.40	1.90	5,836.2	262.8	28.3	262.6	8.77	8.75	0.63
5,976.0	63.10	0.30	5,851.1	290.0	28.8	289.8	12.76	11.94	-5.16
6,008.0	66.60	359.60	5,864.7	319.0	28.8	318.7	11.12	10.94	-2.19
6,040.0	69.70	357.80	5,876.7	348.6	28.1	348.4	11.00	9.69	-5.63
6,072.0	72.20	358.90	5,887.1	378.9	27.3	378.7	8.46	7.81	3.44
6,103.0	75.40	357.80	5,895.7	408.6	26.4	408.4	10.87	10.32	-3.55
6,135.0	79.20	357.30	5,902.8	439.8	25.1	439.6	11.97	11.88	-1.56
6,167.0	83.00	357.10	5,907.7	471.4	23.5	471.2	11.89	11.88	-0.63
6,199.0	86.00	357.00	5,910.8	503.2	21.9	503.0	9.38	9.38	-0.31
6,226.0	87.77	356.58	5,912.3	530.1	20.4	529.9	6.72	6.54	-1.54
7"									
6,251.0	89.40	356.20	5,912.9	555.0	18.8	554.9	6.72	6.54	-1.54
6,282.0	91.10	356.10	5,912.7	586.0	16.7	585.8	5.49	5.48	-0.32
6,314.0	92.30	355.90	5,911.8	617.9	14.5	617.8	3.80	3.75	-0.63
6,346.0	93.30	355.20	5,910.2	649.7	12.0	649.6	3.81	3.13	-2.19
6,377.0	93.60	354.30	5,908.4	680.6	9.2	680.5	3.06	0.97	-2.90
6,409.0	94.70	354.70	5,906.1	712.3	6.1	712.3	3.66	3.44	1.25
6,441.0	95.40	354.30	5,903.2	744.1	3.1	744.0	2.52	2.19	-1.25
6,472.0	95.50	355.00	5,900.3	774.8	0.2	774.8	2.27	0.32	2.26
6,504.0	94.80	355.70	5,897.4	806.5	-2.4	806.5	3.09	-2.19	2.19
6,536.0	94.60	356.80	5,894.8	838.4	-4.5	838.4	3.48	-0.63	3.44
6,568.0	93.20	357.30	5,892.6	870.3	-6.1	870.3	4.64	-4.38	1.56
6,599.0	93.40	356.80	5,890.8	901.2	-7.7	901.2	1.73	0.65	-1.61
6,631.0	93.90	356.40	5,888.8	933.0	-9.6	933.1	2.00	1.56	-1.25
6,663.0	93.60	357.30	5,886.7	964.9	-11.4	965.0	2.96	-0.94	2.81
6,694.0	93.50	359.10	5,884.8	995.8	-12.3	995.9	5.80	-0.32	5.81
6,726.0	92.70	359.90	5,883.1	1,027.8	-12.6	1,027.9	3.53	-2.50	2.50
6,758.0	92.80	359.80	5,881.5	1,059.8	-12.7	1,059.8	0.44	0.31	-0.31
6,790.0	91.90	359.40	5,880.2	1,091.7	-12.9	1,091.8	3.08	-2.81	-1.25
6,821.0	91.00	0.30	5,879.4	1,122.7	-13.0	1,122.8	4.11	-2.90	2.90
6,853.0	90.40	1.00	5,879.0	1,154.7	-12.7	1,154.8	2.88	-1.88	2.19
6,885.0	90.00	2.80	5,878.9	1,186.7	-11.6	1,186.8	5.76	-1.25	5.63
6,916.0	89.30	3.80	5,879.1	1,217.6	-9.8	1,217.7	3.94	-2.26	3.23
6,948.0	88.90	4.30	5,879.6	1,249.6	-7.5	1,249.6	2.00	-1.25	1.56
6,980.0	88.90	4.20	5,880.2	1,281.5	-5.2	1,281.5	0.31	0.00	-0.31
7,012.0	89.10	4.00	5,880.8	1,313.4	-2.9	1,313.4	0.88	0.63	-0.63

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #2	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)	
7,043.0	89.50	4.70	5,881.2	1,344.3	-0.5	1,344.3	2.60	1.29	2.26	
7,075.0	90.30	4.70	5,881.2	1,376.2	2.1	1,376.1	2.50	2.50	0.00	
7,107.0	90.60	4.30	5,881.0	1,408.1	4.6	1,408.0	1.56	0.94	-1.25	
7,139.0	89.40	3.60	5,881.0	1,440.0	6.8	1,439.9	4.34	-3.75	-2.19	
7,171.0	88.30	2.80	5,881.6	1,471.9	8.6	1,471.8	4.25	-3.44	-2.50	
7,202.0	88.00	1.20	5,882.6	1,502.9	9.7	1,502.8	5.25	-0.97	-5.16	
7,234.0	88.10	0.60	5,883.7	1,534.9	10.2	1,534.8	1.90	0.31	-1.88	
7,266.0	88.10	0.50	5,884.8	1,566.9	10.5	1,566.7	0.31	0.00	-0.31	
7,298.0	90.00	1.90	5,885.3	1,598.9	11.1	1,598.7	7.37	5.94	4.38	
7,329.0	90.10	1.30	5,885.3	1,629.8	12.0	1,629.7	1.96	0.32	-1.94	
7,361.0	89.40	0.60	5,885.4	1,661.8	12.5	1,661.7	3.09	-2.19	-2.19	
7,392.0	90.10	3.30	5,885.5	1,692.8	13.6	1,692.7	9.00	2.26	8.71	
7,424.0	90.30	2.40	5,885.4	1,724.8	15.2	1,724.6	2.88	0.63	-2.81	
7,456.0	89.90	2.40	5,885.4	1,756.8	16.5	1,756.6	1.25	-1.25	0.00	
7,488.0	90.90	3.50	5,885.1	1,788.7	18.2	1,788.5	4.65	3.13	3.44	
7,519.0	90.90	3.60	5,884.7	1,819.6	20.1	1,819.4	0.32	0.00	0.32	
7,551.0	91.20	4.70	5,884.1	1,851.6	22.4	1,851.3	3.56	0.94	3.44	
7,583.0	91.50	4.20	5,883.3	1,883.4	24.9	1,883.2	1.82	0.94	-1.56	
7,615.0	90.70	2.90	5,882.7	1,915.4	26.9	1,915.1	4.77	-2.50	-4.06	
7,646.0	91.40	5.00	5,882.1	1,946.3	29.0	1,946.0	7.14	2.26	6.77	
7,677.0	91.50	3.60	5,881.4	1,977.2	31.3	1,976.9	4.53	0.32	-4.52	
7,708.0	90.40	2.20	5,880.8	2,008.2	32.9	2,007.8	5.74	-3.55	-4.52	
7,739.0	89.60	1.90	5,880.8	2,039.1	34.0	2,038.8	2.76	-2.58	-0.97	
7,770.0	89.10	0.80	5,881.2	2,070.1	34.7	2,069.8	3.90	-1.61	-3.55	
7,801.0	88.50	359.20	5,881.8	2,101.1	34.7	2,100.8	5.51	-1.94	-5.16	
7,832.0	89.10	358.40	5,882.5	2,132.1	34.1	2,131.8	3.23	1.94	-2.58	
7,862.0	89.50	358.00	5,882.9	2,162.1	33.1	2,161.8	1.89	1.33	-1.33	
7,894.0	89.90	357.30	5,883.0	2,194.1	31.8	2,193.7	2.52	1.25	-2.19	
7,924.0	90.00	357.10	5,883.1	2,224.0	30.4	2,223.7	0.75	0.33	-0.67	
7,955.0	90.00	357.80	5,883.1	2,255.0	29.0	2,254.7	2.26	0.00	2.26	
7,986.0	90.10	358.20	5,883.0	2,286.0	27.9	2,285.7	1.33	0.32	1.29	
8,016.0	90.20	358.00	5,882.9	2,316.0	26.9	2,315.7	0.75	0.33	-0.67	
8,047.0	90.20	357.70	5,882.8	2,346.9	25.8	2,346.7	0.97	0.00	-0.97	
8,078.0	91.00	358.00	5,882.5	2,377.9	24.6	2,377.6	2.76	2.58	0.97	
8,109.0	91.90	358.70	5,881.7	2,408.9	23.7	2,408.6	3.68	2.90	2.26	
8,140.0	92.40	358.50	5,880.6	2,439.9	22.9	2,439.6	1.74	1.61	-0.65	
8,171.0	92.50	358.50	5,879.2	2,470.8	22.1	2,470.6	0.32	0.32	0.00	
8,202.0	91.80	359.20	5,878.1	2,501.8	21.5	2,501.5	3.19	-2.26	2.26	
8,233.0	92.00	359.40	5,877.0	2,532.8	21.1	2,532.5	0.91	0.65	0.65	
8,264.0	92.20	359.80	5,875.9	2,563.7	20.9	2,563.5	1.44	0.65	1.29	
8,294.0	91.30	0.60	5,875.0	2,593.7	21.0	2,593.5	4.01	-3.00	2.67	
8,325.0	90.80	1.70	5,874.4	2,624.7	21.6	2,624.5	3.90	-1.61	3.55	
8,356.0	89.90	2.60	5,874.2	2,655.7	22.8	2,655.4	4.11	-2.90	2.90	
8,387.0	88.70	3.30	5,874.6	2,686.7	24.4	2,686.4	4.48	-3.87	2.26	
8,418.0	87.80	2.20	5,875.6	2,717.6	25.9	2,717.3	4.58	-2.90	-3.55	
8,449.0	88.20	1.90	5,876.6	2,748.6	27.0	2,748.3	1.61	1.29	-0.97	
8,480.0	88.60	1.20	5,877.5	2,779.5	27.8	2,779.2	2.60	1.29	-2.26	
8,511.0	88.50	0.30	5,878.3	2,810.5	28.2	2,810.2	2.92	-0.32	-2.90	
8,542.0	88.50	0.50	5,879.1	2,841.5	28.5	2,841.2	0.64	0.00	0.65	
8,573.0	89.20	0.30	5,879.7	2,872.5	28.7	2,872.2	2.35	2.26	-0.65	
8,603.0	89.30	359.90	5,880.1	2,902.5	28.7	2,902.2	1.37	0.33	-1.33	
8,634.0	90.00	359.60	5,880.3	2,933.5	28.6	2,933.2	2.46	2.26	-0.97	
8,664.0	90.80	358.70	5,880.1	2,963.5	28.1	2,963.2	4.01	2.67	-3.00	
8,695.0	90.80	358.50	5,879.7	2,994.5	27.4	2,994.2	0.65	0.00	-0.65	

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #2	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)	
8,726.0	89.50	358.50	5,879.6	3,025.5	26.6	3,025.2	4.19	-4.19	0.00	
8,756.0	90.10	358.20	5,879.7	3,055.5	25.7	3,055.2	2.24	2.00	-1.00	
8,788.0	90.00	357.70	5,879.7	3,087.4	24.6	3,087.2	1.59	-0.31	-1.56	
8,819.0	89.70	358.00	5,879.7	3,118.4	23.4	3,118.1	1.37	-0.97	0.97	
8,849.0	89.90	357.80	5,879.9	3,148.4	22.3	3,148.1	0.94	0.67	-0.67	
8,880.0	90.30	357.50	5,879.8	3,179.4	21.0	3,179.1	1.61	1.29	-0.97	
8,911.0	90.70	357.10	5,879.5	3,210.3	19.6	3,210.1	1.82	1.29	-1.29	
8,942.0	90.30	357.80	5,879.3	3,241.3	18.2	3,241.1	2.60	-1.29	2.26	
8,973.0	90.50	357.30	5,879.0	3,272.3	16.9	3,272.0	1.74	0.65	-1.61	
9,004.0	89.60	357.00	5,879.0	3,303.2	15.3	3,303.0	3.06	-2.90	-0.97	
9,034.0	89.60	356.20	5,879.2	3,333.2	13.5	3,333.0	2.67	0.00	-2.67	
9,065.0	89.90	356.20	5,879.4	3,364.1	11.5	3,363.9	0.97	0.97	0.00	
9,096.0	90.70	355.70	5,879.2	3,395.0	9.3	3,394.9	3.04	2.58	-1.61	
9,127.0	90.20	356.10	5,879.0	3,426.0	7.1	3,425.8	2.07	-1.61	1.29	
9,158.0	89.70	357.30	5,879.0	3,456.9	5.3	3,456.8	4.19	-1.61	3.87	
9,188.0	90.00	357.00	5,879.1	3,486.9	3.8	3,486.7	1.41	1.00	-1.00	
9,219.0	90.00	357.50	5,879.1	3,517.8	2.3	3,517.7	1.61	0.00	1.61	
9,250.0	89.40	357.80	5,879.2	3,548.8	1.1	3,548.7	2.16	-1.94	0.97	
9,281.0	89.90	357.70	5,879.4	3,579.8	-0.2	3,579.7	1.64	1.61	-0.32	
9,311.0	90.60	357.30	5,879.3	3,609.8	-1.5	3,609.7	2.69	2.33	-1.33	
9,342.0	90.80	357.10	5,878.9	3,640.7	-3.0	3,640.6	0.91	0.65	-0.65	
9,373.0	91.20	356.80	5,878.4	3,671.7	-4.6	3,671.6	1.61	1.29	-0.97	
9,404.0	90.70	357.30	5,877.8	3,702.6	-6.2	3,702.6	2.28	-1.61	1.61	
9,435.0	90.30	358.00	5,877.6	3,733.6	-7.5	3,733.5	2.60	-1.29	2.26	
9,466.0	90.20	358.20	5,877.4	3,764.6	-8.5	3,764.5	0.72	-0.32	0.65	
9,496.0	90.20	357.50	5,877.3	3,794.6	-9.7	3,794.5	2.33	0.00	-2.33	
9,527.0	90.30	358.40	5,877.2	3,825.5	-10.8	3,825.5	2.92	0.32	2.90	
9,558.0	90.70	358.70	5,876.9	3,856.5	-11.6	3,856.5	1.61	1.29	0.97	
9,589.0	90.40	359.20	5,876.6	3,887.5	-12.1	3,887.5	1.88	-0.97	1.61	
9,619.0	89.30	359.40	5,876.7	3,917.5	-12.5	3,917.5	3.73	-3.67	0.67	
9,650.0	89.40	359.60	5,877.1	3,948.5	-12.8	3,948.5	0.72	0.32	0.65	
9,682.0	89.60	359.40	5,877.3	3,980.5	-13.0	3,980.5	0.88	0.63	-0.63	
9,712.0	90.20	359.20	5,877.4	4,010.5	-13.4	4,010.5	2.11	2.00	-0.67	
9,743.0	90.10	359.10	5,877.3	4,041.5	-13.9	4,041.5	0.46	-0.32	-0.32	
9,774.0	88.90	359.10	5,877.6	4,072.5	-14.3	4,072.5	3.87	-3.87	0.00	
9,805.0	88.50	358.70	5,878.3	4,103.5	-14.9	4,103.5	1.82	-1.29	-1.29	
9,836.0	88.40	358.40	5,879.1	4,134.5	-15.7	4,134.5	1.02	-0.32	-0.97	
9,867.0	88.00	358.40	5,880.1	4,165.4	-16.6	4,165.4	1.29	-1.29	0.00	
9,898.0	88.50	358.40	5,881.0	4,196.4	-17.5	4,196.4	1.61	1.61	0.00	
9,929.0	89.50	358.40	5,881.6	4,227.4	-18.3	4,227.4	3.23	3.23	0.00	
9,960.0	90.40	358.70	5,881.6	4,258.4	-19.1	4,258.4	3.06	2.90	0.97	
9,990.0	91.00	358.40	5,881.2	4,288.4	-19.9	4,288.4	2.24	2.00	-1.00	
10,021.0	91.60	358.40	5,880.5	4,319.3	-20.7	4,319.4	1.94	1.94	0.00	
10,052.0	90.50	358.40	5,880.0	4,350.3	-21.6	4,350.4	3.55	-3.55	0.00	
10,083.0	90.40	358.00	5,879.7	4,381.3	-22.6	4,381.4	1.33	-0.32	-1.29	
10,114.0	89.30	357.30	5,879.8	4,412.3	-23.8	4,412.3	4.21	-3.55	-2.26	
10,145.0	87.80	356.40	5,880.6	4,443.2	-25.5	4,443.3	5.64	-4.84	-2.90	
10,176.0	87.50	356.20	5,881.9	4,474.1	-27.5	4,474.2	1.16	-0.97	-0.65	
10,206.0	88.50	355.90	5,882.9	4,504.0	-29.6	4,504.1	3.48	3.33	-1.00	
10,237.0	89.30	355.40	5,883.5	4,534.9	-32.0	4,535.1	3.04	2.58	-1.61	
10,268.0	90.10	356.20	5,883.7	4,565.9	-34.2	4,566.0	3.65	2.58	2.58	
10,298.0	90.60	356.70	5,883.5	4,595.8	-36.1	4,595.9	2.36	1.67	1.67	
10,328.0	90.90	356.80	5,883.1	4,625.8	-37.8	4,625.9	1.05	1.00	0.33	
10,359.0	90.70	356.20	5,882.7	4,656.7	-39.7	4,656.9	2.04	-0.65	-1.94	

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #2	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)
10,390.0	90.10	355.90	5,882.4	4,687.6	-41.8	4,687.8	2.16	-1.94	-0.97
10,421.0	90.40	355.00	5,882.3	4,718.5	-44.3	4,718.7	3.06	0.97	-2.90
10,451.0	90.10	355.50	5,882.2	4,748.4	-46.8	4,748.6	1.94	-1.00	1.67
10,482.0	89.90	355.70	5,882.2	4,779.3	-49.1	4,779.6	0.91	-0.65	0.65
10,513.0	90.50	355.90	5,882.1	4,810.2	-51.4	4,810.5	2.04	1.94	0.65
10,544.0	91.40	356.40	5,881.6	4,841.2	-53.5	4,841.4	3.32	2.90	1.61
10,576.0	92.20	357.70	5,880.6	4,873.1	-55.1	4,873.4	4.77	2.50	4.06
10,607.0	92.90	358.40	5,879.2	4,904.1	-56.2	4,904.3	3.19	2.26	2.26
10,639.0	93.30	358.40	5,877.4	4,936.0	-57.1	4,936.3	1.25	1.25	0.00
10,671.0	92.60	358.70	5,875.8	4,967.9	-57.9	4,968.2	2.38	-2.19	0.94
10,702.0	91.90	359.40	5,874.6	4,998.9	-58.4	4,999.2	3.19	-2.26	2.26
10,734.0	90.70	0.50	5,873.9	5,030.9	-58.4	5,031.2	5.09	-3.75	3.44
10,766.0	88.80	0.50	5,874.0	5,062.9	-58.2	5,063.2	5.94	-5.94	0.00
10,797.0	87.30	0.60	5,875.0	5,093.9	-57.9	5,094.2	4.85	-4.84	0.32
10,829.0	86.90	0.60	5,876.7	5,125.8	-57.5	5,126.1	1.25	-1.25	0.00
10,860.0	87.10	0.30	5,878.3	5,156.8	-57.3	5,157.1	1.16	0.65	-0.97
10,892.0	87.80	0.80	5,879.7	5,188.8	-57.0	5,189.1	2.69	2.19	1.56
10,924.0	88.70	1.00	5,880.7	5,220.7	-56.5	5,221.0	2.88	2.81	0.63
10,955.0	89.80	1.20	5,881.1	5,251.7	-55.9	5,252.0	3.61	3.55	0.65
10,987.0	90.50	1.20	5,881.0	5,283.7	-55.2	5,284.0	2.19	2.19	0.00
11,019.0	90.00	0.60	5,880.9	5,315.7	-54.7	5,316.0	2.44	-1.56	-1.88
11,050.0	88.80	359.90	5,881.2	5,346.7	-54.6	5,347.0	4.48	-3.87	-2.26
11,082.0	89.30	359.80	5,881.7	5,378.7	-54.6	5,379.0	1.59	1.56	-0.31
11,113.0	89.30	359.40	5,882.1	5,409.7	-54.9	5,410.0	1.29	0.00	-1.29
11,145.0	89.30	359.20	5,882.5	5,441.7	-55.3	5,442.0	0.62	0.00	-0.63
11,177.0	89.90	359.10	5,882.7	5,473.7	-55.7	5,474.0	1.90	1.88	-0.31
11,208.0	90.30	358.40	5,882.7	5,504.7	-56.4	5,505.0	2.60	1.29	-2.26
11,240.0	90.20	358.90	5,882.5	5,536.7	-57.2	5,537.0	1.59	-0.31	1.56
11,271.0	90.00	358.40	5,882.5	5,567.7	-57.9	5,568.0	1.74	-0.65	-1.61
11,302.0	90.00	358.20	5,882.5	5,598.7	-58.8	5,599.0	0.65	0.00	-0.65
11,334.0	90.30	358.40	5,882.4	5,630.7	-59.8	5,630.9	1.13	0.94	0.63
11,366.0	90.90	358.90	5,882.1	5,662.6	-60.5	5,662.9	2.44	1.88	1.56
11,397.0	91.60	359.10	5,881.4	5,693.6	-61.1	5,693.9	2.35	2.26	0.65
11,429.0	92.10	358.70	5,880.3	5,725.6	-61.7	5,725.9	2.00	1.56	-1.25
11,461.0	90.60	358.70	5,879.6	5,757.6	-62.4	5,757.9	4.69	-4.69	0.00
11,492.0	89.80	358.40	5,879.5	5,788.6	-63.2	5,788.9	2.76	-2.58	-0.97
11,524.0	89.80	358.00	5,879.6	5,820.6	-64.2	5,820.9	1.25	0.00	-1.25
11,556.0	90.10	357.70	5,879.6	5,852.5	-65.4	5,852.9	1.33	0.94	-0.94
11,587.0	90.00	357.10	5,879.6	5,883.5	-66.8	5,883.8	1.96	-0.32	-1.94
11,619.0	88.90	357.50	5,879.9	5,915.5	-68.3	5,915.8	3.66	-3.44	1.25
11,650.0	88.50	358.70	5,880.6	5,946.4	-69.3	5,946.8	4.08	-1.29	3.87
11,682.0	88.60	359.60	5,881.4	5,978.4	-69.8	5,978.8	2.83	0.31	2.81
11,714.0	89.70	359.20	5,881.9	6,010.4	-70.1	6,010.8	3.66	3.44	-1.25
11,745.0	89.70	358.70	5,882.1	6,041.4	-70.7	6,041.8	1.61	0.00	-1.61
11,777.0	90.10	358.50	5,882.1	6,073.4	-71.5	6,073.8	1.40	1.25	-0.63
11,809.0	90.90	358.70	5,881.8	6,105.4	-72.3	6,105.8	2.58	2.50	0.63
11,840.0	91.30	358.50	5,881.2	6,136.4	-73.0	6,136.8	1.44	1.29	-0.65
11,871.0	91.40	358.90	5,880.5	6,167.4	-73.7	6,167.8	1.33	0.32	1.29
11,903.0	91.30	358.70	5,879.8	6,199.4	-74.4	6,199.7	0.70	-0.31	-0.63
11,935.0	91.70	358.90	5,878.9	6,231.3	-75.1	6,231.7	1.40	1.25	0.63
11,967.0	91.90	358.50	5,877.9	6,263.3	-75.8	6,263.7	1.40	0.63	-1.25
11,998.0	91.30	359.10	5,877.0	6,294.3	-76.4	6,294.7	2.74	-1.94	1.94
12,030.0	90.20	359.60	5,876.6	6,326.3	-76.8	6,326.7	3.78	-3.44	1.56
12,062.0	90.60	359.20	5,876.4	6,358.3	-77.1	6,358.7	1.77	1.25	-1.25

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #2	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)
12,093.0	89.20	359.20	5,876.5	6,389.3	-77.6	6,389.7	4.52	-4.52	0.00
12,125.0	88.00	359.90	5,877.2	6,421.3	-77.8	6,421.7	4.34	-3.75	2.19
12,157.0	87.90	359.80	5,878.4	6,453.2	-77.9	6,453.7	0.44	-0.31	-0.31
12,188.0	88.40	1.20	5,879.4	6,484.2	-77.6	6,484.6	4.79	1.61	4.52
12,220.0	88.50	1.90	5,880.2	6,516.2	-76.8	6,516.6	2.21	0.31	2.19
12,252.0	88.60	1.50	5,881.1	6,548.2	-75.8	6,548.6	1.29	0.31	-1.25
12,283.0	88.70	1.30	5,881.8	6,579.2	-75.1	6,579.5	0.72	0.32	-0.65
12,315.0	88.70	1.30	5,882.5	6,611.1	-74.3	6,611.5	0.00	0.00	0.00
12,347.0	88.70	1.20	5,883.2	6,643.1	-73.6	6,643.5	0.31	0.00	-0.31
12,378.0	89.50	1.90	5,883.7	6,674.1	-72.8	6,674.5	3.43	2.58	2.26
12,410.0	90.50	2.40	5,883.7	6,706.1	-71.6	6,706.4	3.49	3.13	1.56
12,442.0	90.80	2.40	5,883.4	6,738.1	-70.3	6,738.4	0.94	0.94	0.00
12,473.0	89.40	2.40	5,883.3	6,769.0	-69.0	6,769.4	4.52	-4.52	0.00
12,505.0	90.00	2.90	5,883.5	6,801.0	-67.5	6,801.3	2.44	1.88	1.56
12,537.0	90.20	3.30	5,883.4	6,833.0	-65.8	6,833.3	1.40	0.63	1.25
12,568.0	90.60	2.60	5,883.2	6,863.9	-64.2	6,864.2	2.60	1.29	-2.26
12,600.0	90.70	2.40	5,882.8	6,895.9	-62.8	6,896.2	0.70	0.31	-0.63
12,632.0	90.70	2.00	5,882.5	6,927.9	-61.5	6,928.1	1.25	0.00	-1.25
12,663.0	90.90	1.70	5,882.0	6,958.8	-60.5	6,959.1	1.16	0.65	-0.97
12,695.0	91.50	1.70	5,881.3	6,990.8	-59.6	6,991.1	1.88	1.88	0.00
12,745.0	91.50	1.70	5,880.0	7,040.8	-58.1	7,041.0	0.00	0.00	0.00

HARDLINES BHL 660°FNL - BHL 660°FNL, 660°FEL, SEC.1

Wellbore Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
SHL 2388°FNL & 662'	- survey misses target center by 5031.5ft at 5033.0ft MD (5031.8 TVD, -13.5 N, -12.0 E)	0.00	0.00	1.0	70.0	1.4	1,558,549.40	3,468,486.91	40.854314	-103.806431
- Point										
HARDLINES BHL 660'	- survey misses target center by 5892.4ft at 12745.0ft MD (5880.0 TVD, 7040.8 N, -58.1 E)	0.00	0.00	1.0	7,049.0	-454.5	1,565,518.49	3,467,897.80	40.873469	-103.808079
- Polygon										
Point 1				1.0	0.0	0.0	1,565,518.49	3,467,897.80		
Point 2				1.0	0.0	800.0	1,565,533.77	3,468,697.67		
HARDLINES SHL 660'	- survey misses target center by 5062.5ft at 5033.0ft MD (5031.8 TVD, -13.5 N, -12.0 E)	0.00	0.00	1.0	400.0	-398.6	1,558,871.70	3,468,080.68	40.855220	-103.807877
- Polygon										
Point 1				1.0	0.0	0.0	1,558,871.70	3,468,080.68		
Point 2				1.0	0.0	800.0	1,558,886.98	3,468,880.54		
BHL 660°FNL, 660°FEL	- survey misses target center by 26.5ft at 12745.0ft MD (5880.0 TVD, 7040.8 N, -58.1 E)	0.00	0.00	5,905.0	7,048.9	-54.5	1,565,526.11	3,468,297.77	40.873469	-103.806633
- Point										

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,226.0	5,912.3	7"	7	7-1/2

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor 12-0141H
Project:	SEC.12-T10N-R58W	TVD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Site:	Razor 12-0141H Pad Sec.12-T10N-R58W	MD Reference:	WELL @ 4964.4ft ((RKB - 16.5'))
Well:	Razor 12-0141H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #2	Database:	Landmark

Checked By: _____	Approved By: _____	Date: _____
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