

Whiting Oil & Gas

Well Name: **Razor 23-2612H**

Surface Location: Razor 23-2612H Pad Sec.23-T10N-R58W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

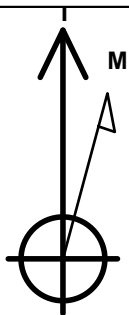
Ground Elevation: 4860.9

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1549736.17	3459411.24	40.830600	-103.839828	

RKB - 16.5' WELL @ 4877.4ft (RKB - 16.5')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
HARDLINES BHL 660'	1.0	-6965.0	-267.7	Polygon
HARDLINES SHL 660'FNL	1.0	-333.0	-400.0	Polygon
BHL 1980'FNL, 660'FWL, SEC.26	5833.0	-6965.0	132.3	Point



Azimuths to True North
Magnetic North: 8.26°

Magnetic Field
Strength: 53348.7nT
Dip Angle: 67.51°
Date: 6/1/2012
Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
5833.0	6130.3	End of Build

Razor 23-2612H Pad Sec.23-T10N-R58W
Razor 23-2612H
Plan #1 (6-01-12)
12:54, June 01 2012

South(-)/North(+) (2300 ft/in)

SHL 327'FNL, 660'FWL
SEC.23

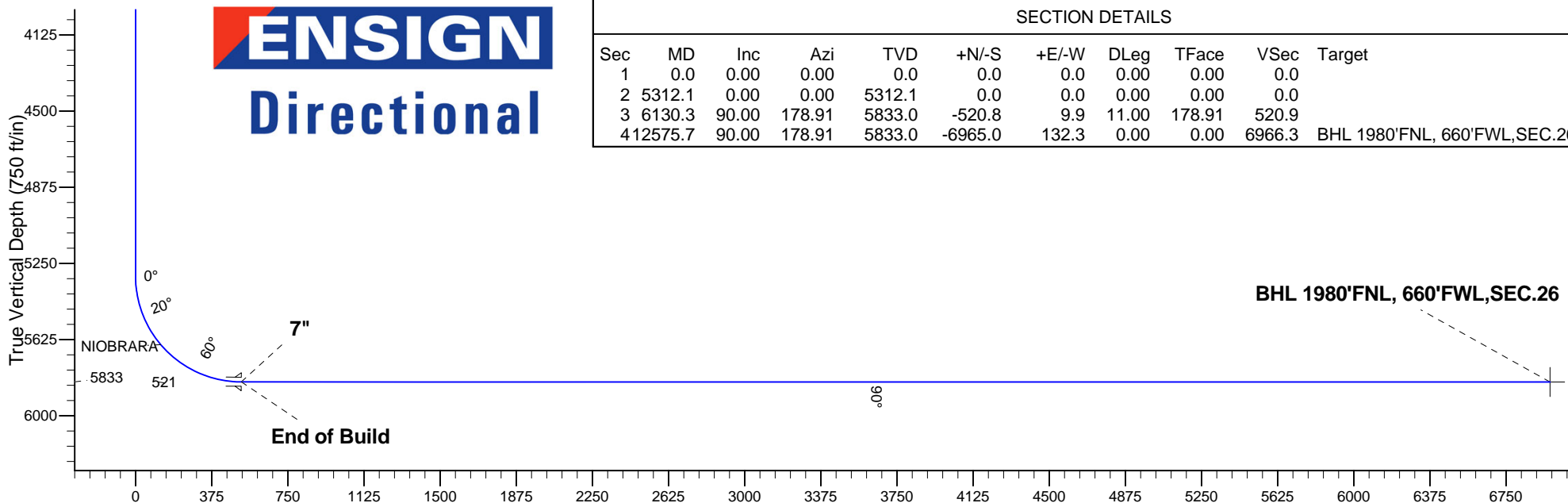
HARDLINES SHL 660'FNL

BHL 1980'FNL, 660'FWL, SEC.26

HARDLINES BHL 660'

West(-)/East(+) (2300 ft/in)

ENSIGN
Directional



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5312.1	0.00	0.00	5312.1	0.0	0.0	0.00	0.00	0.0	
3	6130.3	90.00	178.91	5833.0	-520.8	9.9	11.00	178.91	520.9	
4	12575.7	90.00	178.91	5833.0	-6965.0	132.3	0.00	0.00	6966.3	BHL 1980'FNL, 660'FWL, SEC.26

Vertical Section at 178.91° (750 ft/in)



Directional

Whiting Oil & Gas

SEC.23-T10N-R58W

Razor 23-2612H Pad Sec.23-T10N-R58W

Razor 23-2612H

Wellbore #1

Plan: Plan #1 (6-01-12)

Standard Planning Report

01 June, 2012

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,312.1	0.00	0.00	5,312.1	0.0	0.0	0.00	0.00	0.00	0.00	
6,130.3	90.00	178.91	5,833.0	-520.8	9.9	11.00	11.00	0.00	178.91	
12,575.7	90.00	178.91	5,833.0	-6,965.0	132.3	0.00	0.00	0.00	0.00	BHL 1980'FNL, 660

Database:	Landmark	Local Co-ordinate Reference:	Well Razor 23-2612H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Project:	SEC.23-T10N-R58W	MD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Site:	Razor 23-2612H Pad Sec.23-T10N-R58W	North Reference:	True
Well:	Razor 23-2612H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-01-12)		

Planned 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
HARDLINES SHL 660°FNL									
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,520.0	0.00	0.00	1,520.0	0.0	0.0	0.0	0.00	0.00	0.00
1,560.0	0.00	0.00	1,560.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,640.0	0.00	0.00	1,640.0	0.0	0.0	0.0	0.00	0.00	0.00
1,680.0	0.00	0.00	1,680.0	0.0	0.0	0.0	0.00	0.00	0.00
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	0.00
1,760.0	0.00	0.00	1,760.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,840.0	0.00	0.00	1,840.0	0.0	0.0	0.0	0.00	0.00	0.00
1,880.0	0.00	0.00	1,880.0	0.0	0.0	0.0	0.00	0.00	0.00
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
1,960.0	0.00	0.00	1,960.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00

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Well:	Razor 23-2612H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-01-12)		

Planned 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)
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00
2,520.0	0.00	0.00	2,520.0	0.0	0.0	0.0	0.00	0.00	0.00
2,560.0	0.00	0.00	2,560.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,640.0	0.00	0.00	2,640.0	0.0	0.0	0.0	0.00	0.00	0.00
2,680.0	0.00	0.00	2,680.0	0.0	0.0	0.0	0.00	0.00	0.00
2,720.0	0.00	0.00	2,720.0	0.0	0.0	0.0	0.00	0.00	0.00
2,760.0	0.00	0.00	2,760.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,840.0	0.00	0.00	2,840.0	0.0	0.0	0.0	0.00	0.00	0.00
2,880.0	0.00	0.00	2,880.0	0.0	0.0	0.0	0.00	0.00	0.00
2,920.0	0.00	0.00	2,920.0	0.0	0.0	0.0	0.00	0.00	0.00
2,960.0	0.00	0.00	2,960.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,040.0	0.00	0.00	3,040.0	0.0	0.0	0.0	0.00	0.00	0.00
3,080.0	0.00	0.00	3,080.0	0.0	0.0	0.0	0.00	0.00	0.00
3,120.0	0.00	0.00	3,120.0	0.0	0.0	0.0	0.00	0.00	0.00
3,160.0	0.00	0.00	3,160.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,240.0	0.00	0.00	3,240.0	0.0	0.0	0.0	0.00	0.00	0.00
3,280.0	0.00	0.00	3,280.0	0.0	0.0	0.0	0.00	0.00	0.00
3,320.0	0.00	0.00	3,320.0	0.0	0.0	0.0	0.00	0.00	0.00
3,360.0	0.00	0.00	3,360.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,440.0	0.00	0.00	3,440.0	0.0	0.0	0.0	0.00	0.00	0.00
3,480.0	0.00	0.00	3,480.0	0.0	0.0	0.0	0.00	0.00	0.00
3,520.0	0.00	0.00	3,520.0	0.0	0.0	0.0	0.00	0.00	0.00
3,560.0	0.00	0.00	3,560.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,640.0	0.00	0.00	3,640.0	0.0	0.0	0.0	0.00	0.00	0.00
3,680.0	0.00	0.00	3,680.0	0.0	0.0	0.0	0.00	0.00	0.00
3,720.0	0.00	0.00	3,720.0	0.0	0.0	0.0	0.00	0.00	0.00
3,760.0	0.00	0.00	3,760.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,840.0	0.00	0.00	3,840.0	0.0	0.0	0.0	0.00	0.00	0.00
3,880.0	0.00	0.00	3,880.0	0.0	0.0	0.0	0.00	0.00	0.00
3,920.0	0.00	0.00	3,920.0	0.0	0.0	0.0	0.00	0.00	0.00
3,960.0	0.00	0.00	3,960.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,040.0	0.00	0.00	4,040.0	0.0	0.0	0.0	0.00	0.00	0.00
4,080.0	0.00	0.00	4,080.0	0.0	0.0	0.0	0.00	0.00	0.00
4,120.0	0.00	0.00	4,120.0	0.0	0.0	0.0	0.00	0.00	0.00
4,160.0	0.00	0.00	4,160.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
Design:	Plan #1 (6-01-12)		

Planned 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)
4,240.0	0.00	0.00	4,240.0	0.0	0.0	0.0	0.00	0.00	0.00
4,280.0	0.00	0.00	4,280.0	0.0	0.0	0.0	0.00	0.00	0.00
4,320.0	0.00	0.00	4,320.0	0.0	0.0	0.0	0.00	0.00	0.00
4,360.0	0.00	0.00	4,360.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,440.0	0.00	0.00	4,440.0	0.0	0.0	0.0	0.00	0.00	0.00
4,480.0	0.00	0.00	4,480.0	0.0	0.0	0.0	0.00	0.00	0.00
4,520.0	0.00	0.00	4,520.0	0.0	0.0	0.0	0.00	0.00	0.00
4,560.0	0.00	0.00	4,560.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,640.0	0.00	0.00	4,640.0	0.0	0.0	0.0	0.00	0.00	0.00
4,680.0	0.00	0.00	4,680.0	0.0	0.0	0.0	0.00	0.00	0.00
4,720.0	0.00	0.00	4,720.0	0.0	0.0	0.0	0.00	0.00	0.00
4,760.0	0.00	0.00	4,760.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,840.0	0.00	0.00	4,840.0	0.0	0.0	0.0	0.00	0.00	0.00
4,880.0	0.00	0.00	4,880.0	0.0	0.0	0.0	0.00	0.00	0.00
4,920.0	0.00	0.00	4,920.0	0.0	0.0	0.0	0.00	0.00	0.00
4,960.0	0.00	0.00	4,960.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,040.0	0.00	0.00	5,040.0	0.0	0.0	0.0	0.00	0.00	0.00
5,080.0	0.00	0.00	5,080.0	0.0	0.0	0.0	0.00	0.00	0.00
5,120.0	0.00	0.00	5,120.0	0.0	0.0	0.0	0.00	0.00	0.00
5,160.0	0.00	0.00	5,160.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,240.0	0.00	0.00	5,240.0	0.0	0.0	0.0	0.00	0.00	0.00
5,280.0	0.00	0.00	5,280.0	0.0	0.0	0.0	0.00	0.00	0.00
5,312.1	0.00	0.00	5,312.1	0.0	0.0	0.0	0.00	0.00	0.00
5,320.0	0.87	178.91	5,320.0	-0.1	0.0	0.1	11.00	11.00	0.00
5,360.0	5.27	178.91	5,359.9	-2.2	0.0	2.2	11.00	11.00	0.00
5,400.0	9.67	178.91	5,399.6	-7.4	0.1	7.4	11.00	11.00	0.00
5,440.0	14.07	178.91	5,438.7	-15.6	0.3	15.6	11.00	11.00	0.00
5,480.0	18.47	178.91	5,477.1	-26.8	0.5	26.8	11.00	11.00	0.00
5,520.0	22.87	178.91	5,514.5	-40.9	0.8	40.9	11.00	11.00	0.00
5,560.0	27.27	178.91	5,550.7	-57.9	1.1	57.9	11.00	11.00	0.00
5,600.0	31.67	178.91	5,585.6	-77.5	1.5	77.5	11.00	11.00	0.00
5,640.0	36.07	178.91	5,618.8	-99.8	1.9	99.8	11.00	11.00	0.00
5,679.0	40.36	178.91	5,649.4	-123.9	2.4	123.9	11.00	11.00	0.00
NIOBARRA									
5,680.0	40.47	178.91	5,650.2	-124.6	2.4	124.6	11.00	11.00	0.00
5,720.0	44.87	178.91	5,679.6	-151.7	2.9	151.7	11.00	11.00	0.00
5,760.0	49.27	178.91	5,706.8	-180.9	3.4	181.0	11.00	11.00	0.00
5,800.0	53.67	178.91	5,731.7	-212.2	4.0	212.3	11.00	11.00	0.00
5,840.0	58.07	178.91	5,754.2	-245.3	4.7	245.4	11.00	11.00	0.00
5,880.0	62.47	178.91	5,774.0	-280.0	5.3	280.1	11.00	11.00	0.00
5,920.0	66.87	178.91	5,791.1	-316.2	6.0	316.2	11.00	11.00	0.00
5,960.0	71.27	178.91	5,805.4	-353.5	6.7	353.6	11.00	11.00	0.00
6,000.0	75.67	178.91	5,816.8	-391.8	7.4	391.9	11.00	11.00	0.00
6,040.0	80.07	178.91	5,825.2	-430.9	8.2	431.0	11.00	11.00	0.00
6,080.0	84.47	178.91	5,830.6	-470.6	8.9	470.6	11.00	11.00	0.00
6,120.0	88.87	178.91	5,832.9	-510.5	9.7	510.6	11.00	11.00	0.00
6,130.3	90.00	178.91	5,833.0	-520.8	9.9	520.9	11.00	11.00	0.00
End of Build - 7"									
6,160.0	90.00	178.91	5,833.0	-550.5	10.5	550.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Razor 23-2612H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Project:	SEC.23-T10N-R58W	MD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Site:	Razor 23-2612H Pad Sec.23-T10N-R58W	North Reference:	True
Well:	Razor 23-2612H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-01-12)		

Planned 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)
6,200.0	90.00	178.91	5,833.0	-590.5	11.2	590.6	0.00	0.00	0.00
6,240.0	90.00	178.91	5,833.0	-630.4	12.0	630.6	0.00	0.00	0.00
6,280.0	90.00	178.91	5,833.0	-670.4	12.7	670.6	0.00	0.00	0.00
6,320.0	90.00	178.91	5,833.0	-710.4	13.5	710.6	0.00	0.00	0.00
6,360.0	90.00	178.91	5,833.0	-750.4	14.3	750.6	0.00	0.00	0.00
6,400.0	90.00	178.91	5,833.0	-790.4	15.0	790.6	0.00	0.00	0.00
6,440.0	90.00	178.91	5,833.0	-830.4	15.8	830.6	0.00	0.00	0.00
6,480.0	90.00	178.91	5,833.0	-870.4	16.5	870.6	0.00	0.00	0.00
6,520.0	90.00	178.91	5,833.0	-910.4	17.3	910.6	0.00	0.00	0.00
6,560.0	90.00	178.91	5,833.0	-950.4	18.1	950.6	0.00	0.00	0.00
6,600.0	90.00	178.91	5,833.0	-990.4	18.8	990.6	0.00	0.00	0.00
6,640.0	90.00	178.91	5,833.0	-1,030.4	19.6	1,030.6	0.00	0.00	0.00
6,680.0	90.00	178.91	5,833.0	-1,070.4	20.3	1,070.6	0.00	0.00	0.00
6,720.0	90.00	178.91	5,833.0	-1,110.4	21.1	1,110.6	0.00	0.00	0.00
6,760.0	90.00	178.91	5,833.0	-1,150.4	21.9	1,150.6	0.00	0.00	0.00
6,800.0	90.00	178.91	5,833.0	-1,190.3	22.6	1,190.6	0.00	0.00	0.00
6,840.0	90.00	178.91	5,833.0	-1,230.3	23.4	1,230.6	0.00	0.00	0.00
6,880.0	90.00	178.91	5,833.0	-1,270.3	24.1	1,270.6	0.00	0.00	0.00
6,920.0	90.00	178.91	5,833.0	-1,310.3	24.9	1,310.6	0.00	0.00	0.00
6,960.0	90.00	178.91	5,833.0	-1,350.3	25.7	1,350.6	0.00	0.00	0.00
7,000.0	90.00	178.91	5,833.0	-1,390.3	26.4	1,390.6	0.00	0.00	0.00
7,040.0	90.00	178.91	5,833.0	-1,430.3	27.2	1,430.6	0.00	0.00	0.00
7,080.0	90.00	178.91	5,833.0	-1,470.3	27.9	1,470.6	0.00	0.00	0.00
7,120.0	90.00	178.91	5,833.0	-1,510.3	28.7	1,510.6	0.00	0.00	0.00
7,160.0	90.00	178.91	5,833.0	-1,550.3	29.5	1,550.6	0.00	0.00	0.00
7,200.0	90.00	178.91	5,833.0	-1,590.3	30.2	1,590.6	0.00	0.00	0.00
7,240.0	90.00	178.91	5,833.0	-1,630.3	31.0	1,630.6	0.00	0.00	0.00
7,280.0	90.00	178.91	5,833.0	-1,670.3	31.7	1,670.6	0.00	0.00	0.00
7,320.0	90.00	178.91	5,833.0	-1,710.3	32.5	1,710.6	0.00	0.00	0.00
7,360.0	90.00	178.91	5,833.0	-1,750.2	33.3	1,750.6	0.00	0.00	0.00
7,400.0	90.00	178.91	5,833.0	-1,790.2	34.0	1,790.6	0.00	0.00	0.00
7,440.0	90.00	178.91	5,833.0	-1,830.2	34.8	1,830.6	0.00	0.00	0.00
7,480.0	90.00	178.91	5,833.0	-1,870.2	35.5	1,870.6	0.00	0.00	0.00
7,520.0	90.00	178.91	5,833.0	-1,910.2	36.3	1,910.6	0.00	0.00	0.00
7,560.0	90.00	178.91	5,833.0	-1,950.2	37.0	1,950.6	0.00	0.00	0.00
7,600.0	90.00	178.91	5,833.0	-1,990.2	37.8	1,990.6	0.00	0.00	0.00
7,640.0	90.00	178.91	5,833.0	-2,030.2	38.6	2,030.6	0.00	0.00	0.00
7,680.0	90.00	178.91	5,833.0	-2,070.2	39.3	2,070.6	0.00	0.00	0.00
7,720.0	90.00	178.91	5,833.0	-2,110.2	40.1	2,110.6	0.00	0.00	0.00
7,760.0	90.00	178.91	5,833.0	-2,150.2	40.8	2,150.6	0.00	0.00	0.00
7,800.0	90.00	178.91	5,833.0	-2,190.2	41.6	2,190.6	0.00	0.00	0.00
7,840.0	90.00	178.91	5,833.0	-2,230.2	42.4	2,230.6	0.00	0.00	0.00
7,880.0	90.00	178.91	5,833.0	-2,270.2	43.1	2,270.6	0.00	0.00	0.00
7,920.0	90.00	178.91	5,833.0	-2,310.1	43.9	2,310.6	0.00	0.00	0.00
7,960.0	90.00	178.91	5,833.0	-2,350.1	44.6	2,350.6	0.00	0.00	0.00
8,000.0	90.00	178.91	5,833.0	-2,390.1	45.4	2,390.6	0.00	0.00	0.00
8,040.0	90.00	178.91	5,833.0	-2,430.1	46.2	2,430.6	0.00	0.00	0.00
8,080.0	90.00	178.91	5,833.0	-2,470.1	46.9	2,470.6	0.00	0.00	0.00
8,120.0	90.00	178.91	5,833.0	-2,510.1	47.7	2,510.6	0.00	0.00	0.00
8,160.0	90.00	178.91	5,833.0	-2,550.1	48.4	2,550.6	0.00	0.00	0.00
8,200.0	90.00	178.91	5,833.0	-2,590.1	49.2	2,590.6	0.00	0.00	0.00
8,240.0	90.00	178.91	5,833.0	-2,630.1	50.0	2,630.6	0.00	0.00	0.00
8,280.0	90.00	178.91	5,833.0	-2,670.1	50.7	2,670.6	0.00	0.00	0.00
8,320.0	90.00	178.91	5,833.0	-2,710.1	51.5	2,710.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Razor 23-2612H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Project:	SEC.23-T10N-R58W	MD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Site:	Razor 23-2612H Pad Sec.23-T10N-R58W	North Reference:	True
Well:	Razor 23-2612H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-01-12)		

Planned 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)
8,360.0	90.00	178.91	5,833.0	-2,750.1	52.2	2,750.6	0.00	0.00	0.00
8,400.0	90.00	178.91	5,833.0	-2,790.1	53.0	2,790.6	0.00	0.00	0.00
8,440.0	90.00	178.91	5,833.0	-2,830.0	53.8	2,830.6	0.00	0.00	0.00
8,480.0	90.00	178.91	5,833.0	-2,870.0	54.5	2,870.6	0.00	0.00	0.00
8,520.0	90.00	178.91	5,833.0	-2,910.0	55.3	2,910.6	0.00	0.00	0.00
8,560.0	90.00	178.91	5,833.0	-2,950.0	56.0	2,950.6	0.00	0.00	0.00
8,600.0	90.00	178.91	5,833.0	-2,990.0	56.8	2,990.6	0.00	0.00	0.00
8,640.0	90.00	178.91	5,833.0	-3,030.0	57.6	3,030.6	0.00	0.00	0.00
8,680.0	90.00	178.91	5,833.0	-3,070.0	58.3	3,070.6	0.00	0.00	0.00
8,720.0	90.00	178.91	5,833.0	-3,110.0	59.1	3,110.6	0.00	0.00	0.00
8,760.0	90.00	178.91	5,833.0	-3,150.0	59.8	3,150.6	0.00	0.00	0.00
8,800.0	90.00	178.91	5,833.0	-3,190.0	60.6	3,190.6	0.00	0.00	0.00
8,840.0	90.00	178.91	5,833.0	-3,230.0	61.4	3,230.6	0.00	0.00	0.00
8,880.0	90.00	178.91	5,833.0	-3,270.0	62.1	3,270.6	0.00	0.00	0.00
8,920.0	90.00	178.91	5,833.0	-3,310.0	62.9	3,310.6	0.00	0.00	0.00
8,960.0	90.00	178.91	5,833.0	-3,350.0	63.6	3,350.6	0.00	0.00	0.00
9,000.0	90.00	178.91	5,833.0	-3,389.9	64.4	3,390.6	0.00	0.00	0.00
9,040.0	90.00	178.91	5,833.0	-3,429.9	65.2	3,430.6	0.00	0.00	0.00
9,080.0	90.00	178.91	5,833.0	-3,469.9	65.9	3,470.6	0.00	0.00	0.00
9,120.0	90.00	178.91	5,833.0	-3,509.9	66.7	3,510.6	0.00	0.00	0.00
9,160.0	90.00	178.91	5,833.0	-3,549.9	67.4	3,550.6	0.00	0.00	0.00
9,200.0	90.00	178.91	5,833.0	-3,589.9	68.2	3,590.6	0.00	0.00	0.00
9,240.0	90.00	178.91	5,833.0	-3,629.9	69.0	3,630.6	0.00	0.00	0.00
9,280.0	90.00	178.91	5,833.0	-3,669.9	69.7	3,670.6	0.00	0.00	0.00
9,320.0	90.00	178.91	5,833.0	-3,709.9	70.5	3,710.6	0.00	0.00	0.00
9,360.0	90.00	178.91	5,833.0	-3,749.9	71.2	3,750.6	0.00	0.00	0.00
9,400.0	90.00	178.91	5,833.0	-3,789.9	72.0	3,790.6	0.00	0.00	0.00
9,440.0	90.00	178.91	5,833.0	-3,829.9	72.8	3,830.6	0.00	0.00	0.00
9,480.0	90.00	178.91	5,833.0	-3,869.9	73.5	3,870.6	0.00	0.00	0.00
9,520.0	90.00	178.91	5,833.0	-3,909.9	74.3	3,910.6	0.00	0.00	0.00
9,560.0	90.00	178.91	5,833.0	-3,949.8	75.0	3,950.6	0.00	0.00	0.00
9,600.0	90.00	178.91	5,833.0	-3,989.8	75.8	3,990.6	0.00	0.00	0.00
9,640.0	90.00	178.91	5,833.0	-4,029.8	76.6	4,030.6	0.00	0.00	0.00
9,680.0	90.00	178.91	5,833.0	-4,069.8	77.3	4,070.6	0.00	0.00	0.00
9,720.0	90.00	178.91	5,833.0	-4,109.8	78.1	4,110.6	0.00	0.00	0.00
9,760.0	90.00	178.91	5,833.0	-4,149.8	78.8	4,150.6	0.00	0.00	0.00
9,800.0	90.00	178.91	5,833.0	-4,189.8	79.6	4,190.6	0.00	0.00	0.00
9,840.0	90.00	178.91	5,833.0	-4,229.8	80.4	4,230.6	0.00	0.00	0.00
9,880.0	90.00	178.91	5,833.0	-4,269.8	81.1	4,270.6	0.00	0.00	0.00
9,920.0	90.00	178.91	5,833.0	-4,309.8	81.9	4,310.6	0.00	0.00	0.00
9,960.0	90.00	178.91	5,833.0	-4,349.8	82.6	4,350.6	0.00	0.00	0.00
10,000.0	90.00	178.91	5,833.0	-4,389.8	83.4	4,390.6	0.00	0.00	0.00
10,040.0	90.00	178.91	5,833.0	-4,429.8	84.2	4,430.6	0.00	0.00	0.00
10,080.0	90.00	178.91	5,833.0	-4,469.8	84.9	4,470.6	0.00	0.00	0.00
10,120.0	90.00	178.91	5,833.0	-4,509.7	85.7	4,510.6	0.00	0.00	0.00
10,160.0	90.00	178.91	5,833.0	-4,549.7	86.4	4,550.6	0.00	0.00	0.00
10,200.0	90.00	178.91	5,833.0	-4,589.7	87.2	4,590.6	0.00	0.00	0.00
10,240.0	90.00	178.91	5,833.0	-4,629.7	88.0	4,630.6	0.00	0.00	0.00
10,280.0	90.00	178.91	5,833.0	-4,669.7	88.7	4,670.6	0.00	0.00	0.00
10,320.0	90.00	178.91	5,833.0	-4,709.7	89.5	4,710.6	0.00	0.00	0.00
10,360.0	90.00	178.91	5,833.0	-4,749.7	90.2	4,750.6	0.00	0.00	0.00
10,400.0	90.00	178.91	5,833.0	-4,789.7	91.0	4,790.6	0.00	0.00	0.00
10,440.0	90.00	178.91	5,833.0	-4,829.7	91.8	4,830.6	0.00	0.00	0.00
10,480.0	90.00	178.91	5,833.0	-4,869.7	92.5	4,870.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Razor 23-2612H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Project:	SEC.23-T10N-R58W	MD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Site:	Razor 23-2612H Pad Sec.23-T10N-R58W	North Reference:	True
Well:	Razor 23-2612H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-01-12)		

Planned 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)
10,520.0	90.00	178.91	5,833.0	-4,909.7	93.3	4,910.6	0.00	0.00	0.00
10,560.0	90.00	178.91	5,833.0	-4,949.7	94.0	4,950.6	0.00	0.00	0.00
10,600.0	90.00	178.91	5,833.0	-4,989.7	94.8	4,990.6	0.00	0.00	0.00
10,640.0	90.00	178.91	5,833.0	-5,029.7	95.6	5,030.6	0.00	0.00	0.00
10,680.0	90.00	178.91	5,833.0	-5,069.6	96.3	5,070.6	0.00	0.00	0.00
10,720.0	90.00	178.91	5,833.0	-5,109.6	97.1	5,110.6	0.00	0.00	0.00
10,760.0	90.00	178.91	5,833.0	-5,149.6	97.8	5,150.6	0.00	0.00	0.00
10,800.0	90.00	178.91	5,833.0	-5,189.6	98.6	5,190.6	0.00	0.00	0.00
10,840.0	90.00	178.91	5,833.0	-5,229.6	99.4	5,230.6	0.00	0.00	0.00
10,880.0	90.00	178.91	5,833.0	-5,269.6	100.1	5,270.6	0.00	0.00	0.00
10,920.0	90.00	178.91	5,833.0	-5,309.6	100.9	5,310.6	0.00	0.00	0.00
10,960.0	90.00	178.91	5,833.0	-5,349.6	101.6	5,350.6	0.00	0.00	0.00
11,000.0	90.00	178.91	5,833.0	-5,389.6	102.4	5,390.6	0.00	0.00	0.00
11,040.0	90.00	178.91	5,833.0	-5,429.6	103.1	5,430.6	0.00	0.00	0.00
11,080.0	90.00	178.91	5,833.0	-5,469.6	103.9	5,470.6	0.00	0.00	0.00
11,120.0	90.00	178.91	5,833.0	-5,509.6	104.7	5,510.6	0.00	0.00	0.00
11,160.0	90.00	178.91	5,833.0	-5,549.6	105.4	5,550.6	0.00	0.00	0.00
11,200.0	90.00	178.91	5,833.0	-5,589.6	106.2	5,590.6	0.00	0.00	0.00
11,240.0	90.00	178.91	5,833.0	-5,629.5	106.9	5,630.6	0.00	0.00	0.00
11,280.0	90.00	178.91	5,833.0	-5,669.5	107.7	5,670.6	0.00	0.00	0.00
11,320.0	90.00	178.91	5,833.0	-5,709.5	108.5	5,710.6	0.00	0.00	0.00
11,360.0	90.00	178.91	5,833.0	-5,749.5	109.2	5,750.6	0.00	0.00	0.00
11,400.0	90.00	178.91	5,833.0	-5,789.5	110.0	5,790.6	0.00	0.00	0.00
11,440.0	90.00	178.91	5,833.0	-5,829.5	110.7	5,830.6	0.00	0.00	0.00
11,480.0	90.00	178.91	5,833.0	-5,869.5	111.5	5,870.6	0.00	0.00	0.00
11,520.0	90.00	178.91	5,833.0	-5,909.5	112.3	5,910.6	0.00	0.00	0.00
11,560.0	90.00	178.91	5,833.0	-5,949.5	113.0	5,950.6	0.00	0.00	0.00
11,600.0	90.00	178.91	5,833.0	-5,989.5	113.8	5,990.6	0.00	0.00	0.00
11,640.0	90.00	178.91	5,833.0	-6,029.5	114.5	6,030.6	0.00	0.00	0.00
11,680.0	90.00	178.91	5,833.0	-6,069.5	115.3	6,070.6	0.00	0.00	0.00
11,720.0	90.00	178.91	5,833.0	-6,109.5	116.1	6,110.6	0.00	0.00	0.00
11,760.0	90.00	178.91	5,833.0	-6,149.5	116.8	6,150.6	0.00	0.00	0.00
11,800.0	90.00	178.91	5,833.0	-6,189.4	117.6	6,190.6	0.00	0.00	0.00
11,840.0	90.00	178.91	5,833.0	-6,229.4	118.3	6,230.6	0.00	0.00	0.00
11,880.0	90.00	178.91	5,833.0	-6,269.4	119.1	6,270.6	0.00	0.00	0.00
11,920.0	90.00	178.91	5,833.0	-6,309.4	119.9	6,310.6	0.00	0.00	0.00
11,960.0	90.00	178.91	5,833.0	-6,349.4	120.6	6,350.6	0.00	0.00	0.00
12,000.0	90.00	178.91	5,833.0	-6,389.4	121.4	6,390.6	0.00	0.00	0.00
12,040.0	90.00	178.91	5,833.0	-6,429.4	122.1	6,430.6	0.00	0.00	0.00
12,080.0	90.00	178.91	5,833.0	-6,469.4	122.9	6,470.6	0.00	0.00	0.00
12,120.0	90.00	178.91	5,833.0	-6,509.4	123.7	6,510.6	0.00	0.00	0.00
12,160.0	90.00	178.91	5,833.0	-6,549.4	124.4	6,550.6	0.00	0.00	0.00
12,200.0	90.00	178.91	5,833.0	-6,589.4	125.2	6,590.6	0.00	0.00	0.00
12,240.0	90.00	178.91	5,833.0	-6,629.4	125.9	6,630.6	0.00	0.00	0.00
12,280.0	90.00	178.91	5,833.0	-6,669.4	126.7	6,670.6	0.00	0.00	0.00
12,320.0	90.00	178.91	5,833.0	-6,709.3	127.5	6,710.6	0.00	0.00	0.00
12,360.0	90.00	178.91	5,833.0	-6,749.3	128.2	6,750.6	0.00	0.00	0.00
12,400.0	90.00	178.91	5,833.0	-6,789.3	129.0	6,790.6	0.00	0.00	0.00
12,440.0	90.00	178.91	5,833.0	-6,829.3	129.7	6,830.6	0.00	0.00	0.00
12,480.0	90.00	178.91	5,833.0	-6,869.3	130.5	6,870.6	0.00	0.00	0.00
12,520.0	90.00	178.91	5,833.0	-6,909.3	131.3	6,910.6	0.00	0.00	0.00
12,560.0	90.00	178.91	5,833.0	-6,949.3	132.0	6,950.6	0.00	0.00	0.00
12,568.1	90.00	178.91	5,833.0	-6,957.4	132.2	6,958.7	0.00	0.00	0.00
HARDLINES BHL 660'									

Database:	Landmark	Local Co-ordinate Reference:	Well Razor 23-2612H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Project:	SEC.23-T10N-R58W	MD Reference:	WELL @ 4877.4ft (RKB - 16.5')
Site:	Razor 23-2612H Pad Sec.23-T10N-R58W	North Reference:	True
Well:	Razor 23-2612H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-01-12)		

Planned 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)
12,575.7	90.00	178.91	5,833.0	-6,965.0	132.3	6,966.3	0.00	0.00	0.00
BHL 1980°FNL, 660°FWL, SEC.26									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,130.3	5,833.0	7"	7	8-3/4

Formations				
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)
5,679.0	5,649.4	NIOBRARA		0.00

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
6,130.3	5,833.0	-520.8	9.9	End of Build