

# Whiting Oil & Gas

Well Name: **Razor 12-0131H**

Surface Location: Razor 12-0131H Pad Sec.12-T10N-R58W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

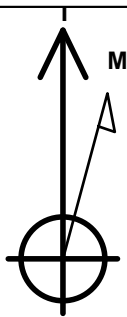
Ground Elevation: 4955.7

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1558298.90	3467084.41	40.853700	-103.811517	

RKB - 16.5' WELL @ 4972.2ft (RKB - 16.5')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 660'FNL, 1980'FEL, SEC.1	5911.0	7196.9	30.7	Point



Azimuths to True North  
Magnetic North: 8.17°

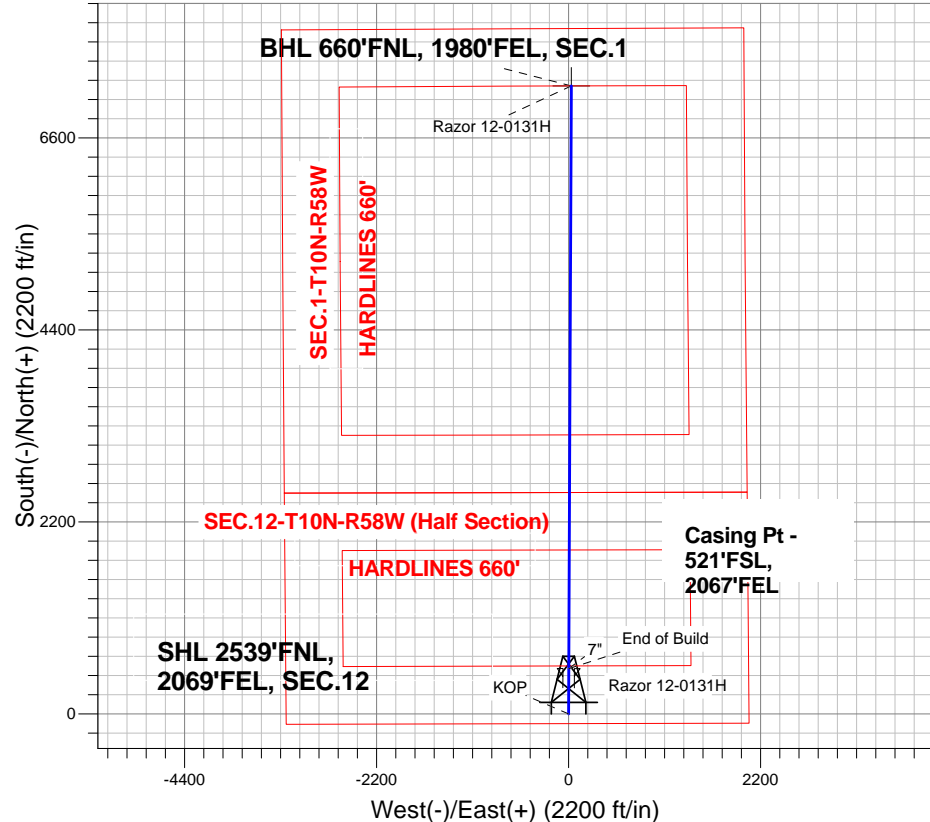
Magnetic Field  
Strength: 53304.0nT  
Dip Angle: 67.52°  
Date: 12/19/2012  
Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
5390.1	5390.1	KOP
5911.0	6208.3	End of Build

Razor 12-0131H Pad Sec.12-T10N-R58W  
Razor 12-0131H  
Plan #1 (12-12-12)

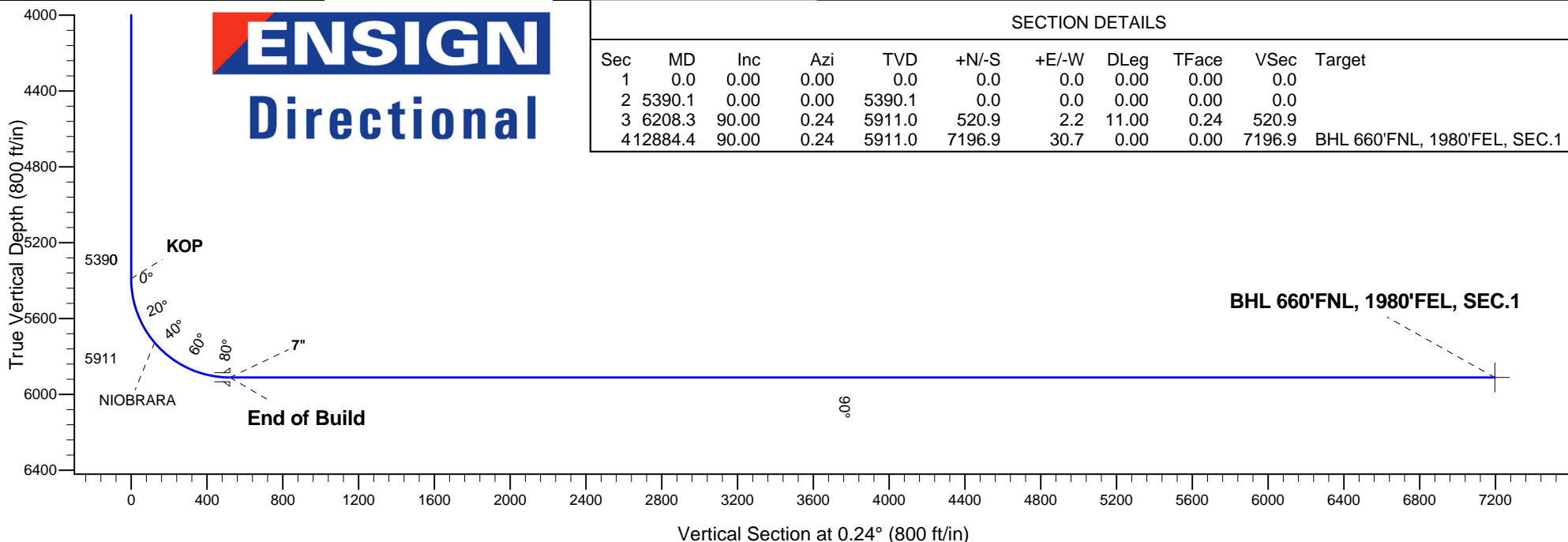
South(-)/North(+) (2200 ft/in)



**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	5390.1	0.00	0.00	5390.1	0.0	0.0	0.00	0.00	0.0	
3	6208.3	90.00	0.24	5911.0	520.9	2.2	11.00	0.24	520.9	
4	12884.4	90.00	0.24	5911.0	7196.9	30.7	0.00	0.00	7196.9	BHL 660'FNL, 1980'FEL, SEC.1





## **Directional**

### **Whiting Oil & Gas**

**SEC.12-T10N-R58W**

**Razor 12-0131H Pad Sec.12-T10N-R58W**

**Razor 12-0131H**

**Wellbore #1**

**Plan: Plan #1 (12-12-12)**

### **Standard Planning Report**

**19 December, 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	
5,390.1	0.00	0.00	5,390.1	0.0	0.0	0.00	0.00	0.00	0.00	
6,208.3	90.00	0.24	5,911.0	520.9	2.2	11.00	11.00	0.00	0.24	
12,884.4	90.00	0.24	5,911.0	7,196.9	30.7	0.00	0.00	0.00	0.00	BHL 660'FNL, 1980

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Razor 12-0131H
<b>Company:</b>	Whiting Oil & Gas	<b>TVD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Project:</b>	SEC.12-T10N-R58W	<b>MD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Site:</b>	Razor 12-0131H Pad Sec.12-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor 12-0131H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-12-12)		

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
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
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

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<b>Well:</b>	Razor 12-0131H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-12-12)		

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)
2,160.0	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
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

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Razor 12-0131H
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<b>Site:</b>	Razor 12-0131H Pad Sec.12-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor 12-0131H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-12-12)		

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)
4,320.0	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
5,320.0	0.00	0.00	5,320.0	0.0	0.0	0.0	0.00	0.00	0.00
5,360.0	0.00	0.00	5,360.0	0.0	0.0	0.0	0.00	0.00	0.00
5,390.1	0.00	0.00	5,390.1	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP</b>									
5,400.0	1.09	0.24	5,400.0	0.1	0.0	0.1	10.97	10.97	0.00
5,440.0	5.49	0.24	5,439.9	2.4	0.0	2.4	11.00	11.00	0.00
5,480.0	9.89	0.24	5,479.6	7.7	0.0	7.7	11.00	11.00	0.00
5,520.0	14.29	0.24	5,518.7	16.1	0.1	16.1	11.00	11.00	0.00
5,560.0	18.69	0.24	5,557.0	27.5	0.1	27.5	11.00	11.00	0.00
5,600.0	23.09	0.24	5,594.4	41.7	0.2	41.7	11.00	11.00	0.00
5,640.0	27.49	0.24	5,630.5	58.8	0.3	58.8	11.00	11.00	0.00
5,680.0	31.89	0.24	5,665.3	78.6	0.3	78.6	11.00	11.00	0.00
5,720.0	36.29	0.24	5,698.4	101.0	0.4	101.0	11.00	11.00	0.00
5,756.0	40.25	0.24	5,726.6	123.3	0.5	123.3	11.00	11.00	0.00
<b>NIOBRARA</b>									
5,760.0	40.69	0.24	5,729.7	125.9	0.5	125.9	11.00	11.00	0.00
5,800.0	45.09	0.24	5,759.0	153.1	0.7	153.1	11.00	11.00	0.00
5,840.0	49.49	0.24	5,786.1	182.5	0.8	182.5	11.00	11.00	0.00
5,880.0	53.89	0.24	5,810.9	213.9	0.9	213.9	11.00	11.00	0.00
5,920.0	58.29	0.24	5,833.2	247.1	1.1	247.1	11.00	11.00	0.00
5,960.0	62.69	0.24	5,852.9	281.9	1.2	281.9	11.00	11.00	0.00
6,000.0	67.09	0.24	5,869.9	318.1	1.4	318.1	11.00	11.00	0.00
6,040.0	71.49	0.24	5,884.0	355.5	1.5	355.5	11.00	11.00	0.00
6,080.0	75.89	0.24	5,895.3	393.9	1.7	393.9	11.00	11.00	0.00
6,120.0	80.29	0.24	5,903.5	433.0	1.8	433.0	11.00	11.00	0.00
6,160.0	84.69	0.24	5,908.8	472.6	2.0	472.6	11.00	11.00	0.00
6,200.0	89.09	0.24	5,910.9	512.6	2.2	512.6	11.00	11.00	0.00
6,208.3	90.00	0.24	5,911.0	520.9	2.2	520.9	11.00	11.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Razor 12-0131H
<b>Company:</b>	Whiting Oil & Gas	<b>TVD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Project:</b>	SEC.12-T10N-R58W	<b>MD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Site:</b>	Razor 12-0131H Pad Sec.12-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor 12-0131H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-12-12)		

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)
End of Build - 7"									
6,240.0	90.00	0.24	5,911.0	552.6	2.4	552.6	0.00	0.00	0.00
6,280.0	90.00	0.24	5,911.0	592.6	2.5	592.6	0.00	0.00	0.00
6,320.0	90.00	0.24	5,911.0	632.6	2.7	632.6	0.00	0.00	0.00
6,360.0	90.00	0.24	5,911.0	672.6	2.9	672.6	0.00	0.00	0.00
6,400.0	90.00	0.24	5,911.0	712.6	3.0	712.6	0.00	0.00	0.00
6,440.0	90.00	0.24	5,911.0	752.6	3.2	752.6	0.00	0.00	0.00
6,480.0	90.00	0.24	5,911.0	792.6	3.4	792.6	0.00	0.00	0.00
6,520.0	90.00	0.24	5,911.0	832.6	3.6	832.6	0.00	0.00	0.00
6,560.0	90.00	0.24	5,911.0	872.6	3.7	872.6	0.00	0.00	0.00
6,600.0	90.00	0.24	5,911.0	912.6	3.9	912.6	0.00	0.00	0.00
6,640.0	90.00	0.24	5,911.0	952.6	4.1	952.6	0.00	0.00	0.00
6,680.0	90.00	0.24	5,911.0	992.6	4.2	992.6	0.00	0.00	0.00
6,720.0	90.00	0.24	5,911.0	1,032.6	4.4	1,032.6	0.00	0.00	0.00
6,760.0	90.00	0.24	5,911.0	1,072.6	4.6	1,072.6	0.00	0.00	0.00
6,800.0	90.00	0.24	5,911.0	1,112.5	4.7	1,112.6	0.00	0.00	0.00
6,840.0	90.00	0.24	5,911.0	1,152.5	4.9	1,152.6	0.00	0.00	0.00
6,880.0	90.00	0.24	5,911.0	1,192.5	5.1	1,192.6	0.00	0.00	0.00
6,920.0	90.00	0.24	5,911.0	1,232.5	5.3	1,232.6	0.00	0.00	0.00
6,960.0	90.00	0.24	5,911.0	1,272.5	5.4	1,272.6	0.00	0.00	0.00
7,000.0	90.00	0.24	5,911.0	1,312.5	5.6	1,312.6	0.00	0.00	0.00
7,040.0	90.00	0.24	5,911.0	1,352.5	5.8	1,352.6	0.00	0.00	0.00
7,080.0	90.00	0.24	5,911.0	1,392.5	5.9	1,392.6	0.00	0.00	0.00
7,120.0	90.00	0.24	5,911.0	1,432.5	6.1	1,432.6	0.00	0.00	0.00
7,160.0	90.00	0.24	5,911.0	1,472.5	6.3	1,472.6	0.00	0.00	0.00
7,200.0	90.00	0.24	5,911.0	1,512.5	6.5	1,512.6	0.00	0.00	0.00
7,240.0	90.00	0.24	5,911.0	1,552.5	6.6	1,552.6	0.00	0.00	0.00
7,280.0	90.00	0.24	5,911.0	1,592.5	6.8	1,592.6	0.00	0.00	0.00
7,320.0	90.00	0.24	5,911.0	1,632.5	7.0	1,632.6	0.00	0.00	0.00
7,360.0	90.00	0.24	5,911.0	1,672.5	7.1	1,672.6	0.00	0.00	0.00
7,400.0	90.00	0.24	5,911.0	1,712.5	7.3	1,712.6	0.00	0.00	0.00
7,440.0	90.00	0.24	5,911.0	1,752.5	7.5	1,752.6	0.00	0.00	0.00
7,480.0	90.00	0.24	5,911.0	1,792.5	7.6	1,792.6	0.00	0.00	0.00
7,520.0	90.00	0.24	5,911.0	1,832.5	7.8	1,832.6	0.00	0.00	0.00
7,560.0	90.00	0.24	5,911.0	1,872.5	8.0	1,872.6	0.00	0.00	0.00
7,600.0	90.00	0.24	5,911.0	1,912.5	8.2	1,912.6	0.00	0.00	0.00
7,640.0	90.00	0.24	5,911.0	1,952.5	8.3	1,952.6	0.00	0.00	0.00
7,680.0	90.00	0.24	5,911.0	1,992.5	8.5	1,992.6	0.00	0.00	0.00
7,720.0	90.00	0.24	5,911.0	2,032.5	8.7	2,032.6	0.00	0.00	0.00
7,760.0	90.00	0.24	5,911.0	2,072.5	8.8	2,072.6	0.00	0.00	0.00
7,800.0	90.00	0.24	5,911.0	2,112.5	9.0	2,112.6	0.00	0.00	0.00
7,840.0	90.00	0.24	5,911.0	2,152.5	9.2	2,152.6	0.00	0.00	0.00
7,880.0	90.00	0.24	5,911.0	2,192.5	9.4	2,192.6	0.00	0.00	0.00
7,920.0	90.00	0.24	5,911.0	2,232.5	9.5	2,232.6	0.00	0.00	0.00
7,960.0	90.00	0.24	5,911.0	2,272.5	9.7	2,272.6	0.00	0.00	0.00
8,000.0	90.00	0.24	5,911.0	2,312.5	9.9	2,312.6	0.00	0.00	0.00
8,040.0	90.00	0.24	5,911.0	2,352.5	10.0	2,352.6	0.00	0.00	0.00
8,080.0	90.00	0.24	5,911.0	2,392.5	10.2	2,392.6	0.00	0.00	0.00
8,120.0	90.00	0.24	5,911.0	2,432.5	10.4	2,432.6	0.00	0.00	0.00
8,160.0	90.00	0.24	5,911.0	2,472.5	10.5	2,472.6	0.00	0.00	0.00
8,200.0	90.00	0.24	5,911.0	2,512.5	10.7	2,512.6	0.00	0.00	0.00
8,240.0	90.00	0.24	5,911.0	2,552.5	10.9	2,552.6	0.00	0.00	0.00
8,280.0	90.00	0.24	5,911.0	2,592.5	11.1	2,592.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Razor 12-0131H
<b>Company:</b>	Whiting Oil & Gas	<b>TVD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Project:</b>	SEC.12-T10N-R58W	<b>MD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Site:</b>	Razor 12-0131H Pad Sec.12-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor 12-0131H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-12-12)		

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)
8,320.0	90.00	0.24	5,911.0	2,632.5	11.2	2,632.6	0.00	0.00	0.00
8,360.0	90.00	0.24	5,911.0	2,672.5	11.4	2,672.6	0.00	0.00	0.00
8,400.0	90.00	0.24	5,911.0	2,712.5	11.6	2,712.6	0.00	0.00	0.00
8,440.0	90.00	0.24	5,911.0	2,752.5	11.7	2,752.6	0.00	0.00	0.00
8,480.0	90.00	0.24	5,911.0	2,792.5	11.9	2,792.6	0.00	0.00	0.00
8,520.0	90.00	0.24	5,911.0	2,832.5	12.1	2,832.6	0.00	0.00	0.00
8,560.0	90.00	0.24	5,911.0	2,872.5	12.3	2,872.6	0.00	0.00	0.00
8,600.0	90.00	0.24	5,911.0	2,912.5	12.4	2,912.6	0.00	0.00	0.00
8,640.0	90.00	0.24	5,911.0	2,952.5	12.6	2,952.6	0.00	0.00	0.00
8,680.0	90.00	0.24	5,911.0	2,992.5	12.8	2,992.6	0.00	0.00	0.00
8,720.0	90.00	0.24	5,911.0	3,032.5	12.9	3,032.6	0.00	0.00	0.00
8,760.0	90.00	0.24	5,911.0	3,072.5	13.1	3,072.6	0.00	0.00	0.00
8,800.0	90.00	0.24	5,911.0	3,112.5	13.3	3,112.6	0.00	0.00	0.00
8,840.0	90.00	0.24	5,911.0	3,152.5	13.4	3,152.6	0.00	0.00	0.00
8,880.0	90.00	0.24	5,911.0	3,192.5	13.6	3,192.6	0.00	0.00	0.00
8,920.0	90.00	0.24	5,911.0	3,232.5	13.8	3,232.6	0.00	0.00	0.00
8,960.0	90.00	0.24	5,911.0	3,272.5	14.0	3,272.6	0.00	0.00	0.00
9,000.0	90.00	0.24	5,911.0	3,312.5	14.1	3,312.6	0.00	0.00	0.00
9,040.0	90.00	0.24	5,911.0	3,352.5	14.3	3,352.6	0.00	0.00	0.00
9,080.0	90.00	0.24	5,911.0	3,392.5	14.5	3,392.6	0.00	0.00	0.00
9,120.0	90.00	0.24	5,911.0	3,432.5	14.6	3,432.6	0.00	0.00	0.00
9,160.0	90.00	0.24	5,911.0	3,472.5	14.8	3,472.6	0.00	0.00	0.00
9,200.0	90.00	0.24	5,911.0	3,512.5	15.0	3,512.6	0.00	0.00	0.00
9,240.0	90.00	0.24	5,911.0	3,552.5	15.2	3,552.6	0.00	0.00	0.00
9,280.0	90.00	0.24	5,911.0	3,592.5	15.3	3,592.6	0.00	0.00	0.00
9,320.0	90.00	0.24	5,911.0	3,632.5	15.5	3,632.6	0.00	0.00	0.00
9,360.0	90.00	0.24	5,911.0	3,672.5	15.7	3,672.6	0.00	0.00	0.00
9,400.0	90.00	0.24	5,911.0	3,712.5	15.8	3,712.6	0.00	0.00	0.00
9,440.0	90.00	0.24	5,911.0	3,752.5	16.0	3,752.6	0.00	0.00	0.00
9,480.0	90.00	0.24	5,911.0	3,792.5	16.2	3,792.6	0.00	0.00	0.00
9,520.0	90.00	0.24	5,911.0	3,832.5	16.3	3,832.6	0.00	0.00	0.00
9,560.0	90.00	0.24	5,911.0	3,872.5	16.5	3,872.6	0.00	0.00	0.00
9,600.0	90.00	0.24	5,911.0	3,912.5	16.7	3,912.6	0.00	0.00	0.00
9,640.0	90.00	0.24	5,911.0	3,952.5	16.9	3,952.6	0.00	0.00	0.00
9,680.0	90.00	0.24	5,911.0	3,992.5	17.0	3,992.6	0.00	0.00	0.00
9,720.0	90.00	0.24	5,911.0	4,032.5	17.2	4,032.6	0.00	0.00	0.00
9,760.0	90.00	0.24	5,911.0	4,072.5	17.4	4,072.6	0.00	0.00	0.00
9,800.0	90.00	0.24	5,911.0	4,112.5	17.5	4,112.6	0.00	0.00	0.00
9,840.0	90.00	0.24	5,911.0	4,152.5	17.7	4,152.6	0.00	0.00	0.00
9,880.0	90.00	0.24	5,911.0	4,192.5	17.9	4,192.6	0.00	0.00	0.00
9,920.0	90.00	0.24	5,911.0	4,232.5	18.1	4,232.6	0.00	0.00	0.00
9,960.0	90.00	0.24	5,911.0	4,272.5	18.2	4,272.6	0.00	0.00	0.00
10,000.0	90.00	0.24	5,911.0	4,312.5	18.4	4,312.6	0.00	0.00	0.00
10,040.0	90.00	0.24	5,911.0	4,352.5	18.6	4,352.6	0.00	0.00	0.00
10,080.0	90.00	0.24	5,911.0	4,392.5	18.7	4,392.6	0.00	0.00	0.00
10,120.0	90.00	0.24	5,911.0	4,432.5	18.9	4,432.6	0.00	0.00	0.00
10,160.0	90.00	0.24	5,911.0	4,472.5	19.1	4,472.6	0.00	0.00	0.00
10,200.0	90.00	0.24	5,911.0	4,512.5	19.2	4,512.6	0.00	0.00	0.00
10,240.0	90.00	0.24	5,911.0	4,552.5	19.4	4,552.6	0.00	0.00	0.00
10,280.0	90.00	0.24	5,911.0	4,592.5	19.6	4,592.6	0.00	0.00	0.00
10,320.0	90.00	0.24	5,911.0	4,632.5	19.8	4,632.6	0.00	0.00	0.00
10,360.0	90.00	0.24	5,911.0	4,672.5	19.9	4,672.6	0.00	0.00	0.00
10,400.0	90.00	0.24	5,911.0	4,712.5	20.1	4,712.6	0.00	0.00	0.00
10,440.0	90.00	0.24	5,911.0	4,752.5	20.3	4,752.6	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Razor 12-0131H
<b>Company:</b>	Whiting Oil & Gas	<b>TVD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Project:</b>	SEC.12-T10N-R58W	<b>MD Reference:</b>	WELL @ 4972.2ft (RKB - 16.5')
<b>Site:</b>	Razor 12-0131H Pad Sec.12-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor 12-0131H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-12-12)		

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)
10,480.0	90.00	0.24	5,911.0	4,792.5	20.4	4,792.6	0.00	0.00	0.00
10,520.0	90.00	0.24	5,911.0	4,832.5	20.6	4,832.6	0.00	0.00	0.00
10,560.0	90.00	0.24	5,911.0	4,872.5	20.8	4,872.6	0.00	0.00	0.00
10,600.0	90.00	0.24	5,911.0	4,912.5	21.0	4,912.6	0.00	0.00	0.00
10,640.0	90.00	0.24	5,911.0	4,952.5	21.1	4,952.6	0.00	0.00	0.00
10,680.0	90.00	0.24	5,911.0	4,992.5	21.3	4,992.6	0.00	0.00	0.00
10,720.0	90.00	0.24	5,911.0	5,032.5	21.5	5,032.6	0.00	0.00	0.00
10,760.0	90.00	0.24	5,911.0	5,072.5	21.6	5,072.6	0.00	0.00	0.00
10,800.0	90.00	0.24	5,911.0	5,112.5	21.8	5,112.6	0.00	0.00	0.00
10,840.0	90.00	0.24	5,911.0	5,152.5	22.0	5,152.6	0.00	0.00	0.00
10,880.0	90.00	0.24	5,911.0	5,192.5	22.1	5,192.6	0.00	0.00	0.00
10,920.0	90.00	0.24	5,911.0	5,232.5	22.3	5,232.6	0.00	0.00	0.00
10,960.0	90.00	0.24	5,911.0	5,272.5	22.5	5,272.6	0.00	0.00	0.00
11,000.0	90.00	0.24	5,911.0	5,312.5	22.7	5,312.6	0.00	0.00	0.00
11,040.0	90.00	0.24	5,911.0	5,352.5	22.8	5,352.6	0.00	0.00	0.00
11,080.0	90.00	0.24	5,911.0	5,392.5	23.0	5,392.6	0.00	0.00	0.00
11,120.0	90.00	0.24	5,911.0	5,432.5	23.2	5,432.6	0.00	0.00	0.00
11,160.0	90.00	0.24	5,911.0	5,472.5	23.3	5,472.6	0.00	0.00	0.00
11,200.0	90.00	0.24	5,911.0	5,512.5	23.5	5,512.6	0.00	0.00	0.00
11,240.0	90.00	0.24	5,911.0	5,552.5	23.7	5,552.6	0.00	0.00	0.00
11,280.0	90.00	0.24	5,911.0	5,592.5	23.9	5,592.6	0.00	0.00	0.00
11,320.0	90.00	0.24	5,911.0	5,632.5	24.0	5,632.6	0.00	0.00	0.00
11,360.0	90.00	0.24	5,911.0	5,672.5	24.2	5,672.6	0.00	0.00	0.00
11,400.0	90.00	0.24	5,911.0	5,712.5	24.4	5,712.6	0.00	0.00	0.00
11,440.0	90.00	0.24	5,911.0	5,752.5	24.5	5,752.6	0.00	0.00	0.00
11,480.0	90.00	0.24	5,911.0	5,792.5	24.7	5,792.6	0.00	0.00	0.00
11,520.0	90.00	0.24	5,911.0	5,832.5	24.9	5,832.6	0.00	0.00	0.00
11,560.0	90.00	0.24	5,911.0	5,872.5	25.0	5,872.6	0.00	0.00	0.00
11,600.0	90.00	0.24	5,911.0	5,912.5	25.2	5,912.6	0.00	0.00	0.00
11,640.0	90.00	0.24	5,911.0	5,952.5	25.4	5,952.6	0.00	0.00	0.00
11,680.0	90.00	0.24	5,911.0	5,992.5	25.6	5,992.6	0.00	0.00	0.00
11,720.0	90.00	0.24	5,911.0	6,032.5	25.7	6,032.6	0.00	0.00	0.00
11,760.0	90.00	0.24	5,911.0	6,072.5	25.9	6,072.6	0.00	0.00	0.00
11,800.0	90.00	0.24	5,911.0	6,112.5	26.1	6,112.6	0.00	0.00	0.00
11,840.0	90.00	0.24	5,911.0	6,152.5	26.2	6,152.6	0.00	0.00	0.00
11,880.0	90.00	0.24	5,911.0	6,192.5	26.4	6,192.6	0.00	0.00	0.00
11,920.0	90.00	0.24	5,911.0	6,232.5	26.6	6,232.6	0.00	0.00	0.00
11,960.0	90.00	0.24	5,911.0	6,272.5	26.8	6,272.6	0.00	0.00	0.00
12,000.0	90.00	0.24	5,911.0	6,312.5	26.9	6,312.6	0.00	0.00	0.00
12,040.0	90.00	0.24	5,911.0	6,352.5	27.1	6,352.6	0.00	0.00	0.00
12,080.0	90.00	0.24	5,911.0	6,392.5	27.3	6,392.6	0.00	0.00	0.00
12,120.0	90.00	0.24	5,911.0	6,432.5	27.4	6,432.6	0.00	0.00	0.00
12,160.0	90.00	0.24	5,911.0	6,472.5	27.6	6,472.6	0.00	0.00	0.00
12,200.0	90.00	0.24	5,911.0	6,512.5	27.8	6,512.6	0.00	0.00	0.00
12,240.0	90.00	0.24	5,911.0	6,552.5	27.9	6,552.6	0.00	0.00	0.00
12,280.0	90.00	0.24	5,911.0	6,592.5	28.1	6,592.6	0.00	0.00	0.00
12,320.0	90.00	0.24	5,911.0	6,632.5	28.3	6,632.6	0.00	0.00	0.00
12,360.0	90.00	0.24	5,911.0	6,672.5	28.5	6,672.6	0.00	0.00	0.00
12,400.0	90.00	0.24	5,911.0	6,712.5	28.6	6,712.6	0.00	0.00	0.00
12,440.0	90.00	0.24	5,911.0	6,752.5	28.8	6,752.6	0.00	0.00	0.00
12,480.0	90.00	0.24	5,911.0	6,792.5	29.0	6,792.6	0.00	0.00	0.00
12,520.0	90.00	0.24	5,911.0	6,832.5	29.1	6,832.6	0.00	0.00	0.00
12,560.0	90.00	0.24	5,911.0	6,872.5	29.3	6,872.6	0.00	0.00	0.00
12,600.0	90.00	0.24	5,911.0	6,912.5	29.5	6,912.6	0.00	0.00	0.00

**Database:** Landmark  
**Company:** Whiting Oil & Gas  
**Project:** SEC.12-T10N-R58W  
**Site:** Razor 12-0131H Pad Sec.12-T10N-R58W  
**Well:** Razor 12-0131H  
**Wellbore:** Wellbore #1  
**Design:** Plan #1 (12-12-12)

**Local Co-ordinate Reference:** Well Razor 12-0131H  
**TVD Reference:** WELL @ 4972.2ft (RKB - 16.5')  
**MD Reference:** WELL @ 4972.2ft (RKB - 16.5')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

## 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)
12,640.0	90.00	0.24	5,911.0	6,952.5	29.7	6,952.6	0.00	0.00	0.00
12,680.0	90.00	0.24	5,911.0	6,992.5	29.8	6,992.6	0.00	0.00	0.00
12,720.0	90.00	0.24	5,911.0	7,032.5	30.0	7,032.6	0.00	0.00	0.00
12,760.0	90.00	0.24	5,911.0	7,072.5	30.2	7,072.6	0.00	0.00	0.00
12,800.0	90.00	0.24	5,911.0	7,112.5	30.3	7,112.6	0.00	0.00	0.00
12,840.0	90.00	0.24	5,911.0	7,152.5	30.5	7,152.6	0.00	0.00	0.00
12,880.0	90.00	0.24	5,911.0	7,192.5	30.7	7,192.6	0.00	0.00	0.00
12,884.4	90.00	0.24	5,911.0	7,196.9	30.7	7,196.9	0.00	0.00	0.00

## Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,208.3	5,911.0	7"	7	8-3/4

## Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,756.0	5,726.6	NIOBRARA		0.00	

## Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,390.1	5,390.1	0.0	0.0	KOP
6,208.3	5,911.0	520.9	2.2	End of Build