

Whiting Oil & Gas

Well Name: **Horsetail #19-3012H**

Surface Location: Horsetail #19-3012H Pad Sec.19-T10N-R57W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

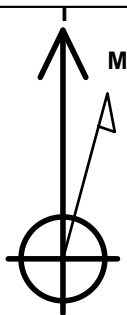
Ground Elevation: 4831.1

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1549973.65	3470082.56	40.830697	-103.801258	

Original Well Elev WELL @ 4847.6ft (Original Well Elev)

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
HARDLINE SHL 660'FNL	1.0	-330.0	400.0	Polygon
BHL 1980'FNL, 660'FWL, SEC.30	5614.0	-6941.7	62.8	Point



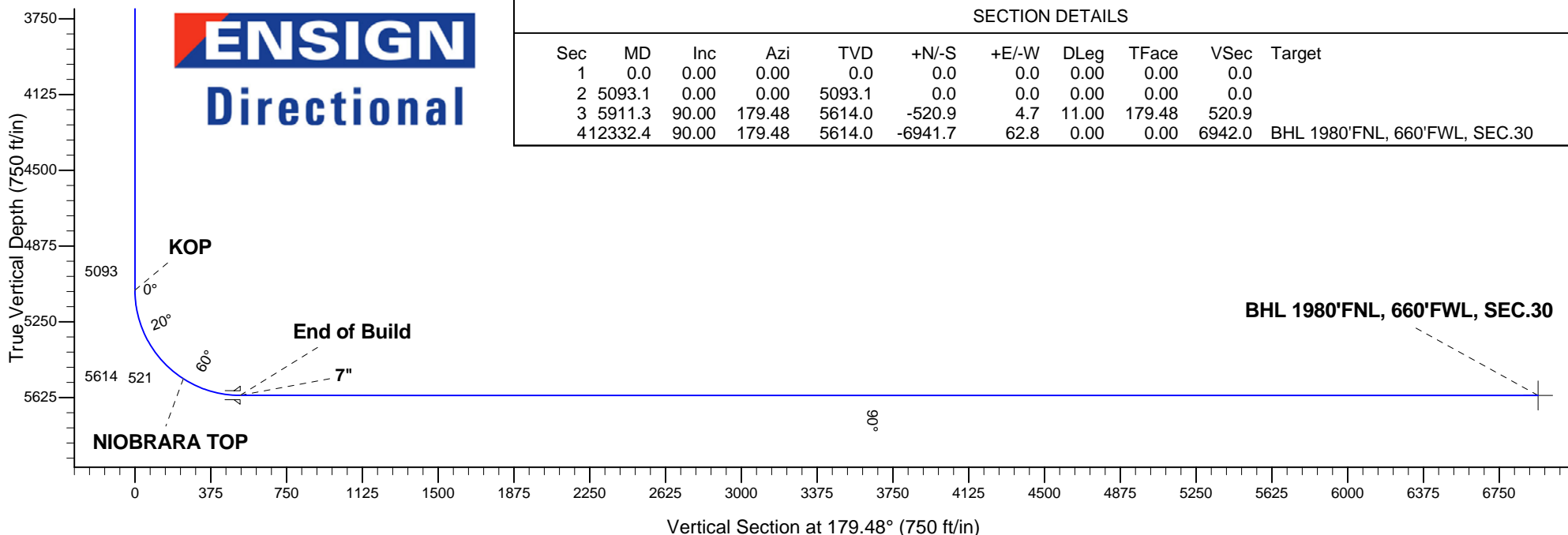
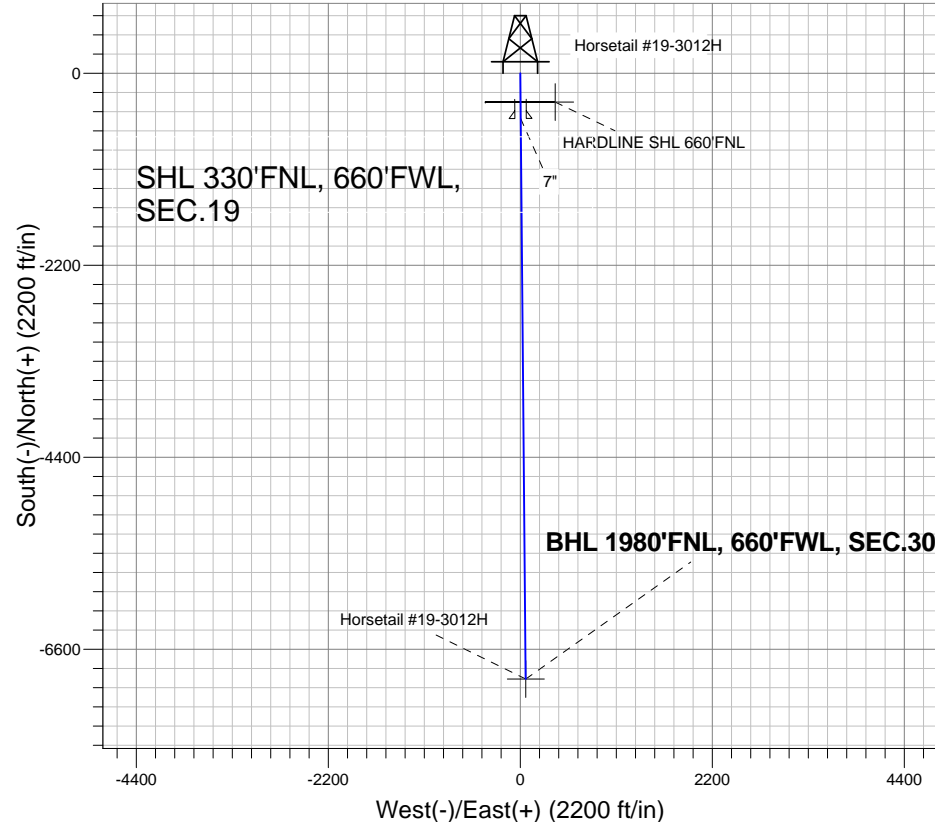
Azimuths to True North
Magnetic North: 8.20°

Magnetic Field
Strength: 53323.4snT
Dip Angle: 67.51°
Date: 9/10/2012
Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
5093.1	5093.1	KOP
5614.0	5911.3	End of Build

Horsetail #19-3012H Pad Sec.19-T10N-R57W
Horsetail #19-3012H
Plan #1 9-10-12



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	5093.1	0.00	0.00	5093.1	0.0	0.0	0.00	0.00	0.0	
3	5911.3	90.00	179.48	5614.0	-520.9	4.7	11.00	179.48	520.9	
4	12332.4	90.00	179.48	5614.0	-6941.7	62.8	0.00	0.00	6942.0	BHL 1980'FNL, 660'FWL, SEC.30



Directional

Whiting Oil & Gas

SEC.19-T10N-R57W

Horsetail #19-3012H Pad Sec.19-T10N-R57W

Horsetail #19-3012H

Wellbore #1

Plan: Plan #1 9-10-12

Standard Planning Report

10 September, 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	
5,093.1	0.00	0.00	5,093.1	0.0	0.0	0.00	0.00	0.00	0.00	
5,911.3	90.00	179.48	5,614.0	-520.9	4.7	11.00	11.00	0.00	179.48	
12,332.4	90.00	179.48	5,614.0	-6,941.7	62.8	0.00	0.00	0.00	0.00	BHL 1980'FNL, 660

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #19-3012H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4847.6ft (Original Well Elev)
Project:	SEC.19-T10N-R57W	MD Reference:	WELL @ 4847.6ft (Original Well Elev)
Site:	Horsetail #19-3012H Pad Sec.19-T10N-R57W	North Reference:	True
Well:	Horsetail #19-3012H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 9-10-12		

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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Wellbore:	Wellbore #1		
Design:	Plan #1 9-10-12		

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

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
5,093.1	0.00	0.00	5,093.1	0.0	0.0	0.0	0.00	0.00	0.00
KOP									
5,120.0	2.96	179.48	5,120.0	-0.7	0.0	0.7	10.99	10.99	0.00
5,160.0	7.36	179.48	5,159.8	-4.3	0.0	4.3	11.00	11.00	0.00
5,200.0	11.76	179.48	5,199.3	-10.9	0.1	10.9	11.00	11.00	0.00
5,240.0	16.16	179.48	5,238.1	-20.6	0.2	20.6	11.00	11.00	0.00
5,280.0	20.56	179.48	5,276.0	-33.2	0.3	33.2	11.00	11.00	0.00
5,320.0	24.96	179.48	5,312.9	-48.6	0.4	48.6	11.00	11.00	0.00
5,360.0	29.36	179.48	5,348.5	-66.9	0.6	66.9	11.00	11.00	0.00
5,400.0	33.76	179.48	5,382.6	-87.8	0.8	87.8	11.00	11.00	0.00
5,440.0	38.16	179.48	5,414.9	-111.3	1.0	111.3	11.00	11.00	0.00
5,480.0	42.56	179.48	5,445.4	-137.2	1.2	137.2	11.00	11.00	0.00
5,520.0	46.96	179.48	5,473.8	-165.3	1.5	165.3	11.00	11.00	0.00
5,560.0	51.36	179.48	5,499.9	-195.6	1.8	195.6	11.00	11.00	0.00
5,600.0	55.76	179.48	5,523.7	-227.8	2.1	227.8	11.00	11.00	0.00
5,614.0	57.30	179.48	5,531.4	-239.4	2.2	239.4	11.00	11.00	0.00
NIOBRARA TOP									
5,640.0	60.16	179.48	5,544.9	-261.7	2.4	261.7	11.00	11.00	0.00
5,680.0	64.56	179.48	5,563.5	-297.1	2.7	297.1	11.00	11.00	0.00
5,720.0	68.96	179.48	5,579.3	-333.8	3.0	333.8	11.00	11.00	0.00
5,760.0	73.36	179.48	5,592.2	-371.7	3.4	371.7	11.00	11.00	0.00
5,800.0	77.76	179.48	5,602.2	-410.4	3.7	410.4	11.00	11.00	0.00
5,840.0	82.16	179.48	5,609.1	-449.8	4.1	449.8	11.00	11.00	0.00
5,880.0	86.56	179.48	5,613.1	-489.6	4.4	489.6	11.00	11.00	0.00
5,911.3	90.00	179.48	5,614.0	-520.8	4.7	520.9	11.00	11.00	0.00
End of Build - 7"									
5,920.0	90.00	179.48	5,614.0	-529.5	4.8	529.6	0.01	0.01	0.00
5,960.0	90.00	179.48	5,614.0	-569.5	5.2	569.6	0.00	0.00	0.00
6,000.0	90.00	179.48	5,614.0	-609.5	5.5	609.6	0.00	0.00	0.00
6,040.0	90.00	179.48	5,614.0	-649.5	5.9	649.6	0.00	0.00	0.00
6,080.0	90.00	179.48	5,614.0	-689.5	6.2	689.6	0.00	0.00	0.00
6,120.0	90.00	179.48	5,614.0	-729.5	6.6	729.6	0.00	0.00	0.00
6,160.0	90.00	179.48	5,614.0	-769.5	7.0	769.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #19-3012H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4847.6ft (Original Well Elev)
Project:	SEC.19-T10N-R57W	MD Reference:	WELL @ 4847.6ft (Original Well Elev)
Site:	Horsetail #19-3012H Pad Sec.19-T10N-R57W	North Reference:	True
Well:	Horsetail #19-3012H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 9-10-12		

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	179.48	5,614.0	-809.5	7.3	809.6	0.00	0.00	0.00
6,240.0	90.00	179.48	5,614.0	-849.5	7.7	849.6	0.00	0.00	0.00
6,280.0	90.00	179.48	5,614.0	-889.5	8.1	889.6	0.00	0.00	0.00
6,320.0	90.00	179.48	5,614.0	-929.5	8.4	929.6	0.00	0.00	0.00
6,360.0	90.00	179.48	5,614.0	-969.5	8.8	969.6	0.00	0.00	0.00
6,400.0	90.00	179.48	5,614.0	-1,009.5	9.1	1,009.6	0.00	0.00	0.00
6,440.0	90.00	179.48	5,614.0	-1,049.5	9.5	1,049.6	0.00	0.00	0.00
6,480.0	90.00	179.48	5,614.0	-1,089.5	9.9	1,089.6	0.00	0.00	0.00
6,520.0	90.00	179.48	5,614.0	-1,129.5	10.2	1,129.6	0.00	0.00	0.00
6,560.0	90.00	179.48	5,614.0	-1,169.5	10.6	1,169.6	0.00	0.00	0.00
6,600.0	90.00	179.48	5,614.0	-1,209.5	10.9	1,209.6	0.00	0.00	0.00
6,640.0	90.00	179.48	5,614.0	-1,249.5	11.3	1,249.6	0.00	0.00	0.00
6,680.0	90.00	179.48	5,614.0	-1,289.5	11.7	1,289.6	0.00	0.00	0.00
6,720.0	90.00	179.48	5,614.0	-1,329.5	12.0	1,329.6	0.00	0.00	0.00
6,760.0	90.00	179.48	5,614.0	-1,369.5	12.4	1,369.6	0.00	0.00	0.00
6,800.0	90.00	179.48	5,614.0	-1,409.5	12.8	1,409.6	0.00	0.00	0.00
6,840.0	90.00	179.48	5,614.0	-1,449.5	13.1	1,449.6	0.00	0.00	0.00
6,880.0	90.00	179.48	5,614.0	-1,489.5	13.5	1,489.6	0.00	0.00	0.00
6,920.0	90.00	179.48	5,614.0	-1,529.5	13.8	1,529.6	0.00	0.00	0.00
6,960.0	90.00	179.48	5,614.0	-1,569.5	14.2	1,569.6	0.00	0.00	0.00
7,000.0	90.00	179.48	5,614.0	-1,609.5	14.6	1,609.6	0.00	0.00	0.00
7,040.0	90.00	179.48	5,614.0	-1,649.5	14.9	1,649.6	0.00	0.00	0.00
7,080.0	90.00	179.48	5,614.0	-1,689.5	15.3	1,689.6	0.00	0.00	0.00
7,120.0	90.00	179.48	5,614.0	-1,729.5	15.7	1,729.6	0.00	0.00	0.00
7,160.0	90.00	179.48	5,614.0	-1,769.5	16.0	1,769.6	0.00	0.00	0.00
7,200.0	90.00	179.48	5,614.0	-1,809.5	16.4	1,809.6	0.00	0.00	0.00
7,240.0	90.00	179.48	5,614.0	-1,849.5	16.7	1,849.6	0.00	0.00	0.00
7,280.0	90.00	179.48	5,614.0	-1,889.5	17.1	1,889.6	0.00	0.00	0.00
7,320.0	90.00	179.48	5,614.0	-1,929.5	17.5	1,929.6	0.00	0.00	0.00
7,360.0	90.00	179.48	5,614.0	-1,969.5	17.8	1,969.6	0.00	0.00	0.00
7,400.0	90.00	179.48	5,614.0	-2,009.5	18.2	2,009.6	0.00	0.00	0.00
7,440.0	90.00	179.48	5,614.0	-2,049.5	18.6	2,049.6	0.00	0.00	0.00
7,480.0	90.00	179.48	5,614.0	-2,089.5	18.9	2,089.6	0.00	0.00	0.00
7,520.0	90.00	179.48	5,614.0	-2,129.5	19.3	2,129.6	0.00	0.00	0.00
7,560.0	90.00	179.48	5,614.0	-2,169.5	19.6	2,169.6	0.00	0.00	0.00
7,600.0	90.00	179.48	5,614.0	-2,209.5	20.0	2,209.6	0.00	0.00	0.00
7,640.0	90.00	179.48	5,614.0	-2,249.5	20.4	2,249.6	0.00	0.00	0.00
7,680.0	90.00	179.48	5,614.0	-2,289.5	20.7	2,289.6	0.00	0.00	0.00
7,720.0	90.00	179.48	5,614.0	-2,329.5	21.1	2,329.6	0.00	0.00	0.00
7,760.0	90.00	179.48	5,614.0	-2,369.5	21.4	2,369.6	0.00	0.00	0.00
7,800.0	90.00	179.48	5,614.0	-2,409.5	21.8	2,409.6	0.00	0.00	0.00
7,840.0	90.00	179.48	5,614.0	-2,449.5	22.2	2,449.6	0.00	0.00	0.00
7,880.0	90.00	179.48	5,614.0	-2,489.5	22.5	2,489.6	0.00	0.00	0.00
7,920.0	90.00	179.48	5,614.0	-2,529.5	22.9	2,529.6	0.00	0.00	0.00
7,960.0	90.00	179.48	5,614.0	-2,569.5	23.3	2,569.6	0.00	0.00	0.00
8,000.0	90.00	179.48	5,614.0	-2,609.5	23.6	2,609.6	0.00	0.00	0.00
8,040.0	90.00	179.48	5,614.0	-2,649.5	24.0	2,649.6	0.00	0.00	0.00
8,080.0	90.00	179.48	5,614.0	-2,689.4	24.3	2,689.6	0.00	0.00	0.00
8,120.0	90.00	179.48	5,614.0	-2,729.4	24.7	2,729.6	0.00	0.00	0.00
8,160.0	90.00	179.48	5,614.0	-2,769.4	25.1	2,769.6	0.00	0.00	0.00
8,200.0	90.00	179.48	5,614.0	-2,809.4	25.4	2,809.6	0.00	0.00	0.00
8,240.0	90.00	179.48	5,614.0	-2,849.4	25.8	2,849.6	0.00	0.00	0.00
8,280.0	90.00	179.48	5,614.0	-2,889.4	26.2	2,889.6	0.00	0.00	0.00
8,320.0	90.00	179.48	5,614.0	-2,929.4	26.5	2,929.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #19-3012H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4847.6ft (Original Well Elev)
Project:	SEC.19-T10N-R57W	MD Reference:	WELL @ 4847.6ft (Original Well Elev)
Site:	Horsetail #19-3012H Pad Sec.19-T10N-R57W	North Reference:	True
Well:	Horsetail #19-3012H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 9-10-12		

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	179.48	5,614.0	-2,969.4	26.9	2,969.6	0.00	0.00	0.00
8,400.0	90.00	179.48	5,614.0	-3,009.4	27.2	3,009.6	0.00	0.00	0.00
8,440.0	90.00	179.48	5,614.0	-3,049.4	27.6	3,049.6	0.00	0.00	0.00
8,480.0	90.00	179.48	5,614.0	-3,089.4	28.0	3,089.6	0.00	0.00	0.00
8,520.0	90.00	179.48	5,614.0	-3,129.4	28.3	3,129.6	0.00	0.00	0.00
8,560.0	90.00	179.48	5,614.0	-3,169.4	28.7	3,169.6	0.00	0.00	0.00
8,600.0	90.00	179.48	5,614.0	-3,209.4	29.1	3,209.6	0.00	0.00	0.00
8,640.0	90.00	179.48	5,614.0	-3,249.4	29.4	3,249.6	0.00	0.00	0.00
8,680.0	90.00	179.48	5,614.0	-3,289.4	29.8	3,289.6	0.00	0.00	0.00
8,720.0	90.00	179.48	5,614.0	-3,329.4	30.1	3,329.6	0.00	0.00	0.00
8,760.0	90.00	179.48	5,614.0	-3,369.4	30.5	3,369.6	0.00	0.00	0.00
8,800.0	90.00	179.48	5,614.0	-3,409.4	30.9	3,409.6	0.00	0.00	0.00
8,840.0	90.00	179.48	5,614.0	-3,449.4	31.2	3,449.6	0.00	0.00	0.00
8,880.0	90.00	179.48	5,614.0	-3,489.4	31.6	3,489.6	0.00	0.00	0.00
8,920.0	90.00	179.48	5,614.0	-3,529.4	31.9	3,529.6	0.00	0.00	0.00
8,960.0	90.00	179.48	5,614.0	-3,569.4	32.3	3,569.6	0.00	0.00	0.00
9,000.0	90.00	179.48	5,614.0	-3,609.4	32.7	3,609.6	0.00	0.00	0.00
9,040.0	90.00	179.48	5,614.0	-3,649.4	33.0	3,649.6	0.00	0.00	0.00
9,080.0	90.00	179.48	5,614.0	-3,689.4	33.4	3,689.6	0.00	0.00	0.00
9,120.0	90.00	179.48	5,614.0	-3,729.4	33.8	3,729.6	0.00	0.00	0.00
9,160.0	90.00	179.48	5,614.0	-3,769.4	34.1	3,769.6	0.00	0.00	0.00
9,200.0	90.00	179.48	5,614.0	-3,809.4	34.5	3,809.6	0.00	0.00	0.00
9,240.0	90.00	179.48	5,614.0	-3,849.4	34.8	3,849.6	0.00	0.00	0.00
9,280.0	90.00	179.48	5,614.0	-3,889.4	35.2	3,889.6	0.00	0.00	0.00
9,320.0	90.00	179.48	5,614.0	-3,929.4	35.6	3,929.6	0.00	0.00	0.00
9,360.0	90.00	179.48	5,614.0	-3,969.4	35.9	3,969.6	0.00	0.00	0.00
9,400.0	90.00	179.48	5,614.0	-4,009.4	36.3	4,009.6	0.00	0.00	0.00
9,440.0	90.00	179.48	5,614.0	-4,049.4	36.7	4,049.6	0.00	0.00	0.00
9,480.0	90.00	179.48	5,614.0	-4,089.4	37.0	4,089.6	0.00	0.00	0.00
9,520.0	90.00	179.48	5,614.0	-4,129.4	37.4	4,129.6	0.00	0.00	0.00
9,560.0	90.00	179.48	5,614.0	-4,169.4	37.7	4,169.6	0.00	0.00	0.00
9,600.0	90.00	179.48	5,614.0	-4,209.4	38.1	4,209.6	0.00	0.00	0.00
9,640.0	90.00	179.48	5,614.0	-4,249.4	38.5	4,249.6	0.00	0.00	0.00
9,680.0	90.00	179.48	5,614.0	-4,289.4	38.8	4,289.6	0.00	0.00	0.00
9,720.0	90.00	179.48	5,614.0	-4,329.4	39.2	4,329.6	0.00	0.00	0.00
9,760.0	90.00	179.48	5,614.0	-4,369.4	39.6	4,369.6	0.00	0.00	0.00
9,800.0	90.00	179.48	5,614.0	-4,409.4	39.9	4,409.6	0.00	0.00	0.00
9,840.0	90.00	179.48	5,614.0	-4,449.4	40.3	4,449.6	0.00	0.00	0.00
9,880.0	90.00	179.48	5,614.0	-4,489.4	40.6	4,489.6	0.00	0.00	0.00
9,920.0	90.00	179.48	5,614.0	-4,529.4	41.0	4,529.6	0.00	0.00	0.00
9,960.0	90.00	179.48	5,614.0	-4,569.4	41.4	4,569.6	0.00	0.00	0.00
10,000.0	90.00	179.48	5,614.0	-4,609.4	41.7	4,609.6	0.00	0.00	0.00
10,040.0	90.00	179.48	5,614.0	-4,649.4	42.1	4,649.6	0.00	0.00	0.00
10,080.0	90.00	179.48	5,614.0	-4,689.4	42.4	4,689.6	0.00	0.00	0.00
10,120.0	90.00	179.48	5,614.0	-4,729.4	42.8	4,729.6	0.00	0.00	0.00
10,160.0	90.00	179.48	5,614.0	-4,769.4	43.2	4,769.6	0.00	0.00	0.00
10,200.0	90.00	179.48	5,614.0	-4,809.4	43.5	4,809.6	0.00	0.00	0.00
10,240.0	90.00	179.48	5,614.0	-4,849.4	43.9	4,849.6	0.00	0.00	0.00
10,280.0	90.00	179.48	5,614.0	-4,889.4	44.3	4,889.6	0.00	0.00	0.00
10,320.0	90.00	179.48	5,614.0	-4,929.4	44.6	4,929.6	0.00	0.00	0.00
10,360.0	90.00	179.48	5,614.0	-4,969.4	45.0	4,969.6	0.00	0.00	0.00
10,400.0	90.00	179.48	5,614.0	-5,009.4	45.3	5,009.6	0.00	0.00	0.00
10,440.0	90.00	179.48	5,614.0	-5,049.4	45.7	5,049.6	0.00	0.00	0.00
10,480.0	90.00	179.48	5,614.0	-5,089.4	46.1	5,089.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #19-3012H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4847.6ft (Original Well Elev)
Project:	SEC.19-T10N-R57W	MD Reference:	WELL @ 4847.6ft (Original Well Elev)
Site:	Horsetail #19-3012H Pad Sec.19-T10N-R57W	North Reference:	True
Well:	Horsetail #19-3012H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 9-10-12		

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	179.48	5,614.0	-5,129.3	46.4	5,129.6	0.00	0.00	0.00
10,560.0	90.00	179.48	5,614.0	-5,169.3	46.8	5,169.6	0.00	0.00	0.00
10,600.0	90.00	179.48	5,614.0	-5,209.3	47.2	5,209.6	0.00	0.00	0.00
10,640.0	90.00	179.48	5,614.0	-5,249.3	47.5	5,249.6	0.00	0.00	0.00
10,680.0	90.00	179.48	5,614.0	-5,289.3	47.9	5,289.6	0.00	0.00	0.00
10,720.0	90.00	179.48	5,614.0	-5,329.3	48.2	5,329.6	0.00	0.00	0.00
10,760.0	90.00	179.48	5,614.0	-5,369.3	48.6	5,369.6	0.00	0.00	0.00
10,800.0	90.00	179.48	5,614.0	-5,409.3	49.0	5,409.6	0.00	0.00	0.00
10,840.0	90.00	179.48	5,614.0	-5,449.3	49.3	5,449.6	0.00	0.00	0.00
10,880.0	90.00	179.48	5,614.0	-5,489.3	49.7	5,489.6	0.00	0.00	0.00
10,920.0	90.00	179.48	5,614.0	-5,529.3	50.1	5,529.6	0.00	0.00	0.00
10,960.0	90.00	179.48	5,614.0	-5,569.3	50.4	5,569.6	0.00	0.00	0.00
11,000.0	90.00	179.48	5,614.0	-5,609.3	50.8	5,609.6	0.00	0.00	0.00
11,040.0	90.00	179.48	5,614.0	-5,649.3	51.1	5,649.6	0.00	0.00	0.00
11,080.0	90.00	179.48	5,614.0	-5,689.3	51.5	5,689.6	0.00	0.00	0.00
11,120.0	90.00	179.48	5,614.0	-5,729.3	51.9	5,729.6	0.00	0.00	0.00
11,160.0	90.00	179.48	5,614.0	-5,769.3	52.2	5,769.6	0.00	0.00	0.00
11,200.0	90.00	179.48	5,614.0	-5,809.3	52.6	5,809.6	0.00	0.00	0.00
11,240.0	90.00	179.48	5,614.0	-5,849.3	52.9	5,849.6	0.00	0.00	0.00
11,280.0	90.00	179.48	5,614.0	-5,889.3	53.3	5,889.6	0.00	0.00	0.00
11,320.0	90.00	179.48	5,614.0	-5,929.3	53.7	5,929.6	0.00	0.00	0.00
11,360.0	90.00	179.48	5,614.0	-5,969.3	54.0	5,969.6	0.00	0.00	0.00
11,400.0	90.00	179.48	5,614.0	-6,009.3	54.4	6,009.6	0.00	0.00	0.00
11,440.0	90.00	179.48	5,614.0	-6,049.3	54.8	6,049.6	0.00	0.00	0.00
11,480.0	90.00	179.48	5,614.0	-6,089.3	55.1	6,089.6	0.00	0.00	0.00
11,520.0	90.00	179.48	5,614.0	-6,129.3	55.5	6,129.6	0.00	0.00	0.00
11,560.0	90.00	179.48	5,614.0	-6,169.3	55.8	6,169.6	0.00	0.00	0.00
11,600.0	90.00	179.48	5,614.0	-6,209.3	56.2	6,209.6	0.00	0.00	0.00
11,640.0	90.00	179.48	5,614.0	-6,249.3	56.6	6,249.6	0.00	0.00	0.00
11,680.0	90.00	179.48	5,614.0	-6,289.3	56.9	6,289.6	0.00	0.00	0.00
11,720.0	90.00	179.48	5,614.0	-6,329.3	57.3	6,329.6	0.00	0.00	0.00
11,760.0	90.00	179.48	5,614.0	-6,369.3	57.7	6,369.6	0.00	0.00	0.00
11,800.0	90.00	179.48	5,614.0	-6,409.3	58.0	6,409.6	0.00	0.00	0.00
11,840.0	90.00	179.48	5,614.0	-6,449.3	58.4	6,449.6	0.00	0.00	0.00
11,880.0	90.00	179.48	5,614.0	-6,489.3	58.7	6,489.6	0.00	0.00	0.00
11,920.0	90.00	179.48	5,614.0	-6,529.3	59.1	6,529.6	0.00	0.00	0.00
11,960.0	90.00	179.48	5,614.0	-6,569.3	59.5	6,569.6	0.00	0.00	0.00
12,000.0	90.00	179.48	5,614.0	-6,609.3	59.8	6,609.6	0.00	0.00	0.00
12,040.0	90.00	179.48	5,614.0	-6,649.3	60.2	6,649.6	0.00	0.00	0.00
12,080.0	90.00	179.48	5,614.0	-6,689.3	60.6	6,689.6	0.00	0.00	0.00
12,120.0	90.00	179.48	5,614.0	-6,729.3	60.9	6,729.6	0.00	0.00	0.00
12,160.0	90.00	179.48	5,614.0	-6,769.3	61.3	6,769.6	0.00	0.00	0.00
12,200.0	90.00	179.48	5,614.0	-6,809.3	61.6	6,809.6	0.00	0.00	0.00
12,240.0	90.00	179.48	5,614.0	-6,849.3	62.0	6,849.6	0.00	0.00	0.00
12,280.0	90.00	179.48	5,614.0	-6,889.3	62.4	6,889.6	0.00	0.00	0.00
12,320.0	90.00	179.48	5,614.0	-6,929.3	62.7	6,929.6	0.00	0.00	0.00
12,332.4	90.00	179.48	5,614.0	-6,941.7	62.8	6,942.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #19-3012H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4847.6ft (Original Well Elev)
Project:	SEC.19-T10N-R57W	MD Reference:	WELL @ 4847.6ft (Original Well Elev)
Site:	Horsetail #19-3012H Pad Sec.19-T10N-R57W	North Reference:	True
Well:	Horsetail #19-3012H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 9-10-12		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
5,911.3	5,614.0	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,614.0	5,531.4	NIOBRARA TOP		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
5,093.1	5,093.1	0.0	0.0	KOP	
5,911.3	5,614.0	-520.8	4.7	End of Build	