

Surface Location:

Horsetail #08-0521H

Horsetail #08-0521H Pad Sec.8-T10N-R57W

North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4858.0

+N/-S +E/-W

Northing

Easting

Latitude

Longitude

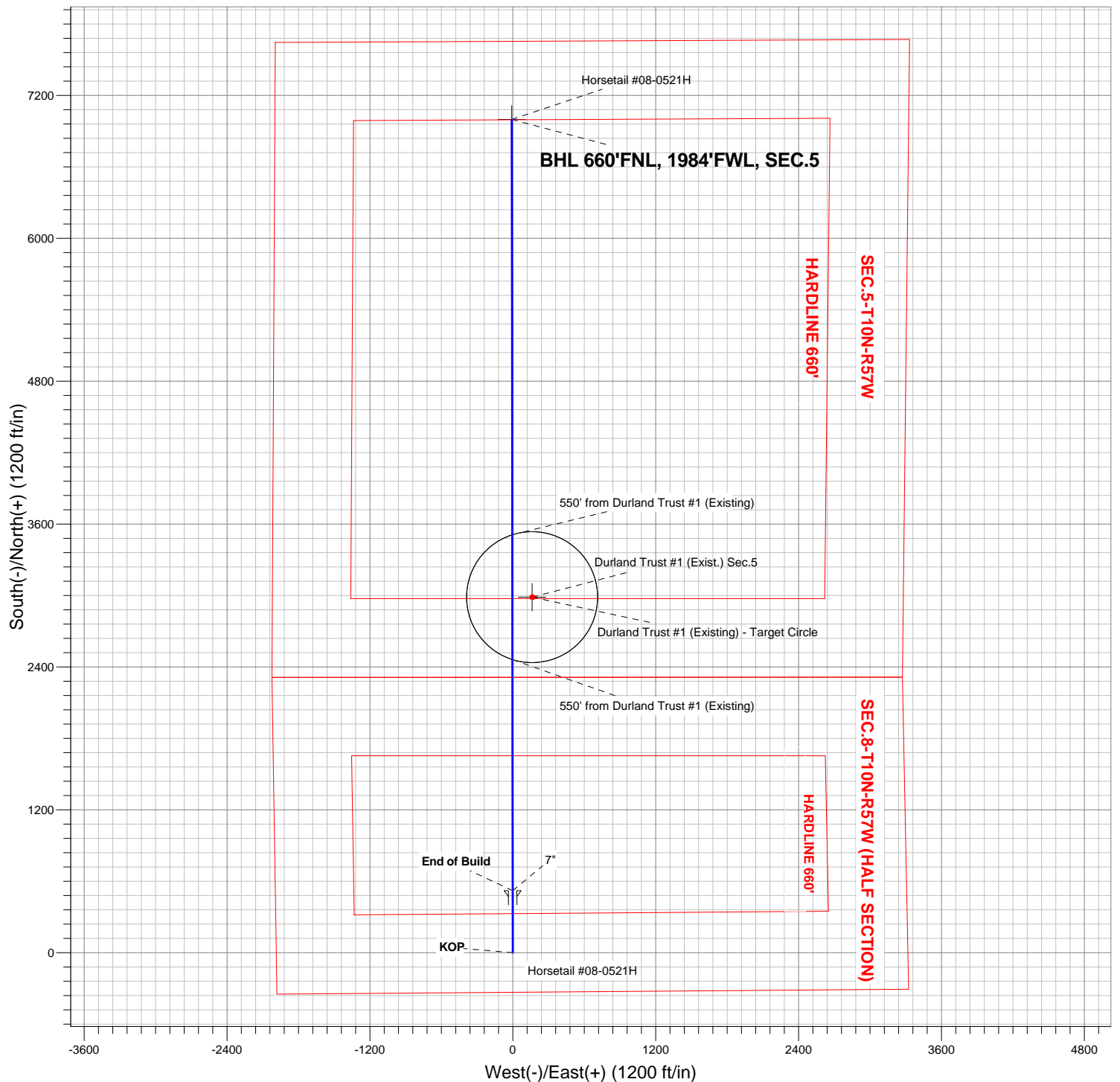
Slot

0.0 0.0 1558747.43

3476309.13

40.854444

-103.778147



ENSIGN
Directional



Directional

Whiting Oil & Gas

SEC.8-T10N-R57W

Horsetail #08-0521H Pad Sec.8-T10N-R57W

Horsetail #08-0521H

Wellbore #1

Plan: Plan #1 (1-18-13)

Standard Planning Report

18 January, 2013

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	
5,215.1	0.00	0.00	5,215.1	0.0	0.0	0.00	0.00	0.00	0.00	
6,033.3	90.00	359.94	5,736.0	520.9	-0.6	11.00	11.00	0.00	359.94	
12,511.1	90.00	359.94	5,736.0	6,998.7	-7.7	0.00	0.00	0.00	0.00	BHL 660'FNL, 1984

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Project:	SEC.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	North Reference:	True
Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-13)		

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

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #08-0521H
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Project:	SEC.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	North Reference:	True
Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-13)		

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

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Project:	SEC.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	North Reference:	True
Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-13)		

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
5,215.1	0.00	0.00	5,215.1	0.0	0.0	0.0	0.00	0.00	0.00
KOP									
5,240.0	2.74	359.94	5,240.0	0.6	0.0	0.6	10.99	10.99	0.00
5,280.0	7.14	359.94	5,279.8	4.0	0.0	4.0	11.00	11.00	0.00
5,320.0	11.54	359.94	5,319.3	10.5	0.0	10.5	11.00	11.00	0.00
5,360.0	15.94	359.94	5,358.1	20.0	0.0	20.0	11.00	11.00	0.00
5,400.0	20.34	359.94	5,396.1	32.5	0.0	32.5	11.00	11.00	0.00
5,440.0	24.74	359.94	5,433.1	47.8	-0.1	47.8	11.00	11.00	0.00
5,480.0	29.14	359.94	5,468.7	65.9	-0.1	65.9	11.00	11.00	0.00
5,520.0	33.54	359.94	5,502.9	86.7	-0.1	86.7	11.00	11.00	0.00
5,560.0	37.94	359.94	5,535.3	110.1	-0.1	110.1	11.00	11.00	0.00
5,600.0	42.34	359.94	5,565.9	135.8	-0.2	135.8	11.00	11.00	0.00
5,604.0	42.78	359.94	5,568.9	138.5	-0.2	138.5	11.00	11.00	0.00
NIOBARRA TOP									
5,640.0	46.74	359.94	5,594.4	163.9	-0.2	163.9	11.00	11.00	0.00
5,680.0	51.14	359.94	5,620.7	194.0	-0.2	194.0	11.00	11.00	0.00
5,720.0	55.54	359.94	5,644.6	226.1	-0.3	226.1	11.00	11.00	0.00
5,760.0	59.94	359.94	5,665.9	259.9	-0.3	259.9	11.00	11.00	0.00
5,800.0	64.34	359.94	5,684.6	295.3	-0.3	295.3	11.00	11.00	0.00
5,840.0	68.74	359.94	5,700.5	332.0	-0.4	332.0	11.00	11.00	0.00
5,880.0	73.14	359.94	5,713.6	369.8	-0.4	369.8	11.00	11.00	0.00
5,920.0	77.54	359.94	5,723.7	408.5	-0.5	408.5	11.00	11.00	0.00
5,960.0	81.94	359.94	5,730.8	447.8	-0.5	447.8	11.00	11.00	0.00
6,000.0	86.34	359.94	5,734.9	487.6	-0.5	487.6	11.00	11.00	0.00
6,033.3	90.00	359.94	5,736.0	520.9	-0.6	520.9	11.00	11.00	0.00
End of Build - 7"									
6,040.0	90.00	359.94	5,736.0	527.6	-0.6	527.6	0.02	0.02	0.00
6,080.0	90.00	359.94	5,736.0	567.6	-0.6	567.6	0.00	0.00	0.00
6,120.0	90.00	359.94	5,736.0	607.6	-0.7	607.6	0.00	0.00	0.00
6,160.0	90.00	359.94	5,736.0	647.6	-0.7	647.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Project:	SEC.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	North Reference:	True
Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-13)		

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	359.94	5,736.0	687.6	-0.8	687.6	0.00	0.00	0.00
6,240.0	90.00	359.94	5,736.0	727.6	-0.8	727.6	0.00	0.00	0.00
6,280.0	90.00	359.94	5,736.0	767.6	-0.8	767.6	0.00	0.00	0.00
6,320.0	90.00	359.94	5,736.0	807.6	-0.9	807.6	0.00	0.00	0.00
6,360.0	90.00	359.94	5,736.0	847.6	-0.9	847.6	0.00	0.00	0.00
6,400.0	90.00	359.94	5,736.0	887.6	-1.0	887.6	0.00	0.00	0.00
6,440.0	90.00	359.94	5,736.0	927.6	-1.0	927.6	0.00	0.00	0.00
6,480.0	90.00	359.94	5,736.0	967.6	-1.1	967.6	0.00	0.00	0.00
6,520.0	90.00	359.94	5,736.0	1,007.6	-1.1	1,007.6	0.00	0.00	0.00
6,560.0	90.00	359.94	5,736.0	1,047.6	-1.2	1,047.6	0.00	0.00	0.00
6,600.0	90.00	359.94	5,736.0	1,087.6	-1.2	1,087.6	0.00	0.00	0.00
6,640.0	90.00	359.94	5,736.0	1,127.6	-1.2	1,127.6	0.00	0.00	0.00
6,680.0	90.00	359.94	5,736.0	1,167.6	-1.3	1,167.6	0.00	0.00	0.00
6,720.0	90.00	359.94	5,736.0	1,207.6	-1.3	1,207.6	0.00	0.00	0.00
6,760.0	90.00	359.94	5,736.0	1,247.6	-1.4	1,247.6	0.00	0.00	0.00
6,800.0	90.00	359.94	5,736.0	1,287.6	-1.4	1,287.6	0.00	0.00	0.00
6,840.0	90.00	359.94	5,736.0	1,327.6	-1.5	1,327.6	0.00	0.00	0.00
6,880.0	90.00	359.94	5,736.0	1,367.6	-1.5	1,367.6	0.00	0.00	0.00
6,920.0	90.00	359.94	5,736.0	1,407.6	-1.6	1,407.6	0.00	0.00	0.00
6,960.0	90.00	359.94	5,736.0	1,447.6	-1.6	1,447.6	0.00	0.00	0.00
7,000.0	90.00	359.94	5,736.0	1,487.6	-1.6	1,487.6	0.00	0.00	0.00
7,040.0	90.00	359.94	5,736.0	1,527.6	-1.7	1,527.6	0.00	0.00	0.00
7,080.0	90.00	359.94	5,736.0	1,567.6	-1.7	1,567.6	0.00	0.00	0.00
7,120.0	90.00	359.94	5,736.0	1,607.6	-1.8	1,607.6	0.00	0.00	0.00
7,160.0	90.00	359.94	5,736.0	1,647.6	-1.8	1,647.6	0.00	0.00	0.00
7,200.0	90.00	359.94	5,736.0	1,687.6	-1.9	1,687.6	0.00	0.00	0.00
7,240.0	90.00	359.94	5,736.0	1,727.6	-1.9	1,727.6	0.00	0.00	0.00
7,280.0	90.00	359.94	5,736.0	1,767.6	-2.0	1,767.6	0.00	0.00	0.00
7,320.0	90.00	359.94	5,736.0	1,807.6	-2.0	1,807.6	0.00	0.00	0.00
7,360.0	90.00	359.94	5,736.0	1,847.6	-2.0	1,847.6	0.00	0.00	0.00
7,400.0	90.00	359.94	5,736.0	1,887.6	-2.1	1,887.6	0.00	0.00	0.00
7,440.0	90.00	359.94	5,736.0	1,927.6	-2.1	1,927.6	0.00	0.00	0.00
7,480.0	90.00	359.94	5,736.0	1,967.6	-2.2	1,967.6	0.00	0.00	0.00
7,520.0	90.00	359.94	5,736.0	2,007.6	-2.2	2,007.6	0.00	0.00	0.00
7,560.0	90.00	359.94	5,736.0	2,047.6	-2.3	2,047.6	0.00	0.00	0.00
7,600.0	90.00	359.94	5,736.0	2,087.6	-2.3	2,087.6	0.00	0.00	0.00
7,640.0	90.00	359.94	5,736.0	2,127.6	-2.4	2,127.6	0.00	0.00	0.00
7,680.0	90.00	359.94	5,736.0	2,167.6	-2.4	2,167.6	0.00	0.00	0.00
7,720.0	90.00	359.94	5,736.0	2,207.6	-2.4	2,207.6	0.00	0.00	0.00
7,760.0	90.00	359.94	5,736.0	2,247.6	-2.5	2,247.6	0.00	0.00	0.00
7,800.0	90.00	359.94	5,736.0	2,287.6	-2.5	2,287.6	0.00	0.00	0.00
7,840.0	90.00	359.94	5,736.0	2,327.6	-2.6	2,327.6	0.00	0.00	0.00
7,880.0	90.00	359.94	5,736.0	2,367.6	-2.6	2,367.6	0.00	0.00	0.00
7,920.0	90.00	359.94	5,736.0	2,407.6	-2.7	2,407.6	0.00	0.00	0.00
7,960.0	90.00	359.94	5,736.0	2,447.6	-2.7	2,447.6	0.00	0.00	0.00
7,973.0	90.00	359.94	5,736.0	2,460.6	-2.7	2,460.6	0.00	0.00	0.00
550' from Durland Trust #1 (Existing)									
8,000.0	90.00	359.94	5,736.0	2,487.6	-2.8	2,487.6	0.00	0.00	0.00
8,040.0	90.00	359.94	5,736.0	2,527.6	-2.8	2,527.6	0.00	0.00	0.00
8,080.0	90.00	359.94	5,736.0	2,567.6	-2.8	2,567.6	0.00	0.00	0.00
8,120.0	90.00	359.94	5,736.0	2,607.6	-2.9	2,607.6	0.00	0.00	0.00
8,160.0	90.00	359.94	5,736.0	2,647.6	-2.9	2,647.6	0.00	0.00	0.00
8,200.0	90.00	359.94	5,736.0	2,687.6	-3.0	2,687.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Project:	SEC.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	North Reference:	True
Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-13)		

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)
8,240.0	90.00	359.94	5,736.0	2,727.6	-3.0	2,727.6	0.00	0.00	0.00
8,280.0	90.00	359.94	5,736.0	2,767.6	-3.1	2,767.6	0.00	0.00	0.00
8,320.0	90.00	359.94	5,736.0	2,807.6	-3.1	2,807.6	0.00	0.00	0.00
8,360.0	90.00	359.94	5,736.0	2,847.6	-3.2	2,847.6	0.00	0.00	0.00
8,400.0	90.00	359.94	5,736.0	2,887.6	-3.2	2,887.6	0.00	0.00	0.00
8,440.0	90.00	359.94	5,736.0	2,927.6	-3.2	2,927.6	0.00	0.00	0.00
8,480.0	90.00	359.94	5,736.0	2,967.6	-3.3	2,967.6	0.00	0.00	0.00
8,520.0	90.00	359.94	5,736.0	3,007.6	-3.3	3,007.6	0.00	0.00	0.00
8,560.0	90.00	359.94	5,736.0	3,047.6	-3.4	3,047.6	0.00	0.00	0.00
8,600.0	90.00	359.94	5,736.0	3,087.6	-3.4	3,087.6	0.00	0.00	0.00
8,640.0	90.00	359.94	5,736.0	3,127.6	-3.5	3,127.6	0.00	0.00	0.00
8,680.0	90.00	359.94	5,736.0	3,167.6	-3.5	3,167.6	0.00	0.00	0.00
8,720.0	90.00	359.94	5,736.0	3,207.6	-3.5	3,207.6	0.00	0.00	0.00
8,760.0	90.00	359.94	5,736.0	3,247.6	-3.6	3,247.6	0.00	0.00	0.00
8,800.0	90.00	359.94	5,736.0	3,287.6	-3.6	3,287.6	0.00	0.00	0.00
8,840.0	90.00	359.94	5,736.0	3,327.6	-3.7	3,327.6	0.00	0.00	0.00
8,880.0	90.00	359.94	5,736.0	3,367.6	-3.7	3,367.6	0.00	0.00	0.00
8,920.0	90.00	359.94	5,736.0	3,407.6	-3.8	3,407.6	0.00	0.00	0.00
8,960.0	90.00	359.94	5,736.0	3,447.6	-3.8	3,447.6	0.00	0.00	0.00
9,000.0	90.00	359.94	5,736.0	3,487.6	-3.9	3,487.6	0.00	0.00	0.00
9,023.0	90.00	359.94	5,736.0	3,510.6	-3.9	3,510.6	0.00	0.00	0.00
550' from Durland Trust #1 (Existing)									
9,040.0	90.00	359.94	5,736.0	3,527.6	-3.9	3,527.6	0.00	0.00	0.00
9,080.0	90.00	359.94	5,736.0	3,567.6	-3.9	3,567.6	0.00	0.00	0.00
9,120.0	90.00	359.94	5,736.0	3,607.6	-4.0	3,607.6	0.00	0.00	0.00
9,160.0	90.00	359.94	5,736.0	3,647.6	-4.0	3,647.6	0.00	0.00	0.00
9,200.0	90.00	359.94	5,736.0	3,687.6	-4.1	3,687.6	0.00	0.00	0.00
9,240.0	90.00	359.94	5,736.0	3,727.6	-4.1	3,727.6	0.00	0.00	0.00
9,280.0	90.00	359.94	5,736.0	3,767.6	-4.2	3,767.6	0.00	0.00	0.00
9,320.0	90.00	359.94	5,736.0	3,807.6	-4.2	3,807.6	0.00	0.00	0.00
9,360.0	90.00	359.94	5,736.0	3,847.6	-4.3	3,847.6	0.00	0.00	0.00
9,400.0	90.00	359.94	5,736.0	3,887.6	-4.3	3,887.6	0.00	0.00	0.00
9,440.0	90.00	359.94	5,736.0	3,927.6	-4.3	3,927.6	0.00	0.00	0.00
9,480.0	90.00	359.94	5,736.0	3,967.6	-4.4	3,967.6	0.00	0.00	0.00
9,520.0	90.00	359.94	5,736.0	4,007.6	-4.4	4,007.6	0.00	0.00	0.00
9,560.0	90.00	359.94	5,736.0	4,047.6	-4.5	4,047.6	0.00	0.00	0.00
9,600.0	90.00	359.94	5,736.0	4,087.6	-4.5	4,087.6	0.00	0.00	0.00
9,640.0	90.00	359.94	5,736.0	4,127.6	-4.6	4,127.6	0.00	0.00	0.00
9,680.0	90.00	359.94	5,736.0	4,167.6	-4.6	4,167.6	0.00	0.00	0.00
9,720.0	90.00	359.94	5,736.0	4,207.6	-4.7	4,207.6	0.00	0.00	0.00
9,760.0	90.00	359.94	5,736.0	4,247.6	-4.7	4,247.6	0.00	0.00	0.00
9,800.0	90.00	359.94	5,736.0	4,287.6	-4.7	4,287.6	0.00	0.00	0.00
9,840.0	90.00	359.94	5,736.0	4,327.6	-4.8	4,327.6	0.00	0.00	0.00
9,880.0	90.00	359.94	5,736.0	4,367.6	-4.8	4,367.6	0.00	0.00	0.00
9,920.0	90.00	359.94	5,736.0	4,407.6	-4.9	4,407.6	0.00	0.00	0.00
9,960.0	90.00	359.94	5,736.0	4,447.6	-4.9	4,447.6	0.00	0.00	0.00
10,000.0	90.00	359.94	5,736.0	4,487.6	-5.0	4,487.6	0.00	0.00	0.00
10,040.0	90.00	359.94	5,736.0	4,527.6	-5.0	4,527.6	0.00	0.00	0.00
10,080.0	90.00	359.94	5,736.0	4,567.6	-5.1	4,567.6	0.00	0.00	0.00
10,120.0	90.00	359.94	5,736.0	4,607.6	-5.1	4,607.6	0.00	0.00	0.00
10,160.0	90.00	359.94	5,736.0	4,647.6	-5.1	4,647.6	0.00	0.00	0.00
10,200.0	90.00	359.94	5,736.0	4,687.6	-5.2	4,687.6	0.00	0.00	0.00
10,240.0	90.00	359.94	5,736.0	4,727.6	-5.2	4,727.6	0.00	0.00	0.00
10,280.0	90.00	359.94	5,736.0	4,767.6	-5.3	4,767.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Project:	SEC.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	North Reference:	True
Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-13)		

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)
10,320.0	90.00	359.94	5,736.0	4,807.6	-5.3	4,807.6	0.00	0.00	0.00
10,360.0	90.00	359.94	5,736.0	4,847.6	-5.4	4,847.6	0.00	0.00	0.00
10,400.0	90.00	359.94	5,736.0	4,887.6	-5.4	4,887.6	0.00	0.00	0.00
10,440.0	90.00	359.94	5,736.0	4,927.6	-5.5	4,927.6	0.00	0.00	0.00
10,480.0	90.00	359.94	5,736.0	4,967.6	-5.5	4,967.6	0.00	0.00	0.00
10,520.0	90.00	359.94	5,736.0	5,007.6	-5.5	5,007.6	0.00	0.00	0.00
10,560.0	90.00	359.94	5,736.0	5,047.6	-5.6	5,047.6	0.00	0.00	0.00
10,600.0	90.00	359.94	5,736.0	5,087.6	-5.6	5,087.6	0.00	0.00	0.00
10,640.0	90.00	359.94	5,736.0	5,127.6	-5.7	5,127.6	0.00	0.00	0.00
10,680.0	90.00	359.94	5,736.0	5,167.6	-5.7	5,167.6	0.00	0.00	0.00
10,720.0	90.00	359.94	5,736.0	5,207.6	-5.8	5,207.6	0.00	0.00	0.00
10,760.0	90.00	359.94	5,736.0	5,247.6	-5.8	5,247.6	0.00	0.00	0.00
10,800.0	90.00	359.94	5,736.0	5,287.6	-5.9	5,287.6	0.00	0.00	0.00
10,840.0	90.00	359.94	5,736.0	5,327.6	-5.9	5,327.6	0.00	0.00	0.00
10,880.0	90.00	359.94	5,736.0	5,367.6	-5.9	5,367.6	0.00	0.00	0.00
10,920.0	90.00	359.94	5,736.0	5,407.6	-6.0	5,407.6	0.00	0.00	0.00
10,960.0	90.00	359.94	5,736.0	5,447.6	-6.0	5,447.6	0.00	0.00	0.00
11,000.0	90.00	359.94	5,736.0	5,487.6	-6.1	5,487.6	0.00	0.00	0.00
11,040.0	90.00	359.94	5,736.0	5,527.6	-6.1	5,527.6	0.00	0.00	0.00
11,080.0	90.00	359.94	5,736.0	5,567.6	-6.2	5,567.6	0.00	0.00	0.00
11,120.0	90.00	359.94	5,736.0	5,607.6	-6.2	5,607.6	0.00	0.00	0.00
11,160.0	90.00	359.94	5,736.0	5,647.6	-6.2	5,647.6	0.00	0.00	0.00
11,200.0	90.00	359.94	5,736.0	5,687.6	-6.3	5,687.6	0.00	0.00	0.00
11,240.0	90.00	359.94	5,736.0	5,727.6	-6.3	5,727.6	0.00	0.00	0.00
11,280.0	90.00	359.94	5,736.0	5,767.6	-6.4	5,767.6	0.00	0.00	0.00
11,320.0	90.00	359.94	5,736.0	5,807.6	-6.4	5,807.6	0.00	0.00	0.00
11,360.0	90.00	359.94	5,736.0	5,847.6	-6.5	5,847.6	0.00	0.00	0.00
11,400.0	90.00	359.94	5,736.0	5,887.6	-6.5	5,887.6	0.00	0.00	0.00
11,440.0	90.00	359.94	5,736.0	5,927.6	-6.6	5,927.6	0.00	0.00	0.00
11,480.0	90.00	359.94	5,736.0	5,967.6	-6.6	5,967.6	0.00	0.00	0.00
11,520.0	90.00	359.94	5,736.0	6,007.6	-6.6	6,007.6	0.00	0.00	0.00
11,560.0	90.00	359.94	5,736.0	6,047.6	-6.7	6,047.6	0.00	0.00	0.00
11,600.0	90.00	359.94	5,736.0	6,087.6	-6.7	6,087.6	0.00	0.00	0.00
11,640.0	90.00	359.94	5,736.0	6,127.6	-6.8	6,127.6	0.00	0.00	0.00
11,680.0	90.00	359.94	5,736.0	6,167.6	-6.8	6,167.6	0.00	0.00	0.00
11,720.0	90.00	359.94	5,736.0	6,207.6	-6.9	6,207.6	0.00	0.00	0.00
11,760.0	90.00	359.94	5,736.0	6,247.6	-6.9	6,247.6	0.00	0.00	0.00
11,800.0	90.00	359.94	5,736.0	6,287.6	-7.0	6,287.6	0.00	0.00	0.00
11,840.0	90.00	359.94	5,736.0	6,327.6	-7.0	6,327.6	0.00	0.00	0.00
11,880.0	90.00	359.94	5,736.0	6,367.6	-7.0	6,367.6	0.00	0.00	0.00
11,920.0	90.00	359.94	5,736.0	6,407.6	-7.1	6,407.6	0.00	0.00	0.00
11,960.0	90.00	359.94	5,736.0	6,447.6	-7.1	6,447.6	0.00	0.00	0.00
12,000.0	90.00	359.94	5,736.0	6,487.6	-7.2	6,487.6	0.00	0.00	0.00
12,040.0	90.00	359.94	5,736.0	6,527.6	-7.2	6,527.6	0.00	0.00	0.00
12,080.0	90.00	359.94	5,736.0	6,567.6	-7.3	6,567.6	0.00	0.00	0.00
12,120.0	90.00	359.94	5,736.0	6,607.6	-7.3	6,607.6	0.00	0.00	0.00
12,160.0	90.00	359.94	5,736.0	6,647.6	-7.4	6,647.6	0.00	0.00	0.00
12,200.0	90.00	359.94	5,736.0	6,687.6	-7.4	6,687.6	0.00	0.00	0.00
12,240.0	90.00	359.94	5,736.0	6,727.6	-7.4	6,727.6	0.00	0.00	0.00
12,280.0	90.00	359.94	5,736.0	6,767.6	-7.5	6,767.6	0.00	0.00	0.00
12,320.0	90.00	359.94	5,736.0	6,807.6	-7.5	6,807.6	0.00	0.00	0.00
12,360.0	90.00	359.94	5,736.0	6,847.6	-7.6	6,847.6	0.00	0.00	0.00
12,400.0	90.00	359.94	5,736.0	6,887.6	-7.6	6,887.6	0.00	0.00	0.00
12,440.0	90.00	359.94	5,736.0	6,927.6	-7.7	6,927.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Company:	Whiting Oil & Gas	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Project:	SEC.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	North Reference:	True
Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-18-13)		

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)	
12,480.0	90.00	359.94	5,736.0	6,967.6	-7.7	6,967.6	0.00	0.00	0.00	
12,511.1	90.00	359.94	5,736.0	6,998.7	-7.7	6,998.7	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
6,033.3	5,736.0	7"		7	8-3/4

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,604.0	5,568.9	NIORARA TOP		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
5,215.1	5,215.1	0.0	0.0	KOP	
6,033.3	5,736.0	520.9	-0.6	End of Build	
7,973.0	5,736.0	2,460.6	-2.7	550' from Durland Trust #1 (Existing)	
9,023.0	5,736.0	3,510.6	-3.9	550' from Durland Trust #1 (Existing)	



Directional

Whiting Oil & Gas

SEC.8-T10N-R57W

Horsetail #08-0521H Pad Sec.8-T10N-R57W

Horsetail #08-0521H

Wellbore #1

Plan #1 (1-18-13)

Anticollision Report

18 January, 2013

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Project:	SEC.8-T10N-R57W	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Reference Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (1-18-13)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 6719-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
2,500.0	2,500.0	2,567.5	2,567.5	5.5	51.4	3.11	2,985.9	162.4	2,990.3	2,933.4	56.86	52.593	
2,600.0	2,600.0	2,667.5	2,667.5	5.7	53.4	3.11	2,985.9	162.4	2,990.3	2,931.2	59.08	50.613	
2,700.0	2,700.0	2,767.5	2,767.5	6.0	55.4	3.11	2,985.9	162.4	2,990.3	2,929.0	61.31	48.776	
2,800.0	2,800.0	2,867.5	2,867.5	6.2	57.4	3.11	2,985.9	162.4	2,990.3	2,926.8	63.53	47.068	
2,900.0	2,900.0	2,967.5	2,967.5	6.4	59.4	3.11	2,985.9	162.4	2,990.3	2,924.5	65.76	45.476	
3,000.0	3,000.0	3,067.5	3,067.5	6.6	61.4	3.11	2,985.9	162.4	2,990.3	2,922.3	67.98	43.988	
3,100.0	3,100.0	3,167.5	3,167.5	6.9	63.4	3.11	2,985.9	162.4	2,990.3	2,920.1	70.21	42.594	
3,200.0	3,200.0	3,267.5	3,267.5	7.1	65.4	3.11	2,985.9	162.4	2,990.3	2,917.9	72.43	41.285	
3,300.0	3,300.0	3,367.5	3,367.5	7.3	67.4	3.11	2,985.9	162.4	2,990.3	2,915.6	74.65	40.055	
3,400.0	3,400.0	3,467.5	3,467.5	7.5	69.4	3.11	2,985.9	162.4	2,990.3	2,913.4	76.88	38.896	
3,500.0	3,500.0	3,567.5	3,567.5	7.8	71.4	3.11	2,985.9	162.4	2,990.3	2,911.2	79.10	37.802	
3,600.0	3,600.0	3,667.5	3,667.5	8.0	73.4	3.11	2,985.9	162.4	2,990.3	2,909.0	81.33	36.768	
3,700.0	3,700.0	3,767.5	3,767.5	8.2	75.4	3.11	2,985.9	162.4	2,990.3	2,906.7	83.55	35.789	
3,800.0	3,800.0	3,867.5	3,867.5	8.4	77.4	3.11	2,985.9	162.4	2,990.3	2,904.5	85.78	34.861	
3,900.0	3,900.0	3,967.5	3,967.5	8.7	79.4	3.11	2,985.9	162.4	2,990.3	2,902.3	88.00	33.979	
4,000.0	4,000.0	4,067.5	4,067.5	8.9	81.4	3.11	2,985.9	162.4	2,990.3	2,900.1	90.23	33.141	
4,100.0	4,100.0	4,167.5	4,167.5	9.1	83.4	3.11	2,985.9	162.4	2,990.3	2,897.8	92.45	32.344	
4,200.0	4,200.0	4,267.5	4,267.5	9.3	85.4	3.11	2,985.9	162.4	2,990.3	2,895.6	94.68	31.584	
4,300.0	4,300.0	4,367.5	4,367.5	9.6	87.4	3.11	2,985.9	162.4	2,990.3	2,893.4	96.90	30.859	
4,400.0	4,400.0	4,467.5	4,467.5	9.8	89.4	3.11	2,985.9	162.4	2,990.3	2,891.2	99.13	30.166	
4,500.0	4,500.0	4,567.5	4,567.5	10.0	91.4	3.11	2,985.9	162.4	2,990.3	2,888.9	101.35	29.504	
4,600.0	4,600.0	4,667.5	4,667.5	10.2	93.4	3.11	2,985.9	162.4	2,990.3	2,886.7	103.58	28.870	
4,700.0	4,700.0	4,767.5	4,767.5	10.5	95.4	3.11	2,985.9	162.4	2,990.3	2,884.5	105.80	28.263	
4,800.0	4,800.0	4,867.5	4,867.5	10.7	97.4	3.11	2,985.9	162.4	2,990.3	2,882.3	108.03	27.681	
4,900.0	4,900.0	4,967.5	4,967.5	10.9	99.4	3.11	2,985.9	162.4	2,990.3	2,880.1	110.25	27.123	
5,000.0	5,000.0	5,067.5	5,067.5	11.1	101.4	3.11	2,985.9	162.4	2,990.3	2,877.8	112.48	26.586	
5,100.0	5,100.0	5,167.5	5,167.5	11.4	103.4	3.11	2,985.9	162.4	2,990.3	2,875.6	114.70	26.070	
5,200.0	5,200.0	5,267.5	5,267.5	11.6	105.4	3.11	2,985.9	162.4	2,990.3	2,873.4	116.93	25.574	
5,300.0	5,299.6	5,367.1	5,367.1	11.8	107.3	3.23	2,985.9	162.4	2,983.4	2,865.8	117.60	25.370	
5,400.0	5,396.1	5,463.6	5,463.6	12.0	109.3	3.42	2,985.9	162.4	2,957.9	2,844.0	113.89	25.971	
5,500.0	5,486.0	5,553.5	5,553.5	12.3	111.1	3.82	2,985.9	162.4	2,914.4	2,808.7	105.74	27.561	
5,600.0	5,565.9	5,633.4	5,633.4	12.6	112.7	4.50	2,985.9	162.4	2,854.7	2,761.3	93.40	30.564	
5,700.0	5,632.9	5,700.4	5,700.4	13.0	114.0	5.71	2,985.9	162.4	2,780.8	2,703.3	77.51	35.878	
5,800.0	5,684.6	5,752.1	5,752.1	13.7	115.0	8.09	2,985.9	162.4	2,695.5	2,635.8	59.68	45.165	
5,900.0	5,719.0	5,786.5	5,786.5	14.5	115.7	14.15	2,985.9	162.4	2,602.0	2,554.6	47.40	54.897	
6,000.0	5,734.9	5,802.4	5,802.4	15.6	116.0	46.07	2,985.9	162.4	2,503.6	2,407.9	95.70	26.162	
6,100.0	5,736.0	5,803.5	5,803.5	16.7	116.1	90.00	2,985.9	162.4	2,403.9	2,271.1	132.80	18.101	
6,200.0	5,736.0	5,803.5	5,803.5	18.0	116.1	90.00	2,985.9	162.4	2,304.1	2,170.0	134.11	17.181	
6,300.0	5,736.0	5,803.5	5,803.5	19.4	116.1	90.00	2,985.9	162.4	2,204.4	2,068.9	135.52	16.266	
6,400.0	5,736.0	5,803.5	5,803.5	20.9	116.1	90.00	2,985.9	162.4	2,104.7	1,967.7	137.01	15.361	
6,500.0	5,736.0	5,803.5	5,803.5	22.5	116.1	90.00	2,985.9	162.4	2,005.0	1,866.4	138.57	14.469	
6,600.0	5,736.0	5,803.5	5,803.5	24.1	116.1	90.00	2,985.9	162.4	1,905.4	1,765.2	140.18	13.592	
6,700.0	5,736.0	5,803.5	5,803.5	25.8	116.1	90.00	2,985.9	162.4	1,805.8	1,663.9	141.84	12.731	
6,800.0	5,736.0	5,803.5	5,803.5	27.5	116.1	90.00	2,985.9	162.4	1,706.2	1,562.7	143.53	11.887	
6,900.0	5,736.0	5,803.5	5,803.5	29.2	116.1	90.00	2,985.9	162.4	1,606.7	1,461.5	145.25	11.061	
7,000.0	5,736.0	5,803.5	5,803.5	30.9	116.1	90.00	2,985.9	162.4	1,507.3	1,360.3	147.00	10.254	
7,100.0	5,736.0	5,803.5	5,803.5	32.7	116.1	90.00	2,985.9	162.4	1,407.9	1,259.2	148.77	9.464	
7,200.0	5,736.0	5,803.5	5,803.5	34.5	116.1	90.00	2,985.9	162.4	1,308.7	1,158.1	150.55	8.693	
7,300.0	5,736.0	5,803.5	5,803.5	36.3	116.1	90.00	2,985.9	162.4	1,209.6	1,057.2	152.35	7.939	
7,400.0	5,736.0	5,803.5	5,803.5	38.1	116.1	90.00	2,985.9	162.4	1,110.6	956.4	154.16	7.204	
7,500.0	5,736.0	5,803.5	5,803.5	39.9	116.1	90.00	2,985.9	162.4	1,011.8	855.8	155.98	6.487	
7,600.0	5,736.0	5,803.5	5,803.5	41.7	116.1	90.00	2,985.9	162.4	913.3	755.5	157.82	5.787	

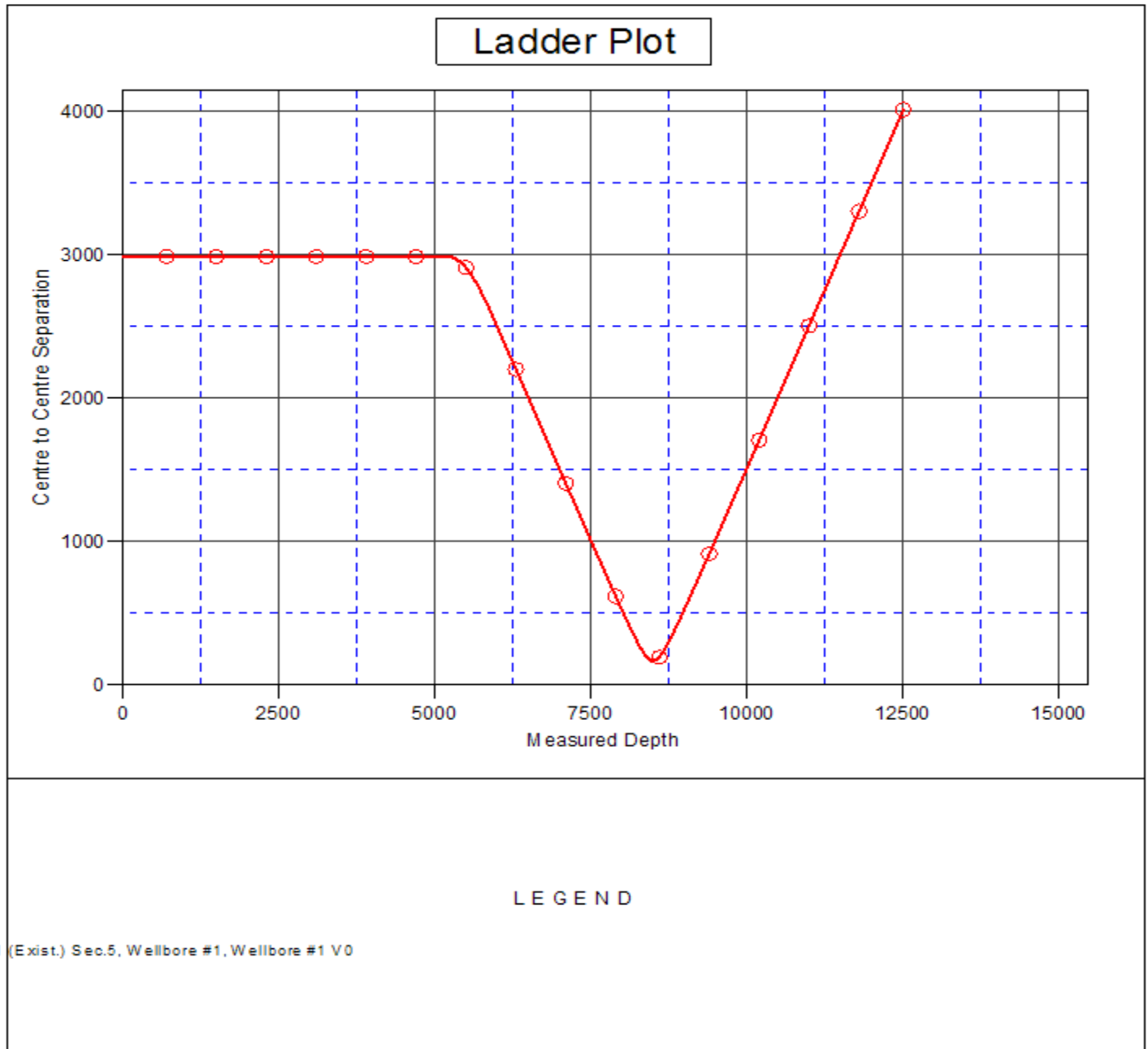
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Project:	SEC.8-T10N-R57W	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Reference Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (1-18-13)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 6719-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
7,700.0	5,736.0	5,803.5	5,803.5	43.6	116.1	90.00	2,985.9	162.4	815.2	655.5	159.66	5.106	
7,800.0	5,736.0	5,803.5	5,803.5	45.4	116.1	90.00	2,985.9	162.4	717.5	556.0	161.51	4.443	
7,900.0	5,736.0	5,803.5	5,803.5	47.3	116.1	90.00	2,985.9	162.4	620.7	457.3	163.36	3.799	
8,000.0	5,736.0	5,803.5	5,803.5	49.2	116.1	90.00	2,985.9	162.4	525.0	359.8	165.22	3.178	
8,100.0	5,736.0	5,803.5	5,803.5	51.0	116.1	90.00	2,985.9	162.4	431.3	264.2	167.09	2.581	
8,200.0	5,736.0	5,803.5	5,803.5	52.9	116.1	90.00	2,985.9	162.4	341.1	172.2	168.96	2.019	
8,300.0	5,736.0	5,803.5	5,803.5	54.8	116.1	90.00	2,985.9	162.4	258.3	87.5	170.83	1.512	
8,400.0	5,736.0	5,803.5	5,803.5	56.6	116.1	90.00	2,985.9	162.4	192.6	19.9	172.71	1.115	Level 2
8,498.1	5,736.0	5,803.5	5,803.5	58.5	116.1	90.00	2,985.9	162.4	165.7	-8.8	174.55	0.949	Level 1, CC
8,500.0	5,736.0	5,803.5	5,803.5	58.5	116.1	90.00	2,985.9	162.4	165.7	-8.9	174.59	0.949	Level 1, ES, SF
8,600.0	5,736.0	5,803.5	5,803.5	60.4	116.1	90.00	2,985.9	162.4	194.5	18.1	176.47	1.102	Level 2
8,700.0	5,736.0	5,803.5	5,803.5	62.3	116.1	90.00	2,985.9	162.4	261.2	82.8	178.36	1.464	Level 3
8,800.0	5,736.0	5,803.5	5,803.5	64.2	116.1	90.00	2,985.9	162.4	344.4	164.1	180.25	1.910	
8,900.0	5,736.0	5,803.5	5,803.5	66.1	116.1	90.00	2,985.9	162.4	434.7	252.5	182.14	2.387	
9,000.0	5,736.0	5,803.5	5,803.5	68.0	116.1	90.00	2,985.9	162.4	528.5	344.5	184.04	2.872	
9,100.0	5,736.0	5,803.5	5,803.5	69.9	116.1	90.00	2,985.9	162.4	624.3	438.3	185.93	3.357	
9,200.0	5,736.0	5,803.5	5,803.5	71.8	116.1	90.00	2,985.9	162.4	721.2	533.3	187.83	3.839	
9,300.0	5,736.0	5,803.5	5,803.5	73.7	116.1	90.00	2,985.9	162.4	818.8	629.1	189.73	4.316	
9,400.0	5,736.0	5,803.5	5,803.5	75.6	116.1	90.00	2,985.9	162.4	917.0	725.3	191.63	4.785	
9,500.0	5,736.0	5,803.5	5,803.5	77.5	116.1	90.00	2,985.9	162.4	1,015.5	821.9	193.53	5.247	
9,600.0	5,736.0	5,803.5	5,803.5	79.4	116.1	90.00	2,985.9	162.4	1,114.2	918.8	195.43	5.701	
9,700.0	5,736.0	5,803.5	5,803.5	81.3	116.1	90.00	2,985.9	162.4	1,213.2	1,015.9	197.34	6.148	
9,800.0	5,736.0	5,803.5	5,803.5	83.2	116.1	90.00	2,985.9	162.4	1,312.4	1,113.1	199.25	6.587	
9,900.0	5,736.0	5,803.5	5,803.5	85.1	116.1	90.00	2,985.9	162.4	1,411.6	1,210.5	201.15	7.018	
10,000.0	5,736.0	5,803.5	5,803.5	87.0	116.1	90.00	2,985.9	162.4	1,511.0	1,307.9	203.06	7.441	
10,100.0	5,736.0	5,803.5	5,803.5	88.9	116.1	90.00	2,985.9	162.4	1,610.4	1,405.4	204.97	7.857	
10,200.0	5,736.0	5,803.5	5,803.5	90.8	116.1	90.00	2,985.9	162.4	1,709.9	1,503.0	206.88	8.265	
10,300.0	5,736.0	5,803.5	5,803.5	92.7	116.1	90.00	2,985.9	162.4	1,809.5	1,600.7	208.79	8.666	
10,400.0	5,736.0	5,803.5	5,803.5	94.6	116.1	90.00	2,985.9	162.4	1,909.1	1,698.4	210.70	9.061	
10,500.0	5,736.0	5,803.5	5,803.5	96.5	116.1	90.00	2,985.9	162.4	2,008.7	1,796.1	212.61	9.448	
10,600.0	5,736.0	5,803.5	5,803.5	98.5	116.1	90.00	2,985.9	162.4	2,108.4	1,893.9	214.53	9.828	
10,700.0	5,736.0	5,803.5	5,803.5	100.4	116.1	90.00	2,985.9	162.4	2,208.1	1,991.6	216.44	10.202	
10,800.0	5,736.0	5,803.5	5,803.5	102.3	116.1	90.00	2,985.9	162.4	2,307.8	2,089.5	218.35	10.569	
10,900.0	5,736.0	5,803.5	5,803.5	104.2	116.1	90.00	2,985.9	162.4	2,407.6	2,187.3	220.27	10.930	
11,000.0	5,736.0	5,803.5	5,803.5	106.1	116.1	90.00	2,985.9	162.4	2,507.3	2,285.2	222.18	11.285	
11,100.0	5,736.0	5,803.5	5,803.5	108.0	116.1	90.00	2,985.9	162.4	2,607.1	2,383.0	224.10	11.634	
11,200.0	5,736.0	5,803.5	5,803.5	109.9	116.1	90.00	2,985.9	162.4	2,706.9	2,480.9	226.01	11.977	
11,300.0	5,736.0	5,803.5	5,803.5	111.9	116.1	90.00	2,985.9	162.4	2,806.8	2,578.8	227.93	12.314	
11,400.0	5,736.0	5,803.5	5,803.5	113.8	116.1	90.00	2,985.9	162.4	2,906.6	2,676.7	229.85	12.646	
11,500.0	5,736.0	5,803.5	5,803.5	115.7	116.1	90.00	2,985.9	162.4	3,006.4	2,774.7	231.76	12.972	
11,600.0	5,736.0	5,803.5	5,803.5	117.6	116.1	90.00	2,985.9	162.4	3,106.3	2,872.6	233.68	13.293	
11,700.0	5,736.0	5,803.5	5,803.5	119.5	116.1	90.00	2,985.9	162.4	3,206.1	2,970.5	235.60	13.608	
11,800.0	5,736.0	5,803.5	5,803.5	121.4	116.1	90.00	2,985.9	162.4	3,306.0	3,068.5	237.52	13.919	
11,900.0	5,736.0	5,803.5	5,803.5	123.4	116.1	90.00	2,985.9	162.4	3,405.9	3,166.5	239.44	14.225	
12,000.0	5,736.0	5,803.5	5,803.5	125.3	116.1	90.00	2,985.9	162.4	3,505.8	3,264.4	241.36	14.525	
12,100.0	5,736.0	5,803.5	5,803.5	127.2	116.1	90.00	2,985.9	162.4	3,605.7	3,362.4	243.28	14.821	
12,200.0	5,736.0	5,803.5	5,803.5	129.1	116.1	90.00	2,985.9	162.4	3,705.6	3,460.4	245.20	15.113	
12,300.0	5,736.0	5,803.5	5,803.5	131.0	116.1	90.00	2,985.9	162.4	3,805.5	3,558.3	247.12	15.400	
12,400.0	5,736.0	5,803.5	5,803.5	133.0	116.1	90.00	2,985.9	162.4	3,905.4	3,656.3	249.04	15.682	
12,500.0	5,736.0	5,803.5	5,803.5	134.9	116.1	90.00	2,985.9	162.4	4,005.3	3,754.3	250.96	15.960	
12,511.1	5,736.0	5,803.5	5,803.5	135.1	116.1	90.00	2,985.9	162.4	4,016.4	3,765.2	251.17	15.991	

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Project:	SEC.8-T10N-R57W	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Reference Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (1-18-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4874.5ft (Original Well Elev) Coordinates are relative to: Horsetail #08-0521H
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: 1.11°



Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Horsetail #08-0521H
Project:	SEC.8-T10N-R57W	TVD Reference:	WELL @ 4874.5ft (Original Well Elev)
Reference Site:	Horsetail #08-0521H Pad Sec.8-T10N-R57W	MD Reference:	WELL @ 4874.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail #08-0521H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (1-18-13)	Offset TVD Reference:	Offset Datum

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