

Whiting Oil & Gas

Well Name: **Horsetail 16B-1610B**

Surface Location: Horsetail 16B PAD Sec.16-T10N-R57W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4776.6

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1555534.16	3482913.23	40.845272	-103.754508	

Cade 21 - KB 17.3' RKB @ 4793.9ft (Cade 21 - KB 17.3')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 395'FNL & 2158'FEL	1.8	0.0	0.0	Point
BHL 660'FSL & 2145'FEL	5575.0	-4257.4	58.4	Point



Azimuths to True North
Magnetic North: 8.06°

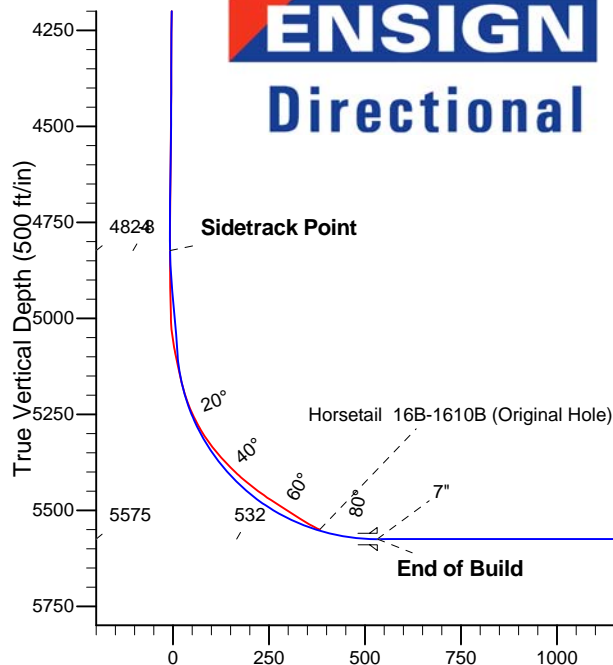
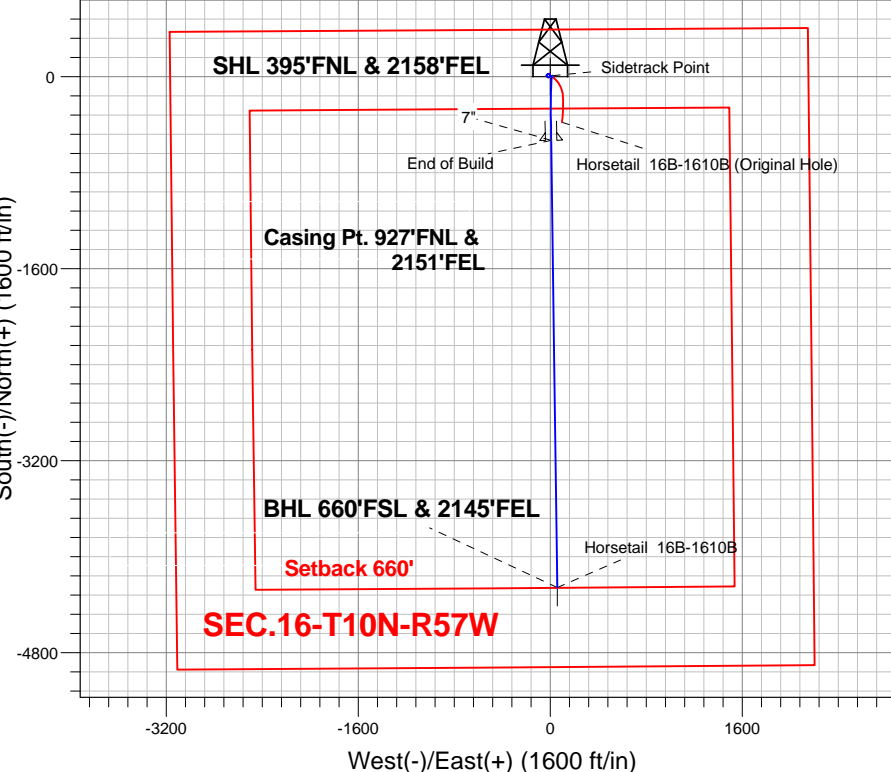
Magnetic Field
Strength: 53246.8srT
Dip Angle: 67.50°
Date: 7/12/2013
Model: IGRF2010

Horsetail 16B PAD Sec.16-T10N-R57W
Horsetail 16B-1610B
Plan #3 Sidetrack (7-12-13)
14:48, July 12 2013

ANNOTATIONS

TVD	MD	Annotation
4824.0	4826.0	Sidetrack Point
5575.0	5876.1	End of Build

South(-)/North(+) (1600 ft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	4826.0	1.10	139.70	4824.0	7.8	19.0	0.00	0.00	-7.6	
2	4901.9	5.00	200.00	4899.8	4.2	18.3	6.00	72.38	-3.9	
3	4951.9	5.00	200.00	4949.6	0.1	16.8	0.00	0.00	0.2	
4	5099.8	5.00	200.00	5096.9	-12.0	12.4	0.00	0.00	12.2	
5	5875.3	90.00	178.93	5575.0	-531.2	7.1	11.00	-21.14	531.2	
6	5876.1	90.00	178.93	5575.0	-532.0	7.1	0.00	0.00	532.0	
7	5904.2	90.00	179.21	5575.0	-560.1	7.6	1.00	90.00	560.1	
8	9601.8	90.00	179.21	5575.0	-4257.4	58.4	0.00	0.00	4257.8	BHL 660'FSL & 2145'FEL

Vertical Section at 179.21° (500 ft/in)



Whiting Oil & Gas

SEC.16-T10N-R57W

Horsetail 16B PAD Sec.16-T10N-R57W

Horsetail 16B-1610B

Wellbore #2

Plan: Plan #3 Sidetrack (7-12-13)

Standard Planning Report

12 July, 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
4,826.0	1.10	139.70	4,824.0	7.8	19.0	0.00	0.00	0.00	0.00	
4,901.9	5.00	200.00	4,899.8	4.2	18.3	6.00	5.14	79.41	72.38	
4,951.9	5.00	200.00	4,949.6	0.1	16.8	0.00	0.00	0.00	0.00	
5,099.8	5.00	200.00	5,096.9	-12.0	12.4	0.00	0.00	0.00	0.00	
5,875.3	90.00	178.93	5,575.0	-531.2	7.1	11.00	10.96	-2.72	-21.14	
5,876.1	90.00	178.93	5,575.0	-532.0	7.1	0.00	0.00	0.00	0.00	
5,904.2	90.00	179.21	5,575.0	-560.1	7.6	1.00	0.00	1.00	90.00	
9,601.8	90.00	179.21	5,575.0	-4,257.4	58.4	0.00	0.00	0.00	0.00	BHL 660'FSL & 214

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail 16B-1610B
Company:	Whiting Oil & Gas	TVD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Project:	SEC.16-T10N-R57W	MD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Site:	Horsetail 16B PAD Sec.16-T10N-R57W	North Reference:	True
Well:	Horsetail 16B-1610B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2		
Design:	Plan #3 Sidetrack (7-12-13)		

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)	
4,826.0	1.10	139.70	4,824.0	7.8	19.0	-7.6	0.00	0.00	0.00	
Sidetrack Point - SHL 395'FNL & 2158'FEL										
4,900.0	4.89	199.71	4,897.9	4.3	18.4	-4.1	6.00	5.12	81.10	
4,901.9	5.00	200.00	4,899.8	4.2	18.3	-3.9	6.00	5.86	14.79	
4,951.9	5.00	200.00	4,949.6	0.1	16.8	0.2	0.00	0.00	0.00	
5,000.0	5.00	200.00	4,997.5	-3.9	15.4	4.1	0.00	0.00	0.00	
5,099.8	5.00	200.00	5,096.9	-12.0	12.4	12.2	0.00	0.00	0.00	
5,100.0	5.00	200.00	5,097.1	-12.1	12.4	12.2	0.00	0.00	0.00	
5,200.0	15.79	185.32	5,195.3	-29.8	9.7	29.9	11.03	10.79	-14.68	
5,300.0	26.75	182.51	5,288.4	-65.9	7.4	66.0	11.00	10.96	-2.81	
5,400.0	37.74	181.26	5,372.8	-119.2	5.8	119.2	11.00	10.98	-1.25	
5,500.0	48.73	180.51	5,445.6	-187.6	4.7	187.6	11.00	10.99	-0.75	
5,600.0	59.72	179.98	5,503.9	-268.6	4.4	268.6	11.00	11.00	-0.53	
5,700.0	70.72	179.56	5,545.8	-359.2	4.8	359.2	11.00	11.00	-0.42	
5,800.0	81.72	179.19	5,569.6	-456.2	5.9	456.2	11.00	11.00	-0.37	
5,875.3	90.00	178.93	5,575.0	-531.2	7.1	531.2	11.00	11.00	-0.35	
5,876.1	90.00	178.93	5,575.0	-532.0	7.1	532.1	0.00	0.00	0.00	
End of Build - 7"										
5,900.0	90.00	179.17	5,575.0	-555.9	7.5	556.0	1.00	0.00	1.00	
5,904.2	90.00	179.21	5,575.0	-560.1	7.6	560.1	1.00	0.00	1.00	
6,000.0	90.00	179.21	5,575.0	-655.9	8.9	656.0	0.00	0.00	0.00	
6,100.0	90.00	179.21	5,575.0	-755.9	10.2	756.0	0.00	0.00	0.00	
6,200.0	90.00	179.21	5,575.0	-855.9	11.6	856.0	0.00	0.00	0.00	
6,300.0	90.00	179.21	5,575.0	-955.9	13.0	956.0	0.00	0.00	0.00	
6,400.0	90.00	179.21	5,575.0	-1,055.9	14.4	1,056.0	0.00	0.00	0.00	
6,500.0	90.00	179.21	5,575.0	-1,155.9	15.7	1,156.0	0.00	0.00	0.00	
6,600.0	90.00	179.21	5,575.0	-1,255.8	17.1	1,256.0	0.00	0.00	0.00	
6,700.0	90.00	179.21	5,575.0	-1,355.8	18.5	1,356.0	0.00	0.00	0.00	
6,800.0	90.00	179.21	5,575.0	-1,455.8	19.9	1,456.0	0.00	0.00	0.00	
6,900.0	90.00	179.21	5,575.0	-1,555.8	21.2	1,556.0	0.00	0.00	0.00	
7,000.0	90.00	179.21	5,575.0	-1,655.8	22.6	1,656.0	0.00	0.00	0.00	
7,100.0	90.00	179.21	5,575.0	-1,755.8	24.0	1,756.0	0.00	0.00	0.00	
7,200.0	90.00	179.21	5,575.0	-1,855.8	25.4	1,856.0	0.00	0.00	0.00	
7,300.0	90.00	179.21	5,575.0	-1,955.8	26.7	1,956.0	0.00	0.00	0.00	
7,400.0	90.00	179.21	5,575.0	-2,055.8	28.1	2,056.0	0.00	0.00	0.00	
7,500.0	90.00	179.21	5,575.0	-2,155.8	29.5	2,156.0	0.00	0.00	0.00	
7,600.0	90.00	179.21	5,575.0	-2,255.7	30.9	2,256.0	0.00	0.00	0.00	
7,700.0	90.00	179.21	5,575.0	-2,355.7	32.2	2,356.0	0.00	0.00	0.00	
7,800.0	90.00	179.21	5,575.0	-2,455.7	33.6	2,456.0	0.00	0.00	0.00	
7,900.0	90.00	179.21	5,575.0	-2,555.7	35.0	2,556.0	0.00	0.00	0.00	
8,000.0	90.00	179.21	5,575.0	-2,655.7	36.4	2,656.0	0.00	0.00	0.00	
8,100.0	90.00	179.21	5,575.0	-2,755.7	37.7	2,756.0	0.00	0.00	0.00	
8,200.0	90.00	179.21	5,575.0	-2,855.7	39.1	2,856.0	0.00	0.00	0.00	
8,300.0	90.00	179.21	5,575.0	-2,955.7	40.5	2,956.0	0.00	0.00	0.00	
8,400.0	90.00	179.21	5,575.0	-3,055.7	41.9	3,056.0	0.00	0.00	0.00	
8,500.0	90.00	179.21	5,575.0	-3,155.7	43.2	3,156.0	0.00	0.00	0.00	
8,600.0	90.00	179.21	5,575.0	-3,255.7	44.6	3,256.0	0.00	0.00	0.00	
8,700.0	90.00	179.21	5,575.0	-3,355.6	46.0	3,356.0	0.00	0.00	0.00	
8,800.0	90.00	179.21	5,575.0	-3,455.6	47.4	3,456.0	0.00	0.00	0.00	
8,900.0	90.00	179.21	5,575.0	-3,555.6	48.7	3,556.0	0.00	0.00	0.00	
9,000.0	90.00	179.21	5,575.0	-3,655.6	50.1	3,656.0	0.00	0.00	0.00	
9,100.0	90.00	179.21	5,575.0	-3,755.6	51.5	3,756.0	0.00	0.00	0.00	
9,200.0	90.00	179.21	5,575.0	-3,855.6	52.9	3,856.0	0.00	0.00	0.00	
9,300.0	90.00	179.21	5,575.0	-3,955.6	54.2	3,956.0	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Horsetail 16B-1610B
Company:	Whiting Oil & Gas	TVD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Project:	SEC.16-T10N-R57W	MD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Site:	Horsetail 16B PAD Sec.16-T10N-R57W	North Reference:	True
Well:	Horsetail 16B-1610B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2		
Design:	Plan #3 Sidetrack (7-12-13)		

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)
9,400.0	90.00	179.21	5,575.0	-4,055.6	55.6	4,056.0	0.00	0.00	0.00
9,500.0	90.00	179.21	5,575.0	-4,155.6	57.0	4,156.0	0.00	0.00	0.00
9,600.0	90.00	179.21	5,575.0	-4,255.6	58.4	4,256.0	0.00	0.00	0.00
9,601.8	90.00	179.21	5,575.0	-4,257.4	58.4	4,257.8	0.00	0.00	0.00
BHL 660'FSL & 2145'FEL									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 395'FNL & 2158'	0.00	0.00	1.8	0.0	0.0	1,555,534.17	3,482,913.23	40.845272	-103.754508
- plan misses target center by 4822.2ft at 4826.0ft MD (4824.0 TVD, 7.8 N, 19.0 E)									
- Point									
BHL 660'FSL & 2145'I	0.00	0.00	5,575.0	-4,257.4	58.4	1,551,278.70	3,483,055.41	40.833587	-103.754297
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
5,876.1	5,575.0	7"		7	7-1/2

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,826.0	4,824.0	7.8	19.0	Sidetrack Point
5,876.1	5,575.0	-532.0	7.1	End of Build



Whiting Oil & Gas

SEC.16-T10N-R57W

Horsetail 16B PAD Sec.16-T10N-R57W

Horsetail 16B-1610B

Wellbore #2

Plan #3 Sidetrack (7-12-13)

Anticollision Report

12 July, 2013

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Horsetail 16B-1610B
Project:	SEC.16-T10N-R57W	TVD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Reference Site:	Horsetail 16B PAD Sec.16-T10N-R57W	MD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail 16B-1610B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2	Database:	Landmark
Reference Design:	Plan #3 Sidetrack (7-12-13)	Offset TVD Reference:	Offset Datum

Reference	Plan #3 Sidetrack (7-12-13)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 7/12/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
185.0	4,826.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard
4,826.0	9,601.8	Plan #3 Sidetrack (7-12-13) (Wellbore #2)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Horsetail 16B PAD Sec.16-T10N-R57W						
Horsetail 16B-1610B - Wellbore #1 - Wellbore #1	4,826.0	4,826.0	0.3			
Horsetail 16B-1610B - Wellbore #1 - Wellbore #1	4,900.0	4,899.9	2.9	2.6	10.101	SF

Offset Design												Offset Site Error:		0.0 ft
Survey Program: 185-MWD												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		
4,826.0	4,824.0	4,826.0	4,824.0	0.0	0.0	-133.45	7.8	19.0	0.3					
4,900.0	4,897.9	4,899.9	4,897.9	0.2	0.2	-170.35	6.9	19.8	2.9	2.6	0.29	10.101	SF	
5,000.0	4,997.5	4,999.8	4,997.7	0.4	0.4	-169.17	5.6	21.1	11.0	10.3	0.72	15.391		
5,100.0	5,097.1	5,099.5	5,096.3	0.6	0.6	-128.94	-7.0	26.9	15.3	14.1	1.17	13.073		
5,200.0	5,195.3	5,193.6	5,186.2	0.8	0.9	-95.25	-27.1	45.8	37.3	35.7	1.61	23.221		
5,300.0	5,288.4	5,288.2	5,270.5	1.0	1.4	-89.49	-60.4	72.0	67.2	65.2	2.00	33.557		
5,400.0	5,372.8	5,390.8	5,352.9	1.4	2.2	-84.94	-115.9	96.5	92.9	90.4	2.50	37.149		
5,500.0	5,445.6	5,505.9	5,432.6	1.9	3.1	-81.02	-198.1	106.4	103.1	99.6	3.42	30.147		
5,600.0	5,503.9	5,605.1	5,489.7	2.5	3.8	-80.13	-279.0	105.6	102.7	97.8	4.88	21.039		
5,700.0	5,545.8	5,712.3	5,545.2	3.4	4.5	-87.25	-370.4	98.9	94.7	87.8	6.92	13.697		
5,722.7	5,552.8	5,724.0	5,550.3	3.7	4.5	-88.37	-380.8	97.6	92.7	85.4	7.30	12.697		
5,800.0	5,569.6	5,724.0	5,550.3	4.5	4.5	-84.85	-380.8	97.6	120.3	112.1	8.15	14.765		
5,900.0	5,575.0	5,724.0	5,550.3	5.8	4.5	-75.09	-380.8	97.6	198.4	189.2	9.21	21.558		
6,000.0	5,575.0	5,724.0	5,550.3	7.0	4.5	-75.07	-380.8	97.6	290.1	279.6	10.44	27.789		
6,100.0	5,575.0	5,724.0	5,550.3	8.5	4.5	-75.07	-380.8	97.6	385.9	374.0	11.86	32.530		
6,200.0	5,575.0	5,724.0	5,550.3	10.0	4.5	-75.07	-380.8	97.6	483.4	470.0	13.36	36.172		
6,300.0	5,575.0	5,724.0	5,550.3	11.7	4.5	-75.07	-380.8	97.6	581.8	566.8	14.93	38.976		
6,400.0	5,575.0	5,724.0	5,550.3	13.3	4.5	-75.07	-380.8	97.6	680.6	664.1	16.54	41.158		
6,500.0	5,575.0	5,724.0	5,550.3	15.0	4.5	-75.07	-380.8	97.6	779.7	761.5	18.18	42.878		
6,600.0	5,575.0	5,724.0	5,550.3	16.7	4.5	-75.07	-380.8	97.6	879.0	859.2	19.86	44.253		
6,700.0	5,575.0	5,724.0	5,550.3	18.5	4.5	-75.07	-380.8	97.6	978.5	956.9	21.57	45.365		
6,800.0	5,575.0	5,724.0	5,550.3	20.3	4.5	-75.07	-380.8	97.6	1,078.1	1,054.8	23.30	46.277		
6,900.0	5,575.0	5,724.0	5,550.3	22.1	4.5	-75.07	-380.8	97.6	1,177.7	1,152.7	25.04	47.033		
7,000.0	5,575.0	5,724.0	5,550.3	23.9	4.5	-75.07	-380.8	97.6	1,277.4	1,250.6	26.80	47.667		

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 16B-1610B
Project:	SEC.16-T10N-R57W	TVD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Reference Site:	Horsetail 16B PAD Sec.16-T10N-R57W	MD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail 16B-1610B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2	Database:	Landmark
Reference Design:	Plan #3 Sidetrack (7-12-13)	Offset TVD Reference:	Offset Datum

Offset Design Horsetail 16B PAD Sec.16-T10N-R57W - Horsetail 16B-1610B - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 185-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
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	Warning
7,100.0	5,575.0	5,724.0	5,550.3	25.7	4.5	-75.07	-380.8	97.6	1,377.2	1,348.6	28.57	48.203	
7,200.0	5,575.0	5,724.0	5,550.3	27.5	4.5	-75.07	-380.8	97.6	1,476.9	1,446.6	30.35	48.660	
7,300.0	5,575.0	5,724.0	5,550.3	29.4	4.5	-75.07	-380.8	97.6	1,576.7	1,544.6	32.14	49.053	
7,400.0	5,575.0	5,724.0	5,550.3	31.2	4.5	-75.07	-380.8	97.6	1,676.6	1,642.6	33.94	49.395	
7,500.0	5,575.0	5,724.0	5,550.3	33.1	4.5	-75.07	-380.8	97.6	1,776.4	1,740.7	35.75	49.692	
7,600.0	5,575.0	5,724.0	5,550.3	35.0	4.5	-75.07	-380.8	97.6	1,876.3	1,838.7	37.56	49.954	
7,700.0	5,575.0	5,724.0	5,550.3	36.8	4.5	-75.07	-380.8	97.6	1,976.1	1,936.8	39.38	50.184	
7,800.0	5,575.0	5,724.0	5,550.3	38.7	4.5	-75.07	-380.8	97.6	2,076.0	2,034.8	41.20	50.389	
7,900.0	5,575.0	5,724.0	5,550.3	40.6	4.5	-75.07	-380.8	97.6	2,175.9	2,132.9	43.03	50.572	
8,000.0	5,575.0	5,724.0	5,550.3	42.5	4.5	-75.07	-380.8	97.6	2,275.8	2,231.0	44.86	50.736	
8,100.0	5,575.0	5,724.0	5,550.3	44.4	4.5	-75.07	-380.8	97.6	2,375.7	2,329.1	46.69	50.884	
8,200.0	5,575.0	5,724.0	5,550.3	46.3	4.5	-75.07	-380.8	97.6	2,475.7	2,427.1	48.53	51.017	
8,300.0	5,575.0	5,724.0	5,550.3	48.1	4.5	-75.07	-380.8	97.6	2,575.6	2,525.2	50.37	51.138	
8,400.0	5,575.0	5,724.0	5,550.3	50.0	4.5	-75.07	-380.8	97.6	2,675.5	2,623.3	52.21	51.249	
8,500.0	5,575.0	5,724.0	5,550.3	51.9	4.5	-75.07	-380.8	97.6	2,775.5	2,721.4	54.05	51.349	
8,600.0	5,575.0	5,724.0	5,550.3	53.8	4.5	-75.07	-380.8	97.6	2,875.4	2,819.5	55.90	51.442	
8,700.0	5,575.0	5,724.0	5,550.3	55.7	4.5	-75.07	-380.8	97.6	2,975.4	2,917.6	57.74	51.526	
8,800.0	5,575.0	5,724.0	5,550.3	57.6	4.5	-75.07	-380.8	97.6	3,075.3	3,015.7	59.59	51.604	
8,900.0	5,575.0	5,724.0	5,550.3	59.6	4.5	-75.07	-380.8	97.6	3,175.3	3,113.8	61.44	51.677	
9,000.0	5,575.0	5,724.0	5,550.3	61.5	4.5	-75.07	-380.8	97.6	3,275.2	3,211.9	63.30	51.743	
9,100.0	5,575.0	5,724.0	5,550.3	63.4	4.5	-75.07	-380.8	97.6	3,375.2	3,310.0	65.15	51.805	
9,200.0	5,575.0	5,724.0	5,550.3	65.3	4.5	-75.07	-380.8	97.6	3,475.1	3,408.1	67.01	51.863	
9,300.0	5,575.0	5,724.0	5,550.3	67.2	4.5	-75.07	-380.8	97.6	3,575.1	3,506.2	68.86	51.917	
9,400.0	5,575.0	5,724.0	5,550.3	69.1	4.5	-75.07	-380.8	97.6	3,675.1	3,604.3	70.72	51.967	
9,500.0	5,575.0	5,724.0	5,550.3	71.0	4.5	-75.07	-380.8	97.6	3,775.0	3,702.5	72.58	52.014	
9,600.0	5,575.0	5,724.0	5,550.3	72.9	4.5	-75.07	-380.8	97.6	3,875.0	3,800.6	74.44	52.057	
9,601.8	5,575.0	5,724.0	5,550.3	73.0	4.5	-75.07	-380.8	97.6	3,876.8	3,802.4	74.47	52.058	

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Horsetail 16B-1610B
Project:	SEC.16-T10N-R57W	TVD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Reference Site:	Horsetail 16B PAD Sec.16-T10N-R57W	MD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail 16B-1610B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2	Database:	Landmark
Reference Design:	Plan #3 Sidetrack (7-12-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 4793.9ft (Cade 21 - KB 17.3') Coordinates are relative to: Horsetail 16B-1610B
 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: 1.13°



Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Horsetail 16B-1610B
Project:	SEC.16-T10N-R57W	TVD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Reference Site:	Horsetail 16B PAD Sec.16-T10N-R57W	MD Reference:	RKB @ 4793.9ft (Cade 21 - KB 17.3')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Horsetail 16B-1610B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2	Database:	Landmark
Reference Design:	Plan #3 Sidetrack (7-12-13)	Offset TVD Reference:	Offset Datum

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