

Whiting Oil & Gas

Well Name: **WILDHORSE #16-42H ALT #1**

Surface Location: WILDHORSE #16-42H ALT #1 PAD 16-9N-59W
North American Datum 1983, US State Plane 1983, Colorado Northern Zone

Ground Elevation: 5069.0

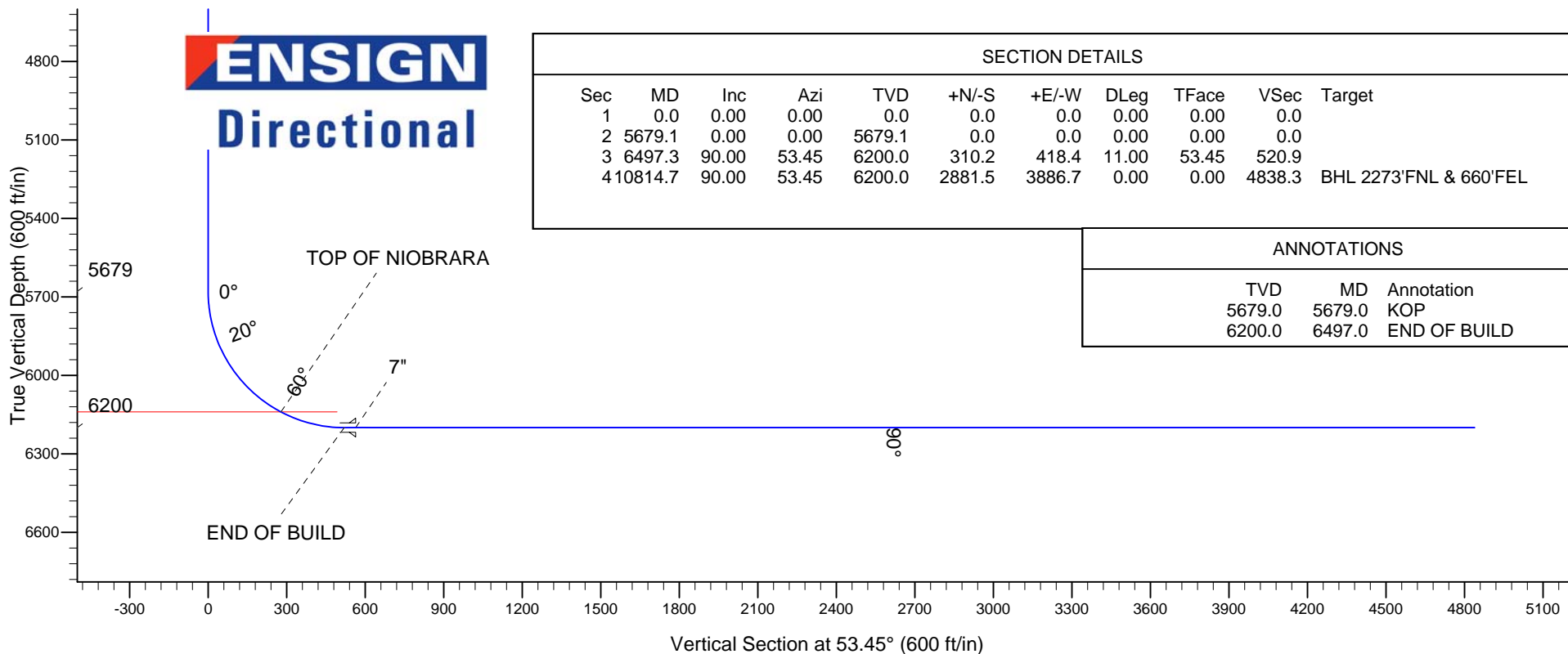
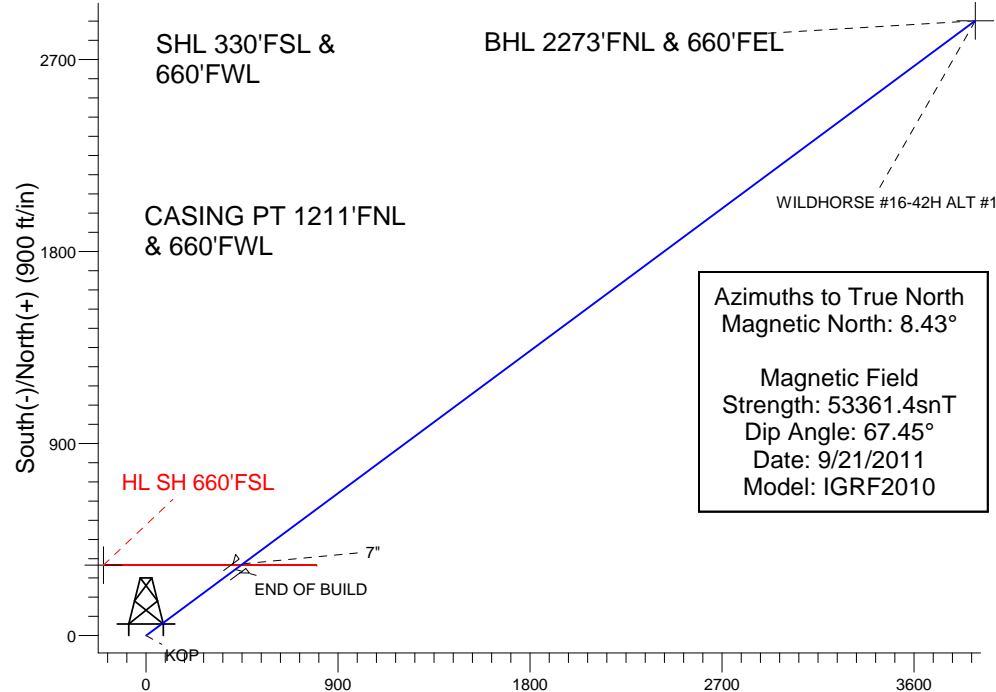
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1517482.96	3418338.63	40.744103	-103.990206	

ENSIGN RIG 14 15' KB RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
HL SH 660'FSL	2.0	330.0	-200.0	40.745009	-103.990928	Polygon
BHL 2273'FNL & 660'FEL	6200.0	2881.5	3886.7	40.752011	-103.976178	Point

WILDHORSE #16-42H ALT #1 PAD 16-9N-59W
WILDHORSE #16-42H ALT #1
PLAN 1 (SEPT 21, 2011)
13:38, September 21 2011





Directional

Whiting Oil & Gas

SEC.16-T9N-R59W

WILDHORSE #16-42H ALT #1 PAD 16-9N-59W

WILDHORSE #16-42H ALT #1

Wellbore #1

Plan: PLAN 1 (SEPT 21, 2011)

Standard Planning Report

21 September, 2011

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	
5,679.1	0.00	0.00	5,679.1	0.0	0.0	0.00	0.00	0.00	0.00	
6,497.3	90.00	53.45	6,200.0	310.2	418.4	11.00	11.00	0.00	53.45	
10,814.7	90.00	53.45	6,200.0	2,881.5	3,886.7	0.00	0.00	0.00	0.00	BHL 2273'FNL & 66

Database:	Landmark	Local Co-ordinate Reference:	Well WILDHORSE #16-42H ALT #1
Company:	Whiting Oil & Gas	TVD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Project:	SEC.16-T9N-R59W	MD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Site:	WILDHORSE #16-42H ALT #1 PAD 16-9N-59W	North Reference:	True
Well:	WILDHORSE #16-42H ALT #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 1 (SEPT 21, 2011)		

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
100.0	0.00	0.00	100.0	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
300.0	0.00	0.00	300.0	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
500.0	0.00	0.00	500.0	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
700.0	0.00	0.00	700.0	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
900.0	0.00	0.00	900.0	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
1,100.0	0.00	0.00	1,100.0	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
1,300.0	0.00	0.00	1,300.0	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
1,500.0	0.00	0.00	1,500.0	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
1,700.0	0.00	0.00	1,700.0	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
1,900.0	0.00	0.00	1,900.0	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
2,100.0	0.00	0.00	2,100.0	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
2,300.0	0.00	0.00	2,300.0	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
2,500.0	0.00	0.00	2,500.0	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
2,700.0	0.00	0.00	2,700.0	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
2,900.0	0.00	0.00	2,900.0	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
3,100.0	0.00	0.00	3,100.0	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
3,300.0	0.00	0.00	3,300.0	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
3,500.0	0.00	0.00	3,500.0	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
3,700.0	0.00	0.00	3,700.0	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
3,900.0	0.00	0.00	3,900.0	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
4,100.0	0.00	0.00	4,100.0	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
4,300.0	0.00	0.00	4,300.0	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
4,500.0	0.00	0.00	4,500.0	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
4,700.0	0.00	0.00	4,700.0	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
4,900.0	0.00	0.00	4,900.0	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
5,100.0	0.00	0.00	5,100.0	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

Database:	Landmark	Local Co-ordinate Reference:	Well WILDHORSE #16-42H ALT #1
Company:	Whiting Oil & Gas	TVD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Project:	SEC.16-T9N-R59W	MD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Site:	WILDHORSE #16-42H ALT #1 PAD 16-9N-59W	North Reference:	True
Well:	WILDHORSE #16-42H ALT #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 1 (SEPT 21, 2011)		

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)
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,679.1	0.00	0.00	5,679.1	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	2.30	53.45	5,700.0	0.2	0.3	0.4	11.00	11.00	0.00
5,800.0	13.30	53.45	5,798.9	8.3	11.2	14.0	11.00	11.00	0.00
5,900.0	24.30	53.45	5,893.4	27.5	37.1	46.1	11.00	11.00	0.00
6,000.0	35.30	53.45	5,980.1	57.0	76.9	95.7	11.00	11.00	0.00
6,100.0	46.30	53.45	6,055.7	95.9	129.3	161.0	11.00	11.00	0.00
6,200.0	57.30	53.45	6,117.4	142.6	192.3	239.4	11.00	11.00	0.00
6,244.8	62.23	53.45	6,140.0	165.7	223.5	278.2	11.00	11.00	0.00
TOP OF NIOBRARA									
6,300.0	68.30	53.45	6,163.1	195.5	263.7	328.2	11.00	11.00	0.00
6,400.0	79.30	53.45	6,190.9	252.6	340.7	424.1	11.00	11.00	0.00
6,497.3	90.00	53.45	6,200.0	310.2	418.4	520.9	11.00	11.00	0.00
6,500.0	90.00	53.45	6,200.0	311.8	420.6	523.6	0.00	0.00	0.00
6,540.0	90.00	53.45	6,200.0	335.6	452.7	563.6	0.00	0.00	0.00
7"									
6,600.0	90.00	53.45	6,200.0	371.4	500.9	623.6	0.00	0.00	0.00
6,700.0	90.00	53.45	6,200.0	430.9	581.2	723.6	0.00	0.00	0.00
6,800.0	90.00	53.45	6,200.0	490.5	661.6	823.6	0.00	0.00	0.00
6,900.0	90.00	53.45	6,200.0	550.0	741.9	923.6	0.00	0.00	0.00
7,000.0	90.00	53.45	6,200.0	609.6	822.2	1,023.6	0.00	0.00	0.00
7,100.0	90.00	53.45	6,200.0	669.1	902.6	1,123.6	0.00	0.00	0.00
7,200.0	90.00	53.45	6,200.0	728.7	982.9	1,223.6	0.00	0.00	0.00
7,300.0	90.00	53.45	6,200.0	788.2	1,063.2	1,323.6	0.00	0.00	0.00
7,400.0	90.00	53.45	6,200.0	847.8	1,143.6	1,423.6	0.00	0.00	0.00
7,500.0	90.00	53.45	6,200.0	907.4	1,223.9	1,523.6	0.00	0.00	0.00
7,600.0	90.00	53.45	6,200.0	966.9	1,304.2	1,623.6	0.00	0.00	0.00
7,700.0	90.00	53.45	6,200.0	1,026.5	1,384.6	1,723.6	0.00	0.00	0.00
7,800.0	90.00	53.45	6,200.0	1,086.0	1,464.9	1,823.6	0.00	0.00	0.00
7,900.0	90.00	53.45	6,200.0	1,145.6	1,545.2	1,923.6	0.00	0.00	0.00
8,000.0	90.00	53.45	6,200.0	1,205.1	1,625.6	2,023.6	0.00	0.00	0.00
8,100.0	90.00	53.45	6,200.0	1,264.7	1,705.9	2,123.6	0.00	0.00	0.00
8,200.0	90.00	53.45	6,200.0	1,324.2	1,786.2	2,223.6	0.00	0.00	0.00
8,300.0	90.00	53.45	6,200.0	1,383.8	1,866.6	2,323.6	0.00	0.00	0.00
8,400.0	90.00	53.45	6,200.0	1,443.4	1,946.9	2,423.6	0.00	0.00	0.00
8,500.0	90.00	53.45	6,200.0	1,502.9	2,027.2	2,523.6	0.00	0.00	0.00
8,600.0	90.00	53.45	6,200.0	1,562.5	2,107.5	2,623.6	0.00	0.00	0.00
8,700.0	90.00	53.45	6,200.0	1,622.0	2,187.9	2,723.6	0.00	0.00	0.00
8,800.0	90.00	53.45	6,200.0	1,681.6	2,268.2	2,823.6	0.00	0.00	0.00
8,900.0	90.00	53.45	6,200.0	1,741.1	2,348.5	2,923.6	0.00	0.00	0.00
9,000.0	90.00	53.45	6,200.0	1,800.7	2,428.9	3,023.6	0.00	0.00	0.00
9,100.0	90.00	53.45	6,200.0	1,860.2	2,509.2	3,123.6	0.00	0.00	0.00
9,200.0	90.00	53.45	6,200.0	1,919.8	2,589.5	3,223.6	0.00	0.00	0.00
9,300.0	90.00	53.45	6,200.0	1,979.4	2,669.9	3,323.6	0.00	0.00	0.00
9,400.0	90.00	53.45	6,200.0	2,038.9	2,750.2	3,423.6	0.00	0.00	0.00
9,500.0	90.00	53.45	6,200.0	2,098.5	2,830.5	3,523.6	0.00	0.00	0.00
9,600.0	90.00	53.45	6,200.0	2,158.0	2,910.9	3,623.6	0.00	0.00	0.00
9,700.0	90.00	53.45	6,200.0	2,217.6	2,991.2	3,723.6	0.00	0.00	0.00
9,800.0	90.00	53.45	6,200.0	2,277.1	3,071.5	3,823.6	0.00	0.00	0.00
9,900.0	90.00	53.45	6,200.0	2,336.7	3,151.9	3,923.6	0.00	0.00	0.00

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Company:	Whiting Oil & Gas	TVD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Project:	SEC.16-T9N-R59W	MD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Site:	WILDHORSE #16-42H ALT #1 PAD 16-9N-59W	North Reference:	True
Well:	WILDHORSE #16-42H ALT #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 1 (SEPT 21, 2011)		

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)
10,000.0	90.00	53.45	6,200.0	2,396.2	3,232.2	4,023.6	0.00	0.00	0.00
10,100.0	90.00	53.45	6,200.0	2,455.8	3,312.5	4,123.6	0.00	0.00	0.00
10,200.0	90.00	53.45	6,200.0	2,515.4	3,392.9	4,223.6	0.00	0.00	0.00
10,300.0	90.00	53.45	6,200.0	2,574.9	3,473.2	4,323.6	0.00	0.00	0.00
10,400.0	90.00	53.45	6,200.0	2,634.5	3,553.5	4,423.6	0.00	0.00	0.00
10,500.0	90.00	53.45	6,200.0	2,694.0	3,633.8	4,523.6	0.00	0.00	0.00
10,600.0	90.00	53.45	6,200.0	2,753.6	3,714.2	4,623.6	0.00	0.00	0.00
10,700.0	90.00	53.45	6,200.0	2,813.1	3,794.5	4,723.6	0.00	0.00	0.00
10,800.0	90.00	53.45	6,200.0	2,872.7	3,874.8	4,823.6	0.00	0.00	0.00
10,814.7	90.00	53.45	6,200.0	2,881.5	3,886.7	4,838.3	0.00	0.00	0.00

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									
HL SH 660'FSL	0.00	0.00	2.0	330.0	-200.0	1,517,809.50	3,418,133.04	40.745009	-103.990928
- plan misses target center by 385.9ft at 2.0ft MD (2.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			2.0	0.0	0.0	1,517,809.50	3,418,133.04		
Point 2			2.0	0.0	1,000.0	1,517,826.53	3,419,132.89		
BHL 2273'FNL & 660'	0.00	0.00	6,200.0	2,881.5	3,886.7	1,520,430.15	3,422,175.67	40.752011	-103.976178
- plan hits target center									
- Point									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,540.0	6,200.0	7"	7	8-3/4

Formations				
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)
6,244.8	6,140.0	TOP OF NIOBRARA		0.00