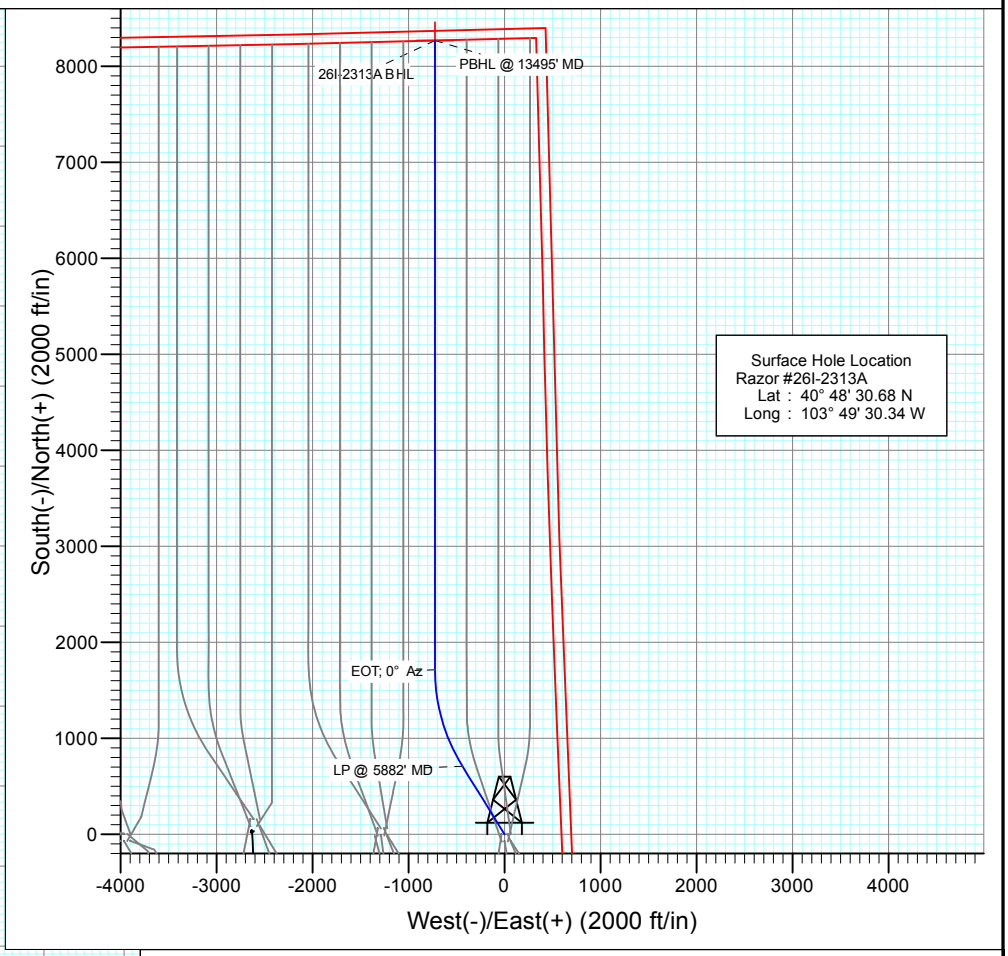
WHITING PETROLEUM CORPORATION

Project: Weld County, CO
Site: S26-T10N-R58W
Well: Razor #26I-2313A
Wellbore: HZ
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	700.0	4.00	328.25	699.8	5.9	-3.7	2.00	328.25	6.2	
4	5100.3	4.00	328.25	5089.4	266.9	-165.2	0.00	0.00	280.3	
5	5882.1	90.00	328.25	5574.0	708.8	-438.6	11.00	0.00	744.4	
6	6940.5	90.00	0.00	5574.0	1713.8	-724.4	3.00	90.00	1770.5	
7	13495.1	90.00	0.00	5574.0	8268.5	-724.4	0.00	0.00	8300.1	26I-2313A BHL



Surface Hole Location
Razor #26I-2313A
Lat : 40° 48' 30.68 N
Long : 103° 49' 30.34 W

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
26I-2313A BHL	8268.5	-724.4	1550042.01	3462922.37	40° 49' 52.50 N	103° 49' 37.73 W

T G M
Azimuths to Grid North
True North: -1.08°
Magnetic North: 7.04°

Magnetic Field
Strength: 53237.0snT
Dip Angle: 67.46°
Date: 5/20/2013
Model: IGRF2010

Plan #1
Razor #26I-2313A
135XXX; SC
KB=16.5' @ 4728.2ft (Original Well Elev)
Ground Elevation @ 4711.7
North American Datum 1983
Well Razor Federal #26I-2313A, Grid North

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Project Weld County, CO

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site S26-T10N-R58W

Site Position:		**Northing:**	1,541,777.36 ft	**Latitude:**	40° 48' 31.46 N
From:	Lat/Long	**Easting:**	3,459,649.47 ft	**Longitude:**	103° 50' 22.31 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.07 °

Well Razor #26I-2313A

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,541,773.54 ft	**Latitude:**	40° 48' 30.68 N
	+E/-W	0.0 ft	**Easting:**	3,463,646.75 ft	**Longitude:**	103° 49' 30.34 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,711.7 ft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/20/2013	8.12	67.46	53,237

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	354.99

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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
700.0	4.00	328.25	699.8	5.9	-3.7	2.00	2.00	0.00	328.25	
5,100.3	4.00	328.25	5,089.4	266.9	-165.2	0.00	0.00	0.00	0.00	
5,882.1	90.00	328.25	5,574.0	708.8	-438.6	11.00	11.00	0.00	0.00	
6,940.5	90.00	0.00	5,574.0	1,713.8	-724.4	3.00	0.00	3.00	90.00	
13,495.1	90.00	0.00	5,574.0	8,268.5	-724.4	0.00	0.00	0.00	0.00	26I-2313A BHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 500' MD
600.0	2.00	328.25	600.0	1.5	-0.9	1.6	2.00	2.00	
700.0	4.00	328.25	699.8	5.9	-3.7	6.2	2.00	2.00	EOB; 4°
800.0	4.00	328.25	799.6	11.9	-7.3	12.5	0.00	0.00	
900.0	4.00	328.25	899.4	17.8	-11.0	18.7	0.00	0.00	
1,000.0	4.00	328.25	999.1	23.7	-14.7	24.9	0.00	0.00	
1,100.0	4.00	328.25	1,098.9	29.7	-18.4	31.2	0.00	0.00	
1,200.0	4.00	328.25	1,198.6	35.6	-22.0	37.4	0.00	0.00	
1,300.0	4.00	328.25	1,298.4	41.5	-25.7	43.6	0.00	0.00	
1,400.0	4.00	328.25	1,398.1	47.5	-29.4	49.8	0.00	0.00	
1,500.0	4.00	328.25	1,497.9	53.4	-33.0	56.1	0.00	0.00	
1,600.0	4.00	328.25	1,597.6	59.3	-36.7	62.3	0.00	0.00	
1,700.0	4.00	328.25	1,697.4	65.3	-40.4	68.5	0.00	0.00	
1,800.0	4.00	328.25	1,797.2	71.2	-44.0	74.8	0.00	0.00	
1,900.0	4.00	328.25	1,896.9	77.1	-47.7	81.0	0.00	0.00	
2,000.0	4.00	328.25	1,996.7	83.0	-51.4	87.2	0.00	0.00	
2,100.0	4.00	328.25	2,096.4	89.0	-55.1	93.4	0.00	0.00	
2,200.0	4.00	328.25	2,196.2	94.9	-58.7	99.7	0.00	0.00	
2,300.0	4.00	328.25	2,295.9	100.8	-62.4	105.9	0.00	0.00	
2,400.0	4.00	328.25	2,395.7	106.8	-66.1	112.1	0.00	0.00	
2,500.0	4.00	328.25	2,495.5	112.7	-69.7	118.4	0.00	0.00	
2,600.0	4.00	328.25	2,595.2	118.6	-73.4	124.6	0.00	0.00	
2,700.0	4.00	328.25	2,695.0	124.6	-77.1	130.8	0.00	0.00	
2,800.0	4.00	328.25	2,794.7	130.5	-80.8	137.1	0.00	0.00	
2,900.0	4.00	328.25	2,894.5	136.4	-84.4	143.3	0.00	0.00	
3,000.0	4.00	328.25	2,994.2	142.4	-88.1	149.5	0.00	0.00	
3,100.0	4.00	328.25	3,094.0	148.3	-91.8	155.7	0.00	0.00	
3,200.0	4.00	328.25	3,193.8	154.2	-95.4	162.0	0.00	0.00	
3,300.0	4.00	328.25	3,293.5	160.2	-99.1	168.2	0.00	0.00	
3,400.0	4.00	328.25	3,393.3	166.1	-102.8	174.4	0.00	0.00	
3,500.0	4.00	328.25	3,493.0	172.0	-106.5	180.7	0.00	0.00	
3,600.0	4.00	328.25	3,592.8	178.0	-110.1	186.9	0.00	0.00	
3,700.0	4.00	328.25	3,692.5	183.9	-113.8	193.1	0.00	0.00	
3,800.0	4.00	328.25	3,792.3	189.8	-117.5	199.3	0.00	0.00	
3,900.0	4.00	328.25	3,892.1	195.8	-121.1	205.6	0.00	0.00	
4,000.0	4.00	328.25	3,991.8	201.7	-124.8	211.8	0.00	0.00	
4,100.0	4.00	328.25	4,091.6	207.6	-128.5	218.0	0.00	0.00	
4,200.0	4.00	328.25	4,191.3	213.5	-132.1	224.3	0.00	0.00	
4,300.0	4.00	328.25	4,291.1	219.5	-135.8	230.5	0.00	0.00	
4,400.0	4.00	328.25	4,390.8	225.4	-139.5	236.7	0.00	0.00	
4,500.0	4.00	328.25	4,490.6	231.3	-143.2	243.0	0.00	0.00	
4,600.0	4.00	328.25	4,590.3	237.3	-146.8	249.2	0.00	0.00	
4,700.0	4.00	328.25	4,690.1	243.2	-150.5	255.4	0.00	0.00	
4,800.0	4.00	328.25	4,789.9	249.1	-154.2	261.6	0.00	0.00	
4,900.0	4.00	328.25	4,889.6	255.1	-157.8	267.9	0.00	0.00	
5,000.0	4.00	328.25	4,989.4	261.0	-161.5	274.1	0.00	0.00	
5,100.0	4.00	328.25	5,089.1	266.9	-165.2	280.3	0.00	0.00	

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Project:	Weld County, CO	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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)	Comments / Formations
5,100.3	4.00	328.25	5,089.4	266.9	-165.2	280.3	0.00	0.00	Start 11° Build
5,200.0	14.97	328.25	5,187.6	280.9	-173.8	295.0	11.00	11.00	
5,300.0	25.97	328.25	5,281.2	310.6	-192.2	326.2	11.00	11.00	
5,400.0	36.97	328.25	5,366.3	354.9	-219.6	372.7	11.00	11.00	
5,500.0	47.97	328.25	5,440.0	412.2	-255.1	432.9	11.00	11.00	
5,600.0	58.97	328.25	5,499.4	480.5	-297.3	504.6	11.00	11.00	
5,659.3	65.48	328.25	5,527.0	525.0	-324.9	551.4	11.00	11.00	Top Niobrara
5,700.0	69.97	328.25	5,542.4	557.1	-344.7	585.0	11.00	11.00	
5,800.0	80.97	328.25	5,567.5	639.3	-395.6	671.3	11.00	11.00	
5,882.1	90.00	328.25	5,574.0	708.8	-438.6	744.4	11.00	11.00	LP @ 5882' MD
5,900.0	90.00	328.79	5,574.0	724.1	-448.0	760.4	3.00	0.00	
6,000.0	90.00	331.79	5,574.0	810.9	-497.5	851.2	3.00	0.00	
6,100.0	90.00	334.79	5,574.0	900.2	-542.5	944.1	3.00	0.00	7"
6,200.0	90.00	337.79	5,574.0	991.8	-582.7	1,038.8	3.00	0.00	
6,300.0	90.00	340.79	5,574.0	1,085.3	-618.0	1,135.1	3.00	0.00	
6,400.0	90.00	343.79	5,574.0	1,180.5	-648.5	1,232.6	3.00	0.00	
6,500.0	90.00	346.79	5,574.0	1,277.2	-673.9	1,331.2	3.00	0.00	
6,600.0	90.00	349.79	5,574.0	1,375.2	-694.2	1,430.5	3.00	0.00	
6,700.0	90.00	352.79	5,574.0	1,474.0	-709.3	1,530.3	3.00	0.00	
6,800.0	90.00	355.79	5,574.0	1,573.5	-719.3	1,630.2	3.00	0.00	
6,900.0	90.00	358.79	5,574.0	1,673.4	-724.0	1,730.2	3.00	0.00	
6,940.5	90.00	0.00	5,574.0	1,713.8	-724.4	1,770.5	3.00	0.00	EOT; 0° Az
7,000.0	90.00	0.00	5,574.0	1,773.4	-724.4	1,829.8	0.00	0.00	
7,100.0	90.00	0.00	5,574.0	1,873.4	-724.4	1,929.4	0.00	0.00	
7,200.0	90.00	0.00	5,574.0	1,973.4	-724.4	2,029.0	0.00	0.00	
7,300.0	90.00	0.00	5,574.0	2,073.4	-724.4	2,128.7	0.00	0.00	
7,400.0	90.00	0.00	5,574.0	2,173.4	-724.4	2,228.3	0.00	0.00	
7,500.0	90.00	0.00	5,574.0	2,273.4	-724.4	2,327.9	0.00	0.00	
7,600.0	90.00	0.00	5,574.0	2,373.4	-724.4	2,427.5	0.00	0.00	
7,700.0	90.00	0.00	5,574.0	2,473.4	-724.4	2,527.1	0.00	0.00	
7,800.0	90.00	0.00	5,574.0	2,573.4	-724.4	2,626.8	0.00	0.00	
7,900.0	90.00	0.00	5,574.0	2,673.4	-724.4	2,726.4	0.00	0.00	
8,000.0	90.00	0.00	5,574.0	2,773.4	-724.4	2,826.0	0.00	0.00	
8,100.0	90.00	0.00	5,574.0	2,873.4	-724.4	2,925.6	0.00	0.00	
8,200.0	90.00	0.00	5,574.0	2,973.4	-724.4	3,025.2	0.00	0.00	
8,300.0	90.00	0.00	5,574.0	3,073.4	-724.4	3,124.8	0.00	0.00	
8,400.0	90.00	0.00	5,574.0	3,173.4	-724.4	3,224.5	0.00	0.00	
8,500.0	90.00	0.00	5,574.0	3,273.4	-724.4	3,324.1	0.00	0.00	
8,600.0	90.00	0.00	5,574.0	3,373.4	-724.4	3,423.7	0.00	0.00	
8,700.0	90.00	0.00	5,574.0	3,473.4	-724.4	3,523.3	0.00	0.00	
8,800.0	90.00	0.00	5,574.0	3,573.4	-724.4	3,622.9	0.00	0.00	
8,900.0	90.00	0.00	5,574.0	3,673.4	-724.4	3,722.6	0.00	0.00	
9,000.0	90.00	0.00	5,574.0	3,773.4	-724.4	3,822.2	0.00	0.00	
9,100.0	90.00	0.00	5,574.0	3,873.4	-724.4	3,921.8	0.00	0.00	
9,200.0	90.00	0.00	5,574.0	3,973.4	-724.4	4,021.4	0.00	0.00	
9,300.0	90.00	0.00	5,574.0	4,073.4	-724.4	4,121.0	0.00	0.00	
9,400.0	90.00	0.00	5,574.0	4,173.4	-724.4	4,220.7	0.00	0.00	
9,500.0	90.00	0.00	5,574.0	4,273.4	-724.4	4,320.3	0.00	0.00	
9,600.0	90.00	0.00	5,574.0	4,373.4	-724.4	4,419.9	0.00	0.00	
9,700.0	90.00	0.00	5,574.0	4,473.4	-724.4	4,519.5	0.00	0.00	
9,800.0	90.00	0.00	5,574.0	4,573.4	-724.4	4,619.1	0.00	0.00	
9,900.0	90.00	0.00	5,574.0	4,673.4	-724.4	4,718.7	0.00	0.00	

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Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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)	Comments / Formations
10,000.0	90.00	0.00	5,574.0	4,773.4	-724.4	4,818.4	0.00	0.00	
10,100.0	90.00	0.00	5,574.0	4,873.4	-724.4	4,918.0	0.00	0.00	
10,200.0	90.00	0.00	5,574.0	4,973.4	-724.4	5,017.6	0.00	0.00	
10,300.0	90.00	0.00	5,574.0	5,073.4	-724.4	5,117.2	0.00	0.00	
10,400.0	90.00	0.00	5,574.0	5,173.4	-724.4	5,216.8	0.00	0.00	
10,500.0	90.00	0.00	5,574.0	5,273.4	-724.4	5,316.5	0.00	0.00	
10,600.0	90.00	0.00	5,574.0	5,373.4	-724.4	5,416.1	0.00	0.00	
10,700.0	90.00	0.00	5,574.0	5,473.4	-724.4	5,515.7	0.00	0.00	
10,800.0	90.00	0.00	5,574.0	5,573.4	-724.4	5,615.3	0.00	0.00	
10,900.0	90.00	0.00	5,574.0	5,673.4	-724.4	5,714.9	0.00	0.00	
11,000.0	90.00	0.00	5,574.0	5,773.4	-724.4	5,814.6	0.00	0.00	
11,100.0	90.00	0.00	5,574.0	5,873.4	-724.4	5,914.2	0.00	0.00	
11,200.0	90.00	0.00	5,574.0	5,973.4	-724.4	6,013.8	0.00	0.00	
11,300.0	90.00	0.00	5,574.0	6,073.4	-724.4	6,113.4	0.00	0.00	
11,400.0	90.00	0.00	5,574.0	6,173.4	-724.4	6,213.0	0.00	0.00	
11,500.0	90.00	0.00	5,574.0	6,273.4	-724.4	6,312.6	0.00	0.00	
11,600.0	90.00	0.00	5,574.0	6,373.4	-724.4	6,412.3	0.00	0.00	
11,700.0	90.00	0.00	5,574.0	6,473.4	-724.4	6,511.9	0.00	0.00	
11,800.0	90.00	0.00	5,574.0	6,573.4	-724.4	6,611.5	0.00	0.00	
11,900.0	90.00	0.00	5,574.0	6,673.4	-724.4	6,711.1	0.00	0.00	
12,000.0	90.00	0.00	5,574.0	6,773.4	-724.4	6,810.7	0.00	0.00	
12,100.0	90.00	0.00	5,574.0	6,873.4	-724.4	6,910.4	0.00	0.00	
12,200.0	90.00	0.00	5,574.0	6,973.4	-724.4	7,010.0	0.00	0.00	
12,300.0	90.00	0.00	5,574.0	7,073.4	-724.4	7,109.6	0.00	0.00	
12,400.0	90.00	0.00	5,574.0	7,173.4	-724.4	7,209.2	0.00	0.00	
12,500.0	90.00	0.00	5,574.0	7,273.4	-724.4	7,308.8	0.00	0.00	
12,600.0	90.00	0.00	5,574.0	7,373.4	-724.4	7,408.4	0.00	0.00	
12,700.0	90.00	0.00	5,574.0	7,473.4	-724.4	7,508.1	0.00	0.00	
12,800.0	90.00	0.00	5,574.0	7,573.4	-724.4	7,607.7	0.00	0.00	
12,900.0	90.00	0.00	5,574.0	7,673.4	-724.4	7,707.3	0.00	0.00	
13,000.0	90.00	0.00	5,574.0	7,773.4	-724.4	7,806.9	0.00	0.00	
13,100.0	90.00	0.00	5,574.0	7,873.4	-724.4	7,906.5	0.00	0.00	
13,200.0	90.00	0.00	5,574.0	7,973.4	-724.4	8,006.2	0.00	0.00	
13,300.0	90.00	0.00	5,574.0	8,073.4	-724.4	8,105.8	0.00	0.00	
13,400.0	90.00	0.00	5,574.0	8,173.4	-724.4	8,205.4	0.00	0.00	
13,495.1	90.00	0.00	5,574.0	8,268.5	-724.4	8,300.1	0.00	0.00	PBHL @ 13495' MD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
26I-2313A BHL - plan hits target center - Point	0.00	0.00	5,574.0	8,268.5	-724.4	1,550,042.01	3,462,922.37	40° 49' 52.50 N	103° 49' 37.73 W

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,100.0	5,574.0	7"	0.000	0.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,659.3	5,527.0	Top Niobrara		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
500.0	500.0	0.0	0.0	KOP @ 500' MD
700.0	699.8	5.9	-3.7	EOB; 4°
5,100.3	5,089.4	266.9	-165.2	Start 11° Build
5,882.1	5,574.0	708.8	-438.6	LP @ 5882' MD
6,940.5	5,574.0	1,713.8	-724.4	EOT; 0° Az
13,495.1	5,574.0	8,268.5	-724.4	PBHL @ 13495' MD

Whiting Petroleum Corporation

Weld County, CO
S26-T10N-R58W
Razor #26I-2313A
HZ
Plan #1

Anticollision Report

22 May, 2013

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference	Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 5/22/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	13,495.1	Plan #1 (HZ)	ISCWSA MWD	MWD - ISCWSA

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S26-T10N-R58W						
Razor #26J-2633L - HZ - Plan #1						Out of range
Razor #26K-2305A - HZ - Plan #1						Out of range
Razor #26K-2306B - HZ - Plan #1						Out of range
Razor #26K-2307A - HZ - Plan #1						Out of range
Razor #26K-2308B - HZ - Plan #1						Out of range
Razor #26K-3505A - HZ - Plan #1						Out of range
Razor #26K-3507A - HZ - Plan #1						Out of range
Razor #26K-3508B - HZ - Plan #1						Out of range
Razor #26L-2301A - HZ - Plan #1						Out of range
Razor #26L-2302B - HZ - Plan #1						Out of range
Razor #26L-2303A - HZ - Plan #1						Out of range
Razor #26L-2304B - HZ - Plan #1						Out of range
Razor #26L-3501A - HZ - Plan #1						Out of range
Razor #26L-3502B - HZ - Plan #1						Out of range
Razor #26L-3503A - HZ - Plan #1						Out of range
Razor #26L-3504B - HZ - Plan #1						Out of range
Razor 26-3524H (Existing) - Existing - SURVEYs						Out of range
Razor #26I-2314B - HZ - Plan #1	4,473.2	4,477.5	68.9	48.7	3.409	CC
Razor #26I-2314B - HZ - Plan #1	13,495.1	13,541.5	341.0	34.0	1.111	Level 2, ES, SF
Razor #26I-2315A - HZ - Plan #1	500.0	500.0	66.1	64.1	33.302	CC, ES
Razor #26I-2315A - HZ - Plan #1	5,100.3	5,100.0	192.1	167.3	7.762	SF
Razor #26I-2316B - HZ - Plan #1	500.0	500.0	81.9	79.9	41.235	CC, ES
Razor #26I-2316B - HZ - Plan #1	5,100.3	5,099.9	272.1	247.9	11.235	SF
Razor Federal #26I-3513A - HZ - Plan #1	836.0	835.5	27.8	24.3	7.907	CC, ES
Razor Federal #26I-3513A - HZ - Plan #1	1,000.0	999.1	30.0	25.8	7.023	SF
Razor Federal #26I-3514B - HZ - Plan #1	500.0	500.0	74.9	72.9	37.718	CC, ES
Razor Federal #26I-3514B - HZ - Plan #1	800.0	793.4	93.9	90.6	28.709	SF
Razor Federal #26I-3515A - HZ - Plan #1	500.0	500.0	33.1	31.1	16.651	CC, ES
Razor Federal #26I-3515A - HZ - Plan #1	800.0	799.6	41.9	38.6	12.586	SF
Razor Federal #26I-3516B - HZ - Plan #1	500.0	500.0	99.9	97.9	50.316	CC, ES
Razor Federal #26I-3516B - HZ - Plan #1	1,200.0	1,194.0	142.9	137.8	28.027	SF
Razor Federal #26J-2309A - HZ - Plan #1						Out of range
Razor Federal #26J-2310B - HZ - Plan #1						Out of range
Razor Federal #26J-2311A - HZ - Plan #1						Out of range
Razor Federal #26J-2312B - HZ - Plan #1	13,465.4	13,457.1	342.6	34.9	1.114	Level 2, CC
Razor Federal #26J-2312B - HZ - Plan #1	13,495.1	13,478.3	342.7	34.1	1.111	Level 2, ES, SF
Razor Federal #26J-3509A - HZ - Plan #1						Out of range
Razor Federal #26J-3510B - HZ - Plan #1						Out of range
Razor Federal #26J-3511A - HZ - Plan #1						Out of range
Razor Federal #26J-3512B - HZ - Plan #1						Out of range

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-2314B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-157.76	-75.5	-30.9	81.6				
100.0	100.0	100.0	100.0	0.1	0.1	-157.76	-75.5	-30.9	81.6	81.4	0.19	434.605	
200.0	200.0	200.0	200.0	0.3	0.3	-157.76	-75.5	-30.9	81.6	80.9	0.64	128.005	
300.0	300.0	300.0	300.0	0.5	0.5	-157.76	-75.5	-30.9	81.6	80.5	1.09	75.056	
400.0	400.0	400.0	400.0	0.8	0.8	-157.76	-75.5	-30.9	81.6	80.0	1.54	53.094	
500.0	500.0	500.0	500.0	1.0	1.0	-157.76	-75.5	-30.9	81.6	79.6	1.99	41.075	
600.0	600.0	600.0	600.0	1.2	1.2	-126.97	-75.5	-30.9	82.6	80.2	2.43	33.927	
700.0	699.8	699.8	699.8	1.4	1.4	-129.71	-75.5	-30.9	85.9	83.0	2.89	29.741	
800.0	799.6	802.2	802.2	1.7	1.7	-132.54	-73.8	-31.5	89.0	85.7	3.35	26.596	
900.0	899.4	904.8	904.6	1.9	1.9	-133.93	-68.6	-33.2	89.3	85.5	3.81	23.431	
1,000.0	999.1	1,004.7	1,004.3	2.2	2.1	-134.73	-62.0	-35.4	88.3	84.0	4.28	20.643	
1,100.0	1,098.9	1,104.7	1,104.1	2.4	2.4	-135.54	-55.4	-37.7	87.3	82.6	4.75	18.396	
1,200.0	1,198.6	1,204.7	1,203.8	2.7	2.6	-136.38	-48.7	-39.9	86.4	81.2	5.22	16.551	
1,300.0	1,298.4	1,304.7	1,303.6	2.9	2.9	-137.23	-42.1	-42.1	85.4	79.7	5.69	15.012	
1,400.0	1,398.1	1,404.7	1,403.3	3.2	3.1	-138.10	-35.5	-44.4	84.5	78.3	6.16	13.711	
1,500.0	1,497.9	1,504.7	1,503.0	3.4	3.3	-138.99	-28.9	-46.6	83.6	76.9	6.63	12.599	
1,600.0	1,597.6	1,604.7	1,602.8	3.7	3.6	-139.90	-22.3	-48.8	82.7	75.6	7.11	11.637	
1,700.0	1,697.4	1,704.6	1,702.5	3.9	3.8	-140.83	-15.7	-51.1	81.8	74.2	7.58	10.800	
1,800.0	1,797.2	1,804.6	1,802.3	4.2	4.1	-141.77	-9.1	-53.3	81.0	72.9	8.05	10.064	
1,900.0	1,896.9	1,904.6	1,902.0	4.4	4.3	-142.74	-2.5	-55.5	80.1	71.6	8.51	9.413	
2,000.0	1,996.7	2,004.6	2,001.8	4.7	4.6	-143.73	4.1	-57.7	79.3	70.4	8.98	8.834	
2,100.0	2,096.4	2,104.6	2,101.5	4.9	4.9	-144.74	10.7	-60.0	78.6	69.1	9.45	8.316	
2,200.0	2,196.2	2,204.6	2,201.2	5.2	5.1	-145.76	17.3	-62.2	77.8	67.9	9.91	7.851	
2,300.0	2,295.9	2,304.6	2,301.0	5.5	5.4	-146.81	23.9	-64.4	77.1	66.7	10.37	7.430	
2,400.0	2,395.7	2,404.6	2,400.7	5.7	5.6	-147.88	30.6	-66.7	76.4	65.5	10.84	7.049	
2,500.0	2,495.5	2,504.5	2,500.5	6.0	5.9	-148.96	37.2	-68.9	75.7	64.4	11.30	6.702	
2,600.0	2,595.2	2,604.5	2,600.2	6.2	6.1	-150.07	43.8	-71.1	75.1	63.3	11.76	6.386	
2,700.0	2,695.0	2,704.5	2,700.0	6.5	6.4	-151.19	50.4	-73.4	74.4	62.2	12.21	6.096	
2,800.0	2,794.7	2,804.5	2,799.7	6.7	6.6	-152.34	57.0	-75.6	73.9	61.2	12.67	5.830	
2,900.0	2,894.5	2,904.5	2,899.5	7.0	6.9	-153.50	63.6	-77.8	73.3	60.2	13.12	5.585	
3,000.0	2,994.2	3,004.5	2,999.2	7.2	7.1	-154.67	70.2	-80.1	72.8	59.2	13.58	5.360	
3,100.0	3,094.0	3,104.5	3,098.9	7.5	7.4	-155.87	76.8	-82.3	72.3	58.2	14.03	5.152	
3,200.0	3,193.7	3,204.5	3,198.7	7.8	7.7	-157.08	83.4	-84.5	71.8	57.3	14.48	4.959	
3,300.0	3,293.5	3,304.4	3,298.4	8.0	7.9	-158.30	90.0	-86.7	71.4	56.4	14.93	4.781	
3,400.0	3,393.3	3,404.4	3,398.2	8.3	8.2	-159.54	96.6	-89.0	71.0	55.6	15.38	4.615	
3,500.0	3,493.0	3,504.4	3,497.9	8.5	8.4	-160.80	103.3	-91.2	70.6	54.8	15.83	4.461	
3,600.0	3,592.8	3,604.4	3,597.7	8.8	8.7	-162.06	109.9	-93.4	70.3	54.0	16.28	4.317	
3,700.0	3,692.5	3,704.4	3,697.4	9.0	8.9	-163.34	116.5	-95.7	70.0	53.3	16.73	4.184	
3,800.0	3,792.3	3,804.4	3,797.1	9.3	9.2	-164.63	123.1	-97.9	69.7	52.5	17.17	4.059	
3,900.0	3,892.0	3,904.4	3,896.9	9.6	9.4	-165.92	129.7	-100.1	69.5	51.9	17.62	3.943	
4,000.0	3,991.8	4,004.4	3,996.6	9.8	9.7	-167.23	136.3	-102.4	69.3	51.2	18.07	3.835	
4,100.0	4,091.6	4,104.3	4,096.4	10.1	10.0	-168.54	142.9	-104.6	69.1	50.6	18.52	3.733	
4,200.0	4,191.3	4,204.3	4,196.1	10.3	10.2	-169.85	149.5	-106.8	69.0	50.1	18.97	3.639	
4,300.0	4,291.1	4,304.3	4,295.9	10.6	10.5	-171.17	156.1	-109.0	68.9	49.5	19.42	3.550	
4,400.0	4,390.8	4,404.3	4,395.6	10.8	10.7	-172.50	162.7	-111.3	68.9	49.0	19.88	3.467	
4,473.2	4,463.9	4,477.5	4,468.7	11.0	10.9	-173.47	167.6	-112.9	68.9	48.7	20.21	3.409	CC
4,500.0	4,490.6	4,504.3	4,495.4	11.1	11.0	-173.82	169.3	-113.5	68.9	48.6	20.33	3.389	
4,600.0	4,590.3	4,604.3	4,595.1	11.4	11.2	-175.14	175.9	-115.7	68.9	48.1	20.78	3.316	
4,700.0	4,690.1	4,704.3	4,694.8	11.6	11.5	-176.46	182.6	-118.0	69.0	47.7	21.24	3.248	
4,800.0	4,789.9	4,804.3	4,794.6	11.9	11.7	-177.78	189.2	-120.2	69.1	47.4	21.70	3.184	
4,900.0	4,889.6	4,904.2	4,894.3	12.1	12.0	-179.10	195.8	-122.4	69.2	47.1	22.16	3.124	
5,000.0	4,989.4	5,004.2	4,994.1	12.4	12.3	179.60	202.4	-124.7	69.4	46.8	22.63	3.067	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-2314B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.3	5,089.4	5,104.5	5,094.1	12.6	12.5	178.29	209.0	-126.9	69.6	46.5	23.09	3.014	
5,150.0	5,138.8	5,154.1	5,143.6	12.8	12.6	177.72	212.3	-128.0	72.1	48.9	23.21	3.106	
5,200.0	5,187.6	5,206.4	5,195.7	13.0	12.8	177.24	216.1	-129.3	79.1	55.9	23.14	3.417	
5,250.0	5,235.2	5,264.7	5,253.2	13.2	13.0	176.05	225.0	-132.3	86.7	63.8	22.90	3.785	
5,300.0	5,281.1	5,323.9	5,310.2	13.5	13.2	174.09	240.3	-137.5	93.7	71.2	22.49	4.166	
5,350.0	5,325.0	5,383.9	5,365.7	13.8	13.5	171.48	261.9	-144.8	100.2	78.2	21.97	4.561	
5,400.0	5,366.3	5,444.5	5,418.6	14.2	13.9	168.30	289.7	-154.1	106.2	84.8	21.39	4.965	
5,450.0	5,404.8	5,505.6	5,468.2	14.6	14.4	164.63	323.4	-165.5	111.8	90.9	20.86	5.358	
5,500.0	5,440.0	5,566.9	5,513.4	15.1	14.9	160.53	362.6	-178.7	117.0	96.5	20.54	5.696	
5,550.0	5,471.6	5,628.2	5,553.5	15.6	15.5	156.05	406.5	-193.6	122.1	101.5	20.62	5.921	
5,600.0	5,499.4	5,689.4	5,587.8	16.2	16.2	151.27	454.5	-209.8	127.1	105.9	21.26	5.978	
5,650.0	5,523.1	5,750.4	5,615.9	16.8	16.9	146.25	505.7	-227.0	132.2	109.7	22.57	5.859	
5,700.0	5,542.4	5,810.9	5,637.2	17.5	17.7	141.08	559.4	-245.1	137.5	113.0	24.52	5.607	
5,750.0	5,557.3	5,870.9	5,651.8	18.3	18.6	135.82	614.5	-263.7	143.1	116.1	27.02	5.296	
5,800.0	5,567.5	5,930.2	5,659.6	19.1	19.5	130.55	670.2	-282.5	149.0	119.2	29.89	4.987	
5,850.0	5,573.0	5,984.5	5,661.0	19.9	20.3	125.74	721.5	-299.8	155.6	122.9	32.74	4.754	
5,882.1	5,574.0	6,013.6	5,661.0	20.4	20.7	123.45	749.3	-308.7	161.6	127.3	34.24	4.719	
5,900.0	5,574.0	6,029.8	5,661.0	20.7	21.0	122.61	764.7	-313.4	165.3	130.3	35.02	4.721	
6,000.0	5,574.0	6,119.5	5,661.0	22.3	22.3	118.53	851.2	-337.4	186.7	147.6	39.13	4.771	
6,100.0	5,574.0	6,208.3	5,661.0	23.9	23.6	115.35	937.8	-357.1	208.3	165.3	42.98	4.846	
6,200.0	5,574.0	6,300.0	5,661.0	25.6	25.0	112.74	1,028.1	-373.1	229.8	183.1	46.70	4.921	
6,300.0	5,574.0	6,383.4	5,661.0	27.3	26.3	110.78	1,110.8	-384.0	251.0	201.0	50.07	5.013	
6,400.0	5,574.0	6,469.8	5,661.0	28.9	27.7	109.10	1,196.8	-391.4	271.9	218.6	53.36	5.096	
6,500.0	5,574.0	6,555.4	5,661.0	30.6	29.0	107.70	1,282.4	-394.9	292.3	235.8	56.47	5.176	
6,600.0	5,574.0	6,648.2	5,661.0	32.3	30.5	106.49	1,375.1	-395.2	311.4	251.8	59.58	5.227	
6,700.0	5,574.0	6,747.0	5,661.0	34.0	32.2	105.61	1,474.0	-395.2	326.0	263.4	62.60	5.207	
6,800.0	5,574.0	6,846.5	5,661.0	35.6	33.8	105.08	1,573.4	-395.2	335.6	270.1	65.44	5.128	
6,900.0	5,574.0	6,946.4	5,661.0	37.2	35.5	104.83	1,673.3	-395.2	340.2	272.1	68.07	4.997	
6,940.5	5,574.0	6,986.8	5,661.0	37.8	36.2	104.81	1,713.8	-395.2	340.6	271.5	69.08	4.930	
7,000.0	5,574.0	7,046.4	5,661.0	38.7	37.3	104.81	1,773.3	-395.2	340.6	269.5	71.06	4.793	
7,100.0	5,574.0	7,146.4	5,661.0	40.3	39.0	104.81	1,873.3	-395.2	340.6	266.2	74.41	4.577	
7,200.0	5,574.0	7,246.4	5,661.0	41.9	40.8	104.81	1,973.3	-395.1	340.6	262.8	77.79	4.378	
7,300.0	5,574.0	7,346.4	5,661.0	43.5	42.5	104.81	2,073.3	-395.1	340.6	259.4	81.20	4.194	
7,400.0	5,574.0	7,446.4	5,661.0	45.2	44.3	104.81	2,173.3	-395.1	340.6	256.0	84.64	4.024	
7,500.0	5,574.0	7,546.4	5,661.0	46.9	46.1	104.81	2,273.3	-395.1	340.6	252.5	88.10	3.866	
7,600.0	5,574.0	7,646.4	5,661.0	48.6	47.9	104.81	2,373.3	-395.1	340.6	249.0	91.59	3.719	
7,700.0	5,574.0	7,746.4	5,661.0	50.3	49.7	104.81	2,473.3	-395.1	340.6	245.5	95.09	3.582	
7,800.0	5,574.0	7,846.4	5,661.0	52.0	51.5	104.81	2,573.3	-395.1	340.6	242.0	98.60	3.455	
7,900.0	5,574.0	7,946.4	5,661.0	53.7	53.4	104.81	2,673.3	-395.1	340.6	238.5	102.13	3.335	
8,000.0	5,574.0	8,046.4	5,661.0	55.4	55.2	104.81	2,773.3	-395.1	340.6	235.0	105.68	3.223	
8,100.0	5,574.0	8,146.4	5,661.0	57.2	57.0	104.81	2,873.3	-395.1	340.6	231.4	109.24	3.118	
8,200.0	5,574.0	8,246.4	5,661.0	59.0	58.9	104.81	2,973.3	-395.1	340.6	227.8	112.80	3.020	
8,300.0	5,574.0	8,346.4	5,661.0	60.7	60.7	104.81	3,073.3	-395.1	340.7	224.3	116.38	2.927	
8,400.0	5,574.0	8,446.4	5,661.0	62.5	62.6	104.81	3,173.3	-395.1	340.7	220.7	119.97	2.840	
8,500.0	5,574.0	8,546.4	5,661.0	64.3	64.4	104.81	3,273.3	-395.1	340.7	217.1	123.56	2.757	
8,600.0	5,574.0	8,646.4	5,661.0	66.1	66.3	104.81	3,373.3	-395.1	340.7	213.5	127.17	2.679	
8,700.0	5,574.0	8,746.4	5,661.0	67.9	68.1	104.80	3,473.3	-395.0	340.7	209.9	130.77	2.605	
8,800.0	5,574.0	8,846.4	5,661.0	69.7	70.0	104.80	3,573.3	-395.0	340.7	206.3	134.39	2.535	
8,900.0	5,574.0	8,946.4	5,661.0	71.5	71.9	104.80	3,673.3	-395.0	340.7	202.7	138.01	2.469	
9,000.0	5,574.0	9,046.4	5,661.0	73.3	73.7	104.80	3,773.3	-395.0	340.7	199.1	141.64	2.405	
9,100.0	5,574.0	9,146.4	5,661.0	75.2	75.6	104.80	3,873.3	-395.0	340.7	195.4	145.27	2.345	
9,200.0	5,574.0	9,246.4	5,661.0	77.0	77.5	104.80	3,973.3	-395.0	340.7	191.8	148.91	2.288	

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

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-2314B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
9,300.0	5,574.0	9,346.4	5,661.0	78.8	79.4	104.80	4,073.3	-395.0	340.7	188.2	152.55	2.233	
9,400.0	5,574.0	9,446.4	5,661.0	80.7	81.2	104.80	4,173.3	-395.0	340.7	184.5	156.19	2.181	
9,500.0	5,574.0	9,546.4	5,661.0	82.5	83.1	104.80	4,273.3	-395.0	340.7	180.9	159.84	2.132	
9,600.0	5,574.0	9,646.4	5,661.0	84.4	85.0	104.80	4,373.3	-395.0	340.7	177.2	163.49	2.084	
9,700.0	5,574.0	9,746.4	5,661.0	86.2	86.9	104.80	4,473.3	-395.0	340.7	173.6	167.15	2.039	
9,800.0	5,574.0	9,846.4	5,661.0	88.1	88.8	104.80	4,573.3	-395.0	340.7	169.9	170.81	1.995	
9,900.0	5,574.0	9,946.4	5,661.0	89.9	90.7	104.80	4,673.3	-395.0	340.7	166.3	174.47	1.953	
10,000.0	5,574.0	10,046.4	5,661.0	91.8	92.5	104.80	4,773.3	-395.0	340.8	162.6	178.13	1.913	
10,100.0	5,574.0	10,146.4	5,661.0	93.6	94.4	104.80	4,873.3	-394.9	340.8	159.0	181.80	1.874	
10,200.0	5,574.0	10,246.4	5,661.0	95.5	96.3	104.80	4,973.3	-394.9	340.8	155.3	185.47	1.837	
10,300.0	5,574.0	10,346.4	5,661.0	97.3	98.2	104.80	5,073.3	-394.9	340.8	151.6	189.14	1.802	
10,400.0	5,574.0	10,446.4	5,661.0	99.2	100.1	104.80	5,173.3	-394.9	340.8	148.0	192.81	1.767	
10,500.0	5,574.0	10,546.4	5,661.0	101.1	102.0	104.80	5,273.3	-394.9	340.8	144.3	196.48	1.734	
10,600.0	5,574.0	10,646.4	5,661.0	102.9	103.9	104.80	5,373.3	-394.9	340.8	140.6	200.16	1.703	
10,700.0	5,574.0	10,746.4	5,661.0	104.8	105.8	104.80	5,473.3	-394.9	340.8	137.0	203.84	1.672	
10,800.0	5,574.0	10,846.4	5,661.0	106.7	107.7	104.80	5,573.3	-394.9	340.8	133.3	207.52	1.642	
10,900.0	5,574.0	10,946.4	5,661.0	108.6	109.6	104.79	5,673.3	-394.9	340.8	129.6	211.20	1.614	
11,000.0	5,574.0	11,046.4	5,661.0	110.4	111.5	104.79	5,773.3	-394.9	340.8	125.9	214.89	1.586	
11,100.0	5,574.0	11,146.4	5,661.0	112.3	113.4	104.79	5,873.3	-394.9	340.8	122.2	218.57	1.559	
11,200.0	5,574.0	11,246.4	5,661.0	114.2	115.3	104.79	5,973.3	-394.9	340.8	118.6	222.26	1.533	
11,300.0	5,574.0	11,346.4	5,661.0	116.1	117.2	104.79	6,073.3	-394.9	340.8	114.9	225.94	1.508	
11,400.0	5,574.0	11,446.4	5,661.0	118.0	119.1	104.79	6,173.3	-394.9	340.8	111.2	229.63	1.484	Level 3
11,500.0	5,574.0	11,546.4	5,661.0	119.8	121.0	104.79	6,273.3	-394.9	340.8	107.5	233.32	1.461	Level 3
11,600.0	5,574.0	11,646.4	5,661.0	121.7	122.9	104.79	6,373.3	-394.8	340.8	103.8	237.01	1.438	Level 3
11,700.0	5,574.0	11,746.4	5,661.0	123.6	124.8	104.79	6,473.3	-394.8	340.8	100.1	240.71	1.416	Level 3
11,800.0	5,574.0	11,846.4	5,661.0	125.5	126.7	104.79	6,573.3	-394.8	340.9	96.5	244.40	1.395	Level 3
11,900.0	5,574.0	11,946.4	5,661.0	127.4	128.6	104.79	6,673.3	-394.8	340.9	92.8	248.09	1.374	Level 3
12,000.0	5,574.0	12,046.4	5,661.0	129.3	130.5	104.79	6,773.3	-394.8	340.9	89.1	251.79	1.354	Level 3
12,100.0	5,574.0	12,146.4	5,661.0	131.1	132.4	104.79	6,873.3	-394.8	340.9	85.4	255.48	1.334	Level 3
12,200.0	5,574.0	12,246.4	5,661.0	133.0	134.3	104.79	6,973.3	-394.8	340.9	81.7	259.18	1.315	Level 3
12,300.0	5,574.0	12,346.4	5,661.0	134.9	136.2	104.79	7,073.3	-394.8	340.9	78.0	262.88	1.297	Level 3
12,400.0	5,574.0	12,446.4	5,661.0	136.8	138.1	104.79	7,173.3	-394.8	340.9	74.3	266.58	1.279	Level 3
12,500.0	5,574.0	12,546.4	5,661.0	138.7	140.0	104.79	7,273.3	-394.8	340.9	70.6	270.28	1.261	Level 3
12,600.0	5,574.0	12,646.4	5,661.0	140.6	141.9	104.79	7,373.3	-394.8	340.9	66.9	273.98	1.244	Level 2
12,700.0	5,574.0	12,746.4	5,661.0	142.5	143.8	104.79	7,473.3	-394.8	340.9	63.2	277.68	1.228	Level 2
12,800.0	5,574.0	12,846.4	5,661.0	144.4	145.7	104.79	7,573.3	-394.8	340.9	59.5	281.38	1.212	Level 2
12,900.0	5,574.0	12,946.4	5,661.0	146.3	147.6	104.79	7,673.3	-394.8	340.9	55.8	285.08	1.196	Level 2
13,000.0	5,574.0	13,046.4	5,661.0	148.2	149.5	104.79	7,773.3	-394.7	340.9	52.1	288.78	1.181	Level 2
13,100.0	5,574.0	13,146.4	5,661.0	150.1	151.4	104.79	7,873.3	-394.7	340.9	48.4	292.48	1.166	Level 2
13,200.0	5,574.0	13,246.4	5,661.0	152.0	153.3	104.78	7,973.3	-394.7	340.9	44.7	296.19	1.151	Level 2
13,300.0	5,574.0	13,346.4	5,661.0	153.9	155.2	104.78	8,073.3	-394.7	340.9	41.0	299.89	1.137	Level 2
13,400.0	5,574.0	13,446.4	5,661.0	155.7	157.1	104.78	8,173.3	-394.7	340.9	37.3	303.60	1.123	Level 2
13,495.1	5,574.0	13,541.5	5,661.0	157.6	158.8	104.78	8,268.4	-394.7	341.0	34.0	306.98	1.111	Level 2, ES, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-2315A - HZ - Plan #1 — **Offset Site Error:** 0.0 ft

Survey Program: 0-ISCWSA MWD — **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	88.92	1.2	66.1	66.1				
100.0	100.0	100.0	100.0	0.1	0.1	88.92	1.2	66.1	66.1	65.9	0.19	352.367	
200.0	200.0	200.0	200.0	0.3	0.3	88.92	1.2	66.1	66.1	65.5	0.64	103.784	
300.0	300.0	300.0	300.0	0.5	0.5	88.92	1.2	66.1	66.1	65.0	1.09	60.854	
400.0	400.0	400.0	400.0	0.8	0.8	88.92	1.2	66.1	66.1	64.6	1.54	43.047	
500.0	500.0	500.0	500.0	1.0	1.0	88.92	1.2	66.1	66.1	64.1	1.99	33.302	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	121.94	1.2	66.1	67.0	64.6	2.43	27.549	
700.0	699.8	699.8	699.8	1.4	1.4	125.53	1.2	66.1	69.9	67.1	2.88	24.271	
800.0	799.6	799.6	799.6	1.7	1.7	129.91	1.2	66.1	74.2	70.9	3.33	22.265	
900.0	899.4	899.4	899.4	1.9	1.9	133.79	1.2	66.1	78.9	75.1	3.79	20.826	
1,000.0	999.1	1,000.2	1,000.2	2.2	2.1	136.16	3.0	65.9	83.2	79.0	4.24	19.600	
1,100.0	1,098.9	1,101.3	1,101.2	2.4	2.3	136.14	8.2	65.1	86.2	81.5	4.70	18.325	
1,200.0	1,198.6	1,201.3	1,200.9	2.7	2.6	135.10	15.2	64.2	88.6	83.4	5.17	17.134	
1,300.0	1,298.4	1,301.2	1,300.6	2.9	2.8	134.11	22.1	63.2	91.0	85.4	5.64	16.127	
1,400.0	1,398.1	1,401.2	1,400.3	3.2	3.0	133.17	29.0	62.2	93.4	87.3	6.12	15.267	
1,500.0	1,497.9	1,501.2	1,500.0	3.4	3.3	132.28	35.9	61.2	95.9	89.3	6.60	14.526	
1,600.0	1,597.6	1,601.1	1,599.7	3.7	3.5	131.43	42.8	60.2	98.4	91.3	7.09	13.882	
1,700.0	1,697.4	1,701.1	1,699.5	3.9	3.8	130.63	49.7	59.3	100.9	93.3	7.57	13.318	
1,800.0	1,797.2	1,801.0	1,799.2	4.2	4.0	129.86	56.6	58.3	103.4	95.3	8.07	12.821	
1,900.0	1,896.9	1,901.0	1,898.9	4.4	4.3	129.14	63.5	57.3	105.9	97.4	8.56	12.379	
2,000.0	1,996.7	2,001.0	1,998.6	4.7	4.5	128.44	70.4	56.3	108.5	99.4	9.05	11.985	
2,100.0	2,096.4	2,100.9	2,098.3	4.9	4.8	127.78	77.3	55.4	111.1	101.5	9.55	11.631	
2,200.0	2,196.2	2,200.9	2,198.0	5.2	5.0	127.15	84.2	54.4	113.6	103.6	10.05	11.312	
2,300.0	2,295.9	2,300.8	2,297.7	5.5	5.3	126.54	91.1	53.4	116.2	105.7	10.55	11.023	
2,400.0	2,395.7	2,400.8	2,397.5	5.7	5.5	125.97	98.0	52.4	118.8	107.8	11.05	10.760	
2,500.0	2,495.5	2,500.8	2,497.2	6.0	5.8	125.41	104.9	51.5	121.5	109.9	11.55	10.520	
2,600.0	2,595.2	2,600.7	2,596.9	6.2	6.0	124.88	111.8	50.5	124.1	112.0	12.05	10.300	
2,700.0	2,695.0	2,700.7	2,696.6	6.5	6.3	124.38	118.7	49.5	126.7	114.2	12.55	10.098	
2,800.0	2,794.7	2,800.6	2,796.3	6.7	6.5	123.89	125.6	48.5	129.4	116.3	13.06	9.911	
2,900.0	2,894.5	2,900.6	2,896.0	7.0	6.8	123.42	132.5	47.6	132.0	118.5	13.56	9.739	
3,000.0	2,994.2	3,000.5	2,995.8	7.2	7.0	122.97	139.4	46.6	134.7	120.7	14.06	9.579	
3,100.0	3,094.0	3,100.5	3,095.5	7.5	7.3	122.54	146.3	45.6	137.4	122.8	14.57	9.430	
3,200.0	3,193.7	3,200.5	3,195.2	7.8	7.5	122.13	153.2	44.6	140.1	125.0	15.08	9.292	
3,300.0	3,293.5	3,300.4	3,294.9	8.0	7.8	121.73	160.1	43.6	142.8	127.2	15.58	9.162	
3,400.0	3,393.3	3,400.4	3,394.6	8.3	8.0	121.35	167.0	42.7	145.5	129.4	16.09	9.041	
3,500.0	3,493.0	3,500.3	3,494.3	8.5	8.3	120.98	173.9	41.7	148.2	131.6	16.60	8.928	
3,600.0	3,592.8	3,600.3	3,594.1	8.8	8.6	120.62	180.8	40.7	150.9	133.8	17.10	8.821	
3,700.0	3,692.5	3,700.3	3,693.8	9.0	8.8	120.27	187.8	39.7	153.6	136.0	17.61	8.721	
3,800.0	3,792.3	3,800.2	3,793.5	9.3	9.1	119.94	194.7	38.8	156.3	138.2	18.12	8.627	
3,900.0	3,892.0	3,900.2	3,893.2	9.6	9.3	119.62	201.6	37.8	159.0	140.4	18.63	8.537	
4,000.0	3,991.8	4,000.1	3,992.9	9.8	9.6	119.31	208.5	36.8	161.8	142.6	19.14	8.453	
4,100.0	4,091.6	4,100.1	4,092.6	10.1	9.8	119.01	215.4	35.8	164.5	144.9	19.65	8.373	
4,200.0	4,191.3	4,200.1	4,192.3	10.3	10.1	118.72	222.3	34.9	167.2	147.1	20.15	8.298	
4,300.0	4,291.1	4,300.0	4,292.1	10.6	10.3	118.44	229.2	33.9	170.0	149.3	20.66	8.226	
4,400.0	4,390.8	4,400.0	4,391.8	10.8	10.6	118.17	236.1	32.9	172.7	151.6	21.17	8.158	
4,500.0	4,490.6	4,499.9	4,491.5	11.1	10.8	117.91	243.0	31.9	175.5	153.8	21.68	8.093	
4,600.0	4,590.3	4,599.9	4,591.2	11.4	11.1	117.65	249.9	31.0	178.2	156.0	22.19	8.031	
4,700.0	4,690.1	4,699.9	4,690.9	11.6	11.4	117.40	256.8	30.0	181.0	158.3	22.70	7.972	
4,800.0	4,789.9	4,799.8	4,790.6	11.9	11.6	117.16	263.7	29.0	183.8	160.5	23.21	7.916	
4,900.0	4,889.6	4,899.8	4,890.4	12.1	11.9	116.93	270.6	28.0	186.5	162.8	23.72	7.863	
5,000.0	4,989.4	4,999.7	4,990.1	12.4	12.1	116.70	277.5	27.0	189.3	165.1	24.23	7.811	
5,100.3	5,089.4	5,100.0	5,090.1	12.6	12.4	116.48	284.4	26.1	192.1	167.3	24.74	7.762	SF

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-2315A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,150.0	5,138.8	5,150.5	5,140.2	12.8	12.5	116.05	290.4	25.2	194.4	169.4	25.01	7.772	
5,200.0	5,187.6	5,201.2	5,189.7	13.0	12.7	115.26	301.2	23.7	198.6	173.3	25.32	7.843	
5,250.0	5,235.2	5,251.5	5,237.5	13.2	12.9	114.18	316.5	21.5	204.6	178.9	25.68	7.967	
5,300.0	5,281.1	5,301.3	5,283.2	13.5	13.2	112.82	336.2	18.8	212.5	186.4	26.12	8.135	
5,350.0	5,325.0	5,350.7	5,326.4	13.8	13.5	111.25	359.8	15.4	222.1	195.5	26.65	8.334	
5,400.0	5,366.3	5,399.5	5,366.7	14.2	13.8	109.50	387.1	11.6	233.4	206.1	27.29	8.554	
5,450.0	5,404.8	5,447.8	5,403.8	14.6	14.2	107.62	417.5	7.2	246.2	218.2	28.04	8.782	
5,500.0	5,440.0	5,495.4	5,437.6	15.1	14.6	105.63	450.9	2.5	260.5	231.6	28.91	9.011	
5,550.0	5,471.6	5,542.6	5,467.8	15.6	15.1	103.58	486.7	-2.5	276.1	246.2	29.90	9.233	
5,600.0	5,499.4	5,589.2	5,494.3	16.2	15.6	101.49	524.6	-7.9	292.8	261.8	31.00	9.444	
5,650.0	5,523.1	5,635.4	5,517.1	16.8	16.1	99.38	564.4	-13.5	310.5	278.3	32.20	9.642	
5,700.0	5,542.4	5,681.2	5,536.1	17.5	16.7	97.27	605.7	-19.4	329.0	295.5	33.48	9.827	
5,750.0	5,557.3	5,726.8	5,551.3	18.3	17.3	95.17	648.2	-25.4	348.2	313.4	34.83	9.998	
5,800.0	5,567.5	5,772.3	5,562.7	19.1	17.9	93.11	691.8	-31.5	367.8	331.6	36.22	10.156	
5,850.0	5,573.0	5,817.7	5,570.2	19.9	18.5	91.10	736.1	-37.8	387.8	350.1	37.64	10.301	
5,882.1	5,574.0	5,847.0	5,572.9	20.4	19.0	89.84	765.0	-41.9	400.7	362.1	38.57	10.388	
5,900.0	5,574.0	5,863.3	5,573.7	20.7	19.2	89.96	781.2	-44.2	407.8	368.7	39.10	10.428	
6,000.0	5,574.0	5,942.1	5,574.0	22.3	20.3	90.01	859.2	-54.2	445.9	404.1	41.82	10.661	
6,100.0	5,574.0	6,016.8	5,574.0	23.9	21.3	90.01	933.7	-60.9	482.7	438.2	44.53	10.841	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-2316B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	155.10	-74.3	34.5	81.9				
100.0	100.0	100.0	100.0	0.1	0.1	155.10	-74.3	34.5	81.9	81.7	0.19	436.301	
200.0	200.0	200.0	200.0	0.3	0.3	155.10	-74.3	34.5	81.9	81.2	0.64	128.505	
300.0	300.0	300.0	300.0	0.5	0.5	155.10	-74.3	34.5	81.9	80.8	1.09	75.349	
400.0	400.0	400.0	400.0	0.8	0.8	155.10	-74.3	34.5	81.9	80.3	1.54	53.301	
500.0	500.0	500.0	500.0	1.0	1.0	155.10	-74.3	34.5	81.9	79.9	1.99	41.235	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	-173.29	-74.3	34.5	83.6	81.2	2.44	34.326	
700.0	699.8	699.8	699.8	1.4	1.4	-173.67	-74.3	34.5	88.8	85.9	2.89	30.769	
800.0	799.6	799.6	799.6	1.7	1.7	-174.13	-74.3	34.5	95.8	92.4	3.33	28.725	
900.0	899.4	899.4	899.4	1.9	1.9	-174.53	-74.3	34.5	102.7	98.9	3.78	27.153	
1,000.0	999.1	999.1	999.1	2.2	2.1	-174.88	-74.3	34.5	109.6	105.4	4.23	25.909	
1,100.0	1,098.9	1,098.9	1,098.9	2.4	2.3	-175.18	-74.3	34.5	116.6	111.9	4.68	24.900	
1,200.0	1,198.6	1,201.9	1,201.9	2.7	2.6	-176.01	-72.5	34.9	122.2	117.1	5.14	23.783	
1,300.0	1,298.4	1,305.0	1,304.8	2.9	2.8	-177.89	-67.1	36.1	125.2	119.6	5.60	22.374	
1,400.0	1,398.1	1,404.8	1,404.4	3.2	3.0	179.86	-60.4	37.7	127.1	121.1	6.05	21.018	
1,500.0	1,497.9	1,504.7	1,504.0	3.4	3.3	177.69	-53.6	39.3	129.3	122.8	6.51	19.870	
1,600.0	1,597.6	1,604.6	1,603.6	3.7	3.5	175.58	-46.8	40.9	131.6	124.6	6.97	18.889	
1,700.0	1,697.4	1,704.4	1,703.3	3.9	3.7	173.56	-40.0	42.4	134.0	126.6	7.43	18.045	
1,800.0	1,797.2	1,804.3	1,802.9	4.2	4.0	171.61	-33.2	44.0	136.7	128.8	7.89	17.314	
1,900.0	1,896.9	1,904.1	1,902.5	4.4	4.2	169.73	-26.4	45.6	139.5	131.1	8.36	16.677	
2,000.0	1,996.7	2,004.0	2,002.1	4.7	4.5	167.93	-19.6	47.2	142.4	133.6	8.84	16.118	
2,100.0	2,096.4	2,103.8	2,101.7	4.9	4.7	166.21	-12.9	48.7	145.5	136.2	9.31	15.626	
2,200.0	2,196.2	2,203.7	2,201.3	5.2	4.9	164.55	-6.1	50.3	148.7	138.9	9.79	15.191	
2,300.0	2,295.9	2,303.6	2,301.0	5.5	5.2	162.97	0.7	51.9	152.0	141.8	10.27	14.804	
2,400.0	2,395.7	2,403.4	2,400.6	5.7	5.4	161.46	7.5	53.5	155.5	144.7	10.75	14.459	
2,500.0	2,495.5	2,503.3	2,500.2	6.0	5.7	160.01	14.3	55.0	159.0	147.8	11.24	14.150	
2,600.0	2,595.2	2,603.1	2,599.8	6.2	5.9	158.63	21.1	56.6	162.6	150.9	11.72	13.872	
2,700.0	2,695.0	2,703.0	2,699.4	6.5	6.2	157.30	27.9	58.2	166.3	154.1	12.21	13.622	
2,800.0	2,794.7	2,802.9	2,799.0	6.7	6.4	156.04	34.6	59.8	170.2	157.5	12.70	13.396	
2,900.0	2,894.5	2,902.7	2,898.6	7.0	6.7	154.83	41.4	61.3	174.0	160.8	13.19	13.192	
3,000.0	2,994.2	3,002.6	2,998.3	7.2	6.9	153.68	48.2	62.9	178.0	164.3	13.69	13.006	
3,100.0	3,094.0	3,102.4	3,097.9	7.5	7.2	152.57	55.0	64.5	182.0	167.8	14.18	12.836	
3,200.0	3,193.7	3,202.3	3,197.5	7.8	7.4	151.52	61.8	66.1	186.1	171.4	14.68	12.682	
3,300.0	3,293.5	3,302.1	3,297.1	8.0	7.7	150.51	68.6	67.6	190.3	175.1	15.17	12.540	
3,400.0	3,393.3	3,402.0	3,396.7	8.3	7.9	149.54	75.4	69.2	194.5	178.8	15.67	12.411	
3,500.0	3,493.0	3,501.9	3,496.3	8.5	8.2	148.61	82.1	70.8	198.8	182.6	16.17	12.292	
3,600.0	3,592.8	3,601.7	3,596.0	8.8	8.5	147.73	88.9	72.4	203.1	186.4	16.67	12.182	
3,700.0	3,692.5	3,701.6	3,695.6	9.0	8.7	146.88	95.7	73.9	207.4	190.3	17.17	12.082	
3,800.0	3,792.3	3,801.4	3,795.2	9.3	9.0	146.06	102.5	75.5	211.8	194.2	17.67	11.988	
3,900.0	3,892.0	3,901.3	3,894.8	9.6	9.2	145.28	109.3	77.1	216.3	198.1	18.17	11.902	
4,000.0	3,991.8	4,001.2	3,994.4	9.8	9.5	144.53	116.1	78.7	220.8	202.1	18.67	11.823	
4,100.0	4,091.6	4,101.0	4,094.0	10.1	9.7	143.81	122.9	80.2	225.3	206.1	19.18	11.749	
4,200.0	4,191.3	4,200.9	4,193.6	10.3	10.0	143.12	129.6	81.8	229.8	210.2	19.68	11.680	
4,300.0	4,291.1	4,300.7	4,293.3	10.6	10.2	142.46	136.4	83.4	234.4	214.2	20.18	11.616	
4,400.0	4,390.8	4,400.6	4,392.9	10.8	10.5	141.82	143.2	85.0	239.0	218.4	20.68	11.556	
4,500.0	4,490.6	4,500.4	4,492.5	11.1	10.7	141.20	150.0	86.5	243.7	222.5	21.19	11.501	
4,600.0	4,590.3	4,600.3	4,592.1	11.4	11.0	140.61	156.8	88.1	248.4	226.7	21.69	11.449	
4,700.0	4,690.1	4,700.2	4,691.7	11.6	11.2	140.04	163.6	89.7	253.1	230.9	22.20	11.401	
4,800.0	4,789.9	4,800.0	4,791.3	11.9	11.5	139.49	170.3	91.3	257.8	235.1	22.70	11.355	
4,900.0	4,889.6	4,899.9	4,891.0	12.1	11.8	138.96	177.1	92.8	262.5	239.3	23.21	11.313	
5,000.0	4,989.4	4,999.7	4,990.6	12.4	12.0	138.45	183.9	94.4	267.3	243.6	23.71	11.273	
5,100.3	5,089.4	5,099.9	5,090.5	12.6	12.3	137.96	190.7	96.0	272.1	247.9	24.22	11.235	SF

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-2316B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,150.0	5,138.8	5,149.4	5,139.9	12.8	12.4	137.75	194.1	96.8	276.2	251.8	24.38	11.330	
5,200.0	5,187.6	5,199.2	5,189.5	13.0	12.5	137.89	197.6	97.6	283.9	259.5	24.45	11.613	
5,250.0	5,235.2	5,250.0	5,239.7	13.2	12.7	137.70	204.7	99.2	294.9	270.4	24.47	12.053	
5,300.0	5,281.1	5,300.3	5,288.7	13.5	12.9	136.91	216.4	102.0	309.0	284.5	24.47	12.623	
5,350.0	5,325.0	5,349.9	5,335.4	13.8	13.1	135.57	232.4	105.7	326.0	301.4	24.51	13.298	
5,400.0	5,366.3	5,398.5	5,379.5	14.2	13.3	133.72	252.1	110.2	345.8	321.1	24.63	14.038	
5,450.0	5,404.8	5,445.7	5,420.5	14.6	13.6	131.41	275.1	115.6	368.2	343.4	24.89	14.797	
5,500.0	5,440.0	5,491.6	5,458.0	15.1	13.9	128.69	300.8	121.5	393.2	367.9	25.33	15.523	
5,550.0	5,471.6	5,536.1	5,492.0	15.6	14.3	125.60	328.6	128.0	420.4	394.4	26.00	16.169	
5,600.0	5,499.4	5,579.1	5,522.5	16.2	14.7	122.16	358.2	134.9	449.7	422.8	26.92	16.704	
5,650.0	5,523.1	5,620.8	5,549.6	16.8	15.0	118.40	389.1	142.1	480.8	452.8	28.09	17.120	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-3513A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-91.10	-0.6	-32.3	32.3				
100.0	100.0	100.0	100.0	0.1	0.1	-91.10	-0.6	-32.3	32.3	32.1	0.19	172.086	
200.0	200.0	200.0	200.0	0.3	0.3	-91.10	-0.6	-32.3	32.3	31.7	0.64	50.685	
300.0	300.0	300.0	300.0	0.5	0.5	-91.10	-0.6	-32.3	32.3	31.2	1.09	29.719	
400.0	400.0	400.0	400.0	0.8	0.8	-91.10	-0.6	-32.3	32.3	30.8	1.54	21.023	
500.0	500.0	500.0	500.0	1.0	1.0	-91.10	-0.6	-32.3	32.3	30.3	1.99	16.264	
600.0	600.0	600.0	600.0	1.2	1.2	-62.10	-0.6	-32.3	31.4	29.0	2.43	12.920	
700.0	699.8	699.8	699.8	1.4	1.4	-71.19	-0.6	-32.3	29.4	26.5	2.88	10.181	
800.0	799.6	799.6	799.6	1.7	1.7	-84.85	-0.6	-32.3	27.9	24.6	3.34	8.342	
836.0	835.5	835.5	835.5	1.8	1.7	-90.00	-0.6	-32.3	27.8	24.3	3.51	7.907	CC, ES
900.0	899.4	899.4	899.4	1.9	1.9	-99.10	-0.6	-32.3	28.1	24.3	3.81	7.382	
1,000.0	999.1	999.1	999.1	2.2	2.1	-112.33	-0.6	-32.3	30.0	25.8	4.28	7.023	SF
1,100.0	1,098.9	1,097.7	1,097.7	2.4	2.3	-124.13	-2.3	-32.5	35.0	30.2	4.71	7.423	
1,200.0	1,198.6	1,195.8	1,195.6	2.7	2.5	-133.28	-7.2	-33.3	44.4	39.3	5.12	8.674	
1,300.0	1,298.4	1,294.8	1,294.4	2.9	2.7	-139.24	-14.1	-34.3	56.4	50.9	5.53	10.195	
1,400.0	1,398.1	1,394.0	1,393.3	3.2	2.9	-143.08	-20.9	-35.3	68.8	62.8	5.95	11.564	
1,500.0	1,497.9	1,493.1	1,492.2	3.4	3.1	-145.74	-27.8	-36.3	81.4	75.0	6.37	12.776	
1,600.0	1,597.6	1,592.3	1,591.1	3.7	3.3	-147.69	-34.6	-37.3	94.1	87.3	6.80	13.845	
1,700.0	1,697.4	1,691.4	1,690.0	3.9	3.5	-149.17	-41.4	-38.3	107.0	99.7	7.23	14.789	
1,800.0	1,797.2	1,790.5	1,788.9	4.2	3.7	-150.34	-48.3	-39.3	119.8	112.2	7.67	15.626	
1,900.0	1,896.9	1,889.7	1,887.8	4.4	4.0	-151.28	-55.1	-40.3	132.8	124.6	8.11	16.371	
2,000.0	1,996.7	1,988.8	1,986.7	4.7	4.2	-152.05	-62.0	-41.3	145.7	137.2	8.55	17.038	
2,100.0	2,096.4	2,088.0	2,085.6	4.9	4.4	-152.69	-68.8	-42.3	158.7	149.7	9.00	17.637	
2,200.0	2,196.2	2,187.1	2,184.5	5.2	4.7	-153.24	-75.6	-43.3	171.7	162.2	9.44	18.178	
2,300.0	2,295.9	2,286.2	2,283.4	5.5	4.9	-153.71	-82.5	-44.3	184.6	174.8	9.89	18.668	
2,400.0	2,395.7	2,385.4	2,382.3	5.7	5.2	-154.12	-89.3	-45.3	197.7	187.3	10.34	19.113	
2,500.0	2,495.5	2,484.5	2,481.2	6.0	5.4	-154.48	-96.2	-46.3	210.7	199.9	10.79	19.520	
2,600.0	2,595.2	2,583.7	2,580.1	6.2	5.7	-154.80	-103.0	-47.3	223.7	212.5	11.25	19.893	
2,700.0	2,695.0	2,682.8	2,679.0	6.5	5.9	-155.08	-109.9	-48.3	236.7	225.0	11.70	20.235	
2,800.0	2,794.7	2,782.0	2,777.9	6.7	6.2	-155.33	-116.7	-49.3	249.8	237.6	12.15	20.551	
2,900.0	2,894.5	2,881.1	2,876.8	7.0	6.4	-155.56	-123.5	-50.3	262.8	250.2	12.61	20.843	
3,000.0	2,994.2	2,980.2	2,975.7	7.2	6.7	-155.76	-130.4	-51.3	275.8	262.8	13.06	21.114	
3,100.0	3,094.0	3,079.4	3,074.6	7.5	6.9	-155.95	-137.2	-52.3	288.9	275.4	13.52	21.366	
3,200.0	3,193.7	3,178.5	3,173.5	7.8	7.2	-156.12	-144.1	-53.3	301.9	288.0	13.98	21.601	
3,300.0	3,293.5	3,277.7	3,272.4	8.0	7.4	-156.28	-150.9	-54.4	315.0	300.5	14.44	21.820	
3,400.0	3,393.3	3,376.8	3,371.3	8.3	7.7	-156.42	-157.8	-55.4	328.0	313.1	14.89	22.025	
3,500.0	3,493.0	3,475.9	3,470.2	8.5	7.9	-156.56	-164.6	-56.4	341.1	325.7	15.35	22.218	
3,600.0	3,592.8	3,575.1	3,569.1	8.8	8.2	-156.68	-171.4	-57.4	354.1	338.3	15.81	22.399	
3,700.0	3,692.5	3,674.2	3,668.0	9.0	8.5	-156.79	-178.3	-58.4	367.2	350.9	16.27	22.569	
3,800.0	3,792.3	3,773.4	3,766.9	9.3	8.7	-156.90	-185.1	-59.4	380.3	363.5	16.73	22.729	
3,900.0	3,892.0	3,872.5	3,865.8	9.6	9.0	-157.00	-192.0	-60.4	393.3	376.1	17.19	22.881	
4,000.0	3,991.8	3,971.6	3,964.7	9.8	9.2	-157.09	-198.8	-61.4	406.4	388.7	17.65	23.024	
4,100.0	4,091.6	4,070.8	4,063.6	10.1	9.5	-157.18	-205.7	-62.4	419.5	401.3	18.11	23.160	
4,200.0	4,191.3	4,169.9	4,162.5	10.3	9.7	-157.26	-212.5	-63.4	432.5	413.9	18.57	23.289	
4,300.0	4,291.1	4,269.1	4,261.4	10.6	10.0	-157.34	-219.3	-64.4	445.6	426.5	19.03	23.412	
4,400.0	4,390.8	4,368.2	4,360.3	10.8	10.3	-157.42	-226.2	-65.4	458.6	439.2	19.49	23.528	
4,500.0	4,490.6	4,467.4	4,459.2	11.1	10.5	-157.48	-233.0	-66.4	471.7	451.8	19.95	23.639	
4,600.0	4,590.3	4,566.5	4,558.1	11.4	10.8	-157.55	-239.9	-67.4	484.8	464.4	20.42	23.744	
4,700.0	4,690.1	4,665.6	4,657.0	11.6	11.0	-157.61	-246.7	-68.4	497.8	477.0	20.88	23.845	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-3514B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	178.92	-74.9	1.4	74.9				
100.0	100.0	100.0	100.0	0.1	0.1	178.92	-74.9	1.4	74.9	74.7	0.19	399.083	
200.0	200.0	200.0	200.0	0.3	0.3	178.92	-74.9	1.4	74.9	74.3	0.64	117.543	
300.0	300.0	300.0	300.0	0.5	0.5	178.92	-74.9	1.4	74.9	73.8	1.09	68.921	
400.0	400.0	400.0	400.0	0.8	0.8	178.92	-74.9	1.4	74.9	73.4	1.54	48.754	
500.0	500.0	500.0	500.0	1.0	1.0	178.92	-74.9	1.4	74.9	72.9	1.99	37.718	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	-149.98	-74.9	1.4	76.4	74.0	2.44	31.369	
700.0	699.8	697.1	697.1	1.4	1.4	-151.84	-76.5	1.7	82.7	79.8	2.86	28.910	
800.0	799.6	793.4	793.3	1.7	1.6	-154.09	-81.3	2.5	93.9	90.6	3.27	28.709	SF
900.0	899.4	892.3	891.9	1.9	1.8	-155.94	-88.1	3.6	107.2	103.5	3.69	29.026	
1,000.0	999.1	991.3	990.7	2.2	2.0	-157.38	-94.9	4.7	120.5	116.4	4.12	29.286	
1,100.0	1,098.9	1,090.4	1,089.5	2.4	2.2	-158.53	-101.8	5.8	134.0	129.4	4.55	29.470	
1,200.0	1,198.6	1,189.5	1,188.3	2.7	2.5	-159.47	-108.6	7.0	147.4	142.4	4.98	29.600	
1,300.0	1,298.4	1,288.5	1,287.2	2.9	2.7	-160.26	-115.4	8.1	160.9	155.5	5.42	29.694	
1,400.0	1,398.1	1,387.6	1,386.0	3.2	2.9	-160.92	-122.2	9.2	174.4	168.6	5.86	29.763	
1,500.0	1,497.9	1,486.6	1,484.8	3.4	3.2	-161.49	-129.0	10.3	188.0	181.7	6.30	29.813	
1,600.0	1,597.6	1,585.7	1,583.6	3.7	3.4	-161.98	-135.9	11.5	201.5	194.8	6.75	29.849	
1,700.0	1,697.4	1,684.8	1,682.5	3.9	3.7	-162.41	-142.7	12.6	215.1	207.9	7.20	29.878	
1,800.0	1,797.2	1,783.8	1,781.3	4.2	3.9	-162.79	-149.5	13.7	228.7	221.0	7.65	29.898	
1,900.0	1,896.9	1,882.9	1,880.1	4.4	4.2	-163.13	-156.3	14.8	242.2	234.1	8.10	29.913	
2,000.0	1,996.7	1,982.0	1,978.9	4.7	4.4	-163.43	-163.1	15.9	255.8	247.3	8.55	29.924	
2,100.0	2,096.4	2,081.0	2,077.7	4.9	4.7	-163.70	-169.9	17.1	269.4	260.4	9.00	29.932	
2,200.0	2,196.2	2,180.1	2,176.6	5.2	4.9	-163.94	-176.8	18.2	283.0	273.6	9.45	29.938	
2,300.0	2,295.9	2,279.2	2,275.4	5.5	5.2	-164.17	-183.6	19.3	296.6	286.7	9.91	29.941	
2,400.0	2,395.7	2,378.2	2,374.2	5.7	5.5	-164.37	-190.4	20.4	310.3	299.9	10.36	29.943	
2,500.0	2,495.5	2,477.3	2,473.0	6.0	5.7	-164.55	-197.2	21.6	323.9	313.1	10.82	29.944	
2,600.0	2,595.2	2,576.3	2,571.9	6.2	6.0	-164.73	-204.0	22.7	337.5	326.2	11.27	29.944	
2,700.0	2,695.0	2,675.4	2,670.7	6.5	6.2	-164.88	-210.9	23.8	351.1	339.4	11.73	29.943	
2,800.0	2,794.7	2,774.5	2,769.5	6.7	6.5	-165.03	-217.7	24.9	364.7	352.6	12.18	29.942	
2,900.0	2,894.5	2,873.5	2,868.3	7.0	6.8	-165.16	-224.5	26.0	378.4	365.7	12.64	29.941	
3,000.0	2,994.2	2,972.6	2,967.1	7.2	7.0	-165.29	-231.3	27.2	392.0	378.9	13.09	29.939	
3,100.0	3,094.0	3,071.7	3,066.0	7.5	7.3	-165.41	-238.1	28.3	405.6	392.1	13.55	29.936	
3,200.0	3,193.7	3,170.7	3,164.8	7.8	7.5	-165.52	-244.9	29.4	419.2	405.2	14.01	29.934	
3,300.0	3,293.5	3,269.8	3,263.6	8.0	7.8	-165.62	-251.8	30.5	432.9	418.4	14.46	29.931	
3,400.0	3,393.3	3,368.9	3,362.4	8.3	8.0	-165.71	-258.6	31.7	446.5	431.6	14.92	29.929	
3,500.0	3,493.0	3,467.9	3,461.3	8.5	8.3	-165.81	-265.4	32.8	460.2	444.8	15.38	29.926	
3,600.0	3,592.8	3,567.0	3,560.1	8.8	8.6	-165.89	-272.2	33.9	473.8	458.0	15.83	29.923	
3,700.0	3,692.5	3,666.0	3,658.9	9.0	8.8	-165.97	-279.0	35.0	487.4	471.1	16.29	29.920	

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

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-3515A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	88.97	0.6	33.1	33.1				
100.0	100.0	100.0	100.0	0.1	0.1	88.97	0.6	33.1	33.1	32.9	0.19	176.184	
200.0	200.0	200.0	200.0	0.3	0.3	88.97	0.6	33.1	33.1	32.4	0.64	51.892	
300.0	300.0	300.0	300.0	0.5	0.5	88.97	0.6	33.1	33.1	32.0	1.09	30.427	
400.0	400.0	400.0	400.0	0.8	0.8	88.97	0.6	33.1	33.1	31.5	1.54	21.524	
500.0	500.0	500.0	500.0	1.0	1.0	88.97	0.6	33.1	33.1	31.1	1.99	16.651	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	123.23	0.6	33.1	34.0	31.6	2.43	13.968	
700.0	699.8	699.8	699.8	1.4	1.4	129.95	0.6	33.1	37.1	34.2	2.88	12.879	
800.0	799.6	799.6	799.6	1.7	1.7	137.26	0.6	33.1	41.9	38.6	3.33	12.586	SF
900.0	899.4	898.2	898.2	1.9	1.9	144.38	-1.0	33.7	48.5	44.8	3.76	12.914	
1,000.0	999.1	996.1	995.9	2.2	2.0	151.82	-5.6	35.6	58.3	54.2	4.16	14.007	
1,100.0	1,098.9	1,095.0	1,094.7	2.4	2.2	157.92	-12.0	38.3	70.4	65.8	4.58	15.373	
1,200.0	1,198.6	1,194.1	1,193.4	2.7	2.4	162.21	-18.3	40.9	83.1	78.1	5.00	16.613	
1,300.0	1,298.4	1,293.1	1,292.2	2.9	2.7	165.36	-24.7	43.6	96.1	90.6	5.43	17.705	
1,400.0	1,398.1	1,392.1	1,391.0	3.2	2.9	167.76	-31.1	46.3	109.3	103.4	5.86	18.661	
1,500.0	1,497.9	1,491.2	1,489.8	3.4	3.1	169.63	-37.5	48.9	122.6	116.3	6.29	19.498	
1,600.0	1,597.6	1,590.2	1,588.6	3.7	3.3	171.14	-43.9	51.6	136.1	129.4	6.73	20.234	
1,700.0	1,697.4	1,689.2	1,687.4	3.9	3.6	172.37	-50.2	54.2	149.6	142.5	7.16	20.883	
1,800.0	1,797.2	1,788.3	1,786.2	4.2	3.8	173.40	-56.6	56.9	163.2	155.6	7.61	21.459	
1,900.0	1,896.9	1,887.3	1,885.0	4.4	4.1	174.28	-63.0	59.5	176.8	168.8	8.05	21.973	
2,000.0	1,996.7	1,986.3	1,983.8	4.7	4.3	175.02	-69.4	62.2	190.5	182.0	8.49	22.433	
2,100.0	2,096.4	2,085.4	2,082.6	4.9	4.6	175.67	-75.7	64.8	204.2	195.3	8.94	22.848	
2,200.0	2,196.2	2,184.4	2,181.4	5.2	4.8	176.23	-82.1	67.5	217.9	208.5	9.38	23.222	
2,300.0	2,295.9	2,283.4	2,280.2	5.5	5.1	176.73	-88.5	70.1	231.7	221.8	9.83	23.563	
2,400.0	2,395.7	2,382.5	2,378.9	5.7	5.3	177.17	-94.9	72.8	245.4	235.1	10.28	23.873	
2,500.0	2,495.5	2,481.5	2,477.7	6.0	5.6	177.57	-101.3	75.5	259.2	248.5	10.73	24.157	
2,600.0	2,595.2	2,580.5	2,576.5	6.2	5.8	177.93	-107.6	78.1	273.0	261.8	11.18	24.417	
2,700.0	2,695.0	2,679.6	2,675.3	6.5	6.1	178.25	-114.0	80.8	286.7	275.1	11.63	24.657	
2,800.0	2,794.7	2,778.6	2,774.1	6.7	6.3	178.54	-120.4	83.4	300.5	288.5	12.08	24.879	
2,900.0	2,894.5	2,877.6	2,872.9	7.0	6.6	178.81	-126.8	86.1	314.3	301.8	12.53	25.085	
3,000.0	2,994.2	2,976.7	2,971.7	7.2	6.9	179.05	-133.1	88.7	328.1	315.2	12.98	25.275	
3,100.0	3,094.0	3,075.7	3,070.5	7.5	7.1	179.27	-139.5	91.4	342.0	328.5	13.43	25.453	
3,200.0	3,193.7	3,174.7	3,169.3	7.8	7.4	179.48	-145.9	94.0	355.8	341.9	13.89	25.619	
3,300.0	3,293.5	3,273.8	3,268.1	8.0	7.6	179.67	-152.3	96.7	369.6	355.3	14.34	25.774	
3,400.0	3,393.3	3,372.8	3,366.9	8.3	7.9	179.85	-158.7	99.4	383.4	368.6	14.79	25.920	
3,500.0	3,493.0	3,471.8	3,465.7	8.5	8.1	-179.99	-165.0	102.0	397.3	382.0	15.25	26.057	
3,600.0	3,592.8	3,570.9	3,564.4	8.8	8.4	-179.83	-171.4	104.7	411.1	395.4	15.70	26.185	
3,700.0	3,692.5	3,669.9	3,663.2	9.0	8.7	-179.69	-177.8	107.3	424.9	408.8	16.15	26.307	
3,800.0	3,792.3	3,768.9	3,762.0	9.3	8.9	-179.55	-184.2	110.0	438.8	422.1	16.61	26.421	
3,900.0	3,892.0	3,868.0	3,860.8	9.6	9.2	-179.43	-190.5	112.6	452.6	435.5	17.06	26.529	
4,000.0	3,991.8	3,967.0	3,959.6	9.8	9.4	-179.31	-196.9	115.3	466.4	448.9	17.51	26.632	
4,100.0	4,091.6	4,066.0	4,058.4	10.1	9.7	-179.19	-203.3	117.9	480.3	462.3	17.97	26.729	
4,200.0	4,191.3	4,165.1	4,157.2	10.3	9.9	-179.09	-209.7	120.6	494.1	475.7	18.42	26.821	

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

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26I-3516B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	137.48	-73.6	67.5	99.9				
100.0	100.0	100.0	100.0	0.1	0.1	137.48	-73.6	67.5	99.9	99.7	0.19	532.382	
200.0	200.0	200.0	200.0	0.3	0.3	137.48	-73.6	67.5	99.9	99.3	0.64	156.804	
300.0	300.0	300.0	300.0	0.5	0.5	137.48	-73.6	67.5	99.9	98.8	1.09	91.942	
400.0	400.0	400.0	400.0	0.8	0.8	137.48	-73.6	67.5	99.9	98.4	1.54	65.039	
500.0	500.0	500.0	500.0	1.0	1.0	137.48	-73.6	67.5	99.9	97.9	1.99	50.316	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	169.40	-73.6	67.5	101.6	99.2	2.44	41.728	
700.0	699.8	699.8	699.8	1.4	1.4	169.90	-73.6	67.5	106.8	103.9	2.89	37.008	
800.0	799.6	799.6	799.6	1.7	1.7	170.52	-73.6	67.5	113.7	110.3	3.33	34.116	
900.0	899.4	899.4	899.4	1.9	1.9	171.06	-73.6	67.5	120.5	116.8	3.78	31.894	
1,000.0	999.1	999.1	999.1	2.2	2.1	171.55	-73.6	67.5	127.4	123.2	4.23	30.136	
1,100.0	1,098.9	1,098.9	1,098.9	2.4	2.3	171.99	-73.6	67.5	134.3	129.7	4.68	28.712	
1,200.0	1,198.6	1,194.0	1,194.0	2.7	2.5	172.43	-74.9	68.4	142.9	137.8	5.10	28.027	SF
1,300.0	1,298.4	1,288.4	1,288.3	2.9	2.7	172.93	-78.8	70.9	154.7	149.2	5.50	28.118	
1,400.0	1,398.1	1,386.8	1,386.4	3.2	2.9	173.44	-84.5	74.7	168.5	162.6	5.91	28.492	
1,500.0	1,497.9	1,485.8	1,485.2	3.4	3.1	173.88	-90.3	78.5	182.3	176.0	6.33	28.814	
1,600.0	1,597.6	1,584.8	1,584.0	3.7	3.3	174.26	-96.1	82.3	196.2	189.4	6.75	29.075	
1,700.0	1,697.4	1,683.9	1,682.8	3.9	3.5	174.58	-101.8	86.1	210.1	202.9	7.17	29.290	
1,800.0	1,797.2	1,782.9	1,781.6	4.2	3.7	174.87	-107.6	89.9	223.9	216.3	7.60	29.466	
1,900.0	1,896.9	1,881.9	1,880.4	4.4	4.0	175.12	-113.4	93.7	237.8	229.8	8.03	29.613	
2,000.0	1,996.7	1,981.0	1,979.1	4.7	4.2	175.34	-119.1	97.5	251.7	243.2	8.46	29.736	
2,100.0	2,096.4	2,080.0	2,077.9	4.9	4.4	175.55	-124.9	101.3	265.6	256.7	8.90	29.840	
2,200.0	2,196.2	2,179.0	2,176.7	5.2	4.7	175.73	-130.7	105.1	279.5	270.1	9.34	29.929	
2,300.0	2,295.9	2,278.0	2,275.5	5.5	4.9	175.89	-136.4	108.9	293.4	283.6	9.78	30.004	
2,400.0	2,395.7	2,377.1	2,374.3	5.7	5.1	176.04	-142.2	112.7	307.3	297.0	10.22	30.069	
2,500.0	2,495.5	2,476.1	2,473.1	6.0	5.4	176.18	-148.0	116.5	321.2	310.5	10.66	30.125	
2,600.0	2,595.2	2,575.1	2,571.9	6.2	5.6	176.30	-153.7	120.3	335.1	324.0	11.10	30.174	
2,700.0	2,695.0	2,674.1	2,670.6	6.5	5.9	176.42	-159.5	124.1	349.0	337.4	11.55	30.216	
2,800.0	2,794.7	2,773.2	2,769.4	6.7	6.1	176.52	-165.3	127.9	362.9	350.9	11.99	30.254	
2,900.0	2,894.5	2,872.2	2,868.2	7.0	6.4	176.62	-171.0	131.7	376.8	364.3	12.44	30.286	
3,000.0	2,994.2	2,971.2	2,967.0	7.2	6.6	176.71	-176.8	135.5	390.7	377.8	12.89	30.315	
3,100.0	3,094.0	3,070.3	3,065.8	7.5	6.9	176.80	-182.6	139.3	404.6	391.2	13.33	30.341	
3,200.0	3,193.7	3,169.3	3,164.6	7.8	7.1	176.88	-188.3	143.1	418.5	404.7	13.78	30.363	
3,300.0	3,293.5	3,268.3	3,263.4	8.0	7.4	176.95	-194.1	146.9	432.4	418.1	14.23	30.384	
3,400.0	3,393.3	3,367.3	3,362.1	8.3	7.6	177.02	-199.9	150.7	446.3	431.6	14.68	30.402	
3,500.0	3,493.0	3,466.4	3,460.9	8.5	7.9	177.08	-205.7	154.5	460.2	445.1	15.13	30.418	
3,600.0	3,592.8	3,565.4	3,559.7	8.8	8.1	177.15	-211.4	158.3	474.1	458.5	15.58	30.432	
3,700.0	3,692.5	3,664.4	3,658.5	9.0	8.4	177.20	-217.2	162.1	488.0	472.0	16.03	30.445	

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

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26J-2312B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
6,200.0	5,574.0	6,241.8	5,678.0	25.6	23.0	-101.85	1,023.6	-1,059.6	486.4	437.8	48.53	10.023	
6,300.0	5,574.0	6,315.8	5,678.0	27.3	24.1	-102.41	1,097.5	-1,056.1	447.4	395.9	51.51	8.685	
6,400.0	5,574.0	6,398.8	5,678.0	28.9	25.3	-102.99	1,180.5	-1,055.3	416.7	362.2	54.57	7.636	
6,500.0	5,574.0	6,495.6	5,678.0	30.6	26.9	-103.64	1,277.3	-1,055.3	392.0	334.2	57.78	6.784	
6,600.0	5,574.0	6,593.5	5,678.0	32.3	28.5	-104.23	1,375.2	-1,055.3	372.2	311.3	60.92	6.110	
6,700.0	5,574.0	6,692.3	5,678.0	34.0	30.2	-104.71	1,474.0	-1,055.3	357.6	293.6	63.98	5.588	
6,800.0	5,574.0	6,791.8	5,678.0	35.6	31.9	-105.05	1,573.5	-1,055.3	347.9	281.0	66.94	5.197	
6,900.0	5,574.0	6,891.7	5,678.0	37.2	33.6	-105.22	1,673.4	-1,055.3	343.3	273.6	69.80	4.919	
6,940.5	5,574.0	6,932.1	5,678.0	37.8	34.3	-105.24	1,713.8	-1,055.3	342.9	272.0	70.92	4.836	
7,000.0	5,574.0	6,991.7	5,678.0	38.7	35.3	-105.24	1,773.4	-1,055.3	342.9	270.0	72.90	4.704	
7,100.0	5,574.0	7,091.7	5,678.0	40.3	37.1	-105.24	1,873.4	-1,055.3	342.9	266.7	76.25	4.498	
7,200.0	5,574.0	7,191.7	5,678.0	41.9	38.9	-105.24	1,973.4	-1,055.3	342.9	263.3	79.63	4.307	
7,300.0	5,574.0	7,291.7	5,678.0	43.5	40.7	-105.24	2,073.4	-1,055.3	342.9	259.9	83.04	4.130	
7,400.0	5,574.0	7,391.7	5,678.0	45.2	42.5	-105.24	2,173.4	-1,055.3	342.9	256.4	86.48	3.965	
7,500.0	5,574.0	7,491.7	5,678.0	46.9	44.3	-105.24	2,273.4	-1,055.3	342.9	253.0	89.94	3.813	
7,600.0	5,574.0	7,591.7	5,678.0	48.6	46.1	-105.24	2,373.4	-1,055.3	342.9	249.5	93.42	3.671	
7,700.0	5,574.0	7,691.7	5,678.0	50.3	47.9	-105.24	2,473.4	-1,055.3	342.9	246.0	96.92	3.538	
7,800.0	5,574.0	7,791.7	5,678.0	52.0	49.8	-105.24	2,573.4	-1,055.2	342.9	242.5	100.43	3.414	
7,900.0	5,574.0	7,891.7	5,678.0	53.7	51.6	-105.24	2,673.4	-1,055.2	342.9	238.9	103.97	3.298	
8,000.0	5,574.0	7,991.7	5,678.0	55.4	53.5	-105.24	2,773.4	-1,055.2	342.9	235.4	107.51	3.189	
8,100.0	5,574.0	8,091.7	5,678.0	57.2	55.3	-105.24	2,873.4	-1,055.2	342.9	231.8	111.07	3.087	
8,200.0	5,574.0	8,191.7	5,678.0	59.0	57.2	-105.24	2,973.4	-1,055.2	342.9	228.2	114.63	2.991	
8,300.0	5,574.0	8,291.7	5,678.0	60.7	59.0	-105.24	3,073.4	-1,055.2	342.9	224.7	118.21	2.900	
8,400.0	5,574.0	8,391.7	5,678.0	62.5	60.9	-105.24	3,173.4	-1,055.2	342.9	221.1	121.79	2.815	
8,500.0	5,574.0	8,491.7	5,678.0	64.3	62.7	-105.24	3,273.4	-1,055.2	342.9	217.5	125.39	2.734	
8,600.0	5,574.0	8,591.7	5,678.0	66.1	64.6	-105.24	3,373.4	-1,055.2	342.8	213.9	128.99	2.658	
8,700.0	5,574.0	8,691.7	5,678.0	67.9	66.5	-105.24	3,473.4	-1,055.2	342.8	210.2	132.60	2.586	
8,800.0	5,574.0	8,791.7	5,678.0	69.7	68.4	-105.24	3,573.4	-1,055.2	342.8	206.6	136.21	2.517	
8,900.0	5,574.0	8,891.7	5,678.0	71.5	70.2	-105.24	3,673.4	-1,055.2	342.8	203.0	139.83	2.452	
9,000.0	5,574.0	8,991.7	5,678.0	73.3	72.1	-105.24	3,773.4	-1,055.2	342.8	199.4	143.45	2.390	
9,100.0	5,574.0	9,091.7	5,678.0	75.2	74.0	-105.24	3,873.4	-1,055.2	342.8	195.7	147.08	2.331	
9,200.0	5,574.0	9,191.7	5,678.0	77.0	75.9	-105.24	3,973.4	-1,055.2	342.8	192.1	150.72	2.275	
9,300.0	5,574.0	9,291.7	5,678.0	78.8	77.8	-105.24	4,073.4	-1,055.2	342.8	188.5	154.35	2.221	
9,400.0	5,574.0	9,391.7	5,678.0	80.7	79.6	-105.24	4,173.4	-1,055.2	342.8	184.8	158.00	2.170	
9,500.0	5,574.0	9,491.7	5,678.0	82.5	81.5	-105.24	4,273.4	-1,055.2	342.8	181.2	161.64	2.121	
9,600.0	5,574.0	9,591.7	5,678.0	84.4	83.4	-105.24	4,373.4	-1,055.1	342.8	177.5	165.29	2.074	
9,700.0	5,574.0	9,691.7	5,678.0	86.2	85.3	-105.24	4,473.4	-1,055.1	342.8	173.8	168.94	2.029	
9,800.0	5,574.0	9,791.7	5,678.0	88.1	87.2	-105.24	4,573.4	-1,055.1	342.8	170.2	172.60	1.986	
9,900.0	5,574.0	9,891.7	5,678.0	89.9	89.1	-105.24	4,673.4	-1,055.1	342.8	166.5	176.26	1.945	
10,000.0	5,574.0	9,991.7	5,678.0	91.8	91.0	-105.24	4,773.4	-1,055.1	342.8	162.9	179.92	1.905	
10,100.0	5,574.0	10,091.7	5,678.0	93.6	92.9	-105.24	4,873.4	-1,055.1	342.8	159.2	183.58	1.867	
10,200.0	5,574.0	10,191.7	5,678.0	95.5	94.8	-105.24	4,973.4	-1,055.1	342.8	155.5	187.24	1.831	
10,300.0	5,574.0	10,291.7	5,678.0	97.3	96.7	-105.24	5,073.4	-1,055.1	342.8	151.9	190.91	1.795	
10,400.0	5,574.0	10,391.7	5,678.0	99.2	98.6	-105.24	5,173.4	-1,055.1	342.8	148.2	194.58	1.762	
10,500.0	5,574.0	10,491.7	5,678.0	101.1	100.5	-105.24	5,273.4	-1,055.1	342.8	144.5	198.25	1.729	
10,600.0	5,574.0	10,591.7	5,678.0	102.9	102.4	-105.24	5,373.4	-1,055.1	342.7	140.8	201.92	1.697	
10,700.0	5,574.0	10,691.7	5,678.0	104.8	104.3	-105.24	5,473.4	-1,055.1	342.7	137.1	205.60	1.667	
10,800.0	5,574.0	10,791.7	5,678.0	106.7	106.2	-105.24	5,573.4	-1,055.1	342.7	133.5	209.27	1.638	
10,900.0	5,574.0	10,891.7	5,678.0	108.6	108.1	-105.24	5,673.4	-1,055.1	342.7	129.8	212.95	1.609	
11,000.0	5,574.0	10,991.7	5,678.0	110.4	110.0	-105.24	5,773.4	-1,055.1	342.7	126.1	216.63	1.582	
11,100.0	5,574.0	11,091.7	5,678.0	112.3	111.9	-105.24	5,873.4	-1,055.1	342.7	122.4	220.31	1.556	
11,200.0	5,574.0	11,191.7	5,678.0	114.2	113.8	-105.24	5,973.4	-1,055.1	342.7	118.7	223.99	1.530	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
Project:	Weld County, CO	**TVD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	KB=16.5' @ 4728.2ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S26-T10N-R58W - Razor #26J-2312B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
11,300.0	5,574.0	11,291.7	5,678.0	116.1	115.7	-105.24	6,073.4	-1,055.0	342.7	115.0	227.68	1.505	
11,400.0	5,574.0	11,391.7	5,678.0	118.0	117.6	-105.24	6,173.4	-1,055.0	342.7	111.3	231.36	1.481	Level 3
11,500.0	5,574.0	11,491.7	5,678.0	119.8	119.5	-105.24	6,273.4	-1,055.0	342.7	107.7	235.05	1.458	Level 3
11,600.0	5,574.0	11,591.7	5,678.0	121.7	121.4	-105.24	6,373.4	-1,055.0	342.7	104.0	238.73	1.435	Level 3
11,700.0	5,574.0	11,691.7	5,678.0	123.6	123.3	-105.24	6,473.4	-1,055.0	342.7	100.3	242.42	1.414	Level 3
11,800.0	5,574.0	11,791.7	5,678.0	125.5	125.2	-105.24	6,573.4	-1,055.0	342.7	96.6	246.11	1.392	Level 3
11,900.0	5,574.0	11,891.7	5,678.0	127.4	127.1	-105.24	6,673.4	-1,055.0	342.7	92.9	249.80	1.372	Level 3
12,000.0	5,574.0	11,991.7	5,678.0	129.3	129.0	-105.24	6,773.4	-1,055.0	342.7	89.2	253.49	1.352	Level 3
12,100.0	5,574.0	12,091.7	5,678.0	131.1	130.9	-105.25	6,873.4	-1,055.0	342.7	85.5	257.18	1.332	Level 3
12,200.0	5,574.0	12,191.7	5,678.0	133.0	132.8	-105.25	6,973.4	-1,055.0	342.7	81.8	260.87	1.314	Level 3
12,300.0	5,574.0	12,291.7	5,678.0	134.9	134.7	-105.25	7,073.4	-1,055.0	342.7	78.1	264.56	1.295	Level 3
12,400.0	5,574.0	12,391.7	5,678.0	136.8	136.6	-105.25	7,173.4	-1,055.0	342.7	74.4	268.26	1.277	Level 3
12,500.0	5,574.0	12,491.7	5,678.0	138.7	138.5	-105.25	7,273.4	-1,055.0	342.7	70.7	271.95	1.260	Level 3
12,600.0	5,574.0	12,591.7	5,678.0	140.6	140.4	-105.25	7,373.4	-1,055.0	342.6	67.0	275.64	1.243	Level 2
12,700.0	5,574.0	12,691.7	5,678.0	142.5	142.3	-105.25	7,473.4	-1,055.0	342.6	63.3	279.34	1.227	Level 2
12,800.0	5,574.0	12,791.7	5,678.0	144.4	144.2	-105.25	7,573.4	-1,055.0	342.6	59.6	283.04	1.211	Level 2
12,900.0	5,574.0	12,891.7	5,678.0	146.3	146.2	-105.25	7,673.4	-1,055.0	342.6	55.9	286.73	1.195	Level 2
13,000.0	5,574.0	12,991.7	5,678.0	148.2	148.1	-105.25	7,773.4	-1,054.9	342.6	52.2	290.43	1.180	Level 2
13,100.0	5,574.0	13,091.7	5,678.0	150.1	150.0	-105.25	7,873.4	-1,054.9	342.6	48.5	294.13	1.165	Level 2
13,200.0	5,574.0	13,191.7	5,678.0	152.0	151.9	-105.25	7,973.4	-1,054.9	342.6	44.8	297.83	1.150	Level 2
13,300.0	5,574.0	13,291.7	5,678.0	153.9	153.8	-105.25	8,073.4	-1,054.9	342.6	41.1	301.52	1.136	Level 2
13,400.0	5,574.0	13,391.7	5,678.0	155.7	155.7	-105.25	8,173.4	-1,054.9	342.6	37.4	305.22	1.122	Level 2
13,465.4	5,574.0	13,457.1	5,678.0	157.0	156.9	-105.25	8,238.8	-1,054.9	342.6	34.9	307.67	1.114	Level 2, CC
13,495.1	5,574.0	13,478.3	5,678.0	157.6	157.3	-105.25	8,260.1	-1,054.9	342.7	34.1	308.59	1.111	Level 2, ES, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26I-2313A
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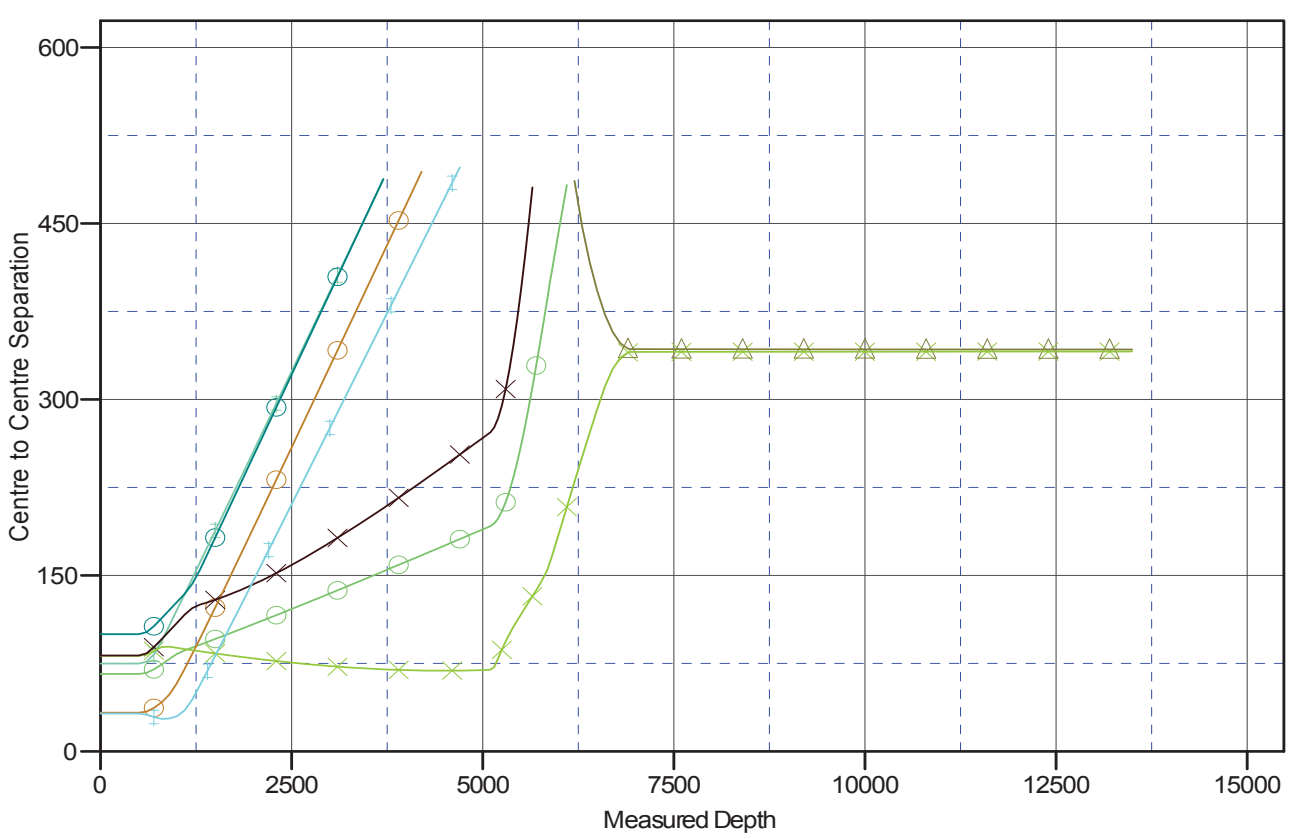
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26I-2313A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB=16.5' @ 4728.2ft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Razor #26I-2313A
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.08°



LEGEND

Razor Federal #26I-3514B, HZ, Plan #1 V0
Razor Federal #26I-3515A, HZ, Plan #1 V0
Razor Federal #26J-2312B, HZ, Plan #1 V0
Razor Federal #26I-3516B, HZ, Plan #1 V0
Razor #26I-2314B, HZ, Plan #1 V0
Razor Federal #26I-3513A, HZ, Plan #1 V0
Razor #26I-2315A, HZ, Plan #1 V0
Razor #26I-2316B, HZ, Plan #1 V0