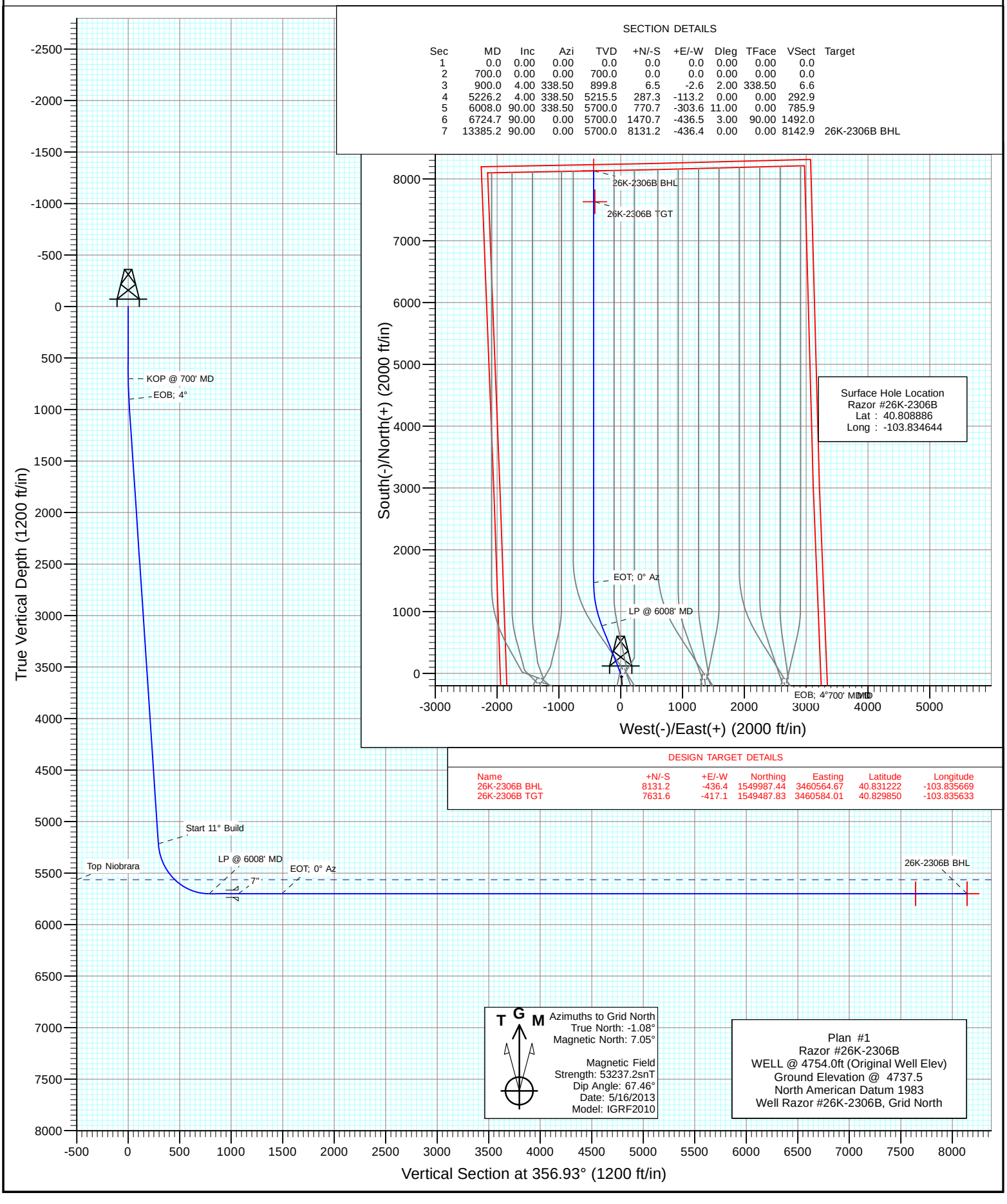
WHITING PETROLEUM CORPORATION

Project: Weld County, CO
Site: S26-T10N-R58W
Well: Razor #26K-2306B
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	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	900.0	4.00	338.50	899.8	6.5	-2.6	2.00	338.50	6.6	
4	5226.2	4.00	338.50	5215.5	287.3	-113.2	0.00	0.00	292.9	
5	6008.0	90.00	338.50	5700.0	770.7	-303.6	11.00	0.00	785.9	
6	6724.7	90.00	0.00	5700.0	1470.7	-436.5	3.00	90.00	1492.0	
7	13385.2	90.00	0.00	5700.0	8131.2	-436.4	0.00	0.00	8142.9	26K-2306B BHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
26K-2306B BHL	8131.2	-436.4	1549987.44	3460564.67	40.831222	-103.835669
26K-2306B TGT	7631.6	-417.1	1549487.83	3460584.01	40.829850	-103.835633

T G M
Azimuths to Grid North
True North: -1.08°
Magnetic North: 7.05°

Magnetic Field
Strength: 53237.2snT
Dip Angle: 67.46°
Date: 5/16/2013
Model: IGRF2010

Plan #1
Razor #26K-2306B
WELL @ 4754.0ft (Original Well Elev)
Ground Elevation @ 4737.5
North American Datum 1983
Well Razor #26K-2306B, Grid North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26K-2306B	**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:**	40.808739
From:	Lat/Long	**Easting:**	3,459,649.47 ft	**Longitude:**	-103.839531
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.07 °

Well Razor #26K-2306B

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,541,856.27 ft	**Latitude:**	40.808886
	+E/-W	0.0 ft	**Easting:**	3,461,001.10 ft	**Longitude:**	-103.834644
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,737.5 ft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/16/2013	8.13	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	356.93

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	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
900.0	4.00	338.50	899.8	6.5	-2.6	2.00	2.00	0.00	338.50	
5,226.2	4.00	338.50	5,215.5	287.3	-113.2	0.00	0.00	0.00	0.00	
6,008.0	90.00	338.50	5,700.0	770.7	-303.6	11.00	11.00	0.00	0.00	
6,724.7	90.00	0.00	5,700.0	1,470.7	-436.5	3.00	0.00	3.00	90.00	
13,385.2	90.00	0.00	5,700.0	8,131.2	-436.4	0.00	0.00	0.00	0.00	26K-2306B BHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26K-2306B	**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	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	KOP @ 700' MD
800.0	2.00	338.50	800.0	1.6	-0.6	1.7	2.00	2.00	
900.0	4.00	338.50	899.8	6.5	-2.6	6.6	2.00	2.00	EOB; 4°
1,000.0	4.00	338.50	999.6	13.0	-5.1	13.2	0.00	0.00	
1,100.0	4.00	338.50	1,099.4	19.5	-7.7	19.9	0.00	0.00	
1,200.0	4.00	338.50	1,199.1	26.0	-10.2	26.5	0.00	0.00	
1,300.0	4.00	338.50	1,298.9	32.5	-12.8	33.1	0.00	0.00	
1,400.0	4.00	338.50	1,398.6	38.9	-15.3	39.7	0.00	0.00	
1,500.0	4.00	338.50	1,498.4	45.4	-17.9	46.3	0.00	0.00	
1,600.0	4.00	338.50	1,598.1	51.9	-20.5	52.9	0.00	0.00	
1,700.0	4.00	338.50	1,697.9	58.4	-23.0	59.6	0.00	0.00	
1,800.0	4.00	338.50	1,797.6	64.9	-25.6	66.2	0.00	0.00	
1,900.0	4.00	338.50	1,897.4	71.4	-28.1	72.8	0.00	0.00	
2,000.0	4.00	338.50	1,997.2	77.9	-30.7	79.4	0.00	0.00	
2,100.0	4.00	338.50	2,096.9	84.4	-33.2	86.0	0.00	0.00	
2,200.0	4.00	338.50	2,196.7	90.9	-35.8	92.7	0.00	0.00	
2,300.0	4.00	338.50	2,296.4	97.4	-38.3	99.3	0.00	0.00	
2,400.0	4.00	338.50	2,396.2	103.8	-40.9	105.9	0.00	0.00	
2,500.0	4.00	338.50	2,495.9	110.3	-43.5	112.5	0.00	0.00	
2,600.0	4.00	338.50	2,595.7	116.8	-46.0	119.1	0.00	0.00	
2,700.0	4.00	338.50	2,695.5	123.3	-48.6	125.7	0.00	0.00	
2,800.0	4.00	338.50	2,795.2	129.8	-51.1	132.4	0.00	0.00	
2,900.0	4.00	338.50	2,895.0	136.3	-53.7	139.0	0.00	0.00	
3,000.0	4.00	338.50	2,994.7	142.8	-56.2	145.6	0.00	0.00	
3,100.0	4.00	338.50	3,094.5	149.3	-58.8	152.2	0.00	0.00	
3,200.0	4.00	338.50	3,194.2	155.8	-61.4	158.8	0.00	0.00	
3,300.0	4.00	338.50	3,294.0	162.3	-63.9	165.5	0.00	0.00	
3,400.0	4.00	338.50	3,393.7	168.7	-66.5	172.1	0.00	0.00	
3,500.0	4.00	338.50	3,493.5	175.2	-69.0	178.7	0.00	0.00	
3,600.0	4.00	338.50	3,593.3	181.7	-71.6	185.3	0.00	0.00	
3,700.0	4.00	338.50	3,693.0	188.2	-74.1	191.9	0.00	0.00	
3,800.0	4.00	338.50	3,792.8	194.7	-76.7	198.5	0.00	0.00	
3,900.0	4.00	338.50	3,892.5	201.2	-79.3	205.2	0.00	0.00	
4,000.0	4.00	338.50	3,992.3	207.7	-81.8	211.8	0.00	0.00	
4,100.0	4.00	338.50	4,092.0	214.2	-84.4	218.4	0.00	0.00	
4,200.0	4.00	338.50	4,191.8	220.7	-86.9	225.0	0.00	0.00	
4,300.0	4.00	338.50	4,291.6	227.2	-89.5	231.6	0.00	0.00	
4,400.0	4.00	338.50	4,391.3	233.7	-92.0	238.2	0.00	0.00	
4,500.0	4.00	338.50	4,491.1	240.1	-94.6	244.9	0.00	0.00	
4,600.0	4.00	338.50	4,590.8	246.6	-97.2	251.5	0.00	0.00	
4,700.0	4.00	338.50	4,690.6	253.1	-99.7	258.1	0.00	0.00	
4,800.0	4.00	338.50	4,790.3	259.6	-102.3	264.7	0.00	0.00	
4,900.0	4.00	338.50	4,890.1	266.1	-104.8	271.3	0.00	0.00	
5,000.0	4.00	338.50	4,989.9	272.6	-107.4	278.0	0.00	0.00	
5,100.0	4.00	338.50	5,089.6	279.1	-109.9	284.6	0.00	0.00	

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Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26K-2306B	**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
5,200.0	4.00	338.50	5,189.4	285.6	-112.5	291.2	0.00	0.00	
5,226.2	4.00	338.50	5,215.5	287.3	-113.2	292.9	0.00	0.00	Start 11° Build
5,300.0	12.12	338.50	5,288.5	296.9	-116.9	302.7	11.00	11.00	
5,400.0	23.12	338.50	5,383.7	325.0	-128.0	331.4	11.00	11.00	
5,500.0	34.12	338.50	5,471.3	369.5	-145.6	376.8	11.00	11.00	
5,600.0	45.12	338.50	5,548.2	428.7	-168.9	437.2	11.00	11.00	
5,622.9	47.63	338.50	5,564.0	444.1	-174.9	452.9	11.00	11.00	Top Niobrara
5,700.0	56.12	338.50	5,611.6	500.5	-197.2	510.4	11.00	11.00	
5,800.0	67.12	338.50	5,659.1	582.3	-229.4	593.7	11.00	11.00	
5,900.0	78.12	338.50	5,688.9	670.9	-264.3	684.1	11.00	11.00	
6,000.0	89.12	338.50	5,700.0	763.3	-300.7	778.3	11.00	11.00	
6,008.0	90.00	338.50	5,700.0	770.7	-303.6	785.9	11.00	11.00	LP @ 6008' MD
6,100.0	90.00	341.26	5,700.0	857.1	-335.2	873.8	3.00	0.00	
6,200.0	90.00	344.26	5,700.0	952.6	-364.9	970.8	3.00	0.00	
6,300.0	90.00	347.26	5,700.0	1,049.5	-389.5	1,068.9	3.00	0.00	7"
6,400.0	90.00	350.26	5,700.0	1,147.6	-409.0	1,167.8	3.00	0.00	
6,500.0	90.00	353.26	5,700.0	1,246.5	-423.3	1,267.4	3.00	0.00	
6,600.0	90.00	356.26	5,700.0	1,346.1	-432.4	1,367.3	3.00	0.00	
6,700.0	90.00	359.26	5,700.0	1,446.0	-436.3	1,467.3	3.00	0.00	
6,724.7	90.00	0.00	5,700.0	1,470.7	-436.5	1,492.0	3.00	0.00	EOT; 0° Az
6,800.0	90.00	0.00	5,700.0	1,546.0	-436.5	1,567.2	0.00	0.00	
6,900.0	90.00	0.00	5,700.0	1,646.0	-436.5	1,667.0	0.00	0.00	
7,000.0	90.00	0.00	5,700.0	1,746.0	-436.5	1,766.9	0.00	0.00	
7,100.0	90.00	0.00	5,700.0	1,846.0	-436.5	1,866.7	0.00	0.00	
7,200.0	90.00	0.00	5,700.0	1,946.0	-436.5	1,966.6	0.00	0.00	
7,300.0	90.00	0.00	5,700.0	2,046.0	-436.5	2,066.4	0.00	0.00	
7,400.0	90.00	0.00	5,700.0	2,146.0	-436.5	2,166.3	0.00	0.00	
7,500.0	90.00	0.00	5,700.0	2,246.0	-436.5	2,266.2	0.00	0.00	
7,600.0	90.00	0.00	5,700.0	2,346.0	-436.5	2,366.0	0.00	0.00	
7,700.0	90.00	0.00	5,700.0	2,446.0	-436.5	2,465.9	0.00	0.00	
7,800.0	90.00	0.00	5,700.0	2,546.0	-436.5	2,565.7	0.00	0.00	
7,900.0	90.00	0.00	5,700.0	2,646.0	-436.5	2,665.6	0.00	0.00	
8,000.0	90.00	0.00	5,700.0	2,746.0	-436.5	2,765.4	0.00	0.00	
8,100.0	90.00	0.00	5,700.0	2,846.0	-436.5	2,865.3	0.00	0.00	
8,200.0	90.00	0.00	5,700.0	2,946.0	-436.5	2,965.2	0.00	0.00	
8,300.0	90.00	0.00	5,700.0	3,046.0	-436.5	3,065.0	0.00	0.00	
8,400.0	90.00	0.00	5,700.0	3,146.0	-436.5	3,164.9	0.00	0.00	
8,500.0	90.00	0.00	5,700.0	3,246.0	-436.5	3,264.7	0.00	0.00	
8,600.0	90.00	0.00	5,700.0	3,346.0	-436.5	3,364.6	0.00	0.00	
8,700.0	90.00	0.00	5,700.0	3,446.0	-436.5	3,464.4	0.00	0.00	
8,800.0	90.00	0.00	5,700.0	3,546.0	-436.5	3,564.3	0.00	0.00	
8,900.0	90.00	0.00	5,700.0	3,646.0	-436.5	3,664.1	0.00	0.00	
9,000.0	90.00	0.00	5,700.0	3,746.0	-436.5	3,764.0	0.00	0.00	
9,100.0	90.00	0.00	5,700.0	3,846.0	-436.5	3,863.9	0.00	0.00	
9,200.0	90.00	0.00	5,700.0	3,946.0	-436.5	3,963.7	0.00	0.00	
9,300.0	90.00	0.00	5,700.0	4,046.0	-436.5	4,063.6	0.00	0.00	
9,400.0	90.00	0.00	5,700.0	4,146.0	-436.5	4,163.4	0.00	0.00	
9,500.0	90.00	0.00	5,700.0	4,246.0	-436.5	4,263.3	0.00	0.00	
9,600.0	90.00	0.00	5,700.0	4,346.0	-436.5	4,363.1	0.00	0.00	
9,700.0	90.00	0.00	5,700.0	4,446.0	-436.5	4,463.0	0.00	0.00	
9,800.0	90.00	0.00	5,700.0	4,546.0	-436.5	4,562.9	0.00	0.00	
9,900.0	90.00	0.00	5,700.0	4,646.0	-436.5	4,662.7	0.00	0.00	

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Project:	Weld County, CO	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26K-2306B	**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	5,700.0	4,746.0	-436.5	4,762.6	0.00	0.00	
10,100.0	90.00	0.00	5,700.0	4,846.0	-436.5	4,862.4	0.00	0.00	
10,200.0	90.00	0.00	5,700.0	4,946.0	-436.5	4,962.3	0.00	0.00	
10,300.0	90.00	0.00	5,700.0	5,046.0	-436.5	5,062.1	0.00	0.00	
10,400.0	90.00	0.00	5,700.0	5,146.0	-436.5	5,162.0	0.00	0.00	
10,500.0	90.00	0.00	5,700.0	5,246.0	-436.5	5,261.8	0.00	0.00	
10,600.0	90.00	0.00	5,700.0	5,346.0	-436.5	5,361.7	0.00	0.00	
10,700.0	90.00	0.00	5,700.0	5,446.0	-436.5	5,461.6	0.00	0.00	
10,800.0	90.00	0.00	5,700.0	5,546.0	-436.5	5,561.4	0.00	0.00	
10,900.0	90.00	0.00	5,700.0	5,646.0	-436.5	5,661.3	0.00	0.00	
11,000.0	90.00	0.00	5,700.0	5,746.0	-436.5	5,761.1	0.00	0.00	
11,100.0	90.00	0.00	5,700.0	5,846.0	-436.5	5,861.0	0.00	0.00	
11,200.0	90.00	0.00	5,700.0	5,946.0	-436.5	5,960.8	0.00	0.00	
11,300.0	90.00	0.00	5,700.0	6,046.0	-436.5	6,060.7	0.00	0.00	
11,400.0	90.00	0.00	5,700.0	6,146.0	-436.4	6,160.6	0.00	0.00	
11,500.0	90.00	0.00	5,700.0	6,246.0	-436.4	6,260.4	0.00	0.00	
11,600.0	90.00	0.00	5,700.0	6,346.0	-436.4	6,360.3	0.00	0.00	
11,700.0	90.00	0.00	5,700.0	6,446.0	-436.4	6,460.1	0.00	0.00	
11,800.0	90.00	0.00	5,700.0	6,546.0	-436.4	6,560.0	0.00	0.00	
11,900.0	90.00	0.00	5,700.0	6,646.0	-436.4	6,659.8	0.00	0.00	
12,000.0	90.00	0.00	5,700.0	6,746.0	-436.4	6,759.7	0.00	0.00	
12,100.0	90.00	0.00	5,700.0	6,846.0	-436.4	6,859.5	0.00	0.00	
12,200.0	90.00	0.00	5,700.0	6,946.0	-436.4	6,959.4	0.00	0.00	
12,300.0	90.00	0.00	5,700.0	7,046.0	-436.4	7,059.3	0.00	0.00	
12,400.0	90.00	0.00	5,700.0	7,146.0	-436.4	7,159.1	0.00	0.00	
12,500.0	90.00	0.00	5,700.0	7,246.0	-436.4	7,259.0	0.00	0.00	
12,600.0	90.00	0.00	5,700.0	7,346.0	-436.4	7,358.8	0.00	0.00	
12,700.0	90.00	0.00	5,700.0	7,446.0	-436.4	7,458.7	0.00	0.00	
12,800.0	90.00	0.00	5,700.0	7,546.0	-436.4	7,558.5	0.00	0.00	
12,900.0	90.00	0.00	5,700.0	7,646.0	-436.4	7,658.4	0.00	0.00	
13,000.0	90.00	0.00	5,700.0	7,746.0	-436.4	7,758.2	0.00	0.00	
13,100.0	90.00	0.00	5,700.0	7,846.0	-436.4	7,858.1	0.00	0.00	
13,200.0	90.00	0.00	5,700.0	7,946.0	-436.4	7,958.0	0.00	0.00	
13,300.0	90.00	0.00	5,700.0	8,046.0	-436.4	8,057.8	0.00	0.00	
13,385.1	90.00	0.00	5,700.0	8,131.1	-436.4	8,142.8	0.00	0.00	PBHL @ 13385' 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
26K-2306B TGT - plan misses target center by 19.3ft at 12885.6ft MD (5700.0 TVD, 7631.6 N, -436.4 E) - Point	0.00	0.00	5,700.0	7,631.6	-417.1	1,549,487.83	3,460,584.01	40.829850	-103.835633
26K-2306B BHL - plan hits target center - Point	0.00	0.00	5,700.0	8,131.2	-436.4	1,549,987.44	3,460,564.67	40.831222	-103.835669

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site:	S26-T10N-R58W	**North Reference:**	Grid
Well:	Razor #26K-2306B	**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)
6,300.0	5,700.0	7"	0.000	0.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,622.9	5,564.0	Top Niobrara		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
700.0	700.0	0.0	0.0	KOP @ 700' MD
900.0	899.8	6.5	-2.6	EOB; 4°
5,226.2	5,215.5	287.3	-113.2	Start 11° Build
6,008.0	5,700.0	770.7	-303.6	LP @ 6008' MD
6,724.7	5,700.0	1,470.7	-436.5	EOT; 0° Az
13,385.1	5,700.0	8,131.1	-436.4	PBHL @ 13385' MD

Whiting Petroleum Corporation

Weld County, CO
S26-T10N-R58W
Razor #26K-2306B
HZ
Plan #1

Anticollision Report

22 May, 2013

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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	13,385.0	Plan #1 (HZ)	ISCWSA MWD	MWD - ISCWSA

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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	4,819.7	4,815.6	65.9	44.2	3.028	CC
Razor #26K-2305A - HZ - Plan #1	5,100.0	5,095.9	66.1	43.0	2.866	ES
Razor #26K-2305A - HZ - Plan #1	13,385.2	13,341.6	341.9	43.4	1.145	Level 2, SF
Razor #26K-2307A - HZ - Plan #1	922.1	919.9	123.1	119.3	31.755	CC
Razor #26K-2307A - HZ - Plan #1	13,385.2	13,176.3	341.6	43.2	1.145	Level 2, ES, SF
Razor #26K-2308B - HZ - Plan #1	600.0	600.0	65.9	63.5	27.054	CC, ES
Razor #26K-2308B - HZ - Plan #1	5,300.0	5,307.7	342.1	316.8	13.514	SF
Razor #26K-3505A - HZ - Plan #1	1,509.9	1,509.3	11.1	4.6	1.720	CC, ES, SF
Razor #26K-3507A - HZ - Plan #1	1,147.4	1,147.4	87.3	82.5	18.131	CC, ES
Razor #26K-3507A - HZ - Plan #1	1,500.0	1,496.7	100.1	93.7	15.556	SF
Razor #26K-3508B - HZ - Plan #1	700.0	700.0	99.1	96.2	34.353	CC, ES
Razor #26K-3508B - HZ - Plan #1	1,300.0	1,292.9	120.9	115.4	21.893	SF
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	507.7	507.7	59.9	57.9	30.491	CC
Razor 26-3524H (Existing) - Existing - SURVEYs	700.7	700.7	60.2	57.4	21.529	ES
Razor 26-3524H (Existing) - Existing - SURVEYs	4,000.0	3,998.4	265.1	247.9	15.392	SF
Razor Federal #26I-2313A - HZ - Plan #1						Out of range
Razor Federal #26I-2314B - HZ - Plan #1						Out of range
Razor Federal #26I-2315A - HZ - Plan #1						Out of range
Razor Federal #26I-2316B - HZ - Plan #1						Out of range
Razor Federal #26I-3513A - HZ - Plan #1						Out of range
Razor Federal #26I-3514B - HZ - Plan #1						Out of range
Razor Federal #26I-3515A - HZ - Plan #1						Out of range
Razor Federal #26I-3516B - HZ - Plan #1						Out of range
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						Out of range
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 #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2305A - 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	22.62	75.7	31.5	82.0				
100.0	100.0	100.0	100.0	0.1	0.1	22.62	75.7	31.5	82.0	81.8	0.19	436.729	
200.0	200.0	200.0	200.0	0.3	0.3	22.62	75.7	31.5	82.0	81.3	0.64	128.631	
300.0	300.0	300.0	300.0	0.5	0.5	22.62	75.7	31.5	82.0	80.9	1.09	75.423	
400.0	400.0	400.0	400.0	0.8	0.8	22.62	75.7	31.5	82.0	80.4	1.54	53.353	
500.0	500.0	500.0	500.0	1.0	1.0	22.62	75.7	31.5	82.0	80.0	1.99	41.276	
600.0	600.0	598.4	598.4	1.2	1.2	21.64	77.1	30.6	82.9	80.5	2.43	34.123	
700.0	700.0	696.6	696.4	1.4	1.4	18.86	81.2	27.7	85.9	83.0	2.88	29.858	
800.0	800.0	796.4	796.0	1.7	1.7	37.46	87.0	23.8	88.9	85.6	3.33	26.669	
900.0	899.8	896.4	895.7	1.9	1.9	36.06	92.8	19.9	89.3	85.5	3.79	23.535	
1,000.0	999.6	996.4	995.5	2.1	2.2	35.33	98.5	16.0	88.2	84.0	4.26	20.714	
1,100.0	1,099.4	1,096.3	1,095.2	2.4	2.4	34.57	104.3	12.1	87.2	82.5	4.73	18.440	
1,200.0	1,199.1	1,196.3	1,195.0	2.6	2.6	33.80	110.1	8.2	86.2	81.0	5.20	16.573	
1,300.0	1,298.9	1,296.3	1,294.7	2.8	2.9	33.01	115.9	4.3	85.2	79.6	5.68	15.017	
1,400.0	1,398.6	1,396.3	1,394.5	3.1	3.2	32.21	121.6	0.4	84.3	78.1	6.15	13.702	
1,500.0	1,498.4	1,496.3	1,494.2	3.3	3.4	31.38	127.4	-3.6	83.3	76.7	6.63	12.578	
1,600.0	1,598.1	1,596.3	1,593.9	3.6	3.7	30.54	133.2	-7.5	82.4	75.3	7.10	11.607	
1,700.0	1,697.9	1,696.3	1,693.7	3.8	3.9	29.67	139.0	-11.4	81.5	73.9	7.57	10.761	
1,800.0	1,797.6	1,796.3	1,793.4	4.1	4.2	28.79	144.7	-15.3	80.6	72.6	8.05	10.018	
1,900.0	1,897.4	1,896.3	1,893.2	4.3	4.4	27.89	150.5	-19.2	79.7	71.2	8.52	9.361	
2,000.0	1,997.2	1,996.2	1,992.9	4.6	4.7	26.97	156.3	-23.1	78.9	69.9	8.99	8.776	
2,100.0	2,096.9	2,096.2	2,092.7	4.8	4.9	26.02	162.1	-27.0	78.0	68.6	9.46	8.252	
2,200.0	2,196.7	2,196.2	2,192.4	5.1	5.2	25.06	167.8	-30.9	77.2	67.3	9.92	7.782	
2,300.0	2,296.4	2,296.2	2,292.2	5.4	5.4	24.08	173.6	-34.9	76.4	66.1	10.39	7.357	
2,400.0	2,396.2	2,396.2	2,391.9	5.6	5.7	23.08	179.4	-38.8	75.7	64.8	10.86	6.971	
2,500.0	2,495.9	2,496.2	2,491.6	5.9	6.0	22.06	185.2	-42.7	74.9	63.6	11.32	6.621	
2,600.0	2,595.7	2,596.2	2,591.4	6.1	6.2	21.01	190.9	-46.6	74.2	62.4	11.78	6.300	
2,700.0	2,695.5	2,696.2	2,691.1	6.4	6.5	19.95	196.7	-50.5	73.5	61.3	12.24	6.007	
2,800.0	2,795.2	2,796.1	2,790.9	6.6	6.7	18.87	202.5	-54.4	72.9	60.2	12.70	5.738	
2,900.0	2,895.0	2,896.1	2,890.6	6.9	7.0	17.77	208.2	-58.3	72.2	59.1	13.16	5.490	
3,000.0	2,994.7	2,996.1	2,990.4	7.1	7.2	16.65	214.0	-62.3	71.6	58.0	13.61	5.261	
3,100.0	3,094.5	3,096.1	3,090.1	7.4	7.5	15.51	219.8	-66.2	71.0	57.0	14.07	5.050	
3,200.0	3,194.2	3,196.1	3,189.9	7.6	7.8	14.35	225.6	-70.1	70.5	56.0	14.52	4.854	
3,300.0	3,294.0	3,296.1	3,289.6	7.9	8.0	13.17	231.3	-74.0	69.9	55.0	14.97	4.673	
3,400.0	3,393.8	3,396.1	3,389.3	8.2	8.3	11.98	237.1	-77.9	69.5	54.0	15.42	4.504	
3,500.0	3,493.5	3,496.1	3,489.1	8.4	8.5	10.77	242.9	-81.8	69.0	53.1	15.87	4.347	
3,600.0	3,593.3	3,596.1	3,588.8	8.7	8.8	9.54	248.7	-85.7	68.6	52.2	16.32	4.201	
3,700.0	3,693.0	3,696.0	3,688.6	8.9	9.0	8.30	254.4	-89.6	68.1	51.4	16.76	4.065	
3,800.0	3,792.8	3,796.0	3,788.3	9.2	9.3	7.05	260.2	-93.6	67.8	50.6	17.21	3.938	
3,900.0	3,892.5	3,896.0	3,888.1	9.4	9.6	5.78	266.0	-97.5	67.4	49.8	17.66	3.819	
4,000.0	3,992.3	3,996.0	3,987.8	9.7	9.8	4.50	271.8	-101.4	67.1	49.0	18.10	3.709	
4,100.0	4,092.1	4,096.0	4,087.6	9.9	10.1	3.21	277.5	-105.3	66.9	48.3	18.55	3.605	
4,200.0	4,191.8	4,196.0	4,187.3	10.2	10.3	1.90	283.3	-109.2	66.6	47.6	19.00	3.508	
4,300.0	4,291.6	4,296.0	4,287.1	10.5	10.6	0.59	289.1	-113.1	66.4	47.0	19.44	3.417	
4,400.0	4,391.3	4,396.0	4,386.8	10.7	10.8	-0.72	294.8	-117.0	66.3	46.4	19.89	3.331	
4,500.0	4,491.1	4,496.0	4,486.5	11.0	11.1	-2.05	300.6	-121.0	66.1	45.8	20.34	3.252	
4,600.0	4,590.8	4,595.9	4,586.3	11.2	11.4	-3.37	306.4	-124.9	66.0	45.2	20.79	3.177	
4,700.0	4,690.6	4,695.9	4,686.0	11.5	11.6	-4.70	312.2	-128.8	66.0	44.7	21.24	3.106	
4,800.0	4,790.3	4,795.9	4,785.8	11.7	11.9	-6.04	317.9	-132.7	65.9	44.3	21.69	3.041	
4,819.7	4,810.0	4,815.6	4,805.4	11.8	11.9	-6.30	319.1	-133.5	65.9	44.2	21.78	3.028	CC
4,900.0	4,890.1	4,895.9	4,885.5	12.0	12.1	-7.37	323.7	-136.6	66.0	43.8	22.14	2.979	
5,000.0	4,989.9	4,995.9	4,985.3	12.3	12.4	-8.70	329.5	-140.5	66.0	43.4	22.60	2.921	

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 #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2305A - 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
5,100.0	5,089.6	5,095.9	5,085.0	12.5	12.6	-10.03	335.3	-144.4	66.1	43.0	23.06	2.866 ES	
5,200.0	5,189.4	5,189.0	5,177.6	12.8	12.9	-11.32	342.8	-149.6	69.2	45.7	23.50	2.945	
5,226.2	5,215.5	5,211.9	5,200.1	12.8	13.0	-11.64	346.5	-152.0	72.5	48.8	23.62	3.068	
5,250.0	5,239.2	5,232.5	5,220.1	12.9	13.1	-11.92	350.4	-154.7	75.9	52.2	23.70	3.201	
5,300.0	5,288.5	5,275.5	5,261.2	13.1	13.3	-12.87	360.8	-161.7	82.6	58.9	23.73	3.483	
5,350.0	5,336.8	5,318.0	5,300.7	13.3	13.5	-14.22	373.7	-170.5	88.9	65.3	23.59	3.769	
5,400.0	5,383.7	5,360.1	5,338.5	13.5	13.7	-15.88	389.2	-181.0	94.7	71.4	23.29	4.065	
5,450.0	5,428.7	5,400.0	5,372.8	13.8	14.0	-17.72	406.1	-192.4	100.0	77.2	22.87	4.373	
5,500.0	5,471.3	5,443.3	5,408.1	14.1	14.3	-19.99	426.8	-206.5	104.9	82.5	22.40	4.683	
5,550.0	5,511.3	5,484.5	5,439.6	14.5	14.7	-22.36	448.8	-221.4	109.5	87.6	21.92	4.994	
5,600.0	5,548.2	5,525.4	5,468.7	14.9	15.1	-24.92	472.5	-237.5	113.7	92.2	21.52	5.285	
5,650.0	5,581.8	5,566.1	5,495.4	15.4	15.5	-27.64	497.9	-254.7	117.8	96.5	21.32	5.527	
5,700.0	5,611.6	5,606.7	5,519.6	16.0	15.9	-30.51	524.9	-273.0	121.7	100.3	21.40	5.687	
5,750.0	5,637.4	5,650.0	5,542.4	16.5	16.5	-33.74	555.4	-293.6	125.6	103.6	21.96	5.719	
5,800.0	5,659.1	5,687.6	5,559.7	17.2	17.0	-36.61	583.0	-312.3	129.4	106.6	22.80	5.676	
5,850.0	5,676.3	5,728.0	5,575.6	17.9	17.5	-39.79	613.7	-333.2	133.3	109.2	24.18	5.515	
5,900.0	5,688.9	5,768.5	5,588.6	18.6	18.1	-43.04	645.5	-354.7	137.4	111.4	25.98	5.290	
5,950.0	5,696.8	5,809.1	5,598.6	19.3	18.8	-46.33	678.1	-376.8	141.7	113.5	28.12	5.038	
6,000.0	5,700.0	5,850.0	5,605.5	20.1	19.4	-49.63	711.4	-399.4	146.2	115.6	30.52	4.788	
6,008.0	5,700.0	5,856.6	5,606.3	20.2	19.5	-50.15	716.8	-403.0	146.9	116.0	30.93	4.750	
6,100.0	5,700.0	5,936.1	5,610.0	21.6	20.8	-55.34	782.5	-447.5	162.1	126.9	35.15	4.612	
6,200.0	5,700.0	6,040.8	5,610.0	23.1	22.6	-59.85	871.3	-503.0	183.9	144.5	39.40	4.666	
6,300.0	5,700.0	6,147.2	5,610.0	24.7	24.3	-63.37	964.5	-554.4	206.2	163.0	43.28	4.765	
6,400.0	5,700.0	6,255.3	5,610.0	26.2	26.1	-66.17	1,061.9	-601.1	228.9	182.0	46.89	4.881	
6,500.0	5,700.0	6,365.1	5,610.0	27.8	28.0	-68.43	1,163.4	-642.9	251.5	201.2	50.27	5.003	
6,600.0	5,700.0	6,476.6	5,610.0	29.4	29.9	-70.29	1,268.8	-679.3	273.9	220.5	53.45	5.125	
6,700.0	5,700.0	6,589.9	5,610.0	31.0	31.9	-71.83	1,377.9	-709.9	296.0	239.5	56.44	5.244	
6,724.7	5,700.0	6,618.2	5,610.0	31.4	32.3	-72.17	1,405.4	-716.6	301.4	244.2	57.15	5.274	
6,800.0	5,700.0	6,705.3	5,610.0	32.6	33.8	-73.18	1,490.7	-734.4	316.1	256.1	60.03	5.266	
6,900.0	5,700.0	6,823.4	5,610.0	34.2	35.7	-74.09	1,607.4	-752.4	330.7	266.9	63.83	5.181	
7,000.0	5,700.0	6,943.3	5,610.0	35.9	37.7	-74.59	1,726.7	-763.2	339.4	271.8	67.60	5.021	
7,100.0	5,700.0	7,062.6	5,610.0	37.6	39.5	-74.74	1,846.0	-766.5	342.1	270.8	71.29	4.798	
7,200.0	5,700.0	7,162.6	5,610.0	39.3	41.1	-74.74	1,946.0	-766.5	342.1	267.5	74.62	4.585	
7,300.0	5,700.0	7,262.6	5,610.0	41.0	42.6	-74.74	2,046.0	-766.5	342.1	264.1	77.96	4.388	
7,400.0	5,700.0	7,362.6	5,610.0	42.8	44.2	-74.74	2,146.0	-766.5	342.1	260.7	81.34	4.205	
7,500.0	5,700.0	7,462.6	5,610.0	44.6	45.9	-74.74	2,246.0	-766.5	342.1	257.3	84.75	4.036	
7,600.0	5,700.0	7,562.6	5,610.0	46.3	47.5	-74.74	2,346.0	-766.5	342.1	253.9	88.19	3.879	
7,700.0	5,700.0	7,662.6	5,610.0	48.1	49.2	-74.74	2,446.0	-766.5	342.1	250.4	91.64	3.733	
7,800.0	5,700.0	7,762.6	5,610.0	49.9	50.8	-74.74	2,546.0	-766.5	342.1	246.9	95.12	3.596	
7,900.0	5,700.0	7,862.6	5,610.0	51.7	52.5	-74.74	2,646.0	-766.5	342.1	243.4	98.61	3.469	
8,000.0	5,700.0	7,962.6	5,610.0	53.5	54.2	-74.74	2,746.0	-766.5	342.1	239.9	102.12	3.350	
8,100.0	5,700.0	8,062.6	5,610.0	55.3	56.0	-74.74	2,846.0	-766.5	342.0	236.4	105.64	3.238	
8,200.0	5,700.0	8,162.6	5,610.0	57.2	57.7	-74.74	2,946.0	-766.5	342.0	232.9	109.18	3.133	
8,300.0	5,700.0	8,262.6	5,610.0	59.0	59.4	-74.74	3,046.0	-766.5	342.0	229.3	112.72	3.034	
8,400.0	5,700.0	8,362.6	5,610.0	60.8	61.2	-74.74	3,146.0	-766.4	342.0	225.8	116.28	2.941	
8,500.0	5,700.0	8,462.6	5,610.0	62.7	63.0	-74.74	3,246.0	-766.4	342.0	222.2	119.85	2.854	
8,600.0	5,700.0	8,562.6	5,610.0	64.5	64.7	-74.74	3,346.0	-766.4	342.0	218.6	123.43	2.771	
8,700.0	5,700.0	8,662.6	5,610.0	66.4	66.5	-74.74	3,446.0	-766.4	342.0	215.0	127.01	2.693	
8,800.0	5,700.0	8,762.6	5,610.0	68.2	68.3	-74.74	3,546.0	-766.4	342.0	211.4	130.61	2.619	
8,900.0	5,700.0	8,862.6	5,610.0	70.1	70.1	-74.74	3,646.0	-766.4	342.0	207.8	134.21	2.548	
9,000.0	5,700.0	8,962.6	5,610.0	71.9	71.9	-74.74	3,746.0	-766.4	342.0	204.2	137.81	2.482	
9,100.0	5,700.0	9,062.6	5,610.0	73.8	73.7	-74.74	3,846.0	-766.4	342.0	200.6	141.42	2.418	

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 #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2305A - 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
9,200.0	5,700.0	9,162.6	5,610.0	75.7	75.5	-74.74	3,946.0	-766.4	342.0	197.0	145.04	2.358	
9,300.0	5,700.0	9,262.6	5,610.0	77.5	77.3	-74.74	4,046.0	-766.4	342.0	193.3	148.66	2.301	
9,400.0	5,700.0	9,362.6	5,610.0	79.4	79.2	-74.74	4,146.0	-766.4	342.0	189.7	152.29	2.246	
9,500.0	5,700.0	9,462.6	5,610.0	81.3	81.0	-74.74	4,246.0	-766.4	342.0	186.1	155.92	2.193	
9,600.0	5,700.0	9,562.6	5,610.0	83.1	82.8	-74.74	4,346.0	-766.4	342.0	182.4	159.55	2.143	
9,700.0	5,700.0	9,662.6	5,610.0	85.0	84.7	-74.74	4,446.0	-766.4	342.0	178.8	163.19	2.096	
9,800.0	5,700.0	9,762.6	5,610.0	86.9	86.5	-74.74	4,546.0	-766.4	342.0	175.2	166.83	2.050	
9,900.0	5,700.0	9,862.6	5,610.0	88.8	88.3	-74.74	4,646.0	-766.4	342.0	171.5	170.48	2.006	
10,000.0	5,700.0	9,962.6	5,610.0	90.7	90.2	-74.74	4,746.0	-766.4	342.0	167.9	174.13	1.964	
10,100.0	5,700.0	10,062.6	5,610.0	92.5	92.0	-74.74	4,846.0	-766.4	342.0	164.2	177.78	1.924	
10,200.0	5,700.0	10,162.6	5,610.0	94.4	93.9	-74.74	4,946.0	-766.4	342.0	160.5	181.43	1.885	
10,300.0	5,700.0	10,262.6	5,610.0	96.3	95.7	-74.74	5,046.0	-766.4	342.0	156.9	185.09	1.848	
10,400.0	5,700.0	10,362.6	5,610.0	98.2	97.6	-74.74	5,146.0	-766.4	342.0	153.2	188.75	1.812	
10,500.0	5,700.0	10,462.6	5,610.0	100.1	99.4	-74.74	5,246.0	-766.4	342.0	149.6	192.41	1.777	
10,600.0	5,700.0	10,562.6	5,610.0	102.0	101.3	-74.74	5,346.0	-766.4	342.0	145.9	196.07	1.744	
10,700.0	5,700.0	10,662.6	5,610.0	103.9	103.2	-74.74	5,446.0	-766.4	342.0	142.2	199.74	1.712	
10,800.0	5,700.0	10,762.6	5,610.0	105.8	105.0	-74.74	5,546.0	-766.4	342.0	138.6	203.41	1.681	
10,900.0	5,700.0	10,862.6	5,610.0	107.6	106.9	-74.74	5,646.0	-766.3	342.0	134.9	207.08	1.651	
11,000.0	5,700.0	10,962.6	5,610.0	109.5	108.8	-74.74	5,746.0	-766.3	342.0	131.2	210.75	1.623	
11,100.0	5,700.0	11,062.6	5,610.0	111.4	110.6	-74.74	5,846.0	-766.3	341.9	127.5	214.42	1.595	
11,200.0	5,700.0	11,162.6	5,610.0	113.3	112.5	-74.74	5,946.0	-766.3	341.9	123.9	218.09	1.568	
11,300.0	5,700.0	11,262.6	5,610.0	115.2	114.4	-74.74	6,046.0	-766.3	341.9	120.2	221.77	1.542	
11,400.0	5,700.0	11,362.6	5,610.0	117.1	116.3	-74.74	6,146.0	-766.3	341.9	116.5	225.45	1.517	
11,500.0	5,700.0	11,462.6	5,610.0	119.0	118.1	-74.74	6,246.0	-766.3	341.9	112.8	229.13	1.492	Level 3
11,600.0	5,700.0	11,562.6	5,610.0	120.9	120.0	-74.74	6,346.0	-766.3	341.9	109.1	232.81	1.469	Level 3
11,700.0	5,700.0	11,662.6	5,610.0	122.8	121.9	-74.74	6,446.0	-766.3	341.9	105.4	236.49	1.446	Level 3
11,800.0	5,700.0	11,762.6	5,610.0	124.7	123.8	-74.74	6,546.0	-766.3	341.9	101.8	240.17	1.424	Level 3
11,900.0	5,700.0	11,862.6	5,610.0	126.6	125.6	-74.74	6,646.0	-766.3	341.9	98.1	243.85	1.402	Level 3
12,000.0	5,700.0	11,962.6	5,610.0	128.5	127.5	-74.74	6,746.0	-766.3	341.9	94.4	247.53	1.381	Level 3
12,100.0	5,700.0	12,062.6	5,610.0	130.4	129.4	-74.74	6,846.0	-766.3	341.9	90.7	251.22	1.361	Level 3
12,200.0	5,700.0	12,162.6	5,610.0	132.3	131.3	-74.74	6,946.0	-766.3	341.9	87.0	254.91	1.341	Level 3
12,300.0	5,700.0	12,262.6	5,610.0	134.2	133.2	-74.74	7,046.0	-766.3	341.9	83.3	258.59	1.322	Level 3
12,400.0	5,700.0	12,362.6	5,610.0	136.1	135.1	-74.74	7,146.0	-766.3	341.9	79.6	262.28	1.304	Level 3
12,500.0	5,700.0	12,462.6	5,610.0	138.0	137.0	-74.74	7,246.0	-766.3	341.9	75.9	265.97	1.285	Level 3
12,600.0	5,700.0	12,562.6	5,610.0	139.9	138.8	-74.74	7,346.0	-766.3	341.9	72.2	269.66	1.268	Level 3
12,700.0	5,700.0	12,662.6	5,610.0	141.8	140.7	-74.74	7,446.0	-766.3	341.9	68.5	273.35	1.251	Level 3
12,800.0	5,700.0	12,762.6	5,610.0	143.7	142.6	-74.74	7,546.0	-766.3	341.9	64.9	277.04	1.234	Level 2
12,900.0	5,700.0	12,862.6	5,610.0	145.6	144.5	-74.74	7,646.0	-766.3	341.9	61.2	280.73	1.218	Level 2
13,000.0	5,700.0	12,962.6	5,610.0	147.5	146.4	-74.74	7,746.0	-766.3	341.9	57.5	284.42	1.202	Level 2
13,100.0	5,700.0	13,062.6	5,610.0	149.4	148.3	-74.74	7,846.0	-766.3	341.9	53.8	288.12	1.187	Level 2
13,200.0	5,700.0	13,162.6	5,610.0	151.3	150.2	-74.74	7,946.0	-766.3	341.9	50.1	291.81	1.172	Level 2
13,300.0	5,700.0	13,262.6	5,610.0	153.2	152.1	-74.74	8,046.0	-766.3	341.9	46.4	295.51	1.157	Level 2
13,359.6	5,700.0	13,322.3	5,610.0	154.4	153.2	-74.74	8,105.7	-766.2	341.9	44.2	297.71	1.148	Level 2
13,385.2	5,700.0	13,341.6	5,610.0	154.9	153.6	-74.74	8,125.0	-766.2	341.9	43.4	298.54	1.145	Level 2, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2307A - 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	51.79	76.9	97.7	124.3				
100.0	100.0	100.0	100.0	0.1	0.1	51.79	76.9	97.7	124.3	124.1	0.19	662.392	
200.0	200.0	200.0	200.0	0.3	0.3	51.79	76.9	97.7	124.3	123.7	0.64	195.096	
300.0	300.0	300.0	300.0	0.5	0.5	51.79	76.9	97.7	124.3	123.2	1.09	114.395	
400.0	400.0	400.0	400.0	0.8	0.8	51.79	76.9	97.7	124.3	122.8	1.54	80.921	
500.0	500.0	500.0	500.0	1.0	1.0	51.79	76.9	97.7	124.3	122.3	1.99	62.603	
600.0	600.0	600.0	600.0	1.2	1.2	51.79	76.9	97.7	124.3	121.9	2.44	51.047	
700.0	700.0	700.0	700.0	1.4	1.4	51.79	76.9	97.7	124.3	121.4	2.88	43.093	
800.0	800.0	800.0	800.0	1.7	1.7	74.07	76.9	97.7	123.8	120.5	3.33	37.150	
900.0	899.8	898.1	898.1	1.9	1.9	75.68	78.5	97.3	123.2	119.4	3.78	32.605	
922.1	921.9	919.9	919.8	1.9	1.9	76.01	79.4	97.2	123.1	119.3	3.88	31.755	CC
1,000.0	999.6	996.4	996.3	2.1	2.1	76.62	83.5	96.3	123.6	119.3	4.23	29.205	
1,100.0	1,099.4	1,096.4	1,096.0	2.4	2.3	76.79	90.3	94.9	124.7	120.0	4.70	26.542	
1,200.0	1,199.1	1,196.3	1,195.7	2.6	2.6	76.96	97.1	93.5	125.8	120.7	5.17	24.324	
1,300.0	1,298.9	1,296.3	1,295.5	2.8	2.8	77.13	104.0	92.1	127.0	121.3	5.65	22.454	
1,400.0	1,398.6	1,396.3	1,395.2	3.1	3.1	77.29	110.8	90.7	128.1	122.0	6.14	20.863	
1,500.0	1,498.4	1,496.3	1,495.0	3.3	3.3	77.45	117.6	89.2	129.2	122.6	6.63	19.494	
1,600.0	1,598.1	1,596.3	1,594.7	3.6	3.5	77.61	124.5	87.8	130.4	123.3	7.12	18.305	
1,700.0	1,697.9	1,696.3	1,694.5	3.8	3.8	77.76	131.3	86.4	131.5	123.9	7.62	17.265	
1,800.0	1,797.6	1,796.3	1,794.2	4.1	4.0	77.91	138.1	85.0	132.7	124.5	8.11	16.349	
1,900.0	1,897.4	1,896.3	1,894.0	4.3	4.3	78.06	145.0	83.6	133.8	125.2	8.61	15.535	
2,000.0	1,997.2	1,996.3	1,993.7	4.6	4.5	78.21	151.8	82.2	134.9	125.8	9.11	14.808	
2,100.0	2,096.9	2,096.3	2,093.5	4.8	4.8	78.35	158.6	80.8	136.1	126.5	9.61	14.154	
2,200.0	2,196.7	2,196.3	2,193.2	5.1	5.0	78.49	165.4	79.3	137.2	127.1	10.12	13.565	
2,300.0	2,296.4	2,296.3	2,293.0	5.4	5.3	78.63	172.3	77.9	138.4	127.7	10.62	13.030	
2,400.0	2,396.2	2,396.3	2,392.7	5.6	5.5	78.77	179.1	76.5	139.5	128.4	11.12	12.542	
2,500.0	2,495.9	2,496.3	2,492.4	5.9	5.8	78.90	185.9	75.1	140.7	129.0	11.63	12.097	
2,600.0	2,595.7	2,596.2	2,592.2	6.1	6.1	79.04	192.8	73.7	141.8	129.7	12.13	11.687	
2,700.0	2,695.5	2,696.2	2,691.9	6.4	6.3	79.17	199.6	72.3	143.0	130.3	12.64	11.310	
2,800.0	2,795.2	2,796.2	2,791.7	6.6	6.6	79.30	206.4	70.9	144.1	131.0	13.15	10.962	
2,900.0	2,895.0	2,896.2	2,891.4	6.9	6.8	79.42	213.3	69.4	145.2	131.6	13.65	10.639	
3,000.0	2,994.7	2,996.2	2,991.2	7.1	7.1	79.55	220.1	68.0	146.4	132.2	14.16	10.339	
3,100.0	3,094.5	3,096.2	3,090.9	7.4	7.3	79.67	226.9	66.6	147.5	132.9	14.67	10.060	
3,200.0	3,194.2	3,196.2	3,190.7	7.6	7.6	79.79	233.8	65.2	148.7	133.5	15.17	9.799	
3,300.0	3,294.0	3,296.2	3,290.4	7.9	7.8	79.91	240.6	63.8	149.8	134.2	15.68	9.555	
3,400.0	3,393.8	3,396.2	3,390.2	8.2	8.1	80.02	247.4	62.4	151.0	134.8	16.19	9.326	
3,500.0	3,493.5	3,496.2	3,489.9	8.4	8.3	80.14	254.2	61.0	152.1	135.4	16.70	9.111	
3,600.0	3,593.3	3,596.2	3,589.7	8.7	8.6	80.25	261.1	59.5	153.3	136.1	17.21	8.909	
3,700.0	3,693.0	3,696.2	3,689.4	8.9	8.8	80.36	267.9	58.1	154.5	136.7	17.72	8.718	
3,800.0	3,792.8	3,796.2	3,789.2	9.2	9.1	80.47	274.7	56.7	155.6	137.4	18.23	8.537	
3,900.0	3,892.5	3,896.2	3,888.9	9.4	9.4	80.58	281.6	55.3	156.8	138.0	18.74	8.367	
4,000.0	3,992.3	3,996.2	3,988.7	9.7	9.6	80.69	288.4	53.9	157.9	138.7	19.25	8.205	
4,100.0	4,092.1	4,096.1	4,088.4	9.9	9.9	80.80	295.2	52.5	159.1	139.3	19.76	8.052	
4,200.0	4,191.8	4,196.1	4,188.2	10.2	10.1	80.90	302.1	51.1	160.2	140.0	20.27	7.906	
4,300.0	4,291.6	4,296.1	4,287.9	10.5	10.4	81.00	308.9	49.6	161.4	140.6	20.78	7.768	
4,400.0	4,391.3	4,396.1	4,387.7	10.7	10.6	81.10	315.7	48.2	162.5	141.3	21.29	7.636	
4,500.0	4,491.1	4,496.1	4,487.4	11.0	10.9	81.20	322.5	46.8	163.7	141.9	21.80	7.510	
4,600.0	4,590.8	4,596.1	4,587.2	11.2	11.1	81.30	329.4	45.4	164.9	142.6	22.31	7.390	
4,700.0	4,690.6	4,696.1	4,686.9	11.5	11.4	81.40	336.2	44.0	166.0	143.2	22.82	7.275	
4,800.0	4,790.3	4,796.1	4,786.7	11.7	11.7	81.49	343.0	42.6	167.2	143.8	23.33	7.166	
4,900.0	4,890.1	4,896.1	4,886.4	12.0	11.9	81.59	349.9	41.2	168.3	144.5	23.84	7.061	
5,000.0	4,989.9	4,996.1	4,986.2	12.3	12.2	81.68	356.7	39.7	169.5	145.1	24.35	6.960	

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 #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2307A - 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
5,100.0	5,089.6	5,096.1	5,085.9	12.5	12.4	81.77	363.5	38.3	170.7	145.8	24.86	6.864	
5,200.0	5,189.4	5,190.3	5,179.6	12.8	12.7	80.95	372.7	36.4	172.8	147.4	25.37	6.811	
5,226.2	5,215.5	5,213.7	5,202.6	12.8	12.8	80.05	377.2	35.5	174.2	148.7	25.51	6.830	
5,250.0	5,239.2	5,234.8	5,223.0	12.9	12.9	78.95	382.1	34.5	175.8	150.2	25.64	6.857	
5,300.0	5,288.5	5,278.7	5,264.9	13.1	13.1	76.82	394.9	31.8	179.7	153.8	25.94	6.928	
5,350.0	5,336.8	5,322.1	5,305.1	13.3	13.3	74.94	410.9	28.5	184.3	158.0	26.28	7.013	
5,400.0	5,383.7	5,365.1	5,343.5	13.5	13.5	73.30	429.9	24.6	189.5	162.8	26.66	7.108	
5,450.0	5,428.7	5,407.7	5,379.8	13.8	13.8	71.91	451.8	20.0	195.1	168.1	27.07	7.210	
5,500.0	5,471.3	5,450.0	5,413.9	14.1	14.1	70.77	476.3	15.0	201.2	173.6	27.51	7.311	
5,550.0	5,511.3	5,492.0	5,445.7	14.5	14.4	69.86	503.2	9.4	207.5	179.4	28.01	7.406	
5,600.0	5,548.2	5,533.8	5,474.9	14.9	14.8	69.17	532.3	3.4	214.0	185.4	28.57	7.488	
5,650.0	5,581.8	5,575.3	5,501.6	15.4	15.2	68.68	563.5	-3.1	220.6	191.4	29.21	7.553	
5,700.0	5,611.6	5,616.7	5,525.5	16.0	15.7	68.38	596.6	-9.9	227.3	197.4	29.94	7.594	
5,750.0	5,637.4	5,658.0	5,546.7	16.5	16.1	68.25	631.3	-17.1	234.1	203.4	30.77	7.609	
5,800.0	5,659.1	5,700.0	5,565.2	17.2	16.6	68.29	668.2	-24.8	240.9	209.2	31.73	7.592	
5,850.0	5,676.3	5,740.5	5,580.2	17.9	17.2	68.44	705.0	-32.4	247.7	214.9	32.79	7.552	
5,900.0	5,688.9	5,781.8	5,592.4	18.6	17.7	68.74	743.6	-40.4	254.4	220.4	33.99	7.485	
5,950.0	5,696.8	5,823.1	5,601.5	19.3	18.3	69.16	783.1	-48.6	261.0	225.7	35.30	7.396	
6,000.0	5,700.0	5,864.7	5,607.3	20.1	18.9	69.68	823.4	-56.9	267.6	230.9	36.70	7.291	
6,008.0	5,700.0	5,871.4	5,608.0	20.2	19.0	69.78	829.9	-58.3	268.6	231.7	36.94	7.273	
6,100.0	5,700.0	5,949.7	5,610.0	21.6	20.2	71.13	906.6	-73.9	280.8	241.2	39.65	7.083	
6,200.0	5,700.0	6,036.4	5,610.0	23.1	21.4	72.00	992.1	-88.1	293.7	251.3	42.40	6.927	
6,300.0	5,700.0	6,122.7	5,610.0	24.7	22.7	72.76	1,077.8	-98.4	306.0	260.9	45.13	6.781	
6,400.0	5,700.0	6,208.5	5,610.0	26.2	23.9	73.43	1,163.4	-104.7	317.7	269.8	47.85	6.639	
6,500.0	5,700.0	6,294.0	5,610.0	27.8	25.2	74.01	1,248.8	-107.2	328.6	278.1	50.52	6.504	
6,600.0	5,700.0	6,391.3	5,610.0	29.4	26.8	74.49	1,346.1	-107.3	337.4	284.0	53.35	6.324	
6,700.0	5,700.0	6,491.2	5,610.0	31.0	28.4	74.70	1,446.0	-107.3	341.1	285.0	56.13	6.078	
6,724.7	5,700.0	6,515.9	5,610.0	31.4	28.8	74.70	1,470.7	-107.3	341.3	284.5	56.79	6.010	
6,800.0	5,700.0	6,591.2	5,610.0	32.6	30.1	74.70	1,546.0	-107.3	341.3	282.1	59.25	5.761	
6,900.0	5,700.0	6,691.2	5,610.0	34.2	31.8	74.70	1,646.0	-107.3	341.3	278.7	62.57	5.455	
7,000.0	5,700.0	6,791.2	5,610.0	35.9	33.6	74.71	1,746.0	-107.3	341.3	275.4	65.93	5.177	
7,100.0	5,700.0	6,891.2	5,610.0	37.6	35.3	74.71	1,846.0	-107.3	341.3	272.0	69.32	4.924	
7,200.0	5,700.0	6,991.2	5,610.0	39.3	37.1	74.71	1,946.0	-107.3	341.3	268.6	72.75	4.692	
7,300.0	5,700.0	7,091.2	5,610.0	41.0	38.9	74.71	2,046.0	-107.2	341.3	265.1	76.20	4.479	
7,400.0	5,700.0	7,191.2	5,610.0	42.8	40.7	74.71	2,146.0	-107.2	341.3	261.6	79.68	4.284	
7,500.0	5,700.0	7,291.2	5,610.0	44.6	42.5	74.71	2,246.0	-107.2	341.3	258.2	83.18	4.103	
7,600.0	5,700.0	7,391.2	5,610.0	46.3	44.3	74.71	2,346.0	-107.2	341.3	254.6	86.70	3.937	
7,700.0	5,700.0	7,491.2	5,610.0	48.1	46.1	74.71	2,446.0	-107.2	341.3	251.1	90.23	3.783	
7,800.0	5,700.0	7,591.2	5,610.0	49.9	48.0	74.71	2,546.0	-107.2	341.3	247.6	93.78	3.640	
7,900.0	5,700.0	7,691.2	5,610.0	51.7	49.8	74.71	2,646.0	-107.2	341.4	244.0	97.34	3.507	
8,000.0	5,700.0	7,791.2	5,610.0	53.5	51.6	74.71	2,746.0	-107.2	341.4	240.4	100.92	3.383	
8,100.0	5,700.0	7,891.2	5,610.0	55.3	53.5	74.71	2,846.0	-107.2	341.4	236.9	104.50	3.267	
8,200.0	5,700.0	7,991.2	5,610.0	57.2	55.3	74.71	2,946.0	-107.2	341.4	233.3	108.09	3.158	
8,300.0	5,700.0	8,091.2	5,610.0	59.0	57.2	74.71	3,046.0	-107.2	341.4	229.7	111.69	3.056	
8,400.0	5,700.0	8,191.2	5,610.0	60.8	59.1	74.71	3,146.0	-107.2	341.4	226.1	115.30	2.961	
8,500.0	5,700.0	8,291.2	5,610.0	62.7	60.9	74.71	3,246.0	-107.2	341.4	222.5	118.91	2.871	
8,600.0	5,700.0	8,391.2	5,610.0	64.5	62.8	74.71	3,346.0	-107.2	341.4	218.9	122.53	2.786	
8,700.0	5,700.0	8,491.2	5,610.0	66.4	64.7	74.71	3,446.0	-107.2	341.4	215.2	126.16	2.706	
8,800.0	5,700.0	8,591.2	5,610.0	68.2	66.5	74.71	3,546.0	-107.2	341.4	211.6	129.79	2.630	
8,900.0	5,700.0	8,691.2	5,610.0	70.1	68.4	74.71	3,646.0	-107.2	341.4	208.0	133.43	2.559	
9,000.0	5,700.0	8,791.2	5,610.0	71.9	70.3	74.71	3,746.0	-107.1	341.4	204.3	137.07	2.491	
9,100.0	5,700.0	8,891.2	5,610.0	73.8	72.2	74.71	3,846.0	-107.1	341.4	200.7	140.71	2.426	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2307A - 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
9,200.0	5,700.0	8,991.2	5,610.0	75.7	74.1	74.71	3,946.0	-107.1	341.4	197.1	144.36	2.365	
9,300.0	5,700.0	9,091.2	5,610.0	77.5	75.9	74.71	4,046.0	-107.1	341.4	193.4	148.01	2.307	
9,400.0	5,700.0	9,191.2	5,610.0	79.4	77.8	74.71	4,146.0	-107.1	341.4	189.8	151.67	2.251	
9,500.0	5,700.0	9,291.2	5,610.0	81.3	79.7	74.71	4,246.0	-107.1	341.4	186.1	155.33	2.198	
9,600.0	5,700.0	9,391.2	5,610.0	83.1	81.6	74.71	4,346.0	-107.1	341.4	182.4	158.99	2.148	
9,700.0	5,700.0	9,491.2	5,610.0	85.0	83.5	74.71	4,446.0	-107.1	341.4	178.8	162.65	2.099	
9,800.0	5,700.0	9,591.2	5,610.0	86.9	85.4	74.71	4,546.0	-107.1	341.4	175.1	166.32	2.053	
9,900.0	5,700.0	9,691.2	5,610.0	88.8	87.3	74.71	4,646.0	-107.1	341.4	171.5	169.99	2.009	
10,000.0	5,700.0	9,791.2	5,610.0	90.7	89.2	74.71	4,746.0	-107.1	341.5	167.8	173.66	1.966	
10,100.0	5,700.0	9,891.2	5,610.0	92.5	91.1	74.71	4,846.0	-107.1	341.5	164.1	177.33	1.926	
10,200.0	5,700.0	9,991.2	5,610.0	94.4	93.0	74.71	4,946.0	-107.1	341.5	160.5	181.01	1.886	
10,300.0	5,700.0	10,091.2	5,610.0	96.3	94.9	74.72	5,046.0	-107.1	341.5	156.8	184.68	1.849	
10,400.0	5,700.0	10,191.2	5,610.0	98.2	96.8	74.72	5,146.0	-107.1	341.5	153.1	188.36	1.813	
10,500.0	5,700.0	10,291.2	5,610.0	100.1	98.7	74.72	5,246.0	-107.1	341.5	149.4	192.04	1.778	
10,600.0	5,700.0	10,391.2	5,610.0	102.0	100.6	74.72	5,346.0	-107.1	341.5	145.8	195.72	1.745	
10,700.0	5,700.0	10,491.2	5,610.0	103.9	102.5	74.72	5,446.0	-107.0	341.5	142.1	199.41	1.713	
10,800.0	5,700.0	10,591.2	5,610.0	105.8	104.4	74.72	5,546.0	-107.0	341.5	138.4	203.09	1.681	
10,900.0	5,700.0	10,691.2	5,610.0	107.6	106.3	74.72	5,646.0	-107.0	341.5	134.7	206.77	1.652	
11,000.0	5,700.0	10,791.2	5,610.0	109.5	108.2	74.72	5,746.0	-107.0	341.5	131.0	210.46	1.623	
11,100.0	5,700.0	10,891.2	5,610.0	111.4	110.1	74.72	5,846.0	-107.0	341.5	127.4	214.15	1.595	
11,200.0	5,700.0	10,991.2	5,610.0	113.3	112.0	74.72	5,946.0	-107.0	341.5	123.7	217.84	1.568	
11,300.0	5,700.0	11,091.2	5,610.0	115.2	113.9	74.72	6,046.0	-107.0	341.5	120.0	221.53	1.542	
11,400.0	5,700.0	11,191.2	5,610.0	117.1	115.8	74.72	6,146.0	-107.0	341.5	116.3	225.22	1.516	
11,500.0	5,700.0	11,291.2	5,610.0	119.0	117.7	74.72	6,246.0	-107.0	341.5	112.6	228.91	1.492	Level 3
11,600.0	5,700.0	11,391.2	5,610.0	120.9	119.6	74.72	6,346.0	-107.0	341.5	108.9	232.60	1.468	Level 3
11,700.0	5,700.0	11,491.2	5,610.0	122.8	121.5	74.72	6,446.0	-107.0	341.5	105.2	236.30	1.445	Level 3
11,800.0	5,700.0	11,591.2	5,610.0	124.7	123.4	74.72	6,546.0	-107.0	341.5	101.5	239.99	1.423	Level 3
11,900.0	5,700.0	11,691.2	5,610.0	126.6	125.3	74.72	6,646.0	-107.0	341.5	97.9	243.68	1.402	Level 3
12,000.0	5,700.0	11,791.2	5,610.0	128.5	127.2	74.72	6,746.0	-107.0	341.5	94.2	247.38	1.381	Level 3
12,100.0	5,700.0	11,891.2	5,610.0	130.4	129.1	74.72	6,846.0	-107.0	341.5	90.5	251.08	1.360	Level 3
12,200.0	5,700.0	11,991.2	5,610.0	132.3	131.0	74.72	6,946.0	-107.0	341.6	86.8	254.77	1.341	Level 3
12,300.0	5,700.0	12,091.2	5,610.0	134.2	132.9	74.72	7,046.0	-107.0	341.6	83.1	258.47	1.321	Level 3
12,400.0	5,700.0	12,191.2	5,610.0	136.1	134.8	74.72	7,146.0	-107.0	341.6	79.4	262.17	1.303	Level 3
12,500.0	5,700.0	12,291.2	5,610.0	138.0	136.7	74.72	7,246.0	-106.9	341.6	75.7	265.87	1.285	Level 3
12,600.0	5,700.0	12,391.2	5,610.0	139.9	138.6	74.72	7,346.0	-106.9	341.6	72.0	269.57	1.267	Level 3
12,700.0	5,700.0	12,491.2	5,610.0	141.8	140.5	74.72	7,446.0	-106.9	341.6	68.3	273.27	1.250	Level 2
12,800.0	5,700.0	12,591.2	5,610.0	143.7	142.4	74.72	7,546.0	-106.9	341.6	64.6	276.97	1.233	Level 2
12,900.0	5,700.0	12,691.2	5,610.0	145.6	144.3	74.72	7,646.0	-106.9	341.6	60.9	280.67	1.217	Level 2
13,000.0	5,700.0	12,791.2	5,610.0	147.5	146.3	74.72	7,746.0	-106.9	341.6	57.2	284.37	1.201	Level 2
13,100.0	5,700.0	12,891.2	5,610.0	149.4	148.2	74.72	7,846.0	-106.9	341.6	53.5	288.07	1.186	Level 2
13,200.0	5,700.0	12,991.2	5,610.0	151.3	150.1	74.72	7,946.0	-106.9	341.6	49.8	291.77	1.171	Level 2
13,300.0	5,700.0	13,091.2	5,610.0	153.2	152.0	74.72	8,046.0	-106.9	341.6	46.1	295.48	1.156	Level 2
13,385.2	5,700.0	13,176.3	5,610.0	154.9	153.3	74.72	8,131.1	-106.9	341.6	43.2	298.37	1.145	Level 2, ES, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2308B - 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	65.9	65.9				
100.0	100.0	100.0	100.0	0.1	0.1	88.92	1.2	65.9	65.9	65.7	0.19	351.053	
200.0	200.0	200.0	200.0	0.3	0.3	88.92	1.2	65.9	65.9	65.2	0.64	103.397	
300.0	300.0	300.0	300.0	0.5	0.5	88.92	1.2	65.9	65.9	64.8	1.09	60.627	
400.0	400.0	400.0	400.0	0.8	0.8	88.92	1.2	65.9	65.9	64.3	1.54	42.887	
500.0	500.0	500.0	500.0	1.0	1.0	88.92	1.2	65.9	65.9	63.9	1.99	33.178	
600.0	600.0	600.0	600.0	1.2	1.2	88.92	1.2	65.9	65.9	63.5	2.44	27.054	CC, ES
700.0	700.0	698.7	698.7	1.4	1.4	87.71	2.7	66.8	66.9	64.0	2.88	23.219	
800.0	800.0	797.2	797.1	1.7	1.7	107.06	7.0	69.5	70.4	67.1	3.32	21.188	
900.0	899.8	897.0	896.6	1.9	1.9	106.52	12.8	73.3	76.2	72.4	3.78	20.167	
1,000.0	999.6	996.8	996.2	2.1	2.1	107.32	18.7	77.0	82.4	78.1	4.24	19.449	
1,100.0	1,099.4	1,096.6	1,095.7	2.4	2.4	108.00	24.6	80.7	88.6	83.9	4.70	18.841	
1,200.0	1,199.1	1,196.4	1,195.3	2.6	2.6	108.60	30.4	84.5	94.9	89.7	5.18	18.324	
1,300.0	1,298.9	1,296.2	1,294.8	2.8	2.9	109.12	36.3	88.2	101.2	95.5	5.66	17.880	
1,400.0	1,398.6	1,396.0	1,394.4	3.1	3.1	109.58	42.2	92.0	107.4	101.3	6.14	17.497	
1,500.0	1,498.4	1,495.8	1,494.0	3.3	3.4	109.99	48.1	95.7	113.7	107.1	6.63	17.163	
1,600.0	1,598.1	1,595.6	1,593.5	3.6	3.6	110.35	53.9	99.4	120.0	112.9	7.11	16.871	
1,700.0	1,697.9	1,695.4	1,693.1	3.8	3.9	110.68	59.8	103.2	126.3	118.7	7.60	16.613	
1,800.0	1,797.6	1,795.2	1,792.6	4.1	4.1	110.98	65.7	106.9	132.6	124.5	8.09	16.383	
1,900.0	1,897.4	1,895.0	1,892.2	4.3	4.4	111.25	71.5	110.7	138.9	130.3	8.58	16.178	
2,000.0	1,997.2	1,994.8	1,991.7	4.6	4.6	111.50	77.4	114.4	145.2	136.1	9.08	15.994	
2,100.0	2,096.9	2,094.6	2,091.3	4.8	4.9	111.73	83.3	118.1	151.5	141.9	9.57	15.827	
2,200.0	2,196.7	2,194.4	2,190.9	5.1	5.1	111.93	89.2	121.9	157.8	147.7	10.07	15.676	
2,300.0	2,296.4	2,294.2	2,290.4	5.4	5.4	112.13	95.0	125.6	164.1	153.5	10.56	15.538	
2,400.0	2,396.2	2,394.0	2,390.0	5.6	5.6	112.31	100.9	129.4	170.4	159.4	11.06	15.412	
2,500.0	2,495.9	2,493.8	2,489.5	5.9	5.9	112.47	106.8	133.1	176.7	165.2	11.55	15.297	
2,600.0	2,595.7	2,593.6	2,589.1	6.1	6.1	112.63	112.6	136.8	183.0	171.0	12.05	15.190	
2,700.0	2,695.5	2,693.4	2,688.6	6.4	6.4	112.77	118.5	140.6	189.3	176.8	12.55	15.092	
2,800.0	2,795.2	2,793.2	2,788.2	6.6	6.6	112.91	124.4	144.3	195.7	182.6	13.04	15.001	
2,900.0	2,895.0	2,893.0	2,887.7	6.9	6.9	113.03	130.3	148.1	202.0	188.4	13.54	14.916	
3,000.0	2,994.7	2,992.8	2,987.3	7.1	7.2	113.15	136.1	151.8	208.3	194.3	14.04	14.837	
3,100.0	3,094.5	3,092.6	3,086.9	7.4	7.4	113.26	142.0	155.6	214.6	200.1	14.54	14.764	
3,200.0	3,194.2	3,192.4	3,186.4	7.6	7.7	113.37	147.9	159.3	220.9	205.9	15.03	14.695	
3,300.0	3,294.0	3,292.2	3,286.0	7.9	7.9	113.47	153.7	163.0	227.2	211.7	15.53	14.630	
3,400.0	3,393.8	3,392.0	3,385.5	8.2	8.2	113.56	159.6	166.8	233.6	217.5	16.03	14.569	
3,500.0	3,493.5	3,491.8	3,485.1	8.4	8.4	113.65	165.5	170.5	239.9	223.4	16.53	14.512	
3,600.0	3,593.3	3,591.6	3,584.6	8.7	8.7	113.74	171.4	174.3	246.2	229.2	17.03	14.458	
3,700.0	3,693.0	3,691.4	3,684.2	8.9	8.9	113.82	177.2	178.0	252.5	235.0	17.53	14.407	
3,800.0	3,792.8	3,791.2	3,783.8	9.2	9.2	113.89	183.1	181.7	258.9	240.8	18.03	14.359	
3,900.0	3,892.5	3,891.0	3,883.3	9.4	9.5	113.97	189.0	185.5	265.2	246.6	18.53	14.314	
4,000.0	3,992.3	3,990.8	3,982.9	9.7	9.7	114.03	194.8	189.2	271.5	252.5	19.03	14.270	
4,100.0	4,092.1	4,090.6	4,082.4	9.9	10.0	114.10	200.7	193.0	277.8	258.3	19.52	14.229	
4,200.0	4,191.8	4,190.4	4,182.0	10.2	10.2	114.16	206.6	196.7	284.1	264.1	20.02	14.190	
4,300.0	4,291.6	4,290.2	4,281.5	10.5	10.5	114.22	212.5	200.4	290.5	269.9	20.52	14.153	
4,400.0	4,391.3	4,390.0	4,381.1	10.7	10.7	114.28	218.3	204.2	296.8	275.8	21.02	14.117	
4,500.0	4,491.1	4,489.8	4,480.7	11.0	11.0	114.34	224.2	207.9	303.1	281.6	21.52	14.083	
4,600.0	4,590.8	4,589.6	4,580.2	11.2	11.2	114.39	230.1	211.7	309.4	287.4	22.02	14.051	
4,700.0	4,690.6	4,689.4	4,679.8	11.5	11.5	114.44	235.9	215.4	315.8	293.2	22.52	14.020	
4,800.0	4,790.3	4,789.2	4,779.3	11.7	11.8	114.49	241.8	219.1	322.1	299.1	23.02	13.991	
4,900.0	4,890.1	4,894.3	4,884.2	12.0	12.0	114.78	246.7	222.2	327.7	304.2	23.50	13.944	
5,000.0	4,989.9	4,999.9	4,989.9	12.3	12.2	115.64	248.3	223.3	331.6	307.6	23.93	13.853	
5,100.0	5,089.6	5,099.7	5,089.6	12.5	12.3	116.72	248.3	223.3	334.6	310.3	24.37	13.734	

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 #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-2308B - 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
5,200.0	5,189.4	5,200.2	5,190.2	12.8	12.5	117.76	248.5	223.3	337.8	313.0	24.82	13.612	
5,226.2	5,215.5	5,228.4	5,218.3	12.8	12.6	117.82	249.8	223.3	338.5	313.6	24.95	13.566	
5,250.0	5,239.2	5,254.1	5,243.8	12.9	12.7	117.68	252.4	223.3	339.3	314.2	25.06	13.538	
5,300.0	5,288.5	5,307.7	5,296.7	13.1	12.8	117.13	261.8	223.3	342.1	316.8	25.32	13.514	SF
5,350.0	5,336.8	5,361.1	5,347.9	13.3	13.0	116.27	276.4	223.3	346.6	321.0	25.61	13.538	
5,400.0	5,383.7	5,414.0	5,397.0	13.5	13.3	115.14	296.1	223.3	352.8	326.8	25.94	13.597	
5,450.0	5,428.7	5,466.3	5,443.3	13.8	13.6	113.74	320.3	223.3	360.5	334.1	26.35	13.680	
5,500.0	5,471.3	5,518.0	5,486.5	14.1	13.9	112.13	348.7	223.3	369.8	342.9	26.85	13.770	
5,550.0	5,511.3	5,569.0	5,526.2	14.5	14.2	110.32	380.8	223.3	380.5	353.0	27.46	13.856	
5,600.0	5,548.2	5,619.3	5,562.0	14.9	14.6	108.35	416.0	223.3	392.6	364.4	28.19	13.927	
5,650.0	5,581.8	5,668.9	5,593.8	15.4	15.0	106.26	454.0	223.3	406.1	377.0	29.05	13.978	
5,700.0	5,611.6	5,717.8	5,621.6	16.0	15.5	104.06	494.3	223.3	420.6	390.6	30.03	14.008	
5,750.0	5,637.4	5,766.1	5,645.1	16.5	16.0	101.80	536.5	223.3	436.2	405.1	31.12	14.018	
5,800.0	5,659.1	5,813.9	5,664.5	17.2	16.6	99.49	580.1	223.3	452.7	420.4	32.31	14.012	
5,850.0	5,676.3	5,861.2	5,679.6	17.9	17.2	97.17	624.9	223.3	469.9	436.3	33.58	13.995	
5,900.0	5,688.9	5,908.2	5,690.6	18.6	17.8	94.85	670.6	223.3	487.6	452.7	34.90	13.971	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-3505A - 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	-1.08	75.0	-1.4	75.0				
100.0	100.0	100.0	100.0	0.1	0.1	-1.08	75.0	-1.4	75.0	74.9	0.19	399.840	
200.0	200.0	200.0	200.0	0.3	0.3	-1.08	75.0	-1.4	75.0	74.4	0.64	117.766	
300.0	300.0	300.0	300.0	0.5	0.5	-1.08	75.0	-1.4	75.0	74.0	1.09	69.052	
400.0	400.0	400.0	400.0	0.8	0.8	-1.08	75.0	-1.4	75.0	73.5	1.54	48.847	
500.0	500.0	500.0	500.0	1.0	1.0	-1.08	75.0	-1.4	75.0	73.1	1.99	37.789	
600.0	600.0	600.0	600.0	1.2	1.2	-1.08	75.0	-1.4	75.0	72.6	2.44	30.814	
700.0	700.0	700.0	700.0	1.4	1.4	-1.08	75.0	-1.4	75.0	72.2	2.88	26.012	
800.0	800.0	800.0	800.0	1.7	1.7	20.91	75.0	-1.4	73.4	70.1	3.33	22.013	
900.0	899.8	899.8	899.8	1.9	1.9	22.51	75.0	-1.4	68.5	64.8	3.78	18.111	
1,000.0	999.6	999.6	999.6	2.1	2.1	24.97	75.0	-1.4	62.2	57.9	4.24	14.673	
1,100.0	1,099.4	1,101.3	1,101.3	2.4	2.3	27.89	73.3	-1.8	54.2	49.5	4.67	11.598	
1,200.0	1,199.1	1,202.3	1,202.1	2.6	2.5	31.68	68.0	-2.8	42.8	37.7	5.09	8.414	
1,300.0	1,298.9	1,301.4	1,301.0	2.8	2.7	38.32	61.3	-4.2	30.1	24.6	5.51	5.464	
1,400.0	1,398.6	1,400.5	1,399.8	3.1	2.9	53.91	54.5	-5.6	18.4	12.4	5.95	3.089	
1,500.0	1,498.4	1,499.6	1,498.7	3.3	3.1	99.83	47.7	-7.0	11.2	4.8	6.41	1.743	
1,509.9	1,508.2	1,509.3	1,508.4	3.4	3.1	106.53	47.0	-7.1	11.1	4.6	6.45	1.720	CC, ES, SF
1,600.0	1,598.1	1,598.7	1,597.6	3.6	3.3	153.58	40.9	-8.3	16.4	9.6	6.78	2.414	
1,700.0	1,697.9	1,697.8	1,696.4	3.8	3.5	172.71	34.2	-9.7	27.7	20.5	7.19	3.852	
1,800.0	1,797.6	1,796.9	1,795.3	4.1	3.8	-179.60	27.4	-11.1	40.3	32.7	7.62	5.285	
1,900.0	1,897.4	1,896.0	1,894.1	4.3	4.0	-175.61	20.6	-12.5	53.2	45.2	8.06	6.605	
2,000.0	1,997.2	1,995.1	1,993.0	4.6	4.2	-173.19	13.8	-13.8	66.4	57.9	8.50	7.805	
2,100.0	2,096.9	2,094.2	2,091.9	4.8	4.5	-171.57	7.1	-15.2	79.5	70.6	8.95	8.893	
2,200.0	2,196.7	2,193.3	2,190.7	5.1	4.7	-170.40	0.3	-16.6	92.8	83.4	9.39	9.881	
2,300.0	2,296.4	2,292.4	2,289.6	5.4	4.9	-169.53	-6.5	-18.0	106.0	96.2	9.84	10.780	
2,400.0	2,396.2	2,391.5	2,388.5	5.6	5.2	-168.86	-13.3	-19.3	119.3	109.0	10.29	11.602	
2,500.0	2,495.9	2,490.6	2,487.3	5.9	5.4	-168.32	-20.0	-20.7	132.6	121.9	10.74	12.354	
2,600.0	2,595.7	2,589.7	2,586.2	6.1	5.7	-167.87	-26.8	-22.1	145.9	134.7	11.19	13.046	
2,700.0	2,695.5	2,688.8	2,685.1	6.4	5.9	-167.51	-33.6	-23.5	159.2	147.6	11.64	13.684	
2,800.0	2,795.2	2,787.9	2,783.9	6.6	6.2	-167.19	-40.4	-24.8	172.6	160.5	12.09	14.274	
2,900.0	2,895.0	2,887.1	2,882.8	6.9	6.4	-166.93	-47.1	-26.2	185.9	173.3	12.54	14.820	
3,000.0	2,994.7	2,986.2	2,981.6	7.1	6.7	-166.70	-53.9	-27.6	199.2	186.2	13.00	15.328	
3,100.0	3,094.5	3,085.3	3,080.5	7.4	6.9	-166.49	-60.7	-29.0	212.5	199.1	13.45	15.801	
3,200.0	3,194.2	3,184.4	3,179.4	7.6	7.2	-166.31	-67.5	-30.3	225.9	212.0	13.91	16.243	
3,300.0	3,294.0	3,283.5	3,278.2	7.9	7.5	-166.16	-74.2	-31.7	239.2	224.8	14.36	16.657	
3,400.0	3,393.8	3,382.6	3,377.1	8.2	7.7	-166.01	-81.0	-33.1	252.5	237.7	14.82	17.044	
3,500.0	3,493.5	3,481.7	3,476.0	8.4	8.0	-165.89	-87.8	-34.5	265.9	250.6	15.27	17.408	
3,600.0	3,593.3	3,580.8	3,574.8	8.7	8.2	-165.77	-94.6	-35.9	279.2	263.5	15.73	17.751	
3,700.0	3,693.0	3,679.9	3,673.7	8.9	8.5	-165.67	-101.3	-37.2	292.5	276.4	16.19	18.074	
3,800.0	3,792.8	3,779.0	3,772.6	9.2	8.7	-165.57	-108.1	-38.6	305.9	289.2	16.64	18.379	
3,900.0	3,892.5	3,878.1	3,871.4	9.4	9.0	-165.48	-114.9	-40.0	319.2	302.1	17.10	18.668	
4,000.0	3,992.3	3,977.2	3,970.3	9.7	9.2	-165.40	-121.7	-41.4	332.6	315.0	17.56	18.941	
4,100.0	4,092.1	4,076.3	4,069.2	9.9	9.5	-165.33	-128.4	-42.7	345.9	327.9	18.02	19.200	
4,200.0	4,191.8	4,175.4	4,168.0	10.2	9.8	-165.26	-135.2	-44.1	359.2	340.8	18.47	19.446	
4,300.0	4,291.6	4,274.5	4,266.9	10.5	10.0	-165.19	-142.0	-45.5	372.6	353.6	18.93	19.680	
4,400.0	4,391.3	4,373.6	4,365.7	10.7	10.3	-165.14	-148.8	-46.9	385.9	366.5	19.39	19.903	
4,500.0	4,491.1	4,472.7	4,464.6	11.0	10.5	-165.08	-155.5	-48.2	399.3	379.4	19.85	20.115	
4,600.0	4,590.8	4,571.8	4,563.5	11.2	10.8	-165.03	-162.3	-49.6	412.6	392.3	20.31	20.318	
4,700.0	4,690.6	4,671.0	4,662.3	11.5	11.1	-164.98	-169.1	-51.0	426.0	405.2	20.77	20.511	
4,800.0	4,790.3	4,770.1	4,761.2	11.7	11.3	-164.93	-175.9	-52.4	439.3	418.1	21.23	20.696	
4,900.0	4,890.1	4,869.2	4,860.1	12.0	11.6	-164.89	-182.6	-53.7	452.6	431.0	21.68	20.873	
5,000.0	4,989.9	4,968.3	4,958.9	12.3	11.8	-164.85	-189.4	-55.1	466.0	443.8	22.14	21.043	

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 #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-3505A - 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
5,100.0	5,089.6	5,067.4	5,057.8	12.5	12.1	-164.81	-196.2	-56.5	479.3	456.7	22.60	21.206	
5,200.0	5,189.4	5,150.0	5,140.2	12.8	12.3	-164.77	-202.0	-57.7	493.1	470.1	23.03	21.416	
5,226.2	5,215.5	5,165.2	5,155.3	12.8	12.4	-164.74	-203.7	-58.0	497.7	474.6	23.13	21.523	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-3507A - 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	40.21	76.3	64.5	99.9				
100.0	100.0	100.0	100.0	0.1	0.1	40.21	76.3	64.5	99.9	99.7	0.19	532.033	
200.0	200.0	200.0	200.0	0.3	0.3	40.21	76.3	64.5	99.9	99.2	0.64	156.701	
300.0	300.0	300.0	300.0	0.5	0.5	40.21	76.3	64.5	99.9	98.8	1.09	91.882	
400.0	400.0	400.0	400.0	0.8	0.8	40.21	76.3	64.5	99.9	98.3	1.54	64.996	
500.0	500.0	500.0	500.0	1.0	1.0	40.21	76.3	64.5	99.9	97.9	1.99	50.283	
600.0	600.0	600.0	600.0	1.2	1.2	40.21	76.3	64.5	99.9	97.4	2.44	41.001	
700.0	700.0	700.0	700.0	1.4	1.4	40.21	76.3	64.5	99.9	97.0	2.88	34.612	
800.0	800.0	801.6	801.6	1.7	1.6	63.56	74.6	65.1	98.2	94.9	3.31	29.661	
900.0	899.8	902.5	902.3	1.9	1.8	69.42	69.5	66.9	93.8	90.1	3.72	25.208	
1,000.0	999.6	1,001.5	1,001.1	2.1	2.0	77.66	63.0	69.3	89.7	85.5	4.15	21.601	
1,100.0	1,099.4	1,100.5	1,099.9	2.4	2.2	86.48	56.6	71.6	87.5	83.0	4.60	19.042	
1,147.4	1,146.6	1,147.4	1,146.7	2.5	2.3	90.75	53.5	72.8	87.3	82.5	4.81	18.131	CC, ES
1,200.0	1,199.1	1,199.6	1,198.7	2.6	2.5	95.50	50.1	74.0	87.6	82.6	5.06	17.326	
1,300.0	1,298.9	1,298.6	1,297.5	2.8	2.7	104.30	43.6	76.4	89.8	84.3	5.52	16.277	
1,400.0	1,398.6	1,397.6	1,396.3	3.1	2.9	112.49	37.1	78.7	94.1	88.1	5.98	15.734	
1,500.0	1,498.4	1,496.7	1,495.0	3.3	3.2	119.85	30.6	81.1	100.1	93.7	6.44	15.556	SF
1,600.0	1,598.1	1,595.7	1,593.8	3.6	3.4	126.30	24.1	83.4	107.7	100.8	6.89	15.628	
1,700.0	1,697.9	1,694.7	1,692.6	3.8	3.6	131.85	17.6	85.8	116.3	109.0	7.33	15.862	
1,800.0	1,797.6	1,793.7	1,791.4	4.1	3.9	136.60	11.1	88.2	126.0	118.2	7.78	16.196	
1,900.0	1,897.4	1,892.8	1,890.2	4.3	4.1	140.66	4.6	90.5	136.3	128.1	8.22	16.587	
2,000.0	1,997.2	1,991.8	1,989.0	4.6	4.4	144.14	-1.9	92.9	147.3	138.6	8.66	17.007	
2,100.0	2,096.9	2,090.8	2,087.8	4.8	4.6	147.13	-8.4	95.3	158.7	149.6	9.10	17.438	
2,200.0	2,196.7	2,189.8	2,186.5	5.1	4.9	149.71	-14.9	97.6	170.5	161.0	9.54	17.867	
2,300.0	2,296.4	2,288.9	2,285.3	5.4	5.2	151.96	-21.3	100.0	182.6	172.6	9.99	18.286	
2,400.0	2,396.2	2,387.9	2,384.1	5.6	5.4	153.92	-27.8	102.4	195.0	184.5	10.43	18.692	
2,500.0	2,495.9	2,486.9	2,482.9	5.9	5.7	155.66	-34.3	104.7	207.5	196.6	10.87	19.082	
2,600.0	2,595.7	2,586.0	2,581.7	6.1	5.9	157.19	-40.8	107.1	220.2	208.9	11.32	19.454	
2,700.0	2,695.5	2,685.0	2,680.5	6.4	6.2	158.56	-47.3	109.4	233.0	221.3	11.76	19.809	
2,800.0	2,795.2	2,784.0	2,779.3	6.6	6.4	159.78	-53.8	111.8	246.0	233.8	12.21	20.147	
2,900.0	2,895.0	2,883.0	2,878.0	6.9	6.7	160.88	-60.3	114.2	259.1	246.4	12.66	20.467	
3,000.0	2,994.7	2,982.1	2,976.8	7.1	6.9	161.87	-66.8	116.5	272.2	259.1	13.10	20.771	
3,100.0	3,094.5	3,081.1	3,075.6	7.4	7.2	162.78	-73.3	118.9	285.4	271.9	13.55	21.059	
3,200.0	3,194.2	3,180.1	3,174.4	7.6	7.5	163.60	-79.8	121.3	298.7	284.7	14.00	21.333	
3,300.0	3,294.0	3,279.1	3,273.2	7.9	7.7	164.35	-86.3	123.6	312.0	297.6	14.45	21.593	
3,400.0	3,393.8	3,378.2	3,372.0	8.2	8.0	165.04	-92.7	126.0	325.4	310.5	14.90	21.840	
3,500.0	3,493.5	3,477.2	3,470.8	8.4	8.2	165.68	-99.2	128.3	338.8	323.5	15.35	22.074	
3,600.0	3,593.3	3,576.2	3,569.5	8.7	8.5	166.27	-105.7	130.7	352.3	336.5	15.80	22.297	
3,700.0	3,693.0	3,675.2	3,668.3	8.9	8.8	166.81	-112.2	133.1	365.8	349.5	16.25	22.510	
3,800.0	3,792.8	3,774.3	3,767.1	9.2	9.0	167.32	-118.7	135.4	379.3	362.6	16.70	22.712	
3,900.0	3,892.5	3,873.3	3,865.9	9.4	9.3	167.79	-125.2	137.8	392.9	375.7	17.15	22.905	
4,000.0	3,992.3	3,972.3	3,964.7	9.7	9.5	168.23	-131.7	140.2	406.5	388.9	17.60	23.089	
4,100.0	4,092.1	4,071.4	4,063.5	9.9	9.8	168.64	-138.2	142.5	420.1	402.0	18.06	23.265	
4,200.0	4,191.8	4,170.4	4,162.3	10.2	10.1	169.03	-144.7	144.9	433.7	415.2	18.51	23.432	
4,300.0	4,291.6	4,269.4	4,261.0	10.5	10.3	169.39	-151.2	147.2	447.3	428.4	18.96	23.593	
4,400.0	4,391.3	4,368.4	4,359.8	10.7	10.6	169.73	-157.7	149.6	461.0	441.6	19.41	23.747	
4,500.0	4,491.1	4,467.5	4,458.6	11.0	10.8	170.05	-164.1	152.0	474.7	454.8	19.87	23.894	
4,600.0	4,590.8	4,566.5	4,557.4	11.2	11.1	170.35	-170.6	154.3	488.3	468.0	20.32	24.035	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 #26K-3508B - 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	1.9	99.1	99.1				
100.0	100.0	100.0	100.0	0.1	0.1	88.92	1.9	99.1	99.1	98.9	0.19	528.055	
200.0	200.0	200.0	200.0	0.3	0.3	88.92	1.9	99.1	99.1	98.5	0.64	155.530	
300.0	300.0	300.0	300.0	0.5	0.5	88.92	1.9	99.1	99.1	98.0	1.09	91.195	
400.0	400.0	400.0	400.0	0.8	0.8	88.92	1.9	99.1	99.1	97.6	1.54	64.510	
500.0	500.0	500.0	500.0	1.0	1.0	88.92	1.9	99.1	99.1	97.1	1.99	49.907	
600.0	600.0	600.0	600.0	1.2	1.2	88.92	1.9	99.1	99.1	96.7	2.44	40.695	
700.0	700.0	700.0	700.0	1.4	1.4	88.92	1.9	99.1	99.1	96.2	2.88	34.353	CC, ES
800.0	800.0	800.0	800.0	1.7	1.7	111.35	1.9	99.1	99.7	96.4	3.33	29.924	
900.0	899.8	899.8	899.8	1.9	1.9	114.06	1.9	99.1	101.8	98.0	3.78	26.913	
1,000.0	999.6	999.6	999.6	2.1	2.1	117.53	1.9	99.1	104.8	100.6	4.23	24.755	
1,100.0	1,099.4	1,099.4	1,099.4	2.4	2.3	120.81	1.9	99.1	108.2	103.5	4.69	23.075	
1,200.0	1,199.1	1,196.5	1,196.5	2.6	2.5	124.39	0.5	99.9	113.1	108.0	5.12	22.109	
1,300.0	1,298.9	1,292.9	1,292.8	2.8	2.7	128.69	-3.7	102.5	120.9	115.4	5.52	21.893	SF
1,400.0	1,398.6	1,391.7	1,391.3	3.1	2.9	133.06	-9.6	106.0	130.9	125.0	5.94	22.034	
1,500.0	1,498.4	1,490.7	1,490.1	3.3	3.1	136.81	-15.5	109.6	141.6	135.2	6.36	22.248	
1,600.0	1,598.1	1,589.8	1,588.9	3.6	3.3	140.02	-21.4	113.2	152.7	145.9	6.79	22.498	
1,700.0	1,697.9	1,688.8	1,687.7	3.8	3.5	142.80	-27.3	116.8	164.3	157.1	7.22	22.765	
1,800.0	1,797.6	1,787.8	1,786.5	4.1	3.7	145.20	-33.2	120.4	176.2	168.5	7.65	23.038	
1,900.0	1,897.4	1,886.9	1,885.3	4.3	4.0	147.30	-39.1	123.9	188.4	180.3	8.08	23.309	
2,000.0	1,997.2	1,985.9	1,984.1	4.6	4.2	149.14	-45.0	127.5	200.8	192.2	8.52	23.572	
2,100.0	2,096.9	2,084.9	2,082.9	4.8	4.4	150.77	-50.9	131.1	213.3	204.4	8.95	23.826	
2,200.0	2,196.7	2,184.0	2,181.7	5.1	4.7	152.22	-56.8	134.7	226.1	216.7	9.39	24.068	
2,300.0	2,296.4	2,283.0	2,280.5	5.4	4.9	153.51	-62.7	138.3	238.9	229.1	9.83	24.299	
2,400.0	2,396.2	2,382.0	2,379.2	5.6	5.2	154.67	-68.6	141.9	251.9	241.6	10.27	24.518	
2,500.0	2,495.9	2,481.1	2,478.0	5.9	5.4	155.72	-74.5	145.4	264.9	254.2	10.72	24.725	
2,600.0	2,595.7	2,580.1	2,576.8	6.1	5.6	156.67	-80.4	149.0	278.1	266.9	11.16	24.920	
2,700.0	2,695.5	2,679.1	2,675.6	6.4	5.9	157.53	-86.4	152.6	291.3	279.7	11.60	25.105	
2,800.0	2,795.2	2,778.2	2,774.4	6.6	6.1	158.32	-92.3	156.2	304.5	292.5	12.05	25.279	
2,900.0	2,895.0	2,877.2	2,873.2	6.9	6.4	159.04	-98.2	159.8	317.8	305.3	12.49	25.443	
3,000.0	2,994.7	2,976.2	2,972.0	7.1	6.6	159.70	-104.1	163.4	331.2	318.2	12.94	25.599	
3,100.0	3,094.5	3,075.3	3,070.8	7.4	6.9	160.31	-110.0	167.0	344.6	331.2	13.38	25.746	
3,200.0	3,194.2	3,174.3	3,169.6	7.6	7.1	160.88	-115.9	170.5	358.0	344.2	13.83	25.885	
3,300.0	3,294.0	3,273.4	3,268.4	7.9	7.4	161.41	-121.8	174.1	371.5	357.2	14.28	26.016	
3,400.0	3,393.8	3,372.4	3,367.2	8.2	7.6	161.89	-127.7	177.7	385.0	370.2	14.73	26.141	
3,500.0	3,493.5	3,471.4	3,466.0	8.4	7.9	162.35	-133.6	181.3	398.5	383.3	15.18	26.259	
3,600.0	3,593.3	3,570.5	3,564.8	8.7	8.2	162.78	-139.5	184.9	412.0	396.4	15.62	26.371	
3,700.0	3,693.0	3,669.5	3,663.6	8.9	8.4	163.18	-145.4	188.5	425.6	409.5	16.07	26.478	
3,800.0	3,792.8	3,768.5	3,762.3	9.2	8.7	163.55	-151.3	192.0	439.2	422.7	16.52	26.580	
3,900.0	3,892.5	3,867.6	3,861.1	9.4	8.9	163.90	-157.2	195.6	452.8	435.8	16.97	26.676	
4,000.0	3,992.3	3,966.6	3,959.9	9.7	9.2	164.23	-163.1	199.2	466.4	449.0	17.42	26.769	
4,100.0	4,092.1	4,065.6	4,058.7	9.9	9.4	164.54	-169.0	202.8	480.0	462.2	17.87	26.856	
4,200.0	4,191.8	4,164.7	4,157.5	10.2	9.7	164.84	-174.9	206.4	493.7	475.3	18.32	26.940	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 26-3524H (Existing) - Existing - SURVEYs

Offset Site Error: 0.0 ft

Survey Program: 113-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	145.88	-50.0	33.9	60.4				
100.0	100.0	100.0	100.0	0.1	0.1	146.61	-50.4	33.2	60.3	60.1	0.19	315.186	
200.0	200.0	200.1	200.1	0.3	0.3	148.47	-51.2	31.4	60.1	59.5	0.63	95.928	
250.0	250.0	250.0	249.9	0.4	0.4	149.44	-51.7	30.5	60.0	59.2	0.84	71.413	
300.0	300.0	299.8	299.8	0.5	0.5	150.24	-52.2	29.8	60.1	59.0	1.05	56.972	
400.0	400.0	400.1	400.0	0.8	0.7	151.95	-53.0	28.3	60.1	58.6	1.49	40.365	
500.0	500.0	500.0	499.9	1.0	0.9	153.85	-53.7	26.4	59.9	57.9	1.93	31.020	
507.7	507.7	507.7	507.6	1.0	1.0	153.98	-53.8	26.3	59.9	57.9	1.96	30.491	CC
600.0	600.0	599.8	599.7	1.2	1.1	155.12	-54.6	25.3	60.1	57.8	2.36	25.486	
700.0	700.0	700.0	699.9	1.4	1.4	155.90	-54.9	24.6	60.2	57.4	2.79	21.570	
700.7	700.7	700.7	700.6	1.4	1.4	177.41	-54.9	24.6	60.2	57.4	2.80	21.529	ES
800.0	800.0	800.1	800.0	1.7	1.6	178.45	-55.3	23.6	61.9	58.7	3.23	19.174	
900.0	899.8	899.9	899.8	1.9	1.8	179.09	-55.3	22.9	66.8	63.2	3.66	18.258	
1,000.0	999.6	999.7	999.6	2.1	2.0	179.61	-55.5	22.4	73.8	69.7	4.09	18.046	
1,100.0	1,099.4	1,099.7	1,099.6	2.4	2.2	-179.54	-55.6	21.2	80.4	75.9	4.53	17.760	
1,200.0	1,199.1	1,199.3	1,199.1	2.6	2.4	-178.04	-56.1	18.9	87.1	82.1	4.97	17.519	
1,300.0	1,298.9	1,299.4	1,299.2	2.8	2.6	-176.28	-57.0	15.9	93.9	88.5	5.42	17.330	
1,400.0	1,398.6	1,399.5	1,399.2	3.1	2.9	-174.38	-57.5	12.1	100.2	94.4	5.87	17.077	
1,500.0	1,498.4	1,499.9	1,499.6	3.3	3.1	-172.32	-57.8	7.5	106.3	100.0	6.32	16.818	
1,600.0	1,598.1	1,598.2	1,597.8	3.6	3.3	-171.06	-57.6	4.0	112.3	105.5	6.76	16.615	
1,700.0	1,697.9	1,696.2	1,695.8	3.8	3.5	-170.96	-59.2	3.1	120.5	113.3	7.19	16.758	
1,800.0	1,797.6	1,795.4	1,794.9	4.1	3.7	-170.67	-61.3	1.7	129.1	121.5	7.63	16.918	
1,900.0	1,897.4	1,896.0	1,895.5	4.3	3.9	-170.63	-63.5	1.0	138.0	129.9	8.07	17.090	
2,000.0	1,997.2	2,000.1	1,999.5	4.6	4.1	-172.12	-62.9	3.4	144.9	136.4	8.51	17.028	
2,100.0	2,096.9	2,098.8	2,098.2	4.8	4.3	-173.17	-61.0	4.8	150.3	141.4	8.93	16.821	
2,200.0	2,196.7	2,198.2	2,197.5	5.1	4.5	-174.83	-59.2	8.2	156.4	147.1	9.36	16.720	
2,300.0	2,296.4	2,292.6	2,291.8	5.4	4.7	-176.30	-59.2	12.0	164.5	154.7	9.77	16.830	
2,400.0	2,396.2	2,395.7	2,394.9	5.6	4.9	-177.44	-59.9	15.3	173.2	163.0	10.21	16.959	
2,500.0	2,495.9	2,501.0	2,500.1	5.9	5.1	-178.74	-57.8	18.5	179.3	168.6	10.66	16.822	
2,600.0	2,595.7	2,606.1	2,605.1	6.1	5.4	-178.29	-54.6	15.6	182.4	171.3	11.11	16.417	
2,700.0	2,695.5	2,706.3	2,705.1	6.4	5.6	-177.35	-50.0	10.6	183.4	171.8	11.56	15.867	
2,800.0	2,795.2	2,800.6	2,799.3	6.6	5.8	-176.90	-47.4	7.8	186.8	174.8	11.98	15.590	
2,900.0	2,895.0	2,898.6	2,897.3	6.9	6.0	-176.47	-46.5	5.6	192.2	179.8	12.42	15.478	
3,000.0	2,994.7	2,996.8	2,995.4	7.1	6.2	-176.73	-45.4	5.8	198.1	185.3	12.85	15.418	
3,100.0	3,094.5	3,095.4	3,094.0	7.4	6.4	-176.80	-45.6	5.7	205.3	192.0	13.28	15.452	
3,200.0	3,194.2	3,192.4	3,191.0	7.6	6.6	-176.49	-46.4	4.3	212.6	198.9	13.72	15.499	
3,300.0	3,294.0	3,289.0	3,287.5	7.9	6.8	-176.92	-48.3	6.3	222.1	207.9	14.15	15.697	
3,400.0	3,393.8	3,394.0	3,392.6	8.2	7.0	-177.47	-49.9	8.7	231.2	216.7	14.59	15.849	
3,500.0	3,493.5	3,496.0	3,494.5	8.4	7.2	-177.75	-49.2	9.4	237.7	222.7	15.03	15.817	
3,600.0	3,593.3	3,594.9	3,593.4	8.7	7.4	-178.14	-48.5	10.6	244.4	229.0	15.46	15.807	
3,700.0	3,693.0	3,698.2	3,696.7	8.9	7.6	-178.41	-47.5	11.2	250.8	234.9	15.91	15.764	
3,800.0	3,792.8	3,799.4	3,797.9	9.2	7.8	-178.53	-45.7	10.9	255.9	239.5	16.35	15.651	
3,900.0	3,892.5	3,901.1	3,899.6	9.4	8.1	-178.73	-43.1	10.8	260.5	243.7	16.79	15.510	
4,000.0	3,992.3	3,998.4	3,996.9	9.7	8.3	-178.88	-40.8	10.5	265.1	247.9	17.23	15.392	SF
4,100.0	4,092.1	4,091.4	4,089.8	9.9	8.5	-179.05	-40.2	11.0	271.7	254.0	17.65	15.395	
4,200.0	4,191.8	4,192.9	4,191.3	10.2	8.7	-179.34	-40.2	12.4	279.1	261.0	18.09	15.432	
4,300.0	4,291.6	4,294.3	4,292.7	10.5	8.9	-179.51	-39.7	13.0	285.9	267.3	18.53	15.426	
4,400.0	4,391.3	4,392.5	4,390.9	10.7	9.1	-179.54	-39.5	13.1	292.7	273.7	18.97	15.429	
4,500.0	4,491.1	4,492.0	4,490.5	11.0	9.3	-179.44	-40.0	12.6	300.0	280.6	19.41	15.455	
4,600.0	4,590.8	4,593.7	4,592.1	11.2	9.5	-179.43	-39.7	12.4	306.6	286.7	19.85	15.444	
4,700.0	4,690.6	4,691.4	4,689.8	11.5	9.7	-179.50	-39.5	12.6	313.5	293.2	20.28	15.455	
4,800.0	4,790.3	4,789.3	4,787.8	11.7	9.9	-179.62	-39.7	13.4	320.9	300.2	20.71	15.495	

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 #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 26-3524H (Existing) - Existing - SURVEYs

Survey Program: 113-ISCWSA MWD

Offset Site Error: 0.0 ft

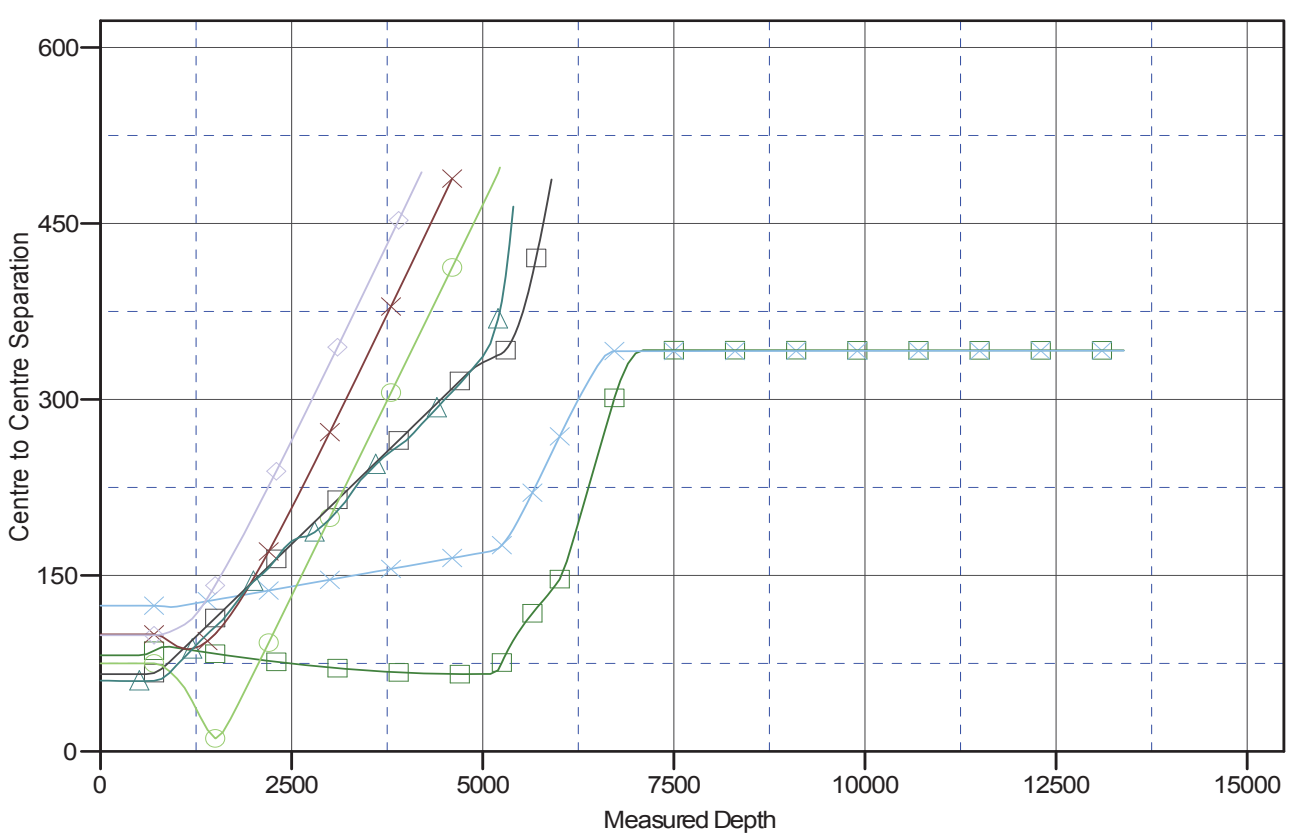
Offset Well Error: 0.0 ft

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
4,900.0	4,890.1	4,889.4	4,887.8	12.0	10.1	-179.77	-40.3	14.5	328.8	307.7	21.15	15.547	
5,000.0	4,989.9	4,984.1	4,982.5	12.3	10.3	-179.85	-40.8	15.1	336.6	315.0	21.58	15.599	
5,100.0	5,089.6	5,067.0	5,065.3	12.5	10.5	-179.68	-44.2	15.4	347.6	325.6	21.98	15.812	
5,200.0	5,189.4	5,117.7	5,115.4	12.8	10.6	-179.31	-51.8	15.8	368.4	346.1	22.33	16.501	
5,226.2	5,215.5	5,130.0	5,127.4	12.8	10.6	-179.18	-54.5	16.0	375.8	353.4	22.41	16.767	
5,250.0	5,239.2	5,145.2	5,142.1	12.9	10.7	-179.00	-58.3	16.2	383.7	361.2	22.45	17.089	
5,300.0	5,288.5	5,173.8	5,169.5	13.1	10.7	-178.57	-66.5	16.7	405.1	382.7	22.39	18.094	
5,350.0	5,336.8	5,201.8	5,196.0	13.3	10.8	-178.03	-75.6	16.9	432.2	410.1	22.13	19.530	
5,400.0	5,383.7	5,225.0	5,217.7	13.5	10.8	-177.44	-83.9	17.0	464.5	442.8	21.68	21.430	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #26K-2306B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Reference Site:	S26-T10N-R58W	**MD Reference:**	WELL @ 4754.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #26K-2306B	**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 WELL @ 4754.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Razor #26K-2306B
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.08°



LEGEND

- Razor #26K-2305A, HZ, Plan #1 V0
- Razor #26K-2307A, HZ, Plan #1 V0
- Razor #26K-2308B, HZ, Plan #1 V0
- Razor #26K-3505A, HZ, Plan #1 V0
- Razor #26K-3507A, HZ, Plan #1 V0
- Razor #26K-3508B, HZ, Plan #1 V0
- Razor 26-3524H (Existing), Existing, SURVEYs

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