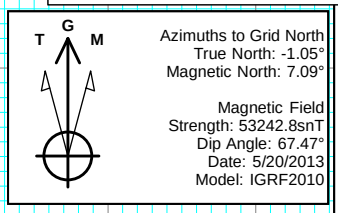
WHITING PETROLEUM CORPORATION

Project: Weld County, CO
Site: S21-T10N-R58W
Well: Razor #21B-2810B
Wellbore: HZ
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
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		KOP @ 700' MD
3	900.0	4.00	176.70	899.8	-7.0	0.4	2.00	176.70	7.0		EOB; 4°
4	5404.6	4.00	176.70	5393.5	-320.7	18.5	0.00	0.00	320.8		Start 11° Build
5	6186.4	90.00	176.70	5878.0	-839.4	48.4	11.00	0.00	839.7		LP @ 6186' MD
6	6296.4	90.00	180.00	5878.0	-949.4	51.6	3.00	90.00	949.7		EOT; 180° Az
7	12749.3	90.00	180.00	5878.0	-7402.2	51.5	0.00	0.00	7402.4	21B-2810B BHL	PBHL @ 12749' MD



Azimuths to Grid North
True North: -1.05°
Magnetic North: 7.09°

Magnetic Field
Strength: 53242.8snT
Dip Angle: 67.47°
Date: 5/20/2013
Model: IGRF2010

Surface Hole Location
Razor #21B-2810B
X: 3451568.81
Y: 1549372.72

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
21B-2810B BHL	5878.0	-7402.2	51.5	1541970.48	3451620.32

Plan #1
Razor #21B-2810B
WELL @ 4853.8ft (Original Well Elev)
Ground Elevation @ 4837.3
North American Datum 1983
Well Razor #21B-2810B, Grid North

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site:	S21-T10N-R58W	**North Reference:**	Grid
Well:	Razor #21B-2810B	**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 S21-T10N-R58W

Site Position:		**Northing:**	1,549,497.72 ft	**Latitude:**	40° 49' 48.98 N
From:	Lat/Long	**Easting:**	3,452,853.58 ft	**Longitude:**	103° 51' 48.82 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.06 °

Well Razor #21B-2810B

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,549,372.72 ft	**Latitude:**	40° 49' 47.98 N
	+E/-W	0.0 ft	**Easting:**	3,451,568.81 ft	**Longitude:**	103° 52' 5.56 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,837.3 ft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/20/2013	8.14	67.47	53,243

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	179.60

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	176.70	899.8	-7.0	0.4	2.00	2.00	0.00	176.70	
5,404.6	4.00	176.70	5,393.5	-320.7	18.5	0.00	0.00	0.00	0.00	
6,186.4	90.00	176.70	5,878.0	-839.4	48.4	11.00	11.00	0.00	0.00	
6,296.4	90.00	180.00	5,878.0	-949.4	51.6	3.00	0.00	3.00	90.00	
12,749.3	90.00	180.00	5,878.0	-7,402.2	51.5	0.00	0.00	0.00	0.00	21B-2810B BHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site:	S21-T10N-R58W	**North Reference:**	Grid
Well:	Razor #21B-2810B	**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	176.70	800.0	-1.7	0.1	1.7	2.00	2.00	
900.0	4.00	176.70	899.8	-7.0	0.4	7.0	2.00	2.00	EOB; 4°
1,000.0	4.00	176.70	999.6	-13.9	0.8	13.9	0.00	0.00	
1,100.0	4.00	176.70	1,099.4	-20.9	1.2	20.9	0.00	0.00	
1,200.0	4.00	176.70	1,199.1	-27.9	1.6	27.9	0.00	0.00	
1,300.0	4.00	176.70	1,298.9	-34.8	2.0	34.8	0.00	0.00	
1,400.0	4.00	176.70	1,398.6	-41.8	2.4	41.8	0.00	0.00	
1,500.0	4.00	176.70	1,498.4	-48.8	2.8	48.8	0.00	0.00	
1,600.0	4.00	176.70	1,598.1	-55.7	3.2	55.7	0.00	0.00	
1,700.0	4.00	176.70	1,697.9	-62.7	3.6	62.7	0.00	0.00	
1,800.0	4.00	176.70	1,797.6	-69.6	4.0	69.7	0.00	0.00	
1,900.0	4.00	176.70	1,897.4	-76.6	4.4	76.6	0.00	0.00	
2,000.0	4.00	176.70	1,997.2	-83.6	4.8	83.6	0.00	0.00	
2,100.0	4.00	176.70	2,096.9	-90.5	5.2	90.6	0.00	0.00	
2,200.0	4.00	176.70	2,196.7	-97.5	5.6	97.5	0.00	0.00	
2,300.0	4.00	176.70	2,296.4	-104.5	6.0	104.5	0.00	0.00	
2,400.0	4.00	176.70	2,396.2	-111.4	6.4	111.5	0.00	0.00	
2,500.0	4.00	176.70	2,495.9	-118.4	6.8	118.4	0.00	0.00	
2,600.0	4.00	176.70	2,595.7	-125.4	7.2	125.4	0.00	0.00	
2,700.0	4.00	176.70	2,695.5	-132.3	7.6	132.4	0.00	0.00	
2,800.0	4.00	176.70	2,795.2	-139.3	8.0	139.3	0.00	0.00	
2,900.0	4.00	176.70	2,895.0	-146.2	8.4	146.3	0.00	0.00	
3,000.0	4.00	176.70	2,994.7	-153.2	8.8	153.3	0.00	0.00	
3,100.0	4.00	176.70	3,094.5	-160.2	9.2	160.2	0.00	0.00	
3,200.0	4.00	176.70	3,194.2	-167.1	9.6	167.2	0.00	0.00	
3,300.0	4.00	176.70	3,294.0	-174.1	10.0	174.2	0.00	0.00	
3,400.0	4.00	176.70	3,393.7	-181.1	10.4	181.1	0.00	0.00	
3,500.0	4.00	176.70	3,493.5	-188.0	10.8	188.1	0.00	0.00	
3,600.0	4.00	176.70	3,593.3	-195.0	11.2	195.1	0.00	0.00	
3,700.0	4.00	176.70	3,693.0	-202.0	11.6	202.0	0.00	0.00	
3,800.0	4.00	176.70	3,792.8	-208.9	12.0	209.0	0.00	0.00	
3,900.0	4.00	176.70	3,892.5	-215.9	12.4	216.0	0.00	0.00	
4,000.0	4.00	176.70	3,992.3	-222.9	12.8	222.9	0.00	0.00	
4,100.0	4.00	176.70	4,092.0	-229.8	13.3	229.9	0.00	0.00	
4,200.0	4.00	176.70	4,191.8	-236.8	13.7	236.9	0.00	0.00	
4,300.0	4.00	176.70	4,291.6	-243.7	14.1	243.8	0.00	0.00	
4,400.0	4.00	176.70	4,391.3	-250.7	14.5	250.8	0.00	0.00	
4,500.0	4.00	176.70	4,491.1	-257.7	14.9	257.8	0.00	0.00	
4,600.0	4.00	176.70	4,590.8	-264.6	15.3	264.7	0.00	0.00	
4,700.0	4.00	176.70	4,690.6	-271.6	15.7	271.7	0.00	0.00	
4,800.0	4.00	176.70	4,790.3	-278.6	16.1	278.7	0.00	0.00	
4,900.0	4.00	176.70	4,890.1	-285.5	16.5	285.6	0.00	0.00	
5,000.0	4.00	176.70	4,989.9	-292.5	16.9	292.6	0.00	0.00	
5,100.0	4.00	176.70	5,089.6	-299.5	17.3	299.6	0.00	0.00	

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Site:	S21-T10N-R58W	**North Reference:**	Grid
Well:	Razor #21B-2810B	**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	176.70	5,189.4	-306.4	17.7	306.5	0.00	0.00	
5,300.0	4.00	176.70	5,289.1	-313.4	18.1	313.5	0.00	0.00	
5,400.0	4.00	176.70	5,388.9	-320.4	18.5	320.5	0.00	0.00	
5,404.6	4.00	176.70	5,393.5	-320.7	18.5	320.8	0.00	0.00	Start 11° Build
5,500.0	14.49	176.70	5,487.5	-336.0	19.4	336.1	11.00	11.00	
5,600.0	25.49	176.70	5,581.3	-370.0	21.3	370.2	11.00	11.00	
5,700.0	36.49	176.70	5,666.9	-421.4	24.3	421.5	11.00	11.00	
5,800.0	47.49	176.70	5,741.1	-488.1	28.1	488.2	11.00	11.00	
5,892.0	57.61	176.70	5,797.0	-560.9	32.3	561.1	11.00	11.00	Top Niobrara
5,900.0	58.49	176.70	5,801.2	-567.7	32.7	567.9	11.00	11.00	
6,000.0	69.49	176.70	5,845.0	-657.2	37.9	657.5	11.00	11.00	
6,100.0	80.49	176.70	5,870.9	-753.5	43.4	753.8	11.00	11.00	
6,186.4	90.00	176.70	5,878.0	-839.4	48.4	839.7	11.00	11.00	LP @ 6186' MD - 7"
6,200.0	90.00	177.11	5,878.0	-853.0	49.1	853.3	2.99	0.02	
6,296.4	90.00	180.00	5,878.0	-949.4	51.6	949.7	3.00	0.00	EOT; 180° Az
6,300.0	90.00	180.00	5,878.0	-952.9	51.6	953.3	0.00	0.00	
6,400.0	90.00	180.00	5,878.0	-1,052.9	51.6	1,053.3	0.00	0.00	
6,500.0	90.00	180.00	5,878.0	-1,152.9	51.6	1,153.3	0.00	0.00	
6,600.0	90.00	180.00	5,878.0	-1,252.9	51.6	1,253.2	0.00	0.00	
6,700.0	90.00	180.00	5,878.0	-1,352.9	51.6	1,353.2	0.00	0.00	
6,800.0	90.00	180.00	5,878.0	-1,452.9	51.6	1,453.2	0.00	0.00	
6,900.0	90.00	180.00	5,878.0	-1,552.9	51.6	1,553.2	0.00	0.00	
7,000.0	90.00	180.00	5,878.0	-1,652.9	51.6	1,653.2	0.00	0.00	
7,100.0	90.00	180.00	5,878.0	-1,752.9	51.6	1,753.2	0.00	0.00	
7,200.0	90.00	180.00	5,878.0	-1,852.9	51.6	1,853.2	0.00	0.00	
7,300.0	90.00	180.00	5,878.0	-1,952.9	51.6	1,953.2	0.00	0.00	
7,400.0	90.00	180.00	5,878.0	-2,052.9	51.6	2,053.2	0.00	0.00	
7,500.0	90.00	180.00	5,878.0	-2,152.9	51.6	2,153.2	0.00	0.00	
7,600.0	90.00	180.00	5,878.0	-2,252.9	51.6	2,253.2	0.00	0.00	
7,700.0	90.00	180.00	5,878.0	-2,352.9	51.6	2,353.2	0.00	0.00	
7,800.0	90.00	180.00	5,878.0	-2,452.9	51.6	2,453.2	0.00	0.00	
7,900.0	90.00	180.00	5,878.0	-2,552.9	51.6	2,553.2	0.00	0.00	
8,000.0	90.00	180.00	5,878.0	-2,652.9	51.6	2,653.2	0.00	0.00	
8,100.0	90.00	180.00	5,878.0	-2,752.9	51.6	2,753.2	0.00	0.00	
8,200.0	90.00	180.00	5,878.0	-2,852.9	51.5	2,853.2	0.00	0.00	
8,300.0	90.00	180.00	5,878.0	-2,952.9	51.5	2,953.2	0.00	0.00	
8,400.0	90.00	180.00	5,878.0	-3,052.9	51.5	3,053.2	0.00	0.00	
8,500.0	90.00	180.00	5,878.0	-3,152.9	51.5	3,153.2	0.00	0.00	
8,600.0	90.00	180.00	5,878.0	-3,252.9	51.5	3,253.2	0.00	0.00	
8,700.0	90.00	180.00	5,878.0	-3,352.9	51.5	3,353.2	0.00	0.00	
8,800.0	90.00	180.00	5,878.0	-3,452.9	51.5	3,453.2	0.00	0.00	
8,900.0	90.00	180.00	5,878.0	-3,552.9	51.5	3,553.2	0.00	0.00	
9,000.0	90.00	180.00	5,878.0	-3,652.9	51.5	3,653.2	0.00	0.00	
9,100.0	90.00	180.00	5,878.0	-3,752.9	51.5	3,753.2	0.00	0.00	
9,200.0	90.00	180.00	5,878.0	-3,852.9	51.5	3,853.2	0.00	0.00	
9,300.0	90.00	180.00	5,878.0	-3,952.9	51.5	3,953.2	0.00	0.00	
9,400.0	90.00	180.00	5,878.0	-4,052.9	51.5	4,053.2	0.00	0.00	
9,500.0	90.00	180.00	5,878.0	-4,152.9	51.5	4,153.2	0.00	0.00	
9,600.0	90.00	180.00	5,878.0	-4,252.9	51.5	4,253.2	0.00	0.00	
9,700.0	90.00	180.00	5,878.0	-4,352.9	51.5	4,353.2	0.00	0.00	
9,800.0	90.00	180.00	5,878.0	-4,452.9	51.5	4,453.2	0.00	0.00	
9,900.0	90.00	180.00	5,878.0	-4,552.9	51.5	4,553.2	0.00	0.00	

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Site:	S21-T10N-R58W	**North Reference:**	Grid
Well:	Razor #21B-2810B	**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	180.00	5,878.0	-4,652.9	51.5	4,653.2	0.00	0.00	
10,100.0	90.00	180.00	5,878.0	-4,752.9	51.5	4,753.2	0.00	0.00	
10,200.0	90.00	180.00	5,878.0	-4,852.9	51.5	4,853.2	0.00	0.00	
10,300.0	90.00	180.00	5,878.0	-4,952.9	51.5	4,953.2	0.00	0.00	
10,400.0	90.00	180.00	5,878.0	-5,052.9	51.5	5,053.2	0.00	0.00	
10,500.0	90.00	180.00	5,878.0	-5,152.9	51.5	5,153.2	0.00	0.00	
10,600.0	90.00	180.00	5,878.0	-5,252.9	51.5	5,253.2	0.00	0.00	
10,700.0	90.00	180.00	5,878.0	-5,352.9	51.5	5,353.2	0.00	0.00	
10,800.0	90.00	180.00	5,878.0	-5,452.9	51.5	5,453.1	0.00	0.00	
10,900.0	90.00	180.00	5,878.0	-5,552.9	51.5	5,553.1	0.00	0.00	
11,000.0	90.00	180.00	5,878.0	-5,652.9	51.5	5,653.1	0.00	0.00	
11,100.0	90.00	180.00	5,878.0	-5,752.9	51.5	5,753.1	0.00	0.00	
11,200.0	90.00	180.00	5,878.0	-5,852.9	51.5	5,853.1	0.00	0.00	
11,300.0	90.00	180.00	5,878.0	-5,952.9	51.5	5,953.1	0.00	0.00	
11,400.0	90.00	180.00	5,878.0	-6,052.9	51.5	6,053.1	0.00	0.00	
11,500.0	90.00	180.00	5,878.0	-6,152.9	51.5	6,153.1	0.00	0.00	
11,600.0	90.00	180.00	5,878.0	-6,252.9	51.5	6,253.1	0.00	0.00	
11,700.0	90.00	180.00	5,878.0	-6,352.9	51.5	6,353.1	0.00	0.00	
11,800.0	90.00	180.00	5,878.0	-6,452.9	51.5	6,453.1	0.00	0.00	
11,900.0	90.00	180.00	5,878.0	-6,552.9	51.5	6,553.1	0.00	0.00	
12,000.0	90.00	180.00	5,878.0	-6,652.9	51.5	6,653.1	0.00	0.00	
12,100.0	90.00	180.00	5,878.0	-6,752.9	51.5	6,753.1	0.00	0.00	
12,200.0	90.00	180.00	5,878.0	-6,852.9	51.5	6,853.1	0.00	0.00	
12,300.0	90.00	180.00	5,878.0	-6,952.9	51.5	6,953.1	0.00	0.00	
12,400.0	90.00	180.00	5,878.0	-7,052.9	51.5	7,053.1	0.00	0.00	
12,500.0	90.00	180.00	5,878.0	-7,152.9	51.5	7,153.1	0.00	0.00	
12,600.0	90.00	180.00	5,878.0	-7,252.9	51.5	7,253.1	0.00	0.00	
12,700.0	90.00	180.00	5,878.0	-7,352.9	51.5	7,353.1	0.00	0.00	
12,749.3	90.00	180.00	5,878.0	-7,402.2	51.5	7,402.4	0.00	0.00	PBHL @ 12749' 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
21B-2810B BHL - plan hits target center - Point	0.00	0.00	5,878.0	-7,402.2	51.5	1,541,970.48	3,451,620.32	40° 48' 34.84 N	103° 52' 6.66 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,186.4	5,878.0	7"	0.000	0.000

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site:	S21-T10N-R58W	**North Reference:**	Grid
Well:	Razor #21B-2810B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,892.0	5,797.0	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	-7.0	0.4	EOB; 4°
5,404.6	5,393.5	-320.7	18.5	Start 11° Build
6,186.4	5,878.0	-839.4	48.4	LP @ 6186' MD
6,296.4	5,878.0	-949.4	51.6	EOT; 180° Az
12,749.3	5,878.0	-7,402.2	51.5	PBHL @ 12749' MD

WHITING WHITING PETROLEUM CORPORATION

Whiting Petroleum Corporation

Weld County, CO
S21-T10N-R58W
Razor #21B-2810B
HZ
Plan #1

Anticollision Report

28 May, 2013

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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	12,749.3	Plan #1 (HZ)	ISCWSA MWD	MWD - ISCWSA

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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
S21-T10N-R58W						
Fregeau 1 (Existing) - Existing - ASSUMED VERTICAL						Out of range
Fregeau 2 (Existing) - Existing - ASSUMED VERTICAL						Out of range
Nelson Ranches E-1 (Existing) - Existing - ASSUMED VE						Out of range
Razor #21A-0913A - HZ - Plan #1						Out of range
Razor #21A-0914B - HZ - Plan #1						Out of range
Razor #21A-0915A - HZ - Plan #1						Out of range
Razor #21A-0916B - HZ - Plan #1						Out of range
Razor #21A-2813A - HZ - Plan #1						Out of range
Razor #21A-2814B - HZ - Plan #1						Out of range
Razor #21A-2815A - HZ - Plan #1						Out of range
Razor #21A-2816B - HZ - Plan #1						Out of range
Razor #21B-0909A - HZ - Plan #1	500.0	500.0	76.1	74.2	38.342	CC, ES
Razor #21B-0909A - HZ - Plan #1	800.0	794.7	90.1	86.8	27.209	SF
Razor #21B-0910B - HZ - Plan #1	700.0	700.0	32.4	29.5	11.230	CC, ES
Razor #21B-0910B - HZ - Plan #1	800.0	799.5	33.3	30.0	10.070	SF
Razor #21B-0911A - HZ - Plan #1	700.0	700.0	100.8	98.0	34.954	CC, ES
Razor #21B-0911A - HZ - Plan #1	1,200.0	1,191.8	133.6	128.6	26.844	SF
Razor #21B-0912B - HZ - Plan #1	735.2	735.2	33.0	29.9	10.864	CC
Razor #21B-0912B - HZ - Plan #1	800.0	800.0	33.0	29.7	9.979	ES
Razor #21B-0912B - HZ - Plan #1	1,100.0	1,099.4	38.9	34.4	8.533	SF
Razor #21B-2809A - HZ - Plan #1	700.0	700.0	83.1	80.2	28.796	CC
Razor #21B-2809A - HZ - Plan #1	12,750.2	12,826.3	340.4	62.6	1.225	Level 2, ES, SF
Razor #21B-2811A - HZ - Plan #1	860.9	864.8	73.6	70.2	21.199	CC
Razor #21B-2811A - HZ - Plan #1	12,749.3	12,774.5	340.8	62.4	1.224	Level 2, ES, SF
Razor #21B-2812B - HZ - Plan #1	821.8	821.7	66.1	62.7	19.473	CC
Razor #21B-2812B - HZ - Plan #1	900.0	899.8	66.2	62.5	17.851	ES
Razor #21B-2812B - HZ - Plan #1	5,404.6	5,400.7	204.5	178.2	7.784	SF
Razor #21C-0905A - HZ - Plan #1						Out of range
Razor #21C-0906B - HZ - Plan #1						Out of range
Razor #21C-0907A - HZ - Plan #1						Out of range
Razor #21C-0908B - HZ - Plan #1						Out of range
Razor #21C-2805A - HZ - Plan #1						Out of range
Razor #21C-2806B - HZ - Plan #1						Out of range
Razor #21C-2807A - HZ - Plan #1						Out of range
Razor #21C-2808B - HZ - Plan #1						Out of range
Razor #21D-0901A - HZ - Plan #1						Out of range
Razor #21D-0902B - HZ - Plan #1						Out of range
Razor #21D-0903A - HZ - Plan #1						Out of range
Razor #21D-0904B - HZ - Plan #1						Out of range
Razor #21D-2801A - HZ - Plan #1						Out of range
Razor #21D-2802B - HZ - Plan #1						Out of range
Razor #21D-2803A - HZ - Plan #1						Out of range
Razor #21D-2804B - HZ - Plan #1						Out of range

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-0909A - 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	-1.05	76.1	-1.4	76.1				
100.0	100.0	100.0	100.0	0.1	0.1	-1.05	76.1	-1.4	76.1	76.0	0.19	405.689	
200.0	200.0	200.0	200.0	0.3	0.3	-1.05	76.1	-1.4	76.1	75.5	0.64	119.489	
300.0	300.0	300.0	300.0	0.5	0.5	-1.05	76.1	-1.4	76.1	75.1	1.09	70.062	
400.0	400.0	400.0	400.0	0.8	0.8	-1.05	76.1	-1.4	76.1	74.6	1.54	49.561	
500.0	500.0	500.0	500.0	1.0	1.0	-1.05	76.1	-1.4	76.1	74.2	1.99	38.342	CC, ES
600.0	600.0	597.7	597.7	1.2	1.2	-1.67	77.6	-2.3	77.6	75.2	2.43	31.945	
700.0	700.0	695.2	695.1	1.4	1.4	-3.40	81.8	-4.9	82.1	79.2	2.88	28.528	
800.0	800.0	794.7	794.3	1.6	1.7	177.83	87.7	-8.5	90.1	86.8	3.31	27.209	SF
900.0	899.8	894.0	893.4	1.8	1.9	176.22	93.7	-12.1	101.6	97.9	3.72	27.318	
1,000.0	999.6	993.1	992.2	2.0	2.1	175.02	99.6	-15.6	114.9	110.8	4.13	27.817	
1,100.0	1,099.4	1,092.2	1,091.1	2.2	2.4	174.07	105.5	-19.2	128.3	123.7	4.55	28.177	
1,200.0	1,199.1	1,191.3	1,189.9	2.5	2.6	173.30	111.4	-22.8	141.7	136.7	4.98	28.443	
1,300.0	1,298.9	1,290.3	1,288.7	2.7	2.9	172.66	117.3	-26.4	155.1	149.7	5.41	28.642	
1,400.0	1,398.6	1,389.4	1,387.6	2.9	3.1	172.13	123.2	-30.0	168.5	162.6	5.85	28.794	
1,500.0	1,498.4	1,488.5	1,486.4	3.2	3.4	171.67	129.1	-33.6	181.9	175.6	6.29	28.911	
1,600.0	1,598.1	1,587.6	1,585.3	3.4	3.6	171.28	135.0	-37.2	195.4	188.6	6.74	29.004	
1,700.0	1,697.9	1,686.7	1,684.1	3.7	3.9	170.93	140.9	-40.8	208.8	201.6	7.18	29.077	
1,800.0	1,797.6	1,785.8	1,783.0	3.9	4.1	170.63	146.8	-44.4	222.3	214.6	7.63	29.135	
1,900.0	1,897.4	1,884.8	1,881.8	4.2	4.4	170.37	152.7	-48.0	235.7	227.7	8.08	29.183	
2,000.0	1,997.2	1,983.9	1,980.6	4.4	4.6	170.13	158.6	-51.6	249.2	240.7	8.53	29.221	
2,100.0	2,096.9	2,083.0	2,079.5	4.7	4.9	169.91	164.5	-55.1	262.7	253.7	8.98	29.252	
2,200.0	2,196.7	2,182.1	2,178.3	4.9	5.2	169.72	170.4	-58.7	276.2	266.7	9.43	29.278	
2,300.0	2,296.4	2,281.2	2,277.2	5.2	5.4	169.55	176.3	-62.3	289.6	279.8	9.89	29.299	
2,400.0	2,396.2	2,380.3	2,376.0	5.4	5.7	169.39	182.2	-65.9	303.1	292.8	10.34	29.317	
2,500.0	2,495.9	2,479.3	2,474.9	5.7	5.9	169.24	188.1	-69.5	316.6	305.8	10.79	29.332	
2,600.0	2,595.7	2,578.4	2,573.7	5.9	6.2	169.11	194.1	-73.1	330.1	318.8	11.25	29.344	
2,700.0	2,695.5	2,677.5	2,672.5	6.2	6.4	168.98	200.0	-76.7	343.6	331.9	11.70	29.355	
2,800.0	2,795.2	2,776.6	2,771.4	6.5	6.7	168.87	205.9	-80.3	357.1	344.9	12.16	29.363	
2,900.0	2,895.0	2,875.7	2,870.2	6.7	6.9	168.76	211.8	-83.9	370.6	357.9	12.62	29.371	
3,000.0	2,994.7	2,974.8	2,969.1	7.0	7.2	168.67	217.7	-87.5	384.0	371.0	13.07	29.377	
3,100.0	3,094.5	3,073.9	3,067.9	7.2	7.4	168.57	223.6	-91.1	397.5	384.0	13.53	29.382	
3,200.0	3,194.2	3,172.9	3,166.7	7.5	7.7	168.49	229.5	-94.6	411.0	397.0	13.99	29.386	
3,300.0	3,294.0	3,272.0	3,265.6	7.8	7.9	168.41	235.4	-98.2	424.5	410.1	14.44	29.390	
3,400.0	3,393.7	3,371.1	3,364.4	8.0	8.2	168.33	241.3	-101.8	438.0	423.1	14.90	29.393	
3,500.0	3,493.5	3,470.2	3,463.3	8.3	8.5	168.26	247.2	-105.4	451.5	436.1	15.36	29.395	
3,600.0	3,593.3	3,569.3	3,562.1	8.5	8.7	168.20	253.1	-109.0	465.0	449.2	15.82	29.397	
3,700.0	3,693.0	3,668.4	3,661.0	8.8	9.0	168.13	259.0	-112.6	478.5	462.2	16.28	29.399	
3,800.0	3,792.8	3,767.4	3,759.8	9.1	9.2	168.07	264.9	-116.2	492.0	475.3	16.73	29.400	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-0910B - 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	-89.11	0.5	-32.4	32.4				
100.0	100.0	100.0	100.0	0.1	0.1	-89.11	0.5	-32.4	32.4	32.2	0.19	172.622	
200.0	200.0	200.0	200.0	0.3	0.3	-89.11	0.5	-32.4	32.4	31.8	0.64	50.843	
300.0	300.0	300.0	300.0	0.5	0.5	-89.11	0.5	-32.4	32.4	31.3	1.09	29.812	
400.0	400.0	400.0	400.0	0.8	0.8	-89.11	0.5	-32.4	32.4	30.9	1.54	21.088	
500.0	500.0	500.0	500.0	1.0	1.0	-89.11	0.5	-32.4	32.4	30.4	1.99	16.315	
600.0	600.0	600.0	600.0	1.2	1.2	-89.11	0.5	-32.4	32.4	30.0	2.44	13.303	
700.0	700.0	700.0	700.0	1.4	1.4	-89.11	0.5	-32.4	32.4	29.5	2.88	11.230	CC, ES
800.0	800.0	799.5	799.5	1.6	1.7	99.97	2.1	-32.9	33.3	30.0	3.30	10.070	SF
900.0	899.8	898.3	898.2	1.8	1.9	114.91	7.0	-34.5	37.7	34.0	3.71	10.157	
1,000.0	999.6	997.3	996.9	2.0	2.1	129.33	13.6	-36.7	46.6	42.4	4.13	11.274	
1,100.0	1,099.4	1,096.4	1,095.8	2.2	2.4	138.77	20.1	-38.8	57.5	52.9	4.56	12.608	
1,200.0	1,199.1	1,195.4	1,194.6	2.5	2.6	145.11	26.7	-41.0	69.4	64.4	4.99	13.915	
1,300.0	1,298.9	1,294.5	1,293.4	2.7	2.8	149.55	33.3	-43.2	81.9	76.5	5.42	15.114	
1,400.0	1,398.6	1,393.5	1,392.2	2.9	3.1	152.81	39.8	-45.3	94.8	88.9	5.85	16.189	
1,500.0	1,498.4	1,492.6	1,491.0	3.2	3.3	155.28	46.4	-47.5	107.9	101.6	6.29	17.145	
1,600.0	1,598.1	1,591.6	1,589.8	3.4	3.6	157.22	53.0	-49.6	121.1	114.4	6.73	17.992	
1,700.0	1,697.9	1,690.6	1,688.6	3.7	3.8	158.77	59.5	-51.8	134.5	127.3	7.17	18.747	
1,800.0	1,797.6	1,789.7	1,787.4	3.9	4.1	160.05	66.1	-53.9	147.9	140.3	7.62	19.419	
1,900.0	1,897.4	1,888.7	1,886.2	4.2	4.3	161.11	72.7	-56.1	161.5	153.4	8.06	20.021	
2,000.0	1,997.2	1,987.8	1,985.0	4.4	4.6	162.00	79.2	-58.2	175.0	166.5	8.51	20.563	
2,100.0	2,096.9	2,086.8	2,083.8	4.7	4.8	162.77	85.8	-60.4	188.6	179.6	8.96	21.052	
2,200.0	2,196.7	2,185.9	2,182.6	4.9	5.1	163.43	92.4	-62.5	202.2	192.8	9.41	21.496	
2,300.0	2,296.4	2,284.9	2,281.4	5.2	5.3	164.01	98.9	-64.7	215.9	206.0	9.86	21.899	
2,400.0	2,396.2	2,384.0	2,380.2	5.4	5.6	164.52	105.5	-66.8	229.5	219.2	10.31	22.268	
2,500.0	2,495.9	2,483.0	2,479.0	5.7	5.8	164.98	112.0	-69.0	243.2	232.4	10.76	22.606	
2,600.0	2,595.7	2,582.0	2,577.8	5.9	6.1	165.38	118.6	-71.2	256.9	245.7	11.21	22.917	
2,700.0	2,695.5	2,681.1	2,676.6	6.2	6.3	165.75	125.2	-73.3	270.6	258.9	11.66	23.204	
2,800.0	2,795.2	2,780.1	2,775.4	6.5	6.6	166.08	131.7	-75.5	284.3	272.2	12.11	23.470	
2,900.0	2,895.0	2,879.2	2,874.2	6.7	6.8	166.38	138.3	-77.6	298.0	285.4	12.57	23.716	
3,000.0	2,994.7	2,978.2	2,973.0	7.0	7.1	166.65	144.9	-79.8	311.7	298.7	13.02	23.945	
3,100.0	3,094.5	3,077.3	3,071.8	7.2	7.3	166.90	151.4	-81.9	325.5	312.0	13.47	24.159	
3,200.0	3,194.2	3,176.3	3,170.6	7.5	7.6	167.13	158.0	-84.1	339.2	325.3	13.93	24.358	
3,300.0	3,294.0	3,275.3	3,269.4	7.8	7.8	167.34	164.6	-86.2	352.9	338.6	14.38	24.545	
3,400.0	3,393.7	3,374.4	3,368.2	8.0	8.1	167.53	171.1	-88.4	366.7	351.9	14.83	24.721	
3,500.0	3,493.5	3,473.4	3,467.0	8.3	8.3	167.72	177.7	-90.5	380.4	365.2	15.29	24.886	
3,600.0	3,593.3	3,572.5	3,565.8	8.5	8.6	167.89	184.3	-92.7	394.2	378.5	15.74	25.041	
3,700.0	3,693.0	3,671.5	3,664.6	8.8	8.8	168.04	190.8	-94.9	408.0	391.8	16.20	25.188	
3,800.0	3,792.8	3,770.6	3,763.4	9.1	9.1	168.19	197.4	-97.0	421.7	405.1	16.65	25.326	
3,900.0	3,892.5	3,869.6	3,862.2	9.3	9.4	168.33	204.0	-99.2	435.5	418.4	17.11	25.457	
4,000.0	3,992.3	3,968.6	3,961.0	9.6	9.6	168.46	210.5	-101.3	449.2	431.7	17.56	25.581	
4,100.0	4,092.0	4,067.7	4,059.8	9.9	9.9	168.58	217.1	-103.5	463.0	445.0	18.02	25.699	
4,200.0	4,191.8	4,166.7	4,158.6	10.1	10.1	168.69	223.6	-105.6	476.8	458.3	18.47	25.811	
4,300.0	4,291.6	4,265.8	4,257.4	10.4	10.4	168.80	230.2	-107.8	490.6	471.6	18.93	25.918	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-0911A - 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	39.93	77.3	64.7	100.8				
100.0	100.0	100.0	100.0	0.1	0.1	39.93	77.3	64.7	100.8	100.7	0.19	537.290	
200.0	200.0	200.0	200.0	0.3	0.3	39.93	77.3	64.7	100.8	100.2	0.64	158.249	
300.0	300.0	300.0	300.0	0.5	0.5	39.93	77.3	64.7	100.8	99.8	1.09	92.789	
400.0	400.0	400.0	400.0	0.8	0.8	39.93	77.3	64.7	100.8	99.3	1.54	65.638	
500.0	500.0	500.0	500.0	1.0	1.0	39.93	77.3	64.7	100.8	98.9	1.99	50.780	
600.0	600.0	600.0	600.0	1.2	1.2	39.93	77.3	64.7	100.8	98.4	2.44	41.406	
700.0	700.0	700.0	700.0	1.4	1.4	39.93	77.3	64.7	100.8	98.0	2.88	34.954	CC, ES
800.0	800.0	800.0	800.0	1.6	1.7	-137.42	77.3	64.7	102.1	98.8	3.31	30.880	
900.0	899.8	899.8	899.8	1.8	1.9	-139.28	77.3	64.7	106.0	102.3	3.71	28.570	
1,000.0	999.6	996.8	996.8	2.0	2.1	-142.12	78.9	64.5	112.7	108.5	4.12	27.328	
1,100.0	1,099.4	1,093.1	1,092.9	2.2	2.3	-145.60	83.8	63.9	122.2	117.6	4.54	26.879	
1,200.0	1,199.1	1,191.8	1,191.5	2.5	2.6	-149.14	90.6	63.0	133.6	128.6	4.98	26.844	SF
1,300.0	1,298.9	1,290.9	1,290.2	2.7	2.8	-152.11	97.4	62.1	145.5	140.1	5.41	26.884	
1,400.0	1,398.6	1,389.9	1,389.0	2.9	3.0	-154.64	104.3	61.1	157.7	151.9	5.85	26.961	
1,500.0	1,498.4	1,488.9	1,487.8	3.2	3.3	-156.80	111.1	60.2	170.2	163.9	6.29	27.058	
1,600.0	1,598.1	1,588.0	1,586.6	3.4	3.5	-158.66	118.0	59.3	182.9	176.2	6.73	27.166	
1,700.0	1,697.9	1,687.0	1,685.4	3.7	3.7	-160.28	124.8	58.4	195.7	188.6	7.18	27.279	
1,800.0	1,797.6	1,786.0	1,784.2	3.9	4.0	-161.70	131.7	57.5	208.7	201.1	7.62	27.392	
1,900.0	1,897.4	1,885.0	1,883.0	4.2	4.2	-162.95	138.5	56.6	221.8	213.8	8.07	27.503	
2,000.0	1,997.2	1,984.1	1,981.8	4.4	4.5	-164.07	145.4	55.7	235.0	226.5	8.51	27.611	
2,100.0	2,096.9	2,083.1	2,080.5	4.7	4.7	-165.06	152.2	54.8	248.3	239.3	8.96	27.714	
2,200.0	2,196.7	2,182.1	2,179.3	4.9	5.0	-165.96	159.1	53.9	261.6	252.2	9.41	27.813	
2,300.0	2,296.4	2,281.2	2,278.1	5.2	5.2	-166.76	165.9	52.9	275.0	265.2	9.86	27.906	
2,400.0	2,396.2	2,380.2	2,376.9	5.4	5.5	-167.50	172.8	52.0	288.5	278.2	10.30	27.995	
2,500.0	2,495.9	2,479.2	2,475.7	5.7	5.7	-168.16	179.6	51.1	302.0	291.2	10.75	28.079	
2,600.0	2,595.7	2,578.2	2,574.5	5.9	6.0	-168.77	186.5	50.2	315.5	304.3	11.20	28.158	
2,700.0	2,695.5	2,677.3	2,673.3	6.2	6.2	-169.33	193.3	49.3	329.0	317.4	11.65	28.233	
2,800.0	2,795.2	2,776.3	2,772.1	6.5	6.5	-169.85	200.1	48.4	342.6	330.5	12.10	28.304	
2,900.0	2,895.0	2,875.3	2,870.8	6.7	6.7	-170.32	207.0	47.5	356.2	343.7	12.56	28.372	
3,000.0	2,994.7	2,974.4	2,969.6	7.0	7.0	-170.77	213.8	46.6	369.8	356.8	13.01	28.435	
3,100.0	3,094.5	3,073.4	3,068.4	7.2	7.2	-171.18	220.7	45.7	383.5	370.0	13.46	28.495	
3,200.0	3,194.2	3,172.4	3,167.2	7.5	7.5	-171.56	227.5	44.7	397.2	383.2	13.91	28.553	
3,300.0	3,294.0	3,271.4	3,266.0	7.8	7.7	-171.91	234.4	43.8	410.8	396.5	14.36	28.607	
3,400.0	3,393.7	3,370.5	3,364.8	8.0	8.0	-172.25	241.2	42.9	424.5	409.7	14.81	28.658	
3,500.0	3,493.5	3,469.5	3,463.6	8.3	8.2	-172.56	248.1	42.0	438.3	423.0	15.27	28.707	
3,600.0	3,593.3	3,568.5	3,562.3	8.5	8.5	-172.85	254.9	41.1	452.0	436.3	15.72	28.753	
3,700.0	3,693.0	3,667.6	3,661.1	8.8	8.7	-173.13	261.8	40.2	465.7	449.5	16.17	28.798	
3,800.0	3,792.8	3,766.6	3,759.9	9.1	9.0	-173.39	268.6	39.3	479.5	462.8	16.62	28.840	
3,900.0	3,892.5	3,865.6	3,858.7	9.3	9.2	-173.64	275.5	38.4	493.2	476.1	17.08	28.880	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-0912B - 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	87.04	1.7	32.9	33.0				
100.0	100.0	100.0	100.0	0.1	0.1	87.04	1.7	32.9	33.0	32.8	0.19	175.569	
200.0	200.0	200.0	200.0	0.3	0.3	87.04	1.7	32.9	33.0	32.3	0.64	51.711	
300.0	300.0	300.0	300.0	0.5	0.5	87.04	1.7	32.9	33.0	31.9	1.09	30.321	
400.0	400.0	400.0	400.0	0.8	0.8	87.04	1.7	32.9	33.0	31.4	1.54	21.449	
500.0	500.0	500.0	500.0	1.0	1.0	87.04	1.7	32.9	33.0	31.0	1.99	16.593	
600.0	600.0	600.0	600.0	1.2	1.2	87.04	1.7	32.9	33.0	30.5	2.44	13.530	
700.0	700.0	700.0	700.0	1.4	1.4	87.04	1.7	32.9	33.0	30.1	2.88	11.422	
735.2	735.2	735.2	735.2	1.5	1.5	-90.04	1.7	32.9	33.0	29.9	3.03	10.864	CC
800.0	800.0	800.0	800.0	1.6	1.7	-92.69	1.7	32.9	33.0	29.7	3.31	9.979	ES
900.0	899.8	899.8	899.8	1.8	1.9	-101.61	1.7	32.9	33.6	29.9	3.71	9.066	
1,000.0	999.6	999.6	999.6	2.0	2.1	-112.62	1.7	32.9	35.7	31.6	4.13	8.642	
1,100.0	1,099.4	1,099.4	1,099.4	2.2	2.3	-122.12	1.7	32.9	38.9	34.4	4.56	8.533	SF
1,200.0	1,199.1	1,197.8	1,197.8	2.5	2.6	-131.09	3.3	33.3	44.5	39.5	4.99	8.906	
1,300.0	1,298.9	1,295.6	1,295.5	2.7	2.8	-139.46	8.2	34.4	54.0	48.6	5.43	9.946	
1,400.0	1,398.6	1,394.6	1,394.2	2.9	3.0	-145.83	14.9	36.0	66.1	60.2	5.86	11.267	
1,500.0	1,498.4	1,493.7	1,493.0	3.2	3.2	-150.20	21.6	37.6	78.7	72.4	6.30	12.496	
1,600.0	1,598.1	1,592.7	1,591.8	3.4	3.5	-153.36	28.4	39.2	91.7	84.9	6.74	13.609	
1,700.0	1,697.9	1,691.8	1,690.6	3.7	3.7	-155.73	35.1	40.8	104.8	97.7	7.18	14.612	
1,800.0	1,797.6	1,790.8	1,789.4	3.9	3.9	-157.56	41.8	42.4	118.2	110.5	7.62	15.512	
1,900.0	1,897.4	1,889.8	1,888.2	4.2	4.2	-159.03	48.5	43.9	131.6	123.5	8.06	16.322	
2,000.0	1,997.2	1,988.9	1,987.1	4.4	4.4	-160.22	55.3	45.5	145.0	136.5	8.50	17.053	
2,100.0	2,096.9	2,087.9	2,085.9	4.7	4.7	-161.21	62.0	47.1	158.6	149.6	8.95	17.715	
2,200.0	2,196.7	2,187.0	2,184.7	4.9	4.9	-162.05	68.7	48.7	172.1	162.7	9.40	18.316	
2,300.0	2,296.4	2,286.0	2,283.5	5.2	5.2	-162.76	75.4	50.3	185.7	175.9	9.85	18.864	
2,400.0	2,396.2	2,385.1	2,382.3	5.4	5.4	-163.38	82.2	51.9	199.3	189.1	10.29	19.364	
2,500.0	2,495.9	2,484.1	2,481.1	5.7	5.6	-163.91	88.9	53.4	213.0	202.2	10.74	19.824	
2,600.0	2,595.7	2,583.2	2,579.9	5.9	5.9	-164.38	95.6	55.0	226.6	215.4	11.19	20.247	
2,700.0	2,695.5	2,682.2	2,678.7	6.2	6.1	-164.80	102.3	56.6	240.3	228.7	11.64	20.637	
2,800.0	2,795.2	2,781.3	2,777.5	6.5	6.4	-165.18	109.1	58.2	254.0	241.9	12.10	20.998	
2,900.0	2,895.0	2,880.3	2,876.3	6.7	6.6	-165.51	115.8	59.8	267.7	255.1	12.55	21.334	
3,000.0	2,994.7	2,979.4	2,975.1	7.0	6.9	-165.81	122.5	61.4	281.4	268.4	13.00	21.646	
3,100.0	3,094.5	3,078.4	3,073.9	7.2	7.1	-166.09	129.2	62.9	295.1	281.6	13.45	21.937	
3,200.0	3,194.2	3,177.5	3,172.7	7.5	7.4	-166.34	136.0	64.5	308.8	294.9	13.90	22.208	
3,300.0	3,294.0	3,276.5	3,271.5	7.8	7.6	-166.57	142.7	66.1	322.5	308.2	14.36	22.463	
3,400.0	3,393.7	3,375.6	3,370.3	8.0	7.9	-166.78	149.4	67.7	336.2	321.4	14.81	22.702	
3,500.0	3,493.5	3,474.6	3,469.1	8.3	8.1	-166.97	156.1	69.3	350.0	334.7	15.26	22.927	
3,600.0	3,593.3	3,573.6	3,567.9	8.5	8.4	-167.15	162.9	70.9	363.7	348.0	15.72	23.138	
3,700.0	3,693.0	3,672.7	3,666.8	8.8	8.6	-167.32	169.6	72.4	377.4	361.2	16.17	23.338	
3,800.0	3,792.8	3,771.7	3,765.6	9.1	8.9	-167.47	176.3	74.0	391.2	374.5	16.63	23.527	
3,900.0	3,892.5	3,870.8	3,864.4	9.3	9.1	-167.61	183.1	75.6	404.9	387.8	17.08	23.705	
4,000.0	3,992.3	3,969.8	3,963.2	9.6	9.4	-167.75	189.8	77.2	418.6	401.1	17.53	23.874	
4,100.0	4,092.0	4,068.9	4,062.0	9.9	9.6	-167.87	196.5	78.8	432.4	414.4	17.99	24.035	
4,200.0	4,191.8	4,167.9	4,160.8	10.1	9.9	-167.99	203.2	80.4	446.1	427.7	18.44	24.188	
4,300.0	4,291.6	4,267.0	4,259.6	10.4	10.1	-168.10	210.0	81.9	459.9	441.0	18.90	24.333	
4,400.0	4,391.3	4,366.0	4,358.4	10.6	10.4	-168.21	216.7	83.5	473.6	454.3	19.35	24.471	
4,500.0	4,491.1	4,465.1	4,457.2	10.9	10.6	-168.31	223.4	85.1	487.4	467.5	19.81	24.603	

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 #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2809A - 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	-24.62	75.5	-34.6	83.1				
100.0	100.0	100.0	100.0	0.1	0.1	-24.62	75.5	-34.6	83.1	82.9	0.19	442.637	
200.0	200.0	200.0	200.0	0.3	0.3	-24.62	75.5	-34.6	83.1	82.4	0.64	130.371	
300.0	300.0	300.0	300.0	0.5	0.5	-24.62	75.5	-34.6	83.1	82.0	1.09	76.443	
400.0	400.0	400.0	400.0	0.8	0.8	-24.62	75.5	-34.6	83.1	81.5	1.54	54.075	
500.0	500.0	500.0	500.0	1.0	1.0	-24.62	75.5	-34.6	83.1	81.1	1.99	41.834	
600.0	600.0	600.0	600.0	1.2	1.2	-24.62	75.5	-34.6	83.1	80.6	2.44	34.112	
700.0	700.0	700.0	700.0	1.4	1.4	-24.62	75.5	-34.6	83.1	80.2	2.88	28.796	CC
800.0	800.0	800.0	800.0	1.6	1.7	159.10	75.5	-34.6	84.7	81.4	3.31	25.611	
900.0	899.8	899.8	899.8	1.8	1.9	160.26	75.5	-34.6	89.6	85.9	3.71	24.150	
1,000.0	999.6	999.6	999.6	2.0	2.1	161.66	75.5	-34.6	96.2	92.1	4.12	23.332	
1,100.0	1,099.4	1,099.4	1,099.4	2.2	2.3	162.89	75.5	-34.6	102.9	98.3	4.54	22.632	
1,200.0	1,199.1	1,199.1	1,199.1	2.5	2.6	163.96	75.5	-34.6	109.5	104.6	4.97	22.033	
1,300.0	1,298.9	1,298.9	1,298.9	2.7	2.8	164.91	75.5	-34.6	116.3	110.9	5.40	21.516	
1,400.0	1,398.6	1,398.6	1,398.6	2.9	3.0	165.76	75.5	-34.6	123.0	117.2	5.84	21.068	
1,500.0	1,498.4	1,498.4	1,498.4	3.2	3.2	166.51	75.5	-34.6	129.8	123.5	6.28	20.676	
1,600.0	1,598.1	1,602.3	1,602.3	3.4	3.4	166.84	73.8	-35.0	135.1	128.4	6.70	20.170	
1,700.0	1,697.9	1,706.3	1,706.1	3.7	3.6	166.35	68.3	-36.4	137.2	130.1	7.10	19.339	
1,800.0	1,797.6	1,806.3	1,805.8	3.9	3.8	165.54	61.6	-38.1	138.0	130.5	7.50	18.407	
1,900.0	1,897.4	1,906.2	1,905.6	4.2	4.0	164.75	54.8	-39.7	138.9	130.9	7.91	17.554	
2,000.0	1,997.2	2,006.2	2,005.3	4.4	4.2	163.97	48.0	-41.4	139.7	131.4	8.33	16.775	
2,100.0	2,096.9	2,106.2	2,105.0	4.7	4.4	163.20	41.2	-43.1	140.6	131.8	8.75	16.061	
2,200.0	2,196.7	2,206.2	2,204.8	4.9	4.6	162.43	34.5	-44.8	141.5	132.3	9.18	15.405	
2,300.0	2,296.4	2,306.2	2,304.5	5.2	4.8	161.68	27.7	-46.4	142.4	132.8	9.62	14.803	
2,400.0	2,396.2	2,406.1	2,404.3	5.4	5.1	160.94	20.9	-48.1	143.4	133.3	10.06	14.249	
2,500.0	2,495.9	2,506.1	2,504.0	5.7	5.3	160.20	14.2	-49.8	144.4	133.9	10.51	13.737	
2,600.0	2,595.7	2,606.1	2,603.7	5.9	5.5	159.48	7.4	-51.5	145.4	134.4	10.96	13.264	
2,700.0	2,695.5	2,706.1	2,703.5	6.2	5.7	158.77	0.6	-53.1	146.4	135.0	11.41	12.826	
2,800.0	2,795.2	2,806.0	2,803.2	6.5	6.0	158.06	-6.1	-54.8	147.4	135.6	11.87	12.420	
2,900.0	2,895.0	2,906.0	2,902.9	6.7	6.2	157.37	-12.9	-56.5	148.5	136.2	12.33	12.042	
3,000.0	2,994.7	3,006.0	3,002.7	7.0	6.5	156.69	-19.7	-58.2	149.6	136.8	12.80	11.690	
3,100.0	3,094.5	3,106.0	3,102.4	7.2	6.7	156.01	-26.5	-59.8	150.7	137.5	13.26	11.362	
3,200.0	3,194.2	3,206.0	3,202.1	7.5	6.9	155.35	-33.2	-61.5	151.9	138.1	13.73	11.056	
3,300.0	3,294.0	3,305.9	3,301.9	7.8	7.2	154.70	-40.0	-63.2	153.0	138.8	14.21	10.769	
3,400.0	3,393.7	3,405.9	3,401.6	8.0	7.4	154.05	-46.8	-64.9	154.2	139.5	14.68	10.500	
3,500.0	3,493.5	3,505.9	3,501.3	8.3	7.7	153.42	-53.5	-66.5	155.4	140.2	15.16	10.248	
3,600.0	3,593.3	3,605.9	3,601.1	8.5	7.9	152.80	-60.3	-68.2	156.6	140.9	15.64	10.011	
3,700.0	3,693.0	3,705.9	3,700.8	8.8	8.2	152.18	-67.1	-69.9	157.8	141.7	16.12	9.787	
3,800.0	3,792.8	3,805.8	3,800.5	9.1	8.4	151.58	-73.8	-71.6	159.1	142.4	16.61	9.577	
3,900.0	3,892.5	3,905.8	3,900.3	9.3	8.7	150.98	-80.6	-73.2	160.3	143.2	17.10	9.378	
4,000.0	3,992.3	4,005.8	4,000.0	9.6	8.9	150.40	-87.4	-74.9	161.6	144.0	17.58	9.191	
4,100.0	4,092.0	4,105.8	4,099.7	9.9	9.2	149.82	-94.2	-76.6	162.9	144.8	18.07	9.013	
4,200.0	4,191.8	4,205.7	4,199.5	10.1	9.4	149.25	-100.9	-78.3	164.2	145.6	18.57	8.845	
4,300.0	4,291.6	4,305.7	4,299.2	10.4	9.7	148.69	-107.7	-79.9	165.5	146.5	19.06	8.686	
4,400.0	4,391.3	4,405.7	4,398.9	10.6	9.9	148.14	-114.5	-81.6	166.9	147.3	19.55	8.534	
4,500.0	4,491.1	4,505.7	4,498.7	10.9	10.2	147.60	-121.2	-83.3	168.3	148.2	20.05	8.391	
4,600.0	4,590.8	4,605.7	4,598.4	11.2	10.5	147.07	-128.0	-85.0	169.6	149.1	20.55	8.254	
4,700.0	4,690.6	4,705.6	4,698.2	11.4	10.7	146.55	-134.8	-86.6	171.0	150.0	21.05	8.124	
4,800.0	4,790.3	4,805.6	4,797.9	11.7	11.0	146.03	-141.5	-88.3	172.4	150.9	21.55	8.001	
4,900.0	4,890.1	4,905.6	4,897.6	12.0	11.2	145.53	-148.3	-90.0	173.8	151.8	22.05	7.883	
5,000.0	4,989.9	5,005.6	4,997.4	12.2	11.5	145.03	-155.1	-91.7	175.3	152.7	22.56	7.770	
5,100.0	5,089.6	5,105.5	5,097.1	12.5	11.7	144.54	-161.9	-93.3	176.7	153.7	23.06	7.663	

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 #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2809A - 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	5,205.5	5,196.8	12.8	12.0	144.06	-168.6	-95.0	178.2	154.6	23.57	7.560	
5,300.0	5,289.1	5,305.5	5,296.6	13.0	12.3	143.58	-175.4	-96.7	179.6	155.6	24.07	7.462	
5,404.6	5,393.5	5,432.0	5,420.9	13.3	12.7	139.65	-196.0	-101.8	175.4	150.5	24.88	7.049	
5,450.0	5,438.6	5,485.4	5,471.3	13.4	12.9	136.15	-213.4	-106.1	171.2	145.9	25.31	6.764	
5,500.0	5,487.5	5,542.5	5,522.7	13.6	13.3	131.61	-237.3	-112.0	168.0	142.2	25.82	6.508	
5,550.0	5,535.2	5,597.6	5,569.5	13.9	13.6	126.50	-265.5	-119.0	166.8	140.4	26.42	6.313	
5,552.5	5,537.6	5,600.3	5,571.8	13.9	13.6	126.23	-267.0	-119.4	166.8	140.4	26.46	6.305	
5,600.0	5,581.3	5,650.8	5,611.6	14.1	14.0	121.03	-297.1	-126.8	167.9	140.7	27.17	6.180	
5,650.0	5,625.4	5,702.2	5,648.8	14.5	14.5	115.38	-331.4	-135.3	171.4	143.4	28.07	6.106	
5,700.0	5,666.9	5,751.9	5,681.4	14.8	14.9	109.75	-367.9	-144.3	177.5	148.4	29.12	6.095	
5,750.0	5,705.6	5,800.1	5,709.4	15.3	15.5	104.31	-405.9	-153.7	185.9	155.7	30.26	6.145	
5,800.0	5,741.1	5,846.8	5,733.0	15.7	16.0	99.17	-445.0	-163.4	196.5	165.1	31.44	6.250	
5,850.0	5,773.1	5,892.3	5,752.4	16.3	16.5	94.40	-485.0	-173.3	208.9	176.3	32.61	6.404	
5,900.0	5,801.2	5,936.6	5,767.8	16.8	17.1	90.03	-525.3	-183.3	222.7	188.9	33.75	6.598	
5,950.0	5,825.3	5,980.0	5,779.4	17.4	17.7	86.06	-565.8	-193.3	237.5	202.7	34.83	6.820	
6,000.0	5,845.0	6,022.5	5,787.3	18.1	18.3	82.49	-606.4	-203.4	253.2	217.3	35.87	7.060	
6,050.0	5,860.2	6,064.2	5,791.8	18.8	18.9	79.29	-646.7	-213.3	269.4	232.5	36.86	7.307	
6,100.0	5,870.9	6,107.5	5,793.0	19.5	19.5	76.41	-688.6	-223.7	285.7	247.9	37.85	7.549	
6,150.0	5,876.7	6,163.5	5,793.0	20.2	20.3	74.31	-743.2	-236.1	300.6	261.5	39.05	7.697	
6,186.4	5,878.0	6,205.1	5,793.0	20.8	20.9	73.60	-784.0	-244.3	309.8	269.7	40.08	7.729	
6,200.0	5,878.0	6,220.7	5,793.0	21.0	21.1	73.83	-799.4	-247.1	312.9	272.3	40.54	7.717	
6,296.4	5,878.0	6,334.1	5,793.0	22.2	22.7	74.92	-911.4	-264.0	329.0	285.4	43.64	7.539	
6,300.0	5,878.0	6,338.3	5,793.0	22.3	22.7	74.94	-915.6	-264.5	329.4	285.7	43.76	7.529	
6,400.0	5,878.0	6,458.2	5,793.0	23.9	24.5	75.40	-1,035.1	-274.8	337.7	290.6	47.11	7.169	
6,500.0	5,878.0	6,576.1	5,793.0	25.5	26.2	75.52	-1,152.9	-277.7	340.0	289.6	50.47	6.738	
6,600.0	5,878.0	6,676.1	5,793.0	27.2	27.8	75.52	-1,252.9	-277.7	340.0	286.3	53.71	6.331	
6,700.0	5,878.0	6,776.1	5,793.0	28.9	29.5	75.52	-1,352.9	-277.7	340.0	283.0	57.02	5.963	
6,800.0	5,878.0	6,876.1	5,793.0	30.6	31.2	75.52	-1,452.9	-277.7	340.0	279.7	60.38	5.632	
6,900.0	5,878.0	6,976.1	5,793.0	32.4	32.9	75.52	-1,552.9	-277.7	340.0	276.3	63.78	5.331	
7,000.0	5,878.0	7,076.1	5,793.0	34.2	34.7	75.52	-1,652.9	-277.7	340.1	272.8	67.22	5.059	
7,100.0	5,878.0	7,176.1	5,793.0	35.9	36.5	75.52	-1,752.9	-277.7	340.1	269.4	70.69	4.811	
7,200.0	5,878.0	7,276.1	5,793.0	37.7	38.2	75.52	-1,852.9	-277.7	340.1	265.9	74.18	4.584	
7,300.0	5,878.0	7,376.1	5,793.0	39.6	40.0	75.52	-1,952.9	-277.7	340.1	262.4	77.70	4.377	
7,400.0	5,878.0	7,476.1	5,793.0	41.4	41.8	75.52	-2,052.9	-277.7	340.1	258.8	81.23	4.187	
7,500.0	5,878.0	7,576.1	5,793.0	43.2	43.6	75.52	-2,152.9	-277.7	340.1	255.3	84.78	4.011	
7,600.0	5,878.0	7,676.1	5,793.0	45.0	45.5	75.52	-2,252.9	-277.7	340.1	251.7	88.35	3.849	
7,700.0	5,878.0	7,776.1	5,793.0	46.9	47.3	75.52	-2,352.9	-277.7	340.1	248.2	91.93	3.700	
7,800.0	5,878.0	7,876.1	5,793.0	48.7	49.1	75.52	-2,452.9	-277.8	340.1	244.6	95.52	3.561	
7,900.0	5,878.0	7,976.1	5,793.0	50.6	51.0	75.52	-2,552.9	-277.8	340.1	241.0	99.12	3.431	
8,000.0	5,878.0	8,076.1	5,793.0	52.4	52.8	75.52	-2,652.9	-277.8	340.1	237.4	102.73	3.311	
8,100.0	5,878.0	8,176.1	5,793.0	54.3	54.7	75.52	-2,752.9	-277.8	340.1	233.8	106.35	3.198	
8,200.0	5,878.0	8,276.1	5,793.0	56.2	56.5	75.52	-2,852.9	-277.8	340.1	230.2	109.98	3.093	
8,300.0	5,878.0	8,376.1	5,793.0	58.0	58.4	75.52	-2,952.9	-277.8	340.1	226.5	113.61	2.994	
8,400.0	5,878.0	8,476.1	5,793.0	59.9	60.2	75.52	-3,052.9	-277.8	340.1	222.9	117.25	2.901	
8,500.0	5,878.0	8,576.1	5,793.0	61.8	62.1	75.52	-3,152.9	-277.8	340.2	219.3	120.90	2.814	
8,600.0	5,878.0	8,676.1	5,793.0	63.7	64.0	75.53	-3,252.9	-277.8	340.2	215.6	124.55	2.731	
8,700.0	5,878.0	8,776.1	5,793.0	65.5	65.8	75.53	-3,352.9	-277.8	340.2	212.0	128.20	2.653	
8,800.0	5,878.0	8,876.1	5,793.0	67.4	67.7	75.53	-3,452.9	-277.8	340.2	208.3	131.86	2.580	
8,900.0	5,878.0	8,976.1	5,793.0	69.3	69.6	75.53	-3,552.9	-277.8	340.2	204.7	135.52	2.510	
9,000.0	5,878.0	9,076.1	5,793.0	71.2	71.5	75.53	-3,652.9	-277.8	340.2	201.0	139.19	2.444	
9,100.0	5,878.0	9,176.1	5,793.0	73.1	73.4	75.53	-3,752.9	-277.9	340.2	197.3	142.86	2.381	
9,200.0	5,878.0	9,276.1	5,793.0	75.0	75.2	75.53	-3,852.9	-277.9	340.2	193.7	146.53	2.322	

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 #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2809A - 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	5,878.0	9,376.1	5,793.0	76.9	77.1	75.53	-3,952.9	-277.9	340.2	190.0	150.21	2.265	
9,400.0	5,878.0	9,476.1	5,793.0	78.7	79.0	75.53	-4,052.9	-277.9	340.2	186.3	153.89	2.211	
9,500.0	5,878.0	9,576.1	5,793.0	80.6	80.9	75.53	-4,152.9	-277.9	340.2	182.6	157.57	2.159	
9,600.0	5,878.0	9,676.1	5,793.0	82.5	82.8	75.53	-4,252.9	-277.9	340.2	179.0	161.25	2.110	
9,700.0	5,878.0	9,776.1	5,793.0	84.4	84.7	75.53	-4,352.9	-277.9	340.2	175.3	164.94	2.063	
9,800.0	5,878.0	9,876.1	5,793.0	86.3	86.6	75.53	-4,452.9	-277.9	340.2	171.6	168.63	2.018	
9,900.0	5,878.0	9,976.1	5,793.0	88.2	88.5	75.53	-4,552.9	-277.9	340.2	167.9	172.32	1.975	
10,000.0	5,878.0	10,076.1	5,793.0	90.1	90.4	75.53	-4,652.9	-277.9	340.2	164.2	176.01	1.933	
10,100.0	5,878.0	10,176.1	5,793.0	92.0	92.2	75.53	-4,752.9	-277.9	340.3	160.6	179.70	1.893	
10,200.0	5,878.0	10,276.1	5,793.0	93.9	94.1	75.53	-4,852.9	-277.9	340.3	156.9	183.39	1.855	
10,300.0	5,878.0	10,376.1	5,793.0	95.8	96.0	75.53	-4,952.9	-277.9	340.3	153.2	187.09	1.819	
10,400.0	5,878.0	10,476.1	5,793.0	97.7	97.9	75.53	-5,052.9	-278.0	340.3	149.5	190.79	1.784	
10,500.0	5,878.0	10,576.1	5,793.0	99.6	99.8	75.53	-5,152.9	-278.0	340.3	145.8	194.49	1.750	
10,600.0	5,878.0	10,676.1	5,793.0	101.5	101.7	75.53	-5,252.9	-278.0	340.3	142.1	198.18	1.717	
10,700.0	5,878.0	10,776.1	5,793.0	103.4	103.6	75.53	-5,352.9	-278.0	340.3	138.4	201.89	1.686	
10,800.0	5,878.0	10,876.1	5,793.0	105.3	105.5	75.53	-5,452.9	-278.0	340.3	134.7	205.59	1.655	
10,900.0	5,878.0	10,976.1	5,793.0	107.2	107.4	75.53	-5,552.9	-278.0	340.3	131.0	209.29	1.626	
11,000.0	5,878.0	11,076.1	5,793.0	109.1	109.3	75.53	-5,652.9	-278.0	340.3	127.3	212.99	1.598	
11,100.0	5,878.0	11,176.1	5,793.0	111.0	111.2	75.53	-5,752.9	-278.0	340.3	123.6	216.70	1.570	
11,200.0	5,878.0	11,276.1	5,793.0	112.9	113.1	75.54	-5,852.9	-278.0	340.3	119.9	220.40	1.544	
11,300.0	5,878.0	11,376.1	5,793.0	114.8	115.0	75.54	-5,952.9	-278.0	340.3	116.2	224.11	1.519	
11,400.0	5,878.0	11,476.1	5,793.0	116.8	116.9	75.54	-6,052.9	-278.0	340.3	112.5	227.82	1.494	Level 3
11,500.0	5,878.0	11,576.1	5,793.0	118.7	118.8	75.54	-6,152.9	-278.0	340.3	108.8	231.53	1.470	Level 3
11,600.0	5,878.0	11,676.1	5,793.0	120.6	120.8	75.54	-6,252.9	-278.0	340.4	105.1	235.24	1.447	Level 3
11,700.0	5,878.0	11,776.1	5,793.0	122.5	122.7	75.54	-6,352.9	-278.1	340.4	101.4	238.95	1.424	Level 3
11,800.0	5,878.0	11,876.1	5,793.0	124.4	124.6	75.54	-6,452.9	-278.1	340.4	97.7	242.66	1.403	Level 3
11,900.0	5,878.0	11,976.1	5,793.0	126.3	126.5	75.54	-6,552.9	-278.1	340.4	94.0	246.37	1.382	Level 3
12,000.0	5,878.0	12,076.1	5,793.0	128.2	128.4	75.54	-6,652.9	-278.1	340.4	90.3	250.08	1.361	Level 3
12,100.0	5,878.0	12,176.1	5,793.0	130.1	130.3	75.54	-6,752.9	-278.1	340.4	86.6	253.79	1.341	Level 3
12,200.0	5,878.0	12,276.1	5,793.0	132.0	132.2	75.54	-6,852.9	-278.1	340.4	82.9	257.50	1.322	Level 3
12,300.0	5,878.0	12,376.1	5,793.0	133.9	134.1	75.54	-6,952.9	-278.1	340.4	79.2	261.22	1.303	Level 3
12,400.0	5,878.0	12,476.1	5,793.0	135.8	136.0	75.54	-7,052.9	-278.1	340.4	75.5	264.93	1.285	Level 3
12,500.0	5,878.0	12,576.1	5,793.0	137.7	137.9	75.54	-7,152.9	-278.1	340.4	71.8	268.64	1.267	Level 3
12,600.0	5,878.0	12,676.1	5,793.0	139.6	139.8	75.54	-7,252.9	-278.1	340.4	68.1	272.36	1.250	Level 2
12,700.0	5,878.0	12,776.1	5,793.0	141.6	141.7	75.54	-7,352.9	-278.1	340.4	64.4	276.07	1.233	Level 2
12,749.3	5,878.0	12,825.4	5,793.0	142.5	142.6	75.54	-7,402.2	-278.1	340.4	62.6	277.82	1.225	Level 2
12,750.2	5,878.0	12,826.3	5,793.0	142.5	142.6	75.54	-7,403.1	-278.1	340.4	62.6	277.85	1.225	Level 2, ES, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2811A - 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	22.34	76.7	31.5	82.9				
100.0	100.0	100.0	100.0	0.1	0.1	22.34	76.7	31.5	82.9	82.8	0.19	441.934	
200.0	200.0	200.0	200.0	0.3	0.3	22.34	76.7	31.5	82.9	82.3	0.64	130.164	
300.0	300.0	300.0	300.0	0.5	0.5	22.34	76.7	31.5	82.9	81.9	1.09	76.322	
400.0	400.0	400.0	400.0	0.8	0.8	22.34	76.7	31.5	82.9	81.4	1.54	53.989	
500.0	500.0	500.0	500.0	1.0	1.0	22.34	76.7	31.5	82.9	81.0	1.99	41.767	
600.0	600.0	602.2	602.2	1.2	1.2	23.16	75.0	32.1	81.6	79.2	2.41	33.798	
700.0	700.0	704.1	703.9	1.4	1.4	25.80	69.8	33.7	77.6	74.8	2.83	27.405	
800.0	800.0	804.0	803.5	1.6	1.6	-147.88	63.2	35.9	74.2	71.0	3.23	22.941	
860.9	860.8	864.8	864.2	1.8	1.7	-146.63	59.1	37.2	73.6	70.2	3.47	21.199	CC
900.0	899.8	903.9	903.3	1.8	1.8	-146.11	56.5	38.0	73.9	70.2	3.63	20.360	
1,000.0	999.6	1,003.9	1,003.0	2.0	2.1	-145.10	49.9	40.1	75.0	71.0	4.04	18.550	
1,100.0	1,099.4	1,103.9	1,102.7	2.2	2.3	-144.12	43.2	42.2	76.2	71.7	4.48	17.020	
1,200.0	1,199.1	1,203.9	1,202.5	2.5	2.5	-143.18	36.6	44.4	77.4	72.5	4.92	15.724	
1,300.0	1,298.9	1,303.9	1,302.2	2.7	2.8	-142.26	30.0	46.5	78.7	73.3	5.38	14.620	
1,400.0	1,398.6	1,403.8	1,402.0	2.9	3.0	-141.37	23.3	48.6	79.9	74.1	5.84	13.672	
1,500.0	1,498.4	1,503.8	1,501.7	3.2	3.3	-140.50	16.7	50.7	81.2	74.9	6.32	12.853	
1,600.0	1,598.1	1,603.8	1,601.5	3.4	3.6	-139.67	10.0	52.9	82.5	75.7	6.79	12.140	
1,700.0	1,697.9	1,703.8	1,701.2	3.7	3.8	-138.86	3.4	55.0	83.8	76.5	7.27	11.515	
1,800.0	1,797.6	1,803.8	1,800.9	3.9	4.1	-138.07	-3.3	57.1	85.1	77.3	7.76	10.964	
1,900.0	1,897.4	1,903.8	1,900.7	4.2	4.3	-137.31	-9.9	59.3	86.4	78.2	8.25	10.475	
2,000.0	1,997.2	2,003.8	2,000.4	4.4	4.6	-136.57	-16.5	61.4	87.8	79.0	8.74	10.039	
2,100.0	2,096.9	2,103.7	2,100.2	4.7	4.8	-135.86	-23.2	63.5	89.1	79.9	9.24	9.648	
2,200.0	2,196.7	2,203.7	2,199.9	4.9	5.1	-135.16	-29.8	65.6	90.5	80.8	9.74	9.295	
2,300.0	2,296.4	2,303.7	2,299.6	5.2	5.4	-134.49	-36.5	67.8	91.9	81.7	10.24	8.976	
2,400.0	2,396.2	2,403.7	2,399.4	5.4	5.6	-133.84	-43.1	69.9	93.3	82.6	10.74	8.687	
2,500.0	2,495.9	2,503.7	2,499.1	5.7	5.9	-133.20	-49.8	72.0	94.7	83.5	11.24	8.423	
2,600.0	2,595.7	2,603.7	2,598.9	5.9	6.2	-132.59	-56.4	74.1	96.1	84.4	11.75	8.181	
2,700.0	2,695.5	2,703.6	2,698.6	6.2	6.4	-131.99	-63.0	76.3	97.6	85.3	12.26	7.959	
2,800.0	2,795.2	2,803.6	2,798.3	6.5	6.7	-131.41	-69.7	78.4	99.0	86.2	12.77	7.755	
2,900.0	2,895.0	2,903.6	2,898.1	6.7	6.9	-130.85	-76.3	80.5	100.5	87.2	13.28	7.566	
3,000.0	2,994.7	3,003.6	2,997.8	7.0	7.2	-130.31	-83.0	82.6	101.9	88.1	13.79	7.392	
3,100.0	3,094.5	3,103.6	3,097.6	7.2	7.5	-129.77	-89.6	84.8	103.4	89.1	14.30	7.230	
3,200.0	3,194.2	3,203.6	3,197.3	7.5	7.7	-129.26	-96.3	86.9	104.9	90.1	14.82	7.079	
3,300.0	3,294.0	3,303.6	3,297.0	7.8	8.0	-128.76	-102.9	89.0	106.4	91.1	15.33	6.938	
3,400.0	3,393.7	3,403.5	3,396.8	8.0	8.3	-128.27	-109.5	91.1	107.9	92.0	15.85	6.806	
3,500.0	3,493.5	3,503.5	3,496.5	8.3	8.5	-127.80	-116.2	93.3	109.4	93.0	16.37	6.683	
3,600.0	3,593.3	3,603.5	3,596.3	8.5	8.8	-127.33	-122.8	95.4	110.9	94.0	16.89	6.568	
3,700.0	3,693.0	3,703.5	3,696.0	8.8	9.0	-126.89	-129.5	97.5	112.4	95.0	17.41	6.459	
3,800.0	3,792.8	3,803.5	3,795.8	9.1	9.3	-126.45	-136.1	99.7	114.0	96.0	17.92	6.357	
3,900.0	3,892.5	3,903.5	3,895.5	9.3	9.6	-126.02	-142.8	101.8	115.5	97.0	18.45	6.261	
4,000.0	3,992.3	4,003.4	3,995.2	9.6	9.8	-125.61	-149.4	103.9	117.0	98.1	18.97	6.170	
4,100.0	4,092.0	4,103.4	4,095.0	9.9	10.1	-125.21	-156.0	106.0	118.6	99.1	19.49	6.085	
4,200.0	4,191.8	4,203.4	4,194.7	10.1	10.4	-124.81	-162.7	108.2	120.1	100.1	20.01	6.003	
4,300.0	4,291.6	4,303.4	4,294.5	10.4	10.6	-124.43	-169.3	110.3	121.7	101.2	20.53	5.927	
4,400.0	4,391.3	4,403.4	4,394.2	10.6	10.9	-124.06	-176.0	112.4	123.2	102.2	21.06	5.854	
4,500.0	4,491.1	4,503.4	4,493.9	10.9	11.2	-123.69	-182.6	114.5	124.8	103.2	21.58	5.784	
4,600.0	4,590.8	4,603.4	4,593.7	11.2	11.4	-123.34	-189.3	116.7	126.4	104.3	22.10	5.718	
4,700.0	4,690.6	4,703.3	4,693.4	11.4	11.7	-122.99	-195.9	118.8	128.0	105.3	22.63	5.656	
4,800.0	4,790.3	4,803.3	4,793.2	11.7	11.9	-122.66	-202.5	120.9	129.5	106.4	23.15	5.596	
4,900.0	4,890.1	4,903.3	4,892.9	12.0	12.2	-122.33	-209.2	123.0	131.1	107.5	23.68	5.539	
5,000.0	4,989.9	5,003.3	4,992.6	12.2	12.5	-122.00	-215.8	125.2	132.7	108.5	24.20	5.484	

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 #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2811A - 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	5,103.3	5,092.4	12.5	12.7	-121.69	-222.5	127.3	134.3	109.6	24.73	5.432	
5,200.0	5,189.4	5,203.3	5,192.1	12.8	13.0	-121.38	-229.1	129.4	135.9	110.7	25.25	5.382	
5,300.0	5,289.1	5,303.2	5,291.9	13.0	13.3	-121.09	-235.7	131.5	137.5	111.7	25.78	5.335	
5,404.6	5,393.5	5,414.0	5,401.2	13.3	13.6	-117.37	-251.1	136.5	137.2	110.6	26.54	5.168	
5,440.0	5,428.7	5,450.7	5,436.5	13.4	13.8	-114.56	-261.0	139.6	136.7	109.9	26.88	5.087	
5,450.0	5,438.6	5,461.0	5,446.2	13.4	13.9	-113.73	-264.2	140.6	136.8	109.8	26.98	5.069	
5,500.0	5,487.5	5,511.8	5,493.2	13.6	14.2	-109.48	-282.5	146.5	138.0	110.5	27.53	5.015	
5,550.0	5,535.2	5,561.5	5,537.1	13.9	14.5	-105.12	-304.6	153.6	141.1	113.0	28.15	5.013	
5,600.0	5,581.3	5,610.3	5,577.9	14.1	14.8	-100.82	-330.1	161.7	146.0	117.2	28.87	5.058	
5,650.0	5,625.4	5,658.0	5,615.2	14.5	15.3	-96.70	-358.4	170.8	152.6	122.9	29.65	5.147	
5,700.0	5,666.9	5,704.8	5,649.0	14.8	15.7	-92.85	-389.3	180.7	160.7	130.2	30.48	5.270	
5,750.0	5,705.6	5,750.0	5,678.7	15.3	16.2	-89.37	-421.6	191.0	170.0	138.7	31.34	5.424	
5,800.0	5,741.1	5,796.0	5,705.8	15.7	16.7	-86.15	-456.9	202.4	180.5	148.2	32.25	5.595	
5,850.0	5,773.1	5,840.4	5,728.8	16.3	17.2	-83.32	-493.1	213.9	191.8	158.6	33.18	5.780	
5,900.0	5,801.2	5,884.2	5,748.3	16.8	17.8	-80.80	-530.5	225.9	203.7	169.6	34.12	5.971	
5,950.0	5,825.3	5,927.4	5,764.1	17.4	18.4	-78.58	-568.8	238.1	216.2	181.1	35.08	6.161	
6,000.0	5,845.0	5,970.1	5,776.5	18.1	19.0	-76.63	-607.7	250.6	228.9	192.8	36.08	6.344	
6,050.0	5,860.2	6,012.5	5,785.4	18.8	19.7	-74.93	-647.1	263.2	241.8	204.7	37.12	6.514	
6,100.0	5,870.9	6,054.4	5,790.9	19.5	20.3	-73.46	-686.8	275.9	254.7	216.5	38.21	6.667	
6,150.0	5,876.7	6,096.2	5,793.0	20.2	21.0	-72.18	-726.4	288.6	267.6	228.2	39.35	6.800	
6,186.4	5,878.0	6,135.1	5,793.0	20.8	21.6	-71.62	-763.6	300.2	276.4	236.0	40.38	6.844	
6,200.0	5,878.0	6,150.5	5,793.0	21.0	21.8	-71.83	-778.3	304.6	279.4	238.5	40.81	6.845	
6,296.4	5,878.0	6,260.3	5,793.0	22.2	23.4	-73.16	-884.6	332.3	300.4	256.7	43.71	6.873	
6,300.0	5,878.0	6,264.4	5,793.0	22.3	23.4	-73.21	-888.6	333.2	301.2	257.3	43.83	6.871	
6,400.0	5,878.0	6,380.7	5,793.0	23.9	25.1	-74.39	-1,002.7	355.7	319.7	272.4	47.32	6.757	
6,500.0	5,878.0	6,499.4	5,793.0	25.5	26.9	-75.12	-1,120.3	371.4	332.5	281.7	50.86	6.538	
6,600.0	5,878.0	6,619.6	5,793.0	27.2	28.8	-75.48	-1,240.2	379.8	339.3	284.9	54.42	6.234	
6,700.0	5,878.0	6,732.3	5,793.0	28.9	30.5	-75.54	-1,352.9	381.2	340.4	282.6	57.89	5.881	
6,800.0	5,878.0	6,832.3	5,793.0	30.6	32.2	-75.54	-1,452.9	381.2	340.4	279.2	61.25	5.558	
6,900.0	5,878.0	6,932.3	5,793.0	32.4	33.9	-75.55	-1,552.9	381.2	340.5	275.8	64.65	5.266	
7,000.0	5,878.0	7,032.3	5,793.0	34.2	35.6	-75.55	-1,652.9	381.2	340.5	272.4	68.09	5.000	
7,100.0	5,878.0	7,132.3	5,793.0	35.9	37.4	-75.55	-1,752.9	381.2	340.5	268.9	71.56	4.758	
7,200.0	5,878.0	7,232.3	5,793.0	37.7	39.2	-75.55	-1,852.9	381.2	340.5	265.4	75.05	4.537	
7,300.0	5,878.0	7,332.3	5,793.0	39.6	40.9	-75.55	-1,952.9	381.2	340.5	261.9	78.56	4.334	
7,400.0	5,878.0	7,432.3	5,793.0	41.4	42.7	-75.55	-2,052.9	381.2	340.5	258.4	82.10	4.147	
7,500.0	5,878.0	7,532.3	5,793.0	43.2	44.5	-75.55	-2,152.9	381.3	340.5	254.8	85.65	3.975	
7,600.0	5,878.0	7,632.3	5,793.0	45.0	46.3	-75.55	-2,252.9	381.3	340.5	251.3	89.22	3.816	
7,700.0	5,878.0	7,732.3	5,793.0	46.9	48.1	-75.55	-2,352.9	381.3	340.5	247.7	92.79	3.669	
7,800.0	5,878.0	7,832.3	5,793.0	48.7	50.0	-75.55	-2,452.9	381.3	340.5	244.1	96.39	3.533	
7,900.0	5,878.0	7,932.3	5,793.0	50.6	51.8	-75.55	-2,552.9	381.3	340.5	240.5	99.99	3.405	
8,000.0	5,878.0	8,032.3	5,793.0	52.4	53.6	-75.55	-2,652.9	381.3	340.5	236.9	103.60	3.287	
8,100.0	5,878.0	8,132.3	5,793.0	54.3	55.5	-75.55	-2,752.9	381.3	340.5	233.3	107.22	3.176	
8,200.0	5,878.0	8,232.3	5,793.0	56.2	57.3	-75.55	-2,852.9	381.3	340.5	229.7	110.84	3.072	
8,300.0	5,878.0	8,332.3	5,793.0	58.0	59.2	-75.55	-2,952.9	381.3	340.5	226.0	114.48	2.974	
8,400.0	5,878.0	8,432.3	5,793.0	59.9	61.0	-75.55	-3,052.9	381.3	340.5	222.4	118.12	2.883	
8,500.0	5,878.0	8,532.3	5,793.0	61.8	62.9	-75.55	-3,152.9	381.3	340.5	218.8	121.76	2.797	
8,600.0	5,878.0	8,632.3	5,793.0	63.7	64.8	-75.55	-3,252.9	381.3	340.5	215.1	125.41	2.715	
8,700.0	5,878.0	8,732.3	5,793.0	65.5	66.6	-75.55	-3,352.9	381.3	340.5	211.5	129.07	2.638	
8,800.0	5,878.0	8,832.3	5,793.0	67.4	68.5	-75.55	-3,452.9	381.3	340.5	207.8	132.73	2.566	
8,900.0	5,878.0	8,932.3	5,793.0	69.3	70.4	-75.55	-3,552.9	381.3	340.5	204.1	136.39	2.497	
9,000.0	5,878.0	9,032.3	5,793.0	71.2	72.2	-75.55	-3,652.9	381.3	340.5	200.5	140.06	2.431	
9,100.0	5,878.0	9,132.3	5,793.0	73.1	74.1	-75.55	-3,752.9	381.3	340.5	196.8	143.73	2.369	

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 #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2811A - 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	5,878.0	9,232.3	5,793.0	75.0	76.0	-75.55	-3,852.9	381.3	340.5	193.1	147.40	2.310	
9,300.0	5,878.0	9,332.3	5,793.0	76.9	77.9	-75.55	-3,952.9	381.3	340.5	189.5	151.07	2.254	
9,400.0	5,878.0	9,432.3	5,793.0	78.7	79.7	-75.55	-4,052.9	381.3	340.5	185.8	154.75	2.201	
9,500.0	5,878.0	9,532.3	5,793.0	80.6	81.6	-75.55	-4,152.9	381.3	340.6	182.1	158.44	2.149	
9,600.0	5,878.0	9,632.3	5,793.0	82.5	83.5	-75.55	-4,252.9	381.3	340.6	178.4	162.12	2.101	
9,700.0	5,878.0	9,732.3	5,793.0	84.4	85.4	-75.55	-4,352.9	381.3	340.6	174.8	165.80	2.054	
9,800.0	5,878.0	9,832.3	5,793.0	86.3	87.3	-75.55	-4,452.9	381.3	340.6	171.1	169.49	2.009	
9,900.0	5,878.0	9,932.3	5,793.0	88.2	89.2	-75.55	-4,552.9	381.3	340.6	167.4	173.18	1.967	
10,000.0	5,878.0	10,032.3	5,793.0	90.1	91.1	-75.55	-4,652.9	381.3	340.6	163.7	176.87	1.926	
10,100.0	5,878.0	10,132.3	5,793.0	92.0	93.0	-75.55	-4,752.9	381.3	340.6	160.0	180.57	1.886	
10,200.0	5,878.0	10,232.3	5,793.0	93.9	94.9	-75.55	-4,852.9	381.3	340.6	156.3	184.26	1.848	
10,300.0	5,878.0	10,332.3	5,793.0	95.8	96.7	-75.55	-4,952.9	381.3	340.6	152.6	187.96	1.812	
10,400.0	5,878.0	10,432.3	5,793.0	97.7	98.6	-75.55	-5,052.9	381.3	340.6	148.9	191.66	1.777	
10,500.0	5,878.0	10,532.3	5,793.0	99.6	100.5	-75.55	-5,152.9	381.3	340.6	145.2	195.35	1.743	
10,600.0	5,878.0	10,632.3	5,793.0	101.5	102.4	-75.55	-5,252.9	381.3	340.6	141.5	199.05	1.711	
10,700.0	5,878.0	10,732.3	5,793.0	103.4	104.3	-75.55	-5,352.9	381.3	340.6	137.8	202.76	1.680	
10,800.0	5,878.0	10,832.3	5,793.0	105.3	106.2	-75.55	-5,452.9	381.4	340.6	134.1	206.46	1.650	
10,900.0	5,878.0	10,932.3	5,793.0	107.2	108.1	-75.55	-5,552.9	381.4	340.6	130.4	210.16	1.621	
11,000.0	5,878.0	11,032.3	5,793.0	109.1	110.0	-75.55	-5,652.9	381.4	340.6	126.7	213.87	1.593	
11,100.0	5,878.0	11,132.3	5,793.0	111.0	111.9	-75.55	-5,752.9	381.4	340.6	123.0	217.57	1.566	
11,200.0	5,878.0	11,232.3	5,793.0	112.9	113.8	-75.55	-5,852.9	381.4	340.6	119.3	221.28	1.539	
11,300.0	5,878.0	11,332.3	5,793.0	114.8	115.7	-75.55	-5,952.9	381.4	340.6	115.6	224.98	1.514	
11,400.0	5,878.0	11,432.3	5,793.0	116.8	117.6	-75.55	-6,052.9	381.4	340.6	111.9	228.69	1.489	Level 3
11,500.0	5,878.0	11,532.3	5,793.0	118.7	119.5	-75.55	-6,152.9	381.4	340.6	108.2	232.40	1.466	Level 3
11,600.0	5,878.0	11,632.3	5,793.0	120.6	121.4	-75.55	-6,252.9	381.4	340.6	104.5	236.11	1.443	Level 3
11,700.0	5,878.0	11,732.3	5,793.0	122.5	123.3	-75.55	-6,352.9	381.4	340.6	100.8	239.82	1.420	Level 3
11,800.0	5,878.0	11,832.3	5,793.0	124.4	125.2	-75.55	-6,452.9	381.4	340.6	97.1	243.53	1.399	Level 3
11,900.0	5,878.0	11,932.3	5,793.0	126.3	127.1	-75.55	-6,552.9	381.4	340.6	93.4	247.24	1.378	Level 3
12,000.0	5,878.0	12,032.3	5,793.0	128.2	129.0	-75.55	-6,652.9	381.4	340.6	89.7	250.95	1.357	Level 3
12,100.0	5,878.0	12,132.3	5,793.0	130.1	130.9	-75.55	-6,752.9	381.4	340.7	86.0	254.67	1.338	Level 3
12,200.0	5,878.0	12,232.3	5,793.0	132.0	132.9	-75.55	-6,852.9	381.4	340.7	82.3	258.38	1.318	Level 3
12,300.0	5,878.0	12,332.3	5,793.0	133.9	134.8	-75.55	-6,952.9	381.4	340.7	78.6	262.09	1.300	Level 3
12,400.0	5,878.0	12,432.3	5,793.0	135.8	136.7	-75.55	-7,052.9	381.4	340.7	74.9	265.81	1.282	Level 3
12,500.0	5,878.0	12,532.3	5,793.0	137.7	138.6	-75.55	-7,152.9	381.4	340.7	71.1	269.52	1.264	Level 3
12,600.0	5,878.0	12,632.3	5,793.0	139.6	140.5	-75.55	-7,252.9	381.4	340.7	67.4	273.24	1.247	Level 2
12,700.0	5,878.0	12,732.3	5,793.0	141.6	142.3	-75.55	-7,352.9	381.4	340.7	63.8	276.84	1.231	Level 2
12,724.5	5,878.0	12,756.8	5,793.0	142.0	142.6	-75.55	-7,377.4	381.4	340.7	63.0	277.65	1.227	Level 2
12,749.3	5,878.0	12,774.5	5,793.0	142.5	142.9	-75.55	-7,395.1	381.4	340.8	62.4	278.39	1.224	Level 2, ES, SF
12,750.2	5,878.0	12,774.5	5,793.0	142.5	142.9	-75.55	-7,395.1	381.4	340.8	62.4	278.40	1.224	Level 2

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2812B - 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	88.95	1.2	66.1	66.1				
100.0	100.0	100.0	100.0	0.1	0.1	88.95	1.2	66.1	66.1	66.0	0.19	352.419	
200.0	200.0	200.0	200.0	0.3	0.3	88.95	1.2	66.1	66.1	65.5	0.64	103.799	
300.0	300.0	300.0	300.0	0.5	0.5	88.95	1.2	66.1	66.1	65.1	1.09	60.862	
400.0	400.0	400.0	400.0	0.8	0.8	88.95	1.2	66.1	66.1	64.6	1.54	43.053	
500.0	500.0	500.0	500.0	1.0	1.0	88.95	1.2	66.1	66.1	64.2	1.99	33.307	
600.0	600.0	600.0	600.0	1.2	1.2	88.95	1.2	66.1	66.1	63.7	2.44	27.159	
700.0	700.0	700.0	700.0	1.4	1.4	88.95	1.2	66.1	66.1	63.3	2.88	22.927	
800.0	800.0	800.0	800.0	1.6	1.7	-89.27	1.2	66.1	66.1	62.8	3.31	19.994	
821.8	821.7	821.7	821.7	1.7	1.7	-90.00	1.2	66.1	66.1	62.7	3.39	19.473	CC
900.0	899.8	899.8	899.8	1.8	1.9	-93.79	1.2	66.1	66.2	62.5	3.71	17.851	ES
1,000.0	999.6	998.9	998.9	2.0	2.1	-98.30	-0.3	67.0	67.6	63.5	4.10	16.458	
1,100.0	1,099.4	1,098.2	1,098.0	2.2	2.3	-99.90	-4.8	69.5	70.2	65.7	4.50	15.602	
1,200.0	1,199.1	1,198.1	1,197.7	2.5	2.5	-100.02	-10.9	72.9	73.3	68.4	4.91	14.914	
1,300.0	1,298.9	1,298.1	1,297.4	2.7	2.7	-100.14	-16.9	76.3	76.4	71.0	5.35	14.283	
1,400.0	1,398.6	1,398.0	1,397.1	2.9	2.9	-100.25	-23.0	79.7	79.5	73.7	5.80	13.711	
1,500.0	1,498.4	1,498.0	1,496.8	3.2	3.1	-100.35	-29.1	83.1	82.6	76.4	6.26	13.197	
1,600.0	1,598.1	1,597.9	1,596.5	3.4	3.3	-100.44	-35.2	86.5	85.8	79.0	6.73	12.735	
1,700.0	1,697.9	1,697.9	1,696.3	3.7	3.6	-100.53	-41.3	89.9	88.9	81.7	7.21	12.321	
1,800.0	1,797.6	1,797.8	1,796.0	3.9	3.8	-100.61	-47.4	93.3	92.0	84.3	7.70	11.950	
1,900.0	1,897.4	1,897.8	1,895.7	4.2	4.1	-100.69	-53.5	96.7	95.1	86.9	8.19	11.615	
2,000.0	1,997.2	1,997.7	1,995.4	4.4	4.3	-100.76	-59.6	100.1	98.2	89.5	8.68	11.312	
2,100.0	2,096.9	2,097.7	2,095.1	4.7	4.6	-100.82	-65.6	103.5	101.4	92.2	9.18	11.038	
2,200.0	2,196.7	2,197.6	2,194.8	4.9	4.8	-100.88	-71.7	106.9	104.5	94.8	9.68	10.789	
2,300.0	2,296.4	2,297.6	2,294.5	5.2	5.1	-100.94	-77.8	110.2	107.6	97.4	10.19	10.562	
2,400.0	2,396.2	2,397.5	2,394.2	5.4	5.3	-101.00	-83.9	113.6	110.7	100.0	10.69	10.354	
2,500.0	2,495.9	2,497.5	2,493.9	5.7	5.6	-101.05	-90.0	117.0	113.8	102.6	11.20	10.163	
2,600.0	2,595.7	2,597.4	2,593.6	5.9	5.8	-101.10	-96.1	120.4	117.0	105.2	11.71	9.987	
2,700.0	2,695.5	2,697.4	2,693.3	6.2	6.1	-101.15	-102.2	123.8	120.1	107.9	12.22	9.825	
2,800.0	2,795.2	2,797.3	2,793.0	6.5	6.3	-101.19	-108.3	127.2	123.2	110.5	12.73	9.675	
2,900.0	2,895.0	2,897.3	2,892.7	6.7	6.6	-101.23	-114.3	130.6	126.3	113.1	13.25	9.536	
3,000.0	2,994.7	2,997.2	2,992.5	7.0	6.8	-101.27	-120.4	134.0	129.4	115.7	13.76	9.406	
3,100.0	3,094.5	3,097.2	3,092.2	7.2	7.1	-101.31	-126.5	137.4	132.6	118.3	14.28	9.285	
3,200.0	3,194.2	3,197.1	3,191.9	7.5	7.3	-101.35	-132.6	140.8	135.7	120.9	14.79	9.173	
3,300.0	3,294.0	3,297.1	3,291.6	7.8	7.6	-101.38	-138.7	144.2	138.8	123.5	15.31	9.067	
3,400.0	3,393.7	3,397.0	3,391.3	8.0	7.9	-101.42	-144.8	147.6	141.9	126.1	15.83	8.968	
3,500.0	3,493.5	3,497.0	3,491.0	8.3	8.1	-101.45	-150.9	151.0	145.0	128.7	16.34	8.874	
3,600.0	3,593.3	3,596.9	3,590.7	8.5	8.4	-101.48	-157.0	154.4	148.2	131.3	16.86	8.787	
3,700.0	3,693.0	3,696.9	3,690.4	8.8	8.6	-101.51	-163.1	157.8	151.3	133.9	17.38	8.704	
3,800.0	3,792.8	3,796.8	3,790.1	9.1	8.9	-101.54	-169.1	161.2	154.4	136.5	17.90	8.626	
3,900.0	3,892.5	3,896.8	3,889.8	9.3	9.2	-101.56	-175.2	164.6	157.5	139.1	18.42	8.552	
4,000.0	3,992.3	3,996.8	3,989.5	9.6	9.4	-101.59	-181.3	168.0	160.7	141.7	18.94	8.482	
4,100.0	4,092.0	4,096.7	4,089.2	9.9	9.7	-101.62	-187.4	171.4	163.8	144.3	19.46	8.415	
4,200.0	4,191.8	4,196.7	4,188.9	10.1	9.9	-101.64	-193.5	174.8	166.9	146.9	19.98	8.352	
4,300.0	4,291.6	4,296.6	4,288.7	10.4	10.2	-101.66	-199.6	178.2	170.0	149.5	20.50	8.292	
4,400.0	4,391.3	4,396.6	4,388.4	10.6	10.5	-101.69	-205.7	181.6	173.1	152.1	21.02	8.235	
4,500.0	4,491.1	4,496.5	4,488.1	10.9	10.7	-101.71	-211.8	185.0	176.3	154.7	21.55	8.181	
4,600.0	4,590.8	4,596.5	4,587.8	11.2	11.0	-101.73	-217.8	188.4	179.4	157.3	22.07	8.129	
4,700.0	4,690.6	4,696.4	4,687.5	11.4	11.3	-101.75	-223.9	191.8	182.5	159.9	22.59	8.079	
4,800.0	4,790.3	4,796.4	4,787.2	11.7	11.5	-101.77	-230.0	195.2	185.6	162.5	23.11	8.032	
4,900.0	4,890.1	4,896.3	4,886.9	12.0	11.8	-101.79	-236.1	198.6	188.8	165.1	23.64	7.986	
5,000.0	4,989.9	4,996.3	4,986.6	12.2	12.0	-101.80	-242.2	202.0	191.9	167.7	24.16	7.943	

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 #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 S21-T10N-R58W - Razor #21B-2812B - HZ - Plan #1

Survey Program: 0-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
5,100.0	5,089.6	5,096.2	5,086.3	12.5	12.3	-101.82	-248.3	205.4	195.0	170.3	24.68	7.901	
5,200.0	5,189.4	5,196.2	5,186.0	12.8	12.6	-101.84	-254.4	208.8	198.1	172.9	25.20	7.861	
5,300.0	5,289.1	5,296.1	5,285.7	13.0	12.8	-101.86	-260.5	212.2	201.2	175.5	25.73	7.822	
5,404.6	5,393.5	5,400.7	5,390.0	13.3	13.1	-101.87	-266.8	215.8	204.5	178.2	26.27	7.784	SF
5,450.0	5,438.6	5,442.4	5,431.5	13.4	13.2	-101.75	-270.6	217.9	206.7	180.2	26.52	7.793	
5,500.0	5,487.5	5,487.9	5,476.2	13.6	13.4	-101.52	-278.0	222.0	211.0	184.2	26.86	7.857	
5,550.0	5,535.2	5,533.1	5,519.8	13.9	13.6	-101.19	-288.7	227.9	217.3	190.1	27.26	7.973	
5,600.0	5,581.3	5,578.2	5,561.9	14.1	13.8	-100.74	-302.5	235.7	225.6	197.8	27.74	8.132	
5,650.0	5,625.4	5,622.8	5,602.1	14.5	14.1	-100.18	-319.4	245.1	235.6	207.3	28.29	8.329	
5,700.0	5,666.9	5,667.2	5,640.3	14.8	14.4	-99.51	-339.0	256.1	247.4	218.5	28.92	8.555	
5,750.0	5,705.6	5,711.1	5,676.2	15.3	14.8	-98.73	-361.2	268.4	260.8	231.1	29.63	8.801	
5,800.0	5,741.1	5,754.7	5,709.5	15.7	15.1	-97.85	-385.8	282.1	275.6	245.2	30.43	9.060	
5,850.0	5,773.1	5,797.9	5,740.1	16.3	15.6	-96.87	-412.4	297.0	291.9	260.6	31.31	9.322	
5,900.0	5,801.2	5,840.9	5,767.8	16.8	16.0	-95.80	-441.0	313.0	309.3	277.1	32.28	9.582	
5,950.0	5,825.3	5,883.6	5,792.7	17.4	16.5	-94.66	-471.4	329.9	327.9	294.5	33.36	9.827	
6,000.0	5,845.0	5,926.2	5,814.6	18.1	17.0	-93.44	-503.3	347.7	347.3	312.8	34.52	10.062	
6,050.0	5,860.2	5,968.8	5,833.4	18.8	17.6	-92.17	-536.6	366.3	367.5	331.8	35.74	10.283	
6,100.0	5,870.9	6,011.4	5,849.0	19.5	18.2	-90.86	-571.2	385.7	388.4	351.3	37.03	10.489	
6,150.0	5,876.7	6,054.3	5,861.5	20.2	18.8	-89.53	-607.0	405.6	409.6	371.3	38.37	10.677	
6,186.4	5,878.0	6,085.7	5,868.4	20.8	19.3	-88.56	-633.8	420.6	425.3	385.9	39.38	10.802	
6,200.0	5,878.0	6,097.5	5,870.5	21.0	19.5	-88.89	-643.9	426.2	431.2	391.5	39.71	10.861	
6,296.4	5,878.0	6,182.0	5,878.0	22.2	20.9	-90.00	-717.3	467.2	476.0	434.1	41.95	11.347	
6,300.0	5,878.0	6,185.1	5,878.0	22.3	20.9	-90.00	-720.1	468.7	477.8	435.7	42.05	11.362	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #21B-2810B
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Reference Site:	S21-T10N-R58W	**MD Reference:**	WELL @ 4853.8ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	Grid
Reference Well:	Razor #21B-2810B	**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 @ 4853.8ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.00 W °

Coordinates are relative to: Razor #21B-2810B
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.05°