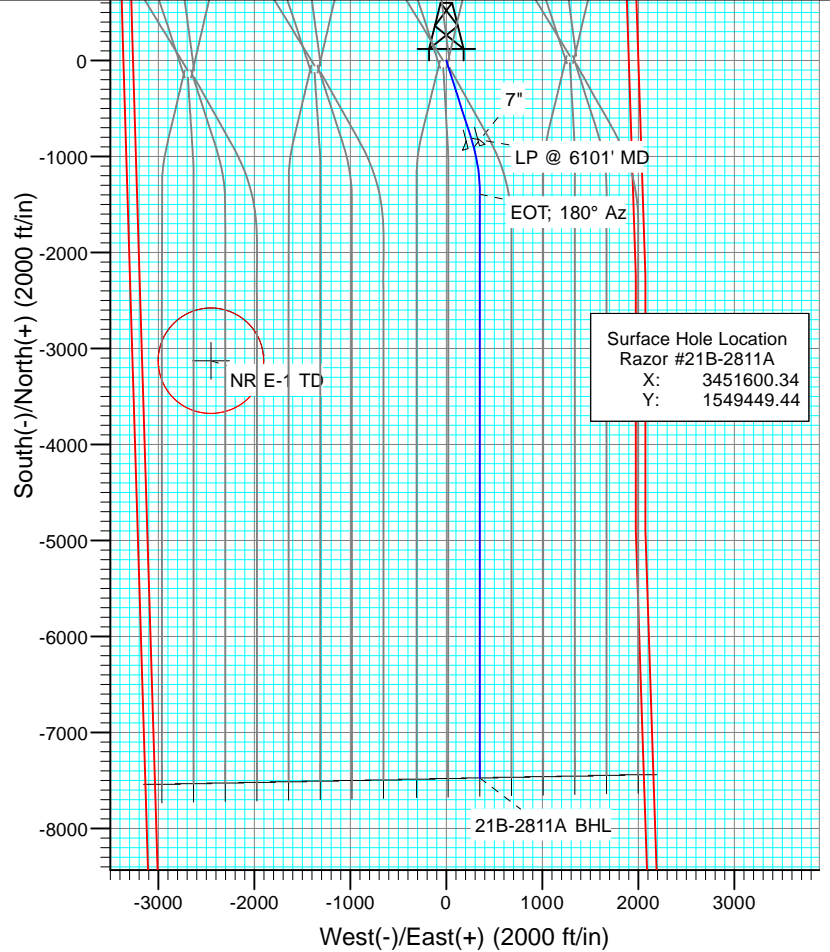
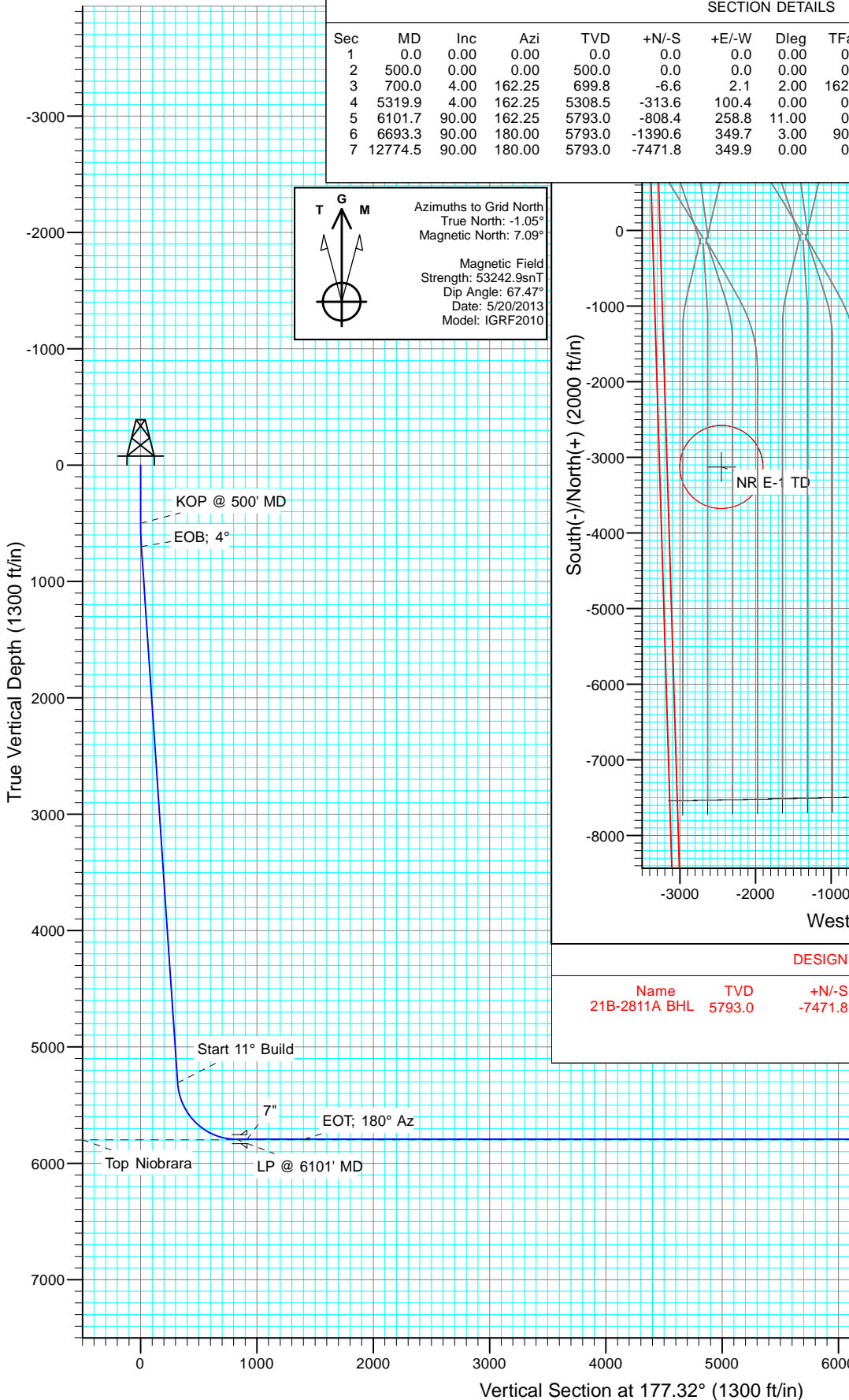
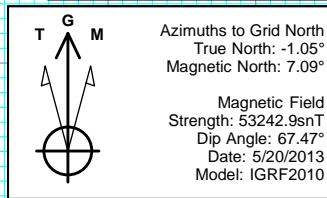


SECTION DETAILS

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	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0		KOP @ 500' MD
3	700.0	4.00	162.25	699.8	-6.6	2.1	2.00	162.25	6.7		EOB; 4°
4	5319.9	4.00	162.25	5308.5	-313.6	100.4	0.00	0.00	317.9		Start 11° Build
5	6101.7	90.00	162.25	5793.0	-808.4	258.8	11.00	0.00	819.7		LP @ 6101' MD
6	6693.3	90.00	180.00	5793.0	-1390.6	349.7	3.00	90.00	1405.5		EOT; 180° Az
7	12774.5	90.00	180.00	5793.0	-7471.8	349.9	0.00	0.00	7480.0	21B-2811A BHL	PBHL @ 12774' MD



Surface Hole Location  
Razor #21B-2811A  
X: 3451600.34  
Y: 1549449.44

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
21B-2811A BHL	5793.0	-7471.8	349.9	1541977.65	3451950.22

Plan #1  
Razor #21B-2811A  
WELL @ 4853.8ft (Original Well Elev)  
Ground Elevation @ 4837.3  
North American Datum 1983  
Well Razor #21B-2811A, Grid North

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site:</b>	S21-T10N-R58W	<b>North Reference:</b>	Grid
<b>Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

<b>Project</b>	Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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-2811A					
Well Position	+N/-S	0.0 ft	Northing:	1,549,449.44 ft	Latitude:	40° 49' 48.73 N
	+E/-W	0.0 ft	Easting:	3,451,600.34 ft	Longitude:	103° 52' 5.13 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,837.3 ft

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

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN		<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	177.32	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
700.0	4.00	162.25	699.8	-6.6	2.1	2.00	2.00	0.00	162.25	
5,319.9	4.00	162.25	5,308.5	-313.6	100.4	0.00	0.00	0.00	0.00	
6,101.7	90.00	162.25	5,793.0	-808.4	258.8	11.00	11.00	0.00	0.00	
6,693.3	90.00	180.00	5,793.0	-1,390.6	349.7	3.00	0.00	3.00	90.00	
12,774.5	90.00	180.00	5,793.0	-7,471.8	349.9	0.00	0.00	0.00	0.00	21B-2811A BHL

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site:</b>	S21-T10N-R58W	<b>North Reference:</b>	Grid
<b>Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 500' MD
600.0	2.00	162.25	600.0	-1.7	0.5	1.7	2.00	2.00	
700.0	4.00	162.25	699.8	-6.6	2.1	6.7	2.00	2.00	EOB; 4°
800.0	4.00	162.25	799.6	-13.3	4.3	13.5	0.00	0.00	
900.0	4.00	162.25	899.4	-19.9	6.4	20.2	0.00	0.00	
1,000.0	4.00	162.25	999.1	-26.6	8.5	26.9	0.00	0.00	
1,100.0	4.00	162.25	1,098.9	-33.2	10.6	33.7	0.00	0.00	
1,200.0	4.00	162.25	1,198.6	-39.9	12.8	40.4	0.00	0.00	
1,300.0	4.00	162.25	1,298.4	-46.5	14.9	47.2	0.00	0.00	
1,400.0	4.00	162.25	1,398.1	-53.2	17.0	53.9	0.00	0.00	
1,500.0	4.00	162.25	1,497.9	-59.8	19.1	60.6	0.00	0.00	
1,600.0	4.00	162.25	1,597.6	-66.4	21.3	67.4	0.00	0.00	
1,700.0	4.00	162.25	1,697.4	-73.1	23.4	74.1	0.00	0.00	
1,800.0	4.00	162.25	1,797.2	-79.7	25.5	80.8	0.00	0.00	
1,900.0	4.00	162.25	1,896.9	-86.4	27.6	87.6	0.00	0.00	
2,000.0	4.00	162.25	1,996.7	-93.0	29.8	94.3	0.00	0.00	
2,100.0	4.00	162.25	2,096.4	-99.7	31.9	101.0	0.00	0.00	
2,200.0	4.00	162.25	2,196.2	-106.3	34.0	107.8	0.00	0.00	
2,300.0	4.00	162.25	2,295.9	-112.9	36.2	114.5	0.00	0.00	
2,400.0	4.00	162.25	2,395.7	-119.6	38.3	121.2	0.00	0.00	
2,500.0	4.00	162.25	2,495.5	-126.2	40.4	128.0	0.00	0.00	
2,600.0	4.00	162.25	2,595.2	-132.9	42.5	134.7	0.00	0.00	
2,700.0	4.00	162.25	2,695.0	-139.5	44.7	141.5	0.00	0.00	
2,800.0	4.00	162.25	2,794.7	-146.2	46.8	148.2	0.00	0.00	
2,900.0	4.00	162.25	2,894.5	-152.8	48.9	154.9	0.00	0.00	
3,000.0	4.00	162.25	2,994.2	-159.4	51.0	161.7	0.00	0.00	
3,100.0	4.00	162.25	3,094.0	-166.1	53.2	168.4	0.00	0.00	
3,200.0	4.00	162.25	3,193.7	-172.7	55.3	175.1	0.00	0.00	
3,300.0	4.00	162.25	3,293.5	-179.4	57.4	181.9	0.00	0.00	
3,400.0	4.00	162.25	3,393.3	-186.0	59.5	188.6	0.00	0.00	
3,500.0	4.00	162.25	3,493.0	-192.7	61.7	195.3	0.00	0.00	
3,600.0	4.00	162.25	3,592.8	-199.3	63.8	202.1	0.00	0.00	
3,700.0	4.00	162.25	3,692.5	-206.0	65.9	208.8	0.00	0.00	
3,800.0	4.00	162.25	3,792.3	-212.6	68.1	215.5	0.00	0.00	
3,900.0	4.00	162.25	3,892.0	-219.2	70.2	222.3	0.00	0.00	
4,000.0	4.00	162.25	3,991.8	-225.9	72.3	229.0	0.00	0.00	
4,100.0	4.00	162.25	4,091.6	-232.5	74.4	235.8	0.00	0.00	
4,200.0	4.00	162.25	4,191.3	-239.2	76.6	242.5	0.00	0.00	
4,300.0	4.00	162.25	4,291.1	-245.8	78.7	249.2	0.00	0.00	
4,400.0	4.00	162.25	4,390.8	-252.5	80.8	256.0	0.00	0.00	
4,500.0	4.00	162.25	4,490.6	-259.1	82.9	262.7	0.00	0.00	
4,600.0	4.00	162.25	4,590.3	-265.7	85.1	269.4	0.00	0.00	
4,700.0	4.00	162.25	4,690.1	-272.4	87.2	276.2	0.00	0.00	
4,800.0	4.00	162.25	4,789.9	-279.0	89.3	282.9	0.00	0.00	
4,900.0	4.00	162.25	4,889.6	-285.7	91.4	289.6	0.00	0.00	
5,000.0	4.00	162.25	4,989.4	-292.3	93.6	296.4	0.00	0.00	
5,100.0	4.00	162.25	5,089.1	-299.0	95.7	303.1	0.00	0.00	

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site:</b>	S21-T10N-R58W	<b>North Reference:</b>	Grid
<b>Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	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	162.25	5,188.9	-305.6	97.8	309.8	0.00	0.00	
5,300.0	4.00	162.25	5,288.6	-312.3	100.0	316.6	0.00	0.00	
5,319.9	4.00	162.25	5,308.5	-313.6	100.4	317.9	0.00	0.00	Start 11° Build
5,400.0	12.81	162.25	5,387.6	-324.7	103.9	329.2	11.00	11.00	
5,500.0	23.81	162.25	5,482.4	-354.6	113.5	359.5	11.00	11.00	
5,600.0	34.81	162.25	5,569.5	-401.1	128.4	406.7	11.00	11.00	
5,700.0	45.81	162.25	5,645.6	-462.7	148.1	469.1	11.00	11.00	
5,800.0	56.81	162.25	5,708.1	-536.9	171.9	544.3	11.00	11.00	
5,900.0	67.81	162.25	5,754.5	-621.1	198.8	629.7	11.00	11.00	
6,000.0	78.81	162.25	5,783.1	-712.2	228.0	722.1	11.00	11.00	
6,100.0	89.81	162.25	5,793.0	-806.8	258.3	818.0	11.00	11.00	
6,101.7	90.00	162.25	5,793.0	-808.4	258.8	819.7	11.00	11.00	LP @ 6101' MD
6,200.0	90.00	165.20	5,793.0	-902.8	286.3	915.2	3.00	0.00	7"
6,300.0	90.00	168.20	5,793.0	-1,000.1	309.3	1,013.4	3.00	0.00	
6,400.0	90.00	171.20	5,793.0	-1,098.4	327.2	1,112.5	3.00	0.00	
6,500.0	90.00	174.20	5,793.0	-1,197.6	339.9	1,212.2	3.00	0.00	
6,600.0	90.00	177.20	5,793.0	-1,297.3	347.4	1,312.2	3.00	0.00	
6,693.3	90.00	180.00	5,793.0	-1,390.6	349.7	1,405.5	3.00	0.00	EOT; 180° Az
6,700.0	90.00	180.00	5,793.0	-1,397.3	349.7	1,412.1	0.00	0.00	
6,800.0	90.00	180.00	5,793.0	-1,497.3	349.7	1,512.0	0.00	0.00	
6,900.0	90.00	180.00	5,793.0	-1,597.3	349.7	1,611.9	0.00	0.00	
7,000.0	90.00	180.00	5,793.0	-1,697.3	349.7	1,711.8	0.00	0.00	
7,100.0	90.00	180.00	5,793.0	-1,797.3	349.7	1,811.7	0.00	0.00	
7,200.0	90.00	180.00	5,793.0	-1,897.3	349.7	1,911.6	0.00	0.00	
7,300.0	90.00	180.00	5,793.0	-1,997.3	349.7	2,011.5	0.00	0.00	
7,400.0	90.00	180.00	5,793.0	-2,097.3	349.7	2,111.4	0.00	0.00	
7,500.0	90.00	180.00	5,793.0	-2,197.3	349.7	2,211.2	0.00	0.00	
7,600.0	90.00	180.00	5,793.0	-2,297.3	349.7	2,311.1	0.00	0.00	
7,700.0	90.00	180.00	5,793.0	-2,397.3	349.7	2,411.0	0.00	0.00	
7,800.0	90.00	180.00	5,793.0	-2,497.3	349.7	2,510.9	0.00	0.00	
7,900.0	90.00	180.00	5,793.0	-2,597.3	349.7	2,610.8	0.00	0.00	
8,000.0	90.00	180.00	5,793.0	-2,697.3	349.7	2,710.7	0.00	0.00	
8,100.0	90.00	180.00	5,793.0	-2,797.3	349.7	2,810.6	0.00	0.00	
8,200.0	90.00	180.00	5,793.0	-2,897.3	349.7	2,910.5	0.00	0.00	
8,300.0	90.00	180.00	5,793.0	-2,997.3	349.7	3,010.4	0.00	0.00	
8,400.0	90.00	180.00	5,793.0	-3,097.3	349.8	3,110.3	0.00	0.00	
8,500.0	90.00	180.00	5,793.0	-3,197.3	349.8	3,210.2	0.00	0.00	
8,600.0	90.00	180.00	5,793.0	-3,297.3	349.8	3,310.0	0.00	0.00	
8,700.0	90.00	180.00	5,793.0	-3,397.3	349.8	3,409.9	0.00	0.00	
8,800.0	90.00	180.00	5,793.0	-3,497.3	349.8	3,509.8	0.00	0.00	
8,900.0	90.00	180.00	5,793.0	-3,597.3	349.8	3,609.7	0.00	0.00	
9,000.0	90.00	180.00	5,793.0	-3,697.3	349.8	3,709.6	0.00	0.00	
9,100.0	90.00	180.00	5,793.0	-3,797.3	349.8	3,809.5	0.00	0.00	
9,200.0	90.00	180.00	5,793.0	-3,897.3	349.8	3,909.4	0.00	0.00	
9,300.0	90.00	180.00	5,793.0	-3,997.3	349.8	4,009.3	0.00	0.00	
9,400.0	90.00	180.00	5,793.0	-4,097.3	349.8	4,109.2	0.00	0.00	
9,500.0	90.00	180.00	5,793.0	-4,197.3	349.8	4,209.1	0.00	0.00	
9,600.0	90.00	180.00	5,793.0	-4,297.3	349.8	4,308.9	0.00	0.00	
9,700.0	90.00	180.00	5,793.0	-4,397.3	349.8	4,408.8	0.00	0.00	
9,800.0	90.00	180.00	5,793.0	-4,497.3	349.8	4,508.7	0.00	0.00	
9,900.0	90.00	180.00	5,793.0	-4,597.3	349.8	4,608.6	0.00	0.00	
10,000.0	90.00	180.00	5,793.0	-4,697.3	349.8	4,708.5	0.00	0.00	

**Database:** USA EDM 5000 Multi Users DB  
**Company:** Whiting Petroleum Corporation  
**Project:** Weld County, CO  
**Site:** S21-T10N-R58W  
**Well:** Razor #21B-2811A  
**Wellbore:** HZ  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well Razor #21B-2811A  
**TVD Reference:** WELL @ 4853.8ft (Original Well Elev)  
**MD Reference:** WELL @ 4853.8ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

**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
10,100.0	90.00	180.00	5,793.0	-4,797.3	349.8	4,808.4	0.00	0.00	
10,200.0	90.00	180.00	5,793.0	-4,897.3	349.8	4,908.3	0.00	0.00	
10,300.0	90.00	180.00	5,793.0	-4,997.3	349.8	5,008.2	0.00	0.00	
10,400.0	90.00	180.00	5,793.0	-5,097.3	349.8	5,108.1	0.00	0.00	
10,500.0	90.00	180.00	5,793.0	-5,197.3	349.8	5,208.0	0.00	0.00	
10,600.0	90.00	180.00	5,793.0	-5,297.3	349.8	5,307.9	0.00	0.00	
10,700.0	90.00	180.00	5,793.0	-5,397.3	349.8	5,407.7	0.00	0.00	
10,800.0	90.00	180.00	5,793.0	-5,497.3	349.8	5,507.6	0.00	0.00	
10,900.0	90.00	180.00	5,793.0	-5,597.3	349.8	5,607.5	0.00	0.00	
11,000.0	90.00	180.00	5,793.0	-5,697.3	349.8	5,707.4	0.00	0.00	
11,100.0	90.00	180.00	5,793.0	-5,797.3	349.8	5,807.3	0.00	0.00	
11,200.0	90.00	180.00	5,793.0	-5,897.3	349.8	5,907.2	0.00	0.00	
11,300.0	90.00	180.00	5,793.0	-5,997.3	349.8	6,007.1	0.00	0.00	
11,400.0	90.00	180.00	5,793.0	-6,097.3	349.8	6,107.0	0.00	0.00	
11,500.0	90.00	180.00	5,793.0	-6,197.3	349.8	6,206.9	0.00	0.00	
11,600.0	90.00	180.00	5,793.0	-6,297.3	349.8	6,306.8	0.00	0.00	
11,700.0	90.00	180.00	5,793.0	-6,397.3	349.9	6,406.7	0.00	0.00	
11,800.0	90.00	180.00	5,793.0	-6,497.3	349.9	6,506.5	0.00	0.00	
11,900.0	90.00	180.00	5,793.0	-6,597.3	349.9	6,606.4	0.00	0.00	
12,000.0	90.00	180.00	5,793.0	-6,697.3	349.9	6,706.3	0.00	0.00	
12,100.0	90.00	180.00	5,793.0	-6,797.3	349.9	6,806.2	0.00	0.00	
12,200.0	90.00	180.00	5,793.0	-6,897.3	349.9	6,906.1	0.00	0.00	
12,300.0	90.00	180.00	5,793.0	-6,997.3	349.9	7,006.0	0.00	0.00	
12,400.0	90.00	180.00	5,793.0	-7,097.3	349.9	7,105.9	0.00	0.00	
12,500.0	90.00	180.00	5,793.0	-7,197.3	349.9	7,205.8	0.00	0.00	
12,600.0	90.00	180.00	5,793.0	-7,297.3	349.9	7,305.7	0.00	0.00	
12,700.0	90.00	180.00	5,793.0	-7,397.3	349.9	7,405.6	0.00	0.00	
12,774.5	90.00	180.00	5,793.0	-7,471.8	349.9	7,480.0	0.00	0.00	PBHL @ 12774' MD

**Targets**

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
21B-2811A BHL	0.00	0.00	5,793.0	-7,471.8	349.9	1,541,977.65	3,451,950.22	40° 48' 34.85 N	103° 52' 2.37 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,200.0	5,793.0	7"	0.000	0.000

**Database:** USA EDM 5000 Multi Users DB  
**Company:** Whiting Petroleum Corporation  
**Project:** Weld County, CO  
**Site:** S21-T10N-R58W  
**Well:** Razor #21B-2811A  
**Wellbore:** HZ  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well Razor #21B-2811A  
**TVD Reference:** WELL @ 4853.8ft (Original Well Elev)  
**MD Reference:** WELL @ 4853.8ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

**Plan Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP @ 500' MD
700.0	699.8	-6.6	2.1	EOB; 4°
5,319.9	5,308.5	-313.6	100.4	Start 11° Build
6,101.7	5,793.0	-808.4	258.8	LP @ 6101' MD
6,693.3	5,793.0	-1,390.6	349.7	EOT; 180° Az
12,774.5	5,793.0	-7,471.8	349.9	PBHL @ 12774' MD



**WHITING PETROLEUM CORPORATION**

# **Whiting Petroleum Corporation**

**Weld County, CO**

**S21-T10N-R58W**

**Razor #21B-2811A**

**HZ**

**Plan #1**

## **Anticollision Report**

**28 May, 2013**

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	Systematic Ellipse
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 500.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>		<b>Date</b>	5/22/2013		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	12,774.2	Plan #1 (HZ)	ISCWSA MWD	MWD - ISCWSA	



<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
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	32.9	30.9	16.584	CC, ES
Razor #21B-0909A - HZ - Plan #1	600.0	599.3	34.5	32.0	14.323	SF
Razor #21B-0910B - HZ - Plan #1	1,078.6	1,078.1	84.3	79.7	18.538	CC
Razor #21B-0910B - HZ - Plan #1	1,100.0	1,099.3	84.3	79.7	18.148	ES
Razor #21B-0910B - HZ - Plan #1	1,400.0	1,396.4	95.4	89.3	15.751	SF
Razor #21B-0911A - HZ - Plan #1	736.8	736.6	31.8	28.8	10.673	CC, ES
Razor #21B-0911A - HZ - Plan #1	900.0	899.4	33.8	30.1	9.130	SF
Razor #21B-0912B - HZ - Plan #1	1,458.5	1,457.3	12.8	6.5	2.020	CC, ES, SF
Razor #21B-2809A - HZ - Plan #1	500.0	500.0	66.1	64.2	33.307	CC, ES
Razor #21B-2809A - HZ - Plan #1	5,319.9	5,317.7	236.7	211.5	9.394	SF
Razor #21B-2810B - HZ - Plan #1	864.8	860.8	73.6	70.2	21.197	CC
Razor #21B-2810B - HZ - Plan #1	12,774.5	12,742.2	340.7	62.4	1.224	Level 2, ES, SF
Razor #21B-2812B - HZ - Plan #1	1,100.6	1,095.8	55.4	50.9	12.396	CC
Razor #21B-2812B - HZ - Plan #1	5,550.0	5,531.5	77.2	49.5	2.787	ES
Razor #21B-2812B - HZ - Plan #1	12,774.5	12,895.7	340.8	64.8	1.235	Level 2, 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

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-0909A - HZ - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-91.03	-0.6	-32.9	32.9				
100.0	100.0	100.0	100.0	0.1	0.1	-91.03	-0.6	-32.9	32.9	32.7	0.19	175.471	
200.0	200.0	200.0	200.0	0.3	0.3	-91.03	-0.6	-32.9	32.9	32.3	0.64	51.682	
300.0	300.0	300.0	300.0	0.5	0.5	-91.03	-0.6	-32.9	32.9	31.8	1.09	30.304	
400.0	400.0	400.0	400.0	0.8	0.8	-91.03	-0.6	-32.9	32.9	31.4	1.54	21.437	
500.0	500.0	500.0	500.0	1.0	1.0	-91.03	-0.6	-32.9	32.9	30.9	1.99	16.584 CC, ES	
600.0	600.0	599.3	599.3	1.2	1.2	111.93	0.9	-33.8	34.5	32.0	2.41	14.323 SF	
700.0	699.8	697.9	697.7	1.4	1.4	124.64	5.2	-36.5	40.4	37.6	2.82	14.342	
800.0	799.6	796.9	796.5	1.6	1.7	136.39	11.1	-40.1	50.7	47.5	3.25	15.598	
900.0	899.4	896.0	895.3	1.8	1.9	144.00	17.1	-43.7	62.4	58.7	3.68	16.935	
1,000.0	999.1	995.0	994.1	2.0	2.1	149.17	23.0	-47.2	74.7	70.6	4.12	18.157	
1,100.0	1,098.9	1,094.0	1,092.9	2.3	2.4	152.85	28.9	-50.8	87.6	83.0	4.55	19.226	
1,200.0	1,198.6	1,193.1	1,191.7	2.5	2.6	155.59	34.8	-54.4	100.6	95.7	5.00	20.149	
1,300.0	1,298.4	1,292.1	1,290.5	2.8	2.9	157.69	40.7	-58.0	113.9	108.5	5.44	20.945	
1,400.0	1,398.1	1,391.2	1,389.3	3.0	3.1	159.36	46.6	-61.6	127.3	121.4	5.88	21.635	
1,500.0	1,497.9	1,490.2	1,488.1	3.3	3.4	160.70	52.5	-65.2	140.8	134.4	6.33	22.235	
1,600.0	1,597.6	1,589.2	1,586.9	3.5	3.6	161.81	58.4	-68.8	154.3	147.5	6.78	22.761	
1,700.0	1,697.4	1,688.3	1,685.7	3.8	3.9	162.75	64.3	-72.4	167.9	160.6	7.23	23.225	
1,800.0	1,797.2	1,787.3	1,784.5	4.1	4.1	163.54	70.2	-76.0	181.5	173.8	7.68	23.636	
1,900.0	1,896.9	1,886.4	1,883.3	4.3	4.4	164.22	76.1	-79.5	195.1	187.0	8.13	24.003	
2,000.0	1,996.7	1,985.4	1,982.1	4.6	4.6	164.81	82.0	-83.1	208.8	200.2	8.58	24.333	
2,100.0	2,096.4	2,084.5	2,080.9	4.8	4.9	165.33	87.9	-86.7	222.5	213.4	9.03	24.630	
2,200.0	2,196.2	2,183.5	2,179.7	5.1	5.2	165.79	93.8	-90.3	236.2	226.7	9.48	24.899	
2,300.0	2,295.9	2,282.5	2,278.5	5.4	5.4	166.20	99.7	-93.9	249.9	239.9	9.94	25.143	
2,400.0	2,395.7	2,381.6	2,377.3	5.6	5.7	166.57	105.6	-97.5	263.6	253.2	10.39	25.367	
2,500.0	2,495.5	2,480.6	2,476.1	5.9	5.9	166.90	111.5	-101.1	277.3	266.5	10.85	25.572	
2,600.0	2,595.2	2,579.7	2,574.9	6.1	6.2	167.20	117.4	-104.7	291.1	279.8	11.30	25.760	
2,700.0	2,695.0	2,678.7	2,673.7	6.4	6.4	167.47	123.3	-108.3	304.8	293.1	11.75	25.934	
2,800.0	2,794.7	2,777.7	2,772.5	6.7	6.7	167.72	129.2	-111.8	318.6	306.4	12.21	26.095	
2,900.0	2,894.5	2,876.8	2,871.3	6.9	6.9	167.94	135.1	-115.4	332.3	319.7	12.66	26.245	
3,000.0	2,994.2	2,975.8	2,970.1	7.2	7.2	168.15	141.0	-119.0	346.1	333.0	13.12	26.384	
3,100.0	3,094.0	3,074.9	3,068.9	7.5	7.4	168.35	146.9	-122.6	359.9	346.3	13.57	26.513	
3,200.0	3,193.8	3,173.9	3,167.7	7.7	7.7	168.53	152.8	-126.2	373.6	359.6	14.03	26.634	
3,300.0	3,293.5	3,272.9	3,266.5	8.0	7.9	168.69	158.7	-129.8	387.4	372.9	14.48	26.748	
3,400.0	3,393.3	3,372.0	3,365.3	8.2	8.2	168.85	164.6	-133.4	401.2	386.3	14.94	26.855	
3,500.0	3,493.0	3,471.0	3,464.1	8.5	8.5	168.99	170.5	-137.0	415.0	399.6	15.40	26.955	
3,600.0	3,592.8	3,570.1	3,562.9	8.8	8.7	169.13	176.4	-140.6	428.8	412.9	15.85	27.050	
3,700.0	3,692.5	3,669.1	3,661.7	9.0	9.0	169.26	182.3	-144.2	442.6	426.3	16.31	27.139	
3,800.0	3,792.3	3,768.1	3,760.5	9.3	9.2	169.38	188.2	-147.7	456.3	439.6	16.76	27.223	
3,900.0	3,892.1	3,867.2	3,859.3	9.6	9.5	169.49	194.1	-151.3	470.1	452.9	17.22	27.303	
4,000.0	3,991.8	3,966.2	3,958.1	9.8	9.7	169.60	200.1	-154.9	483.9	466.3	17.68	27.379	
4,100.0	4,091.6	4,065.3	4,056.9	10.1	10.0	169.70	206.0	-158.5	497.7	479.6	18.13	27.450	

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-0910B - HZ - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-140.01	-76.2	-63.9	99.5				
100.0	100.0	100.0	100.0	0.1	0.1	-140.01	-76.2	-63.9	99.5	99.3	0.19	530.006	
200.0	200.0	200.0	200.0	0.3	0.3	-140.01	-76.2	-63.9	99.5	98.8	0.64	156.104	
300.0	300.0	300.0	300.0	0.5	0.5	-140.01	-76.2	-63.9	99.5	98.4	1.09	91.532	
400.0	400.0	400.0	400.0	0.8	0.8	-140.01	-76.2	-63.9	99.5	97.9	1.54	64.749	
500.0	500.0	500.0	500.0	1.0	1.0	-140.01	-76.2	-63.9	99.5	97.5	1.99	50.091	
600.0	600.0	600.0	600.0	1.2	1.2	58.61	-76.2	-63.9	98.6	96.1	2.41	40.895	
700.0	699.8	699.8	699.8	1.4	1.4	61.32	-76.2	-63.9	95.9	93.1	2.82	33.973	
800.0	799.6	800.9	800.9	1.6	1.7	66.15	-74.5	-64.5	92.1	88.8	3.26	28.245	
900.0	899.4	901.2	901.1	1.8	1.9	73.50	-69.5	-66.1	87.8	84.1	3.71	23.679	
1,000.0	999.1	1,000.3	999.9	2.0	2.1	82.46	-62.9	-68.3	85.0	80.8	4.17	20.361	
1,078.6	1,077.5	1,078.1	1,077.5	2.2	2.3	89.79	-57.8	-70.0	84.3	79.7	4.55	18.538 CC	
1,100.0	1,098.9	1,099.3	1,098.6	2.3	2.4	91.79	-56.4	-70.4	84.3	79.7	4.65	18.148 ES	
1,200.0	1,198.6	1,198.3	1,197.4	2.5	2.6	101.02	-49.8	-72.6	85.9	80.8	5.12	16.782	
1,300.0	1,298.4	1,297.3	1,296.2	2.8	2.8	109.70	-43.3	-74.7	89.7	84.1	5.59	16.042	
1,400.0	1,398.1	1,396.4	1,395.0	3.0	3.1	117.52	-36.7	-76.9	95.4	89.3	6.06	15.751 SF	
1,500.0	1,497.9	1,495.4	1,493.8	3.3	3.3	124.37	-30.1	-79.0	102.7	96.1	6.51	15.765	
1,600.0	1,597.6	1,594.4	1,592.6	3.5	3.6	130.25	-23.6	-81.2	111.2	104.2	6.96	15.974	
1,700.0	1,697.4	1,693.4	1,691.4	3.8	3.8	135.26	-17.0	-83.4	120.7	113.3	7.41	16.302	
1,800.0	1,797.2	1,792.5	1,790.1	4.1	4.1	139.51	-10.4	-85.5	131.1	123.2	7.85	16.698	
1,900.0	1,896.9	1,891.5	1,888.9	4.3	4.3	143.13	-3.9	-87.7	142.0	133.7	8.29	17.128	
2,000.0	1,996.7	1,990.5	1,987.7	4.6	4.6	146.22	2.7	-89.8	153.4	144.7	8.73	17.569	
2,100.0	2,096.4	2,089.6	2,086.5	4.8	4.8	148.89	9.3	-92.0	165.2	156.1	9.18	18.009	
2,200.0	2,196.2	2,188.6	2,185.3	5.1	5.1	151.19	15.8	-94.1	177.4	167.7	9.62	18.438	
2,300.0	2,295.9	2,287.6	2,284.1	5.4	5.3	153.20	22.4	-96.3	189.7	179.7	10.06	18.853	
2,400.0	2,395.7	2,386.6	2,382.9	5.6	5.6	154.96	28.9	-98.4	202.3	191.8	10.51	19.251	
2,500.0	2,495.5	2,485.7	2,481.6	5.9	5.8	156.52	35.5	-100.6	215.0	204.1	10.95	19.630	
2,600.0	2,595.2	2,584.7	2,580.4	6.1	6.1	157.90	42.1	-102.7	227.9	216.5	11.40	19.991	
2,700.0	2,695.0	2,683.7	2,679.2	6.4	6.3	159.13	48.6	-104.9	240.9	229.0	11.85	20.332	
2,800.0	2,794.7	2,782.7	2,778.0	6.7	6.6	160.24	55.2	-107.1	254.0	241.7	12.29	20.656	
2,900.0	2,894.5	2,881.8	2,876.8	6.9	6.8	161.23	61.8	-109.2	267.1	254.4	12.74	20.963	
3,000.0	2,994.2	2,980.8	2,975.6	7.2	7.1	162.14	68.3	-111.4	280.4	267.2	13.19	21.253	
3,100.0	3,094.0	3,079.8	3,074.4	7.5	7.3	162.96	74.9	-113.5	293.7	280.0	13.64	21.528	
3,200.0	3,193.8	3,178.9	3,173.1	7.7	7.6	163.71	81.5	-115.7	307.0	292.9	14.09	21.789	
3,300.0	3,293.5	3,277.9	3,271.9	8.0	7.8	164.40	88.0	-117.8	320.4	305.9	14.54	22.036	
3,400.0	3,393.3	3,376.9	3,370.7	8.2	8.1	165.04	94.6	-120.0	333.9	318.9	14.99	22.271	
3,500.0	3,493.0	3,475.9	3,469.5	8.5	8.3	165.62	101.1	-122.1	347.4	331.9	15.44	22.494	
3,600.0	3,592.8	3,575.0	3,568.3	8.8	8.6	166.16	107.7	-124.3	360.9	345.0	15.89	22.705	
3,700.0	3,692.5	3,674.0	3,667.1	9.0	8.9	166.66	114.3	-126.4	374.4	358.1	16.35	22.907	
3,800.0	3,792.3	3,773.0	3,765.9	9.3	9.1	167.13	120.8	-128.6	388.0	371.2	16.80	23.099	
3,900.0	3,892.1	3,872.0	3,864.6	9.6	9.4	167.56	127.4	-130.7	401.6	384.3	17.25	23.282	
4,000.0	3,991.8	3,971.1	3,963.4	9.8	9.6	167.97	134.0	-132.9	415.2	397.5	17.70	23.456	
4,100.0	4,091.6	4,070.1	4,062.2	10.1	9.9	168.35	140.5	-135.1	428.9	410.7	18.15	23.622	
4,200.0	4,191.3	4,169.1	4,161.0	10.4	10.1	168.71	147.1	-137.2	442.5	423.9	18.61	23.782	
4,300.0	4,291.1	4,268.1	4,259.8	10.6	10.4	169.04	153.6	-139.4	456.2	437.1	19.06	23.934	
4,400.0	4,390.8	4,367.2	4,358.6	10.9	10.6	169.36	160.2	-141.5	469.9	450.3	19.51	24.079	
4,500.0	4,490.6	4,466.2	4,457.4	11.1	10.9	169.66	166.8	-143.7	483.6	463.6	19.97	24.219	
4,600.0	4,590.3	4,565.2	4,556.1	11.4	11.1	169.94	173.3	-145.8	497.3	476.8	20.42	24.353	

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-0911A - HZ - Plan #1														Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	88.96	0.6	33.2	33.2						
100.0	100.0	100.0	100.0	0.1	0.1	88.96	0.6	33.2	33.2	33.0	0.19	176.946			
200.0	200.0	200.0	200.0	0.3	0.3	88.96	0.6	33.2	33.2	32.6	0.64	52.116			
300.0	300.0	300.0	300.0	0.5	0.5	88.96	0.6	33.2	33.2	32.1	1.09	30.558			
400.0	400.0	400.0	400.0	0.8	0.8	88.96	0.6	33.2	33.2	31.7	1.54	21.617			
500.0	500.0	500.0	500.0	1.0	1.0	88.96	0.6	33.2	33.2	31.2	1.99	16.723			
600.0	600.0	600.0	600.0	1.2	1.2	-76.22	0.6	33.2	32.8	30.3	2.41	13.598			
700.0	699.8	699.8	699.8	1.4	1.4	-85.39	0.6	33.2	31.9	29.1	2.82	11.313			
736.8	736.6	736.6	736.6	1.5	1.5	-90.00	0.6	33.2	31.8	28.8	2.98	10.673 CC, ES			
800.0	799.6	799.6	799.6	1.6	1.7	-97.87	0.6	33.2	32.1	28.9	3.25	9.866			
900.0	899.4	899.4	899.4	1.8	1.9	-109.64	0.6	33.2	33.8	30.1	3.70	9.130 SF			
1,000.0	999.1	998.3	998.2	2.0	2.1	-121.80	2.3	33.0	37.8	33.7	4.14	9.130			
1,100.0	1,098.9	1,096.5	1,096.3	2.3	2.3	-133.86	7.3	32.3	46.0	41.4	4.59	10.031			
1,200.0	1,198.6	1,195.4	1,195.1	2.5	2.6	-142.98	14.1	31.4	57.2	52.2	5.03	11.382			
1,300.0	1,298.4	1,294.5	1,293.8	2.8	2.8	-149.03	21.0	30.5	69.4	63.9	5.47	12.698			
1,400.0	1,398.1	1,393.5	1,392.6	3.0	3.0	-153.25	27.8	29.6	82.1	76.2	5.91	13.904			
1,500.0	1,497.9	1,492.6	1,491.4	3.3	3.3	-156.33	34.7	28.7	95.2	88.8	6.35	14.990			
1,600.0	1,597.6	1,591.6	1,590.2	3.5	3.5	-158.66	41.5	27.8	108.4	101.6	6.79	15.960			
1,700.0	1,697.4	1,690.6	1,689.0	3.8	3.7	-160.48	48.4	26.8	121.8	114.5	7.24	16.827			
1,800.0	1,797.2	1,789.7	1,787.8	4.1	4.0	-161.95	55.2	25.9	135.3	127.6	7.68	17.604			
1,900.0	1,896.9	1,888.7	1,886.6	4.3	4.2	-163.14	62.1	25.0	148.8	140.7	8.13	18.301			
2,000.0	1,996.7	1,987.7	1,985.4	4.6	4.5	-164.14	68.9	24.1	162.4	153.8	8.58	18.930			
2,100.0	2,096.4	2,086.8	2,084.2	4.8	4.7	-164.98	75.8	23.2	176.0	167.0	9.03	19.499			
2,200.0	2,196.2	2,185.8	2,183.0	5.1	5.0	-165.70	82.6	22.3	189.7	180.2	9.48	20.017			
2,300.0	2,295.9	2,284.8	2,281.8	5.4	5.2	-166.33	89.4	21.4	203.4	193.5	9.93	20.488			
2,400.0	2,395.7	2,383.9	2,380.6	5.6	5.5	-166.87	96.3	20.5	217.1	206.8	10.38	20.920			
2,500.0	2,495.5	2,482.9	2,479.4	5.9	5.7	-167.35	103.1	19.6	230.9	220.1	10.83	21.316			
2,600.0	2,595.2	2,581.9	2,578.2	6.1	6.0	-167.78	110.0	18.6	244.6	233.4	11.28	21.682			
2,700.0	2,695.0	2,681.0	2,677.0	6.4	6.2	-168.16	116.8	17.7	258.4	246.7	11.74	22.019			
2,800.0	2,794.7	2,780.0	2,775.7	6.7	6.5	-168.50	123.7	16.8	272.2	260.0	12.19	22.332			
2,900.0	2,894.5	2,879.0	2,874.5	6.9	6.7	-168.81	130.5	15.9	286.0	273.3	12.64	22.622			
3,000.0	2,994.2	2,978.1	2,973.3	7.2	7.0	-169.09	137.4	15.0	299.7	286.6	13.09	22.893			
3,100.0	3,094.0	3,077.1	3,072.1	7.5	7.2	-169.35	144.2	14.1	313.5	300.0	13.55	23.145			
3,200.0	3,193.8	3,176.1	3,170.9	7.7	7.5	-169.58	151.1	13.2	327.3	313.3	14.00	23.382			
3,300.0	3,293.5	3,275.2	3,269.7	8.0	7.7	-169.80	157.9	12.3	341.1	326.7	14.45	23.603			
3,400.0	3,393.3	3,374.2	3,368.5	8.2	8.0	-170.00	164.8	11.4	355.0	340.1	14.91	23.811			
3,500.0	3,493.0	3,473.2	3,467.3	8.5	8.2	-170.18	171.6	10.4	368.8	353.4	15.36	24.007			
3,600.0	3,592.8	3,572.3	3,566.1	8.8	8.5	-170.35	178.5	9.5	382.6	366.8	15.82	24.191			
3,700.0	3,692.5	3,671.3	3,664.9	9.0	8.7	-170.51	185.3	8.6	396.4	380.1	16.27	24.366			
3,800.0	3,792.3	3,770.3	3,763.7	9.3	9.0	-170.66	192.2	7.7	410.2	393.5	16.72	24.530			
3,900.0	3,892.1	3,869.4	3,862.5	9.6	9.2	-170.80	199.0	6.8	424.1	406.9	17.18	24.686			
4,000.0	3,991.8	3,968.4	3,961.3	9.8	9.5	-170.93	205.9	5.9	437.9	420.3	17.63	24.834			
4,100.0	4,091.6	4,067.5	4,060.1	10.1	9.7	-171.05	212.7	5.0	451.7	433.6	18.09	24.975			
4,200.0	4,191.3	4,166.5	4,158.9	10.4	10.0	-171.17	219.6	4.1	465.6	447.0	18.54	25.109			
4,300.0	4,291.1	4,265.5	4,257.6	10.6	10.2	-171.27	226.4	3.2	479.4	460.4	19.00	25.236			
4,400.0	4,390.8	4,364.6	4,356.4	10.9	10.5	-171.38	233.3	2.2	493.2	473.8	19.45	25.357			

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	178.95	-75.0	1.4	75.0					
100.0	100.0	100.0	100.0	0.1	0.1	178.95	-75.0	1.4	75.0	74.8	0.19	399.759		
200.0	200.0	200.0	200.0	0.3	0.3	178.95	-75.0	1.4	75.0	74.4	0.64	117.742		
300.0	300.0	300.0	300.0	0.5	0.5	178.95	-75.0	1.4	75.0	73.9	1.09	69.038		
400.0	400.0	400.0	400.0	0.8	0.8	178.95	-75.0	1.4	75.0	73.5	1.54	48.837		
500.0	500.0	500.0	500.0	1.0	1.0	178.95	-75.0	1.4	75.0	73.0	1.99	37.781		
600.0	600.0	600.0	600.0	1.2	1.2	17.10	-75.0	1.4	73.4	70.9	2.41	30.417		
700.0	699.8	699.8	699.8	1.4	1.4	18.42	-75.0	1.4	68.4	65.5	2.83	24.200		
800.0	799.6	799.6	799.6	1.6	1.7	20.46	-75.0	1.4	61.8	58.5	3.25	19.028		
900.0	899.4	899.4	899.4	1.8	1.9	22.99	-75.0	1.4	55.3	51.6	3.68	15.029		
1,000.0	999.1	999.1	999.1	2.0	2.1	26.18	-75.0	1.4	49.0	44.8	4.12	11.879		
1,100.0	1,098.9	1,098.9	1,098.9	2.3	2.3	30.30	-75.0	1.4	42.8	38.2	4.57	9.364		
1,200.0	1,198.6	1,199.9	1,199.8	2.5	2.6	36.07	-73.3	1.8	35.2	30.2	5.04	6.994		
1,300.0	1,298.4	1,300.2	1,300.0	2.8	2.8	46.76	-68.2	3.0	24.8	19.3	5.53	4.488		
1,400.0	1,398.1	1,399.3	1,398.9	3.0	3.0	74.20	-61.5	4.6	15.0	8.9	6.05	2.477		
1,458.5	1,456.5	1,457.3	1,456.8	3.2	3.2	105.54	-57.5	5.5	12.8	6.5	6.32	2.020 CC, ES, SF		
1,500.0	1,497.9	1,498.4	1,497.8	3.3	3.2	128.88	-54.8	6.2	13.9	7.5	6.45	2.160		
1,600.0	1,597.6	1,597.5	1,596.6	3.5	3.5	161.35	-48.0	7.7	22.9	16.1	6.80	3.364		
1,700.0	1,697.4	1,696.6	1,695.5	3.8	3.7	173.83	-41.3	9.3	34.8	27.6	7.23	4.819		
1,800.0	1,797.2	1,795.7	1,794.3	4.1	4.0	179.82	-34.6	10.9	47.6	39.9	7.67	6.199		
1,900.0	1,896.9	1,894.8	1,893.2	4.3	4.2	-176.75	-27.8	12.5	60.6	52.5	8.12	7.460		
2,000.0	1,996.7	1,993.9	1,992.0	4.6	4.4	-174.53	-21.1	14.1	73.7	65.2	8.57	8.601		
2,100.0	2,096.4	2,093.0	2,090.9	4.8	4.7	-172.99	-14.4	15.7	87.0	78.0	9.03	9.636		
2,200.0	2,196.2	2,192.1	2,189.7	5.1	4.9	-171.85	-7.7	17.2	100.3	90.8	9.48	10.575		
2,300.0	2,295.9	2,291.2	2,288.6	5.4	5.2	-170.98	-0.9	18.8	113.6	103.7	9.94	11.431		
2,400.0	2,395.7	2,390.3	2,387.5	5.6	5.4	-170.29	5.8	20.4	126.9	116.5	10.39	12.213		
2,500.0	2,495.5	2,489.4	2,486.3	5.9	5.7	-169.74	12.5	22.0	140.3	129.4	10.85	12.930		
2,600.0	2,595.2	2,588.5	2,585.2	6.1	5.9	-169.28	19.3	23.6	153.6	142.3	11.31	13.590		
2,700.0	2,695.0	2,687.6	2,684.0	6.4	6.2	-168.89	26.0	25.2	167.0	155.3	11.76	14.199		
2,800.0	2,794.7	2,786.7	2,782.9	6.7	6.4	-168.56	32.7	26.7	180.4	168.2	12.22	14.763		
2,900.0	2,894.5	2,885.8	2,881.7	6.9	6.6	-168.28	39.5	28.3	193.8	181.1	12.68	15.286		
3,000.0	2,994.2	2,984.8	2,980.6	7.2	6.9	-168.03	46.2	29.9	207.2	194.0	13.13	15.773		
3,100.0	3,094.0	3,083.9	3,079.4	7.5	7.1	-167.81	52.9	31.5	220.5	207.0	13.59	16.227		
3,200.0	3,193.8	3,183.0	3,178.3	7.7	7.4	-167.62	59.6	33.1	233.9	219.9	14.05	16.651		
3,300.0	3,293.5	3,282.1	3,277.1	8.0	7.6	-167.45	66.4	34.7	247.3	232.8	14.51	17.049		
3,400.0	3,393.3	3,381.2	3,376.0	8.2	7.9	-167.30	73.1	36.3	260.7	245.8	14.97	17.422		
3,500.0	3,493.0	3,480.3	3,474.9	8.5	8.1	-167.16	79.8	37.8	274.1	258.7	15.42	17.773		
3,600.0	3,592.8	3,579.4	3,573.7	8.8	8.4	-167.03	86.6	39.4	287.5	271.6	15.88	18.103		
3,700.0	3,692.5	3,678.5	3,672.6	9.0	8.6	-166.92	93.3	41.0	300.9	284.6	16.34	18.415		
3,800.0	3,792.3	3,777.6	3,771.4	9.3	8.9	-166.81	100.0	42.6	314.3	297.5	16.80	18.710		
3,900.0	3,892.1	3,876.7	3,870.3	9.6	9.2	-166.72	106.7	44.2	327.7	310.5	17.26	18.990		
4,000.0	3,991.8	3,975.8	3,969.1	9.8	9.4	-166.63	113.5	45.8	341.1	323.4	17.72	19.254		
4,100.0	4,091.6	4,074.9	4,068.0	10.1	9.7	-166.55	120.2	47.3	354.5	336.4	18.18	19.506		
4,200.0	4,191.3	4,174.0	4,166.8	10.4	9.9	-166.47	126.9	48.9	368.0	349.3	18.64	19.744		
4,300.0	4,291.1	4,273.1	4,265.7	10.6	10.2	-166.40	133.7	50.5	381.4	362.3	19.09	19.972		
4,400.0	4,390.8	4,372.2	4,364.6	10.9	10.4	-166.34	140.4	52.1	394.8	375.2	19.55	20.188		
4,500.0	4,490.6	4,471.3	4,463.4	11.1	10.7	-166.27	147.1	53.7	408.2	388.2	20.01	20.395		
4,600.0	4,590.3	4,570.4	4,562.3	11.4	10.9	-166.22	153.8	55.3	421.6	401.1	20.47	20.592		
4,700.0	4,690.1	4,669.5	4,661.1	11.7	11.2	-166.16	160.6	56.9	435.0	414.1	20.93	20.781		
4,800.0	4,789.9	4,768.6	4,760.0	11.9	11.4	-166.11	167.3	58.4	448.4	427.0	21.39	20.962		
4,900.0	4,889.6	4,867.7	4,858.8	12.2	11.7	-166.06	174.0	60.0	461.8	439.9	21.85	21.134		
5,000.0	4,989.4	4,966.8	4,957.7	12.5	11.9	-166.02	180.8	61.6	475.2	452.9	22.31	21.300		

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

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation Factor							
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis							
5,100.0	5,089.1	5,065.9	5,056.5	12.7	12.2	-165.98	187.5	63.2	488.6	465.8	22.77	21.459						

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-2809A - HZ - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-91.03	-1.2	-66.1	66.1					
100.0	100.0	100.0	100.0	0.1	0.1	-91.03	-1.2	-66.1	66.1	66.0	0.19	352.416		
200.0	200.0	200.0	200.0	0.3	0.3	-91.03	-1.2	-66.1	66.1	65.5	0.64	103.798		
300.0	300.0	300.0	300.0	0.5	0.5	-91.03	-1.2	-66.1	66.1	65.1	1.09	60.862		
400.0	400.0	400.0	400.0	0.8	0.8	-91.03	-1.2	-66.1	66.1	64.6	1.54	43.053		
500.0	500.0	500.0	500.0	1.0	1.0	-91.03	-1.2	-66.1	66.1	64.2	1.99	33.307 CC, ES		
600.0	600.0	600.0	600.0	1.2	1.2	108.14	-1.2	-66.1	66.7	64.3	2.41	27.678		
700.0	699.8	699.8	699.8	1.4	1.4	112.27	-1.2	-66.1	68.5	65.7	2.82	24.276		
800.0	799.6	799.6	799.6	1.6	1.7	117.44	-1.2	-66.1	71.4	68.2	3.25	21.966		
900.0	899.4	899.4	899.4	1.8	1.9	122.18	-1.2	-66.1	74.9	71.2	3.69	20.284		
1,000.0	999.1	999.1	999.1	2.0	2.1	126.47	-1.2	-66.1	78.8	74.7	4.14	19.049		
1,100.0	1,098.9	1,098.9	1,098.9	2.3	2.3	130.33	-1.2	-66.1	83.2	78.6	4.59	18.128		
1,200.0	1,198.6	1,198.6	1,198.6	2.5	2.6	133.79	-1.2	-66.1	87.9	82.8	5.04	17.435		
1,300.0	1,298.4	1,298.4	1,298.4	2.8	2.8	136.90	-1.2	-66.1	92.8	87.3	5.49	16.907		
1,400.0	1,398.1	1,398.1	1,398.1	3.0	3.0	139.68	-1.2	-66.1	98.0	92.1	5.94	16.501		
1,500.0	1,497.9	1,497.9	1,497.9	3.3	3.2	142.18	-1.2	-66.1	103.5	97.1	6.39	16.185		
1,600.0	1,597.6	1,599.1	1,599.1	3.5	3.4	143.62	-2.9	-66.5	108.4	101.6	6.82	15.895		
1,700.0	1,697.4	1,700.5	1,700.3	3.8	3.6	143.26	-8.0	-67.8	112.1	104.9	7.23	15.495		
1,800.0	1,797.2	1,800.4	1,800.0	4.1	3.8	142.10	-14.8	-69.5	115.1	107.5	7.66	15.032		
1,900.0	1,896.9	1,900.3	1,899.7	4.3	4.0	141.01	-21.5	-71.2	118.2	110.1	8.10	14.603		
2,000.0	1,996.7	2,000.2	1,999.3	4.6	4.2	139.98	-28.3	-72.8	121.3	112.8	8.54	14.208		
2,100.0	2,096.4	2,100.2	2,099.0	4.8	4.4	138.99	-35.1	-74.5	124.5	115.5	8.99	13.843		
2,200.0	2,196.2	2,200.1	2,198.7	5.1	4.6	138.06	-41.8	-76.2	127.7	118.3	9.46	13.507		
2,300.0	2,295.9	2,300.0	2,298.4	5.4	4.8	137.17	-48.6	-77.9	130.9	121.0	9.92	13.197		
2,400.0	2,395.7	2,399.9	2,398.1	5.6	5.0	136.32	-55.4	-79.5	134.2	123.8	10.40	12.910		
2,500.0	2,495.5	2,499.9	2,497.8	5.9	5.3	135.52	-62.1	-81.2	137.5	126.6	10.87	12.646		
2,600.0	2,595.2	2,599.8	2,597.5	6.1	5.5	134.75	-68.9	-82.9	140.8	129.5	11.36	12.401		
2,700.0	2,695.0	2,699.7	2,697.1	6.4	5.7	134.02	-75.7	-84.6	144.2	132.3	11.84	12.174		
2,800.0	2,794.7	2,799.7	2,796.8	6.7	6.0	133.32	-82.4	-86.2	147.5	135.2	12.33	11.963		
2,900.0	2,894.5	2,899.6	2,896.5	6.9	6.2	132.65	-89.2	-87.9	150.9	138.1	12.82	11.767		
3,000.0	2,994.2	2,999.5	2,996.2	7.2	6.4	132.02	-96.0	-89.6	154.3	141.0	13.32	11.585		
3,100.0	3,094.0	3,099.4	3,095.9	7.5	6.7	131.40	-102.7	-91.3	157.7	143.9	13.82	11.415		
3,200.0	3,193.8	3,199.4	3,195.6	7.7	6.9	130.82	-109.5	-92.9	161.2	146.8	14.32	11.257		
3,300.0	3,293.5	3,299.3	3,295.2	8.0	7.2	130.26	-116.3	-94.6	164.6	149.8	14.82	11.108		
3,400.0	3,393.3	3,399.2	3,394.9	8.2	7.4	129.72	-123.0	-96.3	168.1	152.8	15.32	10.969		
3,500.0	3,493.0	3,499.2	3,494.6	8.5	7.7	129.21	-129.8	-98.0	171.6	155.7	15.83	10.839		
3,600.0	3,592.8	3,599.1	3,594.3	8.8	7.9	128.71	-136.6	-99.6	175.1	158.7	16.34	10.717		
3,700.0	3,692.5	3,699.0	3,694.0	9.0	8.2	128.24	-143.3	-101.3	178.6	161.7	16.84	10.601		
3,800.0	3,792.3	3,798.9	3,793.7	9.3	8.4	127.78	-150.1	-103.0	182.1	164.7	17.35	10.493		
3,900.0	3,892.1	3,898.9	3,893.3	9.6	8.7	127.34	-156.9	-104.7	185.6	167.8	17.87	10.391		
4,000.0	3,991.8	3,998.8	3,993.0	9.8	8.9	126.92	-163.6	-106.3	189.2	170.8	18.38	10.294		
4,100.0	4,091.6	4,098.7	4,092.7	10.1	9.2	126.51	-170.4	-108.0	192.7	173.8	18.89	10.203		
4,200.0	4,191.3	4,198.6	4,192.4	10.4	9.4	126.12	-177.2	-109.7	196.3	176.9	19.40	10.116		
4,300.0	4,291.1	4,298.6	4,292.1	10.6	9.7	125.74	-183.9	-111.4	199.9	179.9	19.92	10.034		
4,400.0	4,390.8	4,398.5	4,391.8	10.9	9.9	125.37	-190.7	-113.0	203.4	183.0	20.43	9.956		
4,500.0	4,490.6	4,498.4	4,491.5	11.1	10.2	125.02	-197.5	-114.7	207.0	186.1	20.95	9.883		
4,600.0	4,590.3	4,598.4	4,591.1	11.4	10.4	124.68	-204.2	-116.4	210.6	189.2	21.47	9.812		
4,700.0	4,690.1	4,698.3	4,690.8	11.7	10.7	124.35	-211.0	-118.1	214.2	192.2	21.98	9.745		
4,800.0	4,789.9	4,798.2	4,790.5	11.9	10.9	124.03	-217.8	-119.7	217.8	195.3	22.50	9.682		
4,900.0	4,889.6	4,898.1	4,890.2	12.2	11.2	123.72	-224.5	-121.4	221.5	198.4	23.02	9.621		
5,000.0	4,989.4	4,998.1	4,989.9	12.5	11.5	123.43	-231.3	-123.1	225.1	201.5	23.54	9.563		
5,100.0	5,089.1	5,098.0	5,089.6	12.7	11.7	123.14	-238.1	-124.7	228.7	204.7	24.06	9.508		

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

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-2809A - HZ - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,188.9	5,197.9	5,189.2	13.0	12.0	122.86	-244.8	-126.4	232.3	207.8	24.57	9.455	
5,300.0	5,288.6	5,297.9	5,288.9	13.3	12.2	122.59	-251.6	-128.1	236.0	210.9	25.09	9.404	
5,319.9	5,308.5	5,317.7	5,308.8	13.3	12.3	122.53	-252.9	-128.4	236.7	211.5	25.20	9.394 SF	
5,350.0	5,338.4	5,348.0	5,338.9	13.4	12.4	122.27	-255.9	-129.2	238.3	212.9	25.35	9.399	
5,400.0	5,387.7	5,398.1	5,388.1	13.6	12.5	121.51	-264.4	-131.3	242.8	217.2	25.62	9.477	
5,450.0	5,435.8	5,447.6	5,435.9	13.8	12.7	120.37	-277.3	-134.5	249.8	223.9	25.93	9.634	
5,500.0	5,482.4	5,496.6	5,481.5	14.1	13.0	118.90	-294.4	-138.7	259.3	233.0	26.30	9.858	
5,550.0	5,527.2	5,544.7	5,524.7	14.4	13.3	117.14	-315.1	-143.8	271.0	244.3	26.75	10.132	
5,600.0	5,569.5	5,592.1	5,565.0	14.8	13.6	115.14	-339.2	-149.8	285.0	257.7	27.30	10.441	
5,650.0	5,609.1	5,638.5	5,602.2	15.2	13.9	112.95	-366.1	-156.4	301.1	273.1	27.96	10.769	
5,700.0	5,645.6	5,684.0	5,636.1	15.6	14.3	110.59	-395.6	-163.7	319.1	290.3	28.79	11.083	
5,750.0	5,678.7	5,728.7	5,666.6	16.2	14.7	108.11	-427.2	-171.5	338.9	309.1	29.76	11.388	
5,800.0	5,708.1	5,772.5	5,693.8	16.7	15.2	105.52	-460.5	-179.8	360.1	329.3	30.84	11.676	
5,850.0	5,733.4	5,815.6	5,717.6	17.4	15.6	102.87	-495.4	-188.4	382.8	350.7	32.04	11.946	
5,900.0	5,754.5	5,858.0	5,738.1	18.0	16.1	100.16	-531.5	-197.4	406.5	373.2	33.32	12.200	
5,950.0	5,771.1	5,900.0	5,755.3	18.7	16.6	97.43	-568.6	-206.5	431.2	396.5	34.66	12.439	
6,000.0	5,783.1	5,941.7	5,769.3	19.5	17.2	94.72	-606.7	-216.0	456.5	420.5	36.05	12.663	
6,050.0	5,790.5	5,983.3	5,780.1	20.2	17.8	92.03	-645.7	-225.6	482.3	444.9	37.45	12.878	



<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-2810B - HZ - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-157.66	-76.7	-31.5	82.9					
100.0	100.0	100.0	100.0	0.1	0.1	-157.66	-76.7	-31.5	82.9	82.8	0.19	441.933		
200.0	200.0	200.0	200.0	0.3	0.3	-157.66	-76.7	-31.5	82.9	82.3	0.64	130.164		
300.0	300.0	300.0	300.0	0.5	0.5	-157.66	-76.7	-31.5	82.9	81.9	1.09	76.322		
400.0	400.0	400.0	400.0	0.8	0.8	-157.66	-76.7	-31.5	82.9	81.4	1.54	53.989		
500.0	500.0	500.0	500.0	1.0	1.0	-157.66	-76.7	-31.5	82.9	81.0	1.99	41.767		
600.0	600.0	600.0	600.0	1.2	1.2	40.90	-76.7	-31.5	81.6	79.2	2.41	33.854		
700.0	699.8	699.8	699.8	1.4	1.4	43.47	-76.7	-31.5	77.7	74.9	2.82	27.518		
800.0	799.6	797.5	797.5	1.6	1.6	46.47	-78.4	-31.4	74.3	71.0	3.22	23.062		
864.8	864.2	860.8	860.8	1.7	1.8	47.79	-81.2	-31.3	73.6	70.2	3.47	21.197 CC		
900.0	899.4	895.3	895.2	1.8	1.8	48.26	-83.4	-31.1	73.8	70.2	3.61	20.437		
1,000.0	999.1	995.2	994.8	2.0	2.0	49.27	-90.3	-30.7	75.0	70.9	4.03	18.614		
1,100.0	1,098.9	1,095.2	1,094.6	2.3	2.2	50.25	-97.3	-30.3	76.2	71.7	4.46	17.074		
1,200.0	1,198.6	1,195.2	1,194.3	2.5	2.4	51.20	-104.2	-29.9	77.4	72.5	4.91	15.770		
1,300.0	1,298.4	1,295.2	1,294.0	2.8	2.7	52.12	-111.2	-29.5	78.6	73.2	5.36	14.659		
1,400.0	1,398.1	1,395.2	1,393.8	3.0	2.9	53.01	-118.2	-29.1	79.8	74.0	5.83	13.706		
1,500.0	1,497.9	1,495.1	1,493.5	3.3	3.1	53.88	-125.1	-28.7	81.1	74.8	6.30	12.883		
1,600.0	1,597.6	1,595.1	1,593.3	3.5	3.4	54.71	-132.1	-28.3	82.4	75.6	6.77	12.166		
1,700.0	1,697.4	1,695.1	1,693.0	3.8	3.6	55.52	-139.1	-27.9	83.7	76.4	7.25	11.538		
1,800.0	1,797.2	1,795.1	1,792.7	4.1	3.9	56.31	-146.0	-27.5	85.0	77.3	7.74	10.984		
1,900.0	1,896.9	1,895.1	1,892.5	4.3	4.1	57.07	-153.0	-27.1	86.4	78.1	8.23	10.493		
2,000.0	1,996.7	1,995.1	1,992.2	4.6	4.4	57.81	-159.9	-26.7	87.7	79.0	8.72	10.055		
2,100.0	2,096.4	2,095.0	2,092.0	4.8	4.6	58.53	-166.9	-26.3	89.1	79.8	9.22	9.662		
2,200.0	2,196.2	2,195.0	2,191.7	5.1	4.9	59.22	-173.9	-25.9	90.4	80.7	9.72	9.308		
2,300.0	2,295.9	2,295.0	2,291.5	5.4	5.2	59.90	-180.8	-25.5	91.8	81.6	10.22	8.988		
2,400.0	2,395.7	2,395.0	2,391.2	5.6	5.4	60.55	-187.8	-25.1	93.2	82.5	10.72	8.698		
2,500.0	2,495.5	2,495.0	2,490.9	5.9	5.7	61.18	-194.8	-24.7	94.6	83.4	11.22	8.432		
2,600.0	2,595.2	2,595.0	2,590.7	6.1	5.9	61.80	-201.7	-24.3	96.1	84.3	11.73	8.190		
2,700.0	2,695.0	2,695.0	2,690.4	6.4	6.2	62.40	-208.7	-23.9	97.5	85.3	12.24	7.967		
2,800.0	2,794.7	2,794.9	2,790.2	6.7	6.4	62.98	-215.6	-23.5	99.0	86.2	12.75	7.762		
2,900.0	2,894.5	2,894.9	2,889.9	6.9	6.7	63.54	-222.6	-23.1	100.4	87.2	13.26	7.573		
3,000.0	2,994.2	2,994.9	2,989.6	7.2	7.0	64.09	-229.6	-22.7	101.9	88.1	13.77	7.398		
3,100.0	3,094.0	3,094.9	3,089.4	7.5	7.2	64.62	-236.5	-22.3	103.3	89.1	14.28	7.236		
3,200.0	3,193.8	3,194.9	3,189.1	7.7	7.5	65.13	-243.5	-21.9	104.8	90.0	14.80	7.084		
3,300.0	3,293.5	3,294.9	3,288.9	8.0	7.8	65.64	-250.5	-21.5	106.3	91.0	15.31	6.943		
3,400.0	3,393.3	3,394.8	3,388.6	8.2	8.0	66.12	-257.4	-21.1	107.8	92.0	15.83	6.811		
3,500.0	3,493.0	3,494.8	3,488.3	8.5	8.3	66.60	-264.4	-20.7	109.3	93.0	16.35	6.688		
3,600.0	3,592.8	3,594.8	3,588.1	8.8	8.5	67.06	-271.4	-20.3	110.8	94.0	16.86	6.572		
3,700.0	3,692.5	3,694.8	3,687.8	9.0	8.8	67.51	-278.3	-19.9	112.4	95.0	17.38	6.463		
3,800.0	3,792.3	3,794.8	3,787.6	9.3	9.1	67.95	-285.3	-19.5	113.9	96.0	17.90	6.361		
3,900.0	3,892.1	3,894.8	3,887.3	9.6	9.3	68.37	-292.2	-19.1	115.4	97.0	18.42	6.265		
4,000.0	3,991.8	3,994.8	3,987.1	9.8	9.6	68.79	-299.2	-18.7	117.0	98.0	18.94	6.174		
4,100.0	4,091.6	4,094.7	4,086.8	10.1	9.8	69.19	-306.2	-18.3	118.5	99.0	19.47	6.088		
4,200.0	4,191.3	4,194.7	4,186.5	10.4	10.1	69.58	-313.1	-17.9	120.1	100.1	19.99	6.006		
4,300.0	4,291.1	4,294.7	4,286.3	10.6	10.4	69.97	-320.1	-17.5	121.6	101.1	20.51	5.929		
4,400.0	4,390.8	4,394.7	4,386.0	10.9	10.6	70.34	-327.1	-17.1	123.2	102.1	21.03	5.856		
4,500.0	4,490.6	4,494.7	4,485.8	11.1	10.9	70.71	-334.0	-16.7	124.7	103.2	21.56	5.787		
4,600.0	4,590.3	4,594.7	4,585.5	11.4	11.2	71.06	-341.0	-16.3	126.3	104.2	22.08	5.721		
4,700.0	4,690.1	4,694.6	4,685.2	11.7	11.4	71.41	-347.9	-15.9	127.9	105.3	22.61	5.658		
4,800.0	4,789.9	4,794.6	4,785.0	11.9	11.7	71.74	-354.9	-15.5	129.5	106.4	23.13	5.598		
4,900.0	4,889.6	4,894.6	4,884.7	12.2	12.0	72.07	-361.9	-15.1	131.1	107.4	23.65	5.541		
5,000.0	4,989.4	4,994.6	4,984.5	12.5	12.2	72.40	-368.8	-14.7	132.7	108.5	24.18	5.486		

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

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-2810B - HZ - Plan #1												Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis		Separation Factor
5,100.0	5,089.1	5,094.6	5,084.2	12.7	12.5	72.71	-375.8	-14.3	134.3	109.5	24.71	5.434	
5,200.0	5,188.9	5,194.6	5,183.9	13.0	12.7	73.02	-382.8	-13.9	135.8	110.6	25.23	5.384	
5,300.0	5,288.6	5,294.6	5,283.7	13.3	13.0	73.32	-389.7	-13.5	137.5	111.7	25.76	5.337	
5,319.9	5,308.5	5,314.5	5,303.5	13.3	13.1	73.38	-391.1	-13.4	137.8	111.9	25.86	5.327	
5,350.0	5,338.4	5,344.5	5,333.5	13.4	13.1	73.78	-393.2	-13.3	138.0	112.0	26.04	5.300	
5,400.0	5,387.7	5,394.2	5,383.1	13.6	13.3	76.09	-396.7	-13.1	137.4	111.0	26.42	5.203	
5,450.0	5,435.8	5,439.4	5,428.1	13.8	13.4	79.53	-401.0	-12.8	136.7	109.9	26.87	5.088	
5,450.7	5,436.5	5,440.0	5,428.7	13.8	13.4	79.58	-401.0	-12.8	136.7	109.9	26.88	5.087	
5,500.0	5,482.4	5,483.9	5,471.8	14.1	13.6	83.11	-408.9	-12.4	137.5	110.1	27.40	5.018	
5,550.0	5,527.2	5,529.0	5,515.3	14.4	13.8	86.75	-420.7	-11.7	139.9	111.9	28.01	4.995	
5,600.0	5,569.5	5,574.6	5,558.1	14.8	14.0	90.31	-436.4	-10.8	144.0	115.4	28.69	5.021	
5,650.0	5,609.1	5,620.9	5,600.0	15.2	14.3	93.67	-456.1	-9.7	149.9	120.5	29.41	5.097	
5,700.0	5,645.6	5,667.8	5,640.4	15.6	14.6	96.71	-479.8	-8.3	157.4	127.2	30.16	5.219	
5,750.0	5,678.7	5,715.4	5,679.1	16.2	15.0	99.38	-507.4	-6.7	166.5	135.5	30.95	5.379	
5,800.0	5,708.1	5,763.8	5,715.7	16.7	15.4	101.65	-539.0	-4.9	176.9	145.1	31.78	5.567	
5,850.0	5,733.4	5,813.0	5,749.8	17.4	15.9	103.49	-574.4	-2.8	188.6	155.9	32.66	5.773	
5,900.0	5,754.5	5,863.1	5,780.9	18.0	16.4	104.94	-613.7	-0.6	201.3	167.6	33.63	5.985	
5,950.0	5,771.1	5,914.2	5,808.5	18.7	17.0	106.00	-656.6	1.9	214.8	180.1	34.68	6.192	
6,000.0	5,783.1	5,966.4	5,832.2	19.5	17.6	106.73	-703.0	4.6	228.9	193.1	35.84	6.386	
6,050.0	5,790.5	6,019.8	5,851.6	20.2	18.4	107.14	-752.6	7.4	243.5	206.4	37.12	6.560	
6,101.7	5,793.0	6,076.3	5,866.4	21.1	19.1	107.28	-807.0	10.6	258.8	220.3	38.55	6.714	
6,200.0	5,793.0	6,188.3	5,878.0	22.5	20.8	107.82	-918.0	17.0	282.8	241.3	41.58	6.803	
6,300.0	5,793.0	6,273.9	5,878.0	23.9	21.9	106.66	-1,003.5	19.9	301.7	257.2	44.47	6.784	
6,400.0	5,793.0	6,368.8	5,878.0	25.4	23.4	105.64	-1,098.5	20.0	318.7	271.1	47.60	6.696	
6,500.0	5,793.0	6,468.0	5,878.0	26.9	25.0	104.95	-1,197.6	20.0	331.0	280.2	50.77	6.519	
6,600.0	5,793.0	6,567.7	5,878.0	28.5	26.7	104.57	-1,297.3	20.0	338.2	284.4	53.84	6.282	
6,693.3	5,793.0	6,661.0	5,878.0	29.9	28.2	104.46	-1,390.6	20.0	340.4	283.8	56.59	6.016	
6,700.0	5,793.0	6,667.7	5,878.0	30.0	28.4	104.46	-1,397.3	20.0	340.4	283.6	56.81	5.993	
6,800.0	5,793.0	6,767.7	5,878.0	31.7	30.1	104.46	-1,497.3	20.0	340.4	280.3	60.16	5.659	
6,900.0	5,793.0	6,867.7	5,878.0	33.4	31.8	104.45	-1,597.3	20.0	340.4	276.9	63.55	5.357	
7,000.0	5,793.0	6,967.7	5,878.0	35.1	33.6	104.45	-1,697.3	20.0	340.5	273.5	66.97	5.083	
7,100.0	5,793.0	7,067.7	5,878.0	36.8	35.4	104.45	-1,797.3	20.0	340.5	270.0	70.43	4.834	
7,200.0	5,793.0	7,167.7	5,878.0	38.6	37.2	104.45	-1,897.3	20.0	340.5	266.5	73.92	4.606	
7,300.0	5,793.0	7,267.7	5,878.0	40.4	39.0	104.45	-1,997.3	20.0	340.5	263.0	77.43	4.397	
7,400.0	5,793.0	7,367.7	5,878.0	42.1	40.8	104.45	-2,097.3	20.0	340.5	259.5	80.95	4.206	
7,500.0	5,793.0	7,467.7	5,878.0	43.9	42.6	104.45	-2,197.3	20.0	340.5	256.0	84.50	4.029	
7,600.0	5,793.0	7,567.7	5,878.0	45.7	44.4	104.45	-2,297.3	20.0	340.5	252.4	88.06	3.866	
7,700.0	5,793.0	7,667.7	5,878.0	47.6	46.3	104.45	-2,397.3	20.0	340.5	248.8	91.64	3.716	
7,800.0	5,793.0	7,767.7	5,878.0	49.4	48.1	104.45	-2,497.3	20.0	340.5	245.3	95.22	3.576	
7,900.0	5,793.0	7,867.7	5,878.0	51.2	50.0	104.45	-2,597.3	20.0	340.5	241.7	98.82	3.445	
8,000.0	5,793.0	7,967.7	5,878.0	53.0	51.8	104.45	-2,697.3	20.0	340.5	238.1	102.43	3.324	
8,100.0	5,793.0	8,067.7	5,878.0	54.9	53.7	104.45	-2,797.3	20.0	340.5	234.4	106.05	3.211	
8,200.0	5,793.0	8,167.7	5,878.0	56.7	55.6	104.45	-2,897.3	20.0	340.5	230.8	109.67	3.105	
8,300.0	5,793.0	8,267.7	5,878.0	58.6	57.4	104.45	-2,997.3	20.0	340.5	227.2	113.30	3.005	
8,400.0	5,793.0	8,367.7	5,878.0	60.4	59.3	104.45	-3,097.3	20.0	340.5	223.6	116.94	2.912	
8,500.0	5,793.0	8,467.7	5,878.0	62.3	61.2	104.45	-3,197.3	20.0	340.5	219.9	120.58	2.824	
8,600.0	5,793.0	8,567.7	5,878.0	64.2	63.1	104.45	-3,297.3	20.0	340.5	216.3	124.23	2.741	
8,700.0	5,793.0	8,667.7	5,878.0	66.0	64.9	104.45	-3,397.3	20.0	340.5	212.6	127.88	2.663	
8,800.0	5,793.0	8,767.7	5,878.0	67.9	66.8	104.45	-3,497.3	20.0	340.5	209.0	131.54	2.589	
8,900.0	5,793.0	8,867.7	5,878.0	69.8	68.7	104.45	-3,597.3	20.0	340.5	205.3	135.20	2.519	
9,000.0	5,793.0	8,967.7	5,878.0	71.6	70.6	104.45	-3,697.3	20.0	340.5	201.7	138.87	2.452	
9,100.0	5,793.0	9,067.7	5,878.0	73.5	72.5	104.45	-3,797.3	20.0	340.5	198.0	142.54	2.389	

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

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-2810B - HZ - Plan #1												Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis		Separation Factor
9,200.0	5,793.0	9,167.7	5,878.0	75.4	74.4	104.45	-3,897.3	20.0	340.5	194.3	146.21	2.329	
9,300.0	5,793.0	9,267.7	5,878.0	77.3	76.2	104.45	-3,997.3	20.0	340.5	190.7	149.89	2.272	
9,400.0	5,793.0	9,367.7	5,878.0	79.1	78.1	104.45	-4,097.3	20.0	340.5	187.0	153.56	2.218	
9,500.0	5,793.0	9,467.7	5,878.0	81.0	80.0	104.45	-4,197.3	20.0	340.6	183.3	157.25	2.166	
9,600.0	5,793.0	9,567.7	5,878.0	82.9	81.9	104.45	-4,297.3	20.0	340.6	179.6	160.93	2.116	
9,700.0	5,793.0	9,667.7	5,878.0	84.8	83.8	104.45	-4,397.3	20.0	340.6	175.9	164.61	2.069	
9,800.0	5,793.0	9,767.7	5,878.0	86.7	85.7	104.45	-4,497.3	20.0	340.6	172.3	168.30	2.024	
9,900.0	5,793.0	9,867.7	5,878.0	88.6	87.6	104.45	-4,597.3	20.0	340.6	168.6	171.99	1.980	
10,000.0	5,793.0	9,967.7	5,878.0	90.5	89.5	104.45	-4,697.3	20.0	340.6	164.9	175.68	1.939	
10,100.0	5,793.0	10,067.7	5,878.0	92.4	91.4	104.45	-4,797.3	20.0	340.6	161.2	179.37	1.899	
10,200.0	5,793.0	10,167.7	5,878.0	94.2	93.3	104.45	-4,897.3	20.0	340.6	157.5	183.07	1.860	
10,300.0	5,793.0	10,267.7	5,878.0	96.1	95.2	104.45	-4,997.3	20.0	340.6	153.8	186.76	1.824	
10,400.0	5,793.0	10,367.7	5,878.0	98.0	97.1	104.45	-5,097.3	20.0	340.6	150.1	190.46	1.788	
10,500.0	5,793.0	10,467.7	5,878.0	99.9	99.0	104.45	-5,197.3	20.0	340.6	146.4	194.16	1.754	
10,600.0	5,793.0	10,567.7	5,878.0	101.8	100.9	104.45	-5,297.3	20.0	340.6	142.7	197.86	1.721	
10,700.0	5,793.0	10,667.7	5,878.0	103.7	102.8	104.45	-5,397.3	20.0	340.6	139.0	201.56	1.690	
10,800.0	5,793.0	10,767.7	5,878.0	105.6	104.7	104.45	-5,497.3	20.0	340.6	135.3	205.26	1.659	
10,900.0	5,793.0	10,867.7	5,878.0	107.5	106.6	104.45	-5,597.3	20.0	340.6	131.6	208.96	1.630	
11,000.0	5,793.0	10,967.7	5,878.0	109.4	108.5	104.45	-5,697.3	20.0	340.6	127.9	212.67	1.602	
11,100.0	5,793.0	11,067.7	5,878.0	111.3	110.4	104.45	-5,797.3	20.0	340.6	124.2	216.37	1.574	
11,200.0	5,793.0	11,167.7	5,878.0	113.2	112.3	104.45	-5,897.3	20.0	340.6	120.5	220.08	1.548	
11,300.0	5,793.0	11,267.7	5,878.0	115.1	114.2	104.45	-5,997.3	20.0	340.6	116.8	223.79	1.522	
11,400.0	5,793.0	11,367.7	5,878.0	117.0	116.1	104.45	-6,097.3	20.0	340.6	113.1	227.49	1.497 Level 3	
11,500.0	5,793.0	11,467.7	5,878.0	118.9	118.0	104.45	-6,197.3	20.0	340.6	109.4	231.20	1.473 Level 3	
11,600.0	5,793.0	11,567.7	5,878.0	120.8	119.9	104.45	-6,297.3	20.0	340.6	105.7	234.91	1.450 Level 3	
11,700.0	5,793.0	11,667.7	5,878.0	122.7	121.9	104.45	-6,397.3	20.0	340.6	102.0	238.62	1.428 Level 3	
11,800.0	5,793.0	11,767.7	5,878.0	124.6	123.8	104.45	-6,497.3	20.0	340.6	98.3	242.33	1.406 Level 3	
11,900.0	5,793.0	11,867.7	5,878.0	126.5	125.7	104.45	-6,597.3	20.0	340.6	94.6	246.04	1.384 Level 3	
12,000.0	5,793.0	11,967.7	5,878.0	128.4	127.6	104.45	-6,697.3	20.0	340.6	90.9	249.76	1.364 Level 3	
12,100.0	5,793.0	12,067.7	5,878.0	130.3	129.5	104.45	-6,797.3	20.0	340.7	87.2	253.47	1.344 Level 3	
12,200.0	5,793.0	12,167.7	5,878.0	132.2	131.4	104.45	-6,897.3	20.0	340.7	83.5	257.18	1.325 Level 3	
12,300.0	5,793.0	12,267.7	5,878.0	134.1	133.3	104.45	-6,997.3	20.0	340.7	79.8	260.89	1.306 Level 3	
12,400.0	5,793.0	12,367.7	5,878.0	136.0	135.2	104.45	-7,097.3	20.0	340.7	76.1	264.61	1.287 Level 3	
12,500.0	5,793.0	12,467.7	5,878.0	138.0	137.1	104.45	-7,197.3	20.0	340.7	72.3	268.32	1.270 Level 3	
12,600.0	5,793.0	12,567.7	5,878.0	139.9	139.0	104.45	-7,297.3	20.0	340.7	68.6	272.04	1.252 Level 3	
12,700.0	5,793.0	12,667.7	5,878.0	141.8	140.9	104.45	-7,397.3	20.0	340.7	64.9	275.75	1.235 Level 2	
12,774.5	5,793.0	12,742.2	5,878.0	142.9	142.4	104.45	-7,471.8	20.0	340.7	62.4	278.26	1.224 Level 2, ES, SF	

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S21-T10N-R58W - Razor #21B-2812B - HZ - Plan #1														Offset Site Error:	0.0 ft
Survey Program: O-ISCWSA MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	155.38	-75.5	34.6	83.1						
100.0	100.0	100.0	100.0	0.1	0.1	155.38	-75.5	34.6	83.1	82.9	0.19	442.521			
200.0	200.0	200.0	200.0	0.3	0.3	155.38	-75.5	34.6	83.1	82.4	0.64	130.337			
300.0	300.0	300.0	300.0	0.5	0.5	155.38	-75.5	34.6	83.1	82.0	1.09	76.423			
400.0	400.0	400.0	400.0	0.8	0.8	155.38	-75.5	34.6	83.1	81.5	1.54	54.061			
500.0	500.0	500.0	500.0	1.0	1.0	155.38	-75.5	34.6	83.1	81.1	1.99	41.823			
600.0	600.0	600.0	600.0	1.2	1.2	-7.03	-75.5	34.6	81.3	78.9	2.41	33.721			
700.0	699.8	699.8	699.8	1.4	1.4	-7.52	-75.5	34.6	76.1	73.3	2.82	26.955			
800.0	799.6	799.6	799.6	1.6	1.7	-8.28	-75.5	34.6	69.2	66.0	3.24	21.339			
900.0	899.4	899.4	899.4	1.8	1.9	-9.20	-75.5	34.6	62.3	58.7	3.67	16.971			
1,000.0	999.1	997.2	997.2	2.0	2.1	-10.36	-76.9	35.4	57.1	53.1	4.08	14.018			
1,100.0	1,098.9	1,095.2	1,095.1	2.3	2.3	-11.73	-81.3	37.8	55.4	50.9	4.47	12.402			
1,100.6	1,099.4	1,095.8	1,095.7	2.3	2.3	-11.74	-81.3	37.9	55.4	50.9	4.47	12.396 CC			
1,200.0	1,198.6	1,195.1	1,194.7	2.5	2.5	-13.15	-87.4	41.2	55.5	50.7	4.87	11.401			
1,300.0	1,298.4	1,295.1	1,294.5	2.8	2.7	-14.57	-93.5	44.6	55.7	50.4	5.29	10.542			
1,400.0	1,398.1	1,395.1	1,394.2	3.0	2.9	-15.97	-99.6	48.0	56.0	50.3	5.71	9.799			
1,500.0	1,497.9	1,495.1	1,494.0	3.3	3.1	-17.36	-105.7	51.4	56.2	50.1	6.14	9.154			
1,600.0	1,597.6	1,595.1	1,593.7	3.5	3.3	-18.74	-111.7	54.8	56.5	49.9	6.58	8.590			
1,700.0	1,697.4	1,695.1	1,693.5	3.8	3.6	-20.10	-117.8	58.2	56.9	49.8	7.02	8.095			
1,800.0	1,797.2	1,795.1	1,793.2	4.1	3.8	-21.45	-123.9	61.6	57.2	49.7	7.47	7.658			
1,900.0	1,896.9	1,895.1	1,893.0	4.3	4.1	-22.78	-130.0	65.0	57.6	49.7	7.92	7.270			
2,000.0	1,996.7	1,995.1	1,992.7	4.6	4.3	-24.09	-136.1	68.4	58.0	49.7	8.38	6.923			
2,100.0	2,096.4	2,095.1	2,092.5	4.8	4.5	-25.38	-142.2	71.8	58.5	49.6	8.84	6.613			
2,200.0	2,196.2	2,195.0	2,192.2	5.1	4.8	-26.65	-148.3	75.2	59.0	49.7	9.31	6.334			
2,300.0	2,295.9	2,295.0	2,292.0	5.4	5.0	-27.90	-154.4	78.6	59.5	49.7	9.78	6.082			
2,400.0	2,395.7	2,395.0	2,391.7	5.6	5.3	-29.12	-160.5	82.0	60.0	49.8	10.25	5.854			
2,500.0	2,495.5	2,495.0	2,491.5	5.9	5.5	-30.33	-166.6	85.4	60.6	49.9	10.73	5.646			
2,600.0	2,595.2	2,595.0	2,591.2	6.1	5.8	-31.51	-172.7	88.8	61.2	50.0	11.21	5.457			
2,700.0	2,695.0	2,695.0	2,691.0	6.4	6.1	-32.67	-178.7	92.2	61.8	50.1	11.69	5.284			
2,800.0	2,794.7	2,795.0	2,790.7	6.7	6.3	-33.80	-184.8	95.6	62.4	50.3	12.18	5.126			
2,900.0	2,894.5	2,895.0	2,890.4	6.9	6.6	-34.91	-190.9	99.0	63.1	50.4	12.67	4.980			
3,000.0	2,994.2	2,995.0	2,990.2	7.2	6.8	-36.00	-197.0	102.4	63.8	50.6	13.16	4.846			
3,100.0	3,094.0	3,095.0	3,089.9	7.5	7.1	-37.07	-203.1	105.8	64.5	50.8	13.66	4.723			
3,200.0	3,193.8	3,195.0	3,189.7	7.7	7.3	-38.11	-209.2	109.2	65.2	51.1	14.16	4.608			
3,300.0	3,293.5	3,294.9	3,289.4	8.0	7.6	-39.12	-215.3	112.6	66.0	51.3	14.66	4.503			
3,400.0	3,393.3	3,394.9	3,389.2	8.2	7.9	-40.12	-221.4	116.0	66.8	51.6	15.16	4.404			
3,500.0	3,493.0	3,494.9	3,488.9	8.5	8.1	-41.09	-227.5	119.4	67.6	51.9	15.66	4.313			
3,600.0	3,592.8	3,594.9	3,588.7	8.8	8.4	-42.04	-233.6	122.8	68.4	52.2	16.17	4.228			
3,700.0	3,692.5	3,694.9	3,688.4	9.0	8.6	-42.96	-239.6	126.2	69.2	52.5	16.68	4.149			
3,800.0	3,792.3	3,794.9	3,788.2	9.3	8.9	-43.87	-245.7	129.6	70.1	52.9	17.19	4.075			
3,900.0	3,892.1	3,894.9	3,887.9	9.6	9.2	-44.75	-251.8	133.0	70.9	53.2	17.70	4.006			
4,000.0	3,991.8	3,994.9	3,987.7	9.8	9.4	-45.61	-257.9	136.4	71.8	53.6	18.22	3.941			
4,100.0	4,091.6	4,094.9	4,087.4	10.1	9.7	-46.45	-264.0	139.8	72.7	54.0	18.73	3.881			
4,200.0	4,191.3	4,194.9	4,187.2	10.4	9.9	-47.27	-270.1	143.2	73.6	54.4	19.25	3.824			
4,300.0	4,291.1	4,294.9	4,286.9	10.6	10.2	-48.06	-276.2	146.6	74.5	54.8	19.77	3.770			
4,400.0	4,390.8	4,394.8	4,386.7	10.9	10.5	-48.84	-282.3	150.0	75.5	55.2	20.29	3.720			
4,500.0	4,490.6	4,494.8	4,486.4	11.1	10.7	-49.60	-288.4	153.4	76.4	55.6	20.81	3.673			
4,600.0	4,590.3	4,594.8	4,586.1	11.4	11.0	-50.34	-294.5	156.8	77.4	56.1	21.34	3.628			
4,700.0	4,690.1	4,694.8	4,685.9	11.7	11.3	-51.06	-300.6	160.2	78.4	56.5	21.86	3.586			
4,800.0	4,789.9	4,794.8	4,785.6	11.9	11.5	-51.77	-306.6	163.6	79.4	57.0	22.38	3.547			
4,900.0	4,889.6	4,894.8	4,885.4	12.2	11.8	-52.45	-312.7	167.0	80.4	57.5	22.91	3.509			
5,000.0	4,989.4	4,994.8	4,985.1	12.5	12.0	-53.12	-318.8	170.4	81.4	58.0	23.44	3.474			

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

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Between Centres (ft)	Between Ellipses (ft)							
5,100.0	5,089.1	5,094.8	5,084.9	12.7	12.3	-53.78	-324.9	173.8	82.4	58.5	23.96	3.440			
5,200.0	5,188.9	5,194.8	5,184.6	13.0	12.6	-54.41	-331.0	177.2	83.5	59.0	24.49	3.408			
5,300.0	5,288.6	5,294.8	5,284.4	13.3	12.8	-55.03	-337.1	180.6	84.5	59.5	25.02	3.378			
5,319.9	5,308.5	5,314.7	5,304.2	13.3	12.9	-55.16	-338.3	181.3	84.7	59.6	25.12	3.372			
5,350.0	5,338.4	5,344.7	5,334.2	13.4	13.0	-55.84	-340.1	182.3	84.6	59.3	25.30	3.342			
5,400.0	5,387.7	5,394.4	5,383.8	13.6	13.1	-59.39	-343.2	184.0	82.3	56.6	25.71	3.200			
5,450.0	5,435.8	5,440.2	5,429.3	13.8	13.2	-65.03	-347.0	186.2	79.0	52.7	26.25	3.010			
5,500.0	5,482.4	5,485.5	5,473.9	14.1	13.4	-71.47	-354.2	190.2	77.2	50.2	26.91	2.867			
5,525.3	5,505.3	5,508.7	5,496.4	14.2	13.5	-74.96	-359.2	193.0	76.9	49.6	27.29	2.818			
5,550.0	5,527.2	5,531.5	5,518.2	14.4	13.6	-78.44	-364.9	196.2	77.2	49.5	27.68	2.787 ES			
5,600.0	5,569.5	5,578.2	5,561.9	14.8	13.8	-85.50	-379.3	204.2	79.2	50.7	28.49	2.781			
5,650.0	5,609.1	5,625.5	5,604.5	15.2	14.1	-92.18	-397.2	214.2	83.4	54.2	29.25	2.851			
5,700.0	5,645.6	5,673.7	5,645.8	15.6	14.5	-98.13	-418.9	226.3	89.6	59.7	29.92	2.995			
5,750.0	5,678.7	5,722.6	5,685.1	16.2	14.9	-103.15	-444.2	240.4	97.6	67.1	30.49	3.200			
5,800.0	5,708.1	5,772.3	5,722.2	16.7	15.3	-107.21	-473.1	256.5	107.0	76.0	31.01	3.449			
5,850.0	5,733.4	5,823.0	5,756.6	17.4	15.8	-110.35	-505.6	274.7	117.5	86.0	31.56	3.725			
5,900.0	5,754.5	5,874.7	5,787.7	18.0	16.4	-112.70	-541.6	294.8	129.0	96.8	32.18	4.009			
5,950.0	5,771.1	5,927.4	5,815.1	18.7	17.1	-114.37	-580.9	316.7	141.1	108.1	32.92	4.285			
6,000.0	5,783.1	5,981.2	5,838.3	19.5	17.8	-115.46	-623.3	340.4	153.6	119.7	33.83	4.539			
6,050.0	5,790.5	6,036.1	5,856.6	20.2	18.6	-116.08	-668.5	365.6	166.2	131.3	34.91	4.762			
6,101.7	5,793.0	6,094.2	5,869.9	21.1	19.5	-116.31	-717.8	393.1	179.4	143.2	36.21	4.954			
6,200.0	5,793.0	6,206.1	5,878.0	22.5	21.2	-115.51	-815.1	447.3	202.1	162.9	39.15	5.161			
6,300.0	5,793.0	6,314.3	5,878.0	23.9	22.8	-112.90	-911.6	496.4	223.7	181.2	42.47	5.266			
6,400.0	5,793.0	6,424.2	5,878.0	25.4	24.5	-110.78	-1,012.2	540.5	245.2	199.5	45.72	5.364			
6,500.0	5,793.0	6,535.7	5,878.0	26.9	26.3	-109.04	-1,116.7	579.2	266.5	217.7	48.87	5.454			
6,600.0	5,793.0	6,648.9	5,878.0	28.5	28.1	-107.59	-1,225.0	612.3	287.4	235.5	51.90	5.538			
6,693.3	5,793.0	6,756.1	5,878.0	29.9	29.9	-106.44	-1,329.1	637.6	306.4	251.8	54.62	5.611			
6,700.0	5,793.0	6,763.8	5,878.0	30.0	30.0	-106.36	-1,336.6	639.2	307.8	252.9	54.87	5.609			
6,800.0	5,793.0	6,880.9	5,878.0	31.7	31.9	-105.33	-1,452.0	659.7	324.6	265.9	58.75	5.525			
6,900.0	5,793.0	7,000.2	5,878.0	33.4	33.8	-104.71	-1,570.5	673.3	335.6	273.0	62.59	5.362			
7,000.0	5,793.0	7,120.8	5,878.0	35.1	35.7	-104.45	-1,690.8	679.4	340.6	274.2	66.35	5.133			
7,100.0	5,793.0	7,227.2	5,878.0	36.8	37.4	-104.44	-1,797.3	679.8	340.9	271.0	69.82	4.882			
7,200.0	5,793.0	7,327.2	5,878.0	38.6	39.0	-104.44	-1,897.3	679.8	340.9	267.6	73.22	4.655			
7,300.0	5,793.0	7,427.2	5,878.0	40.4	40.7	-104.44	-1,997.3	679.8	340.9	264.2	76.65	4.447			
7,400.0	5,793.0	7,527.2	5,878.0	42.1	42.3	-104.44	-2,097.3	679.8	340.9	260.7	80.11	4.255			
7,500.0	5,793.0	7,627.2	5,878.0	43.9	44.0	-104.44	-2,197.3	679.8	340.8	257.3	83.60	4.077			
7,600.0	5,793.0	7,727.2	5,878.0	45.7	45.7	-104.44	-2,297.3	679.8	340.8	253.7	87.10	3.913			
7,700.0	5,793.0	7,827.2	5,878.0	47.6	47.4	-104.44	-2,397.3	679.8	340.8	250.2	90.62	3.761			
7,800.0	5,793.0	7,927.2	5,878.0	49.4	49.2	-104.44	-2,497.3	679.8	340.8	246.7	94.16	3.620			
7,900.0	5,793.0	8,027.2	5,878.0	51.2	50.9	-104.44	-2,597.3	679.8	340.8	243.1	97.71	3.488			
8,000.0	5,793.0	8,127.2	5,878.0	53.0	52.7	-104.44	-2,697.3	679.8	340.8	239.6	101.28	3.365			
8,100.0	5,793.0	8,227.2	5,878.0	54.9	54.5	-104.44	-2,797.3	679.8	340.8	236.0	104.85	3.251			
8,200.0	5,793.0	8,327.2	5,878.0	56.7	56.2	-104.44	-2,897.3	679.8	340.8	232.4	108.44	3.143			
8,300.0	5,793.0	8,427.2	5,878.0	58.6	58.0	-104.44	-2,997.3	679.8	340.8	228.8	112.04	3.042			
8,400.0	5,793.0	8,527.2	5,878.0	60.4	59.8	-104.44	-3,097.3	679.8	340.8	225.2	115.64	2.947			
8,500.0	5,793.0	8,627.2	5,878.0	62.3	61.6	-104.44	-3,197.3	679.8	340.8	221.6	119.26	2.858			
8,600.0	5,793.0	8,727.2	5,878.0	64.2	63.4	-104.44	-3,297.3	679.8	340.8	217.9	122.88	2.774			
8,700.0	5,793.0	8,827.2	5,878.0	66.0	65.2	-104.44	-3,397.3	679.8	340.8	214.3	126.50	2.694			
8,800.0	5,793.0	8,927.2	5,878.0	67.9	67.1	-104.44	-3,497.3	679.8	340.8	210.7	130.14	2.619			
8,900.0	5,793.0	9,027.2	5,878.0	69.8	68.9	-104.44	-3,597.3	679.8	340.8	207.0	133.77	2.548			
9,000.0	5,793.0	9,127.2	5,878.0	71.6	70.7	-104.44	-3,697.3	679.8	340.8	203.4	137.42	2.480			
9,100.0	5,793.0	9,227.2	5,878.0	73.5	72.6	-104.44	-3,797.3	679.8	340.8	199.7	141.07	2.416			

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

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #21B-2811A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Reference Site:</b>	S21-T10N-R58W	<b>MD Reference:</b>	WELL @ 4853.8ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Razor #21B-2811A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	HZ	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

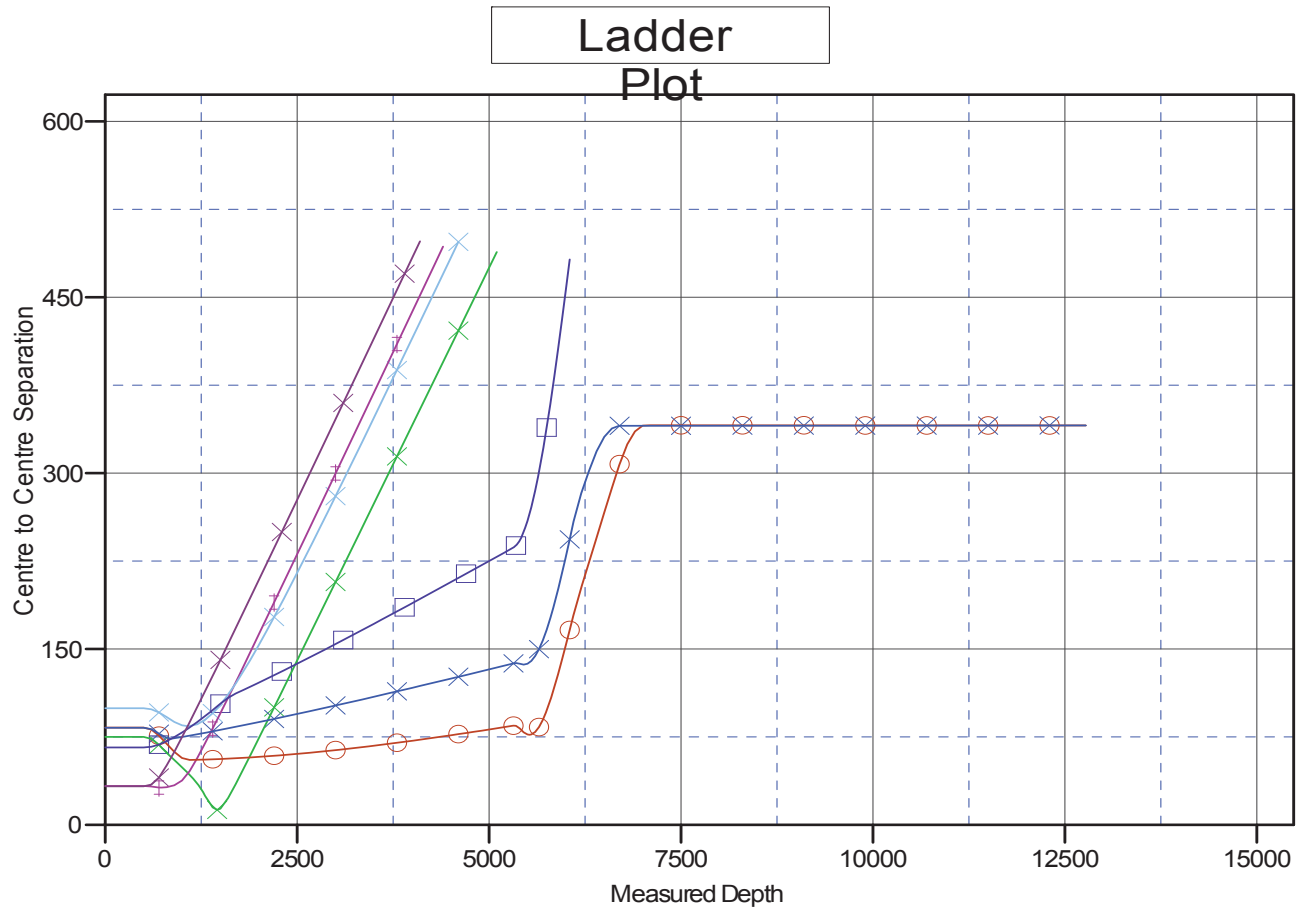
Offset Design S21-T10N-R58W - Razor #21B-2812B - HZ - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
9,200.0	5,793.0	9,327.2	5,878.0	75.4	74.4	-104.44	-3,897.3	679.8	340.8	196.1	144.72	2.355	
9,300.0	5,793.0	9,427.2	5,878.0	77.3	76.2	-104.44	-3,997.3	679.8	340.8	192.4	148.37	2.297	
9,400.0	5,793.0	9,527.2	5,878.0	79.1	78.1	-104.44	-4,097.3	679.8	340.8	188.8	152.03	2.242	
9,500.0	5,793.0	9,627.2	5,878.0	81.0	79.9	-104.44	-4,197.3	679.8	340.8	185.1	155.70	2.189	
9,600.0	5,793.0	9,727.2	5,878.0	82.9	81.8	-104.44	-4,297.3	679.8	340.8	181.4	159.36	2.138	
9,700.0	5,793.0	9,827.2	5,878.0	84.8	83.7	-104.44	-4,397.3	679.8	340.8	177.8	163.03	2.090	
9,800.0	5,793.0	9,927.2	5,878.0	86.7	85.5	-104.44	-4,497.3	679.8	340.8	174.1	166.70	2.044	
9,900.0	5,793.0	10,027.2	5,878.0	88.6	87.4	-104.44	-4,597.3	679.8	340.8	170.4	170.38	2.000	
10,000.0	5,793.0	10,127.2	5,878.0	90.5	89.2	-104.44	-4,697.3	679.8	340.8	166.7	174.05	1.958	
10,100.0	5,793.0	10,227.2	5,878.0	92.4	91.1	-104.44	-4,797.3	679.8	340.8	163.0	177.73	1.917	
10,200.0	5,793.0	10,327.2	5,878.0	94.2	93.0	-104.44	-4,897.3	679.8	340.8	159.4	181.41	1.878	
10,300.0	5,793.0	10,427.2	5,878.0	96.1	94.9	-104.44	-4,997.3	679.8	340.8	155.7	185.10	1.841	
10,400.0	5,793.0	10,527.2	5,878.0	98.0	96.7	-104.44	-5,097.3	679.8	340.8	152.0	188.78	1.805	
10,500.0	5,793.0	10,627.2	5,878.0	99.9	98.6	-104.44	-5,197.3	679.8	340.8	148.3	192.47	1.770	
10,600.0	5,793.0	10,727.2	5,878.0	101.8	100.5	-104.44	-5,297.3	679.8	340.8	144.6	196.16	1.737	
10,700.0	5,793.0	10,827.2	5,878.0	103.7	102.4	-104.44	-5,397.3	679.8	340.8	140.9	199.85	1.705	
10,800.0	5,793.0	10,927.2	5,878.0	105.6	104.2	-104.44	-5,497.3	679.8	340.8	137.2	203.54	1.674	
10,900.0	5,793.0	11,027.2	5,878.0	107.5	106.1	-104.44	-5,597.3	679.8	340.8	133.5	207.23	1.644	
11,000.0	5,793.0	11,127.2	5,878.0	109.4	108.0	-104.44	-5,697.3	679.8	340.7	129.8	210.93	1.615	
11,100.0	5,793.0	11,227.2	5,878.0	111.3	109.9	-104.44	-5,797.3	679.8	340.7	126.1	214.62	1.588	
11,200.0	5,793.0	11,327.2	5,878.0	113.2	111.8	-104.44	-5,897.3	679.8	340.7	122.4	218.32	1.561	
11,300.0	5,793.0	11,427.2	5,878.0	115.1	113.6	-104.44	-5,997.3	679.8	340.7	118.7	222.02	1.535	
11,400.0	5,793.0	11,527.2	5,878.0	117.0	115.5	-104.44	-6,097.3	679.8	340.7	115.0	225.72	1.510	
11,500.0	5,793.0	11,627.2	5,878.0	118.9	117.4	-104.44	-6,197.3	679.8	340.7	111.3	229.41	1.485 Level 3	
11,600.0	5,793.0	11,727.2	5,878.0	120.8	119.3	-104.44	-6,297.3	679.8	340.7	107.6	233.12	1.462 Level 3	
11,700.0	5,793.0	11,827.2	5,878.0	122.7	121.2	-104.45	-6,397.3	679.8	340.7	103.9	236.82	1.439 Level 3	
11,800.0	5,793.0	11,927.2	5,878.0	124.6	123.1	-104.45	-6,497.3	679.8	340.7	100.2	240.52	1.417 Level 3	
11,900.0	5,793.0	12,027.2	5,878.0	126.5	125.0	-104.45	-6,597.3	679.8	340.7	96.5	244.22	1.395 Level 3	
12,000.0	5,793.0	12,127.2	5,878.0	128.4	126.9	-104.45	-6,697.3	679.8	340.7	92.8	247.93	1.374 Level 3	
12,100.0	5,793.0	12,227.2	5,878.0	130.3	128.8	-104.45	-6,797.3	679.8	340.7	89.1	251.63	1.354 Level 3	
12,200.0	5,793.0	12,327.2	5,878.0	132.2	130.7	-104.45	-6,897.3	679.8	340.7	85.4	255.34	1.334 Level 3	
12,300.0	5,793.0	12,427.2	5,878.0	134.1	132.5	-104.45	-6,997.3	679.8	340.7	81.7	259.05	1.315 Level 3	
12,400.0	5,793.0	12,527.2	5,878.0	136.0	134.4	-104.45	-7,097.3	679.8	340.7	78.0	262.75	1.297 Level 3	
12,500.0	5,793.0	12,627.2	5,878.0	138.0	136.3	-104.45	-7,197.3	679.8	340.7	74.2	266.46	1.279 Level 3	
12,600.0	5,793.0	12,727.3	5,878.0	139.9	138.2	-104.45	-7,297.3	679.8	340.7	70.5	270.17	1.261 Level 3	
12,700.0	5,793.0	12,827.3	5,878.0	141.8	140.0	-104.45	-7,397.3	679.8	340.7	66.9	273.79	1.244 Level 2	
12,752.5	5,793.0	12,879.8	5,878.0	142.6	140.9	-104.45	-7,449.8	679.8	340.7	65.3	275.36	1.237 Level 2	
12,774.5	5,793.0	12,895.7	5,878.0	142.9	141.1	-104.45	-7,465.7	679.8	340.8	64.8	275.94	1.235 Level 2, SF	

**Company:** Whiting Petroleum Corporation  
**Project:** Weld County, CO  
**Reference Site:** S21-T10N-R58W  
**Site Error:** 0.0ft  
**Reference Well:** Razor #21B-2811A  
**Well Error:** 0.0ft  
**Reference Wellbore:** HZ  
**Reference Design:** Plan #1

**Local Co-ordinate Reference:** Well Razor #21B-2811A  
**TVD Reference:** WELL @ 4853.8ft (Original Well Elev)  
**MD Reference:** WELL @ 4853.8ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** USA EDM 5000 Multi Users DB  
**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-2811A  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 1.05°



### LEGEND

✕ Razor #21B-0912B, HZ, Plan #1 V0    ○ Razor #21B-2812B, HZ, Plan #1 V0    ✕ Razor #21B-0909A, HZ, Plan #1 V0  
✕ Razor #21B-0911A, HZ, Plan #1 V0    ✕ Razor #21B-2810B, HZ, Plan #1 V0  
✕ Razor #21B-0910B, HZ, Plan #1 V0    □ Razor #21B-2809A, HZ, Plan #1 V0