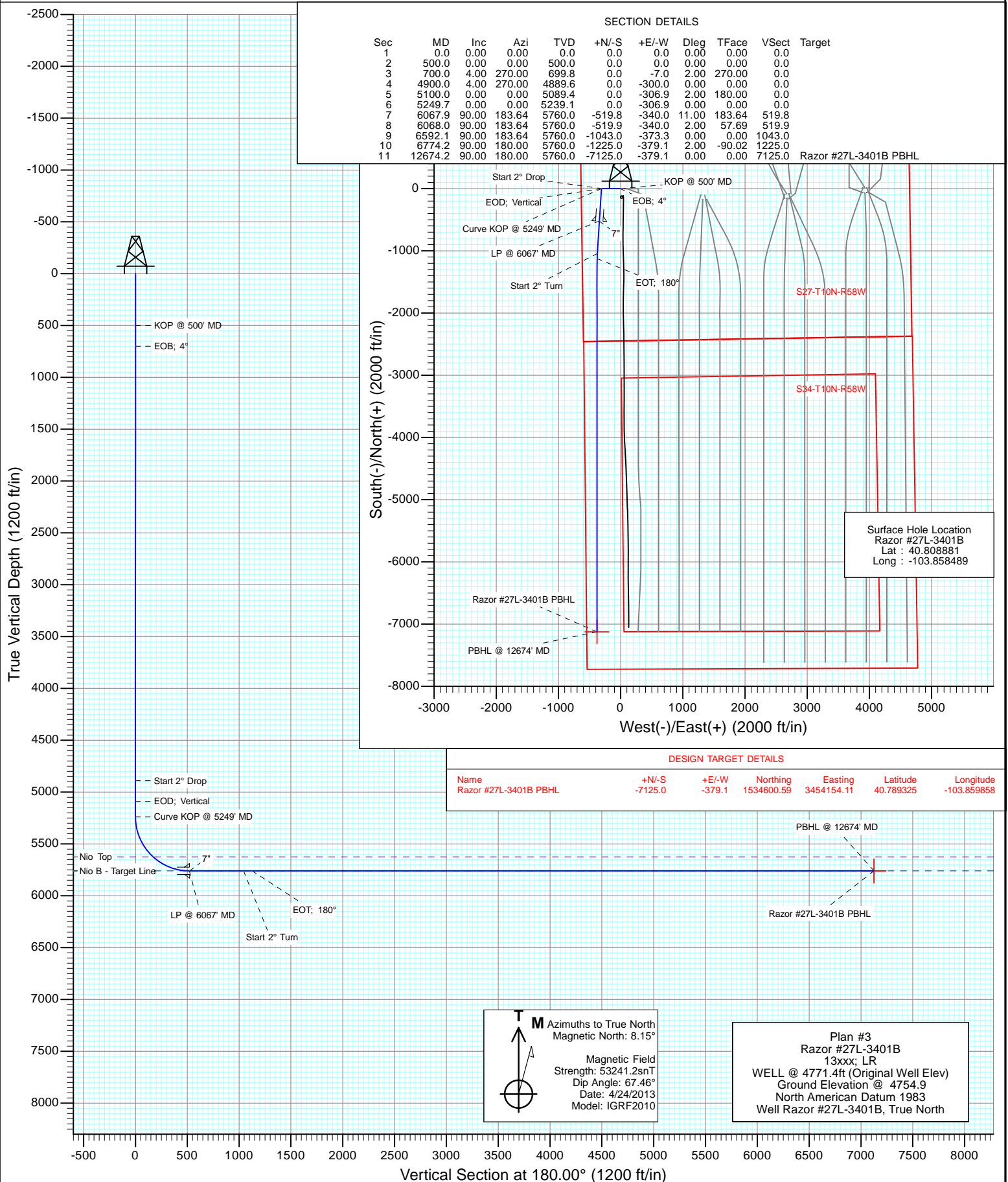




Project: Weld County, CO  
Site: S27-T10N-R58W  
Well: Razor #27L-3401B  
Wellbore: Hz  
Design: Plan #3



## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site:</b>	S27-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor #27L-3401B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #3		

<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		S27-T10N-R58W			
Site Position:		Northing:	1,541,650.73 ft	Latitude:	40.808594
From:	Lat/Long	Easting:	3,455,691.89 ft	Longitude:	-103.853833
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	1.06 °

Well	Razor #27L-3401B					
Well Position	+N/-S	0.0 ft	Northing:	1,541,731.37 ft	Latitude:	40.808881
	+E/-W	0.0 ft	Easting:	3,454,401.25 ft	Longitude:	-103.858489
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,754.9 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	4/24/2013	8.15	67.46	53,241

<b>Design</b>	Plan #3			
<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	180.00

<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	270.00	699.8	0.0	-7.0	2.00	2.00	0.00	270.00	
4,900.0	4.00	270.00	4,889.6	0.0	-300.0	0.00	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,089.4	0.0	-306.9	2.00	-2.00	0.00	180.00	
5,249.7	0.00	0.00	5,239.1	0.0	-306.9	0.00	0.00	0.00	0.00	
6,067.9	90.00	183.64	5,760.0	-519.8	-340.0	11.00	11.00	0.00	183.64	
6,068.0	90.00	183.64	5,760.0	-519.9	-340.0	2.00	1.07	1.69	57.69	
6,592.1	90.00	183.64	5,760.0	-1,043.0	-373.3	0.00	0.00	0.00	0.00	
6,774.2	90.00	180.00	5,760.0	-1,225.0	-379.1	2.00	0.00	-2.00	-90.02	
12,674.2	90.00	180.00	5,760.0	-7,125.0	-379.1	0.00	0.00	0.00	0.00	Razor #27L-3401B Pf

# Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site:</b>	S27-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor #27L-3401B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #3		

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	270.00	600.0	0.0	-1.7	0.0	2.00	2.00	
700.0	4.00	270.00	699.8	0.0	-7.0	0.0	2.00	2.00	EOB; 4°
800.0	4.00	270.00	799.6	0.0	-14.0	0.0	0.00	0.00	
900.0	4.00	270.00	899.4	0.0	-20.9	0.0	0.00	0.00	
1,000.0	4.00	270.00	999.1	0.0	-27.9	0.0	0.00	0.00	
1,100.0	4.00	270.00	1,098.9	0.0	-34.9	0.0	0.00	0.00	
1,200.0	4.00	270.00	1,198.6	0.0	-41.9	0.0	0.00	0.00	
1,300.0	4.00	270.00	1,298.4	0.0	-48.8	0.0	0.00	0.00	
1,400.0	4.00	270.00	1,398.1	0.0	-55.8	0.0	0.00	0.00	
1,500.0	4.00	270.00	1,497.9	0.0	-62.8	0.0	0.00	0.00	
1,600.0	4.00	270.00	1,597.6	0.0	-69.8	0.0	0.00	0.00	
1,700.0	4.00	270.00	1,697.4	0.0	-76.7	0.0	0.00	0.00	
1,800.0	4.00	270.00	1,797.2	0.0	-83.7	0.0	0.00	0.00	
1,900.0	4.00	270.00	1,896.9	0.0	-90.7	0.0	0.00	0.00	
2,000.0	4.00	270.00	1,996.7	0.0	-97.7	0.0	0.00	0.00	
2,100.0	4.00	270.00	2,096.4	0.0	-104.6	0.0	0.00	0.00	
2,200.0	4.00	270.00	2,196.2	0.0	-111.6	0.0	0.00	0.00	
2,300.0	4.00	270.00	2,295.9	0.0	-118.6	0.0	0.00	0.00	
2,400.0	4.00	270.00	2,395.7	0.0	-125.6	0.0	0.00	0.00	
2,500.0	4.00	270.00	2,495.5	0.0	-132.5	0.0	0.00	0.00	
2,600.0	4.00	270.00	2,595.2	0.0	-139.5	0.0	0.00	0.00	
2,700.0	4.00	270.00	2,695.0	0.0	-146.5	0.0	0.00	0.00	
2,800.0	4.00	270.00	2,794.7	0.0	-153.5	0.0	0.00	0.00	
2,900.0	4.00	270.00	2,894.5	0.0	-160.4	0.0	0.00	0.00	
3,000.0	4.00	270.00	2,994.2	0.0	-167.4	0.0	0.00	0.00	
3,100.0	4.00	270.00	3,094.0	0.0	-174.4	0.0	0.00	0.00	
3,200.0	4.00	270.00	3,193.7	0.0	-181.4	0.0	0.00	0.00	
3,300.0	4.00	270.00	3,293.5	0.0	-188.3	0.0	0.00	0.00	
3,400.0	4.00	270.00	3,393.3	0.0	-195.3	0.0	0.00	0.00	
3,500.0	4.00	270.00	3,493.0	0.0	-202.3	0.0	0.00	0.00	
3,600.0	4.00	270.00	3,592.8	0.0	-209.3	0.0	0.00	0.00	
3,700.0	4.00	270.00	3,692.5	0.0	-216.2	0.0	0.00	0.00	
3,800.0	4.00	270.00	3,792.3	0.0	-223.2	0.0	0.00	0.00	
3,900.0	4.00	270.00	3,892.0	0.0	-230.2	0.0	0.00	0.00	
4,000.0	4.00	270.00	3,991.8	0.0	-237.2	0.0	0.00	0.00	
4,100.0	4.00	270.00	4,091.6	0.0	-244.2	0.0	0.00	0.00	
4,200.0	4.00	270.00	4,191.3	0.0	-251.1	0.0	0.00	0.00	
4,300.0	4.00	270.00	4,291.1	0.0	-258.1	0.0	0.00	0.00	
4,400.0	4.00	270.00	4,390.8	0.0	-265.1	0.0	0.00	0.00	
4,500.0	4.00	270.00	4,490.6	0.0	-272.1	0.0	0.00	0.00	
4,600.0	4.00	270.00	4,590.3	0.0	-279.0	0.0	0.00	0.00	
4,700.0	4.00	270.00	4,690.1	0.0	-286.0	0.0	0.00	0.00	
4,800.0	4.00	270.00	4,789.9	0.0	-293.0	0.0	0.00	0.00	
4,900.0	4.00	270.00	4,889.6	0.0	-300.0	0.0	0.00	0.00	Start 2° Drop
5,000.0	2.00	270.00	4,989.5	0.0	-305.2	0.0	2.00	-2.00	
5,100.0	0.00	0.00	5,089.4	0.0	-306.9	0.0	2.00	-2.00	EOD; Vertical

# Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site:</b>	S27-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor #27L-3401B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #3		

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	0.00	0.00	5,189.4	0.0	-306.9	0.0	0.00	0.00	
5,249.7	0.00	0.00	5,239.1	0.0	-306.9	0.0	0.00	0.00	Curve KOP @ 5249' MD
5,300.0	5.53	183.64	5,289.4	-2.4	-307.1	2.4	11.00	11.00	
5,400.0	16.53	183.64	5,387.4	-21.5	-308.3	21.5	11.00	11.00	
5,500.0	27.53	183.64	5,479.9	-58.9	-310.7	58.9	11.00	11.00	
5,600.0	38.53	183.64	5,563.6	-113.2	-314.1	113.2	11.00	11.00	
5,684.2	47.80	183.64	5,625.0	-170.6	-317.8	170.6	11.00	11.00	Nio Top
5,700.0	49.53	183.64	5,635.4	-182.5	-318.5	182.5	11.00	11.00	
5,800.0	60.53	183.64	5,692.6	-264.1	-323.7	264.1	11.00	11.00	
5,900.0	71.53	183.64	5,733.2	-355.2	-329.5	355.2	11.00	11.00	
6,000.0	82.53	183.64	5,755.6	-452.3	-335.7	452.3	11.00	11.00	
6,063.9	89.57	183.64	5,760.0	-515.9	-339.8	515.9	11.00	11.00	Nio B - Target Line
6,067.9	90.00	183.64	5,760.0	-519.8	-340.0	519.8	11.00	11.00	
6,068.0	90.00	183.64	5,760.0	-519.9	-340.0	519.9	0.00	0.00	LP @ 6067' MD
6,070.8	90.00	183.64	5,760.0	-522.7	-340.2	522.7	0.09	0.05	7"
6,100.0	90.00	183.64	5,760.0	-551.9	-342.0	551.9	0.00	0.00	
6,200.0	90.00	183.64	5,760.0	-651.7	-348.4	651.7	0.00	0.00	
6,300.0	90.00	183.64	5,760.0	-751.5	-354.7	751.5	0.00	0.00	
6,400.0	90.00	183.64	5,760.0	-851.3	-361.1	851.3	0.00	0.00	
6,500.0	90.00	183.64	5,760.0	-951.1	-367.5	951.1	0.00	0.00	
6,592.1	90.00	183.64	5,760.0	-1,043.0	-373.3	1,043.0	0.00	0.00	Start 2° Turn
6,600.0	90.00	183.48	5,760.0	-1,050.9	-373.8	1,050.9	1.99	0.00	
6,674.2	90.00	182.00	5,760.0	-1,125.0	-377.3	1,125.0	2.00	0.00	EOT; 180°
6,700.0	90.00	181.48	5,760.0	-1,150.8	-378.1	1,150.8	2.00	0.00	
6,774.2	90.00	180.00	5,760.0	-1,225.0	-379.1	1,225.0	2.00	0.00	
6,800.0	90.00	180.00	5,760.0	-1,250.8	-379.1	1,250.8	0.00	0.00	
6,900.0	90.00	180.00	5,760.0	-1,350.8	-379.1	1,350.8	0.00	0.00	
7,000.0	90.00	180.00	5,760.0	-1,450.8	-379.1	1,450.8	0.00	0.00	
7,100.0	90.00	180.00	5,760.0	-1,550.8	-379.1	1,550.8	0.00	0.00	
7,200.0	90.00	180.00	5,760.0	-1,650.8	-379.1	1,650.8	0.00	0.00	
7,300.0	90.00	180.00	5,760.0	-1,750.8	-379.1	1,750.8	0.00	0.00	
7,400.0	90.00	180.00	5,760.0	-1,850.8	-379.1	1,850.8	0.00	0.00	
7,500.0	90.00	180.00	5,760.0	-1,950.8	-379.1	1,950.8	0.00	0.00	
7,600.0	90.00	180.00	5,760.0	-2,050.8	-379.1	2,050.8	0.00	0.00	
7,700.0	90.00	180.00	5,760.0	-2,150.8	-379.1	2,150.8	0.00	0.00	
7,800.0	90.00	180.00	5,760.0	-2,250.8	-379.1	2,250.8	0.00	0.00	
7,900.0	90.00	180.00	5,760.0	-2,350.8	-379.1	2,350.8	0.00	0.00	
8,000.0	90.00	180.00	5,760.0	-2,450.8	-379.1	2,450.8	0.00	0.00	
8,100.0	90.00	180.00	5,760.0	-2,550.8	-379.1	2,550.8	0.00	0.00	
8,200.0	90.00	180.00	5,760.0	-2,650.8	-379.1	2,650.8	0.00	0.00	
8,300.0	90.00	180.00	5,760.0	-2,750.8	-379.1	2,750.8	0.00	0.00	
8,400.0	90.00	180.00	5,760.0	-2,850.8	-379.1	2,850.8	0.00	0.00	
8,500.0	90.00	180.00	5,760.0	-2,950.8	-379.1	2,950.8	0.00	0.00	
8,600.0	90.00	180.00	5,760.0	-3,050.8	-379.1	3,050.8	0.00	0.00	
8,700.0	90.00	180.00	5,760.0	-3,150.8	-379.1	3,150.8	0.00	0.00	
8,800.0	90.00	180.00	5,760.0	-3,250.8	-379.1	3,250.8	0.00	0.00	
8,900.0	90.00	180.00	5,760.0	-3,350.8	-379.1	3,350.8	0.00	0.00	
9,000.0	90.00	180.00	5,760.0	-3,450.8	-379.1	3,450.8	0.00	0.00	
9,100.0	90.00	180.00	5,760.0	-3,550.8	-379.1	3,550.8	0.00	0.00	
9,200.0	90.00	180.00	5,760.0	-3,650.8	-379.1	3,650.8	0.00	0.00	
9,300.0	90.00	180.00	5,760.0	-3,750.8	-379.1	3,750.8	0.00	0.00	
9,400.0	90.00	180.00	5,760.0	-3,850.8	-379.1	3,850.8	0.00	0.00	

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site:</b>	S27-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor #27L-3401B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #3		

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
9,500.0	90.00	180.00	5,760.0	-3,950.8	-379.1	3,950.8	0.00	0.00	
9,600.0	90.00	180.00	5,760.0	-4,050.8	-379.1	4,050.8	0.00	0.00	
9,700.0	90.00	180.00	5,760.0	-4,150.8	-379.1	4,150.8	0.00	0.00	
9,800.0	90.00	180.00	5,760.0	-4,250.8	-379.1	4,250.8	0.00	0.00	
9,900.0	90.00	180.00	5,760.0	-4,350.8	-379.1	4,350.8	0.00	0.00	
10,000.0	90.00	180.00	5,760.0	-4,450.8	-379.1	4,450.8	0.00	0.00	
10,100.0	90.00	180.00	5,760.0	-4,550.8	-379.1	4,550.8	0.00	0.00	
10,200.0	90.00	180.00	5,760.0	-4,650.8	-379.1	4,650.8	0.00	0.00	
10,300.0	90.00	180.00	5,760.0	-4,750.8	-379.1	4,750.8	0.00	0.00	
10,400.0	90.00	180.00	5,760.0	-4,850.8	-379.1	4,850.8	0.00	0.00	
10,500.0	90.00	180.00	5,760.0	-4,950.8	-379.1	4,950.8	0.00	0.00	
10,600.0	90.00	180.00	5,760.0	-5,050.8	-379.1	5,050.8	0.00	0.00	
10,700.0	90.00	180.00	5,760.0	-5,150.8	-379.1	5,150.8	0.00	0.00	
10,800.0	90.00	180.00	5,760.0	-5,250.8	-379.1	5,250.8	0.00	0.00	
10,900.0	90.00	180.00	5,760.0	-5,350.8	-379.1	5,350.8	0.00	0.00	
11,000.0	90.00	180.00	5,760.0	-5,450.8	-379.1	5,450.8	0.00	0.00	
11,100.0	90.00	180.00	5,760.0	-5,550.8	-379.1	5,550.8	0.00	0.00	
11,200.0	90.00	180.00	5,760.0	-5,650.8	-379.1	5,650.8	0.00	0.00	
11,300.0	90.00	180.00	5,760.0	-5,750.8	-379.1	5,750.8	0.00	0.00	
11,400.0	90.00	180.00	5,760.0	-5,850.8	-379.1	5,850.8	0.00	0.00	
11,500.0	90.00	180.00	5,760.0	-5,950.8	-379.1	5,950.8	0.00	0.00	
11,600.0	90.00	180.00	5,760.0	-6,050.8	-379.1	6,050.8	0.00	0.00	
11,700.0	90.00	180.00	5,760.0	-6,150.8	-379.1	6,150.8	0.00	0.00	
11,800.0	90.00	180.00	5,760.0	-6,250.8	-379.1	6,250.8	0.00	0.00	
11,900.0	90.00	180.00	5,760.0	-6,350.8	-379.1	6,350.8	0.00	0.00	
12,000.0	90.00	180.00	5,760.0	-6,450.8	-379.1	6,450.8	0.00	0.00	
12,100.0	90.00	180.00	5,760.0	-6,550.8	-379.1	6,550.8	0.00	0.00	
12,200.0	90.00	180.00	5,760.0	-6,650.8	-379.1	6,650.8	0.00	0.00	
12,300.0	90.00	180.00	5,760.0	-6,750.8	-379.1	6,750.8	0.00	0.00	
12,400.0	90.00	180.00	5,760.0	-6,850.8	-379.1	6,850.8	0.00	0.00	
12,500.0	90.00	180.00	5,760.0	-6,950.8	-379.1	6,950.8	0.00	0.00	
12,600.0	90.00	180.00	5,760.0	-7,050.8	-379.1	7,050.8	0.00	0.00	
12,674.2	90.00	180.00	5,760.0	-7,125.0	-379.1	7,125.0	0.00	0.00	PBHL @ 12674' MD - Razor #27L-3401B PBHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Razor #27L-3401B PBH	0.00	0.00	5,760.0	-7,125.0	-379.1	1,534,600.59	3,454,154.11	40.789325	-103.859858
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
6,070.8	5,760.0	7"	0.000	0.000	

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site:</b>	S27-T10N-R58W	<b>North Reference:</b>	True
<b>Well:</b>	Razor #27L-3401B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hz		
<b>Design:</b>	Plan #3		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,684.2	5,625.0	Nio Top		0.00	
6,063.9	5,760.0	Nio B - Target Line		0.00	

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	0.0	-7.0	EOB; 4°
4,900.0	4,889.6	0.0	-300.0	Start 2° Drop
5,100.0	5,089.4	0.0	-306.9	EOD; Vertical
5,249.7	5,239.1	0.0	-306.9	Curve KOP @ 5249' MD
6,068.0	5,760.0	-519.9	-340.0	LP @ 6067' MD
6,592.1	5,760.0	-1,043.0	-373.3	Start 2° Turn
6,674.2	5,760.0	-1,125.0	-377.3	EOT; 180°
12,674.2	5,760.0	-7,125.0	-379.1	PBHL @ 12674' MD

# **Whiting Petroleum Corporation**

**Weld County, CO**

**S27-T10N-R58W**

**Razor #27L-3401B**

**Hz**

**Plan #3**

## **Anticollision Report**

**11 June, 2013**

## Anticollision Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Reference Site:</b>	S27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Razor #27L-3401B	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #3		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<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>	6/11/2013		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	12,674.2	Plan #3 (Hz)	ISCWSA MWD	MWD - ISCWSA

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S27-T10N-R58W						
Razor #27I-2213A - HZ - Plan #2						Out of range
Razor #27I-2214B - HZ - Plan #3						Out of range
Razor #27I-2215A - HZ - Plan #1						Out of range
Razor #27I-2216B - HZ - Plan #2						Out of range
Razor #27I-3413A - HZ - Plan #1						Out of range
Razor #27I-3414B - HZ - Plan #1						Out of range
Razor #27I-3415A - HZ - Plan #1						Out of range
Razor #27I-3416B - HZ - Plan #2						Out of range
Razor #27J-2209A - HZ - Plan #2						Out of range
Razor #27J-2210B - HZ - Plan #2						Out of range
Razor #27J-2211A - HZ - Plan #2						Out of range
Razor #27J-2212B - HZ - Plan #2						Out of range
Razor #27J-3409A - Hz - Plan #2						Out of range
Razor #27J-3410B - HZ - Plan #2						Out of range
Razor #27J-3411A - HZ - Plan #2						Out of range
Razor #27J-3412B - HZ - Plan #2						Out of range
Razor #27K-3405A - HZ - Plan #3						Out of range
Razor #27K-3406B - HZ - Plan #4						Out of range
Razor #27K-3407A - HZ - Plan #3						Out of range
Razor #27K-3408B - HZ - Plan #3						Out of range
Razor #27L-3403B - Hz - Plan #3	500.0	500.0	66.2	64.2	33.318	CC, ES
Razor #27L-3403B - Hz - Plan #3	1,800.0	1,797.2	149.9	142.1	19.326	SF
Razor #27L-3404B - Hz - Plan #4	500.0	500.0	99.1	97.1	49.907	CC, ES
Razor #27L-3404B - Hz - Plan #4	3,500.0	3,466.4	488.4	473.0	31.787	SF
RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS	710.7	712.0	119.2	116.4	41.997	CC, ES
RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS	10,900.0	10,674.9	498.9	301.9	2.533	SF



# Anticollision Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Reference Site:</b>	S27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Razor #27L-3401B	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S27-T10N-R58W - Razor #27L-3403B - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA 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)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	66.2	66.2					
100.0	100.0	100.0	100.0	0.1	0.1	90.02	0.0	66.2	66.2	66.0	0.19	352.529		
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	66.2	66.2	65.5	0.64	103.831		
300.0	300.0	300.0	300.0	0.5	0.5	90.02	0.0	66.2	66.2	65.1	1.09	60.882		
400.0	400.0	400.0	400.0	0.8	0.8	90.02	0.0	66.2	66.2	64.6	1.54	43.067		
500.0	500.0	500.0	500.0	1.0	1.0	90.02	0.0	66.2	66.2	64.2	1.99	33.318 CC, ES		
600.0	600.0	600.0	600.0	1.2	1.2	-179.98	0.0	66.2	67.9	65.5	2.42	28.010		
700.0	699.8	699.8	699.8	1.4	1.4	-179.98	0.0	66.2	73.1	70.3	2.86	25.601		
800.0	799.6	799.6	799.6	1.6	1.7	-179.98	0.0	66.2	80.1	76.8	3.29	24.349		
900.0	899.4	899.4	899.4	1.9	1.9	-179.98	0.0	66.2	87.1	83.4	3.73	23.358		
1,000.0	999.1	999.1	999.1	2.1	2.1	-179.98	0.0	66.2	94.1	89.9	4.17	22.557		
1,100.0	1,098.9	1,098.9	1,098.9	2.4	2.3	-179.98	0.0	66.2	101.0	96.4	4.61	21.898		
1,200.0	1,198.6	1,198.6	1,198.6	2.6	2.6	-179.99	0.0	66.2	108.0	103.0	5.06	21.347		
1,300.0	1,298.4	1,298.4	1,298.4	2.9	2.8	-179.99	0.0	66.2	115.0	109.5	5.51	20.880		
1,400.0	1,398.1	1,398.1	1,398.1	3.1	3.0	-179.99	0.0	66.2	122.0	116.0	5.96	20.480		
1,500.0	1,497.9	1,497.9	1,497.9	3.4	3.2	-179.99	0.0	66.2	128.9	122.5	6.40	20.134		
1,600.0	1,597.6	1,597.6	1,597.6	3.6	3.5	-179.99	0.0	66.2	135.9	129.1	6.85	19.830		
1,700.0	1,697.4	1,697.4	1,697.4	3.9	3.7	-179.99	0.0	66.2	142.9	135.6	7.30	19.563		
1,800.0	1,797.2	1,797.2	1,797.2	4.1	3.9	-179.99	0.0	66.2	149.9	142.1	7.76	19.326 SF		
1,900.0	1,896.9	1,891.9	1,891.8	4.4	4.1	-179.99	0.0	67.6	158.4	150.2	8.18	19.358		
2,000.0	1,996.7	1,985.8	1,985.6	4.7	4.3	-179.99	0.0	72.2	170.2	161.6	8.60	19.789		
2,100.0	2,096.4	2,084.0	2,083.6	4.9	4.5	-179.99	0.0	79.0	184.1	175.1	9.03	20.394		
2,200.0	2,196.2	2,183.0	2,182.4	5.2	4.7	-179.99	0.0	85.9	198.0	188.5	9.45	20.944		
2,300.0	2,295.9	2,282.0	2,281.2	5.4	4.9	-179.99	0.0	92.8	211.9	202.0	9.88	21.442		
2,400.0	2,395.7	2,381.0	2,379.9	5.7	5.2	-179.99	0.0	99.7	225.8	215.5	10.32	21.894		
2,500.0	2,495.5	2,480.1	2,478.7	6.0	5.4	-179.99	0.0	106.6	239.8	229.0	10.75	22.304		
2,600.0	2,595.2	2,579.1	2,577.5	6.2	5.6	-179.99	0.0	113.5	253.7	242.5	11.18	22.681		
2,700.0	2,695.0	2,678.1	2,676.3	6.5	5.8	-179.99	0.0	120.4	267.6	256.0	11.62	23.026		
2,800.0	2,794.7	2,777.1	2,775.1	6.7	6.1	-179.99	0.0	127.4	281.5	269.4	12.06	23.343		
2,900.0	2,894.5	2,876.2	2,873.9	7.0	6.3	-179.99	0.0	134.3	295.4	282.9	12.50	23.635		
3,000.0	2,994.2	2,975.2	2,972.7	7.3	6.5	-179.99	0.0	141.2	309.3	296.4	12.94	23.905		
3,100.0	3,094.0	3,074.2	3,071.4	7.5	6.8	-180.00	0.0	148.1	323.3	309.9	13.38	24.156		
3,200.0	3,193.7	3,173.2	3,170.2	7.8	7.0	-180.00	0.0	155.0	337.2	323.3	13.82	24.389		
3,300.0	3,293.5	3,272.3	3,269.0	8.0	7.2	-180.00	0.0	161.9	351.1	336.8	14.27	24.607		
3,400.0	3,393.3	3,371.3	3,367.8	8.3	7.5	-180.00	0.0	168.8	365.0	350.3	14.71	24.809		
3,500.0	3,493.0	3,470.3	3,466.6	8.6	7.7	-180.00	0.0	175.7	378.9	363.8	15.16	24.999		
3,600.0	3,592.8	3,569.4	3,565.4	8.8	8.0	-180.00	0.0	182.6	392.8	377.2	15.60	25.177		
3,700.0	3,692.5	3,668.4	3,664.2	9.1	8.2	-180.00	0.0	189.5	406.8	390.7	16.05	25.344		
3,800.0	3,792.3	3,767.4	3,762.9	9.3	8.5	-180.00	0.0	196.4	420.7	404.2	16.50	25.502		
3,900.0	3,892.0	3,866.4	3,861.7	9.6	8.7	-180.00	0.0	203.3	434.6	417.7	16.94	25.650		
4,000.0	3,991.8	3,965.5	3,960.5	9.9	9.0	-180.00	0.0	210.2	448.5	431.1	17.39	25.790		
4,100.0	4,091.6	4,064.5	4,059.3	10.1	9.2	-180.00	0.0	217.2	462.4	444.6	17.84	25.922		
4,200.0	4,191.3	4,163.5	4,158.1	10.4	9.4	-180.00	0.0	224.1	476.3	458.1	18.29	26.047		
4,300.0	4,291.1	4,262.5	4,256.9	10.6	9.7	-180.00	0.0	231.0	490.3	471.5	18.74	26.166		

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

# Anticollision Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Reference Site:</b>	S27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Razor #27L-3401B	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S27-T10N-R58W - Razor #27L-3404B - Hz - Plan #4													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		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)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	90.01	0.0	99.1	99.1					
100.0	100.0	100.0	100.0	0.1	0.1	90.01	0.0	99.1	99.1	98.9	0.19	528.056		
200.0	200.0	200.0	200.0	0.3	0.3	90.01	0.0	99.1	99.1	98.5	0.64	155.530		
300.0	300.0	300.0	300.0	0.5	0.5	90.01	0.0	99.1	99.1	98.0	1.09	91.195		
400.0	400.0	400.0	400.0	0.8	0.8	90.01	0.0	99.1	99.1	97.6	1.54	64.510		
500.0	500.0	500.0	500.0	1.0	1.0	90.01	0.0	99.1	99.1	97.1	1.99	49.907 CC, ES		
600.0	600.0	600.0	600.0	1.2	1.2	-179.99	0.0	99.1	100.9	98.4	2.42	41.598		
700.0	699.8	696.4	696.4	1.4	1.4	-179.69	-0.6	100.6	107.7	104.8	2.84	37.958		
800.0	799.6	792.2	792.0	1.6	1.6	-178.93	-2.2	105.2	119.4	116.1	3.24	36.797		
900.0	899.4	890.9	890.5	1.9	1.8	-178.01	-4.6	111.6	132.9	129.3	3.66	36.278		
1,000.0	999.1	990.0	989.3	2.1	2.1	-177.26	-6.9	118.1	146.5	142.4	4.09	35.845		
1,100.0	1,098.9	1,089.0	1,088.2	2.4	2.3	-176.64	-9.3	124.6	160.1	155.6	4.52	35.445		
1,200.0	1,198.6	1,188.1	1,187.0	2.6	2.5	-176.12	-11.7	131.1	173.7	168.8	4.95	35.080		
1,300.0	1,298.4	1,287.1	1,285.8	2.9	2.8	-175.67	-14.0	137.6	187.4	182.0	5.39	34.750		
1,400.0	1,398.1	1,386.2	1,384.6	3.1	3.0	-175.28	-16.4	144.1	201.0	195.2	5.83	34.453		
1,500.0	1,497.9	1,485.3	1,483.4	3.4	3.3	-174.94	-18.8	150.6	214.7	208.4	6.28	34.186		
1,600.0	1,597.6	1,584.3	1,582.2	3.6	3.5	-174.64	-21.1	157.1	228.3	221.6	6.73	33.944		
1,700.0	1,697.4	1,683.4	1,681.0	3.9	3.8	-174.38	-23.5	163.6	242.0	234.8	7.18	33.726		
1,800.0	1,797.2	1,782.4	1,779.9	4.1	4.0	-174.14	-25.8	170.1	255.7	248.0	7.63	33.529		
1,900.0	1,896.9	1,881.5	1,878.7	4.4	4.3	-173.93	-28.2	176.6	269.3	261.3	8.08	33.349		
2,000.0	1,996.7	1,980.5	1,977.5	4.7	4.5	-173.74	-30.6	183.0	283.0	274.5	8.53	33.185		
2,100.0	2,096.4	2,079.6	2,076.3	4.9	4.8	-173.57	-32.9	189.5	296.7	287.7	8.98	33.035		
2,200.0	2,196.2	2,178.6	2,175.1	5.2	5.0	-173.41	-35.3	196.0	310.4	300.9	9.43	32.898		
2,300.0	2,295.9	2,277.7	2,273.9	5.4	5.3	-173.26	-37.7	202.5	324.1	314.2	9.89	32.771		
2,400.0	2,395.7	2,376.8	2,372.8	5.7	5.5	-173.13	-40.0	209.0	337.7	327.4	10.34	32.654		
2,500.0	2,495.5	2,475.8	2,471.6	6.0	5.8	-173.01	-42.4	215.5	351.4	340.6	10.80	32.546		
2,600.0	2,595.2	2,574.9	2,570.4	6.2	6.0	-172.89	-44.7	222.0	365.1	353.9	11.25	32.445		
2,700.0	2,695.0	2,673.9	2,669.2	6.5	6.3	-172.79	-47.1	228.5	378.8	367.1	11.71	32.352		
2,800.0	2,794.7	2,773.0	2,768.0	6.7	6.6	-172.69	-49.5	235.0	392.5	380.3	12.17	32.264		
2,900.0	2,894.5	2,872.0	2,866.8	7.0	6.8	-172.60	-51.8	241.5	406.2	393.6	12.62	32.183		
3,000.0	2,994.2	2,971.1	2,965.6	7.3	7.1	-172.51	-54.2	248.0	419.9	406.8	13.08	32.106		
3,100.0	3,094.0	3,070.2	3,064.5	7.5	7.3	-172.43	-56.6	254.5	433.6	420.1	13.53	32.035		
3,200.0	3,193.7	3,169.2	3,163.3	7.8	7.6	-172.36	-58.9	261.0	447.3	433.3	13.99	31.967		
3,300.0	3,293.5	3,268.3	3,262.1	8.0	7.8	-172.29	-61.3	267.5	461.0	446.5	14.45	31.904		
3,400.0	3,393.3	3,367.3	3,360.9	8.3	8.1	-172.22	-63.7	274.0	474.7	459.8	14.91	31.844		
3,500.0	3,493.0	3,466.4	3,459.7	8.6	8.4	-172.16	-66.0	280.4	488.4	473.0	15.36	31.787 SF		

# Anticollision Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Reference Site:</b>	S27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Razor #27L-3401B	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S27-T10N-R58W - RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 109-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
0.0	0.0	0.0	0.0	0.0	0.0	164.61	-125.7	34.6	130.4					
100.0	100.0	102.2	102.1	0.1	0.1	164.98	-124.9	33.5	129.4	129.2	0.20	648.912		
200.0	200.0	202.0	202.0	0.3	0.3	165.91	-123.4	31.0	127.3	126.6	0.63	201.054		
300.0	300.0	301.6	301.5	0.5	0.5	166.87	-122.3	28.5	125.6	124.5	1.06	118.356		
400.0	400.0	402.3	402.2	0.8	0.7	167.90	-120.8	25.9	123.5	122.1	1.50	82.548		
500.0	500.0	501.7	501.5	1.0	1.0	169.17	-119.5	22.9	121.7	119.8	1.93	62.926		
600.0	600.0	602.0	601.7	1.2	1.2	-100.37	-118.4	19.9	120.4	118.0	2.37	50.885		
700.0	699.8	701.6	701.3	1.4	1.4	-101.46	-116.9	16.6	119.3	116.5	2.79	42.738		
710.7	710.5	712.0	711.6	1.4	1.4	-101.67	-116.8	16.3	119.2	116.4	2.84	41.997 CC, ES		
800.0	799.6	799.7	799.3	1.6	1.6	-103.55	-116.7	14.2	120.1	116.8	3.23	37.200		
900.0	899.4	899.6	899.3	1.9	1.8	-105.64	-117.2	11.9	121.7	118.0	3.68	33.100		
1,000.0	999.1	998.9	998.5	2.1	2.0	-107.43	-117.5	9.1	123.2	119.1	4.13	29.826		
1,100.0	1,098.9	1,097.0	1,096.5	2.4	2.2	-109.28	-119.1	7.0	126.3	121.7	4.59	27.531		
1,200.0	1,198.6	1,195.4	1,194.9	2.6	2.4	-110.70	-122.0	4.6	130.6	125.6	5.05	25.874		
1,300.0	1,298.4	1,294.3	1,293.7	2.9	2.6	-112.22	-125.8	3.0	136.1	130.6	5.51	24.703		
1,400.0	1,398.1	1,395.1	1,394.4	3.1	2.9	-113.93	-129.3	1.9	141.6	135.7	5.97	23.737		
1,500.0	1,497.9	1,494.9	1,494.1	3.4	3.1	-115.84	-131.8	1.4	146.7	140.3	6.42	22.842		
1,600.0	1,597.6	1,593.8	1,593.0	3.6	3.3	-117.61	-134.7	1.1	152.3	145.4	6.88	22.136		
1,700.0	1,697.4	1,694.3	1,693.5	3.9	3.5	-119.34	-137.6	1.1	158.1	150.8	7.33	21.560		
1,800.0	1,797.2	1,794.1	1,793.3	4.1	3.7	-120.96	-140.1	0.8	163.6	155.8	7.79	21.014		
1,900.0	1,896.9	1,892.5	1,891.7	4.4	3.9	-122.61	-142.6	1.1	169.7	161.4	8.24	20.602		
2,000.0	1,996.7	1,991.1	1,990.2	4.7	4.1	-124.26	-145.6	2.2	176.6	167.9	8.69	20.335		
2,100.0	2,096.4	2,090.9	2,090.0	4.9	4.3	-125.97	-148.5	3.8	184.0	174.9	9.13	20.154		
2,200.0	2,196.2	2,190.0	2,189.0	5.2	4.5	-127.62	-151.3	5.7	191.5	182.0	9.57	20.010		
2,300.0	2,295.9	2,289.0	2,287.9	5.4	4.7	-129.47	-153.6	8.8	199.7	189.7	10.01	19.941		
2,400.0	2,395.7	2,396.3	2,395.2	5.7	4.9	-131.74	-153.3	11.6	205.7	195.3	10.46	19.668		
2,500.0	2,495.5	2,492.3	2,491.1	6.0	5.1	-133.83	-152.2	14.2	211.4	200.6	10.88	19.427		
2,600.0	2,595.2	2,590.8	2,589.5	6.2	5.3	-135.67	-152.3	17.2	218.6	207.3	11.32	19.316		
2,700.0	2,695.0	2,692.8	2,691.5	6.5	5.6	-137.16	-153.0	19.0	225.4	213.6	11.76	19.170		
2,800.0	2,794.7	2,792.7	2,791.5	6.7	5.8	-138.70	-152.7	21.0	231.8	219.6	12.19	19.017		
2,900.0	2,894.5	2,892.4	2,891.1	7.0	6.0	-140.20	-152.2	22.9	238.3	225.7	12.62	18.878		
3,000.0	2,994.2	2,992.0	2,990.7	7.3	6.2	-141.52	-152.1	24.6	245.0	231.9	13.06	18.763		
3,100.0	3,094.0	3,092.1	3,090.8	7.5	6.4	-142.78	-151.9	26.2	251.7	238.2	13.49	18.653		
3,200.0	3,193.7	3,191.8	3,190.4	7.8	6.6	-144.02	-151.4	27.9	258.3	244.4	13.92	18.555		
3,300.0	3,293.5	3,291.9	3,290.5	8.0	6.8	-145.30	-150.6	29.8	265.1	250.7	14.35	18.467		
3,400.0	3,393.3	3,391.8	3,390.4	8.3	7.0	-146.60	-149.3	31.7	271.7	256.9	14.79	18.378		
3,500.0	3,493.0	3,491.3	3,489.8	8.6	7.2	-147.91	-147.6	33.8	278.5	263.3	15.22	18.304		
3,600.0	3,592.8	3,591.0	3,589.6	8.8	7.4	-149.25	-145.6	36.2	285.4	269.8	15.64	18.246		
3,700.0	3,692.5	3,693.6	3,692.1	9.1	7.6	-150.58	-143.2	38.3	292.0	276.0	16.07	18.168		
3,800.0	3,792.3	3,796.0	3,794.4	9.3	7.8	-151.85	-140.3	39.3	297.7	281.2	16.51	18.035		
3,900.0	3,892.0	3,895.5	3,893.9	9.6	8.0	-152.96	-137.6	39.8	303.0	286.1	16.93	17.895		
4,000.0	3,991.8	3,994.6	3,993.0	9.9	8.2	-153.97	-135.2	40.2	308.6	291.2	17.36	17.774		
4,100.0	4,091.6	4,093.9	4,092.2	10.1	8.4	-155.03	-132.5	41.0	314.4	296.6	17.79	17.674		
4,200.0	4,191.3	4,194.8	4,193.1	10.4	8.7	-156.08	-129.6	41.7	320.2	302.0	18.22	17.574		
4,300.0	4,291.1	4,294.8	4,293.0	10.6	8.9	-156.99	-127.2	41.9	325.9	307.2	18.65	17.472		
4,400.0	4,390.8	4,393.7	4,391.9	10.9	9.1	-157.83	-124.9	42.2	331.7	312.6	19.08	17.385		
4,500.0	4,490.6	4,493.5	4,491.7	11.2	9.3	-158.65	-122.7	42.6	337.7	318.2	19.51	17.309		
4,600.0	4,590.3	4,592.9	4,591.1	11.4	9.5	-159.46	-120.4	43.0	343.8	323.8	19.94	17.239		
4,700.0	4,690.1	4,692.8	4,691.0	11.7	9.7	-160.17	-118.5	43.4	350.1	329.7	20.38	17.181		
4,800.0	4,789.9	4,794.3	4,792.4	12.0	9.9	-160.84	-116.6	43.3	355.9	335.1	20.81	17.102		
4,900.0	4,889.6	4,894.3	4,892.4	12.2	10.1	-161.47	-114.7	43.0	361.7	340.4	21.25	17.024		
5,000.0	4,989.5	4,995.2	4,993.3	12.4	10.3	-161.96	-113.2	42.4	365.6	344.0	21.66	16.878		

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

# Anticollision Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Reference Site:</b>	S27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Razor #27L-3401B	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S27-T10N-R58W - RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 109-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		
5,100.0	5,089.4	5,089.4	5,087.5	12.6	10.5	108.04	-113.4	41.4	366.4	344.2	22.19	16.513		
5,200.0	5,189.4	5,167.0	5,164.9	12.8	10.7	108.61	-117.9	43.2	370.2	347.7	22.55	16.418		
5,300.0	5,289.4	5,245.9	5,242.1	13.0	10.9	-72.66	-133.8	46.2	379.8	357.0	22.77	16.680		
5,400.0	5,387.4	5,329.3	5,320.7	13.2	11.0	-70.22	-161.2	47.5	387.9	364.8	23.09	16.799		
5,500.0	5,479.9	5,420.0	5,401.8	13.4	11.3	-68.82	-201.8	47.8	393.6	370.2	23.38	16.832		
5,600.0	5,563.6	5,500.5	5,469.4	13.7	11.6	-68.71	-245.4	46.8	395.6	371.9	23.71	16.690		
5,700.0	5,635.4	5,574.5	5,525.6	14.1	11.9	-69.37	-293.3	46.7	397.0	372.8	24.19	16.411		
5,800.0	5,692.6	5,664.9	5,584.8	14.7	12.5	-70.85	-361.6	44.8	396.0	370.9	25.13	15.757		
5,900.0	5,733.2	5,740.3	5,626.4	15.4	13.0	-72.96	-424.3	42.8	393.3	366.9	26.45	14.870		
6,000.0	5,755.6	5,820.1	5,662.4	16.4	13.7	-76.04	-495.5	42.1	391.4	363.1	28.32	13.820		
6,100.0	5,760.0	5,911.7	5,696.1	17.5	14.7	-80.63	-580.7	41.3	389.6	358.8	30.84	12.635		
6,133.9	5,760.0	5,942.5	5,704.9	17.9	15.1	-81.94	-610.2	40.6	389.4	357.7	31.75	12.265		
6,200.0	5,760.0	5,998.6	5,716.4	18.8	15.8	-83.66	-665.1	39.4	390.4	356.9	33.43	11.677		
6,300.0	5,760.0	6,085.5	5,724.1	20.1	16.9	-84.85	-751.5	38.8	395.1	359.1	36.06	10.957		
6,400.0	5,760.0	6,179.4	5,725.0	21.5	18.2	-85.07	-845.4	40.0	402.6	363.8	38.82	10.373		
6,500.0	5,760.0	6,279.0	5,723.7	23.0	19.6	-84.98	-945.0	41.7	410.8	369.0	41.79	9.830		
6,600.0	5,760.0	6,369.0	5,722.8	24.6	20.8	-84.95	-1,035.0	43.2	418.9	374.4	44.56	9.402		
6,700.0	5,760.0	6,466.6	5,722.7	26.0	22.3	-85.05	-1,132.5	47.4	427.6	380.3	47.26	9.047		
6,800.0	5,760.0	6,581.0	5,722.1	27.4	24.0	-85.02	-1,246.9	49.9	430.7	380.3	50.33	8.556		
6,900.0	5,760.0	6,668.7	5,720.8	29.0	25.4	-84.88	-1,334.5	52.6	433.7	380.4	53.34	8.130		
7,000.0	5,760.0	6,791.6	5,720.3	30.7	27.3	-84.82	-1,457.4	53.6	434.5	377.6	56.94	7.631		
7,100.0	5,760.0	6,902.2	5,720.0	32.4	29.0	-84.73	-1,567.9	49.8	431.0	370.7	60.39	7.137		
7,200.0	5,760.0	6,993.8	5,719.6	34.2	30.4	-84.65	-1,659.4	47.2	428.2	364.6	63.57	6.736		
7,300.0	5,760.0	7,090.8	5,721.4	35.9	32.0	-84.87	-1,756.4	45.3	426.2	359.2	66.96	6.364		
7,400.0	5,760.0	7,196.1	5,721.2	37.7	33.8	-84.82	-1,861.7	43.3	424.3	353.7	70.56	6.013		
7,459.3	5,760.0	7,244.5	5,720.9	38.7	34.6	-84.78	-1,910.1	42.6	423.5	351.1	72.41	5.848		
7,500.0	5,760.0	7,282.1	5,721.0	39.5	35.2	-84.78	-1,947.7	42.9	423.7	349.9	73.77	5.744		
7,600.0	5,760.0	7,375.1	5,720.1	41.3	36.8	-84.68	-2,040.6	44.0	425.1	347.9	77.16	5.509		
7,700.0	5,760.0	7,473.8	5,722.7	43.1	38.4	-85.06	-2,139.3	47.2	428.0	347.4	80.59	5.311		
7,800.0	5,760.0	7,574.5	5,725.2	44.9	40.2	-85.44	-2,239.9	50.3	430.9	346.7	84.23	5.116		
7,900.0	5,760.0	7,682.3	5,726.8	46.7	42.0	-85.67	-2,347.6	53.0	433.3	345.4	87.95	4.927		
8,000.0	5,760.0	7,779.9	5,727.8	48.5	43.7	-85.82	-2,445.3	53.9	434.2	342.7	91.49	4.745		
8,100.0	5,760.0	7,872.8	5,728.1	50.4	45.3	-85.87	-2,538.1	55.8	436.2	341.3	94.92	4.596		
8,200.0	5,760.0	7,987.3	5,728.6	52.2	47.2	-85.94	-2,652.6	56.5	436.7	338.0	98.74	4.423		
8,300.0	5,760.0	8,087.4	5,726.9	54.1	49.0	-85.71	-2,752.7	55.9	436.2	333.9	102.31	4.264		
8,345.4	5,760.0	8,130.9	5,727.3	54.9	49.7	-85.76	-2,796.2	55.8	436.1	332.2	103.88	4.198		
8,400.0	5,760.0	8,179.9	5,727.5	55.9	50.6	-85.80	-2,845.2	56.1	436.4	330.6	105.77	4.126		
8,500.0	5,760.0	8,276.7	5,727.2	57.8	52.2	-85.78	-2,941.9	58.5	438.9	329.6	109.31	4.015		
8,600.0	5,760.0	8,384.0	5,726.9	59.6	54.1	-85.75	-3,049.2	59.1	439.4	326.4	113.00	3.888		
8,700.0	5,760.0	8,488.7	5,727.2	61.5	55.9	-85.78	-3,153.9	59.4	439.7	323.0	116.69	3.768		
8,800.0	5,760.0	8,587.2	5,725.8	63.4	57.6	-85.60	-3,252.4	58.8	439.2	318.9	120.28	3.651		
8,900.0	5,760.0	8,687.0	5,725.9	65.2	59.3	-85.61	-3,352.2	58.3	438.7	314.9	123.82	3.543		
8,982.3	5,760.0	8,769.3	5,727.0	66.8	60.8	-85.75	-3,434.5	58.3	438.6	311.7	126.85	3.457		
9,000.0	5,760.0	8,785.1	5,727.2	67.1	61.0	-85.78	-3,450.3	58.3	438.5	311.1	127.46	3.441		
9,100.0	5,760.0	8,886.8	5,728.3	69.0	62.8	-85.93	-3,552.0	58.7	438.9	307.8	131.15	3.347		
9,200.0	5,760.0	8,989.9	5,728.3	70.9	64.6	-85.91	-3,655.1	57.7	438.0	303.1	134.82	3.249		
9,279.3	5,760.0	9,064.9	5,726.7	72.4	66.0	-85.70	-3,730.0	57.2	437.6	299.9	137.62	3.179		
9,300.0	5,760.0	9,084.6	5,726.2	72.8	66.3	-85.63	-3,749.8	57.2	437.6	299.2	138.34	3.163		
9,359.8	5,760.0	9,145.4	5,724.4	73.9	67.4	-85.40	-3,810.5	57.0	437.5	297.0	140.51	3.114		
9,400.0	5,760.0	9,182.1	5,723.1	74.6	68.0	-85.23	-3,847.2	57.1	437.7	295.8	141.88	3.085		
9,500.0	5,760.0	9,265.0	5,722.1	76.5	69.5	-85.12	-3,930.1	59.4	440.6	295.4	145.18	3.035		
9,600.0	5,760.0	9,357.0	5,721.4	78.4	71.1	-85.09	-4,021.9	64.5	446.2	297.5	148.71	3.001		

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

# Anticollision Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Reference Site:</b>	S27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Razor #27L-3401B	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S27-T10N-R58W - RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 109-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		
9,700.0	5,760.0	9,462.4	5,719.2	80.3	73.0	-84.88	-4,127.1	70.7	452.2	299.7	152.49	2.966		
9,800.0	5,760.0	9,566.2	5,715.7	82.2	74.8	-84.49	-4,230.7	74.6	456.3	300.2	156.10	2.923		
9,900.0	5,760.0	9,660.5	5,714.1	84.1	76.5	-84.34	-4,325.0	79.2	461.3	301.6	159.66	2.889		
10,000.0	5,760.0	9,765.6	5,713.0	86.0	78.4	-84.27	-4,429.9	84.4	466.3	302.9	163.39	2.854		
10,100.0	5,760.0	9,859.1	5,713.2	87.9	80.0	-84.35	-4,523.2	89.6	471.8	304.8	166.96	2.826		
10,200.0	5,760.0	9,974.1	5,714.4	89.8	82.0	-84.56	-4,638.1	94.3	475.7	304.8	170.96	2.783		
10,300.0	5,760.0	10,073.5	5,714.6	91.7	83.8	-84.62	-4,737.5	97.1	478.5	303.8	174.66	2.740		
10,400.0	5,760.0	10,170.6	5,713.2	93.6	85.6	-84.47	-4,834.6	99.9	481.5	303.2	178.30	2.701		
10,500.0	5,760.0	10,274.1	5,713.7	95.5	87.4	-84.57	-4,938.0	103.3	484.7	302.7	182.02	2.663		
10,600.0	5,760.0	10,370.8	5,715.8	97.4	89.1	-84.86	-5,034.6	106.2	487.5	301.8	185.73	2.625		
10,700.0	5,760.0	10,466.7	5,716.8	99.3	90.9	-85.01	-5,130.4	110.0	491.3	301.9	189.43	2.594		
10,800.0	5,760.0	10,571.3	5,716.1	101.2	92.8	-84.97	-5,235.0	113.8	495.1	301.8	193.24	2.562		
10,900.0	5,760.0	10,674.9	5,714.9	103.1	94.6	-84.87	-5,338.4	117.7	498.9	301.9	196.97	2.533 SF		

## Anticollision Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #27L-3401B
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Reference Site:</b>	S27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.4ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Razor #27L-3401B	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4771.4ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Razor #27L-3401B  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 1.06°

