

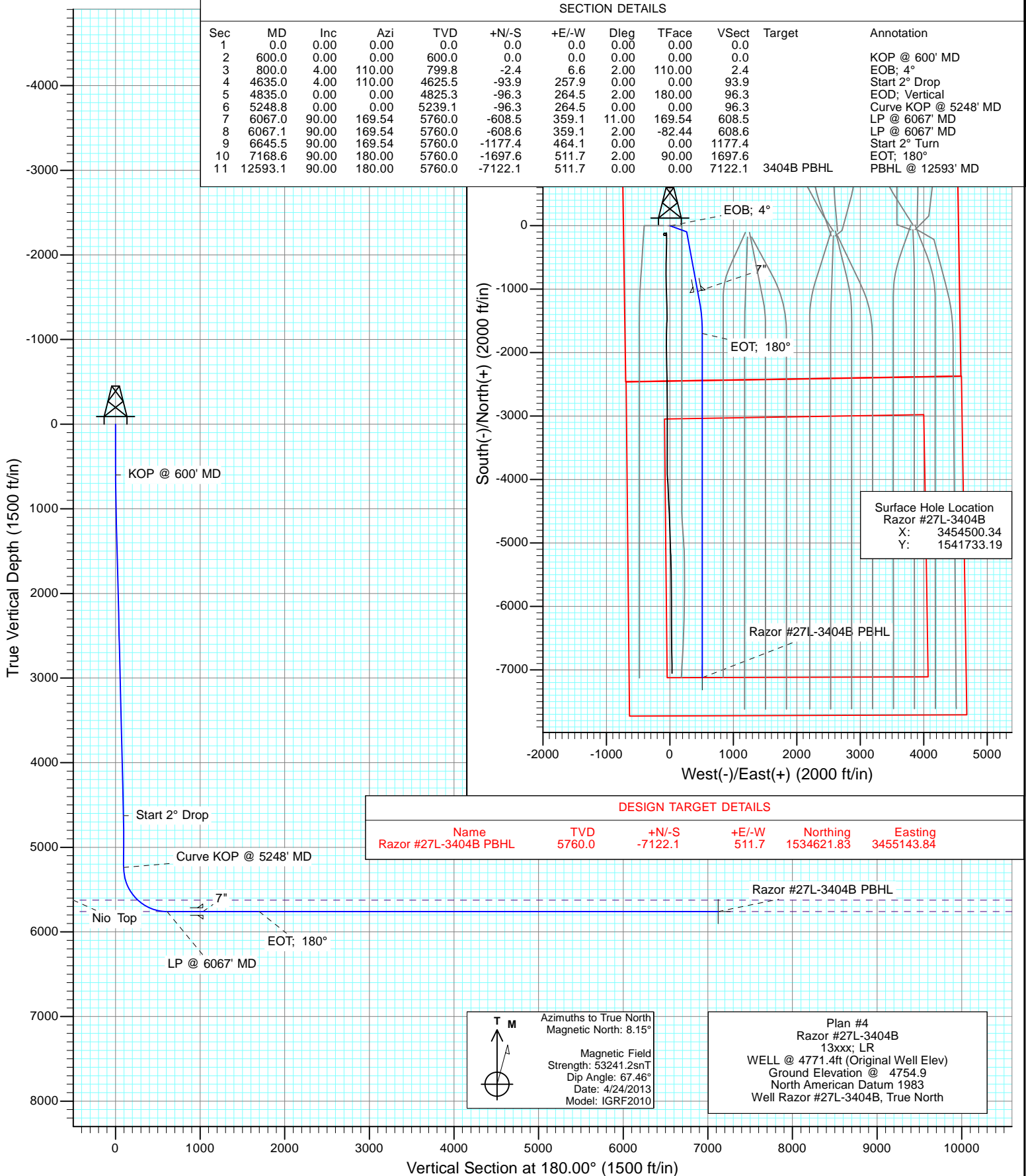


Project: Weld County, CO
Site: S27-T10N-R58W
Well: Razor #27L-3404B
Wellbore: Hz
Design: Plan #4



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0		KOP @ 600' MD
3	800.0	4.00	110.00	799.8	-2.4	6.6	2.00	110.00	2.4		EOB; 4°
4	4635.0	4.00	110.00	4625.5	-93.9	257.9	0.00	0.00	93.9		Start 2° Drop
5	4835.0	0.00	0.00	4825.3	-96.3	264.5	2.00	180.00	96.3		EOD; Vertical
6	5248.8	0.00	0.00	5239.1	-96.3	264.5	0.00	0.00	96.3		Curve KOP @ 5248' MD
7	6067.0	90.00	169.54	5760.0	-608.5	359.1	11.00	169.54	608.5		LP @ 6067' MD
8	6067.1	90.00	169.54	5760.0	-608.6	359.1	2.00	-82.44	608.6		LP @ 6067' MD
9	6645.5	90.00	169.54	5760.0	-1177.4	464.1	0.00	0.00	1177.4		Start 2° Turn
10	7168.6	90.00	180.00	5760.0	-1697.6	511.7	2.00	90.00	1697.6		EOT; 180°
11	12593.1	90.00	180.00	5760.0	-7122.1	511.7	0.00	0.00	7122.1	3404B PBHL	PBHL @ 12593' MD



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #27L-3404B
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

Project	Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		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-3404B					
Well Position	+N/-S	0.0 ft	Northing:	1,541,733.19 ft	Latitude:	40.808881
	+E/-W	0.0 ft	Easting:	3,454,500.34 ft	Longitude:	-103.858131
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,754.9 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	4/24/2013	8.15	67.46	53,241

Design	Plan #4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	180.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	4.00	110.00	799.8	-2.4	6.6	2.00	2.00	0.00	110.00	
4,635.0	4.00	110.00	4,625.5	-93.9	257.9	0.00	0.00	0.00	0.00	
4,835.0	0.00	0.00	4,825.3	-96.3	264.5	2.00	-2.00	0.00	180.00	
5,248.8	0.00	0.00	5,239.1	-96.3	264.5	0.00	0.00	0.00	0.00	
6,067.0	90.00	169.54	5,760.0	-608.5	359.1	11.00	11.00	0.00	169.54	
6,067.1	90.00	169.54	5,760.0	-608.6	359.1	2.00	0.26	-1.98	-82.44	
6,645.5	90.00	169.54	5,760.0	-1,177.4	464.1	0.00	0.00	0.00	0.00	
7,168.6	90.00	180.00	5,760.0	-1,697.6	511.7	2.00	0.00	2.00	90.00	
12,593.1	90.00	180.00	5,760.0	-7,122.1	511.7	0.00	0.00	0.00	0.00	Razor #27L-3404B Pf

Planning Report

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Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600' MD
700.0	2.00	110.00	700.0	-0.6	1.6	0.6	2.00	2.00	
800.0	4.00	110.00	799.8	-2.4	6.6	2.4	2.00	2.00	EOB; 4°
900.0	4.00	110.00	899.6	-4.8	13.1	4.8	0.00	0.00	
1,000.0	4.00	110.00	999.4	-7.2	19.7	7.2	0.00	0.00	
1,100.0	4.00	110.00	1,099.1	-9.5	26.2	9.5	0.00	0.00	
1,200.0	4.00	110.00	1,198.9	-11.9	32.8	11.9	0.00	0.00	
1,300.0	4.00	110.00	1,298.6	-14.3	39.3	14.3	0.00	0.00	
1,400.0	4.00	110.00	1,398.4	-16.7	45.9	16.7	0.00	0.00	
1,500.0	4.00	110.00	1,498.1	-19.1	52.4	19.1	0.00	0.00	
1,600.0	4.00	110.00	1,597.9	-21.5	59.0	21.5	0.00	0.00	
1,700.0	4.00	110.00	1,697.6	-23.9	65.6	23.9	0.00	0.00	
1,800.0	4.00	110.00	1,797.4	-26.2	72.1	26.2	0.00	0.00	
1,900.0	4.00	110.00	1,897.2	-28.6	78.7	28.6	0.00	0.00	
2,000.0	4.00	110.00	1,996.9	-31.0	85.2	31.0	0.00	0.00	
2,100.0	4.00	110.00	2,096.7	-33.4	91.8	33.4	0.00	0.00	
2,200.0	4.00	110.00	2,196.4	-35.8	98.3	35.8	0.00	0.00	
2,300.0	4.00	110.00	2,296.2	-38.2	104.9	38.2	0.00	0.00	
2,400.0	4.00	110.00	2,395.9	-40.6	111.4	40.6	0.00	0.00	
2,500.0	4.00	110.00	2,495.7	-42.9	118.0	42.9	0.00	0.00	
2,600.0	4.00	110.00	2,595.5	-45.3	124.5	45.3	0.00	0.00	
2,700.0	4.00	110.00	2,695.2	-47.7	131.1	47.7	0.00	0.00	
2,800.0	4.00	110.00	2,795.0	-50.1	137.7	50.1	0.00	0.00	
2,900.0	4.00	110.00	2,894.7	-52.5	144.2	52.5	0.00	0.00	
3,000.0	4.00	110.00	2,994.5	-54.9	150.8	54.9	0.00	0.00	
3,100.0	4.00	110.00	3,094.2	-57.3	157.3	57.3	0.00	0.00	
3,200.0	4.00	110.00	3,194.0	-59.6	163.9	59.6	0.00	0.00	
3,300.0	4.00	110.00	3,293.7	-62.0	170.4	62.0	0.00	0.00	
3,400.0	4.00	110.00	3,393.5	-64.4	177.0	64.4	0.00	0.00	
3,500.0	4.00	110.00	3,493.3	-66.8	183.5	66.8	0.00	0.00	
3,600.0	4.00	110.00	3,593.0	-69.2	190.1	69.2	0.00	0.00	
3,700.0	4.00	110.00	3,692.8	-71.6	196.7	71.6	0.00	0.00	
3,800.0	4.00	110.00	3,792.5	-74.0	203.2	74.0	0.00	0.00	
3,900.0	4.00	110.00	3,892.3	-76.3	209.8	76.3	0.00	0.00	
4,000.0	4.00	110.00	3,992.0	-78.7	216.3	78.7	0.00	0.00	
4,100.0	4.00	110.00	4,091.8	-81.1	222.9	81.1	0.00	0.00	
4,200.0	4.00	110.00	4,191.6	-83.5	229.4	83.5	0.00	0.00	
4,300.0	4.00	110.00	4,291.3	-85.9	236.0	85.9	0.00	0.00	
4,400.0	4.00	110.00	4,391.1	-88.3	242.5	88.3	0.00	0.00	
4,500.0	4.00	110.00	4,490.8	-90.7	249.1	90.7	0.00	0.00	
4,600.0	4.00	110.00	4,590.6	-93.0	255.6	93.0	0.00	0.00	
4,635.0	4.00	110.00	4,625.5	-93.9	257.9	93.9	0.00	0.00	Start 2° Drop
4,700.0	2.70	110.00	4,690.4	-95.2	261.5	95.2	2.00	-2.00	
4,800.0	0.70	110.00	4,790.3	-96.2	264.3	96.2	2.00	-2.00	
4,835.0	0.00	0.00	4,825.3	-96.3	264.5	96.3	2.00	-2.00	EOD; Vertical
4,900.0	0.00	0.00	4,890.3	-96.3	264.5	96.3	0.00	0.00	

Planning Report

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Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

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
5,000.0	0.00	0.00	4,990.3	-96.3	264.5	96.3	0.00	0.00	
5,100.0	0.00	0.00	5,090.3	-96.3	264.5	96.3	0.00	0.00	
5,200.0	0.00	0.00	5,190.3	-96.3	264.5	96.3	0.00	0.00	
5,248.8	0.00	0.00	5,239.1	-96.3	264.5	96.3	0.00	0.00	Curve KOP @ 5248' MD
5,300.0	5.63	169.54	5,290.3	-98.7	265.0	98.7	11.00	11.00	
5,400.0	16.63	169.54	5,388.2	-117.7	268.5	117.7	11.00	11.00	
5,500.0	27.63	169.54	5,480.7	-154.7	275.3	154.7	11.00	11.00	
5,600.0	38.63	169.54	5,564.3	-208.4	285.2	208.4	11.00	11.00	
5,683.4	47.80	169.54	5,625.0	-264.4	295.5	264.4	11.00	11.00	Nio Top
5,700.0	49.63	169.54	5,636.0	-276.7	297.8	276.7	11.00	11.00	
5,800.0	60.63	169.54	5,693.1	-357.3	312.7	357.3	11.00	11.00	
5,900.0	71.63	169.54	5,733.5	-447.1	329.3	447.1	11.00	11.00	
6,000.0	82.63	169.54	5,755.7	-542.8	346.9	542.8	11.00	11.00	
6,064.9	89.78	169.54	5,760.0	-606.5	358.7	606.5	11.00	11.00	Nio B - Target Line
6,067.0	90.00	169.54	5,760.0	-608.5	359.1	608.5	10.90	10.90	LP @ 6067' MD
6,067.1	90.00	169.54	5,760.0	-608.6	359.1	608.6	2.43	0.32	
6,100.0	90.00	169.54	5,760.0	-641.0	365.1	641.0	0.00	0.00	
6,200.0	90.00	169.54	5,760.0	-739.3	383.2	739.3	0.00	0.00	
6,300.0	90.00	169.54	5,760.0	-837.6	401.4	837.6	0.00	0.00	
6,400.0	90.00	169.54	5,760.0	-936.0	419.5	936.0	0.00	0.00	
6,500.0	90.00	169.54	5,760.0	-1,034.3	437.7	1,034.3	0.00	0.00	7"
6,600.0	90.00	169.54	5,760.0	-1,132.6	455.8	1,132.6	0.00	0.00	
6,645.5	90.00	169.54	5,760.0	-1,177.4	464.1	1,177.4	0.00	0.00	Start 2° Turn
6,700.0	90.00	170.63	5,760.0	-1,231.1	473.5	1,231.1	2.00	0.00	
6,800.0	90.00	172.63	5,760.0	-1,330.0	488.1	1,330.0	2.00	0.00	
6,900.0	90.00	174.63	5,760.0	-1,429.4	499.2	1,429.4	2.00	0.00	
7,000.0	90.00	176.63	5,760.0	-1,529.1	506.8	1,529.1	2.00	0.00	
7,100.0	90.00	178.63	5,760.0	-1,629.0	510.9	1,629.0	2.00	0.00	
7,168.6	90.00	180.00	5,760.0	-1,697.6	511.7	1,697.6	2.00	0.00	EOT; 180°
7,200.0	90.00	180.00	5,760.0	-1,729.0	511.7	1,729.0	0.00	0.00	
7,300.0	90.00	180.00	5,760.0	-1,829.0	511.7	1,829.0	0.00	0.00	
7,400.0	90.00	180.00	5,760.0	-1,929.0	511.7	1,929.0	0.00	0.00	
7,500.0	90.00	180.00	5,760.0	-2,029.0	511.7	2,029.0	0.00	0.00	
7,600.0	90.00	180.00	5,760.0	-2,129.0	511.7	2,129.0	0.00	0.00	
7,700.0	90.00	180.00	5,760.0	-2,229.0	511.7	2,229.0	0.00	0.00	
7,800.0	90.00	180.00	5,760.0	-2,329.0	511.7	2,329.0	0.00	0.00	
7,900.0	90.00	180.00	5,760.0	-2,429.0	511.7	2,429.0	0.00	0.00	
8,000.0	90.00	180.00	5,760.0	-2,529.0	511.7	2,529.0	0.00	0.00	
8,100.0	90.00	180.00	5,760.0	-2,629.0	511.7	2,629.0	0.00	0.00	
8,200.0	90.00	180.00	5,760.0	-2,729.0	511.7	2,729.0	0.00	0.00	
8,300.0	90.00	180.00	5,760.0	-2,829.0	511.7	2,829.0	0.00	0.00	
8,400.0	90.00	180.00	5,760.0	-2,929.0	511.7	2,929.0	0.00	0.00	
8,500.0	90.00	180.00	5,760.0	-3,029.0	511.7	3,029.0	0.00	0.00	
8,600.0	90.00	180.00	5,760.0	-3,129.0	511.7	3,129.0	0.00	0.00	
8,700.0	90.00	180.00	5,760.0	-3,229.0	511.7	3,229.0	0.00	0.00	
8,800.0	90.00	180.00	5,760.0	-3,329.0	511.7	3,329.0	0.00	0.00	
8,900.0	90.00	180.00	5,760.0	-3,429.0	511.7	3,429.0	0.00	0.00	
9,000.0	90.00	180.00	5,760.0	-3,529.0	511.7	3,529.0	0.00	0.00	
9,100.0	90.00	180.00	5,760.0	-3,629.0	511.7	3,629.0	0.00	0.00	
9,200.0	90.00	180.00	5,760.0	-3,729.0	511.7	3,729.0	0.00	0.00	
9,300.0	90.00	180.00	5,760.0	-3,829.0	511.7	3,829.0	0.00	0.00	
9,400.0	90.00	180.00	5,760.0	-3,929.0	511.7	3,929.0	0.00	0.00	

Planning Report

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Project:	Weld County, CO	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

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	-4,029.0	511.7	4,029.0	0.00	0.00	
9,600.0	90.00	180.00	5,760.0	-4,129.0	511.7	4,129.0	0.00	0.00	
9,700.0	90.00	180.00	5,760.0	-4,229.0	511.7	4,229.0	0.00	0.00	
9,800.0	90.00	180.00	5,760.0	-4,329.0	511.7	4,329.0	0.00	0.00	
9,900.0	90.00	180.00	5,760.0	-4,429.0	511.7	4,429.0	0.00	0.00	
10,000.0	90.00	180.00	5,760.0	-4,529.0	511.7	4,529.0	0.00	0.00	
10,100.0	90.00	180.00	5,760.0	-4,629.0	511.7	4,629.0	0.00	0.00	
10,200.0	90.00	180.00	5,760.0	-4,729.0	511.7	4,729.0	0.00	0.00	
10,300.0	90.00	180.00	5,760.0	-4,829.0	511.7	4,829.0	0.00	0.00	
10,400.0	90.00	180.00	5,760.0	-4,929.0	511.7	4,929.0	0.00	0.00	
10,500.0	90.00	180.00	5,760.0	-5,029.0	511.7	5,029.0	0.00	0.00	
10,600.0	90.00	180.00	5,760.0	-5,129.0	511.7	5,129.0	0.00	0.00	
10,700.0	90.00	180.00	5,760.0	-5,229.0	511.7	5,229.0	0.00	0.00	
10,800.0	90.00	180.00	5,760.0	-5,329.0	511.7	5,329.0	0.00	0.00	
10,900.0	90.00	180.00	5,760.0	-5,429.0	511.7	5,429.0	0.00	0.00	
11,000.0	90.00	180.00	5,760.0	-5,529.0	511.7	5,529.0	0.00	0.00	
11,100.0	90.00	180.00	5,760.0	-5,629.0	511.7	5,629.0	0.00	0.00	
11,200.0	90.00	180.00	5,760.0	-5,729.0	511.7	5,729.0	0.00	0.00	
11,300.0	90.00	180.00	5,760.0	-5,829.0	511.7	5,829.0	0.00	0.00	
11,400.0	90.00	180.00	5,760.0	-5,929.0	511.7	5,929.0	0.00	0.00	
11,500.0	90.00	180.00	5,760.0	-6,029.0	511.7	6,029.0	0.00	0.00	
11,600.0	90.00	180.00	5,760.0	-6,129.0	511.7	6,129.0	0.00	0.00	
11,700.0	90.00	180.00	5,760.0	-6,229.0	511.7	6,229.0	0.00	0.00	
11,800.0	90.00	180.00	5,760.0	-6,329.0	511.7	6,329.0	0.00	0.00	
11,900.0	90.00	180.00	5,760.0	-6,429.0	511.7	6,429.0	0.00	0.00	
12,000.0	90.00	180.00	5,760.0	-6,529.0	511.7	6,529.0	0.00	0.00	
12,100.0	90.00	180.00	5,760.0	-6,629.0	511.7	6,629.0	0.00	0.00	
12,200.0	90.00	180.00	5,760.0	-6,729.0	511.7	6,729.0	0.00	0.00	
12,300.0	90.00	180.00	5,760.0	-6,829.0	511.7	6,829.0	0.00	0.00	
12,400.0	90.00	180.00	5,760.0	-6,929.0	511.7	6,929.0	0.00	0.00	
12,500.0	90.00	180.00	5,760.0	-7,029.0	511.7	7,029.0	0.00	0.00	
12,593.1	90.00	180.00	5,760.0	-7,122.1	511.7	7,122.1	0.00	0.00	PBHL @ 12593' MD - Razor #27L-3404B PBHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Razor #27L-3404B PBH	0.00	0.00	5,760.0	-7,122.1	511.7	1,534,621.83	3,455,143.84	40.789333	-103.856283
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
6,500.0	5,760.0	7"	0.000	0.000	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #27L-3404B
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #4		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,683.4	5,625.0	Nio Top		0.00		
6,064.9	5,760.0	Nio B - Target Line		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
600.0	600.0	0.0	0.0	KOP @ 600' MD	
800.0	799.8	-2.4	6.6	EOB; 4°	
4,635.0	4,625.5	-93.9	257.9	Start 2° Drop	
4,835.0	4,825.3	-96.3	264.5	EOD; Vertical	
5,248.8	5,239.1	-96.3	264.5	Curve KOP @ 5248' MD	
6,067.0	5,760.0	-608.5	359.1	LP @ 6067' MD	
6,645.5	5,760.0	-1,177.4	464.1	Start 2° Turn	
7,168.6	5,760.0	-1,697.6	511.7	EOT; 180°	
12,593.1	5,760.0	-7,122.1	511.7	PBHL @ 12593' MD	

Whiting Petroleum Corporation

Weld County, CO

S27-T10N-R58W

Razor #27L-3404B

Hz

Plan #4

Anticollision Report

11 June, 2013

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Reference	Plan #4		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	6/11/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,592.7	Plan #4 (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	7,199.8	7,135.5	340.2	275.0	5.214	CC
Razor #27K-3405A - HZ - Plan #3	12,593.1	12,527.7	340.8	79.3	1.303	Level 3, ES, SF
Razor #27K-3406B - HZ - Plan #3						Out of range
Razor #27K-3407A - HZ - Plan #2						Out of range
Razor #27K-3408B - HZ - Plan #2						Out of range
Razor #27L-3401B - Hz - Plan #3	500.0	500.0	99.1	97.1	49.907	CC, ES
Razor #27L-3401B - Hz - Plan #3	3,500.0	3,466.4	488.4	473.0	31.791	SF
Razor #27L-3403B - Hz - Plan #3	600.0	600.0	32.9	30.5	13.527	CC, ES
Razor #27L-3403B - Hz - Plan #3	11,700.0	11,760.8	287.8	48.9	1.204	Level 2, SF
RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS	167.1	166.6	140.9	140.4	290.574	CC
RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS	400.0	399.5	141.2	139.7	94.964	ES
RAZOR 27-3414H (EXISTING) - EXSITING - SURVEYS	12,511.5	12,378.9	481.4	222.3	1.858	SF

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27K-3405A - 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			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)			
6,300.0	5,760.0	6,325.8	5,667.0	21.9	20.4	-78.54	-920.1	858.8	473.0	433.8	39.20	12.067	
6,400.0	5,760.0	6,400.0	5,667.0	23.5	21.4	-77.90	-993.5	848.0	441.2	399.6	41.63	10.599	
6,500.0	5,760.0	6,464.1	5,667.0	25.1	22.3	-77.39	-1,057.4	842.5	415.0	370.9	44.05	9.421	
6,600.0	5,760.0	6,539.4	5,667.0	26.8	23.4	-76.90	-1,132.6	840.7	394.8	348.1	46.67	8.459	
6,700.0	5,760.0	6,637.8	5,667.0	28.5	24.8	-76.33	-1,231.1	840.7	377.6	327.9	49.70	7.597	
6,800.0	5,760.0	6,736.7	5,667.0	30.0	26.3	-75.86	-1,330.0	840.7	363.5	310.8	52.71	6.896	
6,900.0	5,760.0	6,836.1	5,667.0	31.5	27.8	-75.48	-1,429.4	840.7	352.7	297.0	55.78	6.324	
7,000.0	5,760.0	6,935.8	5,667.0	33.0	29.4	-75.20	-1,529.1	840.7	345.4	286.5	58.89	5.864	
7,100.0	5,760.0	7,035.7	5,667.0	34.6	31.1	-75.04	-1,629.0	840.7	341.4	279.3	62.04	5.502	
7,199.8	5,760.0	7,135.5	5,667.0	36.2	32.7	-74.99	-1,728.8	840.7	340.2	275.0	65.24	5.214 CC	
7,200.0	5,760.0	7,135.7	5,667.0	36.2	32.7	-75.01	-1,729.0	840.7	340.6	275.3	65.26	5.219	
7,300.0	5,760.0	7,235.7	5,667.0	37.9	34.4	-75.01	-1,829.0	840.7	340.6	271.9	68.66	4.961	
7,400.0	5,760.0	7,335.7	5,667.0	39.6	36.2	-75.01	-1,929.0	840.7	340.6	268.5	72.09	4.724	
7,500.0	5,760.0	7,435.7	5,667.0	41.4	37.9	-75.01	-2,029.0	840.7	340.6	265.0	75.55	4.508	
7,600.0	5,760.0	7,535.7	5,667.0	43.2	39.6	-75.01	-2,129.0	840.7	340.6	261.6	79.04	4.309	
7,700.0	5,760.0	7,635.7	5,667.0	44.9	41.4	-75.01	-2,229.0	840.7	340.6	258.1	82.55	4.126	
7,800.0	5,760.0	7,735.7	5,667.0	46.7	43.2	-75.01	-2,329.0	840.7	340.6	254.5	86.08	3.957	
7,900.0	5,760.0	7,835.7	5,667.0	48.5	45.0	-75.01	-2,429.0	840.8	340.6	251.0	89.62	3.801	
8,000.0	5,760.0	7,935.7	5,667.0	50.3	46.8	-75.01	-2,529.0	840.8	340.6	247.4	93.18	3.655	
8,100.0	5,760.0	8,035.7	5,667.0	52.2	48.6	-75.01	-2,629.0	840.8	340.6	243.9	96.75	3.521	
8,200.0	5,760.0	8,135.7	5,667.0	54.0	50.4	-75.01	-2,729.0	840.8	340.6	240.3	100.34	3.395	
8,300.0	5,760.0	8,235.7	5,667.0	55.8	52.3	-75.01	-2,829.0	840.8	340.6	236.7	103.93	3.277	
8,400.0	5,760.0	8,335.7	5,667.0	57.7	54.1	-75.01	-2,929.0	840.8	340.6	233.1	107.53	3.168	
8,500.0	5,760.0	8,435.7	5,667.0	59.5	55.9	-75.01	-3,029.0	840.8	340.6	229.5	111.15	3.065	
8,600.0	5,760.0	8,535.7	5,667.0	61.3	57.8	-75.01	-3,129.0	840.8	340.6	225.9	114.77	2.968	
8,700.0	5,760.0	8,635.7	5,667.0	63.2	59.6	-75.01	-3,229.0	840.8	340.6	222.3	118.39	2.877	
8,800.0	5,760.0	8,735.7	5,667.0	65.0	61.5	-75.01	-3,329.0	840.8	340.7	218.6	122.03	2.792	
8,900.0	5,760.0	8,835.7	5,667.0	66.9	63.3	-75.01	-3,429.0	840.8	340.7	215.0	125.66	2.711	
9,000.0	5,760.0	8,935.7	5,667.0	68.8	65.2	-75.01	-3,529.0	840.8	340.7	211.4	129.31	2.634	
9,100.0	5,760.0	9,035.7	5,667.0	70.6	67.1	-75.01	-3,629.0	840.8	340.7	207.7	132.96	2.562	
9,200.0	5,760.0	9,135.7	5,667.0	72.5	68.9	-75.01	-3,729.0	840.8	340.7	204.1	136.61	2.494	
9,300.0	5,760.0	9,235.7	5,667.0	74.4	70.8	-75.01	-3,829.0	840.8	340.7	200.4	140.27	2.429	
9,400.0	5,760.0	9,335.7	5,667.0	76.2	72.7	-75.01	-3,929.0	840.8	340.7	196.8	143.93	2.367	
9,500.0	5,760.0	9,435.7	5,667.0	78.1	74.6	-75.01	-4,029.0	840.8	340.7	193.1	147.59	2.308	
9,600.0	5,760.0	9,535.7	5,667.0	80.0	76.4	-75.01	-4,129.0	840.8	340.7	189.4	151.26	2.252	
9,700.0	5,760.0	9,635.7	5,667.0	81.9	78.3	-75.01	-4,229.0	840.8	340.7	185.8	154.93	2.199	
9,800.0	5,760.0	9,735.7	5,667.0	83.8	80.2	-75.01	-4,329.0	840.8	340.7	182.1	158.61	2.148	
9,900.0	5,760.0	9,835.7	5,667.0	85.6	82.1	-75.01	-4,429.0	840.8	340.7	178.4	162.28	2.099	
10,000.0	5,760.0	9,935.7	5,667.0	87.5	84.0	-75.01	-4,529.0	840.9	340.7	174.7	165.96	2.053	
10,100.0	5,760.0	10,035.7	5,667.0	89.4	85.9	-75.01	-4,629.0	840.9	340.7	171.1	169.65	2.008	
10,200.0	5,760.0	10,135.7	5,667.0	91.3	87.7	-75.02	-4,729.0	840.9	340.7	167.4	173.33	1.966	
10,300.0	5,760.0	10,235.7	5,667.0	93.2	89.6	-75.02	-4,829.0	840.9	340.7	163.7	177.01	1.925	
10,400.0	5,760.0	10,335.7	5,667.0	95.1	91.5	-75.02	-4,929.0	840.9	340.7	160.0	180.70	1.886	
10,500.0	5,760.0	10,435.7	5,667.0	97.0	93.4	-75.02	-5,029.0	840.9	340.7	156.3	184.39	1.848	
10,600.0	5,760.0	10,535.7	5,667.0	98.9	95.3	-75.02	-5,129.0	840.9	340.7	152.7	188.08	1.812	
10,700.0	5,760.0	10,635.7	5,667.0	100.8	97.2	-75.02	-5,229.0	840.9	340.7	149.0	191.77	1.777	
10,800.0	5,760.0	10,735.7	5,667.0	102.7	99.1	-75.02	-5,329.0	840.9	340.7	145.3	195.47	1.743	
10,900.0	5,760.0	10,835.7	5,667.0	104.6	101.0	-75.02	-5,429.0	840.9	340.8	141.6	199.16	1.711	
11,000.0	5,760.0	10,935.7	5,667.0	106.4	102.9	-75.02	-5,529.0	840.9	340.8	137.9	202.86	1.680	
11,100.0	5,760.0	11,035.7	5,667.0	108.3	104.8	-75.02	-5,629.0	840.9	340.8	134.2	206.56	1.650	
11,200.0	5,760.0	11,135.7	5,667.0	110.2	106.7	-75.02	-5,729.0	840.9	340.8	130.5	210.26	1.621	
11,300.0	5,760.0	11,235.7	5,667.0	112.1	108.6	-75.02	-5,829.0	840.9	340.8	126.8	213.96	1.593	

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27K-3405A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISWWSA 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	Factor		
11,400.0	5,760.0	11,335.7	5,667.0	114.0	110.5	-75.02	-5,929.0	840.9	340.8	123.1	217.66	1.566		
11,500.0	5,760.0	11,435.7	5,667.0	115.9	112.4	-75.02	-6,029.0	840.9	340.8	119.4	221.36	1.539		
11,600.0	5,760.0	11,535.7	5,667.0	117.8	114.3	-75.02	-6,129.0	840.9	340.8	115.7	225.06	1.514		
11,700.0	5,760.0	11,635.7	5,667.0	119.7	116.2	-75.02	-6,229.0	840.9	340.8	112.0	228.77	1.490 Level 3		
11,800.0	5,760.0	11,735.7	5,667.0	121.6	118.1	-75.02	-6,329.0	840.9	340.8	108.3	232.47	1.466 Level 3		
11,900.0	5,760.0	11,835.7	5,667.0	123.6	120.0	-75.02	-6,429.0	840.9	340.8	104.6	236.18	1.443 Level 3		
12,000.0	5,760.0	11,935.7	5,667.0	125.5	121.9	-75.02	-6,529.0	841.0	340.8	100.9	239.89	1.421 Level 3		
12,100.0	5,760.0	12,035.7	5,667.0	127.4	123.8	-75.02	-6,629.0	841.0	340.8	97.2	243.59	1.399 Level 3		
12,200.0	5,760.0	12,135.7	5,667.0	129.3	125.7	-75.02	-6,729.0	841.0	340.8	93.5	247.30	1.378 Level 3		
12,300.0	5,760.0	12,235.7	5,667.0	131.2	127.6	-75.02	-6,829.0	841.0	340.8	89.8	251.01	1.358 Level 3		
12,400.0	5,760.0	12,335.7	5,667.0	133.1	129.5	-75.02	-6,929.0	841.0	340.8	86.1	254.72	1.338 Level 3		
12,500.0	5,760.0	12,435.7	5,667.0	135.0	131.5	-75.02	-7,029.0	841.0	340.8	82.4	258.43	1.319 Level 3		
12,555.4	5,760.0	12,491.1	5,667.0	135.8	132.5	-75.02	-7,084.4	841.0	340.8	80.5	260.30	1.309 Level 3		
12,593.1	5,760.0	12,527.7	5,667.0	136.4	133.2	-75.02	-7,121.0	841.0	340.8	79.3	261.54	1.303 Level 3, ES, SF		

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27L-3401B - 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			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	-89.99	0.0	-99.1	99.1					
100.0	100.0	100.0	100.0	0.1	0.1	-89.99	0.0	-99.1	99.1	98.9	0.19	528.056		
200.0	200.0	200.0	200.0	0.3	0.3	-89.99	0.0	-99.1	99.1	98.5	0.64	155.530		
300.0	300.0	300.0	300.0	0.5	0.5	-89.99	0.0	-99.1	99.1	98.0	1.09	91.195		
400.0	400.0	400.0	400.0	0.8	0.8	-89.99	0.0	-99.1	99.1	97.6	1.54	64.510		
500.0	500.0	500.0	500.0	1.0	1.0	-89.99	0.0	-99.1	99.1	97.1	1.99	49.907	CC, ES	
600.0	600.0	596.6	596.6	1.2	1.2	-89.99	0.0	-100.7	100.8	98.4	2.42	41.716		
700.0	700.0	692.9	692.7	1.4	1.4	160.27	0.0	-105.6	107.5	104.6	2.83	37.947		
800.0	799.8	791.9	791.5	1.6	1.6	161.02	0.0	-112.5	119.4	116.1	3.25	36.741		
900.0	899.6	891.0	890.3	1.8	1.9	161.94	0.0	-119.4	132.9	129.3	3.66	36.297		
1,000.0	999.4	990.0	989.1	2.1	2.1	162.69	0.0	-126.3	146.5	142.4	4.08	35.867		
1,100.0	1,099.1	1,089.1	1,088.0	2.3	2.3	163.31	0.0	-133.2	160.1	155.6	4.52	35.464		
1,200.0	1,198.9	1,188.1	1,186.8	2.6	2.6	163.84	0.0	-140.1	173.7	168.8	4.95	35.097		
1,300.0	1,298.6	1,287.2	1,285.6	2.8	2.8	164.29	0.0	-147.0	187.4	182.0	5.39	34.765		
1,400.0	1,398.4	1,386.2	1,384.4	3.0	3.1	164.67	0.0	-154.0	201.0	195.2	5.83	34.466		
1,500.0	1,498.1	1,485.3	1,483.2	3.3	3.3	165.01	0.0	-160.9	214.7	208.4	6.28	34.196		
1,600.0	1,597.9	1,584.3	1,582.0	3.5	3.6	165.31	0.0	-167.8	228.3	221.6	6.72	33.955		
1,700.0	1,697.6	1,683.4	1,680.8	3.8	3.8	165.57	0.0	-174.7	242.0	234.8	7.17	33.736		
1,800.0	1,797.4	1,782.5	1,779.7	4.1	4.1	165.81	0.0	-181.6	255.7	248.0	7.62	33.538		
1,900.0	1,897.2	1,881.5	1,878.5	4.3	4.4	166.02	0.0	-188.5	269.3	261.3	8.07	33.357		
2,000.0	1,996.9	1,980.6	1,977.3	4.6	4.6	166.21	0.0	-195.4	283.0	274.5	8.53	33.193		
2,100.0	2,096.7	2,079.6	2,076.1	4.8	4.9	166.39	0.0	-202.3	296.7	287.7	8.98	33.043		
2,200.0	2,196.4	2,178.7	2,174.9	5.1	5.1	166.54	0.0	-209.2	310.4	300.9	9.43	32.905		
2,300.0	2,296.2	2,277.7	2,273.7	5.3	5.4	166.69	0.0	-216.1	324.1	314.2	9.89	32.777		
2,400.0	2,395.9	2,376.8	2,372.6	5.6	5.6	166.82	0.0	-223.1	337.8	327.4	10.34	32.660		
2,500.0	2,495.7	2,475.9	2,471.4	5.8	5.9	166.95	0.0	-230.0	351.4	340.6	10.80	32.551		
2,600.0	2,595.5	2,574.9	2,570.2	6.1	6.2	167.06	0.0	-236.9	365.1	353.9	11.25	32.451		
2,700.0	2,695.2	2,674.0	2,669.0	6.4	6.4	167.16	0.0	-243.8	378.8	367.1	11.71	32.357		
2,800.0	2,795.0	2,773.0	2,767.8	6.6	6.7	167.26	0.0	-250.7	392.5	380.3	12.16	32.269		
2,900.0	2,894.7	2,872.1	2,866.6	6.9	6.9	167.35	0.0	-257.6	406.2	393.6	12.62	32.187		
3,000.0	2,994.5	2,971.1	2,965.4	7.1	7.2	167.44	0.0	-264.5	419.9	406.8	13.08	32.111		
3,100.0	3,094.2	3,070.2	3,064.3	7.4	7.4	167.52	0.0	-271.4	433.6	420.1	13.53	32.039		
3,200.0	3,194.0	3,169.2	3,163.1	7.7	7.7	167.60	0.0	-278.3	447.3	433.3	13.99	31.971		
3,300.0	3,293.7	3,268.3	3,261.9	7.9	8.0	167.67	0.0	-285.2	461.0	446.5	14.45	31.908		
3,400.0	3,393.5	3,367.4	3,360.7	8.2	8.2	167.73	0.0	-292.1	474.7	459.8	14.90	31.848		
3,500.0	3,493.3	3,466.4	3,459.5	8.4	8.5	167.80	0.0	-299.1	488.4	473.0	15.36	31.791	SF	

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	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			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	-90.02	0.0	-32.9	32.9	32.8	0.19	175.527		
100.0	100.0	100.0	100.0	0.1	0.1	-90.02	0.0	-32.9	32.9	32.8	0.19	175.527		
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-32.9	32.9	32.3	0.64	51.698		
300.0	300.0	300.0	300.0	0.5	0.5	-90.02	0.0	-32.9	32.9	31.9	1.09	30.313		
400.0	400.0	400.0	400.0	0.8	0.8	-90.02	0.0	-32.9	32.9	31.4	1.54	21.443		
500.0	500.0	500.0	500.0	1.0	1.0	-90.02	0.0	-32.9	32.9	31.0	1.99	16.589		
600.0	600.0	600.0	600.0	1.2	1.2	-90.02	0.0	-32.9	32.9	30.5	2.44	13.527 CC, ES		
700.0	700.0	700.0	700.0	1.4	1.4	160.96	0.0	-32.9	34.6	31.7	2.87	12.060		
800.0	799.8	799.8	799.8	1.6	1.7	163.40	0.0	-32.9	39.6	36.3	3.29	12.028		
900.0	899.6	899.6	899.6	1.8	1.9	165.87	0.0	-32.9	46.3	42.6	3.72	12.457		
1,000.0	999.4	999.4	999.4	2.1	2.1	167.71	0.0	-32.9	53.1	48.9	4.15	12.794		
1,100.0	1,099.1	1,099.1	1,099.1	2.3	2.3	169.13	0.0	-32.9	59.9	55.3	4.59	13.065		
1,200.0	1,198.9	1,198.9	1,198.9	2.6	2.6	170.25	0.0	-32.9	66.8	61.8	5.03	13.287		
1,300.0	1,298.6	1,298.6	1,298.6	2.8	2.8	171.17	0.0	-32.9	73.7	68.2	5.47	13.471		
1,400.0	1,398.4	1,398.4	1,398.4	3.0	3.0	171.93	0.0	-32.9	80.6	74.7	5.91	13.626		
1,500.0	1,498.1	1,498.1	1,498.1	3.3	3.2	172.58	0.0	-32.9	87.5	81.1	6.36	13.759		
1,600.0	1,597.9	1,597.9	1,597.9	3.5	3.5	173.12	0.0	-32.9	94.4	87.6	6.81	13.873		
1,700.0	1,697.6	1,697.6	1,697.6	3.8	3.7	173.59	0.0	-32.9	101.3	94.1	7.25	13.972		
1,800.0	1,797.4	1,797.4	1,797.4	4.1	3.9	174.01	0.0	-32.9	108.3	100.6	7.70	14.059		
1,900.0	1,897.2	1,901.1	1,901.0	4.3	4.1	174.61	0.0	-31.2	113.6	105.4	8.14	13.945		
2,000.0	1,996.9	2,004.8	2,004.7	4.6	4.3	175.64	0.0	-25.6	115.4	106.8	8.57	13.457		
2,100.0	2,096.7	2,104.8	2,104.4	4.8	4.5	176.83	0.0	-18.7	115.6	106.6	9.00	12.848		
2,200.0	2,196.4	2,204.8	2,204.1	5.1	4.8	178.02	0.0	-11.7	115.9	106.5	9.43	12.296		
2,300.0	2,296.2	2,304.8	2,303.8	5.3	5.0	179.20	0.0	-4.7	116.3	106.4	9.86	11.793		
2,400.0	2,395.9	2,404.7	2,403.6	5.6	5.2	-179.62	0.0	2.3	116.7	106.4	10.30	11.335		
2,500.0	2,495.7	2,504.7	2,503.3	5.8	5.4	-178.46	0.0	9.2	117.2	106.4	10.73	10.914		
2,600.0	2,595.5	2,604.7	2,603.0	6.1	5.7	-177.30	0.0	16.2	117.7	106.5	11.18	10.529		
2,700.0	2,695.2	2,704.6	2,702.8	6.4	5.9	-176.16	0.0	23.2	118.2	106.6	11.62	10.175		
2,800.0	2,795.0	2,804.6	2,802.5	6.6	6.1	-175.03	0.0	30.2	118.8	106.8	12.07	9.849		
2,900.0	2,894.7	2,904.6	2,902.2	6.9	6.4	-173.90	0.0	37.1	119.5	107.0	12.51	9.547		
3,000.0	2,994.5	3,004.5	3,001.9	7.1	6.6	-172.79	0.0	44.1	120.2	107.2	12.97	9.268		
3,100.0	3,094.2	3,104.5	3,101.7	7.4	6.8	-171.70	0.0	51.1	120.9	107.5	13.42	9.010		
3,200.0	3,194.0	3,204.5	3,201.4	7.7	7.1	-170.61	0.0	58.1	121.7	107.8	13.88	8.770		
3,300.0	3,293.7	3,304.5	3,301.1	7.9	7.3	-169.55	0.0	65.0	122.5	108.2	14.33	8.547		
3,400.0	3,393.5	3,404.4	3,400.8	8.2	7.6	-168.49	0.0	72.0	123.4	108.6	14.79	8.340		
3,500.0	3,493.3	3,504.4	3,500.6	8.4	7.8	-167.45	0.0	79.0	124.3	109.0	15.26	8.146		
3,600.0	3,593.0	3,604.4	3,600.3	8.7	8.1	-166.43	0.0	86.0	125.2	109.5	15.72	7.965		
3,700.0	3,692.8	3,704.3	3,700.0	9.0	8.3	-165.42	0.0	92.9	126.2	110.0	16.19	7.796		
3,800.0	3,792.5	3,804.3	3,799.8	9.2	8.6	-164.43	0.0	99.9	127.3	110.6	16.66	7.637		
3,900.0	3,892.3	3,904.3	3,899.5	9.5	8.8	-163.45	0.0	106.9	128.3	111.2	17.13	7.489		
4,000.0	3,992.0	4,004.3	3,999.2	9.7	9.1	-162.49	0.0	113.8	129.4	111.8	17.61	7.349		
4,100.0	4,091.8	4,104.2	4,098.9	10.0	9.3	-161.55	0.0	120.8	130.6	112.5	18.09	7.219		
4,200.0	4,191.6	4,204.2	4,198.7	10.3	9.6	-160.63	0.0	127.8	131.7	113.2	18.56	7.095		
4,300.0	4,291.3	4,304.2	4,298.4	10.5	9.8	-159.72	0.0	134.8	132.9	113.9	19.05	6.979		
4,400.0	4,391.1	4,404.1	4,398.1	10.8	10.1	-158.82	0.0	141.7	134.2	114.6	19.53	6.870		
4,500.0	4,490.8	4,504.1	4,497.8	11.1	10.3	-157.94	0.0	148.7	135.4	115.4	20.01	6.767		
4,600.0	4,590.6	4,604.1	4,597.6	11.3	10.6	-157.08	0.0	155.7	136.7	116.2	20.50	6.670		
4,700.0	4,690.4	4,704.0	4,697.3	11.5	10.8	-156.12	0.0	162.7	137.4	116.4	20.98	6.549		
4,800.0	4,790.3	4,803.9	4,797.0	11.7	11.1	-154.56	0.0	169.6	135.1	113.7	21.43	6.306		
4,900.0	4,890.3	4,903.7	4,896.5	11.9	11.3	-42.40	0.0	176.6	130.5	108.2	22.27	5.861		
5,000.0	4,990.3	5,002.0	4,994.5	12.1	11.5	-40.26	0.0	183.0	126.2	103.5	22.74	5.549		
5,100.0	5,090.3	5,100.0	5,092.5	12.3	11.7	-39.07	0.0	186.4	124.0	100.8	23.15	5.356		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27L-3403B - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-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)	
5,150.3	5,140.6	5,148.2	5,140.7	12.3	11.8	-38.91	0.0	186.8	123.7	100.4	23.34	5.300		
5,200.0	5,190.3	5,197.8	5,190.3	12.4	11.9	-38.91	0.0	186.8	123.7	100.2	23.53	5.257		
5,300.0	5,290.3	5,309.4	5,301.8	12.6	12.1	151.14	-3.8	186.8	123.5	100.0	23.54	5.247		
5,400.0	5,388.2	5,431.1	5,419.8	12.9	12.4	147.98	-32.4	186.8	122.3	98.9	23.32	5.243		
5,500.0	5,480.7	5,550.4	5,526.0	13.3	12.7	141.86	-86.1	186.8	120.7	98.0	22.75	5.308		
5,557.0	5,529.7	5,616.9	5,579.0	13.6	12.9	137.17	-126.2	186.8	120.4	97.8	22.61	5.325		
5,600.0	5,564.3	5,666.1	5,614.7	13.8	13.1	133.18	-160.0	186.8	120.6	97.9	22.73	5.308		
5,700.0	5,636.0	5,777.5	5,682.7	14.4	13.6	122.80	-248.0	186.8	123.8	99.6	24.22	5.114		
5,800.0	5,693.1	5,884.6	5,729.1	15.3	14.4	111.93	-344.3	186.8	131.6	104.4	27.16	4.845		
5,900.0	5,733.5	5,987.6	5,754.3	16.3	15.4	101.68	-444.0	186.8	144.0	113.4	30.58	4.709		
6,000.0	5,755.7	6,086.7	5,760.0	17.6	16.5	92.89	-542.8	186.8	160.2	126.5	33.65	4.761		
6,100.0	5,760.0	6,184.9	5,760.0	18.9	17.7	89.99	-641.0	186.8	178.3	141.9	36.40	4.898		
6,200.0	5,760.0	6,283.2	5,760.0	20.3	19.1	89.99	-739.3	186.8	196.4	157.1	39.34	4.993		
6,300.0	5,760.0	6,381.5	5,760.0	21.9	20.5	89.99	-837.6	186.8	214.6	172.1	42.44	5.056		
6,400.0	5,760.0	6,479.9	5,760.0	23.5	22.0	89.99	-936.0	186.8	232.7	187.1	45.67	5.097		
6,500.0	5,760.0	6,578.2	5,760.0	25.1	23.6	89.99	-1,034.3	186.8	250.9	201.9	49.00	5.121		
6,600.0	5,760.0	6,676.5	5,760.0	26.8	25.2	89.99	-1,132.6	186.8	269.1	216.6	52.41	5.134		
6,700.0	5,760.0	6,775.0	5,760.0	28.5	26.8	89.99	-1,231.1	186.8	286.7	231.0	55.74	5.143		
6,800.0	5,760.0	6,873.9	5,760.0	30.0	28.5	89.99	-1,330.0	186.8	301.3	242.4	58.85	5.119		
6,900.0	5,760.0	6,973.3	5,760.0	31.5	30.2	89.99	-1,429.4	186.8	312.4	250.4	61.96	5.041		
7,000.0	5,760.0	7,073.0	5,760.0	33.0	31.9	89.99	-1,529.1	186.8	320.0	254.9	65.05	4.919		
7,100.0	5,760.0	7,172.9	5,760.0	34.6	33.7	89.99	-1,629.0	186.8	324.1	256.0	68.10	4.759		
7,200.0	5,760.0	7,272.9	5,760.0	36.2	35.5	89.99	-1,729.0	186.8	324.9	253.7	71.26	4.560		
7,300.0	5,760.0	7,372.9	5,760.0	37.9	37.3	89.99	-1,829.0	186.8	324.9	250.1	74.84	4.342		
7,400.0	5,760.0	7,472.9	5,760.0	39.6	39.1	89.99	-1,929.0	186.8	324.9	246.5	78.44	4.143		
7,500.0	5,760.0	7,572.9	5,760.0	41.4	40.9	89.99	-2,029.0	186.8	324.9	242.9	82.07	3.959		
7,600.0	5,760.0	7,672.9	5,760.0	43.2	42.7	89.99	-2,129.0	186.8	324.9	239.2	85.71	3.791		
7,700.0	5,760.0	7,772.9	5,760.0	44.9	44.6	89.99	-2,229.0	186.8	324.9	235.6	89.37	3.636		
7,800.0	5,760.0	7,872.9	5,760.0	46.7	46.4	89.99	-2,329.0	186.8	324.9	231.9	93.05	3.492		
7,900.0	5,760.0	7,972.9	5,760.0	48.5	48.3	89.99	-2,429.0	186.8	324.9	228.2	96.74	3.359		
8,000.0	5,760.0	8,072.9	5,760.0	50.3	50.1	89.99	-2,529.0	186.8	324.9	224.5	100.44	3.235		
8,100.0	5,760.0	8,172.9	5,760.0	52.2	52.0	89.99	-2,629.0	186.8	324.9	220.8	104.15	3.120		
8,200.0	5,760.0	8,272.9	5,760.0	54.0	53.8	89.99	-2,729.0	186.8	324.9	217.1	107.87	3.012		
8,300.0	5,760.0	8,372.9	5,760.0	55.8	55.7	89.99	-2,829.0	186.8	324.9	213.3	111.60	2.912		
8,400.0	5,760.0	8,472.9	5,760.0	57.7	57.6	89.99	-2,929.0	186.8	324.9	209.6	115.33	2.817		
8,500.0	5,760.0	8,572.9	5,760.0	59.5	59.4	89.99	-3,029.0	186.8	324.9	205.9	119.08	2.729		
8,600.0	5,760.0	8,672.9	5,760.0	61.3	61.3	89.99	-3,129.0	186.8	324.9	202.1	122.83	2.646		
8,700.0	5,760.0	8,772.9	5,760.0	63.2	63.2	89.99	-3,229.0	186.8	324.9	198.4	126.58	2.567		
8,800.0	5,760.0	8,872.9	5,760.0	65.0	65.1	89.99	-3,329.0	186.8	324.9	194.6	130.34	2.493		
8,900.0	5,760.0	8,972.9	5,760.0	66.9	67.0	89.99	-3,429.0	186.8	324.9	190.8	134.10	2.423		
9,000.0	5,760.0	9,072.9	5,760.0	68.8	68.9	89.99	-3,529.0	186.8	324.9	187.1	137.87	2.357		
9,100.0	5,760.0	9,172.9	5,760.0	70.6	70.7	89.99	-3,629.0	186.8	324.9	183.3	141.65	2.294		
9,200.0	5,760.0	9,272.9	5,760.0	72.5	72.6	89.99	-3,729.0	186.8	324.9	179.5	145.42	2.234		
9,300.0	5,760.0	9,372.9	5,760.0	74.4	74.5	89.99	-3,829.0	186.8	324.9	175.7	149.20	2.178		
9,400.0	5,760.0	9,472.9	5,760.0	76.2	76.4	89.99	-3,929.0	186.8	324.9	172.0	152.99	2.124		
9,500.0	5,760.0	9,572.9	5,760.0	78.1	78.3	89.99	-4,029.0	186.8	324.9	168.2	156.77	2.073		
9,600.0	5,760.0	9,672.9	5,760.0	80.0	80.2	89.99	-4,129.0	186.8	324.9	164.4	160.56	2.024		
9,700.0	5,760.0	9,772.9	5,760.0	81.9	82.1	89.99	-4,229.0	186.8	324.9	160.6	164.35	1.977		
9,800.0	5,760.0	9,872.9	5,760.0	83.8	84.0	89.99	-4,329.0	186.8	324.9	156.8	168.14	1.933		
9,900.0	5,760.0	9,972.9	5,760.0	85.6	85.9	89.99	-4,429.0	186.8	324.9	153.0	171.94	1.890		
10,000.0	5,760.0	10,082.2	5,760.0	87.5	87.9	89.99	-4,538.3	188.0	323.9	148.1	175.80	1.842		
10,100.0	5,760.0	10,194.7	5,760.0	89.4	89.8	89.99	-4,650.7	193.4	319.1	139.5	179.57	1.777		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27L-3403B - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-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)				
10,200.0	5,760.0	10,295.0	5,760.0	91.3	91.6	89.99	-4,750.8	200.4	312.1	128.9	183.23	1.703		
10,300.0	5,760.0	10,394.8	5,760.0	93.2	93.5	89.99	-4,850.3	207.4	305.1	118.1	187.00	1.632		
10,400.0	5,760.0	10,494.6	5,760.0	95.1	95.4	89.99	-4,949.8	214.3	298.1	107.4	190.78	1.563		
10,500.0	5,760.0	10,594.3	5,760.0	97.0	97.3	89.99	-5,049.3	221.3	291.2	96.6	194.55	1.497	Level 3	
10,600.0	5,760.0	10,685.6	5,760.0	98.9	99.0	89.99	-5,140.4	226.4	285.6	87.5	198.08	1.442	Level 3	
10,700.0	5,760.0	10,776.5	5,760.0	100.8	100.5	89.99	-5,231.3	228.6	283.2	81.7	201.50	1.405	Level 3	
10,739.4	5,760.0	10,813.6	5,760.0	101.5	101.1	89.99	-5,268.4	228.6	283.1	80.2	202.93	1.395	Level 3	
10,800.0	5,760.0	10,874.2	5,760.0	102.7	102.2	89.99	-5,329.0	228.6	283.1	78.0	205.11	1.380	Level 3	
10,900.0	5,760.0	10,974.2	5,760.0	104.6	104.1	89.99	-5,429.0	228.6	283.1	74.2	208.89	1.355	Level 3	
11,000.0	5,760.0	11,074.2	5,760.0	106.4	106.0	89.99	-5,529.0	228.6	283.1	70.4	212.70	1.331	Level 3	
11,100.0	5,760.0	11,174.2	5,760.0	108.3	107.9	89.99	-5,629.0	228.6	283.1	66.6	216.51	1.307	Level 3	
11,200.0	5,760.0	11,274.2	5,760.0	110.2	109.8	89.99	-5,729.0	228.6	283.1	62.8	220.33	1.285	Level 3	
11,300.0	5,760.0	11,374.2	5,760.0	112.1	111.7	89.99	-5,829.0	228.6	283.1	58.9	224.14	1.263	Level 3	
11,400.0	5,760.0	11,474.2	5,760.0	114.0	113.6	89.99	-5,929.0	228.6	283.1	55.1	227.96	1.242	Level 2	
11,500.0	5,760.0	11,574.2	5,760.0	115.9	115.5	89.99	-6,029.0	228.6	283.1	51.3	231.77	1.221	Level 2	
11,600.0	5,760.0	11,667.5	5,760.0	117.8	117.2	89.99	-6,122.3	227.9	284.0	48.6	235.39	1.206	Level 2	
11,700.0	5,760.0	11,760.8	5,760.0	119.7	118.8	89.99	-6,215.5	224.3	287.8	48.9	238.93	1.204	Level 2, SF	
11,800.0	5,760.0	11,860.7	5,760.0	121.6	120.7	89.99	-6,315.3	219.6	292.5	49.8	242.71	1.205	Level 2	
11,900.0	5,760.0	11,960.5	5,760.0	123.6	122.5	89.99	-6,415.0	214.9	297.2	50.6	246.54	1.205	Level 2	
12,000.0	5,760.0	12,060.4	5,760.0	125.5	124.4	90.00	-6,514.8	210.2	301.9	51.5	250.36	1.206	Level 2	
12,100.0	5,760.0	12,160.3	5,760.0	127.4	126.3	90.00	-6,614.6	205.5	306.6	52.4	254.19	1.206	Level 2	
12,200.0	5,760.0	12,260.2	5,760.0	129.3	128.2	90.00	-6,714.4	200.8	311.2	53.2	258.02	1.206	Level 2	
12,300.0	5,760.0	12,360.1	5,760.0	131.2	130.1	90.00	-6,814.2	196.1	315.9	54.1	261.85	1.207	Level 2	
12,400.0	5,760.0	12,460.0	5,760.0	133.1	132.0	90.00	-6,913.9	191.5	320.6	54.9	265.68	1.207	Level 2	
12,500.0	5,760.0	12,559.9	5,760.0	135.0	133.9	90.00	-7,013.7	186.8	325.3	55.8	269.51	1.207	Level 2	
12,593.1	5,760.0	12,652.9	5,760.0	136.4	135.7	90.00	-7,106.6	182.4	329.7	56.9	272.75	1.209	Level 2	

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	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		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	-152.83	-125.7	-64.5	141.3					
100.0	100.0	100.1	100.0	0.1	0.1	-152.32	-124.9	-65.5	141.1	140.9	0.20	695.331		
167.1	167.1	166.6	166.6	0.2	0.2	-151.55	-123.9	-67.1	140.9	140.4	0.48	290.574 CC		
200.0	200.0	199.2	199.2	0.3	0.3	-151.14	-123.4	-68.0	141.0	140.3	0.63	224.397		
300.0	300.0	299.3	299.2	0.5	0.5	-150.02	-122.3	-70.5	141.2	140.1	1.05	133.897		
400.0	400.0	399.5	399.4	0.8	0.7	-148.81	-120.8	-73.1	141.2	139.7	1.49	94.964 ES		
500.0	500.0	498.6	498.4	1.0	0.9	-147.51	-119.5	-76.1	141.7	139.8	1.92	73.708		
600.0	600.0	598.9	598.6	1.2	1.2	-146.24	-118.4	-79.2	142.4	140.1	2.36	60.447		
700.0	700.0	698.6	698.2	1.4	1.4	105.82	-116.9	-82.4	143.5	140.7	2.80	51.188		
800.0	799.8	797.3	796.9	1.6	1.6	108.54	-116.7	-84.8	146.4	143.1	3.21	45.537		
900.0	899.6	896.4	896.1	1.8	1.8	111.60	-117.1	-87.1	150.6	147.0	3.64	41.399		
1,000.0	999.4	995.6	995.2	2.1	2.0	114.67	-117.5	-89.9	155.6	151.5	4.07	38.214		
1,100.0	1,099.1	1,093.8	1,093.4	2.3	2.2	117.03	-119.0	-92.0	161.2	156.7	4.51	35.789		
1,200.0	1,198.9	1,192.4	1,191.8	2.6	2.4	118.96	-121.9	-94.4	168.3	163.4	4.94	34.048		
1,300.0	1,298.6	1,292.6	1,292.0	2.8	2.6	120.39	-125.7	-96.1	175.5	170.1	5.39	32.582		
1,400.0	1,398.4	1,394.5	1,393.8	3.0	2.9	121.67	-129.3	-97.2	182.1	176.2	5.83	31.241		
1,500.0	1,498.1	1,494.6	1,493.9	3.3	3.1	122.97	-131.8	-97.7	187.8	181.5	6.27	29.940		
1,600.0	1,597.9	1,594.6	1,593.9	3.5	3.3	124.07	-134.7	-98.0	193.6	186.8	6.72	28.796		
1,700.0	1,697.6	1,694.4	1,693.7	3.8	3.5	125.07	-137.6	-98.1	199.3	192.1	7.17	27.796		
1,800.0	1,797.4	1,795.0	1,794.2	4.1	3.7	126.16	-140.1	-98.3	205.0	197.4	7.62	26.907		
1,900.0	1,897.2	1,895.4	1,894.5	4.3	3.9	127.05	-142.7	-98.0	210.3	202.2	8.07	26.049		
2,000.0	1,996.9	1,996.8	1,995.9	4.6	4.1	127.71	-145.7	-96.8	215.2	206.7	8.53	25.222		
2,100.0	2,096.7	2,096.8	2,095.8	4.8	4.3	128.27	-148.7	-95.2	219.6	210.7	8.98	24.449		
2,200.0	2,196.4	2,199.3	2,198.3	5.1	4.5	128.82	-151.5	-93.1	223.7	214.3	9.44	23.694		
2,300.0	2,296.2	2,301.2	2,300.1	5.3	4.8	129.30	-153.8	-89.9	226.6	216.7	9.90	22.882		
2,400.0	2,395.9	2,403.1	2,402.0	5.6	5.0	130.49	-153.2	-87.4	228.6	218.2	10.35	22.075		
2,500.0	2,495.7	2,503.0	2,501.8	5.8	5.2	131.69	-152.1	-84.6	230.2	219.4	10.80	21.315		
2,600.0	2,595.5	2,600.8	2,599.6	6.1	5.4	132.55	-152.4	-81.7	232.4	221.1	11.25	20.659		
2,700.0	2,695.2	2,698.9	2,697.7	6.4	5.6	133.46	-153.0	-80.0	235.9	224.2	11.69	20.175		
2,800.0	2,795.0	2,800.7	2,799.5	6.6	5.8	134.56	-152.6	-78.0	238.8	226.7	12.14	19.675		
2,900.0	2,894.7	2,899.8	2,898.5	6.9	6.0	135.63	-152.2	-76.1	241.8	229.3	12.58	19.226		
3,000.0	2,994.5	2,999.1	2,997.8	7.1	6.2	136.62	-152.1	-74.4	245.2	232.2	13.02	18.835		
3,100.0	3,094.2	3,099.1	3,097.8	7.4	6.4	137.63	-151.9	-72.8	248.8	235.3	13.46	18.482		
3,200.0	3,194.0	3,199.8	3,198.4	7.7	6.6	138.66	-151.4	-71.0	252.2	238.3	13.90	18.141		
3,300.0	3,293.7	3,300.1	3,298.8	7.9	6.8	139.73	-150.5	-69.1	255.4	241.1	14.34	17.807		
3,400.0	3,393.5	3,400.6	3,399.2	8.2	7.0	140.86	-149.1	-67.2	258.5	243.8	14.78	17.489		
3,500.0	3,493.3	3,501.6	3,500.1	8.4	7.2	142.04	-147.4	-65.0	261.4	246.2	15.22	17.172		
3,600.0	3,593.0	3,601.5	3,600.0	8.7	7.4	143.23	-145.4	-62.6	264.1	248.4	15.66	16.866		
3,700.0	3,692.8	3,699.5	3,698.0	9.0	7.6	144.47	-143.0	-60.7	267.2	251.1	16.08	16.612		
3,800.0	3,792.5	3,797.0	3,795.4	9.2	7.8	145.82	-140.2	-59.8	271.2	254.7	16.51	16.431		
3,900.0	3,892.3	3,895.9	3,894.3	9.5	8.0	147.15	-137.5	-59.3	276.0	259.0	16.93	16.302		
4,000.0	3,992.0	3,996.1	3,994.4	9.7	8.2	148.38	-135.1	-58.9	280.9	263.6	17.36	16.184		
4,100.0	4,091.8	4,097.2	4,095.5	10.0	8.5	149.62	-132.4	-58.1	285.6	267.8	17.79	16.055		
4,200.0	4,191.6	4,195.2	4,193.5	10.3	8.7	150.83	-129.6	-57.4	290.5	272.3	18.21	15.951		
4,300.0	4,291.3	4,293.9	4,292.2	10.5	8.9	151.93	-127.2	-57.2	296.1	277.4	18.64	15.885		
4,400.0	4,391.1	4,394.3	4,392.5	10.8	9.1	152.98	-124.9	-56.9	301.7	282.6	19.07	15.821		
4,500.0	4,490.8	4,494.0	4,492.2	11.1	9.3	153.97	-122.7	-56.5	307.3	287.8	19.50	15.760		
4,600.0	4,590.6	4,593.8	4,592.0	11.3	9.5	154.95	-120.4	-56.1	313.0	293.0	19.93	15.706		
4,700.0	4,690.4	4,692.8	4,691.0	11.5	9.7	155.77	-118.5	-55.7	318.1	297.7	20.34	15.635		
4,800.0	4,790.3	4,791.3	4,789.4	11.7	9.9	156.34	-116.7	-55.8	320.8	300.1	20.71	15.488		
4,900.0	4,890.3	4,891.0	4,889.2	11.9	10.1	-93.30	-114.8	-56.1	321.1	300.0	21.10	15.216		
5,000.0	4,990.3	4,988.7	4,986.8	12.1	10.3	-93.02	-113.2	-56.6	321.6	300.1	21.50	14.958		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
5,100.0	5,090.3	5,092.1	5,090.2	12.3	10.5	-93.05	-113.4	-57.7	322.6	300.7	21.91	14.727		
5,200.0	5,190.3	5,199.0	5,196.5	12.4	10.8	-94.78	-123.0	-54.6	320.3	298.0	22.33	14.342		
5,246.1	5,236.4	5,240.6	5,236.9	12.5	10.9	94.17	-132.4	-53.1	319.7	297.2	22.54	14.183		
5,300.0	5,290.3	5,283.8	5,278.3	12.6	10.9	91.97	-144.9	-52.2	320.7	297.9	22.79	14.073		
5,400.0	5,388.2	5,372.1	5,359.5	12.9	11.2	88.14	-179.3	-51.0	326.6	303.2	23.35	13.985		
5,500.0	5,480.7	5,457.0	5,433.5	13.3	11.4	85.43	-220.8	-51.9	337.0	313.0	24.03	14.026		
5,600.0	5,564.3	5,547.0	5,505.6	13.8	11.8	83.49	-274.5	-52.4	348.9	324.0	24.89	14.020		
5,700.0	5,636.0	5,624.7	5,559.6	14.4	12.2	81.87	-330.2	-52.9	362.8	336.9	25.91	14.003		
5,800.0	5,693.1	5,711.2	5,611.2	15.3	12.8	81.02	-399.5	-55.7	379.7	352.4	27.27	13.923		
5,900.0	5,733.5	5,804.0	5,655.8	16.3	13.6	80.92	-480.9	-56.9	395.3	366.2	29.10	13.584		
6,000.0	5,755.7	5,891.5	5,689.5	17.6	14.5	81.75	-561.6	-57.5	410.1	378.9	31.29	13.107		
6,100.0	5,760.0	5,974.5	5,712.1	18.9	15.5	83.52	-641.4	-59.3	427.0	393.2	33.80	12.632		
6,200.0	5,760.0	6,075.3	5,723.7	20.3	16.8	85.32	-741.4	-60.3	445.0	408.2	36.77	12.102		
6,300.0	5,760.0	6,178.0	5,725.0	21.9	18.2	85.65	-844.0	-59.1	461.8	422.1	39.78	11.609		
6,400.0	5,760.0	6,275.6	5,723.8	23.5	19.6	85.65	-941.6	-57.4	478.3	435.5	42.88	11.156		
6,500.0	5,760.0	6,390.0	5,723.0	25.1	21.1	85.72	-1,055.9	-55.0	494.5	448.3	46.14	10.716		
10,700.0	5,760.0	10,580.2	5,716.0	100.8	92.9	84.99	-5,243.8	15.0	498.9	305.8	193.10	2.584		
10,800.0	5,760.0	10,678.0	5,714.9	102.7	94.7	84.83	-5,341.5	18.6	495.3	298.6	196.66	2.519		
10,900.0	5,760.0	10,773.0	5,715.2	104.6	96.3	84.85	-5,436.5	20.3	493.5	293.3	200.19	2.465		
11,000.0	5,760.0	10,871.8	5,714.4	106.4	98.1	84.74	-5,535.3	22.1	491.7	287.9	203.84	2.412		
11,100.0	5,760.0	10,972.4	5,713.4	108.3	99.9	84.60	-5,635.8	23.9	490.1	282.6	207.45	2.362		
11,164.6	5,760.0	11,031.0	5,713.4	109.6	100.9	84.59	-5,694.5	24.2	489.7	280.0	209.74	2.335		
11,200.0	5,760.0	11,062.0	5,713.6	110.2	101.5	84.62	-5,725.5	24.1	489.8	278.9	210.94	2.322		
11,300.0	5,760.0	11,166.4	5,714.2	112.1	103.3	84.70	-5,829.9	23.7	490.1	275.4	214.72	2.283		
11,367.4	5,760.0	11,232.7	5,713.9	113.4	104.5	84.66	-5,896.2	24.0	489.8	272.7	217.18	2.255		
11,400.0	5,760.0	11,263.3	5,713.6	114.0	105.0	84.63	-5,926.8	23.9	490.0	271.7	218.30	2.245		
11,500.0	5,760.0	11,363.4	5,713.9	115.9	106.8	84.67	-6,026.8	23.4	490.5	268.5	221.95	2.210		
11,600.0	5,760.0	11,461.1	5,714.0	117.8	108.5	84.68	-6,124.6	22.5	491.3	265.7	225.63	2.178		
11,700.0	5,760.0	11,570.9	5,713.4	119.7	110.5	84.61	-6,234.3	22.9	491.0	261.6	229.44	2.140		
11,800.0	5,760.0	11,674.0	5,711.5	121.6	112.3	84.37	-6,337.4	24.8	489.3	256.3	233.09	2.099		
11,900.0	5,760.0	11,776.6	5,707.8	123.6	114.2	83.91	-6,439.9	27.3	487.3	250.7	236.63	2.059		
12,000.0	5,760.0	11,869.2	5,707.3	125.5	115.8	83.83	-6,532.5	28.3	486.2	246.1	240.10	2.025		
12,100.0	5,760.0	11,974.8	5,708.7	127.4	117.7	83.99	-6,638.0	29.5	484.9	241.0	243.93	1.988		
12,200.0	5,760.0	12,070.1	5,710.4	129.3	119.4	84.17	-6,733.4	31.0	483.3	235.7	247.56	1.952		
12,300.0	5,760.0	12,171.1	5,712.6	131.2	121.1	84.41	-6,834.3	31.9	482.2	230.9	251.32	1.919		
12,400.0	5,760.0	12,267.0	5,713.3	133.1	122.8	84.50	-6,930.2	32.4	481.6	226.6	254.94	1.889		
12,500.0	5,760.0	12,367.4	5,713.3	135.0	124.6	84.49	-7,030.6	32.5	481.4	222.8	258.63	1.861		
12,511.5	5,760.0	12,378.9	5,713.3	135.2	124.8	84.49	-7,042.1	32.6	481.4	222.3	259.08	1.858 SF		
12,593.1	5,760.0	12,390.0	5,713.3	136.4	125.0	84.49	-7,053.2	32.6	486.2	225.7	260.54	1.866		

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27L-3404B
Project:	Weld County, CO	TVD Reference:	WELL @ 4771.4ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4771.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27L-3404B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #4	Offset TVD Reference:	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-3404B

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 1.06°

