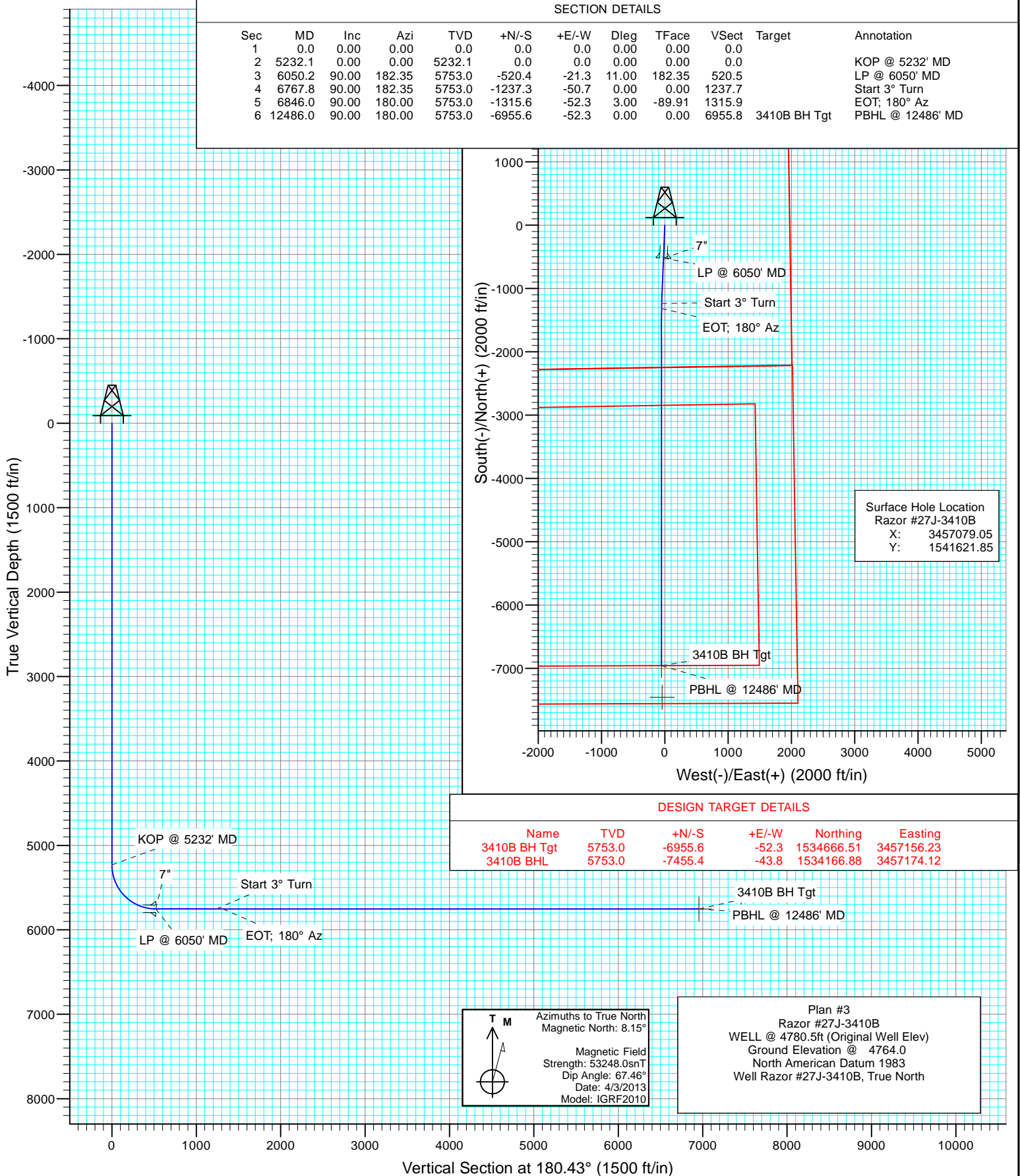


SECTION DETAILS

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	5232.1	0.00	0.00	5232.1	0.0	0.0	0.00	0.00	0.0		KOP @ 5232' MD
3	6050.2	90.00	182.35	5753.0	-520.4	-21.3	11.00	182.35	520.5		LP @ 6050' MD
4	6767.8	90.00	182.35	5753.0	-1237.3	-50.7	0.00	0.00	1237.7		Start 3° Turn
5	6846.0	90.00	180.00	5753.0	-1315.6	-52.3	3.00	-89.91	1315.9		EOT; 180° Az
6	12486.0	90.00	180.00	5753.0	-6955.6	-52.3	0.00	0.00	6955.8	3410B BH Tgt	PBHL @ 12486' MD



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #27J-3410B
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27J-3410B	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #3		

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 #27J-3410B					
Well Position	+N/-S	0.0 ft	Northing:	1,541,621.85 ft	Latitude:	40.808444
	+E/-W	0.0 ft	Easting:	3,457,079.05 ft	Longitude:	-103.848825
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,764.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/3/2013	8.15	67.46	53,248

Design	Plan #3				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	180.43	

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	
5,232.1	0.00	0.00	5,232.1	0.0	0.0	0.00	0.00	0.00	0.00	
6,050.2	90.00	182.35	5,753.0	-520.4	-21.3	11.00	11.00	0.00	182.35	
6,767.8	90.00	182.35	5,753.0	-1,237.3	-50.7	0.00	0.00	0.00	0.00	
6,846.0	90.00	180.00	5,753.0	-1,315.6	-52.3	3.00	0.00	-3.00	-89.91	
12,486.0	90.00	180.00	5,753.0	-6,955.6	-52.3	0.00	0.00	0.00	0.00	3410B BH Tgt

Database: USA EDM 5000 Multi Users DB
Company: Whiting Petroleum Corporation
Project: Weld County, CO
Site: S27-T10N-R58W
Well: Razor #27J-3410B
Wellbore: HZ
Design: Plan #3

Local Co-ordinate Reference: Well Razor #27J-3410B
TVD Reference: WELL @ 4780.5ft (Original Well Elev)
MD Reference: WELL @ 4780.5ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #27J-3410B
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27J-3410B	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	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	5,200.0	0.0	0.0	0.0	0.00	0.00	
5,232.1	0.00	0.00	5,232.1	0.0	0.0	0.0	0.00	0.00	KOP @ 5232' MD
5,300.0	7.47	182.35	5,299.8	-4.4	-0.2	4.4	11.00	11.00	
5,400.0	18.47	182.35	5,397.1	-26.8	-1.1	26.8	11.00	11.00	
5,500.0	29.47	182.35	5,488.3	-67.3	-2.8	67.4	11.00	11.00	
5,600.0	40.47	182.35	5,570.2	-124.5	-5.1	124.5	11.00	11.00	
5,700.0	51.47	182.35	5,639.6	-196.2	-8.0	196.3	11.00	11.00	
5,800.0	62.47	182.35	5,694.0	-279.9	-11.5	280.0	11.00	11.00	
5,900.0	73.47	182.35	5,731.4	-372.4	-15.3	372.5	11.00	11.00	
6,000.0	84.47	182.35	5,750.5	-470.3	-19.3	470.4	11.00	11.00	
6,050.2	89.99	182.35	5,753.0	-520.4	-21.3	520.5	11.00	11.00	LP @ 6050' MD - 7"
6,100.0	90.00	182.35	5,753.0	-570.1	-23.4	570.3	0.01	0.01	
6,200.0	90.00	182.35	5,753.0	-670.0	-27.5	670.2	0.00	0.00	
6,300.0	90.00	182.35	5,753.0	-769.9	-31.6	770.2	0.00	0.00	
6,400.0	90.00	182.35	5,753.0	-869.9	-35.7	870.1	0.00	0.00	
6,500.0	90.00	182.35	5,753.0	-969.8	-39.8	970.0	0.00	0.00	
6,600.0	90.00	182.35	5,753.0	-1,069.7	-43.9	1,070.0	0.00	0.00	
6,700.0	90.00	182.35	5,753.0	-1,169.6	-48.0	1,169.9	0.00	0.00	
6,767.8	90.00	182.35	5,753.0	-1,237.3	-50.7	1,237.7	0.00	0.00	Start 3° Turn
6,800.0	90.00	181.38	5,753.0	-1,269.5	-51.8	1,269.9	3.00	0.00	
6,846.0	90.00	180.00	5,753.0	-1,315.6	-52.3	1,315.9	3.00	0.00	EOT; 180° Az
6,900.0	90.00	180.00	5,753.0	-1,369.5	-52.3	1,369.9	0.00	0.00	
7,000.0	90.00	180.00	5,753.0	-1,469.5	-52.3	1,469.9	0.00	0.00	
7,100.0	90.00	180.00	5,753.0	-1,569.5	-52.3	1,569.9	0.00	0.00	
7,200.0	90.00	180.00	5,753.0	-1,669.5	-52.3	1,669.9	0.00	0.00	
7,300.0	90.00	180.00	5,753.0	-1,769.5	-52.3	1,769.9	0.00	0.00	
7,400.0	90.00	180.00	5,753.0	-1,869.5	-52.3	1,869.9	0.00	0.00	
7,500.0	90.00	180.00	5,753.0	-1,969.5	-52.3	1,969.9	0.00	0.00	
7,600.0	90.00	180.00	5,753.0	-2,069.5	-52.3	2,069.9	0.00	0.00	
7,700.0	90.00	180.00	5,753.0	-2,169.5	-52.3	2,169.9	0.00	0.00	
7,800.0	90.00	180.00	5,753.0	-2,269.5	-52.3	2,269.9	0.00	0.00	
7,900.0	90.00	180.00	5,753.0	-2,369.5	-52.3	2,369.9	0.00	0.00	
8,000.0	90.00	180.00	5,753.0	-2,469.5	-52.3	2,469.9	0.00	0.00	
8,100.0	90.00	180.00	5,753.0	-2,569.5	-52.3	2,569.8	0.00	0.00	
8,200.0	90.00	180.00	5,753.0	-2,669.5	-52.3	2,669.8	0.00	0.00	
8,300.0	90.00	180.00	5,753.0	-2,769.5	-52.3	2,769.8	0.00	0.00	
8,400.0	90.00	180.00	5,753.0	-2,869.5	-52.3	2,869.8	0.00	0.00	
8,500.0	90.00	180.00	5,753.0	-2,969.5	-52.3	2,969.8	0.00	0.00	
8,600.0	90.00	180.00	5,753.0	-3,069.5	-52.3	3,069.8	0.00	0.00	
8,700.0	90.00	180.00	5,753.0	-3,169.5	-52.3	3,169.8	0.00	0.00	
8,800.0	90.00	180.00	5,753.0	-3,269.5	-52.3	3,269.8	0.00	0.00	
8,900.0	90.00	180.00	5,753.0	-3,369.5	-52.3	3,369.8	0.00	0.00	
9,000.0	90.00	180.00	5,753.0	-3,469.5	-52.3	3,469.8	0.00	0.00	
9,100.0	90.00	180.00	5,753.0	-3,569.5	-52.3	3,569.8	0.00	0.00	
9,200.0	90.00	180.00	5,753.0	-3,669.5	-52.3	3,669.8	0.00	0.00	
9,300.0	90.00	180.00	5,753.0	-3,769.5	-52.3	3,769.8	0.00	0.00	
9,400.0	90.00	180.00	5,753.0	-3,869.5	-52.3	3,869.8	0.00	0.00	
9,500.0	90.00	180.00	5,753.0	-3,969.5	-52.3	3,969.8	0.00	0.00	
9,600.0	90.00	180.00	5,753.0	-4,069.5	-52.3	4,069.8	0.00	0.00	
9,700.0	90.00	180.00	5,753.0	-4,169.5	-52.3	4,169.8	0.00	0.00	
9,800.0	90.00	180.00	5,753.0	-4,269.5	-52.3	4,269.8	0.00	0.00	
9,900.0	90.00	180.00	5,753.0	-4,369.5	-52.3	4,369.8	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #27J-3410B
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27J-3410B	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	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
10,000.0	90.00	180.00	5,753.0	-4,469.5	-52.3	4,469.8	0.00	0.00	
10,100.0	90.00	180.00	5,753.0	-4,569.5	-52.3	4,569.8	0.00	0.00	
10,200.0	90.00	180.00	5,753.0	-4,669.5	-52.3	4,669.8	0.00	0.00	
10,300.0	90.00	180.00	5,753.0	-4,769.5	-52.3	4,769.8	0.00	0.00	
10,400.0	90.00	180.00	5,753.0	-4,869.5	-52.3	4,869.8	0.00	0.00	
10,500.0	90.00	180.00	5,753.0	-4,969.5	-52.3	4,969.8	0.00	0.00	
10,600.0	90.00	180.00	5,753.0	-5,069.5	-52.3	5,069.8	0.00	0.00	
10,700.0	90.00	180.00	5,753.0	-5,169.5	-52.3	5,169.8	0.00	0.00	
10,800.0	90.00	180.00	5,753.0	-5,269.5	-52.3	5,269.8	0.00	0.00	
10,900.0	90.00	180.00	5,753.0	-5,369.5	-52.3	5,369.8	0.00	0.00	
11,000.0	90.00	180.00	5,753.0	-5,469.5	-52.3	5,469.8	0.00	0.00	
11,100.0	90.00	180.00	5,753.0	-5,569.5	-52.3	5,569.8	0.00	0.00	
11,200.0	90.00	180.00	5,753.0	-5,669.5	-52.3	5,669.8	0.00	0.00	
11,300.0	90.00	180.00	5,753.0	-5,769.5	-52.3	5,769.8	0.00	0.00	
11,400.0	90.00	180.00	5,753.0	-5,869.5	-52.3	5,869.8	0.00	0.00	
11,500.0	90.00	180.00	5,753.0	-5,969.5	-52.3	5,969.8	0.00	0.00	
11,600.0	90.00	180.00	5,753.0	-6,069.5	-52.3	6,069.7	0.00	0.00	
11,700.0	90.00	180.00	5,753.0	-6,169.5	-52.3	6,169.7	0.00	0.00	
11,800.0	90.00	180.00	5,753.0	-6,269.5	-52.3	6,269.7	0.00	0.00	
11,900.0	90.00	180.00	5,753.0	-6,369.5	-52.3	6,369.7	0.00	0.00	
12,000.0	90.00	180.00	5,753.0	-6,469.5	-52.3	6,469.7	0.00	0.00	
12,100.0	90.00	180.00	5,753.0	-6,569.5	-52.3	6,569.7	0.00	0.00	
12,200.0	90.00	180.00	5,753.0	-6,669.5	-52.3	6,669.7	0.00	0.00	
12,300.0	90.00	180.00	5,753.0	-6,769.5	-52.3	6,769.7	0.00	0.00	
12,400.0	90.00	180.00	5,753.0	-6,869.5	-52.3	6,869.7	0.00	0.00	
12,486.0	90.00	180.00	5,753.0	-6,955.6	-52.3	6,955.8	0.00	0.00	PBHL @ 12486' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
3410B BH Tgt - hit/miss target - Shape - plan hits target center - Point	0.00	1.07	5,753.0	-6,955.6	-52.3	1,534,666.51	3,457,156.23	40.789353	-103.849014
3410B BHL - plan misses target center by 499.9ft at 12486.0ft MD (5753.0 TVD, -6955.6 N, -52.3 E) - Point	0.00	1.07	5,753.0	-7,455.4	-43.8	1,534,166.88	3,457,174.12	40.787981	-103.848983

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
6,050.2	5,753.0	7"	0.000	0.000	

Database: USA EDM 5000 Multi Users DB
Company: Whiting Petroleum Corporation
Project: Weld County, CO
Site: S27-T10N-R58W
Well: Razor #27J-3410B
Wellbore: HZ
Design: Plan #3

Local Co-ordinate Reference: Well Razor #27J-3410B
TVD Reference: WELL @ 4780.5ft (Original Well Elev)
MD Reference: WELL @ 4780.5ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,232.1	5,232.1	0.0	0.0	KOP @ 5232' MD
6,050.2	5,753.0	-520.4	-21.3	LP @ 6050' MD
6,767.8	5,753.0	-1,237.3	-50.7	Start 3° Turn
6,846.0	5,753.0	-1,315.6	-52.3	EOT; 180° Az
12,486.0	5,753.0	-6,955.6	-52.3	PBHL @ 12486' MD



WHITING PETROLEUM CORPORATION

Whiting Petroleum Corporation

Weld County, CO

S27-T10N-R58W

Razor #27J-3410B

HZ

Plan #3

Anticollision Report

17 June, 2013

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Reference	Plan #3		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	6/17/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,486.0	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-2214B - HZ - Plan #3						Out of range
Razor #27I-3413A - HZ - Plan #1	6,354.0	6,500.0	985.9	943.7	23.350	CC
Razor #27I-3413A - HZ - Plan #1	6,400.0	6,531.9	986.2	942.8	22.728	ES
Razor #27I-3413A - HZ - Plan #1	6,700.0	6,805.4	997.4	945.0	19.014	SF
Razor #27I-3414B - HZ - Plan #1						Out of range
Razor #27I-3415A - HZ - Plan #1						Out of range
Razor #27J-2209A - HZ - Plan #2	465.6	468.6	75.1	73.2	40.833	CC
Razor #27J-2209A - HZ - Plan #2	500.0	502.9	75.1	73.1	37.672	ES
Razor #27J-2209A - HZ - Plan #2	5,200.0	5,187.3	386.4	362.9	16.428	SF
Razor #27J-2210B - HZ - Plan #2	5,221.2	5,221.2	32.9	9.7	1.419	Level 3, CC
Razor #27J-2210B - HZ - Plan #2	5,232.1	5,232.1	32.9	9.7	1.416	Level 3, ES
Razor #27J-2210B - HZ - Plan #2	5,250.0	5,249.6	33.0	9.7	1.416	Level 3, SF
Razor #27J-2211A - HZ - Plan #2	5,123.3	5,126.3	99.5	76.7	4.369	CC, ES, SF
Razor #27J-2212B - HZ - Plan #2	1,500.0	1,500.0	32.4	25.9	4.998	CC, ES
Razor #27J-2212B - HZ - Plan #2	1,600.0	1,599.1	33.8	26.8	4.875	SF
Razor #27J-3409A - HZ - Plan #3	1,474.1	1,479.2	54.4	48.0	8.477	CC
Razor #27J-3409A - HZ - Plan #3	1,500.0	1,505.0	54.4	47.9	8.322	ES
Razor #27J-3409A - HZ - Plan #3	12,486.0	12,215.6	341.9	81.6	1.313	Level 3, SF
Razor #27J-3411A - HZ - Plan #2	1,530.1	1,535.3	49.2	42.6	7.370	CC
Razor #27J-3411A - HZ - Plan #2	1,600.0	1,605.0	49.5	42.5	7.052	ES
Razor #27J-3411A - HZ - Plan #2	12,486.0	12,194.6	349.9	88.4	1.338	Level 3, SF
Razor #27J-3412B - HZ - Plan #2	500.0	500.0	65.3	63.3	32.900	CC, ES
Razor #27J-3412B - HZ - Plan #2	12,486.0	12,281.6	667.7	399.8	2.492	SF
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	7,051.0	7,002.7	693.2	630.6	11.061	CC
Razor #27K-3408B - HZ - Plan #3	12,486.0	12,437.8	693.8	427.7	2.607	ES, SF

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3413A - HZ - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
6,100.0	5,753.0	6,334.1	5,648.9	16.3	20.6	-84.42	-699.0	960.9	997.4	961.0	36.32	27.459		
6,200.0	5,753.0	6,400.0	5,648.9	17.6	21.5	-84.39	-764.4	953.5	990.2	951.7	38.55	25.689		
6,300.0	5,753.0	6,465.8	5,648.9	19.0	22.5	-84.38	-830.0	948.3	986.5	945.6	40.92	24.109		
6,354.0	5,753.0	6,500.0	5,648.9	19.8	23.0	-84.38	-864.1	946.5	985.9	943.7	42.22	23.350 CC		
6,400.0	5,753.0	6,531.9	5,648.9	20.5	23.5	-84.38	-896.0	945.4	986.2	942.8	43.39	22.728 ES		
6,500.0	5,753.0	6,605.6	5,648.9	22.0	24.6	-84.39	-969.7	944.7	989.2	943.2	46.07	21.474		
6,600.0	5,753.0	6,705.5	5,648.9	23.6	26.1	-84.41	-1,069.6	944.8	993.3	944.1	49.22	20.182		
6,700.0	5,753.0	6,805.4	5,648.9	25.3	27.7	-84.44	-1,169.5	944.8	997.4	945.0	52.46	19.014 SF		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2209A - HZ - Plan #2														Offset Site Error:	0.0 ft
Survey Program: 0-ISCSA 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	3.0	3.0	0.0	0.0	-0.63	75.0	-0.8	75.1						
100.0	100.0	103.0	103.0	0.1	0.1	-0.63	75.0	-0.8	75.1	74.9	0.19	386.081			
200.0	200.0	203.0	203.0	0.3	0.3	-0.63	75.0	-0.8	75.1	74.4	0.64	116.556			
300.0	300.0	303.0	303.0	0.5	0.6	-0.63	75.0	-0.8	75.1	74.0	1.09	68.639			
400.0	400.0	403.0	403.0	0.8	0.8	-0.63	75.0	-0.8	75.1	73.5	1.54	48.642			
465.6	465.6	468.6	468.6	0.9	0.9	-0.63	75.0	-0.8	75.1	73.2	1.84	40.833 CC			
500.0	500.0	502.9	502.9	1.0	1.0	-0.63	75.1	-0.8	75.1	73.1	1.99	37.672 ES			
600.0	600.0	600.0	600.0	1.2	1.2	-1.34	76.5	-1.8	76.6	74.2	2.43	31.458			
700.0	700.0	698.3	698.1	1.4	1.4	-3.24	80.8	-4.6	81.1	78.2	2.88	28.105			
800.0	800.0	798.0	797.6	1.7	1.7	-5.52	86.6	-8.4	87.2	83.9	3.34	26.116			
900.0	900.0	897.8	897.1	1.9	1.9	-7.50	92.5	-12.2	93.4	89.6	3.79	24.645			
1,000.0	1,000.0	997.5	996.6	2.1	2.2	-9.23	98.3	-16.0	99.8	95.5	4.25	23.505			
1,100.0	1,100.0	1,097.3	1,096.1	2.3	2.4	-10.75	104.1	-19.8	106.2	101.5	4.70	22.599			
1,200.0	1,200.0	1,197.0	1,195.6	2.6	2.7	-12.10	109.9	-23.6	112.7	107.5	5.15	21.864			
1,300.0	1,300.0	1,296.8	1,295.2	2.8	2.9	-13.30	115.8	-27.4	119.2	113.6	5.61	21.256			
1,400.0	1,400.0	1,396.5	1,394.7	3.0	3.2	-14.37	121.6	-31.2	125.8	119.7	6.06	20.747			
1,500.0	1,500.0	1,496.3	1,494.2	3.2	3.4	-15.34	127.4	-35.0	132.4	125.9	6.52	20.314			
1,600.0	1,600.0	1,596.0	1,593.7	3.5	3.7	-16.22	133.3	-38.8	139.1	132.1	6.98	19.942			
1,700.0	1,700.0	1,695.8	1,693.2	3.7	3.9	-17.01	139.1	-42.6	145.8	138.4	7.43	19.619			
1,800.0	1,800.0	1,795.6	1,792.7	3.9	4.2	-17.74	144.9	-46.4	152.5	144.6	7.89	19.336			
1,900.0	1,900.0	1,895.3	1,892.2	4.1	4.4	-18.40	150.8	-50.2	159.2	150.9	8.34	19.086			
2,000.0	2,000.0	1,995.1	1,991.8	4.4	4.7	-19.01	156.6	-54.0	166.0	157.2	8.80	18.864			
2,100.0	2,100.0	2,094.8	2,091.3	4.6	4.9	-19.57	162.4	-57.8	172.8	163.5	9.26	18.665			
2,200.0	2,200.0	2,194.6	2,190.8	4.8	5.2	-20.09	168.3	-61.5	179.6	169.9	9.71	18.486			
2,300.0	2,300.0	2,294.3	2,290.3	5.0	5.4	-20.58	174.1	-65.3	186.4	176.2	10.17	18.324			
2,400.0	2,400.0	2,394.1	2,389.8	5.3	5.7	-21.02	179.9	-69.1	193.2	182.6	10.63	18.177			
2,500.0	2,500.0	2,493.9	2,489.3	5.5	6.0	-21.44	185.7	-72.9	200.0	188.9	11.09	18.043			
2,600.0	2,600.0	2,593.6	2,588.8	5.7	6.2	-21.83	191.6	-76.7	206.9	195.3	11.54	17.920			
2,700.0	2,700.0	2,693.4	2,688.4	5.9	6.5	-22.20	197.4	-80.5	213.7	201.7	12.00	17.806			
2,800.0	2,800.0	2,793.1	2,787.9	6.2	6.7	-22.54	203.2	-84.3	220.6	208.1	12.46	17.702			
2,900.0	2,900.0	2,892.9	2,887.4	6.4	7.0	-22.86	209.1	-88.1	227.4	214.5	12.92	17.605			
3,000.0	3,000.0	2,992.6	2,986.9	6.6	7.2	-23.16	214.9	-91.9	234.3	220.9	13.38	17.514			
3,100.0	3,100.0	3,092.4	3,086.4	6.8	7.5	-23.45	220.7	-95.7	241.2	227.3	13.84	17.430			
3,200.0	3,200.0	3,192.2	3,185.9	7.1	7.7	-23.72	226.6	-99.5	248.0	233.8	14.29	17.352			
3,300.0	3,300.0	3,291.9	3,285.4	7.3	8.0	-23.97	232.4	-103.3	254.9	240.2	14.75	17.279			
3,400.0	3,400.0	3,391.7	3,384.9	7.5	8.3	-24.21	238.2	-107.1	261.8	246.6	15.21	17.210			
3,500.0	3,500.0	3,491.4	3,484.5	7.7	8.5	-24.44	244.0	-110.9	268.7	253.0	15.67	17.145			
3,600.0	3,600.0	3,591.2	3,584.0	8.0	8.8	-24.66	249.9	-114.7	275.6	259.5	16.13	17.084			
3,700.0	3,700.0	3,690.9	3,683.5	8.2	9.0	-24.87	255.7	-118.5	282.5	265.9	16.59	17.026			
3,800.0	3,800.0	3,790.7	3,783.0	8.4	9.3	-25.07	261.5	-122.3	289.4	272.4	17.05	16.971			
3,900.0	3,900.0	3,890.4	3,882.5	8.6	9.5	-25.25	267.4	-126.1	296.3	278.8	17.51	16.920			
4,000.0	4,000.0	3,990.2	3,982.0	8.9	9.8	-25.43	273.2	-129.9	303.2	285.3	17.97	16.871			
4,100.0	4,100.0	4,090.0	4,081.5	9.1	10.1	-25.60	279.0	-133.7	310.2	291.7	18.44	16.824			
4,200.0	4,200.0	4,189.7	4,181.1	9.3	10.3	-25.77	284.9	-137.5	317.1	298.2	18.90	16.780			
4,300.0	4,300.0	4,289.5	4,280.6	9.5	10.6	-25.93	290.7	-141.3	324.0	304.6	19.36	16.737			
4,400.0	4,400.0	4,389.2	4,380.1	9.8	10.8	-26.08	296.5	-145.1	330.9	311.1	19.82	16.697			
4,500.0	4,500.0	4,489.0	4,479.6	10.0	11.1	-26.22	302.4	-148.9	337.8	317.6	20.28	16.658			
4,600.0	4,600.0	4,588.7	4,579.1	10.2	11.3	-26.36	308.2	-152.7	344.8	324.0	20.74	16.621			
4,700.0	4,700.0	4,688.5	4,678.6	10.4	11.6	-26.49	314.0	-156.5	351.7	330.5	21.21	16.586			
4,800.0	4,800.0	4,788.3	4,778.1	10.7	11.9	-26.62	319.8	-160.3	358.6	337.0	21.67	16.552			
4,900.0	4,900.0	4,888.0	4,877.6	10.9	12.1	-26.74	325.7	-164.1	365.6	343.4	22.13	16.519			
5,000.0	5,000.0	4,987.8	4,977.2	11.1	12.4	-26.86	331.5	-167.9	372.5	349.9	22.59	16.488			

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2209A - HZ - Plan #2													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			
5,100.0	5,100.0	5,087.5	5,076.7	11.3	12.6	-26.98	337.3	-171.7	379.4	356.4	23.06	16.457		
5,200.0	5,200.0	5,187.3	5,176.2	11.6	12.9	-27.09	343.2	-175.5	386.4	362.9	23.52	16.428 SF		
5,232.1	5,232.1	5,200.0	5,188.9	11.6	12.9	-27.10	344.0	-176.0	389.1	365.5	23.62	16.473		
5,250.0	5,250.0	5,218.3	5,207.0	11.7	13.0	150.42	345.5	-177.0	391.2	367.7	23.44	16.687		
5,300.0	5,299.8	5,250.0	5,238.4	11.7	13.1	149.99	349.6	-179.3	401.9	378.5	23.41	17.167		
5,350.0	5,349.0	5,272.1	5,260.1	11.8	13.2	149.25	353.4	-181.5	419.1	395.9	23.22	18.049		
5,400.0	5,397.1	5,300.0	5,287.1	11.9	13.3	148.30	359.3	-184.9	442.3	419.4	22.91	19.306		
5,450.0	5,443.7	5,317.7	5,304.0	12.0	13.3	146.74	363.8	-187.4	470.9	448.4	22.49	20.943		
5,500.0	5,488.3	5,336.4	5,321.7	12.1	13.4	144.66	369.0	-190.3	504.3	482.3	22.03	22.891		
5,550.0	5,530.6	5,350.0	5,334.5	12.2	13.5	141.59	373.2	-192.6	541.7	520.1	21.64	25.030		
5,600.0	5,570.2	5,365.0	5,348.5	12.4	13.6	137.55	378.1	-195.4	582.5	561.0	21.48	27.119		
5,650.0	5,606.6	5,375.2	5,357.7	12.5	13.6	131.58	381.6	-197.3	625.9	604.1	21.80	28.716		
5,700.0	5,639.6	5,382.7	5,364.6	12.8	13.7	122.97	384.4	-198.8	671.4	648.5	22.86	29.374		
5,750.0	5,668.8	5,400.0	5,380.2	13.0	13.8	113.10	391.0	-202.4	718.5	694.1	24.39	29.453		
5,800.0	5,694.0	5,400.0	5,380.2	13.4	13.8	96.61	391.0	-202.4	766.1	739.7	26.33	29.100		
5,850.0	5,714.9	5,400.0	5,380.2	13.7	13.8	77.71	391.0	-202.4	814.1	787.5	26.63	30.570		
5,900.0	5,731.4	5,400.0	5,380.2	14.2	13.8	60.25	391.0	-202.4	862.1	837.5	24.63	34.999		
5,950.0	5,743.3	5,400.0	5,380.2	14.6	13.8	46.71	391.0	-202.4	909.6	888.1	21.52	42.262		
6,000.0	5,750.5	5,383.4	5,365.3	15.2	13.7	35.14	384.7	-199.0	956.0	938.1	17.86	53.539		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2210B - HZ - Plan #2													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		
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-32.9	32.9				
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-32.9	32.9	32.8	0.19	175.537	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-32.9	32.9	32.3	0.64	51.701	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	0.0	-32.9	32.9	31.9	1.09	30.314	
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-32.9	32.9	31.4	1.54	21.444	
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-32.9	32.9	31.0	1.99	16.589	
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	0.0	-32.9	32.9	30.5	2.44	13.527	
700.0	700.0	700.0	700.0	1.4	1.4	-90.00	0.0	-32.9	32.9	30.1	2.88	11.419	
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	0.0	-32.9	32.9	29.6	3.33	9.880	
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	0.0	-32.9	32.9	29.2	3.78	8.706	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	0.0	-32.9	32.9	28.7	4.23	7.782	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-90.00	0.0	-32.9	32.9	28.3	4.68	7.035	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.00	0.0	-32.9	32.9	27.8	5.13	6.419	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-90.00	0.0	-32.9	32.9	27.4	5.58	5.902	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-90.00	0.0	-32.9	32.9	26.9	6.03	5.462	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-90.00	0.0	-32.9	32.9	26.5	6.48	5.083	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-90.00	0.0	-32.9	32.9	26.0	6.93	4.753	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-90.00	0.0	-32.9	32.9	25.6	7.38	4.464	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-90.00	0.0	-32.9	32.9	25.1	7.83	4.207	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-90.00	0.0	-32.9	32.9	24.7	8.28	3.979	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-90.00	0.0	-32.9	32.9	24.2	8.73	3.774	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-90.00	0.0	-32.9	32.9	23.8	9.18	3.589	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-90.00	0.0	-32.9	32.9	23.3	9.63	3.422	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	-90.00	0.0	-32.9	32.9	22.9	10.08	3.269	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	-90.00	0.0	-32.9	32.9	22.4	10.53	3.129	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	-90.00	0.0	-32.9	32.9	22.0	10.98	3.001	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	-90.00	0.0	-32.9	32.9	21.5	11.43	2.883	
2,700.0	2,700.0	2,700.0	2,700.0	5.9	5.9	-90.00	0.0	-32.9	32.9	21.1	11.88	2.774	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	-90.00	0.0	-32.9	32.9	20.6	12.33	2.673	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	-90.00	0.0	-32.9	32.9	20.2	12.77	2.579	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	-90.00	0.0	-32.9	32.9	19.7	13.22	2.491	
3,100.0	3,100.0	3,100.0	3,100.0	6.8	6.8	-90.00	0.0	-32.9	32.9	19.3	13.67	2.409	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	-90.00	0.0	-32.9	32.9	18.8	14.12	2.333	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	-90.00	0.0	-32.9	32.9	18.4	14.57	2.261	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	-90.00	0.0	-32.9	32.9	17.9	15.02	2.193	
3,500.0	3,500.0	3,500.0	3,500.0	7.7	7.7	-90.00	0.0	-32.9	32.9	17.5	15.47	2.129	
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	-90.00	0.0	-32.9	32.9	17.0	15.92	2.069	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	-90.00	0.0	-32.9	32.9	16.6	16.37	2.012	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	-90.00	0.0	-32.9	32.9	16.1	16.82	1.959	
3,900.0	3,900.0	3,900.0	3,900.0	8.6	8.6	-90.00	0.0	-32.9	32.9	15.7	17.27	1.908	
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	-90.00	0.0	-32.9	32.9	15.2	17.72	1.859	
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	-90.00	0.0	-32.9	32.9	14.8	18.17	1.813	
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	-90.00	0.0	-32.9	32.9	14.3	18.62	1.769	
4,300.0	4,300.0	4,300.0	4,300.0	9.5	9.5	-90.00	0.0	-32.9	32.9	13.9	19.07	1.728	
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	-90.00	0.0	-32.9	32.9	13.4	19.52	1.688	
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	-90.00	0.0	-32.9	32.9	13.0	19.97	1.650	
4,600.0	4,600.0	4,600.0	4,600.0	10.2	10.2	-90.00	0.0	-32.9	32.9	12.5	20.42	1.614	
4,700.0	4,700.0	4,700.0	4,700.0	10.4	10.4	-90.00	0.0	-32.9	32.9	12.1	20.87	1.579	
4,800.0	4,800.0	4,800.0	4,800.0	10.7	10.7	-90.00	0.0	-32.9	32.9	11.6	21.32	1.545	
4,900.0	4,900.0	4,900.0	4,900.0	10.9	10.9	-90.00	0.0	-32.9	32.9	11.2	21.77	1.514	
5,000.0	5,000.0	5,000.0	5,000.0	11.1	11.1	-90.00	0.0	-32.9	32.9	10.7	22.21	1.483 Level 3	
5,100.0	5,100.0	5,100.0	5,100.0	11.3	11.3	-90.00	0.0	-32.9	32.9	10.3	22.66	1.454 Level 3	

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2210B - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-ISWWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		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	Separation Factor		
5,200.0	5,200.0	5,200.0	5,200.0	11.6	11.6	-90.00	0.0	-32.9	32.9	9.8	23.11	1.425	Level 3	
5,221.2	5,221.2	5,221.2	5,221.2	11.6	11.6	-90.00	0.0	-32.9	32.9	9.7	23.21	1.419	Level 3, CC	
5,232.1	5,232.1	5,232.1	5,232.1	11.6	11.6	-90.00	0.0	-32.9	32.9	9.7	23.26	1.416	Level 3, ES	
5,250.0	5,250.0	5,249.6	5,249.6	11.7	11.7	88.67	0.3	-33.0	33.0	9.7	23.33	1.416	Level 3, SF	
5,300.0	5,299.8	5,297.5	5,297.3	11.7	11.8	100.78	3.9	-34.3	35.3	11.7	23.51	1.500	Level 3	
5,350.0	5,349.0	5,342.2	5,341.4	11.8	11.9	118.83	11.0	-36.9	44.4	20.8	23.57	1.883		
5,400.0	5,397.1	5,382.1	5,380.0	11.9	12.0	132.65	20.4	-40.2	63.6	40.2	23.37	2.722		
5,450.0	5,443.7	5,416.1	5,412.2	12.0	12.1	140.42	30.5	-43.8	91.8	68.9	22.94	4.003		
5,500.0	5,488.3	5,443.9	5,438.1	12.1	12.1	144.00	40.2	-47.3	126.8	104.4	22.37	5.670		
5,550.0	5,530.6	5,465.9	5,458.1	12.2	12.2	144.68	48.9	-50.3	166.8	145.0	21.76	7.666		
5,600.0	5,570.2	5,482.5	5,472.9	12.4	12.2	142.78	55.9	-52.8	210.4	189.1	21.27	9.892		
5,650.0	5,606.6	5,500.0	5,488.3	12.5	12.3	139.45	63.8	-55.6	256.7	235.7	21.02	12.211		
5,700.0	5,639.6	5,500.0	5,488.3	12.8	12.3	125.99	63.8	-55.6	304.6	282.2	22.38	13.610		
5,750.0	5,668.8	5,500.0	5,488.3	13.0	12.3	101.00	63.8	-55.6	353.6	328.6	24.96	14.167		
5,800.0	5,694.0	5,500.0	5,488.3	13.4	12.3	67.14	63.8	-55.6	402.9	378.8	24.12	16.703		
5,850.0	5,714.9	5,500.0	5,488.3	13.7	12.3	41.86	63.8	-55.6	452.2	432.8	19.34	23.378		
5,900.0	5,731.4	5,500.0	5,488.3	14.2	12.3	27.98	63.8	-55.6	501.0	485.7	15.23	32.902		
5,950.0	5,743.3	5,500.0	5,488.3	14.6	12.3	20.23	63.8	-55.6	549.0	536.6	12.39	44.302		
6,000.0	5,750.5	5,500.0	5,488.3	15.2	12.3	15.51	63.8	-55.6	596.1	585.6	10.52	56.665		
6,050.2	5,753.0	5,478.7	5,469.5	15.7	12.2	10.87	54.2	-52.3	641.5	632.4	9.07	70.730		
6,100.0	5,753.0	5,469.4	5,461.2	16.3	12.2	10.27	50.3	-50.9	686.1	676.9	9.20	74.581		
6,200.0	5,753.0	5,450.0	5,443.7	17.6	12.1	9.15	42.5	-48.1	777.1	767.5	9.53	81.513		
6,300.0	5,753.0	5,450.0	5,443.7	19.0	12.1	9.15	42.5	-48.1	869.5	859.4	10.17	85.490		
6,400.0	5,753.0	5,424.9	5,420.5	20.5	12.1	7.91	33.4	-44.8	962.6	952.0	10.56	91.149		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2211A - HZ - Plan #2														Offset Site Error:	0.0 ft
Survey Program: 0-ISCSA 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	3.0	3.0	0.0	0.0	41.04	75.1	65.3	99.5						
100.0	100.0	103.0	103.0	0.1	0.1	41.04	75.1	65.3	99.5	99.3	0.19	511.859			
200.0	200.0	203.0	203.0	0.3	0.3	41.04	75.1	65.3	99.5	98.9	0.64	154.528			
300.0	300.0	303.0	303.0	0.5	0.6	41.04	75.1	65.3	99.5	98.4	1.09	91.001			
400.0	400.0	403.0	403.0	0.8	0.8	41.04	75.1	65.3	99.5	98.0	1.54	64.489			
500.0	500.0	503.0	503.0	1.0	1.0	41.04	75.1	65.3	99.5	97.5	1.99	49.939			
600.0	600.0	603.0	603.0	1.2	1.2	41.04	75.1	65.3	99.5	97.1	2.44	40.747			
700.0	700.0	703.0	703.0	1.4	1.4	41.04	75.1	65.3	99.5	96.6	2.89	34.412			
800.0	800.0	803.0	803.0	1.7	1.7	41.04	75.1	65.3	99.5	96.2	3.34	29.782			
900.0	900.0	903.0	903.0	1.9	1.9	41.04	75.1	65.3	99.5	95.7	3.79	26.250			
1,000.0	1,000.0	1,003.0	1,003.0	2.1	2.1	41.04	75.1	65.3	99.5	95.3	4.24	23.467			
1,100.0	1,100.0	1,103.0	1,103.0	2.3	2.3	41.04	75.1	65.3	99.5	94.8	4.69	21.218			
1,200.0	1,200.0	1,203.0	1,203.0	2.6	2.6	41.04	75.1	65.3	99.5	94.4	5.14	19.362			
1,300.0	1,300.0	1,303.0	1,303.0	2.8	2.8	41.04	75.1	65.3	99.5	93.9	5.59	17.805			
1,400.0	1,400.0	1,403.0	1,403.0	3.0	3.0	41.04	75.1	65.3	99.5	93.5	6.04	16.479			
1,500.0	1,500.0	1,503.0	1,503.0	3.2	3.2	41.04	75.1	65.3	99.5	93.0	6.49	15.337			
1,600.0	1,600.0	1,603.0	1,603.0	3.5	3.5	41.04	75.1	65.3	99.5	92.6	6.94	14.343			
1,700.0	1,700.0	1,703.0	1,703.0	3.7	3.7	41.04	75.1	65.3	99.5	92.1	7.39	13.471			
1,800.0	1,800.0	1,803.0	1,803.0	3.9	3.9	41.04	75.1	65.3	99.5	91.7	7.84	12.698			
1,900.0	1,900.0	1,903.0	1,903.0	4.1	4.1	41.04	75.1	65.3	99.5	91.2	8.29	12.009			
2,000.0	2,000.0	2,003.0	2,003.0	4.4	4.4	41.04	75.1	65.3	99.5	90.8	8.74	11.391			
2,100.0	2,100.0	2,103.0	2,103.0	4.6	4.6	41.04	75.1	65.3	99.5	90.3	9.19	10.833			
2,200.0	2,200.0	2,203.0	2,203.0	4.8	4.8	41.04	75.1	65.3	99.5	89.9	9.63	10.328			
2,300.0	2,300.0	2,303.0	2,303.0	5.0	5.0	41.04	75.1	65.3	99.5	89.4	10.08	9.868			
2,400.0	2,400.0	2,403.0	2,403.0	5.3	5.3	41.04	75.1	65.3	99.5	89.0	10.53	9.446			
2,500.0	2,500.0	2,503.0	2,503.0	5.5	5.5	41.04	75.1	65.3	99.5	88.5	10.98	9.060			
2,600.0	2,600.0	2,603.0	2,603.0	5.7	5.7	41.04	75.1	65.3	99.5	88.1	11.43	8.704			
2,700.0	2,700.0	2,703.0	2,703.0	5.9	5.9	41.04	75.1	65.3	99.5	87.6	11.88	8.374			
2,800.0	2,800.0	2,803.0	2,803.0	6.2	6.2	41.04	75.1	65.3	99.5	87.2	12.33	8.069			
2,900.0	2,900.0	2,903.0	2,903.0	6.4	6.4	41.04	75.1	65.3	99.5	86.7	12.78	7.785			
3,000.0	3,000.0	3,003.0	3,003.0	6.6	6.6	41.04	75.1	65.3	99.5	86.3	13.23	7.521			
3,100.0	3,100.0	3,103.0	3,103.0	6.8	6.8	41.04	75.1	65.3	99.5	85.8	13.68	7.274			
3,200.0	3,200.0	3,203.0	3,203.0	7.1	7.1	41.04	75.1	65.3	99.5	85.4	14.13	7.042			
3,300.0	3,300.0	3,303.0	3,303.0	7.3	7.3	41.04	75.1	65.3	99.5	84.9	14.58	6.825			
3,400.0	3,400.0	3,403.0	3,403.0	7.5	7.5	41.04	75.1	65.3	99.5	84.5	15.03	6.621			
3,500.0	3,500.0	3,503.0	3,503.0	7.7	7.7	41.04	75.1	65.3	99.5	84.0	15.48	6.429			
3,600.0	3,600.0	3,603.0	3,603.0	8.0	8.0	41.04	75.1	65.3	99.5	83.6	15.93	6.247			
3,700.0	3,700.0	3,703.0	3,703.0	8.2	8.2	41.04	75.1	65.3	99.5	83.1	16.38	6.076			
3,800.0	3,800.0	3,803.0	3,803.0	8.4	8.4	41.04	75.1	65.3	99.5	82.7	16.83	5.913			
3,900.0	3,900.0	3,903.0	3,903.0	8.6	8.6	41.04	75.1	65.3	99.5	82.2	17.28	5.760			
4,000.0	4,000.0	4,003.0	4,003.0	8.9	8.9	41.04	75.1	65.3	99.5	81.8	17.73	5.614			
4,100.0	4,100.0	4,103.0	4,103.0	9.1	9.1	41.04	75.1	65.3	99.5	81.3	18.18	5.475			
4,200.0	4,200.0	4,203.0	4,203.0	9.3	9.3	41.04	75.1	65.3	99.5	80.9	18.63	5.343			
4,300.0	4,300.0	4,303.0	4,303.0	9.5	9.5	41.04	75.1	65.3	99.5	80.4	19.07	5.217			
4,400.0	4,400.0	4,403.0	4,403.0	9.8	9.8	41.04	75.1	65.3	99.5	80.0	19.52	5.097			
4,500.0	4,500.0	4,503.0	4,503.0	10.0	10.0	41.04	75.1	65.3	99.5	79.5	19.97	4.982			
4,600.0	4,600.0	4,603.0	4,603.0	10.2	10.2	41.04	75.1	65.3	99.5	79.1	20.42	4.872			
4,700.0	4,700.0	4,703.0	4,703.0	10.4	10.4	41.04	75.1	65.3	99.5	78.6	20.87	4.767			
4,800.0	4,800.0	4,803.0	4,803.0	10.7	10.7	41.04	75.1	65.3	99.5	78.2	21.32	4.667			
4,900.0	4,900.0	4,903.0	4,903.0	10.9	10.9	41.04	75.1	65.3	99.5	77.7	21.77	4.570			
5,000.0	5,000.0	5,003.0	5,003.0	11.1	11.1	41.04	75.1	65.3	99.5	77.3	22.22	4.478			
5,100.0	5,100.0	5,103.0	5,103.0	11.3	11.3	41.04	75.1	65.3	99.5	76.8	22.67	4.389			

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2211A - HZ - Plan #2													Offset Site Error: 0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
5,123.3	5,123.3	5,126.3	5,126.3	11.4	11.4	41.04	75.1	65.3	99.5	76.7	22.78	4.369	CC, ES, SF
5,200.0	5,200.0	5,196.2	5,196.1	11.6	11.5	40.05	77.5	65.1	101.4	78.3	23.11	4.389	
5,232.1	5,232.1	5,224.1	5,223.8	11.6	11.6	38.71	80.9	64.8	104.3	81.0	23.25	4.485	
5,250.0	5,250.0	5,239.4	5,238.9	11.7	11.6	-144.51	83.4	64.6	106.7	83.3	23.30	4.577	
5,300.0	5,299.8	5,280.4	5,278.9	11.7	11.7	-147.80	92.2	63.8	118.3	95.0	23.36	5.066	
5,350.0	5,349.0	5,317.5	5,314.4	11.8	11.8	-151.35	102.9	62.8	137.6	114.4	23.23	5.922	
5,400.0	5,397.1	5,350.0	5,344.8	11.9	11.9	-154.32	114.3	61.8	164.1	141.2	22.91	7.164	
5,450.0	5,443.7	5,376.6	5,369.1	12.0	12.0	-156.15	125.1	60.9	197.1	174.7	22.39	8.802	
5,500.0	5,488.3	5,400.0	5,390.1	12.1	12.0	-157.14	135.5	59.9	235.2	213.5	21.70	10.840	
5,550.0	5,530.6	5,414.9	5,403.1	12.2	12.1	-156.19	142.6	59.3	277.5	256.6	20.93	13.257	
5,600.0	5,570.2	5,427.0	5,413.6	12.4	12.1	-153.63	148.7	58.8	322.8	302.6	20.21	15.973	
5,650.0	5,606.6	5,435.2	5,420.6	12.5	12.1	-147.72	153.0	58.4	370.3	350.3	19.92	18.588	
5,700.0	5,639.6	5,450.0	5,433.0	12.8	12.1	-139.67	160.9	57.7	419.3	399.0	20.32	20.633	
5,750.0	5,668.8	5,450.0	5,433.0	13.0	12.1	-109.38	160.9	57.7	468.7	444.5	24.24	19.338	
5,800.0	5,694.0	5,450.0	5,433.0	13.4	12.1	-60.26	160.9	57.7	518.4	495.4	23.06	22.482	
5,850.0	5,714.9	5,450.0	5,433.0	13.7	12.1	-32.28	160.9	57.7	567.9	551.1	16.87	33.656	
5,900.0	5,731.4	5,432.6	5,418.3	14.2	12.1	-18.83	151.6	58.5	616.4	603.7	12.68	48.593	
5,950.0	5,743.3	5,425.9	5,412.6	14.6	12.1	-13.58	148.2	58.8	664.0	653.5	10.53	63.082	
6,000.0	5,750.5	5,417.8	5,405.7	15.2	12.1	-10.51	144.1	59.2	710.4	701.2	9.15	77.679	
6,050.2	5,753.0	5,400.0	5,390.1	15.7	12.0	-8.45	135.5	59.9	755.5	747.0	8.47	89.241	
6,100.0	5,753.0	5,400.0	5,390.1	16.3	12.0	-8.45	135.5	59.9	799.2	790.5	8.74	91.431	
6,200.0	5,753.0	5,381.7	5,373.7	17.6	12.0	-8.25	127.3	60.7	888.6	879.3	9.30	95.544	
6,300.0	5,753.0	5,366.5	5,360.0	19.0	11.9	-8.08	120.8	61.2	979.3	969.4	9.90	98.869	

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #2														Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	32.4	32.4						
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	32.4	32.4	32.2	0.19	172.578			
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	32.4	32.4	31.8	0.64	50.830			
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	32.4	32.4	31.3	1.09	29.804			
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	32.4	32.4	30.9	1.54	21.083			
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	32.4	32.4	30.4	1.99	16.310			
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	32.4	32.4	30.0	2.44	13.300			
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	32.4	32.4	29.5	2.88	11.227			
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	32.4	32.4	29.1	3.33	9.714			
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	32.4	32.4	28.6	3.78	8.560			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.00	0.0	32.4	32.4	28.2	4.23	7.651			
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	90.00	0.0	32.4	32.4	27.7	4.68	6.916			
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	90.00	0.0	32.4	32.4	27.3	5.13	6.311			
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	90.00	0.0	32.4	32.4	26.8	5.58	5.802			
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	90.00	0.0	32.4	32.4	26.4	6.03	5.370			
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	90.00	0.0	32.4	32.4	25.9	6.48	4.998 CC, ES			
1,600.0	1,600.0	1,599.1	1,599.1	3.5	3.5	88.17	1.1	33.7	33.8	26.8	6.92	4.875 SF			
1,700.0	1,700.0	1,697.9	1,697.8	3.7	3.7	83.50	4.3	37.7	38.0	30.7	7.36	5.162			
1,800.0	1,800.0	1,797.7	1,797.3	3.9	3.9	78.63	8.7	43.1	44.1	36.3	7.81	5.643			
1,900.0	1,900.0	1,897.4	1,896.8	4.1	4.1	74.96	13.0	48.5	50.4	42.1	8.25	6.100			
2,000.0	2,000.0	1,997.2	1,996.3	4.4	4.4	72.11	17.4	53.9	56.8	48.1	8.70	6.528			
2,100.0	2,100.0	2,096.9	2,095.8	4.6	4.6	69.85	21.8	59.4	63.4	54.2	9.15	6.926			
2,200.0	2,200.0	2,196.7	2,195.3	4.8	4.8	68.01	26.2	64.8	70.0	60.4	9.60	7.294			
2,300.0	2,300.0	2,296.5	2,294.8	5.0	5.1	66.49	30.5	70.2	76.7	66.7	10.05	7.634			
2,400.0	2,400.0	2,396.2	2,394.4	5.3	5.3	65.22	34.9	75.6	83.5	73.0	10.50	7.949			
2,500.0	2,500.0	2,496.0	2,493.9	5.5	5.5	64.13	39.3	81.0	90.2	79.3	10.95	8.240			
2,600.0	2,600.0	2,595.7	2,593.4	5.7	5.8	63.20	43.7	86.4	97.0	85.6	11.40	8.511			
2,700.0	2,700.0	2,695.5	2,692.9	5.9	6.0	62.39	48.0	91.8	103.9	92.0	11.86	8.762			
2,800.0	2,800.0	2,795.2	2,792.4	6.2	6.3	61.68	52.4	97.2	110.7	98.4	12.31	8.995			
2,900.0	2,900.0	2,895.0	2,891.9	6.4	6.5	61.06	56.8	102.7	117.6	104.8	12.76	9.213			
3,000.0	3,000.0	2,894.8	2,891.4	6.6	6.8	60.50	61.1	108.1	124.5	111.2	13.22	9.416			
3,100.0	3,100.0	3,094.5	3,090.9	6.8	7.0	60.00	65.5	113.5	131.4	117.7	13.67	9.607			
3,200.0	3,200.0	3,194.3	3,190.5	7.1	7.3	59.55	69.9	118.9	138.2	124.1	14.13	9.785			
3,300.0	3,300.0	3,294.0	3,290.0	7.3	7.5	59.15	74.3	124.3	145.2	130.6	14.58	9.952			
3,400.0	3,400.0	3,393.8	3,389.5	7.5	7.7	58.78	78.6	129.7	152.1	137.0	15.04	10.110			
3,500.0	3,500.0	3,498.9	3,494.5	7.7	8.0	58.50	82.2	134.1	157.4	141.9	15.48	10.164			
3,600.0	3,600.0	3,604.5	3,600.0	8.0	8.2	58.42	83.3	135.5	159.0	143.1	15.90	10.005			
3,700.0	3,700.0	3,704.5	3,700.0	8.2	8.4	58.42	83.3	135.5	159.0	142.7	16.32	9.745			
3,800.0	3,800.0	3,804.5	3,800.0	8.4	8.6	58.42	83.3	135.5	159.0	142.3	16.76	9.487			
3,900.0	3,900.0	3,904.5	3,900.0	8.6	8.8	58.42	83.3	135.5	159.0	141.8	17.21	9.242			
4,000.0	4,000.0	4,004.5	4,000.0	8.9	9.0	58.42	83.3	135.5	159.0	141.4	17.65	9.009			
4,100.0	4,100.0	4,104.5	4,100.0	9.1	9.2	58.42	83.3	135.5	159.0	140.9	18.10	8.787			
4,200.0	4,200.0	4,204.5	4,200.0	9.3	9.4	58.42	83.3	135.5	159.0	140.5	18.54	8.576			
4,300.0	4,300.0	4,304.5	4,300.0	9.5	9.6	58.42	83.3	135.5	159.0	140.1	18.99	8.375			
4,400.0	4,400.0	4,404.5	4,400.0	9.8	9.9	58.42	83.3	135.5	159.0	139.6	19.44	8.183			
4,500.0	4,500.0	4,504.5	4,500.0	10.0	10.1	58.42	83.3	135.5	159.0	139.2	19.88	8.000			
4,600.0	4,600.0	4,604.5	4,600.0	10.2	10.3	58.42	83.3	135.5	159.0	138.7	20.33	7.824			
4,700.0	4,700.0	4,704.5	4,700.0	10.4	10.5	58.42	83.3	135.5	159.0	138.3	20.77	7.656			
4,800.0	4,800.0	4,804.5	4,800.0	10.7	10.7	58.42	83.3	135.5	159.0	137.8	21.22	7.495			
4,900.0	4,900.0	4,904.5	4,900.0	10.9	10.9	58.42	83.3	135.5	159.0	137.4	21.67	7.340			
5,000.0	5,000.0	5,004.5	5,000.0	11.1	11.2	58.42	83.3	135.5	159.0	136.9	22.11	7.192			
5,100.0	5,100.0	5,104.5	5,100.0	11.3	11.4	58.42	83.3	135.5	159.0	136.5	22.56	7.050			

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #2													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)						
5,200.0	5,200.0	5,204.5	5,200.0	11.6	11.6	58.42	83.3	135.5	159.0	136.0	23.01	6.913		
5,232.1	5,232.1	5,236.6	5,232.1	11.6	11.7	58.42	83.3	135.5	159.0	135.9	23.15	6.870		
5,250.0	5,250.0	5,250.0	5,245.5	11.7	11.7	-124.00	83.4	135.5	159.4	136.3	23.11	6.897		
5,300.0	5,299.8	5,291.4	5,286.9	11.7	11.8	-125.18	86.0	136.2	164.2	141.0	23.22	7.072		
5,350.0	5,349.0	5,329.4	5,324.4	11.8	11.9	-127.24	91.2	137.6	175.0	151.7	23.23	7.531		
5,400.0	5,397.1	5,363.7	5,358.0	11.9	12.0	-129.45	98.1	139.5	192.1	169.0	23.14	8.304		
5,450.0	5,443.7	5,400.0	5,392.9	12.0	12.1	-132.03	107.7	142.2	215.9	193.0	22.91	9.422		
5,500.0	5,488.3	5,418.9	5,410.7	12.1	12.2	-131.83	113.6	143.8	245.4	222.8	22.64	10.839		
5,550.0	5,530.6	5,439.3	5,429.8	12.2	12.2	-131.16	120.7	145.7	280.4	258.0	22.38	12.532		
5,600.0	5,570.2	5,450.0	5,439.7	12.4	12.3	-127.71	124.7	146.8	319.7	297.4	22.35	14.309		
5,650.0	5,606.6	5,466.9	5,455.0	12.5	12.3	-124.10	131.4	148.7	362.3	339.8	22.50	16.100		
5,700.0	5,639.6	5,474.9	5,462.2	12.8	12.3	-116.36	134.8	149.6	407.3	384.0	23.30	17.483		
5,750.0	5,668.8	5,479.6	5,466.4	13.0	12.4	-104.52	136.8	150.1	453.9	429.3	24.59	18.461		
5,800.0	5,694.0	5,481.4	5,468.1	13.4	12.4	-88.25	137.6	150.4	501.5	476.0	25.54	19.637		
5,850.0	5,714.9	5,480.8	5,467.5	13.7	12.4	-69.70	137.3	150.3	549.5	524.8	24.73	22.219		
5,900.0	5,731.4	5,478.0	5,465.0	14.2	12.4	-52.94	136.1	149.9	597.4	575.3	22.02	27.134		
5,950.0	5,743.3	5,473.3	5,460.8	14.6	12.3	-40.24	134.1	149.4	644.7	626.0	18.72	34.445		
6,000.0	5,750.5	5,467.0	5,455.1	15.2	12.3	-31.31	131.5	148.7	691.1	675.2	15.86	43.585		
6,050.2	5,753.0	5,450.0	5,439.7	15.7	12.3	-24.32	124.7	146.8	736.6	723.1	13.52	54.482		
6,100.0	5,753.0	5,450.0	5,439.7	16.3	12.3	-24.32	124.7	146.8	781.0	767.1	13.86	56.361		
6,200.0	5,753.0	5,450.0	5,439.7	17.6	12.3	-24.32	124.7	146.8	871.9	857.3	14.59	59.774		
6,300.0	5,753.0	5,423.8	5,415.4	19.0	12.2	-22.44	115.3	144.2	963.6	948.9	14.64	65.830		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3409A - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSA 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	3.0	3.0	0.0	0.0	-23.70	75.1	-32.9	82.0					
100.0	100.0	103.0	103.0	0.1	0.1	-23.70	75.1	-32.9	82.0	81.8	0.19	421.565		
200.0	200.0	203.0	203.0	0.3	0.3	-23.70	75.1	-32.9	82.0	81.3	0.64	127.279		
300.0	300.0	303.0	303.0	0.5	0.6	-23.70	75.1	-32.9	82.0	80.9	1.09	74.955		
400.0	400.0	403.0	403.0	0.8	0.8	-23.70	75.1	-32.9	82.0	80.4	1.54	53.118		
500.0	500.0	503.1	503.1	1.0	1.0	-23.70	75.0	-32.9	82.0	80.0	1.99	41.147		
600.0	600.0	605.2	605.2	1.2	1.2	-24.61	73.2	-33.5	80.6	78.1	2.42	33.296		
700.0	700.0	706.9	706.8	1.4	1.4	-27.41	67.9	-35.2	76.6	73.8	2.84	27.003		
800.0	800.0	806.7	806.3	1.7	1.6	-31.36	61.3	-37.4	71.9	68.6	3.27	21.997		
900.0	900.0	906.5	905.8	1.9	1.8	-35.83	54.7	-39.5	67.5	63.8	3.71	18.198		
1,000.0	1,000.0	1,006.2	1,005.3	2.1	2.1	-40.89	48.1	-41.6	63.6	59.5	4.17	15.278		
1,100.0	1,100.0	1,106.0	1,104.8	2.3	2.3	-46.56	41.5	-43.8	60.3	55.7	4.63	13.026		
1,200.0	1,200.0	1,205.7	1,204.3	2.6	2.5	-52.81	34.8	-45.9	57.6	52.5	5.10	11.295		
1,300.0	1,300.0	1,305.5	1,303.8	2.8	2.8	-59.58	28.2	-48.0	55.7	50.1	5.58	9.983		
1,400.0	1,400.0	1,405.2	1,403.4	3.0	3.0	-66.72	21.6	-50.2	54.6	48.6	6.06	9.013		
1,474.1	1,474.1	1,479.2	1,477.1	3.2	3.2	-72.14	16.7	-51.8	54.4	48.0	6.41	8.477 CC		
1,500.0	1,500.0	1,505.0	1,502.9	3.2	3.3	-74.04	15.0	-52.3	54.4	47.9	6.54	8.322 ES		
1,600.0	1,600.0	1,604.8	1,602.4	3.5	3.6	-81.29	8.3	-54.4	55.1	48.1	7.01	7.859		
1,700.0	1,700.0	1,704.5	1,701.9	3.7	3.8	-88.27	1.7	-56.6	56.6	49.1	7.47	7.574		
1,800.0	1,800.0	1,804.3	1,801.4	3.9	4.1	-94.78	-4.9	-58.7	58.9	51.0	7.93	7.428		
1,900.0	1,900.0	1,904.0	1,900.9	4.1	4.3	-100.73	-11.5	-60.8	62.0	53.6	8.39	7.388		
2,000.0	2,000.0	2,003.8	2,000.4	4.4	4.6	-106.08	-18.2	-63.0	65.6	56.8	8.83	7.424		
2,100.0	2,100.0	2,103.5	2,100.0	4.6	4.8	-110.84	-24.8	-65.1	69.7	60.5	9.28	7.515		
2,200.0	2,200.0	2,203.3	2,199.5	4.8	5.1	-115.03	-31.4	-67.2	74.3	64.6	9.72	7.642		
2,300.0	2,300.0	2,303.0	2,299.0	5.0	5.4	-118.73	-38.0	-69.4	79.2	69.1	10.17	7.793		
2,400.0	2,400.0	2,402.8	2,398.5	5.3	5.6	-121.98	-44.6	-71.5	84.4	73.8	10.61	7.958		
2,500.0	2,500.0	2,502.6	2,498.0	5.5	5.9	-124.85	-51.3	-73.6	89.9	78.8	11.05	8.131		
2,600.0	2,600.0	2,602.3	2,597.5	5.7	6.1	-127.38	-57.9	-75.8	95.5	84.0	11.50	8.308		
2,700.0	2,700.0	2,702.1	2,697.0	5.9	6.4	-129.63	-64.5	-77.9	101.3	89.4	11.94	8.485		
2,800.0	2,800.0	2,801.8	2,796.5	6.2	6.7	-131.63	-71.1	-80.0	107.3	94.9	12.39	8.659		
2,900.0	2,900.0	2,901.6	2,896.1	6.4	6.9	-133.42	-77.8	-82.2	113.4	100.5	12.84	8.829		
3,000.0	3,000.0	3,001.3	2,995.6	6.6	7.2	-135.02	-84.4	-84.3	119.5	106.2	13.29	8.995		
3,100.0	3,100.0	3,101.1	3,095.1	6.8	7.5	-136.47	-91.0	-86.5	125.8	112.0	13.74	9.155		
3,200.0	3,200.0	3,200.9	3,194.6	7.1	7.7	-137.78	-97.6	-88.6	132.1	117.9	14.19	9.310		
3,300.0	3,300.0	3,300.6	3,294.1	7.3	8.0	-138.97	-104.3	-90.7	138.5	123.8	14.64	9.459		
3,400.0	3,400.0	3,400.4	3,393.6	7.5	8.2	-140.06	-110.9	-92.9	144.9	129.8	15.09	9.601		
3,500.0	3,500.0	3,500.1	3,493.1	7.7	8.5	-141.05	-117.5	-95.0	151.4	135.9	15.55	9.739		
3,600.0	3,600.0	3,599.9	3,592.7	8.0	8.8	-141.96	-124.1	-97.1	157.9	141.9	16.00	9.870		
3,700.0	3,700.0	3,699.6	3,692.2	8.2	9.0	-142.80	-130.8	-99.3	164.5	148.1	16.46	9.997		
3,800.0	3,800.0	3,799.4	3,791.7	8.4	9.3	-143.57	-137.4	-101.4	171.1	154.2	16.91	10.117		
3,900.0	3,900.0	3,899.2	3,891.2	8.6	9.6	-144.29	-144.0	-103.5	177.7	160.4	17.37	10.233		
4,000.0	4,000.0	3,998.9	3,990.7	8.9	9.8	-144.95	-150.6	-105.7	184.4	166.6	17.83	10.344		
4,100.0	4,100.0	4,098.7	4,090.2	9.1	10.1	-145.57	-157.2	-107.8	191.1	172.8	18.28	10.451		
4,200.0	4,200.0	4,198.4	4,189.7	9.3	10.3	-146.15	-163.9	-109.9	197.8	179.0	18.74	10.553		
4,300.0	4,300.0	4,298.2	4,289.2	9.5	10.6	-146.68	-170.5	-112.1	204.5	185.3	19.20	10.651		
4,400.0	4,400.0	4,397.9	4,388.8	9.8	10.9	-147.19	-177.1	-114.2	211.2	191.6	19.66	10.745		
4,500.0	4,500.0	4,497.7	4,488.3	10.0	11.1	-147.66	-183.7	-116.3	218.0	197.9	20.12	10.836		
4,600.0	4,600.0	4,597.4	4,587.8	10.2	11.4	-148.11	-190.4	-118.5	224.7	204.2	20.57	10.923		
4,700.0	4,700.0	4,697.2	4,687.3	10.4	11.7	-148.52	-197.0	-120.6	231.5	210.5	21.03	11.006		
4,800.0	4,800.0	4,797.0	4,786.8	10.7	11.9	-148.92	-203.6	-122.7	238.3	216.8	21.49	11.086		
4,900.0	4,900.0	4,896.7	4,886.3	10.9	12.2	-149.29	-210.2	-124.9	245.1	223.1	21.95	11.163		
5,000.0	5,000.0	4,996.5	4,985.8	11.1	12.5	-149.64	-216.9	-127.0	251.9	229.5	22.42	11.238		

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3409A - 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						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	5,100.0	5,096.2	5,085.4	11.3	12.7	-149.98	-223.5	-129.1	258.7	235.8	22.88	11.309		
5,200.0	5,200.0	5,195.0	5,183.9	11.6	13.0	-150.29	-230.0	-131.3	265.5	242.2	23.34	11.379		
5,232.1	5,232.1	5,216.3	5,205.1	11.6	13.0	-150.38	-231.9	-131.9	268.5	245.0	23.46	11.444		
5,250.0	5,250.0	5,228.1	5,216.8	11.7	13.1	27.13	-233.4	-132.3	270.4	247.1	23.31	11.599		
5,300.0	5,299.8	5,261.0	5,249.2	11.7	13.2	26.92	-238.6	-134.0	275.0	251.6	23.40	11.754		
5,350.0	5,349.0	5,300.0	5,287.1	11.8	13.4	27.05	-247.3	-136.8	278.5	255.2	23.35	11.929		
5,400.0	5,397.1	5,326.5	5,312.4	11.9	13.5	27.31	-254.8	-139.2	280.6	257.5	23.12	12.139		
5,450.0	5,443.7	5,359.1	5,343.0	12.0	13.7	27.88	-265.7	-142.7	281.7	258.9	22.78	12.366		
5,500.0	5,488.3	5,400.0	5,380.2	12.1	13.9	28.94	-281.8	-147.9	281.8	259.4	22.38	12.593		
5,550.0	5,530.6	5,424.2	5,401.5	12.2	14.1	29.79	-292.6	-151.4	280.5	258.7	21.85	12.842		
5,600.0	5,570.2	5,450.0	5,423.7	12.4	14.2	30.86	-305.2	-155.5	278.6	257.3	21.29	13.085		
5,650.0	5,606.6	5,489.1	5,455.9	12.5	14.5	32.75	-326.2	-162.2	275.6	254.7	20.91	13.180		
5,700.0	5,639.6	5,521.6	5,481.4	12.8	14.8	34.65	-345.4	-168.4	271.9	251.3	20.62	13.188		
5,750.0	5,668.8	5,550.0	5,502.6	13.0	15.1	36.58	-363.4	-174.2	267.8	247.3	20.49	13.070		
5,800.0	5,694.0	5,586.7	5,528.5	13.4	15.4	39.34	-388.3	-182.2	263.3	242.4	20.84	12.631		
5,850.0	5,714.9	5,619.5	5,549.9	13.7	15.8	42.14	-411.8	-189.8	258.6	237.1	21.50	12.029		
5,900.0	5,731.4	5,650.0	5,568.4	14.2	16.1	45.04	-434.9	-197.3	254.1	231.7	22.48	11.307		
5,950.0	5,743.3	5,685.6	5,588.2	14.6	16.5	48.65	-463.0	-206.3	250.1	226.0	24.01	10.415		
6,000.0	5,750.5	5,719.1	5,605.0	15.2	16.9	52.31	-490.6	-215.2	246.7	220.9	25.84	9.549		
6,050.2	5,753.0	5,750.0	5,618.7	15.7	17.3	55.85	-517.0	-223.7	244.5	216.8	27.77	8.807		
6,069.7	5,753.0	5,766.6	5,625.4	16.0	17.5	57.68	-531.4	-228.4	244.2	215.5	28.73	8.502		
6,100.0	5,753.0	5,788.0	5,633.4	16.3	17.8	59.93	-550.4	-234.5	244.9	215.0	29.94	8.181		
6,200.0	5,753.0	5,863.6	5,654.7	17.6	18.9	66.33	-619.3	-256.7	255.7	221.9	33.78	7.568		
6,300.0	5,753.0	5,944.1	5,665.6	19.0	20.1	70.30	-695.2	-281.1	275.7	238.6	37.17	7.419		
6,400.0	5,753.0	6,045.8	5,666.5	20.5	21.5	72.18	-792.3	-311.0	299.7	259.4	40.39	7.421		
6,500.0	5,753.0	6,161.7	5,666.5	22.0	23.1	73.49	-904.8	-339.1	319.1	275.4	43.71	7.299		
6,600.0	5,753.0	6,280.1	5,666.5	23.6	24.8	74.31	-1,021.2	-360.6	332.7	285.6	47.11	7.062		
6,700.0	5,753.0	6,400.2	5,666.5	25.3	26.6	74.75	-1,140.4	-375.0	340.4	289.8	50.56	6.732		
6,767.8	5,753.0	6,482.1	5,666.6	26.4	27.8	74.84	-1,222.1	-380.6	342.1	289.2	52.90	6.466		
6,800.0	5,753.0	6,521.1	5,666.6	26.9	28.4	74.85	-1,261.0	-382.0	342.2	288.3	53.91	6.348		
6,846.0	5,753.0	6,575.6	5,666.6	27.6	29.2	74.85	-1,315.6	-382.6	342.2	286.9	55.28	6.190		
6,900.0	5,753.0	6,629.6	5,666.6	28.5	30.1	74.85	-1,369.5	-382.6	342.2	285.2	57.00	6.002		
7,000.0	5,753.0	6,729.6	5,666.6	30.2	31.8	74.85	-1,469.5	-382.6	342.2	281.8	60.34	5.671		
7,100.0	5,753.0	6,829.6	5,666.6	32.0	33.5	74.85	-1,569.5	-382.6	342.2	278.4	63.72	5.370		
7,200.0	5,753.0	6,929.6	5,666.6	33.8	35.2	74.85	-1,669.5	-382.6	342.1	275.0	67.13	5.097		
7,300.0	5,753.0	7,029.6	5,666.6	35.5	36.9	74.85	-1,769.5	-382.6	342.1	271.6	70.58	4.848		
7,400.0	5,753.0	7,129.6	5,666.6	37.3	38.7	74.85	-1,869.5	-382.6	342.1	268.1	74.05	4.620		
7,500.0	5,753.0	7,229.6	5,666.6	39.2	40.4	74.85	-1,969.5	-382.6	342.1	264.6	77.55	4.412		
7,600.0	5,753.0	7,329.6	5,666.6	41.0	42.2	74.85	-2,069.5	-382.6	342.1	261.1	81.07	4.220		
7,700.0	5,753.0	7,429.6	5,666.6	42.8	44.0	74.86	-2,169.5	-382.6	342.1	257.5	84.61	4.044		
7,800.0	5,753.0	7,529.6	5,666.6	44.7	45.8	74.86	-2,269.5	-382.6	342.1	254.0	88.16	3.880		
7,900.0	5,753.0	7,629.6	5,666.6	46.5	47.6	74.86	-2,369.5	-382.6	342.1	250.4	91.73	3.730		
8,000.0	5,753.0	7,729.6	5,666.7	48.3	49.4	74.86	-2,469.5	-382.6	342.1	246.8	95.31	3.589		
8,100.0	5,753.0	7,829.6	5,666.7	50.2	51.3	74.86	-2,569.5	-382.6	342.1	243.2	98.90	3.459		
8,200.0	5,753.0	7,929.6	5,666.7	52.1	53.1	74.86	-2,669.5	-382.6	342.1	239.6	102.50	3.337		
8,300.0	5,753.0	8,029.6	5,666.7	53.9	54.9	74.86	-2,769.5	-382.6	342.1	236.0	106.11	3.224		
8,400.0	5,753.0	8,129.6	5,666.7	55.8	56.8	74.86	-2,869.5	-382.6	342.1	232.4	109.73	3.118		
8,500.0	5,753.0	8,229.6	5,666.7	57.7	58.6	74.86	-2,969.5	-382.5	342.1	228.7	113.36	3.018		
8,600.0	5,753.0	8,329.6	5,666.7	59.5	60.5	74.87	-3,069.5	-382.5	342.1	225.1	116.99	2.924		
8,700.0	5,753.0	8,429.6	5,666.7	61.4	62.3	74.87	-3,169.5	-382.5	342.1	221.4	120.62	2.836		
8,800.0	5,753.0	8,529.6	5,666.7	63.3	64.2	74.87	-3,269.5	-382.5	342.1	217.8	124.27	2.753		
8,900.0	5,753.0	8,629.6	5,666.7	65.2	66.1	74.87	-3,369.5	-382.5	342.1	214.1	127.92	2.674		

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3409A - 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		
9,000.0	5,753.0	8,729.6	5,666.7	67.1	67.9	74.87	-3,469.5	-382.5	342.1	210.5	131.57	2.600		
9,100.0	5,753.0	8,829.6	5,666.7	69.0	69.8	74.87	-3,569.5	-382.5	342.0	206.8	135.23	2.529		
9,200.0	5,753.0	8,929.6	5,666.7	70.9	71.7	74.87	-3,669.5	-382.5	342.0	203.2	138.89	2.463		
9,300.0	5,753.0	9,029.6	5,666.8	72.7	73.6	74.87	-3,769.5	-382.5	342.0	199.5	142.55	2.399		
9,400.0	5,753.0	9,129.6	5,666.8	74.6	75.4	74.87	-3,869.5	-382.5	342.0	195.8	146.22	2.339		
9,500.0	5,753.0	9,229.6	5,666.8	76.5	77.3	74.88	-3,969.5	-382.5	342.0	192.1	149.89	2.282		
9,600.0	5,753.0	9,329.6	5,666.8	78.4	79.2	74.88	-4,069.5	-382.5	342.0	188.5	153.56	2.227		
9,700.0	5,753.0	9,429.6	5,666.8	80.3	81.1	74.88	-4,169.5	-382.5	342.0	184.8	157.24	2.175		
9,800.0	5,753.0	9,529.6	5,666.8	82.2	83.0	74.88	-4,269.5	-382.5	342.0	181.1	160.92	2.125		
9,900.0	5,753.0	9,629.6	5,666.8	84.1	84.9	74.88	-4,369.5	-382.5	342.0	177.4	164.60	2.078		
10,000.0	5,753.0	9,729.6	5,666.8	86.0	86.8	74.88	-4,469.5	-382.5	342.0	173.7	168.28	2.032		
10,100.0	5,753.0	9,829.6	5,666.8	87.9	88.6	74.88	-4,569.5	-382.5	342.0	170.0	171.97	1.989		
10,200.0	5,753.0	9,929.6	5,666.8	89.8	90.5	74.88	-4,669.5	-382.5	342.0	166.3	175.65	1.947		
10,300.0	5,753.0	10,029.6	5,666.8	91.7	92.4	74.88	-4,769.5	-382.5	342.0	162.6	179.34	1.907		
10,400.0	5,753.0	10,129.6	5,666.8	93.6	94.3	74.89	-4,869.5	-382.5	342.0	158.9	183.03	1.868		
10,500.0	5,753.0	10,229.6	5,666.9	95.5	96.2	74.89	-4,969.5	-382.5	342.0	155.2	186.72	1.831		
10,600.0	5,753.0	10,329.6	5,666.9	97.4	98.1	74.89	-5,069.5	-382.5	342.0	151.6	190.42	1.796		
10,700.0	5,753.0	10,429.6	5,666.9	99.3	100.0	74.89	-5,169.5	-382.5	342.0	147.9	194.11	1.762		
10,800.0	5,753.0	10,529.6	5,666.9	101.2	101.9	74.89	-5,269.5	-382.5	342.0	144.1	197.81	1.729		
10,900.0	5,753.0	10,629.6	5,666.9	103.1	103.8	74.89	-5,369.5	-382.5	342.0	140.4	201.51	1.697		
11,000.0	5,753.0	10,729.6	5,666.9	105.1	105.7	74.89	-5,469.5	-382.5	341.9	136.7	205.20	1.666		
11,100.0	5,753.0	10,829.6	5,666.9	107.0	107.6	74.89	-5,569.5	-382.5	341.9	133.0	208.90	1.637		
11,200.0	5,753.0	10,929.6	5,666.9	108.9	109.5	74.90	-5,669.5	-382.5	341.9	129.3	212.60	1.608		
11,300.0	5,753.0	11,029.6	5,666.9	110.8	111.4	74.90	-5,769.5	-382.5	341.9	125.6	216.31	1.581		
11,400.0	5,753.0	11,129.6	5,666.9	112.7	113.3	74.90	-5,869.5	-382.5	341.9	121.9	220.01	1.554		
11,500.0	5,753.0	11,229.6	5,666.9	114.6	115.2	74.90	-5,969.5	-382.4	341.9	118.2	223.71	1.528		
11,600.0	5,753.0	11,329.6	5,666.9	116.5	117.1	74.90	-6,069.5	-382.4	341.9	114.5	227.42	1.503		
11,700.0	5,753.0	11,429.6	5,666.9	118.4	119.0	74.90	-6,169.5	-382.4	341.9	110.8	231.12	1.479 Level 3		
11,800.0	5,753.0	11,529.6	5,667.0	120.3	120.9	74.90	-6,269.5	-382.4	341.9	107.1	234.83	1.456 Level 3		
11,900.0	5,753.0	11,629.6	5,667.0	122.2	122.8	74.90	-6,369.5	-382.4	341.9	103.4	238.54	1.433 Level 3		
12,000.0	5,753.0	11,729.6	5,667.0	124.1	124.7	74.90	-6,469.5	-382.4	341.9	99.6	242.24	1.411 Level 3		
12,100.0	5,753.0	11,829.6	5,667.0	126.1	126.7	74.91	-6,569.5	-382.4	341.9	95.9	245.95	1.390 Level 3		
12,200.0	5,753.0	11,929.6	5,667.0	128.0	128.6	74.91	-6,669.5	-382.4	341.9	92.2	249.66	1.369 Level 3		
12,300.0	5,753.0	12,029.6	5,667.0	129.9	130.5	74.91	-6,769.5	-382.4	341.9	88.5	253.37	1.349 Level 3		
12,400.0	5,753.0	12,129.6	5,667.0	131.8	132.4	74.91	-6,869.5	-382.4	341.9	84.8	257.08	1.330 Level 3		
12,486.0	5,753.0	12,215.6	5,667.0	133.4	134.0	74.91	-6,955.6	-382.4	341.9	81.6	260.27	1.313 Level 3, SF		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3411A - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSA 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	3.0	3.0	0.0	0.0	23.34	75.1	32.4	81.7					
100.0	100.0	103.0	103.0	0.1	0.1	23.34	75.1	32.4	81.7	81.6	0.19	420.448		
200.0	200.0	203.0	203.0	0.3	0.3	23.34	75.1	32.4	81.7	81.1	0.64	126.941		
300.0	300.0	303.0	303.0	0.5	0.6	23.34	75.1	32.4	81.7	80.7	1.09	74.756		
400.0	400.0	403.0	403.0	0.8	0.8	23.34	75.1	32.4	81.7	80.2	1.54	52.977		
500.0	500.0	503.1	503.1	1.0	1.0	23.34	75.1	32.4	81.7	79.8	1.99	41.037		
600.0	600.0	605.4	605.3	1.2	1.2	24.18	73.2	32.8	80.2	77.8	2.42	33.161		
700.0	700.0	707.2	707.0	1.4	1.4	26.75	67.8	34.2	76.0	73.2	2.84	26.781		
800.0	800.0	807.0	806.6	1.7	1.6	30.40	61.0	35.8	70.8	67.6	3.27	21.688		
900.0	900.0	906.7	906.1	1.9	1.8	34.62	54.3	37.5	66.0	62.3	3.71	17.814		
1,000.0	1,000.0	1,006.5	1,005.6	2.1	2.1	39.46	47.5	39.1	61.6	57.4	4.16	14.818		
1,100.0	1,100.0	1,106.2	1,105.1	2.3	2.3	45.01	40.7	40.8	57.7	53.0	4.62	12.489		
1,200.0	1,200.0	1,206.0	1,204.6	2.6	2.5	51.29	34.0	42.4	54.4	49.3	5.09	10.684		
1,300.0	1,300.0	1,305.8	1,304.1	2.8	2.8	58.29	27.2	44.0	51.8	46.2	5.57	9.303		
1,400.0	1,400.0	1,405.5	1,403.6	3.0	3.0	65.88	20.5	45.7	50.1	44.0	6.05	8.274		
1,500.0	1,500.0	1,505.3	1,503.1	3.2	3.3	73.86	13.7	47.3	49.3	42.8	6.54	7.541		
1,530.1	1,530.1	1,535.3	1,533.1	3.3	3.4	76.30	11.7	47.8	49.2	42.6	6.68	7.370 CC		
1,600.0	1,600.0	1,605.0	1,602.7	3.5	3.6	81.94	6.9	49.0	49.5	42.5	7.02	7.052 ES		
1,700.0	1,700.0	1,704.8	1,702.2	3.7	3.8	89.80	0.2	50.6	50.6	43.2	7.49	6.763		
1,800.0	1,800.0	1,804.5	1,801.7	3.9	4.1	97.18	-6.6	52.3	52.7	44.8	7.95	6.630		
1,900.0	1,900.0	1,904.3	1,901.2	4.1	4.3	103.89	-13.3	53.9	55.6	47.2	8.41	6.613		
2,000.0	2,000.0	2,004.1	2,000.7	4.4	4.6	109.88	-20.1	55.6	59.2	50.3	8.86	6.678		
2,100.0	2,100.0	2,103.8	2,100.2	4.6	4.8	115.14	-26.9	57.2	63.3	54.0	9.30	6.801		
2,200.0	2,200.0	2,203.6	2,199.7	4.8	5.1	119.73	-33.6	58.9	67.9	58.1	9.75	6.963		
2,300.0	2,300.0	2,303.3	2,299.3	5.0	5.4	123.71	-40.4	60.5	72.9	62.7	10.19	7.148		
2,400.0	2,400.0	2,403.1	2,398.8	5.3	5.6	127.17	-47.1	62.2	78.1	67.5	10.64	7.347		
2,500.0	2,500.0	2,502.8	2,498.3	5.5	5.9	130.18	-53.9	63.8	83.7	72.6	11.08	7.551		
2,600.0	2,600.0	2,602.6	2,597.8	5.7	6.1	132.82	-60.7	65.5	89.4	77.9	11.53	7.757		
2,700.0	2,700.0	2,702.3	2,697.3	5.9	6.4	135.13	-67.4	67.1	95.3	83.3	11.97	7.960		
2,800.0	2,800.0	2,802.1	2,796.8	6.2	6.7	137.17	-74.2	68.8	101.3	88.9	12.42	8.160		
2,900.0	2,900.0	2,901.9	2,896.3	6.4	6.9	138.98	-81.0	70.4	107.5	94.6	12.87	8.353		
3,000.0	3,000.0	3,001.6	2,995.8	6.6	7.2	140.59	-87.7	72.1	113.7	100.4	13.32	8.540		
3,100.0	3,100.0	3,101.4	3,095.4	6.8	7.5	142.04	-94.5	73.7	120.1	106.3	13.77	8.720		
3,200.0	3,200.0	3,201.1	3,194.9	7.1	7.7	143.33	-101.2	75.4	126.5	112.2	14.22	8.892		
3,300.0	3,300.0	3,300.9	3,294.4	7.3	8.0	144.51	-108.0	77.0	132.9	118.2	14.67	9.058		
3,400.0	3,400.0	3,400.6	3,393.9	7.5	8.2	145.57	-114.8	78.7	139.4	124.3	15.13	9.216		
3,500.0	3,500.0	3,500.4	3,493.4	7.7	8.5	146.54	-121.5	80.3	146.0	130.4	15.58	9.368		
3,600.0	3,600.0	3,600.2	3,592.9	8.0	8.8	147.43	-128.3	82.0	152.6	136.5	16.04	9.513		
3,700.0	3,700.0	3,699.9	3,692.4	8.2	9.0	148.24	-135.0	83.6	159.2	142.7	16.49	9.652		
3,800.0	3,800.0	3,799.7	3,792.0	8.4	9.3	148.98	-141.8	85.3	165.8	148.9	16.95	9.784		
3,900.0	3,900.0	3,899.4	3,891.5	8.6	9.6	149.67	-148.6	86.9	172.5	155.1	17.40	9.911		
4,000.0	4,000.0	3,999.2	3,991.0	8.9	9.8	150.31	-155.3	88.5	179.2	161.3	17.86	10.033		
4,100.0	4,100.0	4,098.9	4,090.5	9.1	10.1	150.90	-162.1	90.2	185.9	167.6	18.32	10.149		
4,200.0	4,200.0	4,198.7	4,190.0	9.3	10.3	151.45	-168.8	91.8	192.6	173.9	18.78	10.260		
4,300.0	4,300.0	4,298.4	4,289.5	9.5	10.6	151.97	-175.6	93.5	199.4	180.2	19.23	10.367		
4,400.0	4,400.0	4,398.2	4,389.0	9.8	10.9	152.45	-182.4	95.1	206.2	186.5	19.69	10.469		
4,500.0	4,500.0	4,498.0	4,488.5	10.0	11.1	152.90	-189.1	96.8	212.9	192.8	20.15	10.567		
4,600.0	4,600.0	4,597.7	4,588.1	10.2	11.4	153.32	-195.9	98.4	219.7	199.1	20.61	10.661		
4,700.0	4,700.0	4,697.5	4,687.6	10.4	11.7	153.72	-202.6	100.1	226.5	205.5	21.07	10.751		
4,800.0	4,800.0	4,797.2	4,787.1	10.7	11.9	154.09	-209.4	101.7	233.4	211.8	21.53	10.838		
4,900.0	4,900.0	4,897.0	4,886.6	10.9	12.2	154.44	-216.2	103.4	240.2	218.2	21.99	10.921		
5,000.0	5,000.0	4,996.7	4,986.1	11.1	12.5	154.77	-222.9	105.0	247.0	224.6	22.45	11.001		

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3411A - HZ - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,100.0	5,096.5	5,085.6	11.3	12.7	155.09	-229.7	106.7	253.8	230.9	22.91	11.078		
5,200.0	5,200.0	5,195.5	5,184.4	11.6	13.0	155.38	-236.4	108.3	260.7	237.3	23.37	11.153		
5,232.1	5,232.1	5,216.9	5,205.7	11.6	13.0	155.47	-238.3	108.8	263.6	240.1	23.50	11.218		
5,250.0	5,250.0	5,228.8	5,217.5	11.7	13.1	-26.75	-239.8	109.1	265.6	242.2	23.31	11.393		
5,300.0	5,299.8	5,261.8	5,250.1	11.7	13.2	-26.56	-245.2	110.4	270.1	246.7	23.39	11.548		
5,350.0	5,349.0	5,300.0	5,287.2	11.8	13.4	-26.70	-253.8	112.6	273.6	250.3	23.34	11.724		
5,400.0	5,397.1	5,327.6	5,313.6	11.9	13.5	-27.00	-261.8	114.5	275.8	252.7	23.11	11.933		
5,450.0	5,443.7	5,360.4	5,344.2	12.0	13.7	-27.60	-272.9	117.2	276.9	254.1	22.77	12.161		
5,500.0	5,488.3	5,400.0	5,380.3	12.1	13.9	-28.67	-288.9	121.1	277.0	254.7	22.36	12.389		
5,550.0	5,530.6	5,425.7	5,403.0	12.2	14.1	-29.59	-300.6	124.0	275.9	254.1	21.83	12.637		
5,600.0	5,570.2	5,450.0	5,423.8	12.4	14.2	-30.62	-312.7	126.9	274.1	252.9	21.26	12.892		
5,650.0	5,606.6	5,490.9	5,457.5	12.5	14.6	-32.65	-335.1	132.4	271.2	250.3	20.90	12.976		
5,700.0	5,639.6	5,523.5	5,483.0	12.8	14.8	-34.60	-354.8	137.2	267.7	247.1	20.62	12.985		
5,750.0	5,668.8	5,550.0	5,502.9	13.0	15.1	-36.45	-372.0	141.4	263.9	243.4	20.46	12.896		
5,800.0	5,694.0	5,588.8	5,530.1	13.4	15.5	-39.39	-398.8	147.9	259.6	238.7	20.87	12.435		
5,850.0	5,714.9	5,621.6	5,551.6	13.7	15.8	-42.25	-422.9	153.8	255.2	233.7	21.55	11.843		
5,900.0	5,731.4	5,650.0	5,568.8	14.2	16.1	-44.98	-444.8	159.1	251.2	228.7	22.47	11.177		
5,950.0	5,743.3	5,687.9	5,589.9	14.6	16.6	-48.83	-475.4	166.6	247.5	223.4	24.11	10.266		
6,000.0	5,750.5	5,721.4	5,606.5	15.2	17.0	-52.51	-503.7	173.5	244.7	218.8	25.89	9.451		
6,050.2	5,753.0	5,755.5	5,621.5	15.7	17.4	-56.41	-533.4	180.7	243.0	215.1	27.90	8.710		
6,062.2	5,753.0	5,763.8	5,624.9	15.9	17.5	-57.33	-540.7	182.5	242.9	214.5	28.39	8.557		
6,100.0	5,753.0	5,790.5	5,634.8	16.3	17.9	-60.18	-564.8	188.4	244.0	214.1	29.88	8.166		
6,200.0	5,753.0	5,866.1	5,655.9	17.6	19.0	-66.61	-635.3	205.5	256.0	222.3	33.69	7.598		
6,300.0	5,753.0	5,950.0	5,666.8	19.0	20.3	-70.68	-716.0	225.2	277.1	240.0	37.13	7.463		
6,400.0	5,753.0	6,048.7	5,667.4	20.5	21.7	-72.47	-812.2	247.3	302.0	261.7	40.32	7.490		
6,500.0	5,753.0	6,164.6	5,667.4	22.0	23.3	-73.79	-926.5	266.9	322.2	278.5	43.70	7.371		
6,600.0	5,753.0	6,283.2	5,667.4	23.6	25.1	-74.64	-1,044.3	279.9	336.6	289.4	47.17	7.135		
6,700.0	5,753.0	6,403.6	5,667.4	25.3	26.9	-75.10	-1,164.6	285.5	345.0	294.3	50.68	6.807		
6,767.8	5,753.0	6,476.3	5,667.4	26.4	28.1	-75.23	-1,237.3	285.7	347.9	294.9	52.96	6.569		
6,800.0	5,753.0	6,508.6	5,667.4	26.9	28.6	-75.29	-1,269.5	285.7	348.9	294.8	54.07	6.453		
6,846.0	5,753.0	6,554.6	5,667.4	27.6	29.4	-75.31	-1,315.5	285.7	349.5	293.8	55.61	6.284		
6,900.0	5,753.0	6,608.5	5,667.4	28.5	30.3	-75.31	-1,369.5	285.7	349.5	292.1	57.37	6.092		
7,000.0	5,753.0	6,708.5	5,667.4	30.2	32.0	-75.31	-1,469.5	285.7	349.5	288.7	60.75	5.752		
7,100.0	5,753.0	6,808.5	5,667.4	32.0	33.8	-75.31	-1,569.5	285.7	349.5	285.3	64.17	5.446		
7,200.0	5,753.0	6,908.5	5,667.4	33.8	35.5	-75.31	-1,669.5	285.7	349.5	281.8	67.63	5.168		
7,300.0	5,753.0	7,008.5	5,667.4	35.5	37.3	-75.31	-1,769.5	285.7	349.5	278.4	71.11	4.914		
7,400.0	5,753.0	7,108.5	5,667.4	37.3	39.1	-75.31	-1,869.5	285.7	349.5	274.9	74.62	4.683		
7,500.0	5,753.0	7,208.5	5,667.4	39.2	40.9	-75.31	-1,969.5	285.7	349.5	271.3	78.15	4.472		
7,600.0	5,753.0	7,308.5	5,667.4	41.0	42.7	-75.31	-2,069.5	285.7	349.5	267.8	81.70	4.278		
7,700.0	5,753.0	7,408.5	5,667.3	42.8	44.5	-75.31	-2,169.5	285.7	349.5	264.2	85.27	4.099		
7,800.0	5,753.0	7,508.5	5,667.3	44.7	46.4	-75.30	-2,269.5	285.8	349.5	260.7	88.85	3.934		
7,900.0	5,753.0	7,608.5	5,667.3	46.5	48.2	-75.30	-2,369.5	285.8	349.5	257.1	92.44	3.781		
8,000.0	5,753.0	7,708.5	5,667.3	48.3	50.0	-75.30	-2,469.5	285.8	349.5	253.5	96.04	3.639		
8,100.0	5,753.0	7,808.5	5,667.3	50.2	51.9	-75.30	-2,569.5	285.8	349.5	249.9	99.65	3.508		
8,200.0	5,753.0	7,908.5	5,667.3	52.1	53.7	-75.30	-2,669.5	285.8	349.6	246.3	103.27	3.385		
8,300.0	5,753.0	8,008.5	5,667.3	53.9	55.6	-75.30	-2,769.5	285.8	349.6	242.7	106.90	3.270		
8,400.0	5,753.0	8,108.5	5,667.3	55.8	57.5	-75.30	-2,869.5	285.8	349.6	239.0	110.54	3.162		
8,500.0	5,753.0	8,208.5	5,667.3	57.7	59.3	-75.30	-2,969.5	285.8	349.6	235.4	114.18	3.062		
8,600.0	5,753.0	8,308.5	5,667.3	59.5	61.2	-75.30	-3,069.5	285.8	349.6	231.8	117.83	2.967		
8,700.0	5,753.0	8,408.5	5,667.3	61.4	63.1	-75.30	-3,169.5	285.8	349.6	228.1	121.48	2.878		
8,800.0	5,753.0	8,508.5	5,667.3	63.3	65.0	-75.30	-3,269.5	285.8	349.6	224.5	125.14	2.794		
8,900.0	5,753.0	8,608.5	5,667.3	65.2	66.8	-75.30	-3,369.5	285.8	349.6	220.8	128.80	2.714		

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3411A - HZ - Plan #2													Offset Site Error: 0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
9,000.0	5,753.0	8,708.5	5,667.3	67.1	68.7	-75.30	-3,469.5	285.8	349.6	217.1	132.47	2.639	
9,100.0	5,753.0	8,808.5	5,667.3	69.0	70.6	-75.29	-3,569.5	285.8	349.6	213.5	136.14	2.568	
9,200.0	5,753.0	8,908.5	5,667.3	70.9	72.5	-75.29	-3,669.5	285.8	349.6	209.8	139.81	2.501	
9,300.0	5,753.0	9,008.5	5,667.2	72.7	74.4	-75.29	-3,769.5	285.8	349.6	206.1	143.49	2.437	
9,400.0	5,753.0	9,108.5	5,667.2	74.6	76.3	-75.29	-3,869.5	285.8	349.6	202.5	147.17	2.376	
9,500.0	5,753.0	9,208.5	5,667.2	76.5	78.2	-75.29	-3,969.5	285.9	349.6	198.8	150.85	2.318	
9,600.0	5,753.0	9,308.5	5,667.2	78.4	80.0	-75.29	-4,069.5	285.9	349.7	195.1	154.54	2.263	
9,700.0	5,753.0	9,408.5	5,667.2	80.3	81.9	-75.29	-4,169.5	285.9	349.7	191.4	158.23	2.210	
9,800.0	5,753.0	9,508.5	5,667.2	82.2	83.8	-75.29	-4,269.5	285.9	349.7	187.8	161.92	2.160	
9,900.0	5,753.0	9,608.5	5,667.2	84.1	85.7	-75.29	-4,369.5	285.9	349.7	184.1	165.61	2.111	
10,000.0	5,753.0	9,708.5	5,667.2	86.0	87.6	-75.29	-4,469.5	285.9	349.7	180.4	169.30	2.065	
10,100.0	5,753.0	9,808.5	5,667.2	87.9	89.5	-75.29	-4,569.5	285.9	349.7	176.7	173.00	2.021	
10,200.0	5,753.0	9,908.5	5,667.2	89.8	91.4	-75.29	-4,669.5	285.9	349.7	173.0	176.69	1.979	
10,300.0	5,753.0	10,008.5	5,667.2	91.7	93.3	-75.29	-4,769.5	285.9	349.7	169.3	180.39	1.939	
10,400.0	5,753.0	10,108.5	5,667.2	93.6	95.2	-75.28	-4,869.5	285.9	349.7	165.6	184.09	1.900	
10,500.0	5,753.0	10,208.5	5,667.2	95.5	97.1	-75.28	-4,969.5	285.9	349.7	161.9	187.79	1.862	
10,600.0	5,753.0	10,308.5	5,667.2	97.4	99.0	-75.28	-5,069.5	285.9	349.7	158.2	191.50	1.826	
10,700.0	5,753.0	10,408.5	5,667.2	99.3	100.9	-75.28	-5,169.5	285.9	349.7	154.5	195.20	1.792	
10,800.0	5,753.0	10,508.5	5,667.2	101.2	102.8	-75.28	-5,269.5	285.9	349.7	150.8	198.90	1.758	
10,900.0	5,753.0	10,608.5	5,667.1	103.1	104.7	-75.28	-5,369.5	285.9	349.7	147.1	202.61	1.726	
11,000.0	5,753.0	10,708.5	5,667.1	105.1	106.6	-75.28	-5,469.5	285.9	349.8	143.4	206.32	1.695	
11,100.0	5,753.0	10,808.5	5,667.1	107.0	108.5	-75.28	-5,569.5	285.9	349.8	139.7	210.03	1.665	
11,200.0	5,753.0	10,908.5	5,667.1	108.9	110.5	-75.28	-5,669.5	286.0	349.8	136.0	213.73	1.636	
11,300.0	5,753.0	11,008.5	5,667.1	110.8	112.4	-75.28	-5,769.5	286.0	349.8	132.3	217.44	1.609	
11,400.0	5,753.0	11,108.5	5,667.1	112.7	114.3	-75.28	-5,869.5	286.0	349.8	128.6	221.15	1.582	
11,500.0	5,753.0	11,208.5	5,667.1	114.6	116.2	-75.28	-5,969.5	286.0	349.8	124.9	224.87	1.556	
11,600.0	5,753.0	11,308.5	5,667.1	116.5	118.1	-75.28	-6,069.5	286.0	349.8	121.2	228.58	1.530	
11,700.0	5,753.0	11,408.5	5,667.1	118.4	120.0	-75.27	-6,169.5	286.0	349.8	117.5	232.29	1.506	
11,800.0	5,753.0	11,508.5	5,667.1	120.3	121.9	-75.27	-6,269.5	286.0	349.8	113.8	236.00	1.482 Level 3	
11,900.0	5,753.0	11,608.5	5,667.1	122.2	123.8	-75.27	-6,369.5	286.0	349.8	110.1	239.72	1.459 Level 3	
12,000.0	5,753.0	11,708.5	5,667.1	124.1	125.7	-75.27	-6,469.5	286.0	349.8	106.4	243.43	1.437 Level 3	
12,100.0	5,753.0	11,808.5	5,667.1	126.1	127.6	-75.27	-6,569.5	286.0	349.8	102.7	247.15	1.415 Level 3	
12,200.0	5,753.0	11,908.5	5,667.1	128.0	129.5	-75.27	-6,669.5	286.0	349.8	99.0	250.86	1.395 Level 3	
12,300.0	5,753.0	12,008.5	5,667.1	129.9	131.4	-75.27	-6,769.5	286.0	349.8	95.3	254.58	1.374 Level 3	
12,400.0	5,753.0	12,108.5	5,667.0	131.8	133.4	-75.27	-6,869.5	286.0	349.9	91.6	258.30	1.354 Level 3	
12,486.0	5,753.0	12,194.6	5,667.0	133.4	135.0	-75.27	-6,955.5	286.0	349.9	88.4	261.50	1.338 Level 3, SF	

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3412B - HZ - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: O-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	65.3	65.3					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	65.3	65.3	65.1	0.19	348.106		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	65.3	65.3	64.7	0.64	102.529		
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	65.3	65.3	64.2	1.09	60.118		
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	65.3	65.3	63.8	1.54	42.527		
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	65.3	65.3	63.3	1.99	32.900 CC, ES		
600.0	600.0	599.0	599.0	1.2	1.2	91.34	-1.5	66.1	66.1	63.7	2.41	27.456		
700.0	700.0	697.7	697.6	1.4	1.4	95.15	-6.2	68.3	68.6	65.8	2.82	24.331		
800.0	800.0	797.5	797.1	1.7	1.6	99.90	-12.4	71.3	72.4	69.2	3.25	22.277		
900.0	900.0	897.2	896.6	1.9	1.8	104.15	-18.7	74.3	76.7	73.0	3.69	20.773		
1,000.0	1,000.0	997.0	996.1	2.1	2.0	107.93	-25.0	77.3	81.3	77.2	4.14	19.655		
1,100.0	1,100.0	1,096.7	1,095.6	2.3	2.3	111.29	-31.3	80.3	86.2	81.7	4.59	18.810		
1,200.0	1,200.0	1,196.5	1,195.1	2.6	2.5	114.28	-37.6	83.2	91.5	86.4	5.04	18.159		
1,300.0	1,300.0	1,296.3	1,294.6	2.8	2.8	116.95	-43.8	86.2	96.9	91.4	5.49	17.653		
1,400.0	1,400.0	1,396.0	1,394.2	3.0	3.0	119.32	-50.1	89.2	102.5	96.6	5.94	17.253		
1,500.0	1,500.0	1,495.8	1,493.7	3.2	3.3	121.45	-56.4	92.2	108.3	101.9	6.40	16.934		
1,600.0	1,600.0	1,595.5	1,593.2	3.5	3.5	123.35	-62.7	95.2	114.2	107.4	6.85	16.676		
1,700.0	1,700.0	1,695.3	1,692.7	3.7	3.8	125.07	-69.0	98.2	120.2	112.9	7.30	16.464		
1,800.0	1,800.0	1,795.0	1,792.2	3.9	4.1	126.63	-75.2	101.2	126.4	118.6	7.76	16.290		
1,900.0	1,900.0	1,894.8	1,891.7	4.1	4.3	128.03	-81.5	104.2	132.6	124.4	8.21	16.145		
2,000.0	2,000.0	1,994.5	1,991.2	4.4	4.6	129.32	-87.8	107.2	138.9	130.2	8.67	16.023		
2,100.0	2,100.0	2,094.3	2,090.7	4.6	4.8	130.49	-94.1	110.2	145.2	136.1	9.12	15.919		
2,200.0	2,200.0	2,194.1	2,190.3	4.8	5.1	131.56	-100.4	113.2	151.6	142.0	9.58	15.831		
2,300.0	2,300.0	2,293.8	2,289.8	5.0	5.3	132.55	-106.6	116.2	158.1	148.0	10.03	15.755		
2,400.0	2,400.0	2,393.6	2,389.3	5.3	5.6	133.45	-112.9	119.2	164.5	154.1	10.49	15.690		
2,500.0	2,500.0	2,493.3	2,488.8	5.5	5.9	134.29	-119.2	122.2	171.1	160.1	10.94	15.633		
2,600.0	2,600.0	2,593.1	2,588.3	5.7	6.1	135.07	-125.5	125.2	177.6	166.2	11.40	15.583		
2,700.0	2,700.0	2,692.8	2,687.8	5.9	6.4	135.79	-131.8	128.2	184.2	172.4	11.86	15.540		
2,800.0	2,800.0	2,792.6	2,787.3	6.2	6.7	136.46	-138.1	131.2	190.9	178.5	12.31	15.501		
2,900.0	2,900.0	2,892.4	2,886.9	6.4	6.9	137.09	-144.3	134.2	197.5	184.7	12.77	15.467		
3,000.0	3,000.0	2,992.1	2,986.4	6.6	7.2	137.67	-150.6	137.2	204.2	190.9	13.23	15.436		
3,100.0	3,100.0	3,091.9	3,085.9	6.8	7.4	138.22	-156.9	140.2	210.9	197.2	13.68	15.409		
3,200.0	3,200.0	3,191.6	3,185.4	7.1	7.7	138.74	-163.2	143.2	217.6	203.4	14.14	15.384		
3,300.0	3,300.0	3,291.4	3,284.9	7.3	8.0	139.22	-169.5	146.2	224.3	209.7	14.60	15.362		
3,400.0	3,400.0	3,391.1	3,384.4	7.5	8.2	139.68	-175.7	149.2	231.0	216.0	15.06	15.342		
3,500.0	3,500.0	3,490.9	3,483.9	7.7	8.5	140.11	-182.0	152.2	237.8	222.3	15.52	15.324		
3,600.0	3,600.0	3,590.6	3,583.4	8.0	8.8	140.51	-188.3	155.1	244.5	228.6	15.98	15.307		
3,700.0	3,700.0	3,690.4	3,683.0	8.2	9.0	140.90	-194.6	158.1	251.3	234.9	16.43	15.292		
3,800.0	3,800.0	3,790.2	3,782.5	8.4	9.3	141.26	-200.9	161.1	258.1	241.2	16.89	15.278		
3,900.0	3,900.0	3,889.9	3,882.0	8.6	9.5	141.61	-207.1	164.1	264.9	247.5	17.35	15.265		
4,000.0	4,000.0	3,989.7	3,981.5	8.9	9.8	141.94	-213.4	167.1	271.7	253.9	17.81	15.253		
4,100.0	4,100.0	4,089.4	4,081.0	9.1	10.1	142.25	-219.7	170.1	278.5	260.2	18.27	15.242		
4,200.0	4,200.0	4,189.2	4,180.5	9.3	10.3	142.54	-226.0	173.1	285.3	266.6	18.73	15.231		
4,300.0	4,300.0	4,288.9	4,280.0	9.5	10.6	142.83	-232.3	176.1	292.2	273.0	19.19	15.222		
4,400.0	4,400.0	4,388.7	4,379.6	9.8	10.9	143.10	-238.5	179.1	299.0	279.3	19.65	15.213		
4,500.0	4,500.0	4,488.5	4,479.1	10.0	11.1	143.36	-244.8	182.1	305.8	285.7	20.12	15.204		
4,600.0	4,600.0	4,588.2	4,578.6	10.2	11.4	143.60	-251.1	185.1	312.7	292.1	20.58	15.196		
4,700.0	4,700.0	4,688.0	4,678.1	10.4	11.6	143.84	-257.4	188.1	319.5	298.5	21.04	15.189		
4,800.0	4,800.0	4,787.7	4,777.6	10.7	11.9	144.07	-263.7	191.1	326.4	304.9	21.50	15.181		
4,900.0	4,900.0	4,887.5	4,877.1	10.9	12.2	144.28	-269.9	194.1	333.3	311.3	21.96	15.175		
5,000.0	5,000.0	4,987.2	4,976.6	11.1	12.4	144.49	-276.2	197.1	340.1	317.7	22.42	15.168		
5,100.0	5,100.0	5,087.0	5,076.1	11.3	12.7	144.69	-282.5	200.1	347.0	324.1	22.89	15.162		

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3412B - HZ - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,200.0	5,186.8	5,175.7	11.6	13.0	144.88	-288.8	203.1	353.9	330.5	23.35	15.156		
5,232.1	5,232.1	5,218.8	5,207.6	11.6	13.0	144.94	-290.8	204.0	356.1	332.6	23.50	15.155		
5,250.0	5,250.0	5,236.6	5,225.4	11.7	13.1	-37.33	-291.9	204.6	357.1	333.8	23.32	15.309		
5,300.0	5,299.8	5,280.0	5,268.7	11.7	13.2	-37.56	-294.7	205.9	357.3	333.9	23.45	15.234		
5,350.0	5,349.0	5,313.7	5,302.2	11.8	13.3	-38.16	-297.8	207.4	355.5	332.0	23.45	15.158		
5,400.0	5,397.1	5,350.0	5,338.0	11.9	13.4	-39.19	-303.3	210.0	352.8	329.5	23.36	15.106		
5,450.0	5,443.7	5,372.8	5,360.2	12.0	13.5	-40.18	-307.9	212.2	349.2	326.1	23.15	15.083		
5,500.0	5,488.3	5,400.0	5,386.4	12.1	13.7	-41.54	-314.5	215.4	345.1	322.2	22.93	15.052		
5,550.0	5,530.6	5,431.5	5,416.1	12.2	13.8	-43.39	-323.7	219.8	340.5	317.7	22.75	14.968		
5,600.0	5,570.2	5,460.5	5,443.0	12.4	14.0	-45.44	-333.7	224.5	335.6	313.0	22.63	14.830		
5,650.0	5,606.6	5,489.3	5,469.0	12.5	14.2	-47.74	-344.8	229.8	330.8	308.1	22.65	14.603		
5,700.0	5,639.6	5,517.9	5,494.1	12.8	14.4	-50.29	-357.2	235.7	326.3	303.4	22.87	14.270		
5,750.0	5,668.8	5,550.0	5,521.4	13.0	14.6	-53.37	-372.5	243.0	322.6	299.2	23.38	13.795		
5,800.0	5,694.0	5,574.4	5,541.3	13.4	14.8	-55.91	-385.2	249.0	319.8	295.8	23.98	13.336		
5,850.0	5,714.9	5,600.0	5,561.6	13.7	15.0	-58.63	-399.3	255.8	318.5	293.7	24.80	12.845		
5,861.5	5,719.1	5,608.7	5,568.2	13.8	15.1	-59.55	-404.3	258.2	318.5	293.4	25.10	12.688		
5,900.0	5,731.4	5,630.0	5,584.2	14.2	15.3	-61.83	-417.0	264.2	319.0	293.1	25.93	12.307		
5,950.0	5,743.3	5,657.5	5,604.0	14.6	15.5	-64.71	-434.3	272.5	321.8	294.7	27.10	11.872		
6,000.0	5,750.5	5,684.8	5,622.6	15.2	15.8	-67.43	-452.3	281.1	327.0	298.6	28.35	11.533		
6,050.2	5,753.0	5,712.1	5,640.2	15.7	16.1	-69.95	-471.2	290.1	334.9	305.2	29.62	11.305		
6,100.0	5,753.0	5,740.2	5,657.0	16.3	16.4	-73.30	-491.5	299.7	346.1	315.1	30.98	11.172		
6,200.0	5,753.0	5,803.8	5,690.6	17.6	17.2	-79.75	-540.2	323.0	378.9	345.2	33.66	11.256		
6,300.0	5,753.0	5,877.0	5,720.8	19.0	18.2	-85.11	-600.3	351.7	420.3	384.1	36.27	11.589		
6,400.0	5,753.0	5,958.7	5,743.0	20.5	19.5	-88.62	-671.2	385.5	465.8	426.8	38.98	11.949		
6,500.0	5,753.0	6,045.8	5,753.0	22.0	20.9	-90.00	-749.2	422.7	512.4	470.5	41.84	12.246		
6,600.0	5,753.0	6,164.1	5,753.2	23.6	22.7	-90.03	-857.1	471.1	557.1	512.0	45.17	12.333		
6,700.0	5,753.0	6,296.2	5,753.2	25.3	24.6	-90.02	-980.8	517.3	595.9	547.1	48.80	12.211		
6,767.8	5,753.0	6,389.9	5,753.2	26.4	26.1	-90.02	-1,070.4	544.8	618.4	567.0	51.43	12.025		
6,800.0	5,753.0	6,435.7	5,753.2	26.9	26.8	-90.02	-1,114.6	556.6	627.8	574.9	52.85	11.879		
6,846.0	5,753.0	6,502.5	5,753.2	27.6	27.9	-90.02	-1,179.7	571.9	638.9	584.0	54.86	11.646		
6,900.0	5,753.0	6,582.4	5,753.2	28.5	29.2	-90.02	-1,258.1	587.3	649.3	592.2	57.08	11.374		
7,000.0	5,753.0	6,733.4	5,753.2	30.2	31.6	-90.02	-1,407.7	607.3	662.5	601.1	61.38	10.793		
7,100.0	5,753.0	6,886.7	5,753.2	32.0	34.0	-90.02	-1,560.7	615.5	667.9	602.1	65.73	10.161		
7,200.0	5,753.0	6,995.5	5,753.2	33.8	35.8	-90.02	-1,669.6	615.6	668.0	598.6	69.33	9.634		
7,300.0	5,753.0	7,095.5	5,753.2	35.5	37.4	-90.02	-1,769.6	615.6	668.0	595.1	72.85	9.169		
7,400.0	5,753.0	7,195.5	5,753.2	37.3	39.1	-90.02	-1,869.6	615.6	667.9	591.5	76.40	8.742		
7,500.0	5,753.0	7,295.5	5,753.2	39.2	40.8	-90.02	-1,969.6	615.6	667.9	588.0	79.98	8.351		
7,600.0	5,753.0	7,395.5	5,753.2	41.0	42.5	-90.02	-2,069.6	615.6	667.9	584.4	83.58	7.991		
7,700.0	5,753.0	7,495.5	5,753.2	42.8	44.3	-90.01	-2,169.6	615.6	667.9	580.7	87.21	7.659		
7,800.0	5,753.0	7,595.5	5,753.2	44.7	46.0	-90.01	-2,269.6	615.6	667.9	577.1	90.85	7.352		
7,900.0	5,753.0	7,695.5	5,753.2	46.5	47.8	-90.01	-2,369.6	615.6	667.9	573.4	94.51	7.067		
8,000.0	5,753.0	7,795.5	5,753.2	48.3	49.6	-90.01	-2,469.6	615.6	667.9	569.7	98.18	6.803		
8,100.0	5,753.0	7,895.5	5,753.2	50.2	51.4	-90.01	-2,569.6	615.6	667.9	566.0	101.86	6.557		
8,200.0	5,753.0	7,995.5	5,753.2	52.1	53.2	-90.01	-2,669.6	615.6	667.9	562.3	105.56	6.327		
8,300.0	5,753.0	8,095.5	5,753.2	53.9	55.0	-90.01	-2,769.6	615.6	667.9	558.6	109.26	6.113		
8,400.0	5,753.0	8,195.5	5,753.2	55.8	56.8	-90.01	-2,869.6	615.6	667.9	554.9	112.98	5.912		
8,500.0	5,753.0	8,295.5	5,753.2	57.7	58.6	-90.01	-2,969.6	615.6	667.9	551.2	116.70	5.723		
8,600.0	5,753.0	8,395.5	5,753.2	59.5	60.4	-90.01	-3,069.6	615.5	667.9	547.4	120.43	5.546		
8,700.0	5,753.0	8,495.5	5,753.2	61.4	62.2	-90.01	-3,169.6	615.5	667.9	543.7	124.17	5.379		
8,800.0	5,753.0	8,595.5	5,753.1	63.3	64.1	-90.01	-3,269.6	615.5	667.9	540.0	127.92	5.221		
8,900.0	5,753.0	8,695.5	5,753.1	65.2	65.9	-90.01	-3,369.6	615.5	667.9	536.2	131.67	5.072		
9,000.0	5,753.0	8,795.5	5,753.1	67.1	67.8	-90.01	-3,469.6	615.5	667.9	532.4	135.42	4.932		

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-3412B - HZ - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
9,100.0	5,753.0	8,895.5	5,753.1	69.0	69.6	-90.01	-3,569.6	615.5	667.9	528.7	139.18	4.798		
9,200.0	5,753.0	8,995.5	5,753.1	70.9	71.5	-90.01	-3,669.6	615.5	667.8	524.9	142.95	4.672		
9,300.0	5,753.0	9,095.5	5,753.1	72.7	73.3	-90.01	-3,769.6	615.5	667.8	521.1	146.71	4.552		
9,400.0	5,753.0	9,195.5	5,753.1	74.6	75.2	-90.01	-3,869.6	615.5	667.8	517.4	150.49	4.438		
9,500.0	5,753.0	9,295.5	5,753.1	76.5	77.1	-90.01	-3,969.6	615.5	667.8	513.6	154.26	4.329		
9,600.0	5,753.0	9,395.5	5,753.1	78.4	78.9	-90.01	-4,069.6	615.5	667.8	509.8	158.04	4.226		
9,700.0	5,753.0	9,495.5	5,753.1	80.3	80.8	-90.01	-4,169.6	615.5	667.8	506.0	161.82	4.127		
9,800.0	5,753.0	9,595.5	5,753.1	82.2	82.7	-90.01	-4,269.6	615.5	667.8	502.2	165.61	4.033		
9,900.0	5,753.0	9,695.5	5,753.1	84.1	84.5	-90.01	-4,369.6	615.5	667.8	498.4	169.39	3.942		
10,000.0	5,753.0	9,795.5	5,753.1	86.0	86.4	-90.01	-4,469.6	615.5	667.8	494.6	173.18	3.856		
10,100.0	5,753.0	9,895.5	5,753.1	87.9	88.3	-90.01	-4,569.6	615.5	667.8	490.8	176.98	3.773		
10,200.0	5,753.0	9,995.5	5,753.1	89.8	90.2	-90.01	-4,669.6	615.5	667.8	487.0	180.77	3.694		
10,300.0	5,753.0	10,095.5	5,753.1	91.7	92.0	-90.01	-4,769.6	615.5	667.8	483.2	184.57	3.618		
10,400.0	5,753.0	10,195.5	5,753.1	93.6	93.9	-90.01	-4,869.6	615.4	667.8	479.4	188.36	3.545		
10,500.0	5,753.0	10,295.5	5,753.1	95.5	95.8	-90.01	-4,969.6	615.4	667.8	475.6	192.16	3.475		
10,600.0	5,753.0	10,395.5	5,753.1	97.4	97.7	-90.01	-5,069.6	615.4	667.8	471.8	195.97	3.408		
10,700.0	5,753.0	10,495.5	5,753.1	99.3	99.6	-90.01	-5,169.6	615.4	667.8	468.0	199.77	3.343		
10,800.0	5,753.0	10,595.5	5,753.1	101.2	101.5	-90.01	-5,269.6	615.4	667.8	464.2	203.57	3.280		
10,900.0	5,753.0	10,695.5	5,753.1	103.1	103.4	-90.01	-5,369.6	615.4	667.8	460.4	207.38	3.220		
11,000.0	5,753.0	10,795.5	5,753.1	105.1	105.3	-90.01	-5,469.6	615.4	667.8	456.6	211.19	3.162		
11,100.0	5,753.0	10,895.5	5,753.1	107.0	107.1	-90.01	-5,569.6	615.4	667.7	452.8	214.99	3.106		
11,200.0	5,753.0	10,995.5	5,753.1	108.9	109.0	-90.01	-5,669.6	615.4	667.7	448.9	218.80	3.052		
11,300.0	5,753.0	11,095.5	5,753.1	110.8	110.9	-90.00	-5,769.6	615.4	667.7	445.1	222.61	3.000		
11,400.0	5,753.0	11,195.5	5,753.1	112.7	112.8	-90.00	-5,869.6	615.4	667.7	441.3	226.43	2.949		
11,500.0	5,753.0	11,295.5	5,753.1	114.6	114.7	-90.00	-5,969.6	615.4	667.7	437.5	230.24	2.900		
11,600.0	5,753.0	11,395.5	5,753.1	116.5	116.6	-90.00	-6,069.6	615.4	667.7	433.7	234.05	2.853		
11,700.0	5,753.0	11,495.5	5,753.1	118.4	118.5	-90.00	-6,169.6	615.4	667.7	429.8	237.87	2.807		
11,800.0	5,753.0	11,595.5	5,753.1	120.3	120.4	-90.00	-6,269.6	615.4	667.7	426.0	241.68	2.763		
11,900.0	5,753.0	11,695.5	5,753.0	122.2	122.3	-90.00	-6,369.6	615.4	667.7	422.2	245.50	2.720		
12,000.0	5,753.0	11,795.5	5,753.0	124.1	124.2	-90.00	-6,469.6	615.4	667.7	418.4	249.32	2.678		
12,100.0	5,753.0	11,895.5	5,753.0	126.1	126.1	-90.00	-6,569.6	615.4	667.7	414.6	253.13	2.638		
12,200.0	5,753.0	11,995.5	5,753.0	128.0	128.0	-90.00	-6,669.6	615.4	667.7	410.7	256.95	2.598		
12,300.0	5,753.0	12,095.5	5,753.0	129.9	129.9	-90.00	-6,769.6	615.3	667.7	406.9	260.77	2.560		
12,400.0	5,753.0	12,195.5	5,753.0	131.8	131.8	-90.00	-6,869.6	615.3	667.7	403.1	264.59	2.523		
12,486.0	5,753.0	12,281.6	5,753.0	133.4	133.4	-90.00	-6,955.6	615.3	667.7	399.8	267.88	2.492 SF		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27K-3408B - 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							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,850.0	5,714.9	6,200.0	5,752.7	13.7	20.6	82.18	-740.4	-907.9	987.6	955.0	32.62	30.276	
5,900.0	5,731.4	6,200.0	5,752.7	14.2	20.6	84.77	-740.4	-907.9	966.2	933.1	33.05	29.231	
5,950.0	5,743.3	6,244.9	5,752.7	14.6	21.3	86.53	-781.7	-890.2	944.9	910.8	34.12	27.697	
6,000.0	5,750.5	6,275.2	5,752.7	15.2	21.7	88.71	-809.7	-878.9	924.4	889.3	35.05	26.376	
6,050.2	5,753.0	6,300.0	5,752.7	15.7	22.1	91.01	-832.9	-869.9	904.4	868.5	35.95	25.159	
6,100.0	5,753.0	6,337.6	5,752.7	16.3	22.7	91.03	-868.2	-856.9	885.3	848.3	37.07	23.884	
6,200.0	5,753.0	6,400.0	5,752.7	17.6	23.7	91.06	-927.2	-836.9	849.4	810.2	39.23	21.651	
6,300.0	5,753.0	6,467.6	5,752.7	19.0	24.8	91.09	-991.9	-817.4	816.7	775.0	41.63	19.620	
6,400.0	5,753.0	6,534.9	5,752.7	20.5	25.8	91.11	-1,057.0	-800.2	787.2	743.1	44.12	17.844	
6,500.0	5,753.0	6,600.0	5,752.7	22.0	26.9	91.14	-1,120.5	-785.8	761.3	714.6	46.67	16.313	
6,600.0	5,753.0	6,673.6	5,752.7	23.6	28.1	91.17	-1,192.8	-772.1	738.8	689.3	49.43	14.946	
6,700.0	5,753.0	6,744.7	5,752.7	25.3	29.2	91.19	-1,263.1	-761.6	719.9	667.7	52.21	13.788	
6,767.8	5,753.0	6,800.0	5,752.7	26.4	30.1	91.20	-1,318.1	-755.2	709.2	655.0	54.24	13.077	
6,800.0	5,753.0	6,816.7	5,752.7	26.9	30.4	91.20	-1,334.7	-753.6	705.0	649.8	55.19	12.774	
6,846.0	5,753.0	6,850.2	5,752.7	27.6	30.9	91.21	-1,368.1	-750.8	700.6	643.9	56.65	12.366	
6,900.0	5,753.0	6,900.0	5,752.7	28.5	31.7	91.21	-1,417.8	-747.7	697.2	638.8	58.35	11.948	
7,000.0	5,753.0	6,962.9	5,752.7	30.2	32.7	91.22	-1,480.6	-745.7	693.6	632.4	61.12	11.347	
7,051.0	5,753.0	7,002.7	5,752.7	31.1	33.3	91.22	-1,520.4	-745.4	693.2	630.6	62.67	11.061 CC	
7,100.0	5,753.0	7,051.7	5,752.7	32.0	34.1	91.22	-1,569.5	-745.4	693.2	628.9	64.36	10.772	
7,200.0	5,753.0	7,151.7	5,752.7	33.8	35.7	91.22	-1,669.5	-745.4	693.2	625.4	67.82	10.222	
7,300.0	5,753.0	7,251.7	5,752.7	35.5	37.4	91.22	-1,769.5	-745.4	693.3	621.9	71.33	9.720	
7,400.0	5,753.0	7,351.7	5,752.7	37.3	39.0	91.22	-1,869.5	-745.5	693.3	618.4	74.86	9.261	
7,500.0	5,753.0	7,451.7	5,752.7	39.2	40.7	91.22	-1,969.5	-745.5	693.3	614.9	78.43	8.840	
7,600.0	5,753.0	7,551.7	5,752.7	41.0	42.4	91.22	-2,069.5	-745.5	693.3	611.3	82.02	8.453	
7,700.0	5,753.0	7,651.7	5,752.8	42.8	44.1	91.22	-2,169.5	-745.5	693.3	607.7	85.63	8.097	
7,800.0	5,753.0	7,751.7	5,752.8	44.7	45.9	91.22	-2,269.5	-745.5	693.3	604.1	89.26	7.767	
7,900.0	5,753.0	7,851.7	5,752.8	46.5	47.6	91.22	-2,369.5	-745.5	693.3	600.4	92.91	7.463	
8,000.0	5,753.0	7,951.7	5,752.8	48.3	49.4	91.22	-2,469.5	-745.5	693.3	596.8	96.57	7.180	
8,100.0	5,753.0	8,051.7	5,752.8	50.2	51.2	91.22	-2,569.5	-745.5	693.3	593.1	100.24	6.917	
8,200.0	5,753.0	8,151.7	5,752.8	52.1	53.0	91.22	-2,669.5	-745.5	693.4	589.4	103.93	6.671	
8,300.0	5,753.0	8,251.7	5,752.8	53.9	54.8	91.22	-2,769.5	-745.5	693.4	585.7	107.63	6.442	
8,400.0	5,753.0	8,351.7	5,752.8	55.8	56.6	91.22	-2,869.5	-745.6	693.4	582.0	111.34	6.228	
8,500.0	5,753.0	8,451.7	5,752.8	57.7	58.4	91.22	-2,969.5	-745.6	693.4	578.3	115.06	6.026	
8,600.0	5,753.0	8,551.7	5,752.8	59.5	60.2	91.22	-3,069.5	-745.6	693.4	574.6	118.78	5.838	
8,700.0	5,753.0	8,651.7	5,752.8	61.4	62.0	91.22	-3,169.5	-745.6	693.4	570.9	122.51	5.660	
8,800.0	5,753.0	8,751.7	5,752.8	63.3	63.9	91.22	-3,269.5	-745.6	693.4	567.2	126.25	5.492	
8,900.0	5,753.0	8,851.7	5,752.8	65.2	65.7	91.22	-3,369.5	-745.6	693.4	563.4	130.00	5.334	
9,000.0	5,753.0	8,951.7	5,752.8	67.1	67.5	91.22	-3,469.5	-745.6	693.4	559.7	133.75	5.185	
9,100.0	5,753.0	9,051.7	5,752.8	69.0	69.4	91.22	-3,569.5	-745.6	693.5	556.0	137.50	5.043	
9,200.0	5,753.0	9,151.7	5,752.8	70.9	71.2	91.22	-3,669.5	-745.6	693.5	552.2	141.26	4.909	
9,300.0	5,753.0	9,251.7	5,752.8	72.7	73.1	91.23	-3,769.5	-745.7	693.5	548.5	145.03	4.782	
9,400.0	5,753.0	9,351.7	5,752.8	74.6	74.9	91.23	-3,869.5	-745.7	693.5	544.7	148.80	4.661	
9,500.0	5,753.0	9,451.7	5,752.9	76.5	76.8	91.23	-3,969.5	-745.7	693.5	540.9	152.57	4.546	
9,600.0	5,753.0	9,551.7	5,752.9	78.4	78.7	91.23	-4,069.5	-745.7	693.5	537.2	156.34	4.436	
9,700.0	5,753.0	9,651.7	5,752.9	80.3	80.5	91.23	-4,169.5	-745.7	693.5	533.4	160.12	4.331	
9,800.0	5,753.0	9,751.7	5,752.9	82.2	82.4	91.23	-4,269.5	-745.7	693.5	529.6	163.90	4.231	
9,900.0	5,753.0	9,851.7	5,752.9	84.1	84.3	91.23	-4,369.5	-745.7	693.5	525.9	167.69	4.136	
10,000.0	5,753.0	9,951.7	5,752.9	86.0	86.1	91.23	-4,469.5	-745.7	693.6	522.1	171.47	4.045	
10,100.0	5,753.0	10,051.7	5,752.9	87.9	88.0	91.23	-4,569.5	-745.7	693.6	518.3	175.26	3.957	
10,200.0	5,753.0	10,151.7	5,752.9	89.8	89.9	91.23	-4,669.5	-745.8	693.6	514.5	179.05	3.874	
10,300.0	5,753.0	10,251.7	5,752.9	91.7	91.8	91.23	-4,769.5	-745.8	693.6	510.7	182.85	3.793	
10,400.0	5,753.0	10,351.7	5,752.9	93.6	93.6	91.23	-4,869.5	-745.8	693.6	507.0	186.64	3.716	

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

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27J-3410B
Project:	Weld County, CO	TVD Reference:	WELL @ 4780.5ft (Original Well Elev)
Reference Site:	S27-T10N-R58W	MD Reference:	WELL @ 4780.5ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27J-3410B	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 #3	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27K-3408B - 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							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,500.0	5,753.0	10,451.7	5,752.9	95.5	95.5	91.23	-4,969.5	-745.8	693.6	503.2	190.44	3.642	
10,600.0	5,753.0	10,551.7	5,752.9	97.4	97.4	91.23	-5,069.5	-745.8	693.6	499.4	194.24	3.571	
10,700.0	5,753.0	10,651.7	5,752.9	99.3	99.3	91.23	-5,169.5	-745.8	693.6	495.6	198.04	3.503	
10,800.0	5,753.0	10,751.7	5,752.9	101.2	101.2	91.23	-5,269.5	-745.8	693.6	491.8	201.84	3.437	
10,900.0	5,753.0	10,851.7	5,752.9	103.1	103.1	91.23	-5,369.5	-745.8	693.7	488.0	205.64	3.373	
11,000.0	5,753.0	10,951.7	5,752.9	105.1	105.0	91.23	-5,469.5	-745.8	693.7	484.2	209.45	3.312	
11,100.0	5,753.0	11,051.7	5,752.9	107.0	106.8	91.23	-5,569.5	-745.8	693.7	480.4	213.25	3.253	
11,200.0	5,753.0	11,151.7	5,752.9	108.9	108.7	91.23	-5,669.5	-745.9	693.7	476.6	217.06	3.196	
11,300.0	5,753.0	11,251.7	5,752.9	110.8	110.6	91.23	-5,769.5	-745.9	693.7	472.8	220.87	3.141	
11,400.0	5,753.0	11,351.7	5,753.0	112.7	112.5	91.23	-5,869.5	-745.9	693.7	469.0	224.68	3.088	
11,500.0	5,753.0	11,451.7	5,753.0	114.6	114.4	91.23	-5,969.5	-745.9	693.7	465.2	228.49	3.036	
11,600.0	5,753.0	11,551.7	5,753.0	116.5	116.3	91.24	-6,069.5	-745.9	693.7	461.4	232.30	2.986	
11,700.0	5,753.0	11,651.7	5,753.0	118.4	118.2	91.24	-6,169.5	-745.9	693.7	457.6	236.11	2.938	
11,800.0	5,753.0	11,751.7	5,753.0	120.3	120.1	91.24	-6,269.5	-745.9	693.8	453.8	239.93	2.892	
11,900.0	5,753.0	11,851.7	5,753.0	122.2	122.0	91.24	-6,369.5	-745.9	693.8	450.0	243.74	2.846	
12,000.0	5,753.0	11,951.7	5,753.0	124.1	123.9	91.24	-6,469.5	-745.9	693.8	446.2	247.56	2.802	
12,100.0	5,753.0	12,051.7	5,753.0	126.1	125.8	91.24	-6,569.5	-746.0	693.8	442.4	251.37	2.760	
12,200.0	5,753.0	12,151.7	5,753.0	128.0	127.7	91.24	-6,669.5	-746.0	693.8	438.6	255.19	2.719	
12,300.0	5,753.0	12,251.7	5,753.0	129.9	129.6	91.24	-6,769.5	-746.0	693.8	434.8	259.01	2.679	
12,400.0	5,753.0	12,351.7	5,753.0	131.8	131.5	91.24	-6,869.5	-746.0	693.8	431.0	262.83	2.640	
12,486.0	5,753.0	12,437.8	5,753.0	133.4	133.1	91.24	-6,955.5	-746.0	693.8	427.7	266.11	2.607 ES, SF	

Company: Whiting Petroleum Corporation
Project: Weld County, CO
Reference Site: S27-T10N-R58W
Site Error: 0.0ft
Reference Well: Razor #27J-3410B
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #3

Local Co-ordinate Reference: Well Razor #27J-3410B
TVD Reference: WELL @ 4780.5ft (Original Well Elev)
MD Reference: WELL @ 4780.5ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4780.5ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Razor #27J-3410B
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 1.07°

