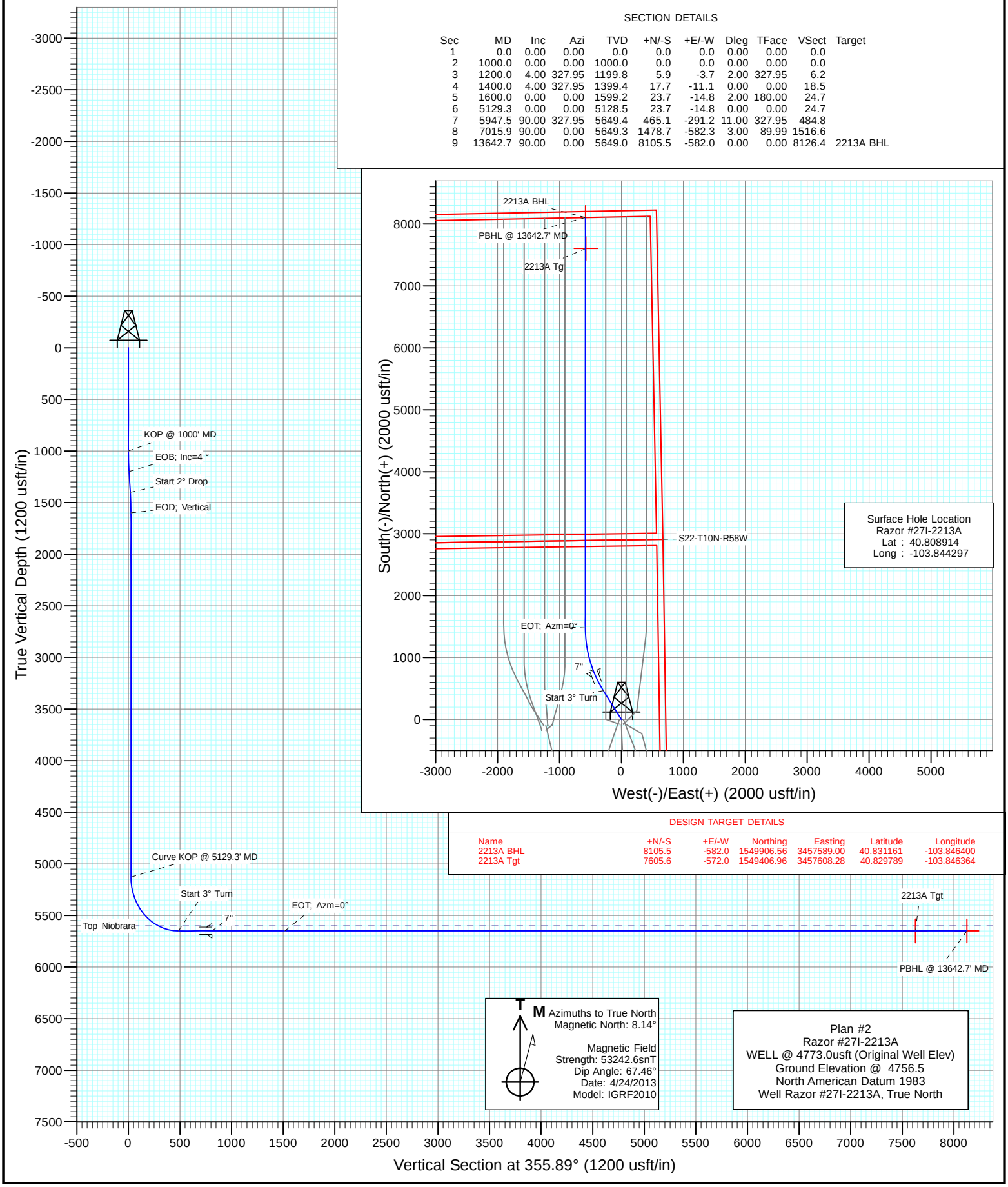
WHITING PETROLEUM CORPORATION

Project: Weld County, CO
Site: S27-T10N-R58W
Well: Razor #27I-2213A
Wellbore: HZ
Design: Plan #2

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1200.0	4.00	327.95	1199.8	5.9	-3.7	2.00	327.95	6.2	
4	1400.0	4.00	327.95	1399.4	17.7	-11.1	0.00	0.00	18.5	
5	1600.0	0.00	0.00	1599.2	23.7	-14.8	2.00	180.00	24.7	
6	5129.3	0.00	0.00	5128.5	23.7	-14.8	0.00	0.00	24.7	
7	5947.5	90.00	327.95	5649.4	465.1	-291.2	11.00	327.95	484.8	
8	7015.9	90.00	0.00	5649.3	1478.7	-582.3	3.00	89.99	1516.6	
9	13642.7	90.00	0.00	5649.0	8105.5	-582.0	0.00	0.00	8126.4	2213A BHL



Surface Hole Location
Razor #27I-2213A
Lat : 40.808914
Long : -103.844297

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
2213A BHL	8105.5	-582.0	1549906.56	3457589.00	40.831161	-103.846400
2213A Tgt	7605.6	-572.0	1549406.96	3457608.28	40.829789	-103.846364

Azimuths to True North
Magnetic North: 8.14°

Magnetic Field
Strength: 53242.6snT
Dip Angle: 67.46°
Date: 4/24/2013
Model: IGRF2010

Plan #2
Razor #27I-2213A
WELL @ 4773.0usft (Original Well Elev)
Ground Elevation @ 4756.5
North American Datum 1983
Well Razor #27I-2213A, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site:	S27-T10N-R58W	**North Reference:**	True
Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

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:**	1,541,647.64 usft	**Latitude:**	40.808594
From:	Lat/Long	**Easting:**	3,455,684.98 usft	**Longitude:**	-103.853833
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	1.06 °

Well Razor #27I-2213A

Well Position	**+N/-S**	0.0 usft	**Northing:**	1,541,813.34 usft	**Latitude:**	40.808914
	+E/-W	0.0 usft	**Easting:**	3,458,322.21 usft	**Longitude:**	-103.844297
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	4,756.5 usft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/24/2013	8.14	67.46	53,243

Design Plan #2

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	355.89

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	4.00	327.95	1,199.8	5.9	-3.7	2.00	2.00	0.00	327.95	
1,400.0	4.00	327.95	1,399.4	17.7	-11.1	0.00	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,599.2	23.7	-14.8	2.00	-2.00	0.00	180.00	
5,129.3	0.00	0.00	5,128.5	23.7	-14.8	0.00	0.00	0.00	0.00	
5,947.5	90.00	327.95	5,649.4	465.1	-291.2	11.00	11.00	0.00	327.95	
7,015.9	90.00	0.00	5,649.3	1,478.7	-582.3	3.00	0.00	3.00	89.99	
13,642.7	90.00	0.00	5,649.0	8,105.5	-582.0	0.00	0.00	0.00	0.00	2213A BHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site:	S27-T10N-R58W	**North Reference:**	True
Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	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	KOP @ 1000' MD
1,100.0	2.00	327.95	1,100.0	1.5	-0.9	1.5	2.00	2.00	
1,200.0	4.00	327.95	1,199.8	5.9	-3.7	6.2	2.00	2.00	EOB; Inc=4 °
1,300.0	4.00	327.95	1,299.6	11.8	-7.4	12.3	0.00	0.00	
1,400.0	4.00	327.95	1,399.4	17.7	-11.1	18.5	0.00	0.00	Start 2° Drop
1,500.0	2.00	327.95	1,499.2	22.2	-13.9	23.1	2.00	-2.00	
1,600.0	0.00	0.00	1,599.2	23.7	-14.8	24.7	2.00	-2.00	EOD; Vertical
1,700.0	0.00	0.00	1,699.2	23.7	-14.8	24.7	0.00	0.00	
1,800.0	0.00	0.00	1,799.2	23.7	-14.8	24.7	0.00	0.00	
1,900.0	0.00	0.00	1,899.2	23.7	-14.8	24.7	0.00	0.00	
2,000.0	0.00	0.00	1,999.2	23.7	-14.8	24.7	0.00	0.00	
2,100.0	0.00	0.00	2,099.2	23.7	-14.8	24.7	0.00	0.00	
2,200.0	0.00	0.00	2,199.2	23.7	-14.8	24.7	0.00	0.00	
2,300.0	0.00	0.00	2,299.2	23.7	-14.8	24.7	0.00	0.00	
2,400.0	0.00	0.00	2,399.2	23.7	-14.8	24.7	0.00	0.00	
2,500.0	0.00	0.00	2,499.2	23.7	-14.8	24.7	0.00	0.00	
2,600.0	0.00	0.00	2,599.2	23.7	-14.8	24.7	0.00	0.00	
2,700.0	0.00	0.00	2,699.2	23.7	-14.8	24.7	0.00	0.00	
2,800.0	0.00	0.00	2,799.2	23.7	-14.8	24.7	0.00	0.00	
2,900.0	0.00	0.00	2,899.2	23.7	-14.8	24.7	0.00	0.00	
3,000.0	0.00	0.00	2,999.2	23.7	-14.8	24.7	0.00	0.00	
3,100.0	0.00	0.00	3,099.2	23.7	-14.8	24.7	0.00	0.00	
3,200.0	0.00	0.00	3,199.2	23.7	-14.8	24.7	0.00	0.00	
3,300.0	0.00	0.00	3,299.2	23.7	-14.8	24.7	0.00	0.00	
3,400.0	0.00	0.00	3,399.2	23.7	-14.8	24.7	0.00	0.00	
3,500.0	0.00	0.00	3,499.2	23.7	-14.8	24.7	0.00	0.00	
3,600.0	0.00	0.00	3,599.2	23.7	-14.8	24.7	0.00	0.00	
3,700.0	0.00	0.00	3,699.2	23.7	-14.8	24.7	0.00	0.00	
3,800.0	0.00	0.00	3,799.2	23.7	-14.8	24.7	0.00	0.00	
3,900.0	0.00	0.00	3,899.2	23.7	-14.8	24.7	0.00	0.00	
4,000.0	0.00	0.00	3,999.2	23.7	-14.8	24.7	0.00	0.00	
4,100.0	0.00	0.00	4,099.2	23.7	-14.8	24.7	0.00	0.00	
4,200.0	0.00	0.00	4,199.2	23.7	-14.8	24.7	0.00	0.00	
4,300.0	0.00	0.00	4,299.2	23.7	-14.8	24.7	0.00	0.00	
4,400.0	0.00	0.00	4,399.2	23.7	-14.8	24.7	0.00	0.00	
4,500.0	0.00	0.00	4,499.2	23.7	-14.8	24.7	0.00	0.00	
4,600.0	0.00	0.00	4,599.2	23.7	-14.8	24.7	0.00	0.00	
4,700.0	0.00	0.00	4,699.2	23.7	-14.8	24.7	0.00	0.00	
4,800.0	0.00	0.00	4,799.2	23.7	-14.8	24.7	0.00	0.00	
4,900.0	0.00	0.00	4,899.2	23.7	-14.8	24.7	0.00	0.00	
5,000.0	0.00	0.00	4,999.2	23.7	-14.8	24.7	0.00	0.00	
5,100.0	0.00	0.00	5,099.2	23.7	-14.8	24.7	0.00	0.00	

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Site:	S27-T10N-R58W	**North Reference:**	True
Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
5,129.3	0.00	0.00	5,128.5	23.7	-14.8	24.7	0.00	0.00	Curve KOP @ 5129.3' MD
5,200.0	7.78	327.95	5,199.0	27.7	-17.4	28.9	11.00	11.00	
5,300.0	18.78	327.95	5,296.1	47.1	-29.5	49.1	11.00	11.00	
5,400.0	29.78	327.95	5,387.2	81.9	-51.3	85.4	11.00	11.00	
5,500.0	40.78	327.95	5,468.7	130.8	-81.9	136.3	11.00	11.00	
5,600.0	51.78	327.95	5,537.7	192.0	-120.2	200.1	11.00	11.00	
5,700.0	62.78	327.95	5,591.7	263.2	-164.8	274.3	11.00	11.00	
5,718.9	64.85	327.95	5,600.0	277.5	-173.8	289.3	11.00	11.00	Top Niobrara
5,800.0	73.78	327.95	5,628.6	341.8	-214.0	356.2	11.00	11.00	
5,900.0	84.78	327.95	5,647.2	424.9	-266.0	442.9	11.00	11.00	
5,947.5	90.00	327.95	5,649.4	465.1	-291.2	484.8	11.00	11.00	Start 3° Turn
6,000.0	90.00	329.53	5,649.4	510.0	-318.5	531.5	3.00	0.00	
6,100.0	90.00	332.53	5,649.4	597.5	-366.9	622.2	3.00	0.00	
6,200.0	90.00	335.53	5,649.4	687.4	-410.7	715.0	3.00	0.00	
6,300.0	90.00	338.53	5,649.4	779.4	-449.7	809.6	3.00	0.00	7"
6,400.0	90.00	341.53	5,649.4	873.4	-483.9	905.8	3.00	0.00	
6,500.0	90.00	344.53	5,649.4	969.0	-513.1	1,003.3	3.00	0.00	
6,600.0	90.00	347.53	5,649.4	1,066.1	-537.2	1,101.8	3.00	0.00	
6,700.0	90.00	350.53	5,649.4	1,164.2	-556.3	1,201.1	3.00	0.00	
6,800.0	90.00	353.53	5,649.4	1,263.3	-570.1	1,300.8	3.00	0.00	
6,900.0	90.00	356.53	5,649.3	1,362.9	-578.8	1,400.8	3.00	0.00	
7,000.0	90.00	359.53	5,649.3	1,462.8	-582.2	1,500.7	3.00	0.00	
7,015.9	90.00	0.00	5,649.3	1,478.7	-582.3	1,516.6	3.00	0.00	EOT; Azm=0°
7,100.0	90.00	0.00	5,649.3	1,562.8	-582.3	1,600.5	0.00	0.00	
7,200.0	90.00	0.00	5,649.3	1,662.8	-582.3	1,700.2	0.00	0.00	
7,300.0	90.00	0.00	5,649.3	1,762.8	-582.3	1,800.0	0.00	0.00	
7,400.0	90.00	0.00	5,649.3	1,862.8	-582.3	1,899.7	0.00	0.00	
7,500.0	90.00	0.00	5,649.3	1,962.8	-582.3	1,999.5	0.00	0.00	
7,600.0	90.00	0.00	5,649.3	2,062.8	-582.3	2,099.2	0.00	0.00	
7,700.0	90.00	0.00	5,649.3	2,162.8	-582.3	2,198.9	0.00	0.00	
7,800.0	90.00	0.00	5,649.3	2,262.8	-582.3	2,298.7	0.00	0.00	
7,900.0	90.00	0.00	5,649.3	2,362.8	-582.3	2,398.4	0.00	0.00	
8,000.0	90.00	0.00	5,649.3	2,462.8	-582.3	2,498.2	0.00	0.00	
8,100.0	90.00	0.00	5,649.3	2,562.8	-582.3	2,597.9	0.00	0.00	
8,200.0	90.00	0.00	5,649.3	2,662.8	-582.2	2,697.7	0.00	0.00	
8,300.0	90.00	0.00	5,649.3	2,762.8	-582.2	2,797.4	0.00	0.00	
8,400.0	90.00	0.00	5,649.3	2,862.8	-582.2	2,897.1	0.00	0.00	
8,500.0	90.00	0.00	5,649.3	2,962.8	-582.2	2,996.9	0.00	0.00	
8,600.0	90.00	0.00	5,649.3	3,062.8	-582.2	3,096.6	0.00	0.00	
8,700.0	90.00	0.00	5,649.3	3,162.8	-582.2	3,196.4	0.00	0.00	
8,800.0	90.00	0.00	5,649.3	3,262.8	-582.2	3,296.1	0.00	0.00	
8,900.0	90.00	0.00	5,649.2	3,362.8	-582.2	3,395.9	0.00	0.00	
9,000.0	90.00	0.00	5,649.2	3,462.8	-582.2	3,495.6	0.00	0.00	
9,100.0	90.00	0.00	5,649.2	3,562.8	-582.2	3,595.3	0.00	0.00	
9,200.0	90.00	0.00	5,649.2	3,662.8	-582.2	3,695.1	0.00	0.00	
9,300.0	90.00	0.00	5,649.2	3,762.8	-582.2	3,794.8	0.00	0.00	
9,400.0	90.00	0.00	5,649.2	3,862.8	-582.2	3,894.6	0.00	0.00	
9,500.0	90.00	0.00	5,649.2	3,962.8	-582.2	3,994.3	0.00	0.00	
9,600.0	90.00	0.00	5,649.2	4,062.8	-582.2	4,094.1	0.00	0.00	
9,700.0	90.00	0.00	5,649.2	4,162.8	-582.2	4,193.8	0.00	0.00	
9,800.0	90.00	0.00	5,649.2	4,262.8	-582.2	4,293.5	0.00	0.00	
9,900.0	90.00	0.00	5,649.2	4,362.8	-582.2	4,393.3	0.00	0.00	

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Project:	Weld County, CO	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site:	S27-T10N-R58W	**North Reference:**	True
Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
10,000.0	90.00	0.00	5,649.2	4,462.8	-582.2	4,493.0	0.00	0.00	
10,100.0	90.00	0.00	5,649.2	4,562.8	-582.2	4,592.8	0.00	0.00	
10,200.0	90.00	0.00	5,649.2	4,662.8	-582.1	4,692.5	0.00	0.00	
10,300.0	90.00	0.00	5,649.2	4,762.8	-582.1	4,792.3	0.00	0.00	
10,400.0	90.00	0.00	5,649.2	4,862.8	-582.1	4,892.0	0.00	0.00	
10,500.0	90.00	0.00	5,649.2	4,962.8	-582.1	4,991.7	0.00	0.00	
10,600.0	90.00	0.00	5,649.2	5,062.8	-582.1	5,091.5	0.00	0.00	
10,700.0	90.00	0.00	5,649.2	5,162.8	-582.1	5,191.2	0.00	0.00	
10,800.0	90.00	0.00	5,649.1	5,262.8	-582.1	5,291.0	0.00	0.00	
10,900.0	90.00	0.00	5,649.1	5,362.8	-582.1	5,390.7	0.00	0.00	
11,000.0	90.00	0.00	5,649.1	5,462.8	-582.1	5,490.5	0.00	0.00	
11,100.0	90.00	0.00	5,649.1	5,562.8	-582.1	5,590.2	0.00	0.00	
11,200.0	90.00	0.00	5,649.1	5,662.8	-582.1	5,689.9	0.00	0.00	
11,300.0	90.00	0.00	5,649.1	5,762.8	-582.1	5,789.7	0.00	0.00	
11,400.0	90.00	0.00	5,649.1	5,862.8	-582.1	5,889.4	0.00	0.00	
11,500.0	90.00	0.00	5,649.1	5,962.8	-582.1	5,989.2	0.00	0.00	
11,600.0	90.00	0.00	5,649.1	6,062.8	-582.1	6,088.9	0.00	0.00	
11,700.0	90.00	0.00	5,649.1	6,162.8	-582.1	6,188.7	0.00	0.00	
11,800.0	90.00	0.00	5,649.1	6,262.8	-582.1	6,288.4	0.00	0.00	
11,900.0	90.00	0.00	5,649.1	6,362.8	-582.1	6,388.1	0.00	0.00	
12,000.0	90.00	0.00	5,649.1	6,462.8	-582.1	6,487.9	0.00	0.00	
12,100.0	90.00	0.00	5,649.1	6,562.8	-582.1	6,587.6	0.00	0.00	
12,200.0	90.00	0.00	5,649.1	6,662.8	-582.1	6,687.4	0.00	0.00	
12,300.0	90.00	0.00	5,649.1	6,762.8	-582.0	6,787.1	0.00	0.00	
12,400.0	90.00	0.00	5,649.1	6,862.8	-582.0	6,886.9	0.00	0.00	
12,500.0	90.00	0.00	5,649.1	6,962.8	-582.0	6,986.6	0.00	0.00	
12,600.0	90.00	0.00	5,649.1	7,062.8	-582.0	7,086.3	0.00	0.00	
12,700.0	90.00	0.00	5,649.0	7,162.8	-582.0	7,186.1	0.00	0.00	
12,800.0	90.00	0.00	5,649.0	7,262.8	-582.0	7,285.8	0.00	0.00	
12,900.0	90.00	0.00	5,649.0	7,362.8	-582.0	7,385.6	0.00	0.00	
13,000.0	90.00	0.00	5,649.0	7,462.8	-582.0	7,485.3	0.00	0.00	
13,100.0	90.00	0.00	5,649.0	7,562.8	-582.0	7,585.1	0.00	0.00	
13,200.0	90.00	0.00	5,649.0	7,662.8	-582.0	7,684.8	0.00	0.00	
13,300.0	90.00	0.00	5,649.0	7,762.8	-582.0	7,784.5	0.00	0.00	
13,400.0	90.00	0.00	5,649.0	7,862.8	-582.0	7,884.3	0.00	0.00	
13,500.0	90.00	0.00	5,649.0	7,962.8	-582.0	7,984.0	0.00	0.00	
13,600.0	90.00	0.00	5,649.0	8,062.8	-582.0	8,083.8	0.00	0.00	
13,642.7	90.00	0.00	5,649.0	8,105.5	-582.0	8,126.4	0.00	0.00	PBHL @ 13642.7' MD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
2213A BHL - plan hits target center - Point	0.00	0.00	5,649.0	8,105.5	-582.0	1,549,906.56	3,457,589.00	40.831161	-103.846400
2213A Tgt - plan misses target center by 10.0usft at 13142.8usft MD (5649.0 TVD, 7605.6 N, -582.0 E) - Point	0.00	0.00	5,649.0	7,605.6	-572.0	1,549,406.96	3,457,608.28	40.829789	-103.846364

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site:	S27-T10N-R58W	**North Reference:**	True
Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
6,300.0	5,649.4	7"	0	0

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,718.9	5,600.0	Top Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,000.0	1,000.0	0.0	0.0	KOP @ 1000' MD
1,200.0	1,199.8	5.9	-3.7	EOB; Inc=4 °
1,400.0	1,399.4	17.7	-11.1	Start 2° Drop
1,600.0	1,599.2	23.7	-14.8	EOD; Vertical
5,129.3	5,128.5	23.7	-14.8	Curve KOP @ 5129.3' MD
5,947.5	5,649.4	465.1	-291.2	Start 3° Turn
7,015.9	5,649.3	1,478.7	-582.3	EOT; Azm=0°
13,642.7	5,649.0	8,105.5	-582.0	PBHL @ 13642.7' MD

Whiting Petroleum Corporation

Weld County, CO
S27-T10N-R58W
Razor #27I-2213A
HZ
Plan #2

Anticollision Report

20 May, 2013

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Plan #2

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

Survey Tool Program **Date** 5/20/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	13,642.7	Plan #2 (HZ)	ISCWSA MWD	MWD - ISCWSA

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
S27-T10N-R58W						
Razor #27I-2214B - HZ - Plan #2	5,851.5	5,874.8	73.8	55.6	4.049	CC
Razor #27I-2214B - HZ - Plan #2	13,643.2	13,622.3	341.2	50.4	1.173	Level 2, ES, SF
Razor #27I-2215A - HZ - Plan #1	1,000.0	1,000.0	66.2	62.3	17.263	CC, ES
Razor #27I-2215A - HZ - Plan #1	5,150.0	5,150.2	84.9	64.5	4.168	SF
Razor #27I-2216B - HZ - Plan #2	1,005.2	1,006.3	76.9	73.0	19.507	CC, ES
Razor #27I-2216B - HZ - Plan #2	3,200.0	3,195.3	178.4	165.1	13.473	SF
Razor #27I-3413A - HZ - Plan #1	1,339.4	1,338.9	28.7	23.0	4.985	CC
Razor #27I-3413A - HZ - Plan #1	5,129.3	5,128.0	30.8	8.2	1.360	Level 3, ES, SF
Razor #27I-3414B - HZ - Plan #1	1,000.0	1,000.0	75.8	71.5	17.901	CC, ES
Razor #27I-3414B - HZ - Plan #1	5,129.3	5,128.5	100.5	77.9	4.433	SF
Razor #27I-3415A - HZ - Plan #1	1,000.0	1,000.0	33.0	28.7	7.786	CC, ES
Razor #27I-3415A - HZ - Plan #1	5,129.3	5,128.0	53.8	31.1	2.373	SF
Razor #27I-3416B - HZ - Plan #2	500.0	500.0	100.6	98.6	50.667	CC, ES
Razor #27I-3416B - HZ - Plan #2	5,129.3	5,139.1	429.3	406.2	18.616	SF
Razor #27J-2209A - HZ - Plan #2						Out of range
Razor #27J-2210B - HZ - Plan #2						Out of range
Razor #27J-2211A - HZ - Plan #2						Out of range
Razor #27J-2212B - HZ - Plan #2	13,631.2	13,740.7	343.7	38.9	1.128	Level 2, CC
Razor #27J-2212B - HZ - Plan #2	13,642.7	13,746.0	343.8	38.6	1.127	Level 2, ES, SF
Razor #27J-3411A - HZ - Plan #2						Out of range

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2214B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-156.33	-75.8	-33.2	82.7				
100.0	100.0	100.0	100.0	0.1	0.1	-156.33	-75.8	-33.2	82.7	82.5	0.24	345.362	
200.0	200.0	200.0	200.0	0.3	0.3	-156.33	-75.8	-33.2	82.7	82.1	0.64	129.509	
300.0	300.0	300.0	300.0	0.5	0.5	-156.33	-75.8	-33.2	82.7	81.7	1.04	79.698	
400.0	400.0	399.8	399.8	0.8	0.7	-155.13	-75.2	-34.9	82.9	81.4	1.44	57.595	
500.0	500.0	499.3	499.1	1.0	0.9	-151.58	-73.4	-39.7	83.5	81.6	1.85	45.198	
600.0	600.0	599.1	598.7	1.2	1.1	-146.92	-71.0	-46.3	84.8	82.5	2.26	37.567	
700.0	700.0	698.8	698.2	1.4	1.3	-142.43	-68.6	-52.8	86.6	84.0	2.66	32.510	
800.0	800.0	798.6	797.7	1.7	1.5	-138.15	-66.3	-59.3	89.0	85.9	3.07	28.991	
900.0	900.0	898.3	897.2	1.9	1.7	-134.12	-63.9	-65.9	91.8	88.3	3.47	26.451	
1,000.0	1,000.0	998.1	996.7	2.1	1.9	-130.34	-61.5	-72.4	95.1	91.2	3.87	24.568	
1,100.0	1,100.0	1,097.9	1,096.3	2.3	2.1	-95.70	-59.1	-79.0	98.9	94.5	4.38	22.582	
1,200.0	1,199.8	1,197.8	1,196.0	2.6	2.3	-95.23	-56.7	-85.5	103.1	98.3	4.80	21.476	
1,300.0	1,299.6	1,297.7	1,295.6	2.8	2.5	-95.81	-54.4	-92.1	107.5	102.3	5.24	20.540	
1,400.0	1,399.4	1,397.6	1,395.3	3.0	2.7	-96.33	-52.0	-98.6	112.0	106.3	5.67	19.730	
1,500.0	1,499.2	1,497.5	1,494.9	3.2	2.9	-96.05	-49.6	-105.2	116.2	110.1	6.08	19.104	
1,600.0	1,599.2	1,597.4	1,594.5	3.4	3.2	-126.18	-47.2	-111.7	120.1	113.9	6.24	19.267	
1,700.0	1,699.2	1,697.1	1,694.0	3.6	3.4	-123.51	-44.8	-118.2	124.2	117.6	6.60	18.814	
1,800.0	1,799.2	1,796.9	1,793.5	3.8	3.6	-121.01	-42.5	-124.8	128.4	121.5	6.99	18.386	
1,900.0	1,899.2	1,896.6	1,893.1	4.1	3.8	-118.68	-40.1	-131.3	132.9	125.6	7.37	18.032	
2,000.0	1,999.2	1,996.4	1,992.6	4.3	4.0	-116.50	-37.7	-137.9	137.7	129.9	7.76	17.738	
2,100.0	2,099.2	2,096.1	2,092.1	4.5	4.2	-114.47	-35.3	-144.4	142.6	134.4	8.15	17.493	
2,200.0	2,199.2	2,195.9	2,191.6	4.7	4.4	-112.57	-32.9	-150.9	147.6	139.1	8.54	17.288	
2,300.0	2,299.2	2,295.6	2,291.1	4.9	4.6	-110.80	-30.6	-157.5	152.8	143.9	8.93	17.116	
2,400.0	2,399.2	2,395.4	2,390.6	5.2	4.8	-109.15	-28.2	-164.0	158.2	148.9	9.32	16.970	
2,500.0	2,499.2	2,495.2	2,490.1	5.4	5.1	-107.61	-25.8	-170.6	163.7	153.9	9.71	16.847	
2,600.0	2,599.2	2,594.9	2,589.6	5.6	5.3	-106.17	-23.4	-177.1	169.2	159.1	10.11	16.742	
2,700.0	2,699.2	2,694.7	2,689.2	5.8	5.5	-104.83	-21.0	-183.6	174.9	164.4	10.50	16.654	
2,800.0	2,799.2	2,794.4	2,788.7	6.1	5.7	-103.56	-18.7	-190.2	180.7	169.8	10.90	16.578	
2,900.0	2,899.2	2,894.2	2,888.2	6.3	5.9	-102.38	-16.3	-196.7	186.6	175.3	11.30	16.514	
3,000.0	2,999.2	2,993.9	2,987.7	6.5	6.1	-101.27	-13.9	-203.3	192.5	180.8	11.69	16.459	
3,100.0	3,099.2	3,093.7	3,087.2	6.7	6.3	-100.22	-11.5	-209.8	198.5	186.4	12.09	16.413	
3,200.0	3,199.2	3,193.5	3,186.7	7.0	6.5	-99.24	-9.1	-216.3	204.6	192.1	12.49	16.373	
3,300.0	3,299.2	3,293.2	3,286.2	7.2	6.8	-98.31	-6.8	-222.9	210.7	197.8	12.89	16.340	
3,400.0	3,399.2	3,393.0	3,385.8	7.4	7.0	-97.44	-4.4	-229.4	216.8	203.5	13.29	16.311	
3,500.0	3,499.2	3,492.7	3,485.3	7.6	7.2	-96.61	-2.0	-235.9	223.1	209.4	13.70	16.287	
3,600.0	3,599.2	3,592.5	3,584.8	7.9	7.4	-95.83	0.4	-242.5	229.3	215.2	14.10	16.267	
3,700.0	3,699.2	3,695.6	3,687.7	8.1	7.6	-95.11	2.7	-248.9	235.3	220.8	14.51	16.222	
3,800.0	3,799.2	3,803.7	3,795.7	8.3	7.8	-94.72	4.0	-252.5	238.5	223.6	14.92	15.984	
3,900.0	3,899.2	3,907.2	3,899.2	8.5	7.9	-94.69	4.1	-252.8	238.8	223.5	15.33	15.583	
4,000.0	3,999.2	4,007.2	3,999.2	8.7	8.1	-94.69	4.1	-252.8	238.8	223.1	15.72	15.188	
4,100.0	4,099.2	4,107.2	4,099.2	9.0	8.2	-94.69	4.1	-252.8	238.8	222.7	16.12	14.812	
4,200.0	4,199.2	4,207.2	4,199.2	9.2	8.4	-94.69	4.1	-252.8	238.8	222.3	16.52	14.455	
4,300.0	4,299.2	4,307.2	4,299.2	9.4	8.5	-94.69	4.1	-252.8	238.8	221.9	16.92	14.114	
4,400.0	4,399.2	4,407.2	4,399.2	9.6	8.7	-94.69	4.1	-252.8	238.8	221.5	17.32	13.789	
4,500.0	4,499.2	4,507.2	4,499.2	9.9	8.8	-94.69	4.1	-252.8	238.8	221.1	17.72	13.479	
4,600.0	4,599.2	4,607.2	4,599.2	10.1	9.0	-94.69	4.1	-252.8	238.8	220.7	18.12	13.182	
4,700.0	4,699.2	4,707.2	4,699.2	10.3	9.2	-94.69	4.1	-252.8	238.8	220.3	18.51	12.898	
4,800.0	4,799.2	4,807.2	4,799.2	10.5	9.3	-94.69	4.1	-252.8	238.8	219.9	18.91	12.626	
4,900.0	4,899.2	4,907.2	4,899.2	10.8	9.5	-94.69	4.1	-252.8	238.8	219.5	19.31	12.366	
5,000.0	4,999.2	5,007.2	4,999.2	11.0	9.6	-94.69	4.1	-252.8	238.8	219.1	19.71	12.116	
5,100.0	5,099.2	5,107.2	5,099.2	11.2	9.8	-94.69	4.1	-252.8	238.8	218.7	20.11	11.875	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2214B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,129.3	5,128.5	5,136.5	5,128.5	11.3	9.8	-94.69	4.1	-252.8	238.8	218.6	20.23	11.807	
5,150.0	5,149.2	5,157.2	5,149.2	11.3	9.9	-62.74	4.1	-252.8	238.6	218.2	20.45	11.667	
5,200.0	5,199.0	5,207.0	5,199.0	11.4	9.9	-63.88	4.1	-252.8	236.6	216.0	20.65	11.460	
5,250.0	5,248.1	5,258.2	5,250.1	11.6	10.0	-66.08	5.3	-252.8	232.6	211.7	20.86	11.151	
5,300.0	5,296.1	5,310.6	5,302.2	11.7	10.1	-68.59	11.5	-252.8	226.2	205.1	21.10	10.720	
5,350.0	5,342.6	5,363.3	5,353.6	11.8	10.3	-71.39	22.9	-252.8	217.5	196.1	21.41	10.161	
5,400.0	5,387.2	5,416.0	5,403.7	12.0	10.4	-74.57	39.5	-252.8	206.6	184.8	21.79	9.479	
5,450.0	5,429.3	5,468.6	5,451.6	12.2	10.6	-78.22	60.9	-252.8	193.6	171.3	22.29	8.686	
5,500.0	5,468.7	5,520.9	5,496.9	12.4	10.8	-82.52	86.9	-252.8	178.7	155.8	22.88	7.808	
5,550.0	5,504.9	5,572.6	5,539.0	12.6	11.1	-87.66	117.1	-252.8	162.2	138.4	23.75	6.828	
5,600.0	5,537.7	5,623.9	5,577.5	12.9	11.3	-93.96	150.9	-252.8	144.4	119.6	24.84	5.814	
5,650.0	5,566.7	5,674.6	5,612.2	13.3	11.7	-101.88	187.9	-252.8	126.0	100.1	25.88	4.869	
5,700.0	5,591.7	5,724.8	5,642.8	13.7	12.1	-112.04	227.6	-252.8	107.8	81.3	26.50	4.069	
5,750.0	5,612.4	5,774.6	5,669.2	14.2	12.5	-125.25	269.8	-252.8	91.3	65.3	25.97	3.514	
5,800.0	5,628.6	5,824.0	5,691.3	14.8	13.0	-142.04	314.0	-252.8	78.8	55.5	23.29	3.384	
5,850.0	5,640.3	5,873.4	5,709.2	15.4	13.5	-161.64	360.0	-252.8	73.8	55.5	18.33	4.026	
5,851.5	5,640.5	5,874.8	5,709.6	15.5	13.6	-162.24	361.3	-252.8	73.8	55.6	18.22	4.049	CC
5,900.0	5,647.2	5,922.8	5,722.6	16.1	14.1	178.53	407.5	-252.8	78.5	63.6	14.86	5.280	
5,947.5	5,649.4	5,969.9	5,731.1	16.8	14.7	161.98	453.9	-252.8	91.0	73.5	17.55	5.186	
6,000.0	5,649.4	6,023.3	5,735.7	17.5	15.4	147.45	507.0	-252.8	108.5	85.9	22.58	4.806	
6,100.0	5,649.4	6,113.8	5,736.0	19.0	16.6	130.55	597.5	-252.8	143.3	114.1	29.15	4.915	
6,200.0	5,649.4	6,203.7	5,736.0	20.6	17.9	121.08	687.4	-252.8	180.1	146.7	33.48	5.381	
6,300.0	5,649.4	6,295.7	5,736.0	22.2	19.3	115.30	779.4	-252.7	215.2	177.5	37.69	5.710	
6,400.0	5,649.4	6,389.7	5,736.0	23.8	20.7	111.56	873.4	-252.7	246.8	205.4	41.43	5.957	
6,500.0	5,649.4	6,485.3	5,736.0	25.5	22.1	109.05	969.0	-252.7	274.4	229.5	44.91	6.110	
6,600.0	5,649.4	6,582.3	5,736.0	27.2	23.7	107.32	1,066.0	-252.7	297.4	249.2	48.20	6.170	
6,700.0	5,649.4	6,680.5	5,736.0	28.8	25.2	106.14	1,164.2	-252.7	315.7	264.3	51.35	6.147	
6,800.0	5,649.4	6,779.5	5,736.0	30.4	26.8	105.36	1,263.2	-252.7	329.0	274.7	54.35	6.054	
6,900.0	5,649.3	6,879.1	5,736.0	32.0	28.5	104.91	1,362.8	-252.7	337.4	280.2	57.20	5.899	
7,000.0	5,649.3	6,979.1	5,736.0	33.6	30.1	104.73	1,462.8	-252.7	340.8	280.9	59.87	5.691	
7,015.9	5,649.3	6,995.0	5,736.0	33.9	30.4	104.73	1,478.7	-252.7	340.8	280.5	60.28	5.654	
7,100.0	5,649.3	7,079.1	5,736.0	35.2	31.8	104.73	1,562.8	-252.7	340.8	277.8	62.98	5.412	
7,200.0	5,649.3	7,179.1	5,736.0	36.7	33.4	104.73	1,662.8	-252.7	340.8	274.7	66.18	5.150	
7,300.0	5,649.3	7,279.1	5,736.0	38.3	35.1	104.73	1,762.8	-252.7	340.8	271.4	69.41	4.910	
7,400.0	5,649.3	7,379.1	5,736.0	39.9	36.8	104.73	1,862.8	-252.7	340.8	268.2	72.68	4.690	
7,500.0	5,649.3	7,479.1	5,736.0	41.5	38.5	104.73	1,962.8	-252.6	340.8	264.9	75.97	4.487	
7,600.0	5,649.3	7,579.1	5,736.0	43.2	40.2	104.73	2,062.8	-252.6	340.8	261.6	79.29	4.299	
7,700.0	5,649.3	7,679.1	5,736.0	44.8	41.9	104.73	2,162.8	-252.6	340.9	258.2	82.62	4.125	
7,800.0	5,649.3	7,779.1	5,736.0	46.5	43.6	104.74	2,262.8	-252.6	340.9	254.9	85.98	3.965	
7,900.0	5,649.3	7,879.1	5,736.0	48.2	45.3	104.74	2,362.8	-252.6	340.9	251.5	89.35	3.815	
8,000.0	5,649.3	7,979.1	5,736.0	49.9	47.0	104.74	2,462.8	-252.6	340.9	248.1	92.73	3.676	
8,100.0	5,649.3	8,079.1	5,736.0	51.7	48.7	104.74	2,562.8	-252.6	340.9	244.7	96.13	3.546	
8,200.0	5,649.3	8,179.1	5,736.0	53.4	50.4	104.74	2,662.8	-252.6	340.9	241.3	99.54	3.424	
8,300.0	5,649.3	8,279.1	5,736.0	55.2	52.1	104.74	2,762.8	-252.6	340.9	237.9	102.96	3.311	
8,400.0	5,649.3	8,379.1	5,736.0	57.0	53.9	104.74	2,862.8	-252.6	340.9	234.5	106.39	3.204	
8,500.0	5,649.3	8,479.1	5,736.0	58.7	55.6	104.74	2,962.8	-252.6	340.9	231.1	109.83	3.104	
8,600.0	5,649.3	8,579.1	5,736.0	60.5	57.3	104.74	3,062.8	-252.5	340.9	227.6	113.28	3.009	
8,700.0	5,649.3	8,679.1	5,736.0	62.3	59.0	104.74	3,162.8	-252.5	340.9	224.2	116.73	2.920	
8,800.0	5,649.3	8,779.1	5,736.0	64.1	60.8	104.74	3,262.8	-252.5	340.9	220.7	120.19	2.836	
8,900.0	5,649.2	8,879.1	5,736.0	65.9	62.5	104.74	3,362.8	-252.5	340.9	217.3	123.66	2.757	
9,000.0	5,649.2	8,979.1	5,736.0	67.8	64.2	104.74	3,462.8	-252.5	340.9	213.8	127.13	2.682	
9,100.0	5,649.2	9,079.1	5,736.0	69.6	66.0	104.74	3,562.8	-252.5	340.9	210.3	130.61	2.610	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2214B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
9,200.0	5,649.2	9,179.1	5,736.0	71.4	67.7	104.74	3,662.8	-252.5	340.9	206.8	134.09	2.543	
9,300.0	5,649.2	9,279.1	5,736.0	73.2	69.4	104.75	3,762.8	-252.5	340.9	203.4	137.57	2.478	
9,400.0	5,649.2	9,379.1	5,736.0	75.1	71.2	104.75	3,862.8	-252.5	340.9	199.9	141.06	2.417	
9,500.0	5,649.2	9,479.1	5,736.0	76.9	72.9	104.75	3,962.8	-252.5	340.9	196.4	144.56	2.359	
9,600.0	5,649.2	9,579.1	5,736.0	78.8	74.6	104.75	4,062.8	-252.5	340.9	192.9	148.05	2.303	
9,700.0	5,649.2	9,679.1	5,736.0	80.6	76.4	104.75	4,162.8	-252.5	341.0	189.4	151.55	2.250	
9,800.0	5,649.2	9,779.1	5,736.0	82.5	78.1	104.75	4,262.8	-252.4	341.0	185.9	155.05	2.199	
9,900.0	5,649.2	9,879.1	5,736.0	84.3	79.9	104.75	4,362.8	-252.4	341.0	182.4	158.56	2.150	
10,000.0	5,649.2	9,979.1	5,736.0	86.2	81.6	104.75	4,462.8	-252.4	341.0	178.9	162.07	2.104	
10,100.0	5,649.2	10,079.1	5,736.0	88.0	83.3	104.75	4,562.8	-252.4	341.0	175.4	165.58	2.059	
10,200.0	5,649.2	10,179.1	5,736.0	89.9	85.1	104.75	4,662.8	-252.4	341.0	171.9	169.09	2.017	
10,300.0	5,649.2	10,279.1	5,736.0	91.8	86.8	104.75	4,762.8	-252.4	341.0	168.4	172.60	1.976	
10,400.0	5,649.2	10,379.1	5,736.0	93.6	88.6	104.75	4,862.8	-252.4	341.0	164.9	176.12	1.936	
10,500.0	5,649.2	10,479.1	5,736.0	95.5	90.3	104.75	4,962.8	-252.4	341.0	161.4	179.64	1.898	
10,600.0	5,649.2	10,579.1	5,736.0	97.4	92.1	104.75	5,062.8	-252.4	341.0	157.8	183.16	1.862	
10,700.0	5,649.2	10,679.1	5,736.0	99.2	93.8	104.75	5,162.8	-252.4	341.0	154.3	186.68	1.827	
10,800.0	5,649.1	10,779.1	5,736.0	101.1	95.5	104.76	5,262.8	-252.4	341.0	150.8	190.20	1.793	
10,900.0	5,649.1	10,879.1	5,736.0	103.0	97.3	104.76	5,362.8	-252.3	341.0	147.3	193.72	1.760	
11,000.0	5,649.1	10,979.1	5,736.0	104.9	99.0	104.76	5,462.8	-252.3	341.0	143.8	197.25	1.729	
11,100.0	5,649.1	11,079.1	5,736.0	106.8	100.8	104.76	5,562.8	-252.3	341.0	140.2	200.78	1.699	
11,200.0	5,649.1	11,179.1	5,736.0	108.6	102.5	104.76	5,662.8	-252.3	341.0	136.7	204.31	1.669	
11,300.0	5,649.1	11,279.1	5,736.0	110.5	104.3	104.76	5,762.8	-252.3	341.0	133.2	207.84	1.641	
11,400.0	5,649.1	11,379.1	5,736.0	112.4	106.0	104.76	5,862.8	-252.3	341.0	129.7	211.37	1.613	
11,500.0	5,649.1	11,479.1	5,736.0	114.3	107.8	104.76	5,962.8	-252.3	341.0	126.1	214.90	1.587	
11,600.0	5,649.1	11,579.1	5,736.0	116.2	109.5	104.76	6,062.8	-252.3	341.0	122.6	218.43	1.561	
11,700.0	5,649.1	11,679.1	5,736.0	118.1	111.3	104.76	6,162.8	-252.3	341.1	119.1	221.96	1.537	
11,800.0	5,649.1	11,779.1	5,736.0	120.0	113.0	104.76	6,262.8	-252.3	341.1	115.6	225.50	1.512	
11,900.0	5,649.1	11,879.1	5,736.0	121.8	114.7	104.76	6,362.8	-252.3	341.1	112.0	229.03	1.489	Level 3
12,000.0	5,649.1	11,979.1	5,736.0	123.7	116.5	104.76	6,462.8	-252.3	341.1	108.5	232.57	1.467	Level 3
12,100.0	5,649.1	12,079.1	5,736.0	125.6	118.2	104.76	6,562.8	-252.2	341.1	105.0	236.11	1.445	Level 3
12,200.0	5,649.1	12,179.1	5,736.0	127.5	120.0	104.76	6,662.8	-252.2	341.1	101.4	239.65	1.423	Level 3
12,300.0	5,649.1	12,279.1	5,736.0	129.4	121.7	104.77	6,762.8	-252.2	341.1	97.9	243.18	1.403	Level 3
12,400.0	5,649.1	12,379.1	5,736.0	131.3	123.5	104.77	6,862.8	-252.2	341.1	94.4	246.72	1.382	Level 3
12,500.0	5,649.1	12,479.1	5,736.0	133.2	125.2	104.77	6,962.8	-252.2	341.1	90.8	250.26	1.363	Level 3
12,600.0	5,649.1	12,579.1	5,736.0	135.1	127.0	104.77	7,062.8	-252.2	341.1	87.3	253.80	1.344	Level 3
12,700.0	5,649.0	12,679.1	5,736.0	137.0	128.7	104.77	7,162.8	-252.2	341.1	83.8	257.34	1.325	Level 3
12,800.0	5,649.0	12,779.1	5,736.0	138.9	130.5	104.77	7,262.8	-252.2	341.1	80.2	260.89	1.308	Level 3
12,900.0	5,649.0	12,879.1	5,736.0	140.8	132.2	104.77	7,362.8	-252.2	341.1	76.7	264.43	1.290	Level 3
13,000.0	5,649.0	12,979.1	5,736.0	142.7	134.0	104.77	7,462.8	-252.2	341.1	73.1	267.97	1.273	Level 3
13,100.0	5,649.0	13,079.1	5,736.0	144.6	135.7	104.77	7,562.8	-252.2	341.1	69.6	271.51	1.256	Level 3
13,200.0	5,649.0	13,179.1	5,736.0	146.5	137.5	104.77	7,662.8	-252.1	341.1	66.1	275.06	1.240	Level 2
13,300.0	5,649.0	13,279.1	5,736.0	148.4	139.2	104.77	7,762.8	-252.1	341.1	62.5	278.60	1.224	Level 2
13,400.0	5,649.0	13,379.1	5,736.0	150.3	141.0	104.77	7,862.8	-252.1	341.1	59.0	282.15	1.209	Level 2
13,500.0	5,649.0	13,479.1	5,736.0	152.2	142.7	104.77	7,962.8	-252.1	341.1	55.5	285.69	1.194	Level 2
13,600.0	5,649.0	13,579.1	5,736.0	154.1	144.5	104.77	8,062.8	-252.1	341.1	51.9	289.24	1.179	Level 2
13,642.7	5,649.0	13,621.8	5,736.0	154.9	145.2	104.77	8,105.5	-252.1	341.2	50.4	290.75	1.173	Level 2
13,643.2	5,649.0	13,622.3	5,736.0	154.9	145.2	104.77	8,106.0	-252.1	341.2	50.4	290.77	1.173	Level 2, ES, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2215A - HZ - Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.96	-1.1	66.2	66.2				
100.0	100.0	100.0	100.0	0.1	0.1	90.96	-1.1	66.2	66.2	65.9	0.24	276.205	
200.0	200.0	200.0	200.0	0.3	0.3	90.96	-1.1	66.2	66.2	65.5	0.64	103.576	
300.0	300.0	300.0	300.0	0.5	0.5	90.96	-1.1	66.2	66.2	65.1	1.04	63.739	
400.0	400.0	400.0	400.0	0.8	0.7	90.96	-1.1	66.2	66.2	64.7	1.44	46.033	
500.0	500.0	500.0	500.0	1.0	0.8	90.96	-1.1	66.2	66.2	64.3	1.84	36.026	
600.0	600.0	600.0	600.0	1.2	1.0	90.96	-1.1	66.2	66.2	63.9	2.24	29.593	
700.0	700.0	700.0	700.0	1.4	1.2	90.96	-1.1	66.2	66.2	63.5	2.64	25.109	
800.0	800.0	800.0	800.0	1.7	1.4	90.96	-1.1	66.2	66.2	63.1	3.03	21.805	
900.0	900.0	900.0	900.0	1.9	1.5	90.96	-1.1	66.2	66.2	62.7	3.43	19.270	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	1.7	90.96	-1.1	66.2	66.2	62.3	3.83	17.263	CC, ES
1,100.0	1,100.0	1,100.0	1,100.0	2.3	1.9	124.25	-1.1	66.2	67.1	62.9	4.23	15.865	
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.1	127.73	-1.1	66.2	70.2	65.6	4.63	15.174	
1,300.0	1,299.6	1,299.6	1,299.6	2.8	2.2	131.96	-1.1	66.2	74.7	69.7	5.02	14.868	
1,400.0	1,399.4	1,399.4	1,399.4	3.0	2.4	135.69	-1.1	66.2	79.5	74.1	5.42	14.668	
1,500.0	1,499.2	1,499.2	1,499.2	3.2	2.6	138.25	-1.1	66.2	83.4	77.6	5.80	14.381	
1,600.0	1,599.2	1,599.2	1,599.2	3.4	2.8	107.01	-1.1	66.2	84.7	78.5	6.14	13.785	
1,700.0	1,699.2	1,699.2	1,699.2	3.6	2.9	107.01	-1.1	66.2	84.7	78.2	6.52	12.992	
1,800.0	1,799.2	1,799.2	1,799.2	3.8	3.1	107.01	-1.1	66.2	84.7	77.8	6.92	12.245	
1,900.0	1,899.2	1,899.2	1,899.2	4.1	3.3	107.01	-1.1	66.2	84.7	77.4	7.31	11.579	
2,000.0	1,999.2	1,999.2	1,999.2	4.3	3.5	107.01	-1.1	66.2	84.7	77.0	7.71	10.981	
2,100.0	2,099.2	2,099.2	2,099.2	4.5	3.6	107.01	-1.1	66.2	84.7	76.6	8.11	10.442	
2,200.0	2,199.2	2,199.2	2,199.2	4.7	3.8	107.01	-1.1	66.2	84.7	76.2	8.51	9.953	
2,300.0	2,299.2	2,299.2	2,299.2	4.9	4.0	107.01	-1.1	66.2	84.7	75.8	8.91	9.508	
2,400.0	2,399.2	2,399.2	2,399.2	5.2	4.2	107.01	-1.1	66.2	84.7	75.4	9.30	9.101	
2,500.0	2,499.2	2,499.2	2,499.2	5.4	4.3	107.01	-1.1	66.2	84.7	75.0	9.70	8.727	
2,600.0	2,599.2	2,599.2	2,599.2	5.6	4.5	107.01	-1.1	66.2	84.7	74.6	10.10	8.383	
2,700.0	2,699.2	2,699.2	2,699.2	5.8	4.7	107.01	-1.1	66.2	84.7	74.2	10.50	8.065	
2,800.0	2,799.2	2,799.2	2,799.2	6.1	4.9	107.01	-1.1	66.2	84.7	73.8	10.90	7.770	
2,900.0	2,899.2	2,899.2	2,899.2	6.3	5.0	107.01	-1.1	66.2	84.7	73.4	11.30	7.495	
3,000.0	2,999.2	2,999.2	2,999.2	6.5	5.2	107.01	-1.1	66.2	84.7	73.0	11.70	7.240	
3,100.0	3,099.2	3,099.2	3,099.2	6.7	5.4	107.01	-1.1	66.2	84.7	72.6	12.09	7.001	
3,200.0	3,199.2	3,199.2	3,199.2	7.0	5.6	107.01	-1.1	66.2	84.7	72.2	12.49	6.778	
3,300.0	3,299.2	3,299.2	3,299.2	7.2	5.7	107.01	-1.1	66.2	84.7	71.8	12.89	6.568	
3,400.0	3,399.2	3,399.2	3,399.2	7.4	5.9	107.01	-1.1	66.2	84.7	71.4	13.29	6.371	
3,500.0	3,499.2	3,499.2	3,499.2	7.6	6.1	107.01	-1.1	66.2	84.7	71.0	13.69	6.185	
3,600.0	3,599.2	3,599.2	3,599.2	7.9	6.3	107.01	-1.1	66.2	84.7	70.6	14.09	6.010	
3,700.0	3,699.2	3,699.2	3,699.2	8.1	6.4	107.01	-1.1	66.2	84.7	70.2	14.49	5.845	
3,800.0	3,799.2	3,799.2	3,799.2	8.3	6.6	107.01	-1.1	66.2	84.7	69.8	14.89	5.688	
3,900.0	3,899.2	3,899.2	3,899.2	8.5	6.8	107.01	-1.1	66.2	84.7	69.4	15.29	5.540	
4,000.0	3,999.2	3,999.2	3,999.2	8.7	7.0	107.01	-1.1	66.2	84.7	69.0	15.68	5.399	
4,100.0	4,099.2	4,099.2	4,099.2	9.0	7.1	107.01	-1.1	66.2	84.7	68.6	16.08	5.265	
4,200.0	4,199.2	4,199.2	4,199.2	9.2	7.3	107.01	-1.1	66.2	84.7	68.2	16.48	5.137	
4,300.0	4,299.2	4,299.2	4,299.2	9.4	7.5	107.01	-1.1	66.2	84.7	67.8	16.88	5.016	
4,400.0	4,399.2	4,399.2	4,399.2	9.6	7.6	107.01	-1.1	66.2	84.7	67.4	17.28	4.900	
4,500.0	4,499.2	4,499.2	4,499.2	9.9	7.8	107.01	-1.1	66.2	84.7	67.0	17.68	4.789	
4,600.0	4,599.2	4,599.2	4,599.2	10.1	8.0	107.01	-1.1	66.2	84.7	66.6	18.08	4.684	
4,700.0	4,699.2	4,699.2	4,699.2	10.3	8.2	107.01	-1.1	66.2	84.7	66.2	18.48	4.583	
4,800.0	4,799.2	4,799.2	4,799.2	10.5	8.3	107.01	-1.1	66.2	84.7	65.8	18.88	4.486	
4,900.0	4,899.2	4,899.2	4,899.2	10.8	8.5	107.01	-1.1	66.2	84.7	65.4	19.28	4.393	
5,000.0	4,999.2	4,999.2	4,999.2	11.0	8.7	107.01	-1.1	66.2	84.7	65.0	19.68	4.304	
5,100.0	5,099.2	5,099.2	5,099.2	11.2	8.9	107.01	-1.1	66.2	84.7	64.6	20.07	4.218	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2215A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,129.3	5,128.5	5,128.5	5,128.5	11.3	8.9	107.01	-1.1	66.2	84.7	64.5	20.19	4.194	
5,129.6	5,128.7	5,128.8	5,128.8	11.3	8.9	107.01	-1.1	66.2	84.7	64.5	20.19	4.193	
5,150.0	5,149.2	5,150.2	5,150.2	11.3	9.0	138.93	-0.6	66.2	84.9	64.5	20.36	4.168	SF
5,200.0	5,199.0	5,202.3	5,202.1	11.4	9.1	137.70	4.2	66.3	86.9	66.2	20.74	4.191	
5,250.0	5,248.1	5,254.2	5,252.9	11.6	9.1	135.33	14.1	66.5	91.3	70.3	21.04	4.342	
5,300.0	5,296.1	5,305.3	5,301.9	11.7	9.3	132.14	28.7	66.8	98.2	76.9	21.27	4.617	
5,350.0	5,342.6	5,355.7	5,348.5	11.8	9.4	128.46	47.8	67.2	107.6	86.2	21.48	5.010	
5,400.0	5,387.2	5,405.1	5,392.2	12.0	9.5	124.60	70.8	67.7	119.6	97.9	21.70	5.511	
5,450.0	5,429.3	5,453.4	5,432.7	12.2	9.7	120.76	97.2	68.2	134.0	112.1	21.97	6.102	
5,500.0	5,468.7	5,500.6	5,469.7	12.4	9.9	117.02	126.5	68.8	150.8	128.5	22.29	6.766	
5,550.0	5,504.9	5,546.7	5,503.1	12.6	10.1	113.44	158.2	69.5	169.7	147.0	22.68	7.482	
5,600.0	5,537.7	5,591.7	5,532.9	12.9	10.4	110.01	191.9	70.2	190.5	167.3	23.14	8.231	
5,650.0	5,566.7	5,635.7	5,559.1	13.3	10.7	106.72	227.2	70.9	212.9	189.2	23.66	8.996	
5,700.0	5,591.7	5,678.8	5,581.8	13.7	11.1	103.54	263.8	71.7	236.7	212.4	24.24	9.763	
5,750.0	5,612.4	5,721.1	5,601.1	14.2	11.5	100.47	301.5	72.5	261.7	236.6	25.01	10.463	
5,800.0	5,628.6	5,762.9	5,617.0	14.8	11.9	97.48	340.0	73.3	287.5	261.5	26.01	11.055	
5,850.0	5,640.3	5,804.2	5,629.7	15.4	12.3	94.59	379.4	74.1	314.1	287.0	27.06	11.606	
5,900.0	5,647.2	5,845.3	5,639.2	16.1	12.8	91.79	419.4	75.0	341.2	313.0	28.16	12.115	
5,947.5	5,649.4	5,884.4	5,645.3	16.8	13.3	89.24	457.9	75.8	367.1	337.9	29.23	12.561	
6,000.0	5,649.4	5,928.4	5,648.7	17.5	13.8	89.88	501.8	76.7	395.2	364.8	30.49	12.964	
6,100.0	5,649.4	6,024.1	5,649.0	19.0	15.1	89.94	597.5	77.5	444.4	411.2	33.16	13.401	
6,200.0	5,649.4	6,114.0	5,649.0	20.6	16.4	89.95	687.4	77.5	488.2	452.2	35.96	13.578	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2216B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	156.51	-75.8	32.9	82.6				
100.0	100.0	100.0	100.0	0.1	0.1	156.51	-75.8	32.9	82.6	82.4	0.24	344.960	
200.0	200.0	200.0	200.0	0.3	0.3	156.51	-75.8	32.9	82.6	82.0	0.64	129.359	
300.0	300.0	300.0	300.0	0.5	0.5	156.51	-75.8	32.9	82.6	81.6	1.04	79.605	
400.0	400.0	400.0	400.0	0.8	0.7	156.51	-75.8	32.9	82.6	81.2	1.44	57.493	
500.0	500.0	500.0	500.0	1.0	0.8	156.51	-75.8	32.9	82.6	80.8	1.84	44.994	
600.0	600.0	601.0	601.0	1.2	1.0	155.35	-74.5	34.2	82.0	79.8	2.24	36.636	
700.0	700.0	701.8	701.6	1.4	1.2	151.79	-70.8	38.0	80.3	77.7	2.64	30.373	
800.0	800.0	801.5	801.1	1.7	1.4	146.93	-65.9	42.9	78.6	75.5	3.06	25.726	
900.0	900.0	901.3	900.6	1.9	1.6	141.88	-60.9	47.8	77.4	74.0	3.47	22.309	
1,000.0	1,000.0	1,001.1	1,000.2	2.1	1.8	136.73	-56.0	52.7	76.9	73.0	3.89	19.750	
1,005.2	1,005.2	1,006.3	1,005.3	2.1	1.8	168.51	-55.8	53.0	76.9	73.0	3.94	19.507	CC, ES
1,100.0	1,100.0	1,100.8	1,099.7	2.3	2.0	163.95	-51.1	57.6	78.7	74.4	4.35	18.092	
1,200.0	1,199.8	1,200.5	1,199.1	2.6	2.2	160.16	-46.2	62.6	84.3	79.5	4.77	17.656	
1,300.0	1,299.6	1,300.1	1,298.5	2.8	2.4	157.31	-41.3	67.5	91.8	86.6	5.20	17.661	
1,400.0	1,399.4	1,399.8	1,397.9	3.0	2.6	154.90	-36.3	72.4	99.5	93.9	5.62	17.694	
1,500.0	1,499.2	1,499.5	1,497.3	3.2	2.8	152.47	-31.4	77.3	105.8	99.8	6.02	17.563	
1,600.0	1,599.2	1,599.2	1,596.9	3.4	3.0	117.33	-26.5	82.2	109.3	102.9	6.41	17.049	
1,700.0	1,699.2	1,699.0	1,696.4	3.6	3.3	113.93	-21.6	87.2	111.6	104.8	6.82	16.352	
1,800.0	1,799.2	1,798.7	1,795.9	3.8	3.5	110.67	-16.7	92.1	114.3	107.0	7.26	15.739	
1,900.0	1,899.2	1,898.5	1,895.4	4.1	3.7	107.57	-11.7	97.0	117.3	109.6	7.70	15.243	
2,000.0	1,999.2	1,998.2	1,994.9	4.3	3.9	104.63	-6.8	101.9	120.7	112.6	8.13	14.842	
2,100.0	2,099.2	2,098.0	2,094.4	4.5	4.1	101.87	-1.9	106.8	124.4	115.8	8.57	14.519	
2,200.0	2,199.2	2,197.8	2,194.0	4.7	4.3	99.26	3.0	111.8	128.3	119.3	9.00	14.261	
2,300.0	2,299.2	2,297.5	2,293.5	4.9	4.5	96.82	7.9	116.7	132.5	123.1	9.43	14.055	
2,400.0	2,399.2	2,397.3	2,393.0	5.2	4.7	94.53	12.9	121.6	137.0	127.1	9.86	13.892	
2,500.0	2,499.2	2,497.0	2,492.5	5.4	4.9	92.38	17.8	126.5	141.6	131.3	10.29	13.766	
2,600.0	2,599.2	2,596.8	2,592.0	5.6	5.1	90.37	22.7	131.4	146.4	135.7	10.71	13.669	
2,700.0	2,699.2	2,696.5	2,691.5	5.8	5.4	88.50	27.6	136.4	151.4	140.3	11.14	13.596	
2,800.0	2,799.2	2,796.3	2,791.0	6.1	5.6	86.74	32.5	141.3	156.6	145.0	11.56	13.543	
2,900.0	2,899.2	2,896.1	2,890.5	6.3	5.8	85.10	37.5	146.2	161.8	149.8	11.98	13.507	
3,000.0	2,999.2	2,995.8	2,990.1	6.5	6.0	83.56	42.4	151.1	167.2	154.8	12.40	13.485	
3,100.0	3,099.2	3,095.6	3,089.6	6.7	6.2	82.12	47.3	156.0	172.7	159.9	12.82	13.475	
3,200.0	3,199.2	3,195.3	3,189.1	7.0	6.4	80.77	52.2	161.0	178.4	165.1	13.24	13.473	SF
3,300.0	3,299.2	3,295.1	3,288.6	7.2	6.6	79.50	57.1	165.9	184.1	170.4	13.66	13.480	
3,400.0	3,399.2	3,394.8	3,388.1	7.4	6.8	78.31	62.1	170.8	189.9	175.8	14.07	13.492	
3,500.0	3,499.2	3,494.6	3,487.6	7.6	7.1	77.19	67.0	175.7	195.7	181.2	14.49	13.510	
3,600.0	3,599.2	3,594.4	3,587.1	7.9	7.3	76.13	71.9	180.6	201.7	186.8	14.90	13.533	
3,700.0	3,699.2	3,694.1	3,686.7	8.1	7.5	75.14	76.8	185.6	207.7	192.4	15.32	13.558	
3,800.0	3,799.2	3,793.9	3,786.2	8.3	7.7	74.20	81.7	190.5	213.8	198.0	15.73	13.587	
3,900.0	3,899.2	3,893.6	3,885.7	8.5	7.9	73.31	86.7	195.4	219.9	203.7	16.15	13.618	
4,000.0	3,999.2	3,993.4	3,985.2	8.7	8.1	72.48	91.6	200.3	226.0	209.5	16.56	13.650	
4,100.0	4,099.2	4,093.1	4,084.7	9.0	8.3	71.68	96.5	205.2	232.3	215.3	16.97	13.684	
4,200.0	4,199.2	4,192.9	4,184.2	9.2	8.5	70.93	101.4	210.2	238.5	221.1	17.38	13.719	
4,300.0	4,299.2	4,292.6	4,283.7	9.4	8.7	70.22	106.3	215.1	244.8	227.0	17.80	13.755	
4,400.0	4,399.2	4,392.4	4,383.2	9.6	9.0	69.54	111.3	220.0	251.1	232.9	18.21	13.792	
4,500.0	4,499.2	4,492.2	4,482.8	9.9	9.2	68.89	116.2	224.9	257.5	238.9	18.62	13.828	
4,600.0	4,599.2	4,591.9	4,582.3	10.1	9.4	68.28	121.1	229.8	263.9	244.9	19.03	13.865	
4,700.0	4,699.2	4,691.7	4,681.8	10.3	9.6	67.70	126.0	234.8	270.3	250.9	19.44	13.902	
4,800.0	4,799.2	4,791.4	4,781.3	10.5	9.8	67.14	131.0	239.7	276.8	256.9	19.86	13.939	
4,900.0	4,899.2	4,891.2	4,880.8	10.8	10.0	66.61	135.9	244.6	283.2	263.0	20.27	13.975	
5,000.0	4,999.2	5,000.4	4,989.8	11.0	10.2	66.18	140.0	248.8	288.3	267.6	20.68	13.941	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2216B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,099.2	5,109.7	5,099.2	11.2	10.4	66.06	141.2	250.0	289.7	268.7	21.07	13.750	
5,129.3	5,128.5	5,139.1	5,128.5	11.3	10.4	66.06	141.2	250.0	289.7	268.5	21.18	13.677	
5,150.0	5,149.2	5,159.7	5,149.2	11.3	10.5	98.18	141.2	250.0	289.8	269.3	20.51	14.130	
5,200.0	5,199.0	5,209.5	5,199.0	11.4	10.5	98.96	141.2	250.0	290.4	269.7	20.76	13.988	
5,250.0	5,248.1	5,250.0	5,239.4	11.6	10.6	100.05	141.8	250.0	292.4	271.4	21.02	13.914	
5,300.0	5,296.1	5,290.5	5,279.8	11.7	10.7	101.08	145.2	250.5	297.1	275.8	21.28	13.962	
5,350.0	5,342.6	5,329.1	5,317.9	11.8	10.8	101.90	151.4	251.2	304.7	283.2	21.54	14.145	
5,400.0	5,387.2	5,367.6	5,355.3	12.0	11.0	102.51	160.3	252.3	315.1	293.3	21.80	14.455	
5,450.0	5,429.3	5,405.7	5,391.6	12.2	11.1	102.89	171.8	253.7	328.4	306.3	22.06	14.884	
5,500.0	5,468.7	5,443.4	5,426.5	12.4	11.3	103.00	185.7	255.3	344.3	321.9	22.34	15.414	
5,550.0	5,504.9	5,480.6	5,460.0	12.6	11.5	102.83	201.9	257.3	362.7	340.1	22.63	16.027	
5,600.0	5,537.7	5,517.2	5,491.7	12.9	11.7	102.35	220.1	259.5	383.5	360.5	22.96	16.706	
5,650.0	5,566.7	5,553.3	5,521.6	13.3	12.0	101.57	240.2	261.9	406.5	383.1	23.32	17.430	
5,700.0	5,591.7	5,588.9	5,549.6	13.7	12.2	100.50	261.9	264.5	431.4	407.6	23.76	18.155	
5,750.0	5,612.4	5,624.0	5,575.7	14.2	12.5	99.13	285.2	267.3	458.0	433.6	24.43	18.744	
5,800.0	5,628.6	5,658.6	5,599.9	14.8	12.8	97.50	309.8	270.3	486.2	461.0	25.20	19.292	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3413A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-91.88	-1.1	-33.2	33.2				
100.0	100.0	100.0	100.0	0.1	0.1	-91.88	-1.1	-33.2	33.2	33.0	0.19	177.097	
200.0	200.0	200.0	200.0	0.3	0.3	-91.88	-1.1	-33.2	33.2	32.6	0.64	52.161	
300.0	300.0	300.0	300.0	0.5	0.5	-91.88	-1.1	-33.2	33.2	32.2	1.09	30.585	
400.0	400.0	400.0	400.0	0.8	0.8	-91.88	-1.1	-33.2	33.2	31.7	1.54	21.635	
500.0	500.0	500.0	500.0	1.0	1.0	-91.88	-1.1	-33.2	33.2	31.3	1.99	16.738	
600.0	600.0	600.0	600.0	1.2	1.2	-91.88	-1.1	-33.2	33.2	30.8	2.44	13.648	
700.0	700.0	700.0	700.0	1.4	1.4	-91.88	-1.1	-33.2	33.2	30.4	2.88	11.521	
800.0	800.0	800.0	800.0	1.7	1.7	-91.88	-1.1	-33.2	33.2	29.9	3.33	9.968	
900.0	900.0	900.0	900.0	1.9	1.9	-91.88	-1.1	-33.2	33.2	29.5	3.78	8.784	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-91.88	-1.1	-33.2	33.2	29.0	4.23	7.851	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-62.52	-1.1	-33.2	32.4	27.7	4.68	6.922	
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	-71.35	-1.1	-33.2	30.3	25.2	5.13	5.916	
1,300.0	1,299.6	1,299.6	1,299.6	2.8	2.8	-84.55	-1.1	-33.2	28.9	23.3	5.58	5.171	
1,339.4	1,338.9	1,338.9	1,338.9	2.9	2.9	-90.00	-1.1	-33.2	28.7	23.0	5.76	4.985	CC
1,400.0	1,399.4	1,399.4	1,399.4	3.0	3.0	-98.35	-1.1	-33.2	29.0	23.0	6.04	4.807	
1,500.0	1,499.2	1,499.2	1,499.2	3.2	3.2	-108.21	-1.1	-33.2	30.3	23.8	6.47	4.673	
1,600.0	1,599.2	1,599.2	1,599.2	3.4	3.5	-143.35	-1.1	-33.2	30.8	24.0	6.88	4.485	
1,700.0	1,699.2	1,699.2	1,699.2	3.6	3.7	-143.35	-1.1	-33.2	30.8	23.5	7.30	4.225	
1,800.0	1,799.2	1,799.2	1,799.2	3.8	3.9	-143.35	-1.1	-33.2	30.8	23.1	7.75	3.981	
1,900.0	1,899.2	1,899.2	1,899.2	4.1	4.1	-143.35	-1.1	-33.2	30.8	22.7	8.19	3.764	
2,000.0	1,999.2	1,999.2	1,999.2	4.3	4.4	-143.35	-1.1	-33.2	30.8	22.2	8.64	3.570	
2,100.0	2,099.2	2,099.2	2,099.2	4.5	4.6	-143.35	-1.1	-33.2	30.8	21.8	9.09	3.394	
2,200.0	2,199.2	2,199.2	2,199.2	4.7	4.8	-143.35	-1.1	-33.2	30.8	21.3	9.54	3.235	
2,300.0	2,299.2	2,299.2	2,299.2	4.9	5.0	-143.35	-1.1	-33.2	30.8	20.9	9.98	3.090	
2,400.0	2,399.2	2,399.2	2,399.2	5.2	5.3	-143.35	-1.1	-33.2	30.8	20.4	10.43	2.957	
2,500.0	2,499.2	2,499.2	2,499.2	5.4	5.5	-143.35	-1.1	-33.2	30.8	20.0	10.88	2.835	
2,600.0	2,599.2	2,599.2	2,599.2	5.6	5.7	-143.35	-1.1	-33.2	30.8	19.5	11.33	2.723	
2,700.0	2,699.2	2,699.2	2,699.2	5.8	5.9	-143.35	-1.1	-33.2	30.8	19.1	11.77	2.619	
2,800.0	2,799.2	2,799.2	2,799.2	6.1	6.2	-143.35	-1.1	-33.2	30.8	18.6	12.22	2.523	
2,900.0	2,899.2	2,899.2	2,899.2	6.3	6.4	-143.35	-1.1	-33.2	30.8	18.2	12.67	2.434	
3,000.0	2,999.2	2,999.2	2,999.2	6.5	6.6	-143.35	-1.1	-33.2	30.8	17.7	13.12	2.351	
3,100.0	3,099.2	3,099.2	3,099.2	6.7	6.8	-143.35	-1.1	-33.2	30.8	17.3	13.57	2.273	
3,200.0	3,199.2	3,199.2	3,199.2	7.0	7.1	-143.35	-1.1	-33.2	30.8	16.8	14.02	2.200	
3,300.0	3,299.2	3,299.2	3,299.2	7.2	7.3	-143.35	-1.1	-33.2	30.8	16.4	14.47	2.132	
3,400.0	3,399.2	3,399.2	3,399.2	7.4	7.5	-143.35	-1.1	-33.2	30.8	15.9	14.91	2.068	
3,500.0	3,499.2	3,499.2	3,499.2	7.6	7.7	-143.35	-1.1	-33.2	30.8	15.5	15.36	2.008	
3,600.0	3,599.2	3,599.2	3,599.2	7.9	8.0	-143.35	-1.1	-33.2	30.8	15.0	15.81	1.951	
3,700.0	3,699.2	3,699.2	3,699.2	8.1	8.2	-143.35	-1.1	-33.2	30.8	14.6	16.26	1.897	
3,800.0	3,799.2	3,799.2	3,799.2	8.3	8.4	-143.35	-1.1	-33.2	30.8	14.1	16.71	1.846	
3,900.0	3,899.2	3,899.2	3,899.2	8.5	8.6	-143.35	-1.1	-33.2	30.8	13.7	17.16	1.798	
4,000.0	3,999.2	3,999.2	3,999.2	8.7	8.9	-143.35	-1.1	-33.2	30.8	13.2	17.61	1.752	
4,100.0	4,099.2	4,099.2	4,099.2	9.0	9.1	-143.35	-1.1	-33.2	30.8	12.8	18.06	1.708	
4,200.0	4,199.2	4,199.2	4,199.2	9.2	9.3	-143.35	-1.1	-33.2	30.8	12.3	18.51	1.667	
4,300.0	4,299.2	4,299.2	4,299.2	9.4	9.5	-143.35	-1.1	-33.2	30.8	11.9	18.95	1.627	
4,400.0	4,399.2	4,399.2	4,399.2	9.6	9.8	-143.35	-1.1	-33.2	30.8	11.4	19.40	1.590	
4,500.0	4,499.2	4,499.2	4,499.2	9.9	10.0	-143.35	-1.1	-33.2	30.8	11.0	19.85	1.554	
4,600.0	4,599.2	4,599.2	4,599.2	10.1	10.2	-143.35	-1.1	-33.2	30.8	10.5	20.30	1.519	
4,700.0	4,699.2	4,699.2	4,699.2	10.3	10.4	-143.35	-1.1	-33.2	30.8	10.1	20.75	1.486	Level 3
4,800.0	4,799.2	4,799.2	4,799.2	10.5	10.7	-143.35	-1.1	-33.2	30.8	9.6	21.20	1.455	Level 3
4,900.0	4,899.2	4,899.2	4,899.2	10.8	10.9	-143.35	-1.1	-33.2	30.8	9.2	21.65	1.425	Level 3
5,000.0	4,999.2	4,999.2	4,999.2	11.0	11.1	-143.35	-1.1	-33.2	30.8	8.7	22.10	1.396	Level 3

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3413A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,099.2	5,099.2	5,099.2	11.2	11.3	-143.35	-1.1	-33.2	30.8	8.3	22.55	1.368	Level 3
5,119.4	5,118.6	5,118.6	5,118.6	11.3	11.4	-143.35	-1.1	-33.2	30.8	8.2	22.63	1.363	Level 3
5,129.3	5,128.5	5,128.0	5,128.0	11.3	11.4	-143.35	-1.1	-33.2	30.8	8.2	22.68	1.360	Level 3, ES, SF
5,150.0	5,149.2	5,148.0	5,148.0	11.3	11.4	-112.12	-1.5	-33.3	31.4	8.6	22.76	1.379	Level 3
5,200.0	5,199.0	5,194.5	5,194.3	11.4	11.5	-119.12	-5.1	-34.6	37.4	14.5	22.91	1.631	
5,250.0	5,248.1	5,238.2	5,237.4	11.6	11.6	-127.59	-12.1	-37.0	50.9	28.0	22.95	2.219	
5,300.0	5,296.1	5,278.0	5,275.9	11.7	11.7	-133.48	-21.4	-40.2	72.2	49.4	22.83	3.163	
5,350.0	5,342.6	5,312.9	5,309.0	11.8	11.7	-136.51	-31.8	-43.8	100.4	77.8	22.59	4.444	
5,400.0	5,387.2	5,342.5	5,336.5	12.0	11.8	-137.32	-42.2	-47.5	134.2	111.9	22.27	6.025	
5,450.0	5,429.3	5,366.9	5,358.6	12.2	11.8	-136.31	-52.0	-50.8	172.5	150.5	21.98	7.848	
5,500.0	5,468.7	5,386.4	5,375.9	12.4	11.9	-133.42	-60.4	-53.8	214.4	192.5	21.91	9.786	
5,550.0	5,504.9	5,400.0	5,387.8	12.6	11.9	-127.87	-66.7	-55.9	259.0	236.6	22.31	11.608	
5,600.0	5,537.7	5,412.2	5,398.3	12.9	11.9	-119.54	-72.6	-58.0	305.4	282.1	23.33	13.093	
5,650.0	5,566.7	5,419.5	5,404.5	13.3	11.9	-105.95	-76.2	-59.2	353.2	328.1	25.04	14.104	
5,700.0	5,591.7	5,423.5	5,407.9	13.7	11.9	-86.56	-78.2	-59.9	401.6	375.4	26.22	15.317	
5,750.0	5,612.4	5,424.8	5,409.0	14.2	11.9	-64.50	-78.8	-60.1	450.3	425.6	24.74	18.204	
5,800.0	5,628.6	5,423.5	5,407.9	14.8	11.9	-45.83	-78.2	-59.9	498.8	477.9	20.91	23.861	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3414B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-75.8	0.0	75.8				
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-75.8	0.0	75.8	75.6	0.19	403.785	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-75.8	0.0	75.8	75.1	0.64	118.928	
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-75.8	0.0	75.8	74.7	1.09	69.733	
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-75.8	0.0	75.8	74.2	1.54	49.329	
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-75.8	0.0	75.8	73.8	1.99	38.162	
600.0	600.0	600.0	600.0	1.2	1.2	180.00	-75.8	0.0	75.8	73.3	2.44	31.118	
700.0	700.0	700.0	700.0	1.4	1.4	180.00	-75.8	0.0	75.8	72.9	2.88	26.269	
800.0	800.0	800.0	800.0	1.7	1.7	180.00	-75.8	0.0	75.8	72.4	3.33	22.727	
900.0	900.0	900.0	900.0	1.9	1.9	180.00	-75.8	0.0	75.8	72.0	3.78	20.027	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	180.00	-75.8	0.0	75.8	71.5	4.23	17.901	CC, ES
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-148.62	-75.8	0.0	77.3	72.6	4.68	16.507	
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	-150.49	-75.8	0.0	81.8	76.7	5.13	15.956	
1,300.0	1,299.6	1,299.6	1,299.6	2.8	2.8	-152.72	-75.8	0.0	87.9	82.3	5.57	15.774	
1,400.0	1,399.4	1,399.4	1,399.4	3.0	3.0	-154.67	-75.8	0.0	94.2	88.2	6.02	15.634	
1,500.0	1,499.2	1,499.2	1,499.2	3.2	3.2	-156.00	-75.8	0.0	98.9	92.5	6.45	15.333	
1,600.0	1,599.2	1,599.2	1,599.2	3.4	3.5	171.53	-75.8	0.0	100.5	93.7	6.87	14.638	
1,700.0	1,699.2	1,699.2	1,699.2	3.6	3.7	171.53	-75.8	0.0	100.5	93.2	7.29	13.787	
1,800.0	1,799.2	1,799.2	1,799.2	3.8	3.9	171.53	-75.8	0.0	100.5	92.8	7.74	12.991	
1,900.0	1,899.2	1,899.2	1,899.2	4.1	4.1	171.53	-75.8	0.0	100.5	92.3	8.19	12.281	
2,000.0	1,999.2	1,999.2	1,999.2	4.3	4.4	171.53	-75.8	0.0	100.5	91.9	8.63	11.644	
2,100.0	2,099.2	2,099.2	2,099.2	4.5	4.6	171.53	-75.8	0.0	100.5	91.5	9.08	11.070	
2,200.0	2,199.2	2,199.2	2,199.2	4.7	4.8	171.53	-75.8	0.0	100.5	91.0	9.53	10.550	
2,300.0	2,299.2	2,299.2	2,299.2	4.9	5.0	171.53	-75.8	0.0	100.5	90.6	9.98	10.076	
2,400.0	2,399.2	2,399.2	2,399.2	5.2	5.3	171.53	-75.8	0.0	100.5	90.1	10.43	9.643	
2,500.0	2,499.2	2,499.2	2,499.2	5.4	5.5	171.53	-75.8	0.0	100.5	89.7	10.87	9.246	
2,600.0	2,599.2	2,599.2	2,599.2	5.6	5.7	171.53	-75.8	0.0	100.5	89.2	11.32	8.880	
2,700.0	2,699.2	2,699.2	2,699.2	5.8	5.9	171.53	-75.8	0.0	100.5	88.8	11.77	8.541	
2,800.0	2,799.2	2,799.2	2,799.2	6.1	6.2	171.53	-75.8	0.0	100.5	88.3	12.22	8.228	
2,900.0	2,899.2	2,899.2	2,899.2	6.3	6.4	171.53	-75.8	0.0	100.5	87.9	12.67	7.936	
3,000.0	2,999.2	2,999.2	2,999.2	6.5	6.6	171.53	-75.8	0.0	100.5	87.4	13.12	7.665	
3,100.0	3,099.2	3,099.2	3,099.2	6.7	6.8	171.53	-75.8	0.0	100.5	87.0	13.56	7.411	
3,200.0	3,199.2	3,199.2	3,199.2	7.0	7.1	171.53	-75.8	0.0	100.5	86.5	14.01	7.174	
3,300.0	3,299.2	3,299.2	3,299.2	7.2	7.3	171.53	-75.8	0.0	100.5	86.1	14.46	6.951	
3,400.0	3,399.2	3,399.2	3,399.2	7.4	7.5	171.53	-75.8	0.0	100.5	85.6	14.91	6.742	
3,500.0	3,499.2	3,499.2	3,499.2	7.6	7.7	171.53	-75.8	0.0	100.5	85.2	15.36	6.545	
3,600.0	3,599.2	3,599.2	3,599.2	7.9	8.0	171.53	-75.8	0.0	100.5	84.7	15.81	6.359	
3,700.0	3,699.2	3,699.2	3,699.2	8.1	8.2	171.53	-75.8	0.0	100.5	84.3	16.26	6.184	
3,800.0	3,799.2	3,799.2	3,799.2	8.3	8.4	171.53	-75.8	0.0	100.5	83.8	16.71	6.018	
3,900.0	3,899.2	3,899.2	3,899.2	8.5	8.6	171.53	-75.8	0.0	100.5	83.4	17.16	5.860	
4,000.0	3,999.2	3,999.2	3,999.2	8.7	8.9	171.53	-75.8	0.0	100.5	82.9	17.60	5.711	
4,100.0	4,099.2	4,099.2	4,099.2	9.0	9.1	171.53	-75.8	0.0	100.5	82.5	18.05	5.568	
4,200.0	4,199.2	4,199.2	4,199.2	9.2	9.3	171.53	-75.8	0.0	100.5	82.0	18.50	5.433	
4,300.0	4,299.2	4,299.2	4,299.2	9.4	9.5	171.53	-75.8	0.0	100.5	81.6	18.95	5.305	
4,400.0	4,399.2	4,399.2	4,399.2	9.6	9.8	171.53	-75.8	0.0	100.5	81.1	19.40	5.182	
4,500.0	4,499.2	4,499.2	4,499.2	9.9	10.0	171.53	-75.8	0.0	100.5	80.7	19.85	5.065	
4,600.0	4,599.2	4,599.2	4,599.2	10.1	10.2	171.53	-75.8	0.0	100.5	80.2	20.30	4.952	
4,700.0	4,699.2	4,699.2	4,699.2	10.3	10.4	171.53	-75.8	0.0	100.5	79.8	20.75	4.845	
4,800.0	4,799.2	4,799.2	4,799.2	10.5	10.7	171.53	-75.8	0.0	100.5	79.3	21.20	4.743	
4,900.0	4,899.2	4,899.2	4,899.2	10.8	10.9	171.53	-75.8	0.0	100.5	78.9	21.65	4.644	
5,000.0	4,999.2	4,999.2	4,999.2	11.0	11.1	171.53	-75.8	0.0	100.5	78.4	22.10	4.550	
5,100.0	5,099.2	5,099.2	5,099.2	11.2	11.3	171.53	-75.8	0.0	100.5	78.0	22.55	4.459	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3414B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,129.3	5,128.5	5,128.5	5,128.5	11.3	11.4	171.53	-75.8	0.0	100.5	77.9	22.68	4.433	SF
5,150.0	5,149.2	5,149.2	5,149.2	11.3	11.4	-156.50	-75.8	0.0	100.9	78.2	22.75	4.435	
5,200.0	5,199.0	5,199.0	5,199.0	11.4	11.6	-157.28	-75.8	0.0	104.9	82.1	22.83	4.597	
5,250.0	5,248.1	5,242.2	5,242.2	11.6	11.6	-158.40	-76.5	0.0	114.3	91.6	22.71	5.032	
5,300.0	5,296.1	5,280.2	5,280.0	11.7	11.7	-159.27	-79.9	0.2	131.4	109.0	22.40	5.866	
5,350.0	5,342.6	5,314.4	5,313.8	11.8	11.8	-159.72	-85.2	0.4	155.8	133.9	21.92	7.109	
5,400.0	5,387.2	5,350.0	5,348.5	12.0	11.8	-159.90	-93.2	0.7	186.7	165.4	21.29	8.771	
5,450.0	5,429.3	5,369.0	5,366.7	12.2	11.9	-158.87	-98.4	0.9	222.6	202.1	20.54	10.839	
5,500.0	5,468.7	5,389.1	5,385.9	12.4	11.9	-157.29	-104.6	1.1	263.0	243.2	19.76	13.311	
5,550.0	5,504.9	5,400.0	5,396.1	12.6	11.9	-154.02	-108.3	1.2	306.7	287.6	19.17	15.997	
5,600.0	5,537.7	5,416.3	5,411.3	12.9	12.0	-149.62	-114.2	1.5	352.8	333.9	18.95	18.617	
5,650.0	5,566.7	5,424.1	5,418.6	13.3	12.0	-140.57	-117.2	1.6	400.7	380.8	19.98	20.056	
5,700.0	5,591.7	5,428.7	5,422.8	13.7	12.0	-121.88	-119.0	1.7	449.7	426.3	23.49	19.148	
5,750.0	5,612.4	5,430.4	5,424.3	14.2	12.0	-85.36	-119.7	1.7	499.3	472.4	26.90	18.558	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3415A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	91.92	-1.1	32.9	33.0				
100.0	100.0	100.0	100.0	0.1	0.1	91.92	-1.1	32.9	33.0	32.8	0.19	175.625	
200.0	200.0	200.0	200.0	0.3	0.3	91.92	-1.1	32.9	33.0	32.3	0.64	51.727	
300.0	300.0	300.0	300.0	0.5	0.5	91.92	-1.1	32.9	33.0	31.9	1.09	30.330	
400.0	400.0	400.0	400.0	0.8	0.8	91.92	-1.1	32.9	33.0	31.4	1.54	21.455	
500.0	500.0	500.0	500.0	1.0	1.0	91.92	-1.1	32.9	33.0	31.0	1.99	16.598	
600.0	600.0	600.0	600.0	1.2	1.2	91.92	-1.1	32.9	33.0	30.5	2.44	13.535	
700.0	700.0	700.0	700.0	1.4	1.4	91.92	-1.1	32.9	33.0	30.1	2.88	11.426	
800.0	800.0	800.0	800.0	1.7	1.7	91.92	-1.1	32.9	33.0	29.6	3.33	9.885	
900.0	900.0	900.0	900.0	1.9	1.9	91.92	-1.1	32.9	33.0	29.2	3.78	8.711	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	91.92	-1.1	32.9	33.0	28.7	4.23	7.786	CC, ES
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	126.40	-1.1	32.9	34.0	29.3	4.68	7.258	
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	132.82	-1.1	32.9	37.3	32.2	5.12	7.284	
1,300.0	1,299.6	1,299.6	1,299.6	2.8	2.8	139.75	-1.1	32.9	42.4	36.8	5.57	7.609	
1,400.0	1,399.4	1,399.4	1,399.4	3.0	3.0	145.15	-1.1	32.9	47.9	41.9	6.02	7.964	
1,500.0	1,499.2	1,499.2	1,499.2	3.2	3.2	148.47	-1.1	32.9	52.3	45.8	6.44	8.115	
1,600.0	1,599.2	1,599.2	1,599.2	3.4	3.5	117.41	-1.1	32.9	53.8	46.9	6.85	7.858	
1,700.0	1,699.2	1,699.2	1,699.2	3.6	3.7	117.41	-1.1	32.9	53.8	46.5	7.27	7.399	
1,800.0	1,799.2	1,799.2	1,799.2	3.8	3.9	117.41	-1.1	32.9	53.8	46.1	7.72	6.969	
1,900.0	1,899.2	1,899.2	1,899.2	4.1	4.1	117.41	-1.1	32.9	53.8	45.6	8.17	6.587	
2,000.0	1,999.2	1,999.2	1,999.2	4.3	4.4	117.41	-1.1	32.9	53.8	45.2	8.61	6.244	
2,100.0	2,099.2	2,099.2	2,099.2	4.5	4.6	117.41	-1.1	32.9	53.8	44.7	9.06	5.935	
2,200.0	2,199.2	2,199.2	2,199.2	4.7	4.8	117.41	-1.1	32.9	53.8	44.3	9.51	5.655	
2,300.0	2,299.2	2,299.2	2,299.2	4.9	5.0	117.41	-1.1	32.9	53.8	43.8	9.96	5.401	
2,400.0	2,399.2	2,399.2	2,399.2	5.2	5.3	117.41	-1.1	32.9	53.8	43.4	10.41	5.168	
2,500.0	2,499.2	2,499.2	2,499.2	5.4	5.5	117.41	-1.1	32.9	53.8	42.9	10.86	4.954	
2,600.0	2,599.2	2,599.2	2,599.2	5.6	5.7	117.41	-1.1	32.9	53.8	42.5	11.31	4.758	
2,700.0	2,699.2	2,699.2	2,699.2	5.8	5.9	117.41	-1.1	32.9	53.8	42.0	11.76	4.576	
2,800.0	2,799.2	2,799.2	2,799.2	6.1	6.2	117.41	-1.1	32.9	53.8	41.6	12.20	4.408	
2,900.0	2,899.2	2,899.2	2,899.2	6.3	6.4	117.41	-1.1	32.9	53.8	41.1	12.65	4.251	
3,000.0	2,999.2	2,999.2	2,999.2	6.5	6.6	117.41	-1.1	32.9	53.8	40.7	13.10	4.105	
3,100.0	3,099.2	3,099.2	3,099.2	6.7	6.8	117.41	-1.1	32.9	53.8	40.2	13.55	3.969	
3,200.0	3,199.2	3,199.2	3,199.2	7.0	7.1	117.41	-1.1	32.9	53.8	39.8	14.00	3.842	
3,300.0	3,299.2	3,299.2	3,299.2	7.2	7.3	117.41	-1.1	32.9	53.8	39.3	14.45	3.723	
3,400.0	3,399.2	3,399.2	3,399.2	7.4	7.5	117.41	-1.1	32.9	53.8	38.9	14.90	3.610	
3,500.0	3,499.2	3,499.2	3,499.2	7.6	7.7	117.41	-1.1	32.9	53.8	38.4	15.35	3.505	
3,600.0	3,599.2	3,599.2	3,599.2	7.9	8.0	117.41	-1.1	32.9	53.8	38.0	15.80	3.405	
3,700.0	3,699.2	3,699.2	3,699.2	8.1	8.2	117.41	-1.1	32.9	53.8	37.5	16.25	3.311	
3,800.0	3,799.2	3,799.2	3,799.2	8.3	8.4	117.41	-1.1	32.9	53.8	37.1	16.69	3.222	
3,900.0	3,899.2	3,899.2	3,899.2	8.5	8.6	117.41	-1.1	32.9	53.8	36.6	17.14	3.138	
4,000.0	3,999.2	3,999.2	3,999.2	8.7	8.9	117.41	-1.1	32.9	53.8	36.2	17.59	3.057	
4,100.0	4,099.2	4,099.2	4,099.2	9.0	9.1	117.41	-1.1	32.9	53.8	35.7	18.04	2.981	
4,200.0	4,199.2	4,199.2	4,199.2	9.2	9.3	117.41	-1.1	32.9	53.8	35.3	18.49	2.909	
4,300.0	4,299.2	4,299.2	4,299.2	9.4	9.5	117.41	-1.1	32.9	53.8	34.8	18.94	2.840	
4,400.0	4,399.2	4,399.2	4,399.2	9.6	9.8	117.41	-1.1	32.9	53.8	34.4	19.39	2.774	
4,500.0	4,499.2	4,499.2	4,499.2	9.9	10.0	117.41	-1.1	32.9	53.8	33.9	19.84	2.711	
4,600.0	4,599.2	4,599.2	4,599.2	10.1	10.2	117.41	-1.1	32.9	53.8	33.5	20.29	2.651	
4,700.0	4,699.2	4,699.2	4,699.2	10.3	10.4	117.41	-1.1	32.9	53.8	33.1	20.74	2.594	
4,800.0	4,799.2	4,799.2	4,799.2	10.5	10.7	117.41	-1.1	32.9	53.8	32.6	21.19	2.539	
4,900.0	4,899.2	4,899.2	4,899.2	10.8	10.9	117.41	-1.1	32.9	53.8	32.2	21.64	2.486	
5,000.0	4,999.2	4,999.2	4,999.2	11.0	11.1	117.41	-1.1	32.9	53.8	31.7	22.09	2.435	
5,100.0	5,099.2	5,099.2	5,099.2	11.2	11.3	117.41	-1.1	32.9	53.8	31.3	22.54	2.387	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3415A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,119.4	5,118.6	5,118.6	5,118.6	11.3	11.4	117.41	-1.1	32.9	53.8	31.2	22.62	2.378	
5,129.3	5,128.5	5,128.0	5,128.0	11.3	11.4	117.41	-1.1	32.9	53.8	31.1	22.67	2.373	SF
5,150.0	5,149.2	5,147.6	5,147.6	11.3	11.4	149.88	-1.4	33.1	54.4	31.7	22.74	2.395	
5,200.0	5,199.0	5,193.0	5,192.8	11.4	11.5	153.69	-4.9	34.4	61.5	38.7	22.79	2.698	
5,250.0	5,248.1	5,235.3	5,234.5	11.6	11.6	159.06	-11.4	36.9	76.6	54.0	22.64	3.385	
5,300.0	5,296.1	5,273.0	5,271.1	11.7	11.7	163.71	-19.8	40.2	99.8	77.6	22.28	4.482	
5,350.0	5,342.6	5,305.2	5,301.8	11.8	11.7	166.99	-28.9	43.8	130.2	108.5	21.70	5.999	
5,400.0	5,387.2	5,331.6	5,326.5	12.0	11.8	169.05	-37.7	47.2	166.4	145.5	20.94	7.951	
5,450.0	5,429.3	5,350.0	5,343.3	12.2	11.8	169.82	-44.5	49.8	207.3	187.3	19.99	10.370	
5,500.0	5,468.7	5,368.3	5,359.8	12.4	11.8	170.30	-51.8	52.7	251.6	232.7	18.89	13.319	
5,550.0	5,504.9	5,379.4	5,369.8	12.6	11.9	169.33	-56.6	54.5	298.5	280.8	17.71	16.852	
5,600.0	5,537.7	5,386.6	5,376.1	12.9	11.9	166.09	-59.7	55.7	347.0	330.4	16.63	20.861	
5,650.0	5,566.7	5,400.0	5,387.8	13.3	11.9	160.63	-65.8	58.1	396.7	380.7	16.01	24.783	
5,700.0	5,591.7	5,400.0	5,387.8	13.7	11.9	91.49	-65.8	58.1	446.6	421.0	25.62	17.429	
5,750.0	5,612.4	5,400.0	5,387.8	14.2	11.9	17.73	-65.8	58.1	496.5	482.9	13.57	36.593	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3416B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	138.88	-75.8	66.2	100.6				
100.0	100.0	100.0	100.0	0.1	0.1	138.88	-75.8	66.2	100.6	100.4	0.19	536.101	
200.0	200.0	200.0	200.0	0.3	0.3	138.88	-75.8	66.2	100.6	100.0	0.64	157.899	
300.0	300.0	300.0	300.0	0.5	0.5	138.88	-75.8	66.2	100.6	99.5	1.09	92.584	
400.0	400.0	400.0	400.0	0.8	0.8	138.88	-75.8	66.2	100.6	99.1	1.54	65.493	
500.0	500.0	500.0	500.0	1.0	1.0	138.88	-75.8	66.2	100.6	98.6	1.99	50.667	CC, ES
600.0	600.0	596.7	596.7	1.2	1.2	138.59	-76.6	67.6	102.2	99.8	2.41	42.415	
700.0	700.0	693.3	693.1	1.4	1.4	137.76	-79.1	71.8	107.0	104.2	2.83	37.833	
800.0	800.0	792.8	792.4	1.7	1.6	136.70	-82.5	77.8	113.7	110.4	3.27	34.813	
900.0	900.0	892.5	891.9	1.9	1.8	135.75	-86.0	83.8	120.4	116.7	3.71	32.459	
1,000.0	1,000.0	992.3	991.4	2.1	2.1	134.90	-89.5	89.8	127.1	123.0	4.16	30.574	
1,100.0	1,100.0	1,091.9	1,090.8	2.3	2.3	166.32	-93.0	95.9	135.6	131.0	4.57	29.663	
1,200.0	1,199.8	1,191.2	1,189.9	2.6	2.6	166.09	-96.5	101.8	147.4	142.4	5.01	29.442	
1,300.0	1,299.6	1,290.3	1,288.7	2.8	2.8	166.08	-100.0	107.8	160.9	155.5	5.44	29.554	
1,400.0	1,399.4	1,389.4	1,387.5	3.0	3.1	166.08	-103.4	113.8	174.4	168.5	5.89	29.634	
1,500.0	1,499.2	1,488.7	1,486.6	3.2	3.3	166.00	-106.9	119.8	186.2	179.9	6.31	29.512	
1,600.0	1,599.2	1,588.3	1,586.0	3.4	3.6	133.63	-110.4	125.8	194.7	187.9	6.82	28.536	
1,700.0	1,699.2	1,688.1	1,685.5	3.6	3.8	133.16	-113.9	131.8	201.5	194.2	7.26	27.757	
1,800.0	1,799.2	1,787.8	1,785.0	3.8	4.1	132.73	-117.4	137.9	208.3	200.6	7.72	26.985	
1,900.0	1,899.2	1,887.6	1,884.5	4.1	4.3	132.32	-120.8	143.9	215.1	206.9	8.18	26.300	
2,000.0	1,999.2	1,987.3	1,984.0	4.3	4.6	131.94	-124.3	149.9	221.9	213.3	8.64	25.688	
2,100.0	2,099.2	2,087.1	2,083.5	4.5	4.8	131.58	-127.8	155.9	228.8	219.7	9.10	25.138	
2,200.0	2,199.2	2,186.8	2,183.1	4.7	5.1	131.25	-131.3	161.9	235.6	226.1	9.56	24.642	
2,300.0	2,299.2	2,286.6	2,282.6	4.9	5.4	130.93	-134.8	168.0	242.5	232.4	10.02	24.191	
2,400.0	2,399.2	2,386.4	2,382.1	5.2	5.6	130.63	-138.3	174.0	249.3	238.8	10.48	23.780	
2,500.0	2,499.2	2,486.1	2,481.6	5.4	5.9	130.34	-141.8	180.0	256.2	245.2	10.95	23.405	
2,600.0	2,599.2	2,585.9	2,581.1	5.6	6.1	130.07	-145.3	186.0	263.0	251.6	11.41	23.060	
2,700.0	2,699.2	2,685.6	2,680.6	5.8	6.4	129.81	-148.8	192.0	269.9	258.1	11.87	22.742	
2,800.0	2,799.2	2,785.4	2,780.1	6.1	6.7	129.57	-152.3	198.1	276.8	264.5	12.33	22.448	
2,900.0	2,899.2	2,885.1	2,879.7	6.3	6.9	129.34	-155.7	204.1	283.7	270.9	12.79	22.176	
3,000.0	2,999.2	2,984.9	2,979.2	6.5	7.2	129.12	-159.2	210.1	290.6	277.3	13.25	21.923	
3,100.0	3,099.2	3,084.7	3,078.7	6.7	7.4	128.91	-162.7	216.1	297.5	283.7	13.72	21.687	
3,200.0	3,199.2	3,184.4	3,178.2	7.0	7.7	128.71	-166.2	222.1	304.4	290.2	14.18	21.467	
3,300.0	3,299.2	3,284.2	3,277.7	7.2	8.0	128.51	-169.7	228.2	311.3	296.6	14.64	21.261	
3,400.0	3,399.2	3,383.9	3,377.2	7.4	8.2	128.33	-173.2	234.2	318.2	303.1	15.10	21.068	
3,500.0	3,499.2	3,483.7	3,476.7	7.6	8.5	128.15	-176.7	240.2	325.1	309.5	15.56	20.886	
3,600.0	3,599.2	3,583.4	3,576.2	7.9	8.7	127.99	-180.2	246.2	332.0	315.9	16.03	20.715	
3,700.0	3,699.2	3,683.2	3,675.8	8.1	9.0	127.82	-183.7	252.2	338.9	322.4	16.49	20.554	
3,800.0	3,799.2	3,782.9	3,775.3	8.3	9.3	127.67	-187.2	258.3	345.8	328.8	16.95	20.402	
3,900.0	3,899.2	3,882.7	3,874.8	8.5	9.5	127.52	-190.6	264.3	352.7	335.3	17.41	20.258	
4,000.0	3,999.2	3,982.5	3,974.3	8.7	9.8	127.38	-194.1	270.3	359.6	341.8	17.87	20.121	
4,100.0	4,099.2	4,082.2	4,073.8	9.0	10.1	127.24	-197.6	276.3	366.6	348.2	18.34	19.992	
4,200.0	4,199.2	4,182.0	4,173.3	9.2	10.3	127.10	-201.1	282.3	373.5	354.7	18.80	19.869	
4,300.0	4,299.2	4,281.7	4,272.8	9.4	10.6	126.98	-204.6	288.4	380.4	361.1	19.26	19.752	
4,400.0	4,399.2	4,381.5	4,372.4	9.6	10.8	126.85	-208.1	294.4	387.3	367.6	19.72	19.640	
4,500.0	4,499.2	4,481.2	4,471.9	9.9	11.1	126.73	-211.6	300.4	394.3	374.1	20.18	19.534	
4,600.0	4,599.2	4,581.0	4,571.4	10.1	11.4	126.62	-215.1	306.4	401.2	380.5	20.64	19.433	
4,700.0	4,699.2	4,680.8	4,670.9	10.3	11.6	126.51	-218.6	312.4	408.1	387.0	21.11	19.336	
4,800.0	4,799.2	4,780.5	4,770.4	10.5	11.9	126.40	-222.1	318.5	415.1	393.5	21.57	19.243	
4,900.0	4,899.2	4,880.3	4,869.9	10.8	12.1	126.30	-225.5	324.5	422.0	400.0	22.03	19.154	
5,000.0	4,999.2	4,994.0	4,983.5	11.0	12.4	126.20	-228.7	330.0	427.6	405.1	22.50	19.008	
5,100.0	5,099.2	5,109.7	5,099.2	11.2	12.6	126.18	-229.7	331.7	429.3	406.3	22.94	18.715	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3416B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,129.3	5,128.5	5,139.1	5,128.5	11.3	12.7	126.18	-229.7	331.7	429.3	406.2	23.06	18.616 SF	
5,150.0	5,149.2	5,159.7	5,149.2	11.3	12.7	158.23	-229.7	331.7	429.7	407.0	22.66	18.963	
5,200.0	5,199.0	5,209.5	5,199.0	11.4	12.8	158.28	-229.7	331.7	433.7	411.1	22.66	19.144	
5,250.0	5,248.1	5,250.0	5,239.4	11.6	12.9	158.32	-230.3	331.8	442.8	420.3	22.47	19.704	
5,300.0	5,296.1	5,273.5	5,262.9	11.7	12.9	158.12	-231.9	332.3	458.1	436.0	22.10	20.732	
5,350.0	5,342.6	5,300.0	5,289.2	11.8	13.0	157.89	-234.9	333.0	479.6	458.0	21.57	22.228	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #2

Survey Program: 0-ISCWSA MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
6,300.0	5,649.4	6,453.4	5,753.4	22.2	22.4	-102.82	806.8	-916.1	477.0	432.9	44.12	10.812	
6,400.0	5,649.4	6,528.4	5,753.3	23.8	23.5	-103.41	881.7	-913.2	440.1	393.0	47.12	9.339	
6,500.0	5,649.4	6,615.8	5,753.3	25.5	24.8	-104.06	969.1	-912.8	411.2	361.0	50.26	8.181	
6,600.0	5,649.4	6,712.8	5,753.3	27.2	26.3	-104.74	1,066.1	-912.8	387.8	334.3	53.48	7.251	
6,700.0	5,649.4	6,811.0	5,753.3	28.8	27.8	-105.34	1,164.3	-912.8	369.4	312.7	56.67	6.518	
6,800.0	5,649.4	6,910.0	5,753.3	30.4	29.5	-105.82	1,263.3	-912.8	356.0	296.2	59.79	5.953	
6,900.0	5,649.3	7,009.6	5,753.3	32.0	31.1	-106.14	1,362.9	-912.8	347.6	284.8	62.84	5.532	
7,000.0	5,649.3	7,109.5	5,753.3	33.6	32.8	-106.27	1,462.8	-912.7	344.3	278.5	65.80	5.232	
7,015.9	5,649.3	7,125.5	5,753.3	33.9	33.1	-106.28	1,478.8	-912.7	344.2	278.0	66.26	5.195	
7,100.0	5,649.3	7,209.5	5,753.3	35.2	34.5	-106.28	1,562.8	-912.7	344.2	275.2	69.01	4.988	
7,200.0	5,649.3	7,309.5	5,753.3	36.7	36.3	-106.28	1,662.8	-912.7	344.2	271.9	72.27	4.763	
7,300.0	5,649.3	7,409.5	5,753.3	38.3	38.0	-106.28	1,762.8	-912.7	344.2	268.6	75.58	4.554	
7,400.0	5,649.3	7,509.5	5,753.3	39.9	39.8	-106.28	1,862.8	-912.7	344.2	265.3	78.93	4.361	
7,500.0	5,649.3	7,609.5	5,753.3	41.5	41.6	-106.28	1,962.8	-912.7	344.2	261.9	82.30	4.182	
7,600.0	5,649.3	7,709.5	5,753.3	43.2	43.3	-106.28	2,062.8	-912.7	344.2	258.5	85.71	4.016	
7,700.0	5,649.3	7,809.5	5,753.3	44.8	45.2	-106.28	2,162.8	-912.7	344.2	255.0	89.15	3.861	
7,800.0	5,649.3	7,909.5	5,753.3	46.5	47.0	-106.28	2,262.8	-912.6	344.2	251.6	92.60	3.717	
7,900.0	5,649.3	8,009.5	5,753.3	48.2	48.8	-106.28	2,362.8	-912.6	344.2	248.1	96.08	3.582	
8,000.0	5,649.3	8,109.5	5,753.3	49.9	50.6	-106.28	2,462.8	-912.6	344.2	244.6	99.57	3.456	
8,100.0	5,649.3	8,209.5	5,753.3	51.7	52.5	-106.28	2,562.8	-912.6	344.1	241.1	103.08	3.339	
8,200.0	5,649.3	8,309.5	5,753.3	53.4	54.3	-106.28	2,662.8	-912.6	344.1	237.5	106.60	3.228	
8,300.0	5,649.3	8,409.5	5,753.3	55.2	56.1	-106.28	2,762.8	-912.6	344.1	234.0	110.14	3.124	
8,400.0	5,649.3	8,509.5	5,753.3	57.0	58.0	-106.28	2,862.8	-912.6	344.1	230.4	113.69	3.027	
8,500.0	5,649.3	8,609.5	5,753.2	58.7	59.8	-106.28	2,962.8	-912.5	344.1	226.9	117.25	2.935	
8,600.0	5,649.3	8,709.5	5,753.2	60.5	61.7	-106.28	3,062.8	-912.5	344.1	223.3	120.81	2.848	
8,700.0	5,649.3	8,809.5	5,753.2	62.3	63.6	-106.28	3,162.8	-912.5	344.1	219.7	124.39	2.766	
8,800.0	5,649.3	8,909.5	5,753.2	64.1	65.4	-106.28	3,262.8	-912.5	344.1	216.1	127.98	2.689	
8,900.0	5,649.2	9,009.5	5,753.2	65.9	67.3	-106.28	3,362.8	-912.5	344.1	212.5	131.57	2.615	
9,000.0	5,649.2	9,109.5	5,753.2	67.8	69.2	-106.29	3,462.8	-912.5	344.1	208.9	135.17	2.546	
9,100.0	5,649.2	9,209.5	5,753.2	69.6	71.1	-106.29	3,562.8	-912.5	344.1	205.3	138.77	2.479	
9,200.0	5,649.2	9,309.5	5,753.2	71.4	72.9	-106.29	3,662.8	-912.4	344.1	201.7	142.38	2.416	
9,300.0	5,649.2	9,409.5	5,753.2	73.2	74.8	-106.29	3,762.8	-912.4	344.0	198.1	146.00	2.357	
9,400.0	5,649.2	9,509.5	5,753.2	75.1	76.7	-106.29	3,862.8	-912.4	344.0	194.4	149.62	2.299	
9,500.0	5,649.2	9,609.5	5,753.2	76.9	78.6	-106.29	3,962.8	-912.4	344.0	190.8	153.24	2.245	
9,600.0	5,649.2	9,709.5	5,753.2	78.8	80.5	-106.29	4,062.8	-912.4	344.0	187.2	156.87	2.193	
9,700.0	5,649.2	9,809.5	5,753.2	80.6	82.4	-106.29	4,162.8	-912.4	344.0	183.5	160.50	2.143	
9,800.0	5,649.2	9,909.5	5,753.2	82.5	84.2	-106.29	4,262.8	-912.4	344.0	179.9	164.14	2.096	
9,900.0	5,649.2	10,009.5	5,753.2	84.3	86.1	-106.29	4,362.8	-912.4	344.0	176.2	167.78	2.050	
10,000.0	5,649.2	10,109.5	5,753.2	86.2	88.0	-106.29	4,462.8	-912.3	344.0	172.6	171.42	2.007	
10,100.0	5,649.2	10,209.5	5,753.2	88.0	89.9	-106.29	4,562.8	-912.3	344.0	168.9	175.07	1.965	
10,200.0	5,649.2	10,309.5	5,753.2	89.9	91.8	-106.29	4,662.8	-912.3	344.0	165.3	178.72	1.925	
10,300.0	5,649.2	10,409.5	5,753.2	91.8	93.7	-106.29	4,762.8	-912.3	344.0	161.6	182.37	1.886	
10,400.0	5,649.2	10,509.5	5,753.2	93.6	95.6	-106.29	4,862.8	-912.3	344.0	157.9	186.02	1.849	
10,500.0	5,649.2	10,609.5	5,753.2	95.5	97.5	-106.29	4,962.8	-912.3	344.0	154.3	189.68	1.813	
10,600.0	5,649.2	10,709.5	5,753.1	97.4	99.4	-106.29	5,062.8	-912.3	343.9	150.6	193.33	1.779	
10,700.0	5,649.2	10,809.5	5,753.1	99.2	101.3	-106.29	5,162.8	-912.2	343.9	146.9	196.99	1.746	
10,800.0	5,649.1	10,909.5	5,753.1	101.1	103.2	-106.29	5,262.8	-912.2	343.9	143.3	200.66	1.714	
10,900.0	5,649.1	11,009.5	5,753.1	103.0	105.1	-106.29	5,362.8	-912.2	343.9	139.6	204.32	1.683	
11,000.0	5,649.1	11,109.5	5,753.1	104.9	107.0	-106.29	5,462.8	-912.2	343.9	135.9	207.98	1.654	
11,100.0	5,649.1	11,209.5	5,753.1	106.8	108.9	-106.29	5,562.8	-912.2	343.9	132.3	211.65	1.625	
11,200.0	5,649.1	11,309.5	5,753.1	108.6	110.8	-106.30	5,662.8	-912.2	343.9	128.6	215.32	1.597	
11,300.0	5,649.1	11,409.5	5,753.1	110.5	112.7	-106.30	5,762.8	-912.2	343.9	124.9	218.99	1.570	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #2

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

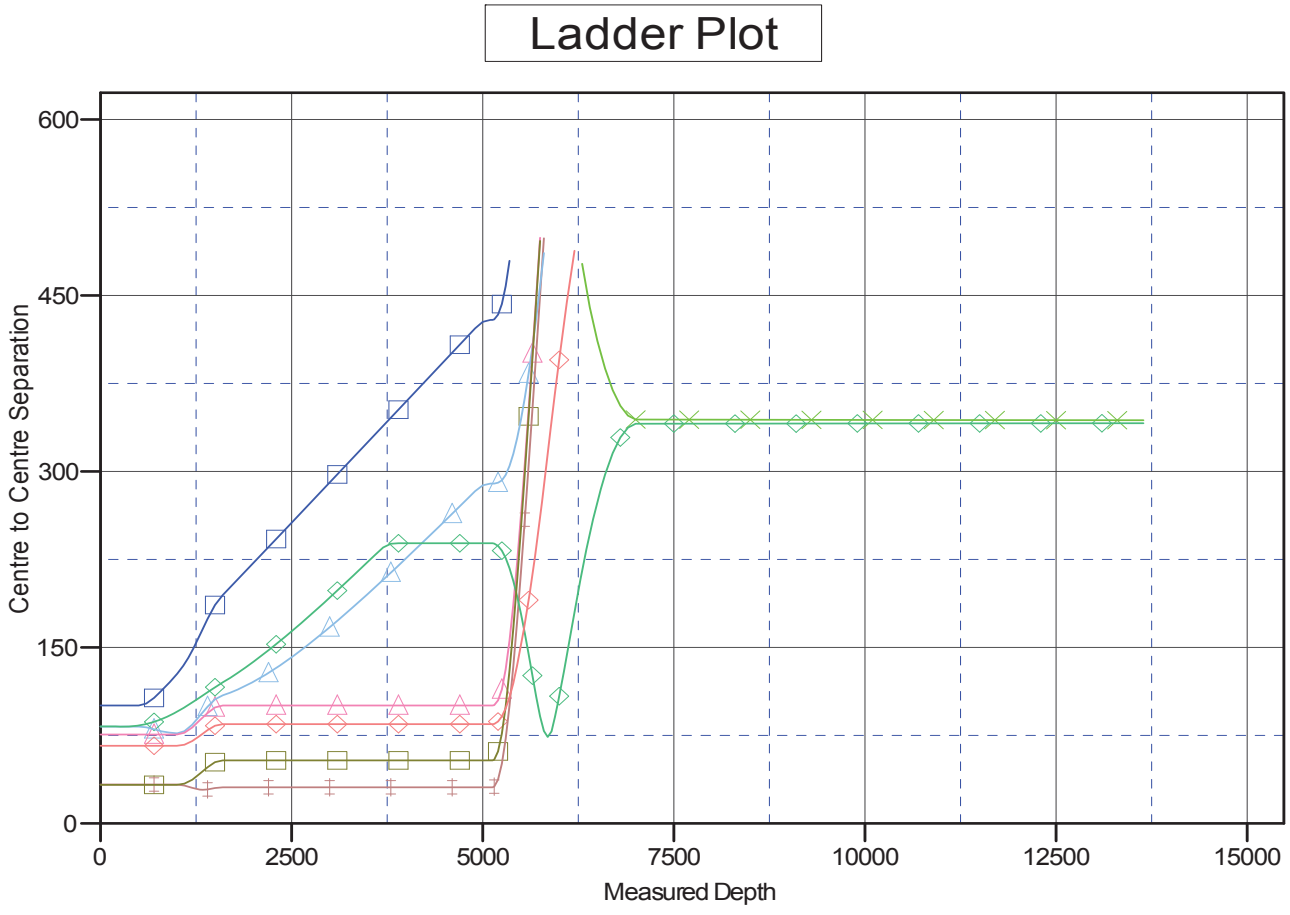
Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
11,400.0	5,649.1	11,509.5	5,753.1	112.4	114.6	-106.30	5,862.8	-912.2	343.9	121.2	222.66	1.544	
11,500.0	5,649.1	11,609.5	5,753.1	114.3	116.5	-106.30	5,962.8	-912.1	343.9	117.5	226.33	1.519	
11,600.0	5,649.1	11,709.5	5,753.1	116.2	118.4	-106.30	6,062.8	-912.1	343.9	113.9	230.01	1.495	Level 3
11,700.0	5,649.1	11,809.5	5,753.1	118.1	120.3	-106.30	6,162.8	-912.1	343.9	110.2	233.68	1.471	Level 3
11,800.0	5,649.1	11,909.5	5,753.1	120.0	122.2	-106.30	6,262.8	-912.1	343.8	106.5	237.36	1.449	Level 3
11,900.0	5,649.1	12,009.5	5,753.1	121.8	124.1	-106.30	6,362.8	-912.1	343.8	102.8	241.04	1.427	Level 3
12,000.0	5,649.1	12,109.5	5,753.1	123.7	126.0	-106.30	6,462.8	-912.1	343.8	99.1	244.71	1.405	Level 3
12,100.0	5,649.1	12,209.5	5,753.1	125.6	127.9	-106.30	6,562.8	-912.1	343.8	95.4	248.39	1.384	Level 3
12,200.0	5,649.1	12,309.5	5,753.1	127.5	129.9	-106.30	6,662.8	-912.0	343.8	91.7	252.07	1.364	Level 3
12,300.0	5,649.1	12,409.5	5,753.1	129.4	131.8	-106.30	6,762.8	-912.0	343.8	88.1	255.75	1.344	Level 3
12,400.0	5,649.1	12,509.5	5,753.1	131.3	133.7	-106.30	6,862.8	-912.0	343.8	84.4	259.44	1.325	Level 3
12,500.0	5,649.1	12,609.5	5,753.1	133.2	135.6	-106.30	6,962.8	-912.0	343.8	80.7	263.12	1.307	Level 3
12,600.0	5,649.1	12,709.5	5,753.1	135.1	137.5	-106.30	7,062.8	-912.0	343.8	77.0	266.80	1.289	Level 3
12,700.0	5,649.0	12,809.5	5,753.0	137.0	139.4	-106.30	7,162.8	-912.0	343.8	73.3	270.49	1.271	Level 3
12,800.0	5,649.0	12,909.5	5,753.0	138.9	141.3	-106.30	7,262.8	-912.0	343.8	69.6	274.17	1.254	Level 3
12,900.0	5,649.0	13,009.5	5,753.0	140.8	143.2	-106.30	7,362.8	-912.0	343.8	65.9	277.86	1.237	Level 2
13,000.0	5,649.0	13,109.5	5,753.0	142.7	145.1	-106.30	7,462.8	-911.9	343.7	62.2	281.54	1.221	Level 2
13,100.0	5,649.0	13,209.5	5,753.0	144.6	147.0	-106.30	7,562.8	-911.9	343.7	58.5	285.23	1.205	Level 2
13,200.0	5,649.0	13,309.5	5,753.0	146.5	149.0	-106.30	7,662.8	-911.9	343.7	54.8	288.92	1.190	Level 2
13,300.0	5,649.0	13,409.5	5,753.0	148.4	150.9	-106.30	7,762.8	-911.9	343.7	51.1	292.60	1.175	Level 2
13,400.0	5,649.0	13,509.5	5,753.0	150.3	152.8	-106.31	7,862.8	-911.9	343.7	47.4	296.29	1.160	Level 2
13,500.0	5,649.0	13,609.5	5,753.0	152.2	154.7	-106.31	7,962.8	-911.9	343.7	43.7	299.98	1.146	Level 2
13,600.0	5,649.0	13,709.5	5,753.0	154.1	156.6	-106.31	8,062.8	-911.9	343.7	40.0	303.67	1.132	Level 2
13,631.2	5,649.0	13,740.7	5,753.0	154.7	157.2	-106.31	8,094.0	-911.9	343.7	38.9	304.83	1.128	Level 2, CC
13,642.7	5,649.0	13,746.0	5,753.0	154.9	157.3	-106.31	8,099.3	-911.9	343.8	38.6	305.13	1.127	Level 2, ES, SF
13,643.2	5,649.0	13,746.0	5,753.0	154.9	157.3	-106.31	8,099.3	-911.9	343.8	38.6	305.14	1.127	Level 2

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #27I-2213A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Reference Site:	S27-T10N-R58W	**MD Reference:**	WELL @ 4773.0usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #27I-2213A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4773.0usft (Original Well Elev
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Razor #27I-2213A
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.07°



LEGEND

Razor #27I-3413A, HZ, Plan #1 V0
Razor #27I-3414B, HZ, Plan #1 V0
Razor #27I-2215A, HZ, Plan #1 V0
Razor #27I-3416B, HZ, Plan #2 V0
Razor #27I-2214B, HZ, Plan #2 V0
Razor #27J-2212B, HZ, Plan #2 V0
Razor #27I-2216B, HZ, Plan #2 V0
Razor #27I-3415A, HZ, Plan #1 V0