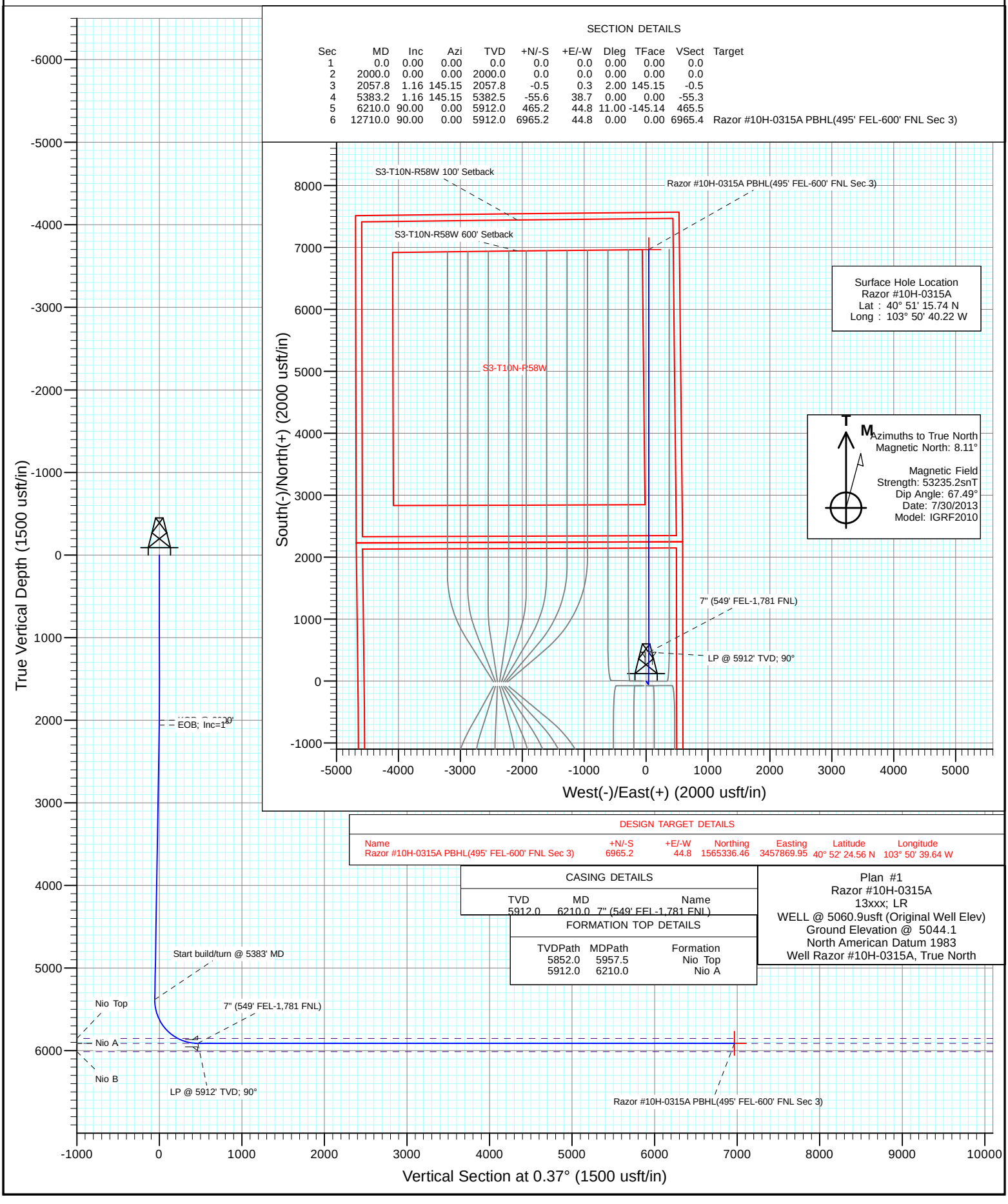
Project: Weld County, CO
Site: S10-T10N-R58W
Well: Razor #10H-0315A
Wellbore: Hz
Design: Plan #1

WHITING PETROLEUM CORPORATION

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	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
3	2057.8	1.16	145.15	2057.8	-0.5	0.3	2.00	145.15	-0.5	
4	5383.2	1.16	145.15	5382.5	-55.6	38.7	0.00	0.00	-55.3	
5	6210.0	90.00	0.00	5912.0	465.2	44.8	11.00	-145.14	465.5	
6	12710.0	90.00	0.00	5912.0	6965.2	44.8	0.00	0.00	6965.4	Razor #10H-0315A PBHL(495' FEL-600' FNL Sec 3)



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Razor #10H-0315A PBHL(495' FEL-600' FNL Sec 3)	6965.2	44.8	1565336.46	3457869.95	40° 52' 24.56 N	103° 50' 39.64 W

CASING DETAILS

TVD	MD	Name
5912.0	6210.0	7" (549' FEL-1,781 FNL)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5852.0	5957.5	Nio Top
5912.0	6210.0	Nio A

Plan #1
Razor #10H-0315A
13xxx; LR
WELL @ 5060.9usft (Original Well Elev)
Ground Elevation @ 5044.1
North American Datum 1983
Well Razor #10H-0315A, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

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	S10-T10N-R58W				
Site Position:		**Northing:**	1,558,373.60 ft	**Latitude:**	40.854372
From:	Lat/Long	**Easting:**	3,457,896.14 ft	**Longitude:**	-103.844744
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.07 °

Well	Razor #10H-0315A				
Well Position	**+N/-S**	0.0 ft	**Northing:**	1,558,374.73 ft	**Latitude:**	40.854372
	+E/-W	0.0 ft	**Easting:**	3,457,962.10 ft	**Longitude:**	-103.844506
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,044.1 ft

Wellbore	Hz				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	7/30/2013	8.11	67.49	53,235

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.0	0.0	0.0	0.37	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,057.8	1.16	145.15	2,057.8	-0.5	0.3	2.00	2.00	0.00	145.15	
5,383.2	1.16	145.15	5,382.5	-55.6	38.7	0.00	0.00	0.00	0.00	
6,210.0	90.00	0.00	5,912.0	465.2	44.8	11.00	10.75	-17.55	-145.14	
12,710.0	90.00	0.00	5,912.0	6,965.2	44.8	0.00	0.00	0.00	0.00	Razor #10H-0315A Pl

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 2000'
2,057.8	1.16	145.15	2,057.8	-0.5	0.3	-0.5	2.00	2.00	EOB; Inc=1°
2,100.0	1.16	145.15	2,100.0	-1.2	0.8	-1.2	0.00	0.00	
2,200.0	1.16	145.15	2,200.0	-2.8	2.0	-2.8	0.00	0.00	
2,300.0	1.16	145.15	2,299.9	-4.5	3.1	-4.5	0.00	0.00	
2,400.0	1.16	145.15	2,399.9	-6.1	4.3	-6.1	0.00	0.00	
2,500.0	1.16	145.15	2,499.9	-7.8	5.4	-7.8	0.00	0.00	
2,600.0	1.16	145.15	2,599.9	-9.5	6.6	-9.4	0.00	0.00	
2,700.0	1.16	145.15	2,699.9	-11.1	7.7	-11.1	0.00	0.00	
2,800.0	1.16	145.15	2,799.8	-12.8	8.9	-12.7	0.00	0.00	
2,900.0	1.16	145.15	2,899.8	-14.4	10.0	-14.4	0.00	0.00	
3,000.0	1.16	145.15	2,999.8	-16.1	11.2	-16.0	0.00	0.00	
3,100.0	1.16	145.15	3,099.8	-17.7	12.4	-17.7	0.00	0.00	
3,200.0	1.16	145.15	3,199.8	-19.4	13.5	-19.3	0.00	0.00	
3,300.0	1.16	145.15	3,299.7	-21.1	14.7	-21.0	0.00	0.00	
3,400.0	1.16	145.15	3,399.7	-22.7	15.8	-22.6	0.00	0.00	
3,500.0	1.16	145.15	3,499.7	-24.4	17.0	-24.3	0.00	0.00	
3,600.0	1.16	145.15	3,599.7	-26.0	18.1	-25.9	0.00	0.00	
3,700.0	1.16	145.15	3,699.7	-27.7	19.3	-27.6	0.00	0.00	
3,800.0	1.16	145.15	3,799.6	-29.3	20.4	-29.2	0.00	0.00	
3,900.0	1.16	145.15	3,899.6	-31.0	21.6	-30.9	0.00	0.00	
4,000.0	1.16	145.15	3,999.6	-32.6	22.7	-32.5	0.00	0.00	
4,100.0	1.16	145.15	4,099.6	-34.3	23.9	-34.2	0.00	0.00	
4,200.0	1.16	145.15	4,199.6	-36.0	25.0	-35.8	0.00	0.00	
4,300.0	1.16	145.15	4,299.5	-37.6	26.2	-37.4	0.00	0.00	
4,400.0	1.16	145.15	4,399.5	-39.3	27.4	-39.1	0.00	0.00	
4,500.0	1.16	145.15	4,499.5	-40.9	28.5	-40.7	0.00	0.00	
4,600.0	1.16	145.15	4,599.5	-42.6	29.7	-42.4	0.00	0.00	
4,700.0	1.16	145.15	4,699.5	-44.2	30.8	-44.0	0.00	0.00	
4,800.0	1.16	145.15	4,799.4	-45.9	32.0	-45.7	0.00	0.00	
4,900.0	1.16	145.15	4,899.4	-47.6	33.1	-47.3	0.00	0.00	
5,000.0	1.16	145.15	4,999.4	-49.2	34.3	-49.0	0.00	0.00	

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Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
5,100.0	1.16	145.15	5,099.4	-50.9	35.4	-50.6	0.00	0.00	
5,200.0	1.16	145.15	5,199.4	-52.5	36.6	-52.3	0.00	0.00	
5,300.0	1.16	145.15	5,299.3	-54.2	37.7	-53.9	0.00	0.00	
5,383.2	1.16	145.15	5,382.5	-55.6	38.7	-55.3	0.00	0.00	Start build/turn @ 5383' MD
5,400.0	1.11	36.39	5,399.3	-55.6	38.9	-55.3	11.00	-0.25	
5,450.0	6.43	5.88	5,449.2	-52.4	39.5	-52.1	11.00	10.63	
5,500.0	11.91	3.13	5,498.5	-44.4	40.0	-44.2	11.00	10.97	
5,550.0	17.41	2.11	5,546.9	-31.8	40.6	-31.5	11.00	10.99	
5,600.0	22.91	1.56	5,593.8	-14.6	41.1	-14.3	11.00	10.99	
5,650.0	28.40	1.22	5,638.9	7.0	41.7	7.3	11.00	11.00	
5,700.0	33.90	0.98	5,681.6	32.9	42.1	33.2	11.00	11.00	
5,750.0	39.40	0.80	5,721.7	62.7	42.6	63.0	11.00	11.00	
5,800.0	44.90	0.66	5,758.8	96.3	43.0	96.5	11.00	11.00	
5,850.0	50.40	0.55	5,792.5	133.2	43.4	133.5	11.00	11.00	
5,900.0	55.90	0.45	5,822.4	173.2	43.8	173.5	11.00	11.00	
5,950.0	61.40	0.36	5,848.4	215.9	44.1	216.2	11.00	11.00	
5,957.5	62.23	0.35	5,852.0	222.5	44.1	222.8	11.00	11.00	Nio Top
6,000.0	66.90	0.28	5,870.2	260.9	44.3	261.1	11.00	11.00	
6,050.0	72.40	0.21	5,887.6	307.7	44.5	308.0	11.00	11.00	
6,100.0	77.90	0.14	5,900.4	356.0	44.7	356.3	11.00	11.00	
6,150.0	83.40	0.08	5,908.5	405.3	44.8	405.6	11.00	11.00	
6,200.0	88.90	0.01	5,911.9	455.2	44.8	455.5	11.00	11.00	
6,210.0	90.00	0.00	5,912.0	465.2	44.8	465.5	11.00	11.00	LP @ 5912' TVD; 90° - Nio A - 7" (549' FEL-1,7
6,300.0	90.00	0.00	5,912.0	555.2	44.8	555.5	0.00	0.00	
6,400.0	90.00	0.00	5,912.0	655.2	44.8	655.5	0.00	0.00	
6,500.0	90.00	0.00	5,912.0	755.2	44.8	755.5	0.00	0.00	
6,600.0	90.00	0.00	5,912.0	855.2	44.8	855.5	0.00	0.00	
6,700.0	90.00	0.00	5,912.0	955.2	44.8	955.5	0.00	0.00	
6,800.0	90.00	0.00	5,912.0	1,055.2	44.8	1,055.5	0.00	0.00	
6,900.0	90.00	0.00	5,912.0	1,155.2	44.8	1,155.5	0.00	0.00	
7,000.0	90.00	0.00	5,912.0	1,255.2	44.8	1,255.5	0.00	0.00	
7,100.0	90.00	0.00	5,912.0	1,355.2	44.8	1,355.5	0.00	0.00	
7,200.0	90.00	0.00	5,912.0	1,455.2	44.8	1,455.5	0.00	0.00	
7,300.0	90.00	0.00	5,912.0	1,555.2	44.8	1,555.5	0.00	0.00	
7,400.0	90.00	0.00	5,912.0	1,655.2	44.8	1,655.5	0.00	0.00	
7,500.0	90.00	0.00	5,912.0	1,755.2	44.8	1,755.5	0.00	0.00	
7,600.0	90.00	0.00	5,912.0	1,855.2	44.8	1,855.5	0.00	0.00	
7,700.0	90.00	0.00	5,912.0	1,955.2	44.8	1,955.5	0.00	0.00	
7,800.0	90.00	0.00	5,912.0	2,055.2	44.8	2,055.5	0.00	0.00	
7,900.0	90.00	0.00	5,912.0	2,155.2	44.8	2,155.5	0.00	0.00	
8,000.0	90.00	0.00	5,912.0	2,255.2	44.8	2,255.5	0.00	0.00	
8,100.0	90.00	0.00	5,912.0	2,355.2	44.8	2,355.4	0.00	0.00	
8,200.0	90.00	0.00	5,912.0	2,455.2	44.8	2,455.4	0.00	0.00	
8,300.0	90.00	0.00	5,912.0	2,555.2	44.8	2,555.4	0.00	0.00	
8,400.0	90.00	0.00	5,912.0	2,655.2	44.8	2,655.4	0.00	0.00	
8,500.0	90.00	0.00	5,912.0	2,755.2	44.8	2,755.4	0.00	0.00	
8,600.0	90.00	0.00	5,912.0	2,855.2	44.8	2,855.4	0.00	0.00	
8,700.0	90.00	0.00	5,912.0	2,955.2	44.8	2,955.4	0.00	0.00	
8,800.0	90.00	0.00	5,912.0	3,055.2	44.8	3,055.4	0.00	0.00	
8,900.0	90.00	0.00	5,912.0	3,155.2	44.8	3,155.4	0.00	0.00	
9,000.0	90.00	0.00	5,912.0	3,255.2	44.8	3,255.4	0.00	0.00	
9,100.0	90.00	0.00	5,912.0	3,355.2	44.8	3,355.4	0.00	0.00	

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Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,200.0	90.00	0.00	5,912.0	3,455.2	44.8	3,455.4	0.00	0.00	
9,300.0	90.00	0.00	5,912.0	3,555.2	44.8	3,555.4	0.00	0.00	
9,400.0	90.00	0.00	5,912.0	3,655.2	44.8	3,655.4	0.00	0.00	
9,500.0	90.00	0.00	5,912.0	3,755.2	44.8	3,755.4	0.00	0.00	
9,600.0	90.00	0.00	5,912.0	3,855.2	44.8	3,855.4	0.00	0.00	
9,700.0	90.00	0.00	5,912.0	3,955.2	44.8	3,955.4	0.00	0.00	
9,800.0	90.00	0.00	5,912.0	4,055.2	44.8	4,055.4	0.00	0.00	
9,900.0	90.00	0.00	5,912.0	4,155.2	44.8	4,155.4	0.00	0.00	
10,000.0	90.00	0.00	5,912.0	4,255.2	44.8	4,255.4	0.00	0.00	
10,100.0	90.00	0.00	5,912.0	4,355.2	44.8	4,355.4	0.00	0.00	
10,200.0	90.00	0.00	5,912.0	4,455.2	44.8	4,455.4	0.00	0.00	
10,300.0	90.00	0.00	5,912.0	4,555.2	44.8	4,555.4	0.00	0.00	
10,400.0	90.00	0.00	5,912.0	4,655.2	44.8	4,655.4	0.00	0.00	
10,500.0	90.00	0.00	5,912.0	4,755.2	44.8	4,755.4	0.00	0.00	
10,600.0	90.00	0.00	5,912.0	4,855.2	44.8	4,855.4	0.00	0.00	
10,700.0	90.00	0.00	5,912.0	4,955.2	44.8	4,955.4	0.00	0.00	
10,800.0	90.00	0.00	5,912.0	5,055.2	44.8	5,055.4	0.00	0.00	
10,900.0	90.00	0.00	5,912.0	5,155.2	44.8	5,155.4	0.00	0.00	
11,000.0	90.00	0.00	5,912.0	5,255.2	44.8	5,255.4	0.00	0.00	
11,100.0	90.00	0.00	5,912.0	5,355.2	44.8	5,355.4	0.00	0.00	
11,200.0	90.00	0.00	5,912.0	5,455.2	44.8	5,455.4	0.00	0.00	
11,300.0	90.00	0.00	5,912.0	5,555.2	44.8	5,555.4	0.00	0.00	
11,400.0	90.00	0.00	5,912.0	5,655.2	44.8	5,655.4	0.00	0.00	
11,500.0	90.00	0.00	5,912.0	5,755.2	44.8	5,755.4	0.00	0.00	
11,600.0	90.00	0.00	5,912.0	5,855.2	44.8	5,855.4	0.00	0.00	
11,700.0	90.00	0.00	5,912.0	5,955.2	44.8	5,955.4	0.00	0.00	
11,800.0	90.00	0.00	5,912.0	6,055.2	44.8	6,055.4	0.00	0.00	
11,900.0	90.00	0.00	5,912.0	6,155.2	44.8	6,155.4	0.00	0.00	
12,000.0	90.00	0.00	5,912.0	6,255.2	44.8	6,255.4	0.00	0.00	
12,100.0	90.00	0.00	5,912.0	6,355.2	44.8	6,355.4	0.00	0.00	
12,200.0	90.00	0.00	5,912.0	6,455.2	44.8	6,455.4	0.00	0.00	
12,300.0	90.00	0.00	5,912.0	6,555.2	44.8	6,555.4	0.00	0.00	
12,400.0	90.00	0.00	5,912.0	6,655.2	44.8	6,655.4	0.00	0.00	
12,500.0	90.00	0.00	5,912.0	6,755.2	44.8	6,755.4	0.00	0.00	
12,600.0	90.00	0.00	5,912.0	6,855.2	44.8	6,855.4	0.00	0.00	
12,700.0	90.00	0.00	5,912.0	6,955.2	44.8	6,955.4	0.00	0.00	
12,710.0	90.00	0.00	5,912.0	6,965.2	44.8	6,965.4	0.00	0.00	TD at 12710.0

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Razor #10H-0315A PBH - plan hits target center - Point	0.00	0.00	5,912.0	6,965.2	44.8	1,565,339.59	3,457,876.86	40.873489	-103.844344

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,210.0	5,912.0	7" (549' FEL-1,781 FNL)	7.000	7.500

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,957.5	5,852.0	Nio Top		0.00	
6,210.0	5,912.0	Nio A		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,000.0	2,000.0	0.0	0.0	KOP @ 2000'
2,057.8	2,057.8	-0.5	0.3	EOB; Inc=1°
5,383.2	5,382.5	-55.6	38.7	Start build/turn @ 5383' MD
6,210.0	5,912.0	465.2	44.8	LP @ 5912' TVD; 90°
12,710.0	5,912.0	6,965.2	44.8	TD at 12710.0

Whiting Petroleum Corporation

Weld County, CO
S10-T10N-R58W
Razor #10H-0315A
Hz
Plan #1

Anticollision Report

31 July, 2013

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,597.1ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 7/31/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,709.8	Plan #1 (Hz)	ISCWSA MWD	MWD - ISCWSA

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S10-T10N-R58W						
BUSH 1 (EXISTING) - BURNS WELL - NO SURVEYS						Out of range
FREGEAU 1 (EXISTING) - CREST WELL - NO SURVEY						Out of range
FREGEAU 2 (EXISTING) - CREST WELL - NO SURVEY						Out of range
NELSON RANCHES E-1 (EXISTING) - ANTELOPE WEL						Out of range
Razor #10H-0313A - Hz - Plan #1	500.0	500.0	65.8	63.9	33.167	CC, ES
Razor #10H-0313A - Hz - Plan #1	12,710.0	12,668.2	660.2	391.2	2.454	SF
Razor #10H-0314B - Hz - Plan #1	500.0	500.0	32.9	30.9	16.584	CC, ES
Razor #10H-0314B - Hz - Plan #1	12,710.0	12,757.1	344.8	86.0	1.332	Level 3, SF
Razor #10H-0316B - Hz - Plan #1	500.0	500.0	33.2	31.2	16.723	CC, ES
Razor #10H-0316B - Hz - Plan #1	12,710.0	12,767.0	345.3	86.7	1.335	Level 3, SF
Razor #10H-1513A - Hz - Plan #1	500.0	500.0	99.6	97.6	50.151	CC, ES
Razor #10H-1513A - Hz - Plan #1	5,400.0	5,372.1	519.0	495.5	22.088	SF
Razor #10H-1514B - Hz - Plan #1	500.0	500.0	81.6	79.6	41.110	CC, ES
Razor #10H-1514B - Hz - Plan #1	5,400.0	5,395.0	218.0	194.7	9.362	SF
Razor #10H-1515A - Hz - Plan #1	3,576.3	3,575.5	71.4	56.2	4.708	CC
Razor #10H-1515A - Hz - Plan #1	4,200.0	4,199.1	72.8	54.9	4.075	ES
Razor #10H-1515A - Hz - Plan #1	5,400.0	5,398.5	82.6	59.5	3.570	SF
Razor #10H-1516B - Hz - Plan #1	500.0	500.0	81.7	79.7	41.167	CC, ES
Razor #10H-1516B - Hz - Plan #1	5,400.0	5,384.6	374.5	351.0	15.944	SF
RAZOR 22-2712H (EXISTING) - WHTING WELL - SURV						Out of range
RAZOR 23-2612H (EXISTING) - WHITING WELL - NO S						Out of range
S11-T10N-R58W						
Razor #11E-0201A - HZ - Plan #1	12,710.0	12,573.2	661.1	390.3	2.441	CC, ES, SF
Razor #11E-0202B - HZ - Plan #1	12,710.0	12,561.5	999.7	731.7	3.730	CC, ES, SF
Razor #11E-0203A - HZ - Plan #1	12,710.0	12,406.3	1,320.4	1,050.8	4.898	CC, ES, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0313A - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	0.0	-65.8	65.8				
100.0	100.0	100.0	100.0	0.1	0.1	-89.99	0.0	-65.8	65.8	65.7	0.19	352.082	
200.0	200.0	200.0	200.0	0.3	0.3	-89.99	0.0	-65.8	65.8	65.2	0.64	103.437	
300.0	300.0	300.0	300.0	0.5	0.5	-89.99	0.0	-65.8	65.8	64.8	1.09	60.623	
400.0	400.0	400.0	400.0	0.8	0.8	-89.99	0.0	-65.8	65.8	64.3	1.54	42.877	
500.0	500.0	500.0	500.0	1.0	1.0	-89.99	0.0	-65.8	65.8	63.9	1.99	33.167	CC, ES
600.0	600.0	597.7	597.7	1.2	1.2	-89.97	0.0	-67.5	67.5	65.1	2.42	27.937	
700.0	700.0	695.2	695.1	1.4	1.4	-89.91	0.1	-72.5	72.7	69.8	2.85	25.502	
800.0	800.0	792.2	791.7	1.7	1.6	-89.84	0.2	-80.7	81.2	77.9	3.29	24.653	
900.0	900.0	891.5	890.5	1.9	1.9	-89.76	0.4	-91.0	91.5	87.8	3.75	24.424	
1,000.0	1,000.0	991.0	989.4	2.1	2.2	-89.70	0.5	-101.4	101.9	97.7	4.21	24.225	
1,100.0	1,100.0	1,090.5	1,088.3	2.3	2.4	-89.66	0.7	-111.7	112.3	107.6	4.67	24.039	
1,200.0	1,200.0	1,189.9	1,187.3	2.6	2.7	-89.62	0.8	-122.0	122.7	117.6	5.14	23.868	
1,300.0	1,300.0	1,289.4	1,286.2	2.8	3.0	-89.58	1.0	-132.4	133.1	127.5	5.61	23.713	
1,400.0	1,400.0	1,388.8	1,385.1	3.0	3.3	-89.55	1.1	-142.7	143.5	137.4	6.09	23.574	
1,500.0	1,500.0	1,488.3	1,484.0	3.2	3.6	-89.53	1.3	-153.0	153.9	147.3	6.56	23.449	
1,600.0	1,600.0	1,587.8	1,582.9	3.5	3.8	-89.51	1.4	-163.3	164.2	157.2	7.04	23.336	
1,700.0	1,700.0	1,687.2	1,681.9	3.7	4.1	-89.49	1.6	-173.7	174.6	167.1	7.52	23.235	
1,800.0	1,800.0	1,786.7	1,780.8	3.9	4.4	-89.47	1.7	-184.0	185.0	177.0	7.99	23.143	
1,900.0	1,900.0	1,886.1	1,879.7	4.1	4.7	-89.45	1.8	-194.3	195.4	186.9	8.47	23.059	
2,000.0	2,000.0	1,985.6	1,978.6	4.4	5.0	-89.44	2.0	-204.7	205.8	196.8	8.95	22.983	
2,100.0	2,100.0	2,084.9	2,077.4	4.6	5.3	125.63	2.1	-215.0	217.0	207.9	9.11	23.832	
2,200.0	2,200.0	2,184.3	2,176.2	4.7	5.6	126.04	2.3	-225.3	228.6	219.0	9.51	24.028	
2,300.0	2,299.9	2,283.6	2,275.0	4.9	5.9	126.41	2.4	-235.6	240.1	230.2	9.92	24.197	
2,400.0	2,399.9	2,382.9	2,373.8	5.1	6.2	126.75	2.6	-245.9	251.7	241.4	10.34	24.344	
2,500.0	2,499.9	2,482.2	2,472.6	5.3	6.5	127.06	2.7	-256.2	263.3	252.5	10.76	24.472	
2,600.0	2,599.9	2,581.5	2,571.3	5.5	6.8	127.34	2.9	-266.6	274.9	263.7	11.18	24.583	
2,700.0	2,699.9	2,680.8	2,670.1	5.7	7.1	127.60	3.0	-276.9	286.5	274.9	11.61	24.680	
2,800.0	2,799.8	2,780.2	2,768.9	5.9	7.4	127.84	3.2	-287.2	298.1	286.1	12.04	24.765	
2,900.0	2,899.8	2,879.5	2,867.7	6.1	7.7	128.06	3.3	-297.5	309.7	297.3	12.47	24.840	
3,000.0	2,999.8	2,978.8	2,966.5	6.3	8.0	128.26	3.5	-307.8	321.3	308.4	12.90	24.906	
3,100.0	3,099.8	3,078.1	3,065.2	6.5	8.3	128.45	3.6	-318.1	333.0	319.6	13.34	24.965	
3,200.0	3,199.8	3,177.4	3,164.0	6.7	8.6	128.63	3.8	-328.4	344.6	330.8	13.77	25.016	
3,300.0	3,299.7	3,276.7	3,262.8	6.9	8.9	128.80	3.9	-338.8	356.2	342.0	14.21	25.062	
3,400.0	3,399.7	3,376.1	3,361.6	7.1	9.1	128.95	4.1	-349.1	367.8	353.2	14.65	25.102	
3,500.0	3,499.7	3,475.4	3,460.4	7.3	9.4	129.10	4.2	-359.4	379.5	364.4	15.10	25.138	
3,600.0	3,599.7	3,574.7	3,559.1	7.5	9.7	129.23	4.4	-369.7	391.1	375.6	15.54	25.170	
3,700.0	3,699.7	3,674.0	3,657.9	7.7	10.0	129.36	4.5	-380.0	402.8	386.8	15.98	25.199	
3,800.0	3,799.6	3,773.3	3,756.7	7.9	10.3	129.49	4.6	-390.3	414.4	398.0	16.43	25.224	
3,900.0	3,899.6	3,872.6	3,855.5	8.1	10.6	129.60	4.8	-400.6	426.0	409.2	16.87	25.247	
4,000.0	3,999.6	3,972.0	3,954.3	8.4	10.9	129.71	4.9	-411.0	437.7	420.4	17.32	25.267	
4,100.0	4,099.6	4,071.3	4,053.0	8.6	11.2	129.81	5.1	-421.3	449.3	431.5	17.77	25.285	
4,200.0	4,199.6	4,170.6	4,151.8	8.8	11.5	129.91	5.2	-431.6	461.0	442.7	18.22	25.302	
4,300.0	4,299.5	4,269.9	4,250.6	9.0	11.8	130.01	5.4	-441.9	472.6	453.9	18.67	25.316	
4,400.0	4,399.5	4,369.2	4,349.4	9.2	12.1	130.09	5.5	-452.2	484.3	465.1	19.12	25.329	
4,500.0	4,499.5	4,468.5	4,448.2	9.4	12.4	130.18	5.7	-462.5	495.9	476.3	19.57	25.341	
4,600.0	4,599.5	4,567.9	4,546.9	9.7	12.7	130.26	5.8	-472.8	507.6	487.5	20.02	25.352	
4,700.0	4,699.5	4,667.2	4,645.7	9.9	13.0	130.34	6.0	-483.2	519.2	498.7	20.47	25.361	
4,800.0	4,799.4	4,766.5	4,744.5	10.1	13.3	130.41	6.1	-493.5	530.9	509.9	20.92	25.369	
4,900.0	4,899.4	4,865.8	4,843.3	10.3	13.6	130.48	6.3	-503.8	542.5	521.1	21.38	25.377	
5,000.0	4,999.4	4,965.1	4,942.1	10.5	13.9	130.55	6.4	-514.1	554.2	532.3	21.83	25.384	
5,100.0	5,099.4	5,064.4	5,040.8	10.7	14.2	130.61	6.6	-524.4	565.8	543.5	22.29	25.390	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0313A - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,163.8	5,139.6	11.0	14.5	130.68	6.7	-534.7	577.5	554.7	22.74	25.395	
5,300.0	5,299.3	5,263.1	5,238.4	11.2	14.8	130.74	6.9	-545.0	589.1	565.9	23.19	25.400	
5,400.0	5,399.3	5,362.4	5,337.2	11.4	15.1	-120.27	7.0	-555.4	600.8	577.1	23.65	25.398	
5,500.0	5,498.5	5,457.2	5,431.5	11.6	15.4	-86.88	8.5	-565.2	611.2	587.2	24.08	25.382	
5,600.0	5,593.8	5,547.6	5,520.1	11.8	15.6	-85.58	22.8	-574.5	621.1	596.7	24.45	25.407	
5,700.0	5,681.6	5,640.3	5,607.1	12.0	15.9	-85.48	53.2	-583.5	630.4	605.6	24.85	25.373	
5,800.0	5,758.8	5,735.9	5,689.7	12.3	16.1	-85.82	100.3	-592.2	639.0	613.6	25.39	25.162	
5,900.0	5,822.4	5,834.8	5,764.6	12.7	16.4	-86.45	164.1	-600.0	646.4	620.2	26.22	24.652	
6,000.0	5,870.2	5,937.4	5,828.3	13.4	16.8	-87.30	244.0	-606.6	652.5	625.1	27.45	23.775	
6,100.0	5,900.4	6,044.0	5,876.6	14.3	17.4	-88.31	338.7	-611.7	657.0	627.9	29.12	22.560	
6,200.0	5,911.9	6,154.6	5,905.4	15.3	18.2	-89.45	445.2	-614.7	659.6	628.4	31.23	21.118	
6,300.0	5,912.0	6,264.9	5,912.0	16.5	19.2	-90.00	555.2	-615.4	660.2	626.5	33.66	19.610	
6,400.0	5,912.0	6,364.9	5,912.0	17.9	20.3	-90.00	655.2	-615.4	660.2	623.9	36.25	18.212	
6,500.0	5,912.0	6,464.9	5,912.0	19.3	21.5	-90.00	755.2	-615.4	660.2	621.1	39.03	16.914	
6,600.0	5,912.0	6,564.9	5,912.0	20.8	22.8	-90.00	855.2	-615.4	660.2	618.2	41.98	15.725	
6,700.0	5,912.0	6,664.9	5,912.0	22.4	24.2	-90.00	955.2	-615.4	660.2	615.1	45.07	14.649	
6,800.0	5,912.0	6,764.9	5,912.0	24.0	25.7	-90.00	1,055.2	-615.4	660.2	611.9	48.26	13.679	
6,900.0	5,912.0	6,864.9	5,912.0	25.7	27.2	-90.00	1,155.2	-615.4	660.2	608.6	51.54	12.808	
7,000.0	5,912.0	6,964.9	5,912.0	27.4	28.8	-90.00	1,255.2	-615.4	660.2	605.3	54.90	12.025	
7,100.0	5,912.0	7,064.9	5,912.0	29.1	30.4	-90.00	1,355.2	-615.4	660.2	601.9	58.32	11.321	
7,200.0	5,912.0	7,164.9	5,912.0	30.8	32.1	-90.00	1,455.2	-615.4	660.2	598.4	61.78	10.685	
7,300.0	5,912.0	7,264.9	5,912.0	32.6	33.8	-90.00	1,555.2	-615.4	660.2	594.9	65.29	10.111	
7,400.0	5,912.0	7,364.9	5,912.0	34.4	35.5	-90.00	1,655.2	-615.4	660.2	591.3	68.84	9.591	
7,500.0	5,912.0	7,464.9	5,912.0	36.2	37.2	-90.00	1,755.2	-615.4	660.2	587.8	72.41	9.117	
7,600.0	5,912.0	7,564.9	5,912.0	38.0	39.0	-90.00	1,855.2	-615.4	660.2	584.2	76.01	8.685	
7,700.0	5,912.0	7,664.9	5,912.0	39.8	40.7	-90.00	1,955.2	-615.4	660.2	580.5	79.64	8.290	
7,800.0	5,912.0	7,764.9	5,912.0	41.6	42.5	-90.00	2,055.2	-615.4	660.2	576.9	83.28	7.927	
7,900.0	5,912.0	7,864.9	5,912.0	43.5	44.3	-90.00	2,155.2	-615.4	660.2	573.2	86.94	7.593	
8,000.0	5,912.0	7,964.9	5,912.0	45.3	46.1	-90.00	2,255.2	-615.4	660.2	569.6	90.62	7.285	
8,100.0	5,912.0	8,064.9	5,912.0	47.2	47.9	-90.00	2,355.2	-615.4	660.2	565.9	94.30	7.000	
8,200.0	5,912.0	8,164.9	5,912.0	49.0	49.7	-90.00	2,455.2	-615.4	660.2	562.2	98.01	6.736	
8,300.0	5,912.0	8,264.9	5,912.0	50.9	51.5	-90.00	2,555.2	-615.4	660.2	558.5	101.72	6.490	
8,400.0	5,912.0	8,364.9	5,912.0	52.8	53.4	-90.00	2,655.2	-615.4	660.2	554.7	105.44	6.261	
8,500.0	5,912.0	8,464.9	5,912.0	54.6	55.2	-90.00	2,755.2	-615.4	660.2	551.0	109.17	6.047	
8,600.0	5,912.0	8,564.9	5,912.0	56.5	57.1	-90.00	2,855.2	-615.4	660.2	547.3	112.91	5.847	
8,700.0	5,912.0	8,664.9	5,912.0	58.4	58.9	-90.00	2,955.2	-615.4	660.2	543.5	116.65	5.659	
8,800.0	5,912.0	8,764.9	5,912.0	60.2	60.8	-90.00	3,055.2	-615.4	660.2	539.8	120.40	5.483	
8,900.0	5,912.0	8,864.9	5,912.0	62.1	62.6	-90.00	3,155.2	-615.4	660.2	536.0	124.16	5.317	
9,000.0	5,912.0	8,964.9	5,912.0	64.0	64.5	-90.00	3,255.2	-615.4	660.2	532.3	127.92	5.161	
9,100.0	5,912.0	9,064.9	5,912.0	65.9	66.3	-90.00	3,355.2	-615.4	660.2	528.5	131.68	5.013	
9,200.0	5,912.0	9,164.9	5,912.0	67.8	68.2	-90.00	3,455.2	-615.4	660.2	524.7	135.45	4.874	
9,300.0	5,912.0	9,264.9	5,912.0	69.7	70.1	-90.00	3,555.2	-615.4	660.2	520.9	139.23	4.742	
9,400.0	5,912.0	9,364.9	5,912.0	71.6	71.9	-90.00	3,655.2	-615.4	660.2	517.2	143.01	4.616	
9,500.0	5,912.0	9,464.9	5,912.0	73.5	73.8	-90.00	3,755.2	-615.4	660.2	513.4	146.79	4.497	
9,600.0	5,912.0	9,564.9	5,912.0	75.4	75.7	-90.00	3,855.2	-615.4	660.2	509.6	150.57	4.384	
9,700.0	5,912.0	9,664.9	5,912.0	77.3	77.6	-90.00	3,955.2	-615.4	660.2	505.8	154.36	4.277	
9,800.0	5,912.0	9,764.9	5,912.0	79.2	79.5	-90.00	4,055.2	-615.4	660.2	502.0	158.15	4.174	
9,900.0	5,912.0	9,864.9	5,912.0	81.1	81.3	-90.00	4,155.2	-615.4	660.2	498.2	161.94	4.077	
10,000.0	5,912.0	9,964.9	5,912.0	82.9	83.2	-90.00	4,255.2	-615.4	660.2	494.4	165.74	3.983	
10,100.0	5,912.0	10,064.9	5,912.0	84.9	85.1	-90.00	4,355.2	-615.4	660.2	490.6	169.53	3.894	
10,200.0	5,912.0	10,164.9	5,912.0	86.8	87.0	-90.00	4,455.2	-615.4	660.2	486.8	173.33	3.809	
10,300.0	5,912.0	10,264.9	5,912.0	88.7	88.9	-90.00	4,555.2	-615.4	660.2	483.0	177.13	3.727	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0313A - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	5,912.0	10,364.9	5,912.0	90.6	90.8	-90.00	4,655.2	-615.4	660.2	479.2	180.94	3.649	
10,500.0	5,912.0	10,464.9	5,912.0	92.5	92.7	-90.00	4,755.2	-615.4	660.2	475.4	184.74	3.573	
10,600.0	5,912.0	10,564.9	5,912.0	94.4	94.6	-90.00	4,855.2	-615.4	660.2	471.6	188.55	3.501	
10,700.0	5,912.0	10,664.9	5,912.0	96.3	96.5	-90.00	4,955.2	-615.4	660.2	467.8	192.36	3.432	
10,800.0	5,912.0	10,764.9	5,912.0	98.2	98.4	-90.00	5,055.2	-615.4	660.2	464.0	196.16	3.365	
10,900.0	5,912.0	10,864.9	5,912.0	100.1	100.3	-90.00	5,155.2	-615.4	660.2	460.2	199.97	3.301	
11,000.0	5,912.0	10,964.9	5,912.0	102.0	102.2	-90.00	5,255.2	-615.4	660.2	456.4	203.79	3.240	
11,100.0	5,912.0	11,064.9	5,912.0	103.9	104.1	-90.00	5,355.2	-615.4	660.2	452.6	207.60	3.180	
11,200.0	5,912.0	11,164.9	5,912.0	105.8	106.0	-90.00	5,455.2	-615.4	660.2	448.8	211.41	3.123	
11,300.0	5,912.0	11,264.9	5,912.0	107.7	107.9	-90.00	5,555.2	-615.4	660.2	444.9	215.23	3.067	
11,400.0	5,912.0	11,364.9	5,912.0	109.6	109.8	-90.00	5,655.2	-615.4	660.2	441.1	219.04	3.014	
11,500.0	5,912.0	11,464.9	5,912.0	111.5	111.7	-90.00	5,755.2	-615.4	660.2	437.3	222.86	2.962	
11,600.0	5,912.0	11,564.9	5,912.0	113.4	113.6	-90.00	5,855.2	-615.4	660.2	433.5	226.68	2.912	
11,700.0	5,912.0	11,664.9	5,912.0	115.4	115.5	-90.00	5,955.2	-615.4	660.2	429.7	230.50	2.864	
11,800.0	5,912.0	11,764.9	5,912.0	117.3	117.4	-90.00	6,055.2	-615.4	660.2	425.8	234.32	2.817	
11,900.0	5,912.0	11,864.9	5,912.0	119.2	119.3	-90.00	6,155.2	-615.4	660.2	422.0	238.14	2.772	
12,000.0	5,912.0	11,964.9	5,912.0	121.1	121.2	-90.00	6,255.2	-615.4	660.2	418.2	241.96	2.728	
12,100.0	5,912.0	12,064.9	5,912.0	123.0	123.1	-90.00	6,355.2	-615.4	660.2	414.4	245.78	2.686	
12,200.0	5,912.0	12,164.9	5,912.0	124.9	125.0	-90.00	6,455.2	-615.4	660.2	410.6	249.60	2.645	
12,300.0	5,912.0	12,264.9	5,912.0	126.8	126.9	-90.00	6,555.2	-615.4	660.2	406.7	253.42	2.605	
12,400.0	5,912.0	12,364.9	5,912.0	128.7	128.8	-90.00	6,655.2	-615.4	660.2	402.9	257.25	2.566	
12,500.0	5,912.0	12,464.9	5,912.0	130.6	130.7	-90.00	6,755.2	-615.4	660.2	399.1	261.07	2.529	
12,600.0	5,912.0	12,564.9	5,912.0	132.6	132.6	-90.00	6,855.2	-615.4	660.2	395.3	264.90	2.492	
12,700.0	5,912.0	12,664.9	5,912.0	134.5	134.5	-90.00	6,955.2	-615.4	660.2	391.4	268.72	2.457	
12,703.3	5,912.0	12,668.2	5,912.0	134.5	134.6	-90.00	6,958.5	-615.4	660.2	391.3	268.85	2.456	
12,710.0	5,912.0	12,668.2	5,912.0	134.7	134.6	-90.00	6,958.5	-615.4	660.2	391.2	268.97	2.454	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0314B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-32.9	32.9				
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-32.9	32.9	32.7	0.19	176.041	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-32.9	32.9	32.3	0.64	51.718	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	0.0	-32.9	32.9	31.8	1.09	30.312	
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-32.9	32.9	31.4	1.54	21.438	
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-32.9	32.9	30.9	1.99	16.584	CC, ES
600.0	600.0	598.8	598.8	1.2	1.2	-89.99	0.0	-34.6	34.6	32.2	2.42	14.316	
700.0	700.0	698.3	698.2	1.4	1.4	-89.98	0.0	-39.0	39.1	36.2	2.85	13.692	
800.0	800.0	798.2	798.0	1.7	1.6	-89.97	0.0	-43.6	43.7	40.4	3.29	13.275	
900.0	900.0	898.1	897.8	1.9	1.9	-89.96	0.0	-48.3	48.3	44.6	3.73	12.938	
1,000.0	1,000.0	998.0	997.6	2.1	2.1	-89.96	0.0	-52.9	52.9	48.7	4.18	12.662	
1,100.0	1,100.0	1,097.9	1,097.3	2.3	2.3	-89.95	0.0	-57.5	57.6	52.9	4.63	12.433	
1,200.0	1,200.0	1,197.8	1,197.1	2.6	2.5	-89.95	0.1	-62.1	62.2	57.1	5.08	12.240	
1,300.0	1,300.0	1,297.7	1,296.9	2.8	2.8	-89.94	0.1	-66.7	66.8	61.3	5.53	12.075	
1,400.0	1,400.0	1,397.6	1,396.7	3.0	3.0	-89.94	0.1	-71.3	71.4	65.4	5.98	11.933	
1,500.0	1,500.0	1,497.5	1,496.5	3.2	3.3	-89.94	0.1	-76.0	76.0	69.6	6.44	11.810	
1,600.0	1,600.0	1,597.4	1,596.3	3.5	3.5	-89.93	0.1	-80.6	80.7	73.8	6.89	11.701	
1,700.0	1,700.0	1,697.2	1,696.1	3.7	3.7	-89.93	0.1	-85.2	85.3	77.9	7.35	11.605	
1,800.0	1,800.0	1,797.1	1,795.8	3.9	4.0	-89.93	0.1	-89.8	89.9	82.1	7.80	11.519	
1,900.0	1,900.0	1,897.0	1,895.6	4.1	4.2	-89.93	0.1	-94.4	94.5	86.3	8.26	11.442	
2,000.0	2,000.0	1,996.9	1,995.4	4.4	4.4	-89.92	0.1	-99.0	99.1	90.4	8.72	11.373	
2,100.0	2,100.0	2,096.8	2,095.2	4.6	4.7	125.53	0.1	-103.6	104.6	95.5	9.05	11.562	
2,200.0	2,200.0	2,196.6	2,194.9	4.7	4.9	126.36	0.2	-108.3	110.4	100.9	9.45	11.685	
2,300.0	2,299.9	2,296.4	2,294.6	4.9	5.2	127.10	0.2	-112.9	116.2	106.4	9.85	11.796	
2,400.0	2,399.9	2,396.2	2,394.3	5.1	5.4	127.78	0.2	-117.5	122.1	111.8	10.26	11.894	
2,500.0	2,499.9	2,496.0	2,494.0	5.3	5.6	128.39	0.2	-122.1	127.9	117.2	10.68	11.982	
2,600.0	2,599.9	2,595.9	2,593.7	5.5	5.9	128.95	0.2	-126.7	133.8	122.7	11.09	12.061	
2,700.0	2,699.9	2,695.7	2,693.4	5.7	6.1	129.46	0.2	-131.3	139.7	128.2	11.51	12.133	
2,800.0	2,799.8	2,795.5	2,793.1	5.9	6.4	129.93	0.2	-135.9	145.6	133.6	11.93	12.198	
2,900.0	2,899.8	2,895.3	2,892.9	6.1	6.6	130.36	0.2	-140.5	151.5	139.1	12.36	12.256	
3,000.0	2,999.8	2,995.1	2,992.6	6.3	6.8	130.76	0.2	-145.2	157.4	144.6	12.78	12.309	
3,100.0	3,099.8	3,095.0	3,092.3	6.5	7.1	131.13	0.2	-149.8	163.3	150.1	13.21	12.358	
3,200.0	3,199.8	3,194.8	3,192.0	6.7	7.3	131.48	0.2	-154.4	169.2	155.6	13.64	12.402	
3,300.0	3,299.7	3,294.6	3,291.7	6.9	7.6	131.80	0.3	-159.0	175.1	161.1	14.08	12.443	
3,400.0	3,399.7	3,394.4	3,391.4	7.1	7.8	132.10	0.3	-163.6	181.1	166.6	14.51	12.480	
3,500.0	3,499.7	3,494.2	3,491.1	7.3	8.0	132.39	0.3	-168.2	187.0	172.1	14.94	12.515	
3,600.0	3,599.7	3,594.1	3,590.8	7.5	8.3	132.65	0.3	-172.8	193.0	177.6	15.38	12.546	
3,700.0	3,699.7	3,693.9	3,690.6	7.7	8.5	132.90	0.3	-177.4	198.9	183.1	15.82	12.576	
3,800.0	3,799.6	3,793.7	3,790.3	7.9	8.8	133.14	0.3	-182.1	204.9	188.6	16.25	12.603	
3,900.0	3,899.6	3,893.5	3,890.0	8.1	9.0	133.36	0.3	-186.7	210.8	194.1	16.69	12.628	
4,000.0	3,999.6	3,993.3	3,989.7	8.4	9.2	133.57	0.3	-191.3	216.8	199.6	17.13	12.651	
4,100.0	4,099.6	4,093.2	4,089.4	8.6	9.5	133.76	0.3	-195.9	222.7	205.2	17.57	12.673	
4,200.0	4,199.6	4,193.0	4,189.1	8.8	9.7	133.95	0.3	-200.5	228.7	210.7	18.02	12.694	
4,300.0	4,299.5	4,292.8	4,288.8	9.0	10.0	134.13	0.3	-205.1	234.7	216.2	18.46	12.713	
4,400.0	4,399.5	4,392.6	4,388.5	9.2	10.2	134.30	0.4	-209.7	240.6	221.7	18.90	12.731	
4,500.0	4,499.5	4,492.4	4,488.3	9.4	10.5	134.46	0.4	-214.3	246.6	227.2	19.34	12.747	
4,600.0	4,599.5	4,592.3	4,588.0	9.7	10.7	134.61	0.4	-219.0	252.6	232.8	19.79	12.763	
4,700.0	4,699.5	4,692.1	4,687.7	9.9	10.9	134.76	0.4	-223.6	258.5	238.3	20.23	12.778	
4,800.0	4,799.4	4,791.9	4,787.4	10.1	11.2	134.90	0.4	-228.2	264.5	243.8	20.68	12.792	
4,900.0	4,899.4	4,891.7	4,887.1	10.3	11.4	135.03	0.4	-232.8	270.5	249.4	21.12	12.805	
5,000.0	4,999.4	4,991.5	4,986.8	10.5	11.7	135.16	0.4	-237.4	276.5	254.9	21.57	12.817	
5,100.0	5,099.4	5,091.3	5,086.5	10.7	11.9	135.28	0.4	-242.0	282.4	260.4	22.02	12.829	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0314B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,191.2	5,186.3	11.0	12.1	135.40	0.4	-246.6	288.4	266.0	22.46	12.840	
5,300.0	5,299.3	5,291.0	5,286.0	11.2	12.4	135.51	0.4	-251.2	294.4	271.5	22.91	12.850	
5,400.0	5,399.3	5,390.8	5,385.7	11.4	12.6	-115.58	0.4	-255.9	300.3	277.0	23.36	12.857	
5,500.0	5,498.5	5,489.9	5,484.6	11.6	12.9	-84.21	0.5	-260.4	304.1	280.3	23.77	12.794	
5,600.0	5,593.8	5,581.8	5,576.1	11.8	13.1	-86.40	7.2	-264.7	307.1	283.0	24.12	12.730	
5,700.0	5,681.6	5,676.9	5,668.0	12.0	13.3	-89.72	30.9	-268.9	311.4	286.8	24.52	12.696	
5,800.0	5,758.8	5,776.5	5,757.9	12.3	13.5	-93.31	73.2	-273.1	316.9	291.9	25.04	12.657	
5,900.0	5,822.4	5,881.3	5,842.0	12.7	13.8	-96.91	135.3	-277.0	323.6	297.8	25.74	12.570	
6,000.0	5,870.2	5,991.9	5,915.4	13.4	14.2	-100.33	217.7	-280.4	330.6	304.0	26.69	12.388	
6,100.0	5,900.4	6,108.8	5,972.3	14.3	14.9	-103.42	319.5	-283.0	337.4	309.5	27.98	12.060	
6,200.0	5,911.9	6,231.8	6,006.2	15.3	16.0	-106.03	437.3	-284.6	343.1	313.4	29.67	11.561	
6,300.0	5,912.0	6,350.0	6,013.0	16.5	17.3	-107.03	555.2	-284.9	344.8	312.9	31.94	10.794	
6,400.0	5,912.0	6,450.0	6,013.0	17.9	18.5	-107.03	655.2	-284.9	344.8	310.4	34.44	10.013	
6,500.0	5,912.0	6,550.0	6,013.0	19.3	19.9	-107.03	755.2	-284.9	344.8	307.7	37.13	9.287	
6,600.0	5,912.0	6,650.0	6,013.0	20.8	21.3	-107.03	855.2	-284.9	344.8	304.8	39.98	8.625	
6,700.0	5,912.0	6,750.0	6,013.0	22.4	22.8	-107.03	955.2	-284.9	344.8	301.8	42.96	8.026	
6,800.0	5,912.0	6,850.0	6,013.0	24.0	24.4	-107.03	1,055.2	-284.9	344.8	298.8	46.05	7.488	
6,900.0	5,912.0	6,950.0	6,013.0	25.7	26.0	-107.03	1,155.2	-284.9	344.8	295.6	49.22	7.006	
7,000.0	5,912.0	7,050.0	6,013.0	27.4	27.7	-107.03	1,255.2	-284.9	344.8	292.3	52.46	6.573	
7,100.0	5,912.0	7,150.0	6,013.0	29.1	29.3	-107.03	1,355.2	-284.9	344.8	289.0	55.76	6.184	
7,200.0	5,912.0	7,250.0	6,013.0	30.8	31.1	-107.03	1,455.2	-284.9	344.8	285.7	59.10	5.834	
7,300.0	5,912.0	7,350.0	6,013.0	32.6	32.8	-107.03	1,555.2	-284.9	344.8	282.3	62.49	5.518	
7,400.0	5,912.0	7,450.0	6,013.0	34.4	34.5	-107.03	1,655.2	-284.9	344.8	278.9	65.91	5.232	
7,500.0	5,912.0	7,550.0	6,013.0	36.2	36.3	-107.03	1,755.2	-284.9	344.8	275.4	69.36	4.971	
7,600.0	5,912.0	7,650.0	6,013.0	38.0	38.1	-107.03	1,855.2	-284.9	344.8	272.0	72.83	4.734	
7,700.0	5,912.0	7,750.0	6,013.0	39.8	39.9	-107.03	1,955.2	-284.9	344.8	268.5	76.32	4.518	
7,800.0	5,912.0	7,850.0	6,013.0	41.6	41.7	-107.03	2,055.2	-284.9	344.8	265.0	79.84	4.319	
7,900.0	5,912.0	7,950.0	6,013.0	43.5	43.5	-107.03	2,155.2	-284.9	344.8	261.4	83.37	4.136	
8,000.0	5,912.0	8,050.0	6,013.0	45.3	45.4	-107.03	2,255.2	-284.9	344.8	257.9	86.91	3.967	
8,100.0	5,912.0	8,150.0	6,013.0	47.2	47.2	-107.03	2,355.2	-284.9	344.8	254.3	90.47	3.811	
8,200.0	5,912.0	8,250.0	6,013.0	49.0	49.0	-107.03	2,455.2	-284.9	344.8	250.8	94.03	3.667	
8,300.0	5,912.0	8,350.0	6,013.0	50.9	50.9	-107.03	2,555.2	-284.9	344.8	247.2	97.61	3.532	
8,400.0	5,912.0	8,450.0	6,013.0	52.8	52.7	-107.03	2,655.2	-284.9	344.8	243.6	101.20	3.407	
8,500.0	5,912.0	8,550.0	6,013.0	54.6	54.6	-107.03	2,755.2	-284.9	344.8	240.0	104.79	3.290	
8,600.0	5,912.0	8,650.0	6,013.0	56.5	56.5	-107.03	2,855.2	-284.9	344.8	236.4	108.39	3.181	
8,700.0	5,912.0	8,750.0	6,013.0	58.4	58.3	-107.03	2,955.2	-284.9	344.8	232.8	112.00	3.079	
8,800.0	5,912.0	8,850.0	6,013.0	60.2	60.2	-107.03	3,055.2	-284.9	344.8	229.2	115.61	2.982	
8,900.0	5,912.0	8,950.0	6,013.0	62.1	62.1	-107.03	3,155.2	-284.9	344.8	225.6	119.23	2.892	
9,000.0	5,912.0	9,050.0	6,013.0	64.0	63.9	-107.03	3,255.2	-284.9	344.8	221.9	122.86	2.806	
9,100.0	5,912.0	9,150.0	6,013.0	65.9	65.8	-107.03	3,355.2	-284.9	344.8	218.3	126.49	2.726	
9,200.0	5,912.0	9,250.0	6,013.0	67.8	67.7	-107.03	3,455.2	-284.9	344.8	214.7	130.12	2.650	
9,300.0	5,912.0	9,350.0	6,013.0	69.7	69.6	-107.03	3,555.2	-284.9	344.8	211.0	133.75	2.578	
9,400.0	5,912.0	9,450.0	6,013.0	71.6	71.5	-107.03	3,655.2	-284.9	344.8	207.4	137.39	2.510	
9,500.0	5,912.0	9,550.0	6,013.0	73.5	73.4	-107.03	3,755.2	-284.9	344.8	203.8	141.04	2.445	
9,600.0	5,912.0	9,650.0	6,013.0	75.4	75.2	-107.03	3,855.2	-284.9	344.8	200.1	144.68	2.383	
9,700.0	5,912.0	9,750.0	6,013.0	77.3	77.1	-107.03	3,955.2	-284.9	344.8	196.5	148.33	2.325	
9,800.0	5,912.0	9,850.0	6,013.0	79.2	79.0	-107.03	4,055.2	-284.9	344.8	192.8	151.98	2.269	
9,900.0	5,912.0	9,950.0	6,013.0	81.1	80.9	-107.03	4,155.2	-284.9	344.8	189.2	155.63	2.215	
10,000.0	5,912.0	10,050.0	6,013.0	82.9	82.8	-107.03	4,255.2	-284.9	344.8	185.5	159.29	2.165	
10,100.0	5,912.0	10,150.0	6,013.0	84.9	84.7	-107.03	4,355.2	-284.9	344.8	181.8	162.95	2.116	
10,200.0	5,912.0	10,250.0	6,013.0	86.8	86.6	-107.03	4,455.2	-284.9	344.8	178.2	166.61	2.070	
10,300.0	5,912.0	10,350.0	6,013.0	88.7	88.5	-107.03	4,555.2	-284.9	344.8	174.5	170.27	2.025	

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

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0314B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	5,912.0	10,450.0	6,013.0	90.6	90.4	-107.03	4,655.2	-284.9	344.8	170.9	173.93	1.982	
10,500.0	5,912.0	10,550.0	6,013.0	92.5	92.3	-107.03	4,755.2	-284.9	344.8	167.2	177.59	1.941	
10,600.0	5,912.0	10,650.0	6,013.0	94.4	94.2	-107.03	4,855.2	-284.9	344.8	163.5	181.26	1.902	
10,700.0	5,912.0	10,750.0	6,013.0	96.3	96.1	-107.03	4,955.2	-284.9	344.8	159.9	184.93	1.864	
10,800.0	5,912.0	10,850.0	6,013.0	98.2	98.0	-107.03	5,055.2	-284.9	344.8	156.2	188.60	1.828	
10,900.0	5,912.0	10,950.0	6,013.0	100.1	99.9	-107.03	5,155.2	-284.9	344.8	152.5	192.27	1.793	
11,000.0	5,912.0	11,050.0	6,013.0	102.0	101.8	-107.03	5,255.2	-284.9	344.8	148.9	195.94	1.760	
11,100.0	5,912.0	11,150.0	6,013.0	103.9	103.7	-107.03	5,355.2	-284.9	344.8	145.2	199.61	1.727	
11,200.0	5,912.0	11,250.0	6,013.0	105.8	105.6	-107.03	5,455.2	-284.9	344.8	141.5	203.28	1.696	
11,300.0	5,912.0	11,350.0	6,013.0	107.7	107.5	-107.03	5,555.2	-284.9	344.8	137.8	206.96	1.666	
11,400.0	5,912.0	11,450.0	6,013.0	109.6	109.4	-107.03	5,655.2	-284.9	344.8	134.2	210.63	1.637	
11,500.0	5,912.0	11,550.0	6,013.0	111.5	111.3	-107.03	5,755.2	-284.9	344.8	130.5	214.31	1.609	
11,600.0	5,912.0	11,650.0	6,013.0	113.4	113.3	-107.03	5,855.2	-284.9	344.8	126.8	217.98	1.582	
11,700.0	5,912.0	11,750.0	6,013.0	115.4	115.2	-107.03	5,955.2	-284.9	344.8	123.1	221.66	1.555	
11,800.0	5,912.0	11,850.0	6,013.0	117.3	117.1	-107.03	6,055.2	-284.9	344.8	119.5	225.34	1.530	
11,900.0	5,912.0	11,950.0	6,013.0	119.2	119.0	-107.03	6,155.2	-284.9	344.8	115.8	229.02	1.506	
12,000.0	5,912.0	12,050.0	6,013.0	121.1	120.9	-107.03	6,255.2	-284.9	344.8	112.1	232.70	1.482	Level 3
12,100.0	5,912.0	12,150.0	6,013.0	123.0	122.8	-107.03	6,355.2	-284.9	344.8	108.4	236.38	1.459	Level 3
12,200.0	5,912.0	12,250.0	6,013.0	124.9	124.7	-107.03	6,455.2	-284.9	344.8	104.7	240.06	1.436	Level 3
12,300.0	5,912.0	12,350.0	6,013.0	126.8	126.6	-107.03	6,555.2	-284.9	344.8	101.1	243.74	1.415	Level 3
12,400.0	5,912.0	12,450.0	6,013.0	128.7	128.5	-107.03	6,655.2	-284.9	344.8	97.4	247.42	1.394	Level 3
12,500.0	5,912.0	12,550.0	6,013.0	130.6	130.4	-107.03	6,755.2	-284.9	344.8	93.7	251.10	1.373	Level 3
12,600.0	5,912.0	12,650.0	6,013.0	132.6	132.4	-107.03	6,855.2	-284.9	344.8	90.0	254.79	1.353	Level 3
12,700.0	5,912.0	12,750.0	6,013.0	134.5	134.3	-107.03	6,955.2	-284.9	344.8	86.3	258.47	1.334	Level 3
12,706.7	5,912.0	12,756.7	6,013.0	134.6	134.4	-107.03	6,961.9	-284.9	344.8	86.1	258.72	1.333	Level 3
12,710.0	5,912.0	12,757.1	6,013.0	134.7	134.4	-107.03	6,962.3	-284.9	344.8	86.0	258.79	1.332	Level 3, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0316B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	33.2	33.2				
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	33.2	33.2	33.0	0.19	177.520	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	33.2	33.2	32.6	0.64	52.153	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	33.2	33.2	32.1	1.09	30.566	
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	33.2	33.2	31.7	1.54	21.618	
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	33.2	33.2	31.2	1.99	16.723	CC, ES
600.0	600.0	598.8	598.8	1.2	1.2	90.01	0.0	34.9	34.9	32.5	2.42	14.429	
700.0	700.0	697.6	697.5	1.4	1.4	90.05	0.0	40.0	40.0	37.2	2.86	14.021	
800.0	800.0	797.4	797.1	1.7	1.6	90.08	-0.1	46.2	46.3	43.0	3.30	14.058	
900.0	900.0	897.2	896.7	1.9	1.9	90.11	-0.1	52.5	52.6	48.9	3.74	14.067	
1,000.0	1,000.0	997.0	996.3	2.1	2.1	90.13	-0.1	58.8	58.9	54.7	4.19	14.062	
1,100.0	1,100.0	1,096.8	1,095.9	2.3	2.3	90.15	-0.2	65.1	65.2	60.6	4.64	14.049	
1,200.0	1,200.0	1,196.6	1,195.5	2.6	2.6	90.16	-0.2	71.4	71.5	66.4	5.10	14.032	
1,300.0	1,300.0	1,296.4	1,295.1	2.8	2.8	90.17	-0.2	77.6	77.8	72.2	5.55	14.014	
1,400.0	1,400.0	1,396.2	1,394.7	3.0	3.1	90.18	-0.3	83.9	84.1	78.1	6.01	13.996	
1,500.0	1,500.0	1,496.0	1,494.3	3.2	3.3	90.19	-0.3	90.2	90.4	83.9	6.46	13.979	
1,600.0	1,600.0	1,595.9	1,593.9	3.5	3.6	90.20	-0.3	96.5	96.7	89.7	6.92	13.962	
1,700.0	1,700.0	1,695.7	1,693.5	3.7	3.8	90.20	-0.4	102.7	103.0	95.6	7.38	13.946	
1,800.0	1,800.0	1,795.5	1,793.1	3.9	4.1	90.21	-0.4	109.0	109.2	101.4	7.84	13.930	
1,900.0	1,900.0	1,895.3	1,892.7	4.1	4.3	90.21	-0.4	115.3	115.5	107.2	8.30	13.916	
2,000.0	2,000.0	1,995.1	1,992.3	4.4	4.6	90.22	-0.5	121.6	121.8	113.1	8.76	13.902	
2,100.0	2,100.0	2,094.9	2,092.0	4.6	4.8	-55.40	-0.5	127.9	127.3	118.2	9.06	14.045	
2,200.0	2,200.0	2,194.8	2,191.6	4.7	5.1	-56.09	-0.5	134.1	132.5	123.0	9.47	13.991	
2,300.0	2,299.9	2,294.6	2,291.3	4.9	5.3	-56.73	-0.6	140.4	137.6	127.8	9.87	13.937	
2,400.0	2,399.9	2,394.5	2,390.9	5.1	5.6	-57.32	-0.6	146.7	142.8	132.5	10.29	13.883	
2,500.0	2,499.9	2,494.3	2,490.6	5.3	5.8	-57.87	-0.6	153.0	148.0	137.3	10.70	13.830	
2,600.0	2,599.9	2,594.2	2,590.3	5.5	6.1	-58.39	-0.7	159.3	153.2	142.1	11.12	13.778	
2,700.0	2,699.9	2,694.0	2,689.9	5.7	6.3	-58.87	-0.7	165.6	158.5	146.9	11.54	13.727	
2,800.0	2,799.8	2,793.9	2,789.6	5.9	6.6	-59.32	-0.7	171.8	163.7	151.7	11.97	13.677	
2,900.0	2,899.8	2,893.7	2,889.2	6.1	6.8	-59.74	-0.8	178.1	169.0	156.6	12.40	13.629	
3,000.0	2,999.8	2,993.6	2,988.9	6.3	7.1	-60.13	-0.8	184.4	174.2	161.4	12.83	13.582	
3,100.0	3,099.8	3,093.4	3,088.5	6.5	7.3	-60.51	-0.8	190.7	179.5	166.2	13.26	13.536	
3,200.0	3,199.8	3,193.3	3,188.2	6.7	7.6	-60.86	-0.9	197.0	184.8	171.1	13.69	13.493	
3,300.0	3,299.7	3,293.2	3,287.9	6.9	7.8	-61.19	-0.9	203.2	190.0	175.9	14.13	13.450	
3,400.0	3,399.7	3,393.0	3,387.5	7.1	8.1	-61.50	-0.9	209.5	195.3	180.8	14.57	13.410	
3,500.0	3,499.7	3,492.9	3,487.2	7.3	8.4	-61.80	-1.0	215.8	200.6	185.6	15.00	13.371	
3,600.0	3,599.7	3,592.7	3,586.8	7.5	8.6	-62.08	-1.0	222.1	205.9	190.5	15.44	13.333	
3,700.0	3,699.7	3,692.6	3,686.5	7.7	8.9	-62.35	-1.0	228.4	211.2	195.3	15.88	13.296	
3,800.0	3,799.6	3,792.4	3,786.1	7.9	9.1	-62.61	-1.1	234.7	216.5	200.2	16.33	13.261	
3,900.0	3,899.6	3,892.3	3,885.8	8.1	9.4	-62.85	-1.1	240.9	221.8	205.0	16.77	13.227	
4,000.0	3,999.6	3,992.1	3,985.5	8.4	9.6	-63.08	-1.1	247.2	227.1	209.9	17.21	13.195	
4,100.0	4,099.6	4,092.0	4,085.1	8.6	9.9	-63.30	-1.2	253.5	232.4	214.8	17.66	13.163	
4,200.0	4,199.6	4,191.8	4,184.8	8.8	10.1	-63.51	-1.2	259.8	237.8	219.7	18.10	13.133	
4,300.0	4,299.5	4,291.7	4,284.4	9.0	10.4	-63.71	-1.2	266.1	243.1	224.5	18.55	13.104	
4,400.0	4,399.5	4,391.6	4,384.1	9.2	10.6	-63.91	-1.3	272.4	248.4	229.4	19.00	13.076	
4,500.0	4,499.5	4,491.4	4,483.7	9.4	10.9	-64.09	-1.3	278.6	253.7	234.3	19.45	13.049	
4,600.0	4,599.5	4,591.3	4,583.4	9.7	11.1	-64.27	-1.3	284.9	259.1	239.2	19.89	13.023	
4,700.0	4,699.5	4,691.1	4,683.1	9.9	11.4	-64.44	-1.4	291.2	264.4	244.1	20.34	12.997	
4,800.0	4,799.4	4,791.0	4,782.7	10.1	11.6	-64.60	-1.4	297.5	269.7	248.9	20.79	12.973	
4,900.0	4,899.4	4,890.8	4,882.4	10.3	11.9	-64.76	-1.4	303.8	275.1	253.8	21.24	12.949	
5,000.0	4,999.4	4,990.7	4,982.0	10.5	12.1	-64.91	-1.5	310.0	280.4	258.7	21.69	12.926	
5,100.0	5,099.4	5,090.5	5,081.7	10.7	12.4	-65.06	-1.5	316.3	285.8	263.6	22.14	12.904	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0316B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,190.4	5,181.3	11.0	12.7	-65.20	-1.5	322.6	291.1	268.5	22.60	12.883	
5,300.0	5,299.3	5,290.3	5,281.0	11.2	12.9	-65.33	-1.6	328.9	296.4	273.4	23.05	12.862	
5,400.0	5,399.3	5,390.1	5,380.7	11.4	13.2	43.24	-1.6	335.2	301.7	278.2	23.50	12.840	
5,500.0	5,498.5	5,489.2	5,479.6	11.6	13.4	78.29	-1.6	341.4	305.0	281.1	23.90	12.763	
5,600.0	5,593.8	5,581.7	5,571.6	11.8	13.6	83.69	4.3	347.2	307.5	283.2	24.23	12.687	
5,700.0	5,681.6	5,677.2	5,664.0	12.0	13.8	88.22	27.3	353.0	311.4	286.8	24.63	12.646	
5,800.0	5,758.8	5,777.5	5,754.7	12.3	14.1	92.50	69.1	358.8	316.9	291.8	25.15	12.603	
5,900.0	5,822.4	5,883.2	5,839.9	12.7	14.4	96.52	131.2	364.1	323.6	297.7	25.84	12.522	
6,000.0	5,870.2	5,995.1	5,914.5	13.4	14.8	100.20	214.2	368.8	330.8	304.1	26.76	12.360	
6,100.0	5,900.4	6,113.5	5,972.3	14.3	15.4	103.42	317.2	372.5	337.8	309.8	28.00	12.065	
6,200.0	5,911.9	6,238.2	6,006.4	15.3	16.5	106.05	436.7	374.6	343.6	314.0	29.61	11.605	
6,300.0	5,912.0	6,357.0	6,013.0	16.5	17.7	107.01	555.2	375.0	345.3	313.5	31.85	10.842	
6,400.0	5,912.0	6,457.0	6,013.0	17.9	18.9	107.01	655.2	375.0	345.3	311.0	34.33	10.059	
6,500.0	5,912.0	6,557.0	6,013.0	19.3	20.3	107.01	755.2	375.0	345.3	308.3	37.01	9.332	
6,600.0	5,912.0	6,657.0	6,013.0	20.8	21.7	107.01	855.2	375.0	345.3	305.5	39.85	8.667	
6,700.0	5,912.0	6,757.0	6,013.0	22.4	23.1	107.01	955.2	375.0	345.3	302.5	42.82	8.065	
6,800.0	5,912.0	6,857.0	6,013.0	24.0	24.7	107.01	1,055.2	375.0	345.3	299.4	45.90	7.524	
6,900.0	5,912.0	6,957.0	6,013.0	25.7	26.3	107.01	1,155.2	375.0	345.3	296.3	49.06	7.039	
7,000.0	5,912.0	7,057.0	6,013.0	27.4	27.9	107.01	1,255.2	375.0	345.3	293.0	52.29	6.604	
7,100.0	5,912.0	7,157.0	6,013.0	29.1	29.6	107.01	1,355.2	375.0	345.3	289.7	55.59	6.212	
7,200.0	5,912.0	7,257.0	6,013.0	30.8	31.3	107.01	1,455.2	375.0	345.3	286.4	58.93	5.860	
7,300.0	5,912.0	7,357.0	6,013.0	32.6	33.0	107.01	1,555.2	375.0	345.3	283.0	62.31	5.542	
7,400.0	5,912.0	7,457.0	6,013.0	34.4	34.7	107.01	1,655.2	375.0	345.3	279.6	65.72	5.254	
7,500.0	5,912.0	7,557.0	6,013.0	36.2	36.5	107.01	1,755.2	375.0	345.3	276.2	69.17	4.992	
7,600.0	5,912.0	7,657.0	6,013.0	38.0	38.3	107.01	1,855.2	375.0	345.3	272.7	72.64	4.754	
7,700.0	5,912.0	7,757.0	6,013.0	39.8	40.1	107.01	1,955.2	375.0	345.3	269.2	76.13	4.536	
7,800.0	5,912.0	7,857.0	6,013.0	41.6	41.9	107.01	2,055.2	375.0	345.3	265.7	79.64	4.336	
7,900.0	5,912.0	7,957.0	6,013.0	43.5	43.7	107.01	2,155.2	375.0	345.3	262.2	83.17	4.152	
8,000.0	5,912.0	8,057.0	6,013.0	45.3	45.5	107.01	2,255.2	375.0	345.3	258.6	86.71	3.983	
8,100.0	5,912.0	8,157.0	6,013.0	47.2	47.3	107.01	2,355.2	375.0	345.3	255.1	90.26	3.826	
8,200.0	5,912.0	8,257.0	6,013.0	49.0	49.2	107.01	2,455.2	375.0	345.3	251.5	93.83	3.680	
8,300.0	5,912.0	8,357.0	6,013.0	50.9	51.0	107.01	2,555.2	375.0	345.3	247.9	97.41	3.545	
8,400.0	5,912.0	8,457.0	6,013.0	52.8	52.8	107.01	2,655.2	375.0	345.3	244.3	100.99	3.419	
8,500.0	5,912.0	8,557.0	6,013.0	54.6	54.7	107.01	2,755.2	375.0	345.3	240.7	104.58	3.302	
8,600.0	5,912.0	8,657.0	6,013.0	56.5	56.6	107.01	2,855.2	375.0	345.3	237.1	108.18	3.192	
8,700.0	5,912.0	8,757.0	6,013.0	58.4	58.4	107.01	2,955.2	375.0	345.3	233.5	111.79	3.089	
8,800.0	5,912.0	8,857.0	6,013.0	60.2	60.3	107.01	3,055.2	375.0	345.3	229.9	115.40	2.992	
8,900.0	5,912.0	8,957.0	6,013.0	62.1	62.1	107.01	3,155.2	375.0	345.3	226.3	119.02	2.901	
9,000.0	5,912.0	9,057.0	6,013.0	64.0	64.0	107.01	3,255.2	375.0	345.3	222.7	122.64	2.816	
9,100.0	5,912.0	9,157.0	6,013.0	65.9	65.9	107.01	3,355.2	375.0	345.3	219.1	126.27	2.735	
9,200.0	5,912.0	9,257.0	6,013.0	67.8	67.8	107.01	3,455.2	375.0	345.3	215.4	129.90	2.658	
9,300.0	5,912.0	9,357.0	6,013.0	69.7	69.6	107.01	3,555.2	375.0	345.3	211.8	133.53	2.586	
9,400.0	5,912.0	9,457.0	6,013.0	71.6	71.5	107.01	3,655.2	375.0	345.3	208.2	137.17	2.518	
9,500.0	5,912.0	9,557.0	6,013.0	73.5	73.4	107.01	3,755.2	375.0	345.3	204.5	140.81	2.452	
9,600.0	5,912.0	9,657.0	6,013.0	75.4	75.3	107.01	3,855.2	375.0	345.3	200.9	144.46	2.391	
9,700.0	5,912.0	9,757.0	6,013.0	77.3	77.2	107.01	3,955.2	375.0	345.3	197.2	148.10	2.332	
9,800.0	5,912.0	9,857.0	6,013.0	79.2	79.1	107.01	4,055.2	375.0	345.3	193.6	151.75	2.276	
9,900.0	5,912.0	9,957.0	6,013.0	81.1	81.0	107.01	4,155.2	375.0	345.3	189.9	155.40	2.222	
10,000.0	5,912.0	10,057.0	6,013.0	82.9	82.9	107.01	4,255.2	375.0	345.3	186.3	159.06	2.171	
10,100.0	5,912.0	10,157.0	6,013.0	84.9	84.8	107.01	4,355.2	375.0	345.3	182.6	162.71	2.122	
10,200.0	5,912.0	10,257.0	6,013.0	86.8	86.6	107.01	4,455.2	375.0	345.3	179.0	166.37	2.076	
10,300.0	5,912.0	10,357.0	6,013.0	88.7	88.5	107.01	4,555.2	375.0	345.3	175.3	170.03	2.031	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-0316B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	5,912.0	10,457.0	6,013.0	90.6	90.4	107.01	4,655.2	375.0	345.3	171.6	173.69	1.988	
10,500.0	5,912.0	10,557.0	6,013.0	92.5	92.3	107.01	4,755.2	375.0	345.3	168.0	177.36	1.947	
10,600.0	5,912.0	10,657.0	6,013.0	94.4	94.2	107.01	4,855.2	375.0	345.3	164.3	181.02	1.908	
10,700.0	5,912.0	10,757.0	6,013.0	96.3	96.1	107.01	4,955.2	375.0	345.3	160.6	184.69	1.870	
10,800.0	5,912.0	10,857.0	6,013.0	98.2	98.0	107.01	5,055.2	375.0	345.3	157.0	188.35	1.833	
10,900.0	5,912.0	10,957.0	6,013.0	100.1	99.9	107.01	5,155.2	375.0	345.3	153.3	192.02	1.798	
11,000.0	5,912.0	11,057.0	6,013.0	102.0	101.8	107.01	5,255.2	375.0	345.3	149.6	195.69	1.765	
11,100.0	5,912.0	11,157.0	6,013.0	103.9	103.7	107.01	5,355.2	375.0	345.3	146.0	199.36	1.732	
11,200.0	5,912.0	11,257.0	6,013.0	105.8	105.6	107.01	5,455.2	375.0	345.3	142.3	203.04	1.701	
11,300.0	5,912.0	11,357.0	6,013.0	107.7	107.5	107.01	5,555.2	375.0	345.3	138.6	206.71	1.671	
11,400.0	5,912.0	11,457.0	6,013.0	109.6	109.5	107.01	5,655.2	375.0	345.3	134.9	210.38	1.641	
11,500.0	5,912.0	11,557.0	6,013.0	111.5	111.4	107.01	5,755.2	375.0	345.3	131.3	214.06	1.613	
11,600.0	5,912.0	11,657.0	6,013.0	113.4	113.3	107.01	5,855.2	375.0	345.3	127.6	217.73	1.586	
11,700.0	5,912.0	11,757.0	6,013.0	115.4	115.2	107.01	5,955.2	375.0	345.3	123.9	221.41	1.560	
11,800.0	5,912.0	11,857.0	6,013.0	117.3	117.1	107.01	6,055.2	375.0	345.3	120.2	225.09	1.534	
11,900.0	5,912.0	11,957.0	6,013.0	119.2	119.0	107.01	6,155.2	375.0	345.3	116.6	228.76	1.510	
12,000.0	5,912.0	12,057.0	6,013.0	121.1	120.9	107.01	6,255.2	375.0	345.3	112.9	232.44	1.486	Level 3
12,100.0	5,912.0	12,157.0	6,013.0	123.0	122.8	107.01	6,355.2	375.0	345.3	109.2	236.12	1.462	Level 3
12,200.0	5,912.0	12,257.0	6,013.0	124.9	124.7	107.01	6,455.2	375.0	345.3	105.5	239.80	1.440	Level 3
12,300.0	5,912.0	12,357.0	6,013.0	126.8	126.6	107.01	6,555.2	375.0	345.3	101.8	243.48	1.418	Level 3
12,400.0	5,912.0	12,457.0	6,013.0	128.7	128.5	107.01	6,655.2	375.0	345.3	98.2	247.16	1.397	Level 3
12,500.0	5,912.0	12,557.0	6,013.0	130.6	130.4	107.01	6,755.2	375.0	345.3	94.5	250.84	1.377	Level 3
12,600.0	5,912.0	12,657.0	6,013.0	132.6	132.3	107.01	6,855.2	375.0	345.3	90.8	254.53	1.357	Level 3
12,700.0	5,912.0	12,757.0	6,013.0	134.5	134.3	107.01	6,955.2	375.0	345.3	87.1	258.21	1.337	Level 3
12,710.0	5,912.0	12,767.0	6,013.0	134.7	134.5	107.01	6,965.2	375.0	345.3	86.7	258.58	1.335	Level 3, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1513A - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-138.60	-74.7	-65.8	99.6				
100.0	100.0	100.0	100.0	0.1	0.1	-138.60	-74.7	-65.8	99.6	99.4	0.19	532.371	
200.0	200.0	200.0	200.0	0.3	0.3	-138.60	-74.7	-65.8	99.6	98.9	0.64	156.403	
300.0	300.0	300.0	300.0	0.5	0.5	-138.60	-74.7	-65.8	99.6	98.5	1.09	91.667	
400.0	400.0	400.0	400.0	0.8	0.8	-138.60	-74.7	-65.8	99.6	98.0	1.54	64.832	
500.0	500.0	500.0	500.0	1.0	1.0	-138.60	-74.7	-65.8	99.6	97.6	1.99	50.151	CC, ES
600.0	600.0	597.7	597.7	1.2	1.2	-137.89	-74.7	-67.5	100.7	98.3	2.42	41.644	
700.0	700.0	695.2	695.1	1.4	1.4	-135.85	-74.7	-72.5	104.2	101.3	2.85	36.567	
800.0	800.0	793.5	793.0	1.7	1.6	-132.84	-74.7	-80.5	110.0	106.7	3.29	33.436	
900.0	900.0	893.1	892.2	1.9	1.9	-129.95	-74.7	-89.2	116.6	112.8	3.73	31.238	
1,000.0	1,000.0	992.7	991.5	2.1	2.1	-127.36	-74.7	-97.8	123.3	119.2	4.17	29.544	
1,100.0	1,100.0	1,092.3	1,090.7	2.3	2.4	-125.05	-74.7	-106.4	130.4	125.7	4.62	28.205	
1,200.0	1,200.0	1,192.0	1,190.0	2.6	2.7	-122.97	-74.7	-115.1	137.6	132.5	5.07	27.126	
1,300.0	1,300.0	1,291.6	1,289.2	2.8	2.9	-121.11	-74.7	-123.7	144.9	139.4	5.52	26.240	
1,400.0	1,400.0	1,391.2	1,388.5	3.0	3.2	-119.42	-74.7	-132.4	152.4	146.4	5.98	25.502	
1,500.0	1,500.0	1,490.8	1,487.7	3.2	3.5	-117.90	-74.7	-141.0	160.0	153.6	6.43	24.880	
1,600.0	1,600.0	1,590.5	1,587.0	3.5	3.7	-116.51	-74.7	-149.7	167.8	160.9	6.89	24.348	
1,700.0	1,700.0	1,690.1	1,686.2	3.7	4.0	-115.25	-74.7	-158.3	175.6	168.2	7.35	23.889	
1,800.0	1,800.0	1,789.7	1,785.5	3.9	4.3	-114.09	-74.7	-166.9	183.5	175.6	7.81	23.490	
1,900.0	1,900.0	1,889.3	1,884.7	4.1	4.5	-113.03	-74.7	-175.6	191.4	183.1	8.27	23.139	
2,000.0	2,000.0	1,988.9	1,984.0	4.4	4.8	-112.06	-74.7	-184.2	199.4	190.7	8.74	22.829	
2,100.0	2,100.0	2,088.5	2,083.1	4.6	5.1	103.99	-74.6	-192.9	207.8	198.7	9.14	22.749	
2,200.0	2,200.0	2,188.0	2,182.2	4.7	5.4	105.32	-74.6	-201.5	216.5	207.0	9.54	22.701	
2,300.0	2,299.9	2,287.5	2,281.4	4.9	5.6	106.55	-74.6	-210.1	225.3	215.3	9.94	22.658	
2,400.0	2,399.9	2,387.0	2,380.5	5.1	5.9	107.69	-74.6	-218.8	234.1	223.8	10.35	22.619	
2,500.0	2,499.9	2,486.5	2,479.6	5.3	6.2	108.74	-74.6	-227.4	243.1	232.3	10.76	22.582	
2,600.0	2,599.9	2,586.0	2,578.8	5.5	6.5	109.72	-74.6	-236.0	252.1	240.9	11.18	22.549	
2,700.0	2,699.9	2,685.5	2,677.9	5.7	6.7	110.63	-74.6	-244.7	261.2	249.6	11.60	22.517	
2,800.0	2,799.8	2,785.0	2,777.0	5.9	7.0	111.48	-74.6	-253.3	270.4	258.3	12.02	22.488	
2,900.0	2,899.8	2,884.5	2,876.1	6.1	7.3	112.28	-74.6	-261.9	279.6	267.1	12.45	22.461	
3,000.0	2,999.8	2,984.0	2,975.3	6.3	7.6	113.02	-74.6	-270.6	288.8	276.0	12.87	22.435	
3,100.0	3,099.8	3,083.5	3,074.4	6.5	7.9	113.72	-74.6	-279.2	298.1	284.8	13.30	22.411	
3,200.0	3,199.8	3,183.0	3,173.5	6.7	8.1	114.37	-74.6	-287.8	307.5	293.8	13.73	22.388	
3,300.0	3,299.7	3,282.5	3,272.6	6.9	8.4	114.99	-74.6	-296.5	316.9	302.7	14.17	22.367	
3,400.0	3,399.7	3,382.0	3,371.8	7.1	8.7	115.57	-74.6	-305.1	326.3	311.7	14.60	22.346	
3,500.0	3,499.7	3,481.5	3,470.9	7.3	9.0	116.12	-74.6	-313.7	335.7	320.7	15.04	22.327	
3,600.0	3,599.7	3,581.0	3,570.0	7.5	9.2	116.64	-74.6	-322.4	345.2	329.7	15.47	22.308	
3,700.0	3,699.7	3,680.5	3,669.2	7.7	9.5	117.13	-74.6	-331.0	354.7	338.8	15.91	22.291	
3,800.0	3,799.6	3,780.0	3,768.3	7.9	9.8	117.59	-74.6	-339.6	364.3	347.9	16.35	22.274	
3,900.0	3,899.6	3,879.5	3,867.4	8.1	10.1	118.03	-74.6	-348.3	373.8	357.0	16.79	22.258	
4,000.0	3,999.6	3,979.0	3,966.5	8.4	10.3	118.45	-74.6	-356.9	383.4	366.1	17.24	22.243	
4,100.0	4,099.6	4,078.5	4,065.7	8.6	10.6	118.85	-74.6	-365.5	393.0	375.3	17.68	22.228	
4,200.0	4,199.6	4,178.0	4,164.8	8.8	10.9	119.23	-74.6	-374.2	402.6	384.5	18.12	22.214	
4,300.0	4,299.5	4,277.5	4,263.9	9.0	11.2	119.59	-74.6	-382.8	412.2	393.6	18.57	22.201	
4,400.0	4,399.5	4,377.0	4,363.0	9.2	11.5	119.94	-74.6	-391.4	421.9	402.8	19.01	22.188	
4,500.0	4,499.5	4,476.5	4,462.2	9.4	11.7	120.27	-74.6	-400.1	431.5	412.1	19.46	22.176	
4,600.0	4,599.5	4,576.0	4,561.3	9.7	12.0	120.59	-74.6	-408.7	441.2	421.3	19.91	22.164	
4,700.0	4,699.5	4,675.5	4,660.4	9.9	12.3	120.89	-74.6	-417.3	450.9	430.5	20.35	22.153	
4,800.0	4,799.4	4,775.1	4,759.6	10.1	12.6	121.18	-74.6	-426.0	460.6	439.8	20.80	22.142	
4,900.0	4,899.4	4,874.6	4,858.7	10.3	12.8	121.45	-74.6	-434.6	470.3	449.0	21.25	22.132	
5,000.0	4,999.4	4,974.1	4,957.8	10.5	13.1	121.72	-74.6	-443.2	480.0	458.3	21.70	22.122	
5,100.0	5,099.4	5,073.6	5,056.9	10.7	13.4	121.98	-74.6	-451.9	489.7	467.6	22.15	22.112	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1513A - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,173.1	5,156.1	11.0	13.7	122.22	-74.6	-460.5	499.4	476.9	22.60	22.102	
5,300.0	5,299.3	5,272.6	5,255.2	11.2	14.0	122.46	-74.6	-469.1	509.2	486.1	23.05	22.093	
5,400.0	5,399.3	5,372.1	5,354.3	11.4	14.2	-128.42	-74.6	-477.8	519.0	495.5	23.49	22.088	SF
5,500.0	5,498.5	5,467.3	5,449.1	11.6	14.5	-95.50	-77.6	-486.0	529.4	505.5	23.88	22.167	
5,600.0	5,593.8	5,546.5	5,526.6	11.8	14.7	-96.30	-92.1	-492.8	543.7	519.5	24.18	22.484	
5,700.0	5,681.6	5,600.0	5,577.3	12.0	14.8	-97.10	-108.5	-497.2	567.2	542.8	24.44	23.211	
5,800.0	5,758.8	5,636.0	5,610.3	12.3	14.9	-95.76	-122.4	-500.1	604.0	579.2	24.82	24.336	
5,900.0	5,822.4	5,650.0	5,622.9	12.7	15.0	-90.67	-128.5	-501.2	654.0	628.6	25.46	25.687	
6,000.0	5,870.2	5,650.0	5,622.9	13.4	15.0	-82.28	-128.5	-501.2	714.3	688.2	26.11	27.363	
6,100.0	5,900.4	5,650.0	5,622.9	14.3	15.0	-72.72	-128.5	-501.2	780.8	754.6	26.23	29.766	
6,200.0	5,911.9	5,630.6	5,605.4	15.3	14.9	-61.52	-120.2	-499.6	849.4	824.1	25.28	33.599	
6,300.0	5,912.0	5,600.0	5,577.3	16.5	14.8	-58.30	-108.5	-497.2	919.9	894.4	25.57	35.977	
6,400.0	5,912.0	5,600.0	5,577.3	17.9	14.8	-58.30	-108.5	-497.2	994.5	967.8	26.74	37.198	
6,500.0	5,912.0	5,600.0	5,577.3	19.3	14.8	-58.30	-108.5	-497.2	1,073.2	1,045.2	27.99	38.345	
6,600.0	5,912.0	5,574.6	5,553.4	20.8	14.8	-56.41	-100.1	-495.1	1,154.4	1,125.7	28.75	40.151	
6,700.0	5,912.0	5,550.0	5,529.9	22.4	14.7	-54.61	-93.0	-493.1	1,238.6	1,209.0	29.53	41.943	
6,800.0	5,912.0	5,550.0	5,529.9	24.0	14.7	-54.61	-93.0	-493.1	1,324.3	1,293.3	30.95	42.793	
6,900.0	5,912.0	5,550.0	5,529.9	25.7	14.7	-54.61	-93.0	-493.1	1,411.9	1,379.4	32.42	43.545	
7,000.0	5,912.0	5,550.0	5,529.9	27.4	14.7	-54.61	-93.0	-493.1	1,501.0	1,467.1	33.93	44.240	
7,100.0	5,912.0	5,550.0	5,529.9	29.1	14.7	-54.61	-93.0	-493.1	1,591.4	1,556.0	35.46	44.884	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1514B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-156.21	-74.7	-32.9	81.6				
100.0	100.0	100.0	100.0	0.1	0.1	-156.21	-74.7	-32.9	81.6	81.4	0.19	436.402	
200.0	200.0	200.0	200.0	0.3	0.3	-156.21	-74.7	-32.9	81.6	81.0	0.64	128.209	
300.0	300.0	300.0	300.0	0.5	0.5	-156.21	-74.7	-32.9	81.6	80.5	1.09	75.142	
400.0	400.0	400.0	400.0	0.8	0.8	-156.21	-74.7	-32.9	81.6	80.1	1.54	53.145	
500.0	500.0	500.0	500.0	1.0	1.0	-156.21	-74.7	-32.9	81.6	79.6	1.99	41.110	CC, ES
600.0	600.0	599.0	599.0	1.2	1.2	-155.14	-74.7	-34.6	82.3	79.9	2.42	34.006	
700.0	700.0	698.9	698.9	1.4	1.4	-153.28	-74.7	-37.6	83.6	80.8	2.85	29.326	
800.0	800.0	798.9	798.8	1.7	1.6	-151.47	-74.7	-40.6	85.0	81.7	3.29	25.858	
900.0	900.0	898.9	898.7	1.9	1.8	-149.73	-74.6	-43.6	86.4	82.7	3.73	23.201	
1,000.0	1,000.0	998.8	998.6	2.1	2.1	-148.04	-74.6	-46.6	88.0	83.8	4.17	21.111	
1,100.0	1,100.0	1,098.8	1,098.5	2.3	2.3	-146.41	-74.6	-49.6	89.6	85.0	4.61	19.430	
1,200.0	1,200.0	1,198.7	1,198.4	2.6	2.5	-144.85	-74.6	-52.6	91.3	86.2	5.06	18.054	
1,300.0	1,300.0	1,298.7	1,298.3	2.8	2.7	-143.34	-74.6	-55.5	93.0	87.5	5.50	16.909	
1,400.0	1,400.0	1,398.6	1,398.3	3.0	3.0	-141.88	-74.6	-58.5	94.9	88.9	5.95	15.944	
1,500.0	1,500.0	1,498.6	1,498.2	3.2	3.2	-140.49	-74.6	-61.5	96.7	90.3	6.40	15.121	
1,600.0	1,600.0	1,598.5	1,598.1	3.5	3.4	-139.14	-74.6	-64.5	98.6	91.8	6.84	14.413	
1,700.0	1,700.0	1,698.5	1,698.0	3.7	3.7	-137.85	-74.6	-67.5	100.6	93.3	7.29	13.798	
1,800.0	1,800.0	1,798.5	1,797.9	3.9	3.9	-136.61	-74.6	-70.5	102.7	94.9	7.74	13.260	
1,900.0	1,900.0	1,898.4	1,897.8	4.1	4.1	-135.42	-74.6	-73.5	104.7	96.5	8.19	12.786	
2,000.0	2,000.0	1,998.4	1,997.7	4.4	4.3	-134.27	-74.6	-76.5	106.8	98.2	8.64	12.366	
2,100.0	2,100.0	2,098.3	2,097.6	4.6	4.6	82.41	-74.6	-79.5	108.8	99.7	9.06	12.003	
2,200.0	2,200.0	2,198.2	2,197.4	4.7	4.8	84.49	-74.6	-82.5	110.8	101.4	9.46	11.710	
2,300.0	2,299.9	2,298.1	2,297.3	4.9	5.0	86.49	-74.5	-85.5	113.0	103.1	9.87	11.449	
2,400.0	2,399.9	2,398.0	2,397.2	5.1	5.3	88.42	-74.5	-88.5	115.3	105.0	10.27	11.218	
2,500.0	2,499.9	2,497.9	2,497.0	5.3	5.5	90.27	-74.5	-91.4	117.7	107.0	10.68	11.013	
2,600.0	2,599.9	2,597.8	2,596.9	5.5	5.7	92.04	-74.5	-94.4	120.2	109.1	11.10	10.831	
2,700.0	2,699.9	2,697.7	2,696.7	5.7	6.0	93.74	-74.5	-97.4	122.8	111.3	11.51	10.668	
2,800.0	2,799.8	2,797.6	2,796.6	5.9	6.2	95.37	-74.5	-100.4	125.6	113.7	11.93	10.524	
2,900.0	2,899.8	2,897.5	2,896.4	6.1	6.4	96.92	-74.5	-103.4	128.4	116.1	12.35	10.395	
3,000.0	2,999.8	2,997.4	2,996.3	6.3	6.7	98.41	-74.5	-106.4	131.4	118.6	12.78	10.280	
3,100.0	3,099.8	3,097.3	3,096.1	6.5	6.9	99.83	-74.5	-109.4	134.4	121.2	13.20	10.177	
3,200.0	3,199.8	3,197.2	3,196.0	6.7	7.1	101.19	-74.5	-112.4	137.5	123.8	13.63	10.085	
3,300.0	3,299.7	3,297.1	3,295.9	6.9	7.3	102.49	-74.5	-115.4	140.6	126.6	14.06	10.003	
3,400.0	3,399.7	3,397.0	3,395.7	7.1	7.6	103.73	-74.5	-118.4	143.9	129.4	14.49	9.929	
3,500.0	3,499.7	3,496.9	3,495.6	7.3	7.8	104.91	-74.5	-121.4	147.2	132.2	14.92	9.863	
3,600.0	3,599.7	3,596.8	3,595.4	7.5	8.0	106.05	-74.4	-124.3	150.5	135.2	15.35	9.804	
3,700.0	3,699.7	3,696.7	3,695.3	7.7	8.3	107.13	-74.4	-127.3	154.0	138.2	15.79	9.751	
3,800.0	3,799.6	3,796.6	3,795.1	7.9	8.5	108.17	-74.4	-130.3	157.4	141.2	16.22	9.704	
3,900.0	3,899.6	3,896.5	3,895.0	8.1	8.7	109.16	-74.4	-133.3	160.9	144.3	16.66	9.661	
4,000.0	3,999.6	3,996.4	3,994.8	8.4	9.0	110.10	-74.4	-136.3	164.5	147.4	17.10	9.622	
4,100.0	4,099.6	4,096.3	4,094.7	8.6	9.2	111.01	-74.4	-139.3	168.1	150.6	17.53	9.588	
4,200.0	4,199.6	4,196.2	4,194.6	8.8	9.4	111.88	-74.4	-142.3	171.8	153.8	17.97	9.557	
4,300.0	4,299.5	4,296.1	4,294.4	9.0	9.7	112.71	-74.4	-145.3	175.5	157.0	18.41	9.529	
4,400.0	4,399.5	4,396.0	4,394.3	9.2	9.9	113.51	-74.4	-148.3	179.2	160.3	18.85	9.504	
4,500.0	4,499.5	4,495.9	4,494.1	9.4	10.1	114.28	-74.4	-151.3	182.9	163.6	19.29	9.481	
4,600.0	4,599.5	4,595.8	4,594.0	9.7	10.4	115.01	-74.4	-154.2	186.7	167.0	19.74	9.461	
4,700.0	4,699.5	4,695.7	4,693.8	9.9	10.6	115.72	-74.4	-157.2	190.5	170.4	20.18	9.443	
4,800.0	4,799.4	4,795.6	4,793.7	10.1	10.8	116.40	-74.4	-160.2	194.4	173.8	20.62	9.427	
4,900.0	4,899.4	4,895.5	4,893.5	10.3	11.0	117.05	-74.4	-163.2	198.2	177.2	21.06	9.412	
5,000.0	4,999.4	4,995.4	4,993.4	10.5	11.3	117.67	-74.3	-166.2	202.1	180.6	21.51	9.399	
5,100.0	5,099.4	5,095.3	5,093.2	10.7	11.5	118.28	-74.3	-169.2	206.1	184.1	21.95	9.388	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1514B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,195.2	5,193.1	11.0	11.7	118.86	-74.3	-172.2	210.0	187.6	22.39	9.377	
5,300.0	5,299.3	5,295.1	5,293.0	11.2	12.0	119.42	-74.3	-175.2	214.0	191.1	22.84	9.368	
5,400.0	5,399.3	5,395.0	5,392.8	11.4	12.2	-131.29	-74.3	-178.2	218.0	194.7	23.28	9.362	SF
5,500.0	5,498.5	5,494.1	5,491.9	11.6	12.4	-100.25	-74.3	-181.1	223.3	199.6	23.68	9.431	
5,600.0	5,593.8	5,578.8	5,576.2	11.8	12.6	-105.08	-81.1	-183.7	235.1	211.2	23.91	9.833	
5,700.0	5,681.6	5,641.9	5,637.6	12.0	12.8	-110.62	-95.0	-185.5	264.8	240.9	23.89	11.084	
5,800.0	5,758.8	5,681.6	5,675.4	12.3	12.9	-111.02	-107.5	-186.6	318.2	294.3	23.94	13.292	
5,900.0	5,822.4	5,700.0	5,692.4	12.7	12.9	-103.41	-114.3	-187.1	391.0	366.2	24.77	15.783	
6,000.0	5,870.2	5,700.0	5,692.4	13.4	12.9	-86.03	-114.3	-187.1	475.3	449.4	25.92	18.337	
6,100.0	5,900.4	5,700.0	5,692.4	14.3	12.9	-65.59	-114.3	-187.1	564.1	539.3	24.82	22.728	
6,200.0	5,911.9	5,700.0	5,692.4	15.3	12.9	-48.03	-114.3	-187.1	652.9	631.5	21.47	30.406	
6,300.0	5,912.0	5,674.0	5,668.2	16.5	12.8	-43.48	-104.9	-186.4	740.7	719.8	20.95	35.356	
6,400.0	5,912.0	5,650.0	5,645.4	17.9	12.8	-40.85	-97.3	-185.7	831.0	810.0	21.02	39.533	
6,500.0	5,912.0	5,650.0	5,645.4	19.3	12.8	-40.85	-97.3	-185.7	922.5	900.5	22.06	41.823	
6,600.0	5,912.0	5,650.0	5,645.4	20.8	12.8	-40.85	-97.3	-185.7	1,015.6	992.4	23.20	43.771	
6,700.0	5,912.0	5,630.1	5,626.3	22.4	12.7	-38.83	-91.8	-185.2	1,109.4	1,085.9	23.53	47.153	
6,800.0	5,912.0	5,622.2	5,618.7	24.0	12.7	-38.07	-89.9	-184.9	1,204.2	1,179.8	24.38	49.402	
6,900.0	5,912.0	5,600.0	5,597.0	25.7	12.7	-36.03	-84.9	-184.3	1,299.9	1,275.3	24.61	52.818	
7,000.0	5,912.0	5,600.0	5,597.0	27.4	12.7	-36.03	-84.9	-184.3	1,395.6	1,369.8	25.80	54.093	
7,100.0	5,912.0	5,600.0	5,597.0	29.1	12.7	-36.03	-84.9	-184.3	1,491.9	1,464.9	27.01	55.242	
7,200.0	5,912.0	5,600.0	5,597.0	30.8	12.7	-36.03	-84.9	-184.3	1,588.6	1,560.4	28.23	56.280	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1515A - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-74.7	0.0	74.7				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-74.7	0.0	74.7	74.5	0.19	399.320	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-74.7	0.0	74.7	74.0	0.64	117.314	
300.0	300.0	300.0	300.0	0.5	0.5	-180.00	-74.7	0.0	74.7	73.6	1.09	68.757	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-74.7	0.0	74.7	73.1	1.54	48.629	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-74.7	0.0	74.7	72.7	1.99	37.617	
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-74.7	0.0	74.7	72.2	2.43	30.672	
700.0	700.0	700.0	700.0	1.4	1.4	-180.00	-74.7	0.0	74.7	71.8	2.88	25.891	
800.0	800.0	800.0	800.0	1.7	1.7	-180.00	-74.7	0.0	74.7	71.3	3.33	22.400	
900.0	900.0	900.0	900.0	1.9	1.9	-180.00	-74.7	0.0	74.7	70.9	3.78	19.738	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-180.00	-74.7	0.0	74.7	70.4	4.23	17.642	
1,100.0	1,100.0	1,100.0	1,099.9	2.3	2.3	178.73	-74.7	1.7	74.7	70.0	4.67	16.009	
1,200.0	1,200.0	1,199.9	1,199.9	2.6	2.5	176.64	-74.7	4.4	74.8	69.7	5.09	14.691	
1,300.0	1,300.0	1,299.9	1,299.8	2.8	2.7	174.56	-74.7	7.1	75.1	69.5	5.53	13.585	
1,400.0	1,400.0	1,399.8	1,399.7	3.0	2.9	172.49	-74.7	9.9	75.4	69.4	5.96	12.648	
1,500.0	1,500.0	1,499.8	1,499.6	3.2	3.2	170.45	-74.8	12.6	75.8	69.4	6.40	11.848	
1,600.0	1,600.0	1,599.8	1,599.6	3.5	3.4	168.43	-74.8	15.3	76.3	69.5	6.84	11.160	
1,700.0	1,700.0	1,699.7	1,699.5	3.7	3.6	166.44	-74.8	18.0	76.9	69.7	7.28	10.566	
1,800.0	1,800.0	1,799.7	1,799.4	3.9	3.8	164.49	-74.8	20.8	77.6	69.9	7.73	10.050	
1,900.0	1,900.0	1,899.7	1,899.3	4.1	4.0	162.57	-74.8	23.5	78.4	70.3	8.17	9.598	
2,000.0	2,000.0	1,999.6	1,999.3	4.4	4.3	160.69	-74.9	26.2	79.3	70.7	8.62	9.203	
2,100.0	2,100.0	2,099.6	2,099.2	4.6	4.5	13.96	-74.9	29.0	78.9	69.9	9.02	8.749	
2,200.0	2,200.0	2,199.6	2,199.1	4.7	4.7	12.44	-74.9	31.7	77.9	68.5	9.41	8.279	
2,300.0	2,299.9	2,299.5	2,299.1	4.9	4.9	10.90	-74.9	34.4	77.1	67.2	9.82	7.850	
2,400.0	2,399.9	2,399.5	2,399.0	5.1	5.1	9.31	-74.9	37.1	76.2	66.0	10.22	7.458	
2,500.0	2,499.9	2,499.5	2,499.0	5.3	5.4	7.70	-74.9	39.9	75.5	64.8	10.63	7.099	
2,600.0	2,599.9	2,599.5	2,598.9	5.5	5.6	6.05	-75.0	42.6	74.8	63.7	11.04	6.770	
2,700.0	2,699.9	2,699.4	2,698.8	5.7	5.8	4.37	-75.0	45.3	74.1	62.7	11.46	6.469	
2,800.0	2,799.8	2,799.4	2,798.8	5.9	6.1	2.66	-75.0	48.1	73.5	61.7	11.87	6.194	
2,900.0	2,899.8	2,899.4	2,898.7	6.1	6.3	0.93	-75.0	50.8	73.0	60.7	12.29	5.941	
3,000.0	2,999.8	2,999.4	2,998.6	6.3	6.5	-0.82	-75.0	53.5	72.6	59.9	12.71	5.710	
3,100.0	3,099.8	3,099.3	3,098.6	6.5	6.7	-2.60	-75.1	56.3	72.2	59.1	13.13	5.497	
3,200.0	3,199.8	3,199.3	3,198.5	6.7	7.0	-4.39	-75.1	59.0	71.9	58.3	13.56	5.303	
3,300.0	3,299.7	3,299.3	3,298.4	6.9	7.2	-6.19	-75.1	61.7	71.7	57.7	13.98	5.125	
3,400.0	3,399.7	3,399.3	3,398.4	7.1	7.4	-8.01	-75.1	64.4	71.5	57.1	14.41	4.962	
3,500.0	3,499.7	3,499.2	3,498.3	7.3	7.6	-9.83	-75.1	67.2	71.4	56.6	14.84	4.813	
3,576.3	3,576.0	3,575.5	3,574.6	7.5	7.8	-11.22	-75.1	69.3	71.4	56.2	15.16	4.708	CC
3,600.0	3,599.7	3,599.2	3,598.3	7.5	7.9	-11.65	-75.1	69.9	71.4	56.1	15.27	4.676	
3,700.0	3,699.7	3,699.2	3,698.2	7.7	8.1	-13.48	-75.2	72.6	71.4	55.7	15.70	4.552	
3,800.0	3,799.6	3,799.2	3,798.1	7.9	8.3	-15.30	-75.2	75.4	71.6	55.4	16.13	4.438	
3,900.0	3,899.6	3,899.1	3,898.1	8.1	8.6	-17.11	-75.2	78.1	71.8	55.2	16.56	4.334	
4,000.0	3,999.6	3,999.1	3,998.0	8.4	8.8	-18.90	-75.2	80.8	72.0	55.0	16.99	4.239	
4,100.0	4,099.6	4,099.1	4,097.9	8.6	9.0	-20.69	-75.2	83.6	72.4	54.9	17.43	4.153	
4,200.0	4,199.6	4,199.1	4,197.9	8.8	9.2	-22.45	-75.3	86.3	72.8	54.9	17.86	4.075	ES
4,300.0	4,299.5	4,299.0	4,297.8	9.0	9.5	-24.20	-75.3	89.0	73.3	55.0	18.30	4.004	
4,400.0	4,399.5	4,399.0	4,397.8	9.2	9.7	-25.92	-75.3	91.7	73.8	55.1	18.73	3.940	
4,500.0	4,499.5	4,499.0	4,497.7	9.4	9.9	-27.61	-75.3	94.5	74.4	55.2	19.17	3.882	
4,600.0	4,599.5	4,598.9	4,597.6	9.7	10.2	-29.27	-75.3	97.2	75.1	55.5	19.61	3.829	
4,700.0	4,699.5	4,698.9	4,697.6	9.9	10.4	-30.91	-75.4	99.9	75.8	55.8	20.05	3.782	
4,800.0	4,799.4	4,798.9	4,797.5	10.1	10.6	-32.51	-75.4	102.7	76.6	56.1	20.49	3.739	
4,900.0	4,899.4	4,898.9	4,897.4	10.3	10.8	-34.08	-75.4	105.4	77.5	56.5	20.93	3.701	
5,000.0	4,999.4	4,998.8	4,997.4	10.5	11.1	-35.61	-75.4	108.1	78.4	57.0	21.37	3.667	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1515A - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,099.4	5,098.8	5,097.3	10.7	11.3	-37.10	-75.4	110.9	79.4	57.5	21.82	3.637	
5,200.0	5,199.4	5,198.8	5,197.2	11.0	11.5	-38.56	-75.4	113.6	80.4	58.1	22.26	3.611	
5,300.0	5,299.3	5,298.8	5,297.2	11.2	11.8	-39.98	-75.5	116.3	81.4	58.7	22.70	3.587	
5,400.0	5,399.3	5,398.5	5,396.9	11.4	12.0	67.55	-75.5	119.0	82.6	59.5	23.15	3.570	SF
5,500.0	5,498.5	5,490.9	5,488.7	11.6	12.2	111.48	-84.7	121.5	91.4	68.0	23.42	3.904	
5,600.0	5,593.8	5,565.6	5,560.8	11.8	12.4	128.43	-103.8	123.5	125.9	102.8	23.12	5.445	
5,700.0	5,681.6	5,616.6	5,608.1	12.0	12.5	135.55	-122.8	124.8	191.0	168.8	22.20	8.604	
5,800.0	5,758.8	5,650.0	5,638.0	12.3	12.6	133.06	-137.6	125.6	275.9	254.4	21.54	12.806	
5,900.0	5,822.4	5,650.0	5,638.0	12.7	12.6	104.10	-137.6	125.6	370.6	346.1	24.47	15.144	
6,000.0	5,870.2	5,650.0	5,638.0	13.4	12.6	55.40	-137.6	125.6	468.3	445.9	22.47	20.843	
6,100.0	5,900.4	5,650.0	5,638.0	14.3	12.6	28.22	-137.6	125.6	564.9	549.7	15.22	37.119	
6,200.0	5,911.9	5,631.5	5,621.5	15.3	12.5	16.09	-129.2	125.2	657.5	646.5	10.92	60.199	
6,300.0	5,912.0	5,600.0	5,592.9	16.5	12.4	14.00	-116.1	124.4	747.5	736.7	10.82	69.080	
6,400.0	5,912.0	5,600.0	5,592.9	17.9	12.4	14.00	-116.1	124.4	838.5	827.0	11.46	73.138	
6,500.0	5,912.0	5,583.7	5,577.8	19.3	12.4	13.33	-110.0	124.0	930.9	919.0	11.93	78.022	
6,600.0	5,912.0	5,571.6	5,566.5	20.8	12.4	12.86	-105.8	123.7	1,024.3	1,011.8	12.49	82.024	
6,700.0	5,912.0	5,550.0	5,546.0	22.4	12.3	12.08	-99.0	123.1	1,118.7	1,105.7	12.96	86.300	
6,800.0	5,912.0	5,550.0	5,546.0	24.0	12.3	12.08	-99.0	123.1	1,213.4	1,199.7	13.70	88.571	
6,900.0	5,912.0	5,550.0	5,546.0	25.7	12.3	12.08	-99.0	123.1	1,308.9	1,294.4	14.45	90.581	
7,000.0	5,912.0	5,550.0	5,546.0	27.4	12.3	12.08	-99.0	123.1	1,405.0	1,389.8	15.21	92.369	
7,100.0	5,912.0	5,528.2	5,525.0	29.1	12.3	11.36	-92.9	122.5	1,501.0	1,485.3	15.72	95.454	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1516B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	156.03	-74.7	33.2	81.7				
100.0	100.0	100.0	100.0	0.1	0.1	156.03	-74.7	33.2	81.7	81.5	0.19	437.001	
200.0	200.0	200.0	200.0	0.3	0.3	156.03	-74.7	33.2	81.7	81.1	0.64	128.385	
300.0	300.0	300.0	300.0	0.5	0.5	156.03	-74.7	33.2	81.7	80.6	1.09	75.245	
400.0	400.0	400.0	400.0	0.8	0.8	156.03	-74.7	33.2	81.7	80.2	1.54	53.218	
500.0	500.0	500.0	500.0	1.0	1.0	156.03	-74.7	33.2	81.7	79.7	1.99	41.167	CC, ES
600.0	600.0	598.8	598.8	1.2	1.2	154.95	-74.7	34.9	82.4	80.0	2.42	34.055	
700.0	700.0	697.4	697.3	1.4	1.4	151.82	-74.6	40.0	84.7	81.9	2.86	29.668	
800.0	800.0	796.7	796.2	1.7	1.6	147.40	-74.6	47.7	88.7	85.3	3.31	26.768	
900.0	900.0	896.4	895.6	1.9	1.9	143.29	-74.6	55.6	93.2	89.4	3.78	24.646	
1,000.0	1,000.0	996.1	995.0	2.1	2.1	139.56	-74.6	63.5	98.1	93.8	4.25	23.060	
1,100.0	1,100.0	1,095.7	1,094.3	2.3	2.4	136.21	-74.5	71.4	103.4	98.7	4.73	21.855	
1,200.0	1,200.0	1,195.4	1,193.7	2.6	2.6	133.19	-74.5	79.4	109.0	103.8	5.21	20.926	
1,300.0	1,300.0	1,295.1	1,293.1	2.8	2.9	130.48	-74.5	87.3	114.9	109.2	5.69	20.198	
1,400.0	1,400.0	1,394.8	1,392.4	3.0	3.2	128.03	-74.4	95.2	121.1	114.9	6.17	19.620	
1,500.0	1,500.0	1,494.5	1,491.8	3.2	3.4	125.82	-74.4	103.1	127.4	120.7	6.65	19.157	
1,600.0	1,600.0	1,594.2	1,591.2	3.5	3.7	123.83	-74.4	111.0	133.9	126.8	7.13	18.781	
1,700.0	1,700.0	1,693.8	1,690.6	3.7	3.9	122.02	-74.3	118.9	140.6	132.9	7.61	18.473	
1,800.0	1,800.0	1,793.5	1,789.9	3.9	4.2	120.37	-74.3	126.8	147.3	139.2	8.09	18.218	
1,900.0	1,900.0	1,893.2	1,889.3	4.1	4.5	118.87	-74.3	134.7	154.2	145.7	8.56	18.006	
2,000.0	2,000.0	1,992.9	1,988.7	4.4	4.7	117.50	-74.3	142.6	161.2	152.2	9.04	17.828	
2,100.0	2,100.0	2,092.6	2,088.1	4.6	5.0	-29.10	-74.2	150.5	167.0	157.9	9.15	18.250	
2,200.0	2,200.0	2,192.4	2,187.5	4.7	5.3	-30.59	-74.2	158.5	172.4	162.9	9.55	18.052	
2,300.0	2,299.9	2,292.1	2,287.0	4.9	5.5	-31.99	-74.2	166.4	178.0	168.0	9.96	17.873	
2,400.0	2,399.9	2,391.9	2,386.4	5.1	5.8	-33.31	-74.1	174.3	183.6	173.2	10.37	17.712	
2,500.0	2,499.9	2,491.7	2,485.9	5.3	6.1	-34.54	-74.1	182.2	189.3	178.5	10.78	17.566	
2,600.0	2,599.9	2,591.4	2,585.3	5.5	6.3	-35.71	-74.1	190.1	195.1	183.9	11.19	17.433	
2,700.0	2,699.9	2,691.2	2,684.7	5.7	6.6	-36.80	-74.0	198.0	201.0	189.4	11.61	17.311	
2,800.0	2,799.8	2,790.9	2,784.2	5.9	6.9	-37.83	-74.0	206.0	207.0	194.9	12.03	17.200	
2,900.0	2,899.8	2,890.7	2,883.6	6.1	7.1	-38.81	-74.0	213.9	213.0	200.5	12.46	17.098	
3,000.0	2,999.8	2,990.4	2,983.1	6.3	7.4	-39.73	-74.0	221.8	219.0	206.2	12.88	17.005	
3,100.0	3,099.8	3,090.2	3,082.5	6.5	7.7	-40.60	-73.9	229.7	225.2	211.8	13.31	16.918	
3,200.0	3,199.8	3,189.9	3,181.9	6.7	7.9	-41.43	-73.9	237.6	231.3	217.6	13.74	16.839	
3,300.0	3,299.7	3,289.7	3,281.4	6.9	8.2	-42.21	-73.9	245.5	237.5	223.4	14.17	16.765	
3,400.0	3,399.7	3,389.5	3,380.8	7.1	8.5	-42.95	-73.8	253.4	243.8	229.2	14.60	16.696	
3,500.0	3,499.7	3,489.2	3,480.3	7.3	8.7	-43.65	-73.8	261.4	250.1	235.1	15.04	16.632	
3,600.0	3,599.7	3,589.0	3,579.7	7.5	9.0	-44.32	-73.8	269.3	256.4	241.0	15.47	16.573	
3,700.0	3,699.7	3,688.7	3,679.1	7.7	9.3	-44.96	-73.7	277.2	262.8	246.9	15.91	16.517	
3,800.0	3,799.6	3,788.5	3,778.6	7.9	9.5	-45.57	-73.7	285.1	269.2	252.8	16.35	16.465	
3,900.0	3,899.6	3,888.2	3,878.0	8.1	9.8	-46.15	-73.7	293.0	275.6	258.8	16.79	16.417	
4,000.0	3,999.6	3,988.0	3,977.5	8.4	10.1	-46.70	-73.7	300.9	282.1	264.8	17.23	16.371	
4,100.0	4,099.6	4,087.7	4,076.9	8.6	10.4	-47.23	-73.6	308.9	288.6	270.9	17.67	16.328	
4,200.0	4,199.6	4,187.5	4,176.3	8.8	10.6	-47.73	-73.6	316.8	295.1	276.9	18.12	16.288	
4,300.0	4,299.5	4,287.3	4,275.8	9.0	10.9	-48.22	-73.6	324.7	301.6	283.0	18.56	16.249	
4,400.0	4,399.5	4,387.0	4,375.2	9.2	11.2	-48.68	-73.5	332.6	308.1	289.1	19.00	16.214	
4,500.0	4,499.5	4,486.8	4,474.7	9.4	11.4	-49.12	-73.5	340.5	314.7	295.2	19.45	16.180	
4,600.0	4,599.5	4,586.5	4,574.1	9.7	11.7	-49.55	-73.5	348.4	321.3	301.4	19.90	16.147	
4,700.0	4,699.5	4,686.3	4,673.6	9.9	12.0	-49.96	-73.4	356.4	327.9	307.5	20.34	16.117	
4,800.0	4,799.4	4,786.0	4,773.0	10.1	12.2	-50.35	-73.4	364.3	334.5	313.7	20.79	16.088	
4,900.0	4,899.4	4,885.8	4,872.4	10.3	12.5	-50.73	-73.4	372.2	341.1	319.9	21.24	16.061	
5,000.0	4,999.4	4,985.5	4,971.9	10.5	12.8	-51.09	-73.3	380.1	347.8	326.1	21.69	16.034	
5,100.0	5,099.4	5,085.3	5,071.3	10.7	13.0	-51.44	-73.3	388.0	354.4	332.3	22.14	16.010	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10H-1516B - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,185.1	5,170.8	11.0	13.3	-51.77	-73.3	395.9	361.1	338.5	22.59	15.986	
5,300.0	5,299.3	5,284.8	5,270.2	11.2	13.6	-52.10	-73.3	403.8	367.8	344.7	23.04	15.963	
5,400.0	5,399.3	5,384.6	5,369.6	11.4	13.8	56.25	-73.2	411.8	374.5	351.0	23.49	15.944	SF
5,500.0	5,498.5	5,483.6	5,468.3	11.6	14.1	90.23	-73.2	419.6	381.9	358.0	23.89	15.982	
5,600.0	5,593.8	5,571.3	5,555.6	11.8	14.3	94.85	-76.9	426.6	392.3	368.1	24.22	16.196	
5,700.0	5,681.6	5,637.0	5,620.0	12.0	14.5	98.87	-88.8	431.7	412.7	388.3	24.44	16.885	
5,800.0	5,758.8	5,679.4	5,660.5	12.3	14.6	99.65	-100.8	434.9	449.5	424.8	24.72	18.183	
5,900.0	5,822.4	5,700.0	5,679.8	12.7	14.7	95.46	-107.8	436.5	503.5	478.1	25.36	19.851	
6,000.0	5,870.2	5,700.0	5,679.8	13.4	14.7	85.47	-107.8	436.5	570.9	544.7	26.22	21.771	
6,100.0	5,900.4	5,700.0	5,679.8	14.3	14.7	73.20	-107.8	436.5	646.0	619.6	26.37	24.496	
6,200.0	5,911.9	5,700.0	5,679.8	15.3	14.7	60.55	-107.8	436.5	724.0	698.7	25.30	28.621	
6,300.0	5,912.0	5,678.3	5,659.5	16.5	14.6	57.08	-100.4	434.8	803.6	778.0	25.54	31.466	
6,400.0	5,912.0	5,665.6	5,647.4	17.9	14.6	55.78	-96.5	433.9	886.8	860.5	26.34	33.667	
6,500.0	5,912.0	5,650.0	5,632.5	19.3	14.5	54.23	-92.1	432.7	972.9	945.8	27.11	35.881	
6,600.0	5,912.0	5,650.0	5,632.5	20.8	14.5	54.23	-92.1	432.7	1,061.1	1,032.7	28.39	37.377	
6,700.0	5,912.0	5,650.0	5,632.5	22.4	14.5	54.23	-92.1	432.7	1,151.3	1,121.6	29.72	38.739	
6,800.0	5,912.0	5,629.1	5,612.4	24.0	14.5	52.20	-87.0	431.1	1,242.4	1,212.0	30.40	40.871	
6,900.0	5,912.0	5,622.5	5,605.9	25.7	14.5	51.57	-85.5	430.6	1,334.8	1,303.3	31.54	42.316	
7,000.0	5,912.0	5,600.0	5,583.9	27.4	14.4	49.49	-81.1	428.8	1,428.6	1,396.4	32.13	44.464	
7,100.0	5,912.0	5,600.0	5,583.9	29.1	14.4	49.49	-81.1	428.8	1,522.5	1,489.0	33.51	45.429	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0201A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	92.72	-65.6	1,382.6	1,384.8				
100.0	100.0	57.7	57.7	0.1	0.1	92.72	-65.6	1,382.6	1,384.1	1,384.0	0.15	9,386.316	
200.0	200.0	157.7	157.7	0.3	0.2	92.72	-65.6	1,382.6	1,384.1	1,383.6	0.54	2,556.191	
300.0	300.0	257.7	257.7	0.5	0.4	92.72	-65.6	1,382.6	1,384.1	1,383.1	0.99	1,396.684	
400.0	400.0	357.7	357.7	0.8	0.7	92.72	-65.6	1,382.6	1,384.1	1,382.7	1.44	960.840	
500.0	500.0	457.7	457.7	1.0	0.9	92.72	-65.6	1,382.6	1,384.1	1,382.2	1.89	732.316	
600.0	600.0	557.7	557.7	1.2	1.1	92.72	-65.6	1,382.6	1,384.1	1,381.8	2.34	591.609	
700.0	700.0	657.7	657.7	1.4	1.3	92.72	-65.6	1,382.6	1,384.1	1,381.3	2.79	496.259	
800.0	800.0	757.7	757.7	1.7	1.6	92.72	-65.6	1,382.6	1,384.1	1,380.9	3.24	427.377	
900.0	900.0	878.2	878.2	1.9	1.8	92.68	-64.7	1,382.0	1,383.7	1,380.0	3.73	370.679	
1,000.0	1,000.0	1,009.9	1,009.7	2.1	2.1	92.45	-59.0	1,378.7	1,381.0	1,376.7	4.25	324.704	
1,100.0	1,100.0	1,109.6	1,109.2	2.3	2.4	92.21	-53.0	1,375.2	1,377.2	1,372.5	4.70	292.927	
1,200.0	1,200.0	1,209.4	1,208.7	2.6	2.6	91.96	-47.0	1,371.7	1,373.5	1,368.3	5.15	266.716	
1,300.0	1,300.0	1,309.1	1,308.2	2.8	2.8	91.71	-41.0	1,368.3	1,369.8	1,364.2	5.60	244.636	
1,400.0	1,400.0	1,408.9	1,407.7	3.0	3.1	91.47	-34.9	1,364.8	1,366.1	1,360.1	6.05	225.796	
1,500.0	1,500.0	1,508.6	1,507.2	3.2	3.3	91.22	-28.9	1,361.3	1,362.5	1,356.0	6.50	209.541	
1,600.0	1,600.0	1,608.4	1,606.8	3.5	3.6	90.97	-22.9	1,357.8	1,358.8	1,351.9	6.95	195.378	
1,700.0	1,700.0	1,708.2	1,706.3	3.7	3.8	90.71	-16.9	1,354.3	1,355.3	1,347.8	7.41	182.932	
1,800.0	1,800.0	1,807.9	1,805.8	3.9	4.1	90.46	-10.9	1,350.8	1,351.7	1,343.8	7.86	171.911	
1,900.0	1,900.0	1,907.7	1,905.3	4.1	4.3	90.21	-4.9	1,347.3	1,348.1	1,339.8	8.32	162.085	
2,000.0	2,000.0	2,007.4	2,004.8	4.4	4.6	89.95	1.2	1,343.8	1,344.6	1,335.8	8.77	153.273	
2,100.0	2,100.0	2,107.1	2,104.2	4.6	4.8	-55.54	7.2	1,340.3	1,340.3	1,331.0	9.34	143.542	
2,200.0	2,200.0	2,206.7	2,203.6	4.7	5.1	-55.87	13.2	1,336.8	1,335.7	1,326.0	9.76	136.822	
2,300.0	2,299.9	2,306.3	2,302.9	4.9	5.3	-56.20	19.2	1,333.3	1,331.2	1,321.0	10.19	130.602	
2,400.0	2,399.9	2,405.9	2,402.3	5.1	5.6	-56.54	25.2	1,329.8	1,326.7	1,316.1	10.63	124.835	
2,500.0	2,499.9	2,505.5	2,501.6	5.3	5.8	-56.88	31.2	1,326.4	1,322.2	1,311.2	11.07	119.481	
2,600.0	2,599.9	2,605.1	2,601.0	5.5	6.1	-57.21	37.2	1,322.9	1,317.8	1,306.3	11.51	114.502	
2,700.0	2,699.9	2,704.6	2,700.3	5.7	6.3	-57.56	43.2	1,319.4	1,313.5	1,301.5	11.96	109.865	
2,800.0	2,799.8	2,804.2	2,799.7	5.9	6.6	-57.90	49.2	1,315.9	1,309.1	1,296.7	12.40	105.539	
2,900.0	2,899.8	2,903.8	2,899.0	6.1	6.8	-58.24	55.2	1,312.4	1,304.9	1,292.0	12.86	101.496	
3,000.0	2,999.8	3,003.4	2,998.4	6.3	7.1	-58.59	61.3	1,308.9	1,300.7	1,287.3	13.31	97.713	
3,100.0	3,099.8	3,103.0	3,097.7	6.5	7.4	-58.94	67.3	1,305.4	1,296.5	1,282.7	13.77	94.167	
3,200.0	3,199.8	3,202.6	3,197.1	6.7	7.6	-59.30	73.3	1,301.9	1,292.4	1,278.1	14.23	90.838	
3,300.0	3,299.7	3,302.2	3,296.5	6.9	7.9	-59.65	79.3	1,298.5	1,288.3	1,273.6	14.69	87.709	
3,400.0	3,399.7	3,401.8	3,395.8	7.1	8.1	-60.01	85.3	1,295.0	1,284.3	1,269.1	15.15	84.763	
3,500.0	3,499.7	3,501.4	3,495.2	7.3	8.4	-60.37	91.3	1,291.5	1,280.3	1,264.7	15.62	81.986	
3,600.0	3,599.7	3,601.0	3,594.5	7.5	8.6	-60.73	97.3	1,288.0	1,276.4	1,260.3	16.08	79.365	
3,700.0	3,699.7	3,700.6	3,693.9	7.7	8.9	-61.09	103.3	1,284.5	1,272.5	1,256.0	16.55	76.888	
3,800.0	3,799.6	3,800.2	3,793.2	7.9	9.1	-61.46	109.3	1,281.0	1,268.7	1,251.7	17.02	74.544	
3,900.0	3,899.6	3,899.8	3,892.6	8.1	9.4	-61.82	115.3	1,277.5	1,264.9	1,247.4	17.49	72.323	
4,000.0	3,999.6	3,999.4	3,991.9	8.4	9.6	-62.19	121.3	1,274.0	1,261.2	1,243.3	17.96	70.217	
4,100.0	4,099.6	4,099.0	4,091.3	8.6	9.9	-62.57	127.3	1,270.6	1,257.6	1,239.1	18.43	68.218	
4,200.0	4,199.6	4,198.6	4,190.6	8.8	10.2	-62.94	133.4	1,267.1	1,254.0	1,235.0	18.91	66.317	
4,300.0	4,299.5	4,298.2	4,290.0	9.0	10.4	-63.32	139.4	1,263.6	1,250.4	1,231.0	19.38	64.509	
4,400.0	4,399.5	4,397.8	4,389.3	9.2	10.7	-63.70	145.4	1,260.1	1,246.9	1,227.0	19.86	62.788	
4,500.0	4,499.5	4,497.4	4,488.7	9.4	10.9	-64.08	151.4	1,256.6	1,243.5	1,223.1	20.34	61.147	
4,600.0	4,599.5	4,597.0	4,588.0	9.7	11.2	-64.46	157.4	1,253.1	1,240.1	1,219.3	20.81	59.581	
4,700.0	4,699.5	4,696.6	4,687.4	9.9	11.4	-64.84	163.4	1,249.6	1,236.7	1,215.5	21.29	58.086	
4,800.0	4,799.4	4,796.2	4,786.7	10.1	11.7	-65.23	169.4	1,246.1	1,233.5	1,211.7	21.77	56.658	
4,900.0	4,899.4	4,895.8	4,886.1	10.3	11.9	-65.62	175.4	1,242.7	1,230.3	1,208.0	22.25	55.292	
5,000.0	4,999.4	4,995.3	4,985.5	10.5	12.2	-66.01	181.4	1,239.2	1,227.1	1,204.4	22.73	53.984	
5,100.0	5,099.4	5,094.9	5,084.8	10.7	12.5	-66.40	187.4	1,235.7	1,224.0	1,200.8	23.21	52.732	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0201A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,194.5	5,184.2	11.0	12.7	-66.80	193.4	1,232.2	1,220.9	1,197.3	23.69	51.532	
5,300.0	5,299.3	5,294.1	5,283.5	11.2	13.0	-67.20	199.5	1,228.7	1,218.0	1,193.8	24.17	50.381	
5,400.0	5,399.3	5,393.8	5,382.9	11.4	13.2	41.22	205.5	1,225.2	1,215.0	1,190.3	24.65	49.285	
5,500.0	5,498.5	5,624.4	5,606.7	11.6	14.1	74.53	247.6	1,200.8	1,206.3	1,180.6	25.72	46.905	
5,600.0	5,593.8	5,888.9	5,809.9	11.8	16.2	74.31	390.2	1,118.0	1,179.1	1,150.8	28.25	41.744	
5,700.0	5,681.6	6,061.4	5,887.7	12.0	18.4	74.10	522.6	1,041.1	1,139.9	1,109.1	30.79	37.019	
5,800.0	5,758.8	6,182.1	5,910.2	12.3	20.3	75.26	624.9	981.8	1,094.6	1,061.7	32.89	33.278	
5,900.0	5,822.4	6,247.4	5,911.6	12.7	21.3	78.70	681.4	949.2	1,046.6	1,012.3	34.25	30.557	
6,000.0	5,870.2	6,300.0	5,911.6	13.4	22.2	82.99	727.7	924.0	999.4	963.8	35.65	28.035	
6,100.0	5,900.4	6,353.5	5,911.6	14.3	23.0	87.58	775.4	899.8	953.9	916.6	37.32	25.560	
6,200.0	5,911.9	6,400.0	5,911.6	15.3	23.7	92.40	817.4	879.8	911.2	872.1	39.07	23.323	
6,300.0	5,912.0	6,476.4	5,911.6	16.5	25.0	92.98	887.4	849.3	871.4	829.8	41.52	20.988	
6,400.0	5,912.0	6,540.7	5,911.6	17.9	26.0	93.07	947.3	825.7	834.8	790.9	43.91	19.014	
6,500.0	5,912.0	6,600.0	5,911.6	19.3	27.0	93.15	1,003.1	805.8	801.5	755.2	46.32	17.305	
6,600.0	5,912.0	6,674.3	5,911.6	20.8	28.2	93.24	1,073.9	783.3	771.4	722.3	49.10	15.710	
6,700.0	5,912.0	6,743.4	5,911.6	22.4	29.4	93.33	1,140.5	764.9	744.8	692.9	51.86	14.361	
6,800.0	5,912.0	6,813.7	5,911.6	24.0	30.5	93.40	1,208.9	748.7	721.7	667.0	54.70	13.194	
6,900.0	5,912.0	6,885.2	5,911.6	25.7	31.7	93.47	1,279.0	734.7	702.2	644.6	57.60	12.191	
7,000.0	5,912.0	6,957.7	5,911.6	27.4	32.9	93.53	1,350.5	723.3	686.4	625.9	60.55	11.338	
7,100.0	5,912.0	7,030.9	5,911.6	29.1	34.1	93.58	1,423.2	714.5	674.4	610.9	63.53	10.617	
7,200.0	5,912.0	7,100.0	5,911.6	30.8	35.2	93.61	1,492.1	708.8	666.3	599.9	66.45	10.028	
7,300.0	5,912.0	7,178.9	5,911.6	32.6	36.5	93.63	1,570.9	705.3	662.0	592.4	69.54	9.519	
7,386.0	5,912.0	7,249.2	5,911.6	34.1	37.6	93.63	1,641.2	704.7	661.2	589.0	72.23	9.155	
7,400.0	5,912.0	7,263.2	5,911.6	34.4	37.8	93.63	1,655.2	704.7	661.2	588.5	72.73	9.092	
7,500.0	5,912.0	7,363.2	5,911.6	36.2	39.4	93.63	1,755.2	704.7	661.2	585.0	76.20	8.678	
7,600.0	5,912.0	7,463.2	5,911.6	38.0	41.0	93.63	1,855.2	704.7	661.2	581.5	79.70	8.297	
7,700.0	5,912.0	7,563.2	5,911.6	39.8	42.6	93.63	1,955.2	704.7	661.2	578.0	83.23	7.945	
7,800.0	5,912.0	7,663.2	5,911.6	41.6	44.3	93.64	2,055.2	704.7	661.2	574.5	86.78	7.619	
7,900.0	5,912.0	7,763.2	5,911.6	43.5	46.0	93.64	2,155.2	704.7	661.2	570.9	90.36	7.318	
8,000.0	5,912.0	7,863.2	5,911.7	45.3	47.7	93.64	2,255.2	704.7	661.2	567.3	93.96	7.037	
8,100.0	5,912.0	7,963.2	5,911.7	47.2	49.4	93.64	2,355.2	704.7	661.2	563.6	97.58	6.776	
8,200.0	5,912.0	8,063.2	5,911.7	49.0	51.1	93.64	2,455.2	704.7	661.2	560.0	101.22	6.533	
8,300.0	5,912.0	8,163.2	5,911.7	50.9	52.8	93.64	2,555.2	704.7	661.2	556.4	104.87	6.305	
8,400.0	5,912.0	8,263.2	5,911.7	52.8	54.6	93.64	2,655.2	704.7	661.2	552.7	108.53	6.093	
8,500.0	5,912.0	8,363.2	5,911.7	54.6	56.3	93.64	2,755.2	704.7	661.2	549.0	112.21	5.893	
8,600.0	5,912.0	8,463.2	5,911.7	56.5	58.1	93.64	2,855.2	704.7	661.2	545.3	115.89	5.706	
8,700.0	5,912.0	8,563.2	5,911.7	58.4	59.9	93.64	2,955.2	704.7	661.2	541.6	119.59	5.529	
8,800.0	5,912.0	8,663.2	5,911.7	60.2	61.7	93.64	3,055.2	704.7	661.2	537.9	123.29	5.363	
8,900.0	5,912.0	8,763.2	5,911.7	62.1	63.5	93.64	3,155.2	704.7	661.2	534.2	127.00	5.206	
9,000.0	5,912.0	8,863.2	5,911.7	64.0	65.3	93.64	3,255.2	704.7	661.2	530.5	130.72	5.058	
9,100.0	5,912.0	8,963.2	5,911.7	65.9	67.1	93.64	3,355.2	704.7	661.2	526.8	134.45	4.918	
9,200.0	5,912.0	9,063.2	5,911.7	67.8	68.9	93.64	3,455.2	704.7	661.2	523.0	138.18	4.785	
9,300.0	5,912.0	9,163.2	5,911.7	69.7	70.7	93.65	3,555.2	704.7	661.2	519.3	141.92	4.659	
9,400.0	5,912.0	9,263.2	5,911.8	71.6	72.6	93.65	3,655.2	704.7	661.2	515.5	145.66	4.539	
9,500.0	5,912.0	9,363.2	5,911.8	73.5	74.4	93.65	3,755.2	704.7	661.2	511.8	149.41	4.425	
9,600.0	5,912.0	9,463.2	5,911.8	75.4	76.2	93.65	3,855.2	704.7	661.2	508.0	153.16	4.317	
9,700.0	5,912.0	9,563.2	5,911.8	77.3	78.1	93.65	3,955.2	704.7	661.2	504.3	156.92	4.214	
9,800.0	5,912.0	9,663.2	5,911.8	79.2	79.9	93.65	4,055.2	704.7	661.2	500.5	160.68	4.115	
9,900.0	5,912.0	9,763.2	5,911.8	81.1	81.8	93.65	4,155.2	704.7	661.2	496.8	164.44	4.021	
10,000.0	5,912.0	9,863.2	5,911.8	82.9	83.6	93.65	4,255.2	704.7	661.2	493.0	168.21	3.931	
10,100.0	5,912.0	9,963.2	5,911.8	84.9	85.5	93.65	4,355.2	704.7	661.2	489.2	171.98	3.845	
10,200.0	5,912.0	10,063.2	5,911.8	86.8	87.3	93.65	4,455.2	704.7	661.2	485.4	175.76	3.762	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0201A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	5,912.0	10,163.2	5,911.8	88.7	89.2	93.65	4,555.2	704.7	661.2	481.7	179.53	3.683	
10,400.0	5,912.0	10,263.2	5,911.8	90.6	91.1	93.65	4,655.2	704.6	661.2	477.9	183.31	3.607	
10,500.0	5,912.0	10,363.2	5,911.8	92.5	92.9	93.65	4,755.2	704.6	661.2	474.1	187.09	3.534	
10,600.0	5,912.0	10,463.2	5,911.8	94.4	94.8	93.65	4,855.2	704.6	661.2	470.3	190.87	3.464	
10,700.0	5,912.0	10,563.2	5,911.9	96.3	96.7	93.65	4,955.2	704.6	661.2	466.5	194.66	3.397	
10,800.0	5,912.0	10,663.2	5,911.9	98.2	98.5	93.65	5,055.2	704.6	661.2	462.7	198.45	3.332	
10,900.0	5,912.0	10,763.2	5,911.9	100.1	100.4	93.66	5,155.2	704.6	661.2	458.9	202.24	3.269	
11,000.0	5,912.0	10,863.2	5,911.9	102.0	102.3	93.66	5,255.2	704.6	661.2	455.1	206.03	3.209	
11,100.0	5,912.0	10,963.2	5,911.9	103.9	104.2	93.66	5,355.2	704.6	661.2	451.4	209.82	3.151	
11,200.0	5,912.0	11,063.2	5,911.9	105.8	106.0	93.66	5,455.2	704.6	661.2	447.6	213.61	3.095	
11,300.0	5,912.0	11,163.2	5,911.9	107.7	107.9	93.66	5,555.2	704.6	661.2	443.8	217.41	3.041	
11,400.0	5,912.0	11,263.2	5,911.9	109.6	109.8	93.66	5,655.2	704.6	661.2	440.0	221.21	2.989	
11,500.0	5,912.0	11,363.2	5,911.9	111.5	111.7	93.66	5,755.2	704.6	661.2	436.2	225.01	2.938	
11,600.0	5,912.0	11,463.2	5,911.9	113.4	113.6	93.66	5,855.2	704.6	661.2	432.4	228.81	2.890	
11,700.0	5,912.0	11,563.2	5,911.9	115.4	115.4	93.66	5,955.2	704.6	661.2	428.6	232.61	2.842	
11,800.0	5,912.0	11,663.2	5,911.9	117.3	117.3	93.66	6,055.2	704.6	661.2	424.8	236.41	2.797	
11,900.0	5,912.0	11,763.2	5,911.9	119.2	119.2	93.66	6,155.2	704.6	661.2	420.9	240.21	2.752	
12,000.0	5,912.0	11,863.2	5,911.9	121.1	121.1	93.66	6,255.2	704.6	661.2	417.1	244.02	2.709	
12,100.0	5,912.0	11,963.2	5,912.0	123.0	123.0	93.66	6,355.2	704.6	661.2	413.3	247.82	2.668	
12,200.0	5,912.0	12,063.2	5,912.0	124.9	124.9	93.66	6,455.2	704.6	661.2	409.5	251.63	2.628	
12,300.0	5,912.0	12,163.2	5,912.0	126.8	126.8	93.66	6,555.2	704.6	661.2	405.7	255.44	2.588	
12,400.0	5,912.0	12,263.2	5,912.0	128.7	128.7	93.67	6,655.2	704.6	661.2	401.9	259.24	2.550	
12,500.0	5,912.0	12,363.2	5,912.0	130.6	130.6	93.67	6,755.2	704.6	661.2	398.1	263.05	2.513	
12,600.0	5,912.0	12,463.2	5,912.0	132.6	132.5	93.67	6,855.2	704.6	661.1	394.3	266.86	2.477	
12,700.0	5,912.0	12,563.2	5,912.0	134.5	134.1	93.67	6,955.2	704.6	661.1	390.7	270.45	2.445	
12,710.0	5,912.0	12,573.2	5,912.0	134.7	134.3	93.67	6,965.2	704.6	661.1	390.3	270.80	2.441	CC, ES, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0202B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	92.70	-66.7	1,415.6	1,417.8				
100.0	100.0	57.7	57.7	0.1	0.1	92.70	-66.7	1,415.6	1,417.2	1,417.0	0.15	9,610.472	
200.0	200.0	157.7	157.7	0.3	0.2	92.70	-66.7	1,415.6	1,417.2	1,416.6	0.54	2,617.235	
300.0	300.0	257.7	257.7	0.5	0.4	92.70	-66.7	1,415.6	1,417.2	1,416.2	0.99	1,430.039	
400.0	400.0	357.7	357.7	0.8	0.7	92.70	-66.7	1,415.6	1,417.2	1,415.8	1.44	983.786	
500.0	500.0	457.7	457.7	1.0	0.9	92.70	-66.7	1,415.6	1,417.2	1,415.3	1.89	749.805	
600.0	600.0	557.7	557.7	1.2	1.1	92.70	-66.7	1,415.6	1,417.2	1,414.9	2.34	605.738	
700.0	700.0	657.7	657.7	1.4	1.3	92.70	-66.7	1,415.6	1,417.2	1,414.4	2.79	508.110	
800.0	800.0	770.6	770.6	1.7	1.6	92.66	-65.8	1,415.3	1,416.9	1,413.7	3.27	433.686	
900.0	900.0	892.8	892.6	1.9	1.9	92.45	-60.5	1,413.5	1,415.2	1,411.5	3.77	375.634	
1,000.0	1,000.0	993.8	993.4	2.1	2.1	92.19	-53.9	1,411.2	1,412.7	1,408.5	4.22	334.616	
1,100.0	1,100.0	1,093.6	1,093.0	2.3	2.3	91.92	-47.3	1,408.9	1,410.2	1,405.5	4.67	301.765	
1,200.0	1,200.0	1,193.3	1,192.5	2.6	2.6	91.66	-40.7	1,406.7	1,407.7	1,402.6	5.13	274.600	
1,300.0	1,300.0	1,293.1	1,292.0	2.8	2.8	91.39	-34.1	1,404.4	1,405.2	1,399.7	5.58	251.781	
1,400.0	1,400.0	1,392.9	1,391.5	3.0	3.1	91.13	-27.6	1,402.1	1,402.8	1,396.8	6.04	232.357	
1,500.0	1,500.0	1,492.6	1,491.0	3.2	3.3	90.86	-21.0	1,399.9	1,400.4	1,393.9	6.49	215.631	
1,600.0	1,600.0	1,592.4	1,590.5	3.5	3.6	90.59	-14.4	1,397.6	1,398.1	1,391.1	6.95	201.084	
1,700.0	1,700.0	1,692.1	1,690.0	3.7	3.8	90.32	-7.8	1,395.3	1,395.7	1,388.3	7.41	188.319	
1,800.0	1,800.0	1,791.9	1,789.5	3.9	4.1	90.05	-1.2	1,393.1	1,393.4	1,385.6	7.87	177.032	
1,900.0	1,900.0	1,891.6	1,889.1	4.1	4.3	89.78	5.3	1,390.8	1,391.2	1,382.8	8.33	166.981	
2,000.0	2,000.0	1,991.4	1,988.6	4.4	4.6	89.51	11.9	1,388.5	1,388.9	1,380.1	8.79	157.975	
2,100.0	2,100.0	2,091.0	2,088.0	4.6	4.8	-55.98	18.5	1,386.3	1,385.9	1,376.6	9.37	147.980	
2,200.0	2,200.0	2,190.6	2,187.3	4.7	5.1	-56.33	25.0	1,384.0	1,382.6	1,372.8	9.79	141.167	
2,300.0	2,299.9	2,290.2	2,286.7	4.9	5.3	-56.67	31.6	1,381.7	1,379.4	1,369.2	10.23	134.865	
2,400.0	2,399.9	2,389.8	2,386.1	5.1	5.6	-57.02	38.2	1,379.5	1,376.2	1,365.5	10.67	129.028	
2,500.0	2,499.9	2,489.4	2,485.4	5.3	5.8	-57.36	44.8	1,377.2	1,373.1	1,362.0	11.11	123.611	
2,600.0	2,599.9	2,589.0	2,584.8	5.5	6.1	-57.71	51.3	1,374.9	1,370.0	1,358.4	11.55	118.577	
2,700.0	2,699.9	2,688.6	2,684.1	5.7	6.3	-58.06	57.9	1,372.7	1,366.9	1,354.9	12.00	113.891	
2,800.0	2,799.8	2,788.2	2,783.5	5.9	6.6	-58.42	64.5	1,370.4	1,364.0	1,351.5	12.45	109.521	
2,900.0	2,899.8	2,887.8	2,882.8	6.1	6.8	-58.77	71.0	1,368.1	1,361.0	1,348.1	12.91	105.439	
3,000.0	2,999.8	2,987.4	2,982.2	6.3	7.1	-59.12	77.6	1,365.9	1,358.1	1,344.8	13.36	101.621	
3,100.0	3,099.8	3,087.0	3,081.6	6.5	7.4	-59.48	84.2	1,363.6	1,355.3	1,341.5	13.82	98.043	
3,200.0	3,199.8	3,186.6	3,180.9	6.7	7.6	-59.84	90.7	1,361.4	1,352.5	1,338.3	14.28	94.686	
3,300.0	3,299.7	3,286.2	3,280.3	6.9	7.9	-60.20	97.3	1,359.1	1,349.8	1,335.1	14.75	91.531	
3,400.0	3,399.7	3,385.8	3,379.6	7.1	8.1	-60.56	103.9	1,356.8	1,347.2	1,331.9	15.21	88.561	
3,500.0	3,499.7	3,485.4	3,479.0	7.3	8.4	-60.92	110.4	1,354.6	1,344.5	1,328.9	15.68	85.763	
3,600.0	3,599.7	3,585.0	3,578.3	7.5	8.6	-61.29	117.0	1,352.3	1,342.0	1,325.8	16.14	83.122	
3,700.0	3,699.7	3,684.6	3,677.7	7.7	8.9	-61.65	123.6	1,350.0	1,339.5	1,322.9	16.61	80.627	
3,800.0	3,799.6	3,784.3	3,777.1	7.9	9.1	-62.02	130.1	1,347.8	1,337.0	1,319.9	17.08	78.267	
3,900.0	3,899.6	3,883.9	3,876.4	8.1	9.4	-62.38	136.7	1,345.5	1,334.6	1,317.1	17.55	76.031	
4,000.0	3,999.6	3,983.5	3,975.8	8.4	9.6	-62.75	143.3	1,343.2	1,332.3	1,314.3	18.03	73.912	
4,100.0	4,099.6	4,083.1	4,075.1	8.6	9.9	-63.12	149.8	1,341.0	1,330.0	1,311.5	18.50	71.899	
4,200.0	4,199.6	4,182.7	4,174.5	8.8	10.2	-63.50	156.4	1,338.7	1,327.8	1,308.8	18.97	69.987	
4,300.0	4,299.5	4,282.3	4,273.9	9.0	10.4	-63.87	163.0	1,336.4	1,325.6	1,306.2	19.45	68.168	
4,400.0	4,399.5	4,381.9	4,373.2	9.2	10.7	-64.24	169.6	1,334.2	1,323.5	1,303.6	19.92	66.437	
4,500.0	4,499.5	4,481.5	4,472.6	9.4	10.9	-64.62	176.1	1,331.9	1,321.4	1,301.1	20.40	64.786	
4,600.0	4,599.5	4,581.1	4,571.9	9.7	11.2	-64.99	182.7	1,329.7	1,319.4	1,298.6	20.87	63.212	
4,700.0	4,699.5	4,680.7	4,671.3	9.9	11.4	-65.37	189.3	1,327.4	1,317.5	1,296.2	21.35	61.709	
4,800.0	4,799.4	4,780.3	4,770.6	10.1	11.7	-65.75	195.8	1,325.1	1,315.6	1,293.8	21.83	60.273	
4,900.0	4,899.4	4,879.9	4,870.0	10.3	11.9	-66.13	202.4	1,322.9	1,313.8	1,291.5	22.31	58.900	
5,000.0	4,999.4	4,979.5	4,969.4	10.5	12.2	-66.51	209.0	1,320.6	1,312.0	1,289.2	22.78	57.586	
5,100.0	5,099.4	5,079.1	5,068.7	10.7	12.5	-66.89	215.5	1,318.3	1,310.3	1,287.1	23.26	56.328	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0202B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,199.4	5,178.7	5,168.1	11.0	12.7	-67.27	222.1	1,316.1	1,308.7	1,284.9	23.74	55.122	
5,300.0	5,299.3	5,278.3	5,267.4	11.2	13.0	-67.66	228.7	1,313.8	1,307.1	1,282.9	24.22	53.965	
5,400.0	5,399.3	5,377.9	5,366.8	11.4	13.2	40.75	235.2	1,311.5	1,305.5	1,280.8	24.70	52.861	
5,500.0	5,498.5	5,477.6	5,466.3	11.6	13.5	74.57	241.8	1,309.3	1,301.2	1,276.0	25.11	51.818	
5,600.0	5,593.8	5,590.3	5,578.5	11.8	13.8	78.04	251.5	1,305.9	1,292.8	1,267.2	25.56	50.579	
5,700.0	5,681.6	5,735.5	5,716.5	12.0	14.4	81.30	292.7	1,291.7	1,278.6	1,252.2	26.43	48.373	
5,800.0	5,758.8	5,885.7	5,841.0	12.3	15.5	84.51	371.4	1,264.6	1,258.3	1,230.4	27.88	45.138	
5,900.0	5,822.4	6,035.6	5,936.4	12.7	17.0	87.68	480.0	1,227.2	1,232.4	1,202.5	29.96	41.138	
6,000.0	5,870.2	6,180.1	5,993.9	13.4	18.8	90.78	604.9	1,184.1	1,202.1	1,169.5	32.58	36.892	
6,100.0	5,900.4	6,316.4	6,013.1	14.3	20.9	93.77	732.1	1,140.2	1,168.6	1,133.1	35.53	32.891	
6,200.0	5,911.9	6,378.4	6,013.1	15.3	21.8	97.26	790.9	1,120.8	1,136.3	1,098.9	37.38	30.402	
6,300.0	5,912.0	6,439.0	6,013.1	16.5	22.7	97.71	849.0	1,103.7	1,108.2	1,068.8	39.45	28.095	
6,400.0	5,912.0	6,500.0	6,013.1	17.9	23.6	97.82	908.1	1,088.3	1,083.3	1,041.6	41.66	26.004	
6,500.0	5,912.0	6,563.4	6,013.1	19.3	24.5	97.93	969.9	1,074.4	1,061.4	1,017.4	44.04	24.103	
6,600.0	5,912.0	6,626.9	6,013.1	20.8	25.5	98.02	1,032.3	1,062.4	1,042.8	996.3	46.51	22.422	
6,700.0	5,912.0	6,700.0	6,013.1	22.4	26.6	98.11	1,104.5	1,051.3	1,027.6	978.3	49.21	20.879	
6,800.0	5,912.0	6,756.1	6,013.1	24.0	27.5	98.16	1,160.2	1,044.6	1,015.5	963.8	51.69	19.645	
6,900.0	5,912.0	6,821.5	6,013.1	25.7	28.5	98.21	1,225.3	1,038.9	1,006.8	952.5	54.37	18.519	
7,000.0	5,912.0	6,900.0	6,013.1	27.4	29.7	98.24	1,303.7	1,035.0	1,001.7	944.4	57.30	17.481	
7,100.0	5,912.0	6,955.9	6,013.1	29.1	30.6	98.25	1,359.7	1,034.2	999.7	939.8	59.88	16.697	
7,134.9	5,912.0	6,986.4	6,013.1	29.7	31.1	98.25	1,390.1	1,034.2	999.7	938.8	60.92	16.410	
7,200.0	5,912.0	7,051.5	6,013.1	30.8	32.2	98.25	1,455.2	1,034.2	999.7	936.5	63.18	15.823	
7,300.0	5,912.0	7,151.5	6,013.1	32.6	33.8	98.25	1,555.2	1,034.2	999.7	933.1	66.61	15.008	
7,400.0	5,912.0	7,251.5	6,013.1	34.4	35.5	98.25	1,655.2	1,034.2	999.7	929.6	70.08	14.265	
7,500.0	5,912.0	7,351.5	6,013.1	36.2	37.2	98.25	1,755.2	1,034.2	999.7	926.1	73.58	13.586	
7,600.0	5,912.0	7,451.5	6,013.1	38.0	38.9	98.24	1,855.2	1,034.2	999.7	922.6	77.12	12.963	
7,700.0	5,912.0	7,551.5	6,013.1	39.8	40.7	98.24	1,955.2	1,034.2	999.7	919.0	80.68	12.391	
7,800.0	5,912.0	7,651.5	6,013.1	41.6	42.4	98.24	2,055.2	1,034.2	999.7	915.4	84.26	11.865	
7,900.0	5,912.0	7,751.5	6,013.1	43.5	44.2	98.24	2,155.2	1,034.2	999.7	911.8	87.86	11.378	
8,000.0	5,912.0	7,851.5	6,013.1	45.3	46.0	98.24	2,255.2	1,034.2	999.7	908.2	91.48	10.928	
8,100.0	5,912.0	7,951.5	6,013.1	47.2	47.8	98.24	2,355.2	1,034.2	999.7	904.6	95.11	10.511	
8,200.0	5,912.0	8,051.5	6,013.1	49.0	49.6	98.24	2,455.2	1,034.2	999.7	900.9	98.76	10.123	
8,300.0	5,912.0	8,151.5	6,013.1	50.9	51.4	98.24	2,555.2	1,034.2	999.7	897.3	102.42	9.761	
8,400.0	5,912.0	8,251.5	6,013.1	52.8	53.2	98.24	2,655.2	1,034.2	999.7	893.6	106.09	9.424	
8,500.0	5,912.0	8,351.5	6,013.1	54.6	55.1	98.24	2,755.2	1,034.2	999.7	889.9	109.76	9.108	
8,600.0	5,912.0	8,451.5	6,013.1	56.5	56.9	98.24	2,855.2	1,034.2	999.7	886.2	113.45	8.812	
8,700.0	5,912.0	8,551.5	6,013.1	58.4	58.7	98.24	2,955.2	1,034.2	999.7	882.6	117.15	8.534	
8,800.0	5,912.0	8,651.5	6,013.1	60.2	60.6	98.24	3,055.2	1,034.2	999.7	878.9	120.85	8.272	
8,900.0	5,912.0	8,751.5	6,013.1	62.1	62.4	98.24	3,155.2	1,034.2	999.7	875.1	124.56	8.026	
9,000.0	5,912.0	8,851.5	6,013.1	64.0	64.3	98.24	3,255.2	1,034.2	999.7	871.4	128.28	7.793	
9,100.0	5,912.0	8,951.5	6,013.1	65.9	66.1	98.24	3,355.2	1,034.2	999.7	867.7	132.00	7.574	
9,200.0	5,912.0	9,051.5	6,013.1	67.8	68.0	98.24	3,455.2	1,034.2	999.7	864.0	135.72	7.366	
9,300.0	5,912.0	9,151.5	6,013.1	69.7	69.8	98.24	3,555.2	1,034.2	999.7	860.2	139.45	7.169	
9,400.0	5,912.0	9,251.5	6,013.1	71.6	71.7	98.24	3,655.2	1,034.2	999.7	856.5	143.19	6.982	
9,500.0	5,912.0	9,351.5	6,013.1	73.5	73.6	98.24	3,755.2	1,034.2	999.7	852.8	146.92	6.804	
9,600.0	5,912.0	9,451.5	6,013.0	75.4	75.5	98.24	3,855.2	1,034.2	999.7	849.0	150.67	6.635	
9,700.0	5,912.0	9,551.5	6,013.0	77.3	77.3	98.24	3,955.2	1,034.2	999.7	845.3	154.41	6.474	
9,800.0	5,912.0	9,651.5	6,013.0	79.2	79.2	98.24	4,055.2	1,034.2	999.7	841.5	158.16	6.321	
9,900.0	5,912.0	9,751.5	6,013.0	81.1	81.1	98.24	4,155.2	1,034.2	999.7	837.8	161.91	6.174	
10,000.0	5,912.0	9,851.5	6,013.0	82.9	83.0	98.24	4,255.2	1,034.2	999.7	834.0	165.66	6.034	
10,100.0	5,912.0	9,951.5	6,013.0	84.9	84.9	98.24	4,355.2	1,034.2	999.7	830.3	169.42	5.901	
10,200.0	5,912.0	10,051.5	6,013.0	86.8	86.7	98.24	4,455.2	1,034.2	999.7	826.5	173.18	5.773	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0202B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	5,912.0	10,151.5	6,013.0	88.7	88.6	98.24	4,555.2	1,034.2	999.7	822.8	176.94	5.650	
10,400.0	5,912.0	10,251.5	6,013.0	90.6	90.5	98.24	4,655.2	1,034.2	999.7	819.0	180.70	5.532	
10,500.0	5,912.0	10,351.5	6,013.0	92.5	92.4	98.24	4,755.2	1,034.2	999.7	815.2	184.47	5.419	
10,600.0	5,912.0	10,451.5	6,013.0	94.4	94.3	98.24	4,855.2	1,034.2	999.7	811.5	188.23	5.311	
10,700.0	5,912.0	10,551.5	6,013.0	96.3	96.2	98.24	4,955.2	1,034.2	999.7	807.7	192.00	5.207	
10,800.0	5,912.0	10,651.5	6,013.0	98.2	98.1	98.24	5,055.2	1,034.2	999.7	803.9	195.77	5.106	
10,900.0	5,912.0	10,751.5	6,013.0	100.1	100.0	98.24	5,155.2	1,034.2	999.7	800.2	199.54	5.010	
11,000.0	5,912.0	10,851.5	6,013.0	102.0	101.9	98.24	5,255.2	1,034.2	999.7	796.4	203.32	4.917	
11,100.0	5,912.0	10,951.5	6,013.0	103.9	103.8	98.24	5,355.2	1,034.2	999.7	792.6	207.09	4.827	
11,200.0	5,912.0	11,051.5	6,013.0	105.8	105.7	98.24	5,455.2	1,034.2	999.7	788.8	210.86	4.741	
11,300.0	5,912.0	11,151.5	6,013.0	107.7	107.6	98.24	5,555.2	1,034.2	999.7	785.1	214.64	4.658	
11,400.0	5,912.0	11,251.5	6,013.0	109.6	109.5	98.24	5,655.2	1,034.2	999.7	781.3	218.42	4.577	
11,500.0	5,912.0	11,351.5	6,013.0	111.5	111.3	98.24	5,755.2	1,034.2	999.7	777.5	222.20	4.499	
11,600.0	5,912.0	11,451.5	6,013.0	113.4	113.2	98.24	5,855.2	1,034.2	999.7	773.7	225.98	4.424	
11,700.0	5,912.0	11,551.5	6,013.0	115.4	115.2	98.24	5,955.2	1,034.2	999.7	769.9	229.76	4.351	
11,800.0	5,912.0	11,651.5	6,013.0	117.3	117.1	98.24	6,055.2	1,034.2	999.7	766.2	233.54	4.281	
11,900.0	5,912.0	11,751.5	6,013.0	119.2	119.0	98.24	6,155.2	1,034.2	999.7	762.4	237.32	4.212	
12,000.0	5,912.0	11,851.5	6,013.0	121.1	120.9	98.24	6,255.2	1,034.2	999.7	758.6	241.11	4.146	
12,100.0	5,912.0	11,951.5	6,013.0	123.0	122.8	98.24	6,355.2	1,034.2	999.7	754.8	244.89	4.082	
12,200.0	5,912.0	12,051.5	6,013.0	124.9	124.7	98.24	6,455.2	1,034.2	999.7	751.0	248.68	4.020	
12,300.0	5,912.0	12,151.5	6,013.0	126.8	126.6	98.24	6,555.2	1,034.2	999.7	747.2	252.46	3.960	
12,400.0	5,912.0	12,251.5	6,013.0	128.7	128.5	98.24	6,655.2	1,034.2	999.7	743.4	256.25	3.901	
12,500.0	5,912.0	12,351.5	6,013.0	130.6	130.4	98.24	6,755.2	1,034.2	999.7	739.7	260.03	3.844	
12,600.0	5,912.0	12,451.5	6,013.0	132.6	132.3	98.24	6,855.2	1,034.2	999.7	735.9	263.82	3.789	
12,700.0	5,912.0	12,551.5	6,013.0	134.5	134.2	98.24	6,955.2	1,034.2	999.7	732.1	267.61	3.736	
12,710.0	5,912.0	12,561.5	6,013.0	134.7	134.4	98.24	6,965.2	1,034.2	999.7	731.7	267.99	3.730	CC, ES, SF

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0203A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	92.63	-66.7	1,448.7	1,450.8				
100.0	100.0	57.7	57.7	0.1	0.1	92.63	-66.7	1,448.7	1,450.2	1,450.1	0.15	9,834.503	
200.0	200.0	157.7	157.7	0.3	0.2	92.63	-66.7	1,448.7	1,450.2	1,449.7	0.54	2,678.250	
300.0	300.0	257.7	257.7	0.5	0.4	92.63	-66.7	1,448.7	1,450.2	1,449.2	0.99	1,463.363	
400.0	400.0	357.7	357.7	0.8	0.7	92.63	-66.7	1,448.7	1,450.2	1,448.8	1.44	1,006.708	
500.0	500.0	457.7	457.7	1.0	0.9	92.63	-66.7	1,448.7	1,450.2	1,448.3	1.89	767.273	
600.0	600.0	557.7	557.7	1.2	1.1	92.63	-66.7	1,448.7	1,450.2	1,447.9	2.34	619.849	
700.0	700.0	661.9	661.9	1.4	1.4	92.61	-66.0	1,448.6	1,450.1	1,447.3	2.80	518.175	
800.0	800.0	769.1	769.0	1.7	1.6	92.44	-61.7	1,448.2	1,449.6	1,446.3	3.27	443.867	
900.0	900.0	870.9	870.6	1.9	1.8	92.17	-54.8	1,447.6	1,448.7	1,445.0	3.72	389.016	
1,000.0	1,000.0	970.7	970.1	2.1	2.1	91.89	-47.9	1,447.0	1,447.8	1,443.6	4.18	346.409	
1,100.0	1,100.0	1,070.4	1,069.6	2.3	2.3	91.62	-40.9	1,446.3	1,447.0	1,442.3	4.64	312.020	
1,200.0	1,200.0	1,170.2	1,169.1	2.6	2.6	91.35	-34.0	1,445.7	1,446.2	1,441.1	5.10	283.696	
1,300.0	1,300.0	1,270.0	1,268.6	2.8	2.8	91.07	-27.1	1,445.1	1,445.4	1,439.8	5.56	259.988	
1,400.0	1,400.0	1,369.7	1,368.2	3.0	3.0	90.80	-20.1	1,444.5	1,444.7	1,438.6	6.02	239.869	
1,500.0	1,500.0	1,469.5	1,467.7	3.2	3.3	90.52	-13.2	1,443.9	1,443.9	1,437.5	6.49	222.591	
1,600.0	1,600.0	1,569.2	1,567.2	3.5	3.5	90.25	-6.3	1,443.2	1,443.3	1,436.3	6.95	207.598	
1,700.0	1,700.0	1,669.0	1,666.7	3.7	3.8	89.97	0.7	1,442.6	1,442.6	1,435.2	7.42	194.469	
1,800.0	1,800.0	1,768.7	1,766.2	3.9	4.0	89.70	7.6	1,442.0	1,442.0	1,434.1	7.89	182.880	
1,900.0	1,900.0	1,868.5	1,865.7	4.1	4.3	89.42	14.5	1,441.4	1,441.5	1,433.1	8.35	172.578	
2,000.0	2,000.0	1,968.2	1,965.2	4.4	4.5	89.15	21.4	1,440.7	1,440.9	1,432.1	8.82	163.361	
2,100.0	2,100.0	2,067.9	2,064.7	4.6	4.8	-56.33	28.4	1,440.1	1,439.6	1,430.3	9.36	153.798	
2,200.0	2,200.0	2,167.5	2,164.0	4.7	5.1	-56.67	35.3	1,439.5	1,438.0	1,428.2	9.79	146.886	
2,300.0	2,299.9	2,267.1	2,263.4	4.9	5.3	-57.02	42.2	1,438.9	1,436.5	1,426.3	10.22	140.497	
2,400.0	2,399.9	2,366.7	2,362.8	5.1	5.6	-57.36	49.1	1,438.2	1,435.0	1,424.4	10.66	134.581	
2,500.0	2,499.9	2,466.4	2,462.1	5.3	5.8	-57.71	56.1	1,437.6	1,433.6	1,422.5	11.11	129.095	
2,600.0	2,599.9	2,566.0	2,561.5	5.5	6.1	-58.05	63.0	1,437.0	1,432.2	1,420.7	11.55	123.998	
2,700.0	2,699.9	2,665.6	2,660.9	5.7	6.3	-58.40	69.9	1,436.4	1,430.9	1,418.9	12.00	119.254	
2,800.0	2,799.8	2,765.2	2,760.2	5.9	6.6	-58.75	76.8	1,435.8	1,429.7	1,417.2	12.45	114.832	
2,900.0	2,899.8	2,864.8	2,859.6	6.1	6.8	-59.09	83.7	1,435.1	1,428.5	1,415.6	12.90	110.703	
3,000.0	2,999.8	2,964.4	2,959.0	6.3	7.1	-59.44	90.7	1,434.5	1,427.3	1,413.9	13.36	106.841	
3,100.0	3,099.8	3,064.0	3,058.4	6.5	7.3	-59.79	97.6	1,433.9	1,426.2	1,412.4	13.82	103.223	
3,200.0	3,199.8	3,163.7	3,157.7	6.7	7.6	-60.14	104.5	1,433.3	1,425.1	1,410.9	14.28	99.829	
3,300.0	3,299.7	3,263.3	3,257.1	6.9	7.8	-60.49	111.4	1,432.6	1,424.1	1,409.4	14.74	96.639	
3,400.0	3,399.7	3,362.9	3,356.5	7.1	8.1	-60.84	118.3	1,432.0	1,423.2	1,408.0	15.20	93.638	
3,500.0	3,499.7	3,462.5	3,455.8	7.3	8.4	-61.19	125.3	1,431.4	1,422.3	1,406.7	15.66	90.810	
3,600.0	3,599.7	3,562.1	3,555.2	7.5	8.6	-61.54	132.2	1,430.8	1,421.5	1,405.4	16.13	88.142	
3,700.0	3,699.7	3,661.7	3,654.6	7.7	8.9	-61.89	139.1	1,430.1	1,420.7	1,404.1	16.59	85.620	
3,800.0	3,799.6	3,761.3	3,754.0	7.9	9.1	-62.24	146.0	1,429.5	1,420.0	1,402.9	17.06	83.236	
3,900.0	3,899.6	3,861.0	3,853.3	8.1	9.4	-62.59	152.9	1,428.9	1,419.3	1,401.8	17.53	80.977	
4,000.0	3,999.6	3,960.6	3,952.7	8.4	9.6	-62.95	159.9	1,428.3	1,418.7	1,400.7	18.00	78.835	
4,100.0	4,099.6	4,060.2	4,052.1	8.6	9.9	-63.30	166.8	1,427.7	1,418.1	1,399.6	18.46	76.802	
4,200.0	4,199.6	4,159.8	4,151.4	8.8	10.1	-63.65	173.7	1,427.0	1,417.6	1,398.7	18.93	74.870	
4,300.0	4,299.5	4,259.4	4,250.8	9.0	10.4	-64.00	180.6	1,426.4	1,417.1	1,397.7	19.40	73.032	
4,400.0	4,399.5	4,359.0	4,350.2	9.2	10.6	-64.36	187.6	1,425.8	1,416.7	1,396.9	19.87	71.283	
4,500.0	4,499.5	4,458.6	4,449.6	9.4	10.9	-64.71	194.5	1,425.2	1,416.4	1,396.0	20.35	69.615	
4,600.0	4,599.5	4,558.2	4,548.9	9.7	11.2	-65.07	201.4	1,424.5	1,416.1	1,395.3	20.82	68.024	
4,700.0	4,699.5	4,657.9	4,648.3	9.9	11.4	-65.42	208.3	1,423.9	1,415.8	1,394.5	21.29	66.505	
4,800.0	4,799.4	4,757.5	4,747.7	10.1	11.7	-65.77	215.2	1,423.3	1,415.7	1,393.9	21.76	65.054	
4,900.0	4,899.4	4,857.1	4,847.0	10.3	11.9	-66.13	222.2	1,422.7	1,415.5	1,393.3	22.23	63.666	
5,000.0	4,999.4	4,956.7	4,946.4	10.5	12.2	-66.48	229.1	1,422.0	1,415.4	1,392.7	22.71	62.338	
5,093.4	5,092.7	5,049.7	5,039.2	10.7	12.4	-66.81	235.5	1,421.5	1,415.4	1,392.3	23.15	61.148	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0203A - HZ - Plan #1

Survey Program: 0-ISCWSA MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,099.4	5,056.3	5,045.8	10.7	12.4	-66.84	236.0	1,421.4	1,415.4	1,392.2	23.18	61.066	
5,200.0	5,199.4	5,155.9	5,145.2	11.0	12.7	-67.19	242.9	1,420.8	1,415.4	1,391.8	23.65	59.846	
5,300.0	5,299.3	5,255.5	5,244.5	11.2	12.9	-67.54	249.8	1,420.2	1,415.5	1,391.4	24.12	58.676	
5,400.0	5,399.3	5,355.2	5,343.9	11.4	13.2	40.86	256.8	1,419.6	1,415.6	1,391.0	24.59	57.558	
5,500.0	5,498.5	5,450.0	5,438.5	11.6	13.4	74.46	263.5	1,419.0	1,413.0	1,388.0	25.00	56.510	
5,600.0	5,593.8	5,524.6	5,512.0	11.8	13.7	76.95	275.5	1,417.9	1,407.5	1,382.1	25.39	55.425	
5,700.0	5,681.6	5,600.0	5,583.9	12.0	14.0	78.82	298.1	1,415.8	1,400.2	1,374.3	25.90	54.053	
5,800.0	5,758.8	5,676.0	5,652.2	12.3	14.5	80.74	331.1	1,412.9	1,391.3	1,364.7	26.64	52.227	
5,900.0	5,822.4	5,754.5	5,716.9	12.7	15.0	82.83	375.3	1,408.9	1,381.4	1,353.8	27.68	49.907	
6,000.0	5,870.2	5,835.8	5,776.2	13.4	15.7	85.08	430.6	1,403.9	1,371.1	1,342.0	29.10	47.123	
6,100.0	5,900.4	5,920.7	5,828.0	14.3	16.6	87.47	497.5	1,397.9	1,360.9	1,330.0	30.89	44.054	
6,200.0	5,911.9	6,010.4	5,870.1	15.3	17.6	89.92	576.1	1,390.8	1,351.4	1,318.4	33.04	40.904	
6,300.0	5,912.0	6,108.4	5,900.0	16.5	18.9	91.30	668.9	1,382.5	1,342.8	1,307.3	35.57	37.757	
6,400.0	5,912.0	6,215.0	5,912.0	17.9	20.5	91.83	774.3	1,373.0	1,334.2	1,295.7	38.48	34.676	
6,500.0	5,912.0	6,276.5	5,912.1	19.3	21.4	91.83	835.6	1,368.3	1,326.6	1,285.8	40.77	32.538	
6,600.0	5,912.0	6,335.5	5,912.1	20.8	22.2	91.84	894.5	1,365.6	1,322.1	1,279.0	43.08	30.687	
6,700.0	5,912.0	6,396.2	5,912.1	22.4	23.0	91.84	955.3	1,364.8	1,320.6	1,275.2	45.47	29.041	
6,800.0	5,912.0	6,496.2	5,912.1	24.0	24.6	91.84	1,055.3	1,364.8	1,320.6	1,271.9	48.69	27.126	
6,900.0	5,912.0	6,596.2	5,912.1	25.7	26.2	91.84	1,155.3	1,364.8	1,320.6	1,268.6	51.98	25.404	
7,000.0	5,912.0	6,696.2	5,912.1	27.4	27.9	91.84	1,255.3	1,364.7	1,320.6	1,265.3	55.35	23.858	
7,100.0	5,912.0	6,796.2	5,912.1	29.1	29.6	91.84	1,355.3	1,364.7	1,320.6	1,261.8	58.78	22.467	
7,200.0	5,912.0	6,896.2	5,912.1	30.8	31.3	91.84	1,455.3	1,364.7	1,320.6	1,258.4	62.26	21.213	
7,300.0	5,912.0	6,996.2	5,912.1	32.6	33.1	91.84	1,555.3	1,364.7	1,320.6	1,254.8	65.77	20.079	
7,400.0	5,912.0	7,096.2	5,912.1	34.4	34.9	91.84	1,655.3	1,364.7	1,320.6	1,251.3	69.32	19.050	
7,500.0	5,912.0	7,196.2	5,912.1	36.2	36.6	91.84	1,755.3	1,364.7	1,320.6	1,247.7	72.90	18.114	
7,600.0	5,912.0	7,296.2	5,912.1	38.0	38.4	91.84	1,855.3	1,364.7	1,320.6	1,244.1	76.51	17.261	
7,700.0	5,912.0	7,396.2	5,912.1	39.8	40.2	91.84	1,955.3	1,364.7	1,320.6	1,240.5	80.14	16.479	
7,800.0	5,912.0	7,496.2	5,912.1	41.6	42.1	91.84	2,055.3	1,364.7	1,320.6	1,236.8	83.78	15.762	
7,900.0	5,912.0	7,596.2	5,912.1	43.5	43.9	91.84	2,155.3	1,364.7	1,320.6	1,233.1	87.45	15.101	
8,000.0	5,912.0	7,696.2	5,912.1	45.3	45.7	91.84	2,255.3	1,364.7	1,320.6	1,229.5	91.13	14.492	
8,100.0	5,912.0	7,796.2	5,912.1	47.2	47.6	91.84	2,355.3	1,364.7	1,320.6	1,225.8	94.82	13.928	
8,200.0	5,912.0	7,896.2	5,912.1	49.0	49.4	91.84	2,455.3	1,364.7	1,320.6	1,222.1	98.52	13.404	
8,300.0	5,912.0	7,996.2	5,912.1	50.9	51.3	91.84	2,555.3	1,364.7	1,320.6	1,218.3	102.23	12.917	
8,400.0	5,912.0	8,096.2	5,912.1	52.8	53.1	91.84	2,655.3	1,364.7	1,320.6	1,214.6	105.96	12.463	
8,500.0	5,912.0	8,196.2	5,912.1	54.6	55.0	91.84	2,755.3	1,364.7	1,320.6	1,210.9	109.69	12.039	
8,600.0	5,912.0	8,296.2	5,912.1	56.5	56.8	91.84	2,855.3	1,364.7	1,320.6	1,207.1	113.42	11.643	
8,700.0	5,912.0	8,396.2	5,912.1	58.4	58.7	91.84	2,955.3	1,364.7	1,320.6	1,203.4	117.17	11.271	
8,800.0	5,912.0	8,496.2	5,912.0	60.2	60.6	91.84	3,055.3	1,364.7	1,320.5	1,199.6	120.92	10.921	
8,900.0	5,912.0	8,596.2	5,912.0	62.1	62.5	91.84	3,155.3	1,364.7	1,320.5	1,195.9	124.68	10.592	
9,000.0	5,912.0	8,696.2	5,912.0	64.0	64.3	91.84	3,255.3	1,364.7	1,320.5	1,192.1	128.44	10.282	
9,100.0	5,912.0	8,796.2	5,912.0	65.9	66.2	91.84	3,355.3	1,364.7	1,320.5	1,188.3	132.20	9.989	
9,200.0	5,912.0	8,896.2	5,912.0	67.8	68.1	91.84	3,455.3	1,364.7	1,320.5	1,184.6	135.97	9.712	
9,300.0	5,912.0	8,996.2	5,912.0	69.7	70.0	91.84	3,555.3	1,364.7	1,320.5	1,180.8	139.75	9.449	
9,400.0	5,912.0	9,096.2	5,912.0	71.6	71.9	91.84	3,655.3	1,364.6	1,320.5	1,177.0	143.52	9.201	
9,500.0	5,912.0	9,196.2	5,912.0	73.5	73.8	91.84	3,755.3	1,364.6	1,320.5	1,173.2	147.31	8.964	
9,600.0	5,912.0	9,296.2	5,912.0	75.4	75.7	91.84	3,855.3	1,364.6	1,320.5	1,169.4	151.09	8.740	
9,700.0	5,912.0	9,396.2	5,912.0	77.3	77.5	91.84	3,955.3	1,364.6	1,320.5	1,165.6	154.88	8.526	
9,800.0	5,912.0	9,496.2	5,912.0	79.2	79.4	91.84	4,055.3	1,364.6	1,320.5	1,161.8	158.67	8.323	
9,900.0	5,912.0	9,596.2	5,912.0	81.1	81.3	91.84	4,155.3	1,364.6	1,320.5	1,158.0	162.46	8.128	
10,000.0	5,912.0	9,696.2	5,912.0	82.9	83.2	91.84	4,255.3	1,364.6	1,320.5	1,154.2	166.25	7.943	
10,100.0	5,912.0	9,796.2	5,912.0	84.9	85.1	91.84	4,355.3	1,364.6	1,320.5	1,150.4	170.05	7.765	
10,200.0	5,912.0	9,896.2	5,912.0	86.8	87.0	91.84	4,455.3	1,364.6	1,320.5	1,146.6	173.85	7.596	

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 #10H-0315A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5060.9ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0203A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	5,912.0	9,996.2	5,912.0	88.7	88.9	91.84	4,555.3	1,364.6	1,320.5	1,142.8	177.65	7.433	
10,400.0	5,912.0	10,096.2	5,912.0	90.6	90.8	91.84	4,655.3	1,364.6	1,320.5	1,139.0	181.45	7.277	
10,500.0	5,912.0	10,196.2	5,912.0	92.5	92.7	91.84	4,755.3	1,364.6	1,320.5	1,135.2	185.25	7.128	
10,600.0	5,912.0	10,296.2	5,912.0	94.4	94.6	91.84	4,855.3	1,364.6	1,320.5	1,131.4	189.06	6.985	
10,700.0	5,912.0	10,396.2	5,912.0	96.3	96.5	91.84	4,955.3	1,364.6	1,320.5	1,127.6	192.86	6.847	
10,800.0	5,912.0	10,496.2	5,912.0	98.2	98.4	91.84	5,055.3	1,364.6	1,320.5	1,123.8	196.67	6.714	
10,900.0	5,912.0	10,596.2	5,912.0	100.1	100.3	91.84	5,155.3	1,364.6	1,320.5	1,120.0	200.48	6.586	
11,000.0	5,912.0	10,696.2	5,912.0	102.0	102.2	91.84	5,255.3	1,364.6	1,320.5	1,116.2	204.29	6.464	
11,100.0	5,912.0	10,796.2	5,912.0	103.9	104.1	91.84	5,355.3	1,364.6	1,320.5	1,112.3	208.10	6.345	
11,200.0	5,912.0	10,896.2	5,912.0	105.8	106.1	91.84	5,455.3	1,364.6	1,320.4	1,108.5	211.92	6.231	
11,300.0	5,912.0	10,996.2	5,912.0	107.7	108.0	91.84	5,555.3	1,364.6	1,320.4	1,104.7	215.73	6.121	
11,400.0	5,912.0	11,096.2	5,912.0	109.6	109.9	91.84	5,655.3	1,364.6	1,320.4	1,100.9	219.54	6.014	
11,500.0	5,912.0	11,196.2	5,912.0	111.5	111.8	91.84	5,755.3	1,364.6	1,320.4	1,097.1	223.36	5.912	
11,600.0	5,912.0	11,296.2	5,912.0	113.4	113.7	91.84	5,855.3	1,364.6	1,320.4	1,093.3	227.18	5.812	
11,700.0	5,912.0	11,396.2	5,912.0	115.4	115.6	91.84	5,955.3	1,364.6	1,320.4	1,089.4	230.99	5.716	
11,800.0	5,912.0	11,496.2	5,912.0	117.3	117.5	91.84	6,055.3	1,364.6	1,320.4	1,085.6	234.81	5.623	
11,900.0	5,912.0	11,596.2	5,912.0	119.2	119.4	91.84	6,155.3	1,364.5	1,320.4	1,081.8	238.63	5.533	
12,000.0	5,912.0	11,696.2	5,912.0	121.1	121.3	91.84	6,255.3	1,364.5	1,320.4	1,078.0	242.45	5.446	
12,100.0	5,912.0	11,796.2	5,912.0	123.0	123.2	91.84	6,355.3	1,364.5	1,320.4	1,074.1	246.27	5.362	
12,200.0	5,912.0	11,896.2	5,912.0	124.9	125.1	91.84	6,455.3	1,364.5	1,320.4	1,070.3	250.09	5.280	
12,300.0	5,912.0	11,996.2	5,912.0	126.8	127.1	91.84	6,555.3	1,364.5	1,320.4	1,066.5	253.91	5.200	
12,400.0	5,912.0	12,096.2	5,912.0	128.7	129.0	91.84	6,655.3	1,364.5	1,320.4	1,062.7	257.74	5.123	
12,500.0	5,912.0	12,196.2	5,912.0	130.6	130.9	91.84	6,755.3	1,364.5	1,320.4	1,058.8	261.56	5.048	
12,600.0	5,912.0	12,296.2	5,912.0	132.6	132.8	91.84	6,855.3	1,364.5	1,320.4	1,055.0	265.38	4.975	
12,700.0	5,912.0	12,396.2	5,912.0	134.5	134.7	91.84	6,955.3	1,364.5	1,320.4	1,051.2	269.21	4.905	
12,710.0	5,912.0	12,406.3	5,912.0	134.7	134.9	91.84	6,965.3	1,364.5	1,320.4	1,050.8	269.59	4.898	CC, ES, SF

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Reference Well:	Razor #10H-0315A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Hz	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5060.9ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Razor #10H-0315A
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.07°