WHITING PETROLEUM CORPORATION

Project: Weld County, CO
Site: S10-T10N-R58W
Well: Razor #10E-0301A
Wellbore: HZ
Design: Plan #1

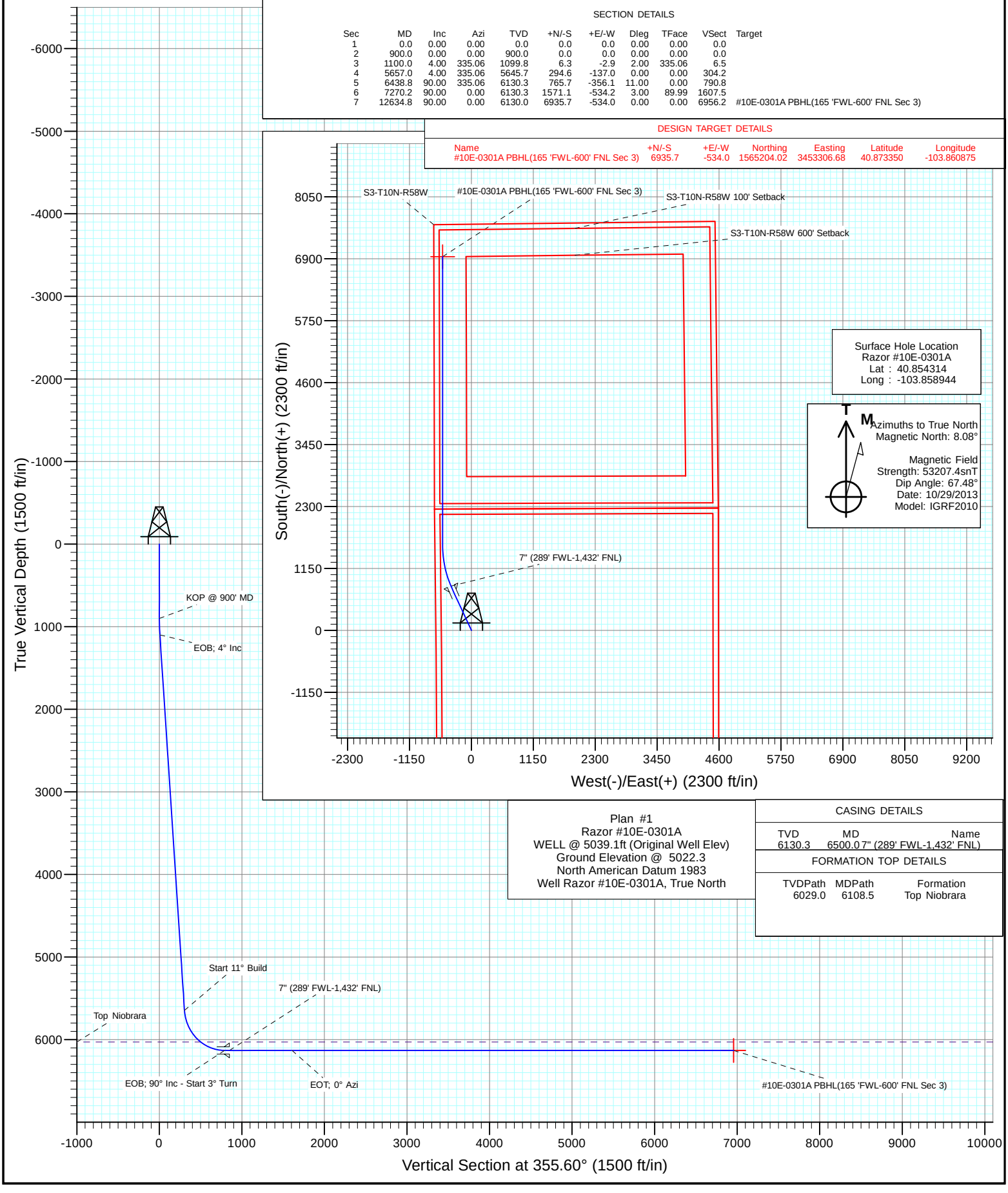
CATHEDRAL

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	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1100.0	4.00	335.06	1099.8	6.3	-2.9	2.00	335.06	6.5	
4	5657.0	4.00	335.06	5645.7	294.6	-137.0	0.00	0.00	304.2	
5	6438.8	90.00	335.06	6130.3	765.7	-356.1	11.00	0.00	790.8	
6	7270.2	90.00	0.00	6130.3	1571.1	-534.2	3.00	89.99	1607.5	
7	12634.8	90.00	0.00	6130.0	6935.7	-534.0	0.00	0.00	6956.2	#10E-0301A PBHL(165 'FWL-600' FNL Sec 3)

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
#10E-0301A PBHL(165 'FWL-600' FNL Sec 3)	6935.7	-534.0	1565204.02	3453306.68	40.873350	-103.860875



Plan #1
Razor #10E-0301A
WELL @ 5039.1ft (Original Well Elev)
Ground Elevation @ 5022.3
North American Datum 1983
Well Razor #10E-0301A, True North

CASING DETAILS

TVD	MD	Name
6130.3	6500.0	7" (289' FWL-1,432' FNL)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6029.0	6108.5	Top Niobrara

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10E-0301A	**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:**	1,558,370.48 usft	**Latitude:**	40° 51' 15.74 N
From:	Lat/Long	**Easting:**	3,457,889.23 usft	**Longitude:**	103° 50' 41.08 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	1.07 °

Well Razor #10E-0301A

Well Position	**+N/-S**	0.0 usft	**Northing:**	1,558,276.26 usft	**Latitude:**	40° 51' 15.53 N
	+E/-W	0.0 usft	**Easting:**	3,453,962.08 usft	**Longitude:**	103° 51' 32.20 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	5,022.3 usft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/29/2013	8.08	67.48	53,207

Design Plan #1

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	355.60

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,100.0	4.00	335.06	1,099.8	6.3	-2.9	2.00	2.00	0.00	335.06	
5,657.0	4.00	335.06	5,645.7	294.6	-137.0	0.00	0.00	0.00	0.00	
6,438.8	90.00	335.06	6,130.3	765.7	-356.1	11.00	11.00	0.00	0.00	
7,270.2	90.00	0.00	6,130.3	1,571.1	-534.2	3.00	0.00	3.00	89.99	
12,634.8	90.00	0.00	6,130.0	6,935.7	-534.0	0.00	0.00	0.00	0.00	#10E-0301A PBHL(16

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	KOP @ 900' MD
1,000.0	2.00	335.06	1,000.0	1.6	-0.7	1.6	2.00	2.00	
1,100.0	4.00	335.06	1,099.8	6.3	-2.9	6.5	2.00	2.00	EOB; 4° Inc
1,200.0	4.00	335.06	1,199.6	12.7	-5.9	13.1	0.00	0.00	
1,300.0	4.00	335.06	1,299.4	19.0	-8.8	19.6	0.00	0.00	
1,400.0	4.00	335.06	1,399.1	25.3	-11.8	26.1	0.00	0.00	
1,500.0	4.00	335.06	1,498.9	31.6	-14.7	32.7	0.00	0.00	
1,600.0	4.00	335.06	1,598.6	38.0	-17.6	39.2	0.00	0.00	
1,700.0	4.00	335.06	1,698.4	44.3	-20.6	45.7	0.00	0.00	
1,800.0	4.00	335.06	1,798.1	50.6	-23.5	52.3	0.00	0.00	
1,900.0	4.00	335.06	1,897.9	56.9	-26.5	58.8	0.00	0.00	
2,000.0	4.00	335.06	1,997.6	63.3	-29.4	65.3	0.00	0.00	
2,100.0	4.00	335.06	2,097.4	69.6	-32.4	71.9	0.00	0.00	
2,200.0	4.00	335.06	2,197.2	75.9	-35.3	78.4	0.00	0.00	
2,300.0	4.00	335.06	2,296.9	82.2	-38.2	84.9	0.00	0.00	
2,400.0	4.00	335.06	2,396.7	88.6	-41.2	91.5	0.00	0.00	
2,500.0	4.00	335.06	2,496.4	94.9	-44.1	98.0	0.00	0.00	
2,600.0	4.00	335.06	2,596.2	101.2	-47.1	104.5	0.00	0.00	
2,700.0	4.00	335.06	2,695.9	107.5	-50.0	111.1	0.00	0.00	
2,800.0	4.00	335.06	2,795.7	113.9	-52.9	117.6	0.00	0.00	
2,900.0	4.00	335.06	2,895.5	120.2	-55.9	124.1	0.00	0.00	
3,000.0	4.00	335.06	2,995.2	126.5	-58.8	130.6	0.00	0.00	
3,100.0	4.00	335.06	3,095.0	132.8	-61.8	137.2	0.00	0.00	
3,200.0	4.00	335.06	3,194.7	139.2	-64.7	143.7	0.00	0.00	
3,300.0	4.00	335.06	3,294.5	145.5	-67.7	150.2	0.00	0.00	
3,400.0	4.00	335.06	3,394.2	151.8	-70.6	156.8	0.00	0.00	
3,500.0	4.00	335.06	3,494.0	158.1	-73.5	163.3	0.00	0.00	
3,600.0	4.00	335.06	3,593.7	164.5	-76.5	169.8	0.00	0.00	
3,700.0	4.00	335.06	3,693.5	170.8	-79.4	176.4	0.00	0.00	
3,800.0	4.00	335.06	3,793.3	177.1	-82.4	182.9	0.00	0.00	
3,900.0	4.00	335.06	3,893.0	183.4	-85.3	189.4	0.00	0.00	
4,000.0	4.00	335.06	3,992.8	189.8	-88.2	196.0	0.00	0.00	
4,100.0	4.00	335.06	4,092.5	196.1	-91.2	202.5	0.00	0.00	
4,200.0	4.00	335.06	4,192.3	202.4	-94.1	209.0	0.00	0.00	
4,300.0	4.00	335.06	4,292.0	208.7	-97.1	215.6	0.00	0.00	
4,400.0	4.00	335.06	4,391.8	215.1	-100.0	222.1	0.00	0.00	
4,500.0	4.00	335.06	4,491.6	221.4	-103.0	228.6	0.00	0.00	
4,600.0	4.00	335.06	4,591.3	227.7	-105.9	235.2	0.00	0.00	
4,700.0	4.00	335.06	4,691.1	234.0	-108.8	241.7	0.00	0.00	
4,800.0	4.00	335.06	4,790.8	240.4	-111.8	248.2	0.00	0.00	
4,900.0	4.00	335.06	4,890.6	246.7	-114.7	254.8	0.00	0.00	
5,000.0	4.00	335.06	4,990.3	253.0	-117.7	261.3	0.00	0.00	
5,100.0	4.00	335.06	5,090.1	259.3	-120.6	267.8	0.00	0.00	

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Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
5,200.0	4.00	335.06	5,189.9	265.7	-123.5	274.4	0.00	0.00	
5,300.0	4.00	335.06	5,289.6	272.0	-126.5	280.9	0.00	0.00	
5,400.0	4.00	335.06	5,389.4	278.3	-129.4	287.4	0.00	0.00	
5,500.0	4.00	335.06	5,489.1	284.6	-132.4	294.0	0.00	0.00	
5,600.0	4.00	335.06	5,588.9	291.0	-135.3	300.5	0.00	0.00	
5,657.0	4.00	335.06	5,645.7	294.6	-137.0	304.2	0.00	0.00	Start 11° Build
5,700.0	8.73	335.06	5,688.5	298.9	-139.0	308.7	11.00	11.00	
5,750.0	14.23	335.06	5,737.4	307.9	-143.2	318.0	11.00	11.00	
5,800.0	19.73	335.06	5,785.2	321.1	-149.3	331.7	11.00	11.00	
5,850.0	25.23	335.06	5,831.4	338.5	-157.4	349.6	11.00	11.00	
5,900.0	30.73	335.06	5,875.6	359.7	-167.3	371.5	11.00	11.00	
5,950.0	36.23	335.06	5,917.3	384.7	-178.9	397.3	11.00	11.00	
6,000.0	41.73	335.06	5,956.1	413.2	-192.2	426.8	11.00	11.00	
6,050.0	47.23	335.06	5,991.8	445.0	-206.9	459.6	11.00	11.00	
6,100.0	52.73	335.06	6,023.9	479.7	-223.1	495.4	11.00	11.00	
6,108.5	53.66	335.06	6,029.0	485.9	-225.9	501.8	11.00	11.00	Top Niobrara
6,150.0	58.23	335.06	6,052.2	517.0	-240.4	534.0	11.00	11.00	
6,200.0	63.73	335.06	6,076.5	556.7	-258.9	574.9	11.00	11.00	
6,250.0	69.23	335.06	6,096.4	598.2	-278.2	617.8	11.00	11.00	
6,300.0	74.73	335.06	6,111.9	641.3	-298.2	662.3	11.00	11.00	
6,350.0	80.23	335.06	6,122.7	685.6	-318.8	708.0	11.00	11.00	
6,400.0	85.73	335.06	6,128.8	730.5	-339.7	754.5	11.00	11.00	
6,438.8	90.00	335.06	6,130.3	765.7	-356.1	790.8	11.00	11.00	EOB; 90° Inc - Start 3° Turn
6,500.0	90.00	336.90	6,130.3	821.6	-381.0	848.4	3.00	0.00	7" (289' FWL-1,432' FNL)
6,600.0	90.00	339.90	6,130.3	914.6	-417.8	943.9	3.00	0.00	
6,700.0	90.00	342.90	6,130.3	1,009.3	-449.7	1,040.9	3.00	0.00	
6,800.0	90.00	345.90	6,130.3	1,105.6	-476.6	1,139.0	3.00	0.00	
6,900.0	90.00	348.90	6,130.3	1,203.2	-498.4	1,237.9	3.00	0.00	
7,000.0	90.00	351.90	6,130.3	1,301.8	-515.1	1,337.5	3.00	0.00	
7,100.0	90.00	354.90	6,130.3	1,401.1	-526.6	1,437.4	3.00	0.00	
7,200.0	90.00	357.90	6,130.3	1,500.9	-532.9	1,537.4	3.00	0.00	
7,270.2	90.00	0.00	6,130.3	1,571.1	-534.2	1,607.5	3.00	0.00	EOT; 0° Azi
7,300.0	90.00	0.00	6,130.3	1,600.9	-534.2	1,637.2	0.00	0.00	
7,400.0	90.00	0.00	6,130.2	1,700.9	-534.2	1,736.9	0.00	0.00	
7,500.0	90.00	0.00	6,130.2	1,800.9	-534.2	1,836.6	0.00	0.00	
7,600.0	90.00	0.00	6,130.2	1,900.9	-534.2	1,936.3	0.00	0.00	
7,700.0	90.00	0.00	6,130.2	2,000.9	-534.2	2,036.0	0.00	0.00	
7,800.0	90.00	0.00	6,130.2	2,100.9	-534.2	2,135.7	0.00	0.00	
7,900.0	90.00	0.00	6,130.2	2,200.9	-534.2	2,235.4	0.00	0.00	
8,000.0	90.00	0.00	6,130.2	2,300.9	-534.2	2,335.1	0.00	0.00	
8,100.0	90.00	0.00	6,130.2	2,400.9	-534.2	2,434.8	0.00	0.00	
8,200.0	90.00	0.00	6,130.2	2,500.9	-534.2	2,534.5	0.00	0.00	
8,300.0	90.00	0.00	6,130.2	2,600.9	-534.2	2,634.2	0.00	0.00	
8,400.0	90.00	0.00	6,130.2	2,700.9	-534.2	2,733.9	0.00	0.00	
8,500.0	90.00	0.00	6,130.2	2,800.9	-534.1	2,833.6	0.00	0.00	
8,600.0	90.00	0.00	6,130.2	2,900.9	-534.1	2,933.3	0.00	0.00	
8,700.0	90.00	0.00	6,130.2	3,000.9	-534.1	3,033.0	0.00	0.00	
8,800.0	90.00	0.00	6,130.2	3,100.9	-534.1	3,132.7	0.00	0.00	
8,900.0	90.00	0.00	6,130.2	3,200.9	-534.1	3,232.5	0.00	0.00	
9,000.0	90.00	0.00	6,130.2	3,300.9	-534.1	3,332.2	0.00	0.00	
9,100.0	90.00	0.00	6,130.2	3,400.9	-534.1	3,431.9	0.00	0.00	
9,200.0	90.00	0.00	6,130.2	3,500.9	-534.1	3,531.6	0.00	0.00	

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Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
9,300.0	90.00	0.00	6,130.2	3,600.9	-534.1	3,631.3	0.00	0.00	
9,400.0	90.00	0.00	6,130.2	3,700.9	-534.1	3,731.0	0.00	0.00	
9,500.0	90.00	0.00	6,130.1	3,800.9	-534.1	3,830.7	0.00	0.00	
9,600.0	90.00	0.00	6,130.1	3,900.9	-534.1	3,930.4	0.00	0.00	
9,700.0	90.00	0.00	6,130.1	4,000.9	-534.1	4,030.1	0.00	0.00	
9,800.0	90.00	0.00	6,130.1	4,100.9	-534.1	4,129.8	0.00	0.00	
9,900.0	90.00	0.00	6,130.1	4,200.9	-534.1	4,229.5	0.00	0.00	
10,000.0	90.00	0.00	6,130.1	4,300.9	-534.1	4,329.2	0.00	0.00	
10,100.0	90.00	0.00	6,130.1	4,400.9	-534.1	4,428.9	0.00	0.00	
10,200.0	90.00	0.00	6,130.1	4,500.9	-534.1	4,528.6	0.00	0.00	
10,300.0	90.00	0.00	6,130.1	4,600.9	-534.1	4,628.3	0.00	0.00	
10,400.0	90.00	0.00	6,130.1	4,700.9	-534.1	4,728.0	0.00	0.00	
10,500.0	90.00	0.00	6,130.1	4,800.9	-534.1	4,827.7	0.00	0.00	
10,600.0	90.00	0.00	6,130.1	4,900.9	-534.1	4,927.4	0.00	0.00	
10,700.0	90.00	0.00	6,130.1	5,000.9	-534.1	5,027.1	0.00	0.00	
10,800.0	90.00	0.00	6,130.1	5,100.9	-534.1	5,126.8	0.00	0.00	
10,900.0	90.00	0.00	6,130.1	5,200.9	-534.1	5,226.5	0.00	0.00	
11,000.0	90.00	0.00	6,130.1	5,300.9	-534.1	5,326.2	0.00	0.00	
11,100.0	90.00	0.00	6,130.1	5,400.9	-534.1	5,426.0	0.00	0.00	
11,200.0	90.00	0.00	6,130.1	5,500.9	-534.1	5,525.7	0.00	0.00	
11,300.0	90.00	0.00	6,130.1	5,600.9	-534.1	5,625.4	0.00	0.00	
11,400.0	90.00	0.00	6,130.1	5,700.9	-534.1	5,725.1	0.00	0.00	
11,500.0	90.00	0.00	6,130.1	5,800.9	-534.1	5,824.8	0.00	0.00	
11,600.0	90.00	0.00	6,130.0	5,900.9	-534.1	5,924.5	0.00	0.00	
11,700.0	90.00	0.00	6,130.0	6,000.9	-534.1	6,024.2	0.00	0.00	
11,800.0	90.00	0.00	6,130.0	6,100.9	-534.1	6,123.9	0.00	0.00	
11,900.0	90.00	0.00	6,130.0	6,200.9	-534.1	6,223.6	0.00	0.00	
12,000.0	90.00	0.00	6,130.0	6,300.9	-534.1	6,323.3	0.00	0.00	
12,100.0	90.00	0.00	6,130.0	6,400.9	-534.1	6,423.0	0.00	0.00	
12,200.0	90.00	0.00	6,130.0	6,500.9	-534.1	6,522.7	0.00	0.00	
12,300.0	90.00	0.00	6,130.0	6,600.9	-534.1	6,622.4	0.00	0.00	
12,400.0	90.00	0.00	6,130.0	6,700.9	-534.1	6,722.1	0.00	0.00	
12,500.0	90.00	0.00	6,130.0	6,800.9	-534.1	6,821.8	0.00	0.00	
12,600.0	90.00	0.00	6,130.0	6,900.9	-534.0	6,921.5	0.00	0.00	
12,634.8	90.00	0.00	6,130.0	6,935.7	-534.0	6,956.2	0.00	0.00	PBHL @ 12,634' MD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
#10E-0301A PBHL(165 ' - plan hits target center - Point	0.00	0.00	6,130.0	6,935.7	-534.0	1,565,200.89	3,453,299.78	40° 52' 24.06 N	103° 51' 39.15 W

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site:	S10-T10N-R58W	**North Reference:**	True
Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
6,500.0	6,130.3	7" (289' FWL-1,432' FNL)	7	7-1/2

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,108.5	6,029.0	Top Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
900.0	900.0	0.0	0.0	KOP @ 900' MD
1,100.0	1,099.8	6.3	-2.9	EOB; 4° Inc
5,657.0	5,645.7	294.6	-137.0	Start 11° Build
6,438.8	6,130.3	765.7	-356.1	EOB; 90° Inc - Start 3° Turn
7,270.2	6,130.3	1,571.1	-534.2	EOT; 0° Azi
12,634.8	6,130.0	6,935.7	-534.0	PBHL @ 12,634' MD

Whiting Petroleum Corporation

Weld County, CO
S10-T10N-R58W
Razor #10E-0301A
HZ
Plan #1

Anticollision Report

06 November, 2013

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,356.1usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 10/30/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	12,634.4	Plan #1 (HZ)	ISCWSA MWD	MWD - ISCWSA

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
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
Razor #10E-0302B - HZ - Plan #1	900.0	900.0	32.9	29.1	8.702	CC, ES
Razor #10E-0302B - HZ - Plan #1	12,634.8	12,672.8	350.5	99.0	1.394	Level 3, SF
Razor #10E-0303A - HZ - Plan #1	900.0	900.0	65.8	62.1	17.403	CC, ES
Razor #10E-0303A - HZ - Plan #1	12,634.8	12,545.0	659.9	394.8	2.489	SF
Razor #10E-0304B - HZ - Plan #1	900.0	900.0	99.0	95.3	26.178	CC, ES
Razor #10E-0304B - HZ - Plan #1	12,634.8	12,712.7	996.7	734.7	3.805	SF
Razor #10E-1501A - HZ - Plan #1	900.0	900.0	75.1	71.3	19.839	CC, ES
Razor #10E-1501A - HZ - Plan #1	1,200.0	1,199.6	87.9	82.8	17.154	SF
Razor #10E-1502B - HZ - Plan #1	900.0	900.0	82.3	78.5	21.752	CC, ES
Razor #10E-1502B - HZ - Plan #1	1,100.0	1,099.8	89.3	84.6	19.092	SF
Razor #10E-1503A - HZ - Plan #1	900.0	900.0	99.8	96.1	26.390	CC, ES
Razor #10E-1503A - HZ - Plan #1	1,100.0	1,096.7	108.0	103.4	23.263	SF
Razor #10E-1504B - HZ - Plan #1	900.0	900.0	124.3	120.5	32.846	CC, ES
Razor #10E-1504B - HZ - Plan #1	1,100.0	1,091.9	136.4	131.8	29.675	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0302B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	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	
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	32.9	32.9	30.5	2.43	13.522	
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	32.9	32.9	30.0	2.88	11.414	
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	32.9	32.9	29.6	3.33	9.875	
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	32.9	32.9	29.1	3.78	8.702	CC, ES
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	117.62	0.0	32.9	33.7	29.5	4.23	7.964	
1,100.0	1,099.8	1,100.3	1,100.3	2.3	2.3	122.33	1.7	32.5	35.8	31.1	4.68	7.651	
1,200.0	1,199.6	1,200.7	1,200.6	2.6	2.6	123.82	6.9	31.3	37.7	32.6	5.12	7.355	
1,300.0	1,299.3	1,300.7	1,300.3	2.8	2.8	122.82	13.6	29.8	39.0	33.4	5.58	6.985	
1,400.0	1,399.1	1,400.7	1,400.1	3.0	3.0	121.88	20.4	28.2	40.3	34.3	6.05	6.664	
1,500.0	1,498.9	1,500.7	1,499.8	3.3	3.3	121.00	27.2	26.7	41.6	35.1	6.52	6.385	
1,600.0	1,598.6	1,600.7	1,599.6	3.5	3.5	120.18	34.0	25.1	42.9	36.0	6.99	6.140	
1,700.0	1,698.4	1,700.7	1,699.3	3.8	3.7	119.40	40.8	23.6	44.3	36.8	7.48	5.924	
1,800.0	1,798.1	1,800.7	1,799.0	4.0	4.0	118.67	47.6	22.0	45.6	37.7	7.96	5.732	
1,900.0	1,897.9	1,900.7	1,898.8	4.3	4.2	117.99	54.4	20.4	47.0	38.5	8.45	5.561	
2,000.0	1,997.6	2,000.6	1,998.5	4.5	4.5	117.34	61.2	18.9	48.3	39.4	8.94	5.408	
2,100.0	2,097.4	2,100.6	2,098.3	4.8	4.7	116.73	68.0	17.3	49.7	40.3	9.43	5.270	
2,200.0	2,197.2	2,200.6	2,198.0	5.0	5.0	116.15	74.8	15.8	51.1	41.1	9.92	5.146	
2,300.0	2,296.9	2,300.6	2,297.8	5.3	5.2	115.60	81.6	14.2	52.4	42.0	10.42	5.032	
2,400.0	2,396.7	2,400.6	2,397.5	5.5	5.5	115.07	88.4	12.6	53.8	42.9	10.92	4.929	
2,500.0	2,496.4	2,500.6	2,497.3	5.8	5.7	114.58	95.2	11.1	55.2	43.8	11.42	4.835	
2,600.0	2,596.2	2,600.6	2,597.0	6.0	6.0	114.11	102.0	9.5	56.6	44.7	11.92	4.748	
2,700.0	2,695.9	2,700.6	2,696.8	6.3	6.2	113.66	108.8	8.0	58.0	45.6	12.42	4.668	
2,800.0	2,795.7	2,800.6	2,796.5	6.5	6.5	113.23	115.6	6.4	59.4	46.5	12.92	4.595	
2,900.0	2,895.4	2,900.5	2,896.2	6.8	6.7	112.82	122.4	4.8	60.8	47.3	13.43	4.526	
3,000.0	2,995.2	3,000.5	2,996.0	7.0	7.0	112.43	129.2	3.3	62.2	48.2	13.93	4.463	
3,100.0	3,095.0	3,100.5	3,095.7	7.3	7.2	112.06	136.0	1.7	63.6	49.1	14.44	4.404	
3,200.0	3,194.7	3,200.5	3,195.5	7.5	7.5	111.70	142.8	0.2	65.0	50.0	14.94	4.349	
3,300.0	3,294.5	3,300.5	3,295.2	7.8	7.7	111.36	149.6	-1.4	66.4	50.9	15.45	4.298	
3,400.0	3,394.2	3,400.5	3,395.0	8.1	8.0	111.04	156.4	-3.0	67.8	51.8	15.95	4.250	
3,500.0	3,494.0	3,500.5	3,494.7	8.3	8.3	110.72	163.2	-4.5	69.2	52.7	16.46	4.204	
3,600.0	3,593.7	3,600.5	3,594.5	8.6	8.5	110.42	170.0	-6.1	70.6	53.7	16.97	4.162	
3,700.0	3,693.5	3,700.5	3,694.2	8.8	8.8	110.13	176.8	-7.6	72.0	54.6	17.48	4.122	
3,800.0	3,793.3	3,800.5	3,794.0	9.1	9.0	109.85	183.6	-9.2	73.5	55.5	17.98	4.084	
3,900.0	3,893.0	3,900.4	3,893.7	9.3	9.3	109.59	190.4	-10.8	74.9	56.4	18.49	4.049	
4,000.0	3,992.8	4,000.4	3,993.4	9.6	9.5	109.33	197.2	-12.3	76.3	57.3	19.00	4.015	
4,100.0	4,092.5	4,100.4	4,093.2	9.8	9.8	109.08	204.0	-13.9	77.7	58.2	19.51	3.983	
4,200.0	4,192.3	4,200.4	4,192.9	10.1	10.0	108.84	210.8	-15.4	79.1	59.1	20.02	3.953	
4,300.0	4,292.0	4,300.4	4,292.7	10.4	10.3	108.61	217.6	-17.0	80.6	60.0	20.53	3.924	
4,400.0	4,391.8	4,400.4	4,392.4	10.6	10.5	108.39	224.4	-18.6	82.0	60.9	21.04	3.897	
4,500.0	4,491.5	4,500.4	4,492.2	10.9	10.8	108.17	231.2	-20.1	83.4	61.9	21.55	3.871	
4,600.0	4,591.3	4,600.4	4,591.9	11.1	11.1	107.96	238.0	-21.7	84.8	62.8	22.06	3.846	
4,700.0	4,691.1	4,700.4	4,691.7	11.4	11.3	107.76	244.8	-23.2	86.3	63.7	22.57	3.822	
4,800.0	4,790.8	4,800.3	4,791.4	11.6	11.6	107.57	251.6	-24.8	87.7	64.6	23.08	3.800	
4,900.0	4,890.6	4,900.3	4,891.2	11.9	11.8	107.38	258.4	-26.4	89.1	65.5	23.59	3.778	
5,000.0	4,990.3	5,000.3	4,990.9	12.2	12.1	107.20	265.2	-27.9	90.6	66.5	24.10	3.758	
5,100.0	5,090.1	5,100.3	5,090.6	12.4	12.3	107.02	272.0	-29.5	92.0	67.4	24.61	3.738	

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 #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0302B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.8	5,200.3	5,190.4	12.7	12.6	106.85	278.8	-31.0	93.4	68.3	25.13	3.719	
5,300.0	5,289.6	5,300.3	5,290.1	12.9	12.8	106.68	285.6	-32.6	94.9	69.2	25.64	3.701	
5,400.0	5,389.4	5,400.3	5,389.9	13.2	13.1	106.52	292.4	-34.2	96.3	70.2	26.15	3.683	
5,500.0	5,489.1	5,500.3	5,489.6	13.4	13.4	106.36	299.2	-35.7	97.7	71.1	26.66	3.666	
5,600.0	5,588.9	5,600.3	5,589.4	13.7	13.6	106.21	306.0	-37.3	99.2	72.0	27.17	3.650	
5,700.0	5,688.4	5,700.2	5,689.1	14.0	13.9	106.91	312.8	-38.8	101.1	73.5	27.67	3.655	
5,800.0	5,785.2	5,799.6	5,788.2	14.4	14.1	114.67	320.0	-40.5	108.9	80.9	27.97	3.893	
5,900.0	5,875.6	5,904.2	5,890.2	14.9	14.5	122.51	341.8	-45.5	124.0	96.0	27.99	4.429	
6,000.0	5,956.1	6,013.4	5,989.7	15.6	15.1	126.94	385.2	-55.4	143.5	115.6	27.92	5.141	
6,100.0	6,023.9	6,127.2	6,081.2	16.6	15.9	128.49	450.9	-70.5	165.5	137.3	28.14	5.880	
6,200.0	6,076.5	6,245.5	6,158.4	17.7	17.0	127.83	537.9	-90.5	188.2	159.0	29.16	6.455	
6,300.0	6,111.9	6,367.6	6,214.9	19.1	18.4	125.51	643.0	-114.6	210.6	179.2	31.32	6.723	
6,400.0	6,128.8	6,492.6	6,245.1	20.6	20.1	121.98	761.0	-141.6	231.7	197.1	34.65	6.687	
6,500.0	6,130.3	6,600.0	6,249.2	22.1	21.7	118.87	865.6	-165.2	250.3	212.0	38.35	6.528	
6,600.0	6,130.3	6,688.0	6,249.2	23.6	22.9	116.81	952.1	-180.9	267.7	226.1	41.57	6.439	
6,700.0	6,130.3	6,774.8	6,249.2	25.1	24.1	115.08	1,038.2	-192.6	284.7	240.0	44.75	6.363	
6,800.0	6,130.3	6,861.1	6,249.2	26.7	25.4	113.58	1,124.1	-200.3	301.4	253.5	47.87	6.296	
6,900.0	6,130.3	6,946.7	6,249.2	28.3	26.7	112.30	1,209.6	-204.1	317.5	266.6	50.91	6.237	
7,000.0	6,130.3	7,038.9	6,249.2	29.9	28.1	111.15	1,301.8	-204.5	332.6	278.6	54.00	6.159	
7,100.0	6,130.3	7,138.2	6,249.2	31.5	29.7	110.35	1,401.1	-204.5	343.3	286.3	57.07	6.016	
7,200.0	6,130.3	7,238.0	6,249.2	33.1	31.4	109.93	1,500.9	-204.5	349.2	289.3	59.95	5.825	
7,300.0	6,130.3	7,338.0	6,249.2	34.7	33.1	109.84	1,600.9	-204.5	350.5	287.6	62.81	5.580	
7,400.0	6,130.2	7,438.0	6,249.2	36.3	34.8	109.84	1,700.9	-204.5	350.5	284.4	66.03	5.307	
7,500.0	6,130.2	7,538.0	6,249.2	37.9	36.5	109.84	1,800.9	-204.5	350.5	281.1	69.30	5.057	
7,600.0	6,130.2	7,638.0	6,249.2	39.6	38.3	109.84	1,900.9	-204.5	350.5	277.8	72.61	4.827	
7,700.0	6,130.2	7,738.0	6,249.2	41.3	40.0	109.84	2,000.9	-204.5	350.5	274.5	75.95	4.614	
7,800.0	6,130.2	7,838.0	6,249.2	43.0	41.8	109.84	2,100.9	-204.5	350.5	271.1	79.31	4.419	
7,900.0	6,130.2	7,938.0	6,249.2	44.7	43.6	109.84	2,200.9	-204.5	350.5	267.8	82.70	4.238	
8,000.0	6,130.2	8,038.0	6,249.2	46.4	45.4	109.84	2,300.9	-204.5	350.5	264.3	86.11	4.070	
8,100.0	6,130.2	8,138.0	6,249.2	48.2	47.2	109.84	2,400.9	-204.5	350.5	260.9	89.54	3.914	
8,200.0	6,130.2	8,238.0	6,249.2	49.9	49.0	109.84	2,500.9	-204.5	350.5	257.5	92.98	3.769	
8,300.0	6,130.2	8,338.0	6,249.2	51.7	50.9	109.84	2,600.9	-204.5	350.5	254.0	96.44	3.634	
8,400.0	6,130.2	8,438.0	6,249.2	53.5	52.7	109.84	2,700.9	-204.5	350.5	250.5	99.92	3.507	
8,500.0	6,130.2	8,538.0	6,249.2	55.3	54.6	109.84	2,800.9	-204.5	350.5	247.1	103.40	3.389	
8,600.0	6,130.2	8,638.0	6,249.2	57.1	56.4	109.84	2,900.9	-204.5	350.5	243.6	106.90	3.278	
8,700.0	6,130.2	8,738.0	6,249.2	58.9	58.3	109.84	3,000.9	-204.5	350.5	240.1	110.41	3.174	
8,800.0	6,130.2	8,838.0	6,249.1	60.7	60.1	109.84	3,100.9	-204.5	350.5	236.5	113.92	3.076	
8,900.0	6,130.2	8,938.0	6,249.1	62.5	62.0	109.84	3,200.9	-204.5	350.5	233.0	117.44	2.984	
9,000.0	6,130.2	9,038.0	6,249.1	64.4	63.8	109.84	3,300.9	-204.5	350.5	229.5	120.97	2.897	
9,100.0	6,130.2	9,138.0	6,249.1	66.2	65.7	109.84	3,400.9	-204.5	350.5	226.0	124.51	2.815	
9,200.0	6,130.2	9,238.0	6,249.1	68.0	67.6	109.84	3,500.9	-204.5	350.5	222.4	128.06	2.737	
9,300.0	6,130.2	9,338.0	6,249.1	69.9	69.4	109.84	3,600.9	-204.5	350.5	218.9	131.61	2.663	
9,400.0	6,130.2	9,438.0	6,249.1	71.7	71.3	109.84	3,700.9	-204.5	350.5	215.3	135.16	2.593	
9,500.0	6,130.1	9,538.0	6,249.1	73.6	73.2	109.84	3,800.9	-204.5	350.5	211.7	138.72	2.526	
9,600.0	6,130.1	9,638.0	6,249.1	75.4	75.1	109.84	3,900.9	-204.5	350.5	208.2	142.28	2.463	
9,700.0	6,130.1	9,738.0	6,249.1	77.3	77.0	109.84	4,000.9	-204.5	350.5	204.6	145.85	2.403	
9,800.0	6,130.1	9,838.0	6,249.1	79.1	78.8	109.84	4,100.9	-204.5	350.5	201.0	149.42	2.345	
9,900.0	6,130.1	9,938.0	6,249.1	81.0	80.7	109.85	4,200.9	-204.5	350.5	197.5	153.00	2.291	
10,000.0	6,130.1	10,038.0	6,249.1	82.9	82.6	109.85	4,300.9	-204.5	350.5	193.9	156.58	2.238	
10,100.0	6,130.1	10,138.0	6,249.1	84.7	84.5	109.85	4,400.9	-204.5	350.5	190.3	160.16	2.188	
10,200.0	6,130.1	10,238.0	6,249.1	86.6	86.4	109.85	4,500.9	-204.5	350.5	186.7	163.75	2.140	
10,300.0	6,130.1	10,338.0	6,249.1	88.5	88.3	109.85	4,600.9	-204.4	350.5	183.1	167.33	2.094	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0302B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,130.1	10,438.0	6,249.1	90.4	90.2	109.85	4,700.9	-204.4	350.5	179.5	170.92	2.050	
10,500.0	6,130.1	10,538.0	6,249.1	92.2	92.1	109.85	4,800.9	-204.4	350.5	176.0	174.52	2.008	
10,600.0	6,130.1	10,638.0	6,249.1	94.1	94.0	109.85	4,900.9	-204.4	350.5	172.4	178.11	1.968	
10,700.0	6,130.1	10,738.0	6,249.1	96.0	95.9	109.85	5,000.9	-204.4	350.5	168.8	181.71	1.929	
10,800.0	6,130.1	10,838.0	6,249.1	97.9	97.8	109.85	5,100.9	-204.4	350.5	165.2	185.31	1.891	
10,900.0	6,130.1	10,938.0	6,249.1	99.8	99.7	109.85	5,200.9	-204.4	350.5	161.6	188.91	1.855	
11,000.0	6,130.1	11,038.0	6,249.1	101.6	101.6	109.85	5,300.9	-204.4	350.5	158.0	192.51	1.821	
11,100.0	6,130.1	11,138.0	6,249.1	103.5	103.5	109.85	5,400.9	-204.4	350.5	154.4	196.11	1.787	
11,200.0	6,130.1	11,237.9	6,249.1	105.4	105.4	109.85	5,500.9	-204.4	350.5	150.8	199.72	1.755	
11,300.0	6,130.1	11,337.9	6,249.1	107.3	107.3	109.85	5,600.9	-204.4	350.5	147.1	203.33	1.724	
11,400.0	6,130.1	11,437.9	6,249.0	109.2	109.2	109.85	5,700.9	-204.4	350.5	143.5	206.94	1.694	
11,500.0	6,130.1	11,537.9	6,249.0	111.1	111.1	109.85	5,800.9	-204.4	350.5	139.9	210.55	1.665	
11,600.0	6,130.0	11,637.9	6,249.0	113.0	113.0	109.85	5,900.9	-204.4	350.5	136.3	214.16	1.637	
11,700.0	6,130.0	11,737.9	6,249.0	114.9	114.9	109.85	6,000.9	-204.4	350.5	132.7	217.77	1.609	
11,800.0	6,130.0	11,837.9	6,249.0	116.8	116.8	109.85	6,100.9	-204.4	350.5	129.1	221.39	1.583	
11,900.0	6,130.0	11,937.9	6,249.0	118.7	118.7	109.85	6,200.9	-204.4	350.5	125.5	225.00	1.558	
12,000.0	6,130.0	12,037.9	6,249.0	120.6	120.6	109.85	6,300.9	-204.4	350.5	121.9	228.62	1.533	
12,100.0	6,130.0	12,137.9	6,249.0	122.5	122.5	109.85	6,400.9	-204.4	350.5	118.2	232.23	1.509	
12,200.0	6,130.0	12,237.9	6,249.0	124.4	124.4	109.85	6,500.9	-204.4	350.5	114.6	235.85	1.486	Level 3
12,300.0	6,130.0	12,337.9	6,249.0	126.2	126.3	109.85	6,600.9	-204.4	350.5	111.0	239.47	1.464	Level 3
12,400.0	6,130.0	12,437.9	6,249.0	128.1	128.2	109.85	6,700.9	-204.4	350.5	107.4	243.09	1.442	Level 3
12,500.0	6,130.0	12,537.9	6,249.0	130.0	130.1	109.85	6,800.9	-204.4	350.5	103.8	246.71	1.421	Level 3
12,600.0	6,130.0	12,637.9	6,249.0	131.9	132.0	109.85	6,900.9	-204.4	350.5	100.2	250.33	1.400	Level 3
12,634.8	6,130.0	12,672.8	6,249.0	132.5	132.7	109.85	6,935.7	-204.4	350.5	99.0	251.48	1.394	Level 3, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0303A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	65.8	65.8				
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	65.8	65.8	65.7	0.19	352.083	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	65.8	65.8	65.2	0.64	103.437	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	65.8	65.8	64.8	1.09	60.624	
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	65.8	65.8	64.3	1.54	42.877	
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	65.8	65.8	63.9	1.99	33.167	
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	65.8	65.8	63.4	2.43	27.043	
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	65.8	65.8	63.0	2.88	22.828	
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	65.8	65.8	62.5	3.33	19.750	
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	65.8	65.8	62.1	3.78	17.403	CC, ES
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	116.29	0.0	65.8	66.6	62.4	4.23	15.741	
1,100.0	1,099.8	1,099.8	1,099.8	2.3	2.3	120.14	0.0	65.8	69.1	64.4	4.68	14.771	
1,200.0	1,199.6	1,199.8	1,199.8	2.6	2.6	123.53	1.7	66.0	72.7	67.5	5.13	14.178	
1,300.0	1,299.3	1,300.0	1,299.8	2.8	2.8	123.98	7.0	66.3	76.1	70.5	5.58	13.640	
1,400.0	1,399.1	1,399.9	1,399.5	3.0	3.0	123.14	13.9	66.8	79.4	73.3	6.04	13.142	
1,500.0	1,498.9	1,499.9	1,499.2	3.3	3.2	122.37	20.9	67.2	82.7	76.1	6.51	12.703	
1,600.0	1,598.6	1,599.8	1,598.9	3.5	3.5	121.65	27.8	67.7	86.0	79.0	6.98	12.315	
1,700.0	1,698.4	1,699.8	1,698.6	3.8	3.7	120.99	34.8	68.2	89.3	81.8	7.46	11.971	
1,800.0	1,798.1	1,799.7	1,798.3	4.0	4.0	120.38	41.7	68.6	92.6	84.7	7.94	11.664	
1,900.0	1,897.9	1,899.6	1,898.0	4.3	4.2	119.81	48.7	69.1	95.9	87.5	8.42	11.388	
2,000.0	1,997.6	1,999.6	1,997.7	4.5	4.4	119.27	55.7	69.6	99.3	90.4	8.91	11.141	
2,100.0	2,097.4	2,099.5	2,097.4	4.8	4.7	118.78	62.6	70.0	102.6	93.2	9.40	10.917	
2,200.0	2,197.2	2,199.5	2,197.1	5.0	4.9	118.31	69.6	70.5	106.0	96.1	9.89	10.713	
2,300.0	2,296.9	2,299.4	2,296.8	5.3	5.2	117.87	76.5	71.0	109.4	99.0	10.39	10.528	
2,400.0	2,396.7	2,399.3	2,396.5	5.5	5.4	117.46	83.5	71.4	112.7	101.8	10.88	10.359	
2,500.0	2,496.4	2,499.3	2,496.2	5.8	5.7	117.07	90.4	71.9	116.1	104.7	11.38	10.204	
2,600.0	2,596.2	2,599.2	2,595.9	6.0	5.9	116.71	97.4	72.4	119.5	107.6	11.88	10.061	
2,700.0	2,695.9	2,699.2	2,695.6	6.3	6.2	116.36	104.3	72.8	122.9	110.5	12.37	9.930	
2,800.0	2,795.7	2,799.1	2,795.3	6.5	6.4	116.03	111.3	73.3	126.3	113.4	12.87	9.808	
2,900.0	2,895.4	2,899.0	2,895.0	6.8	6.7	115.72	118.3	73.8	129.7	116.3	13.37	9.695	
3,000.0	2,995.2	2,999.0	2,994.7	7.0	6.9	115.43	125.2	74.2	133.1	119.2	13.88	9.589	
3,100.0	3,095.0	3,098.9	3,094.4	7.3	7.2	115.15	132.2	74.7	136.5	122.1	14.38	9.492	
3,200.0	3,194.7	3,198.9	3,194.1	7.5	7.4	114.88	139.1	75.2	139.9	125.0	14.88	9.400	
3,300.0	3,294.5	3,298.8	3,293.8	7.8	7.7	114.63	146.1	75.6	143.3	127.9	15.38	9.314	
3,400.0	3,394.2	3,398.7	3,393.5	8.1	7.9	114.39	153.0	76.1	146.7	130.8	15.89	9.234	
3,500.0	3,494.0	3,498.7	3,493.2	8.3	8.2	114.16	160.0	76.6	150.1	133.7	16.39	9.158	
3,600.0	3,593.7	3,598.6	3,592.8	8.6	8.4	113.94	166.9	77.0	153.5	136.6	16.89	9.087	
3,700.0	3,693.5	3,698.6	3,692.5	8.8	8.7	113.73	173.9	77.5	156.9	139.5	17.40	9.020	
3,800.0	3,793.3	3,798.5	3,792.2	9.1	9.0	113.52	180.9	77.9	160.4	142.5	17.90	8.957	
3,900.0	3,893.0	3,898.4	3,891.9	9.3	9.2	113.33	187.8	78.4	163.8	145.4	18.41	8.897	
4,000.0	3,992.8	3,998.4	3,991.6	9.6	9.5	113.15	194.8	78.9	167.2	148.3	18.91	8.840	
4,100.0	4,092.5	4,098.3	4,091.3	9.8	9.7	112.97	201.7	79.3	170.6	151.2	19.42	8.787	
4,200.0	4,192.3	4,198.2	4,191.0	10.1	10.0	112.80	208.7	79.8	174.1	154.1	19.93	8.735	
4,300.0	4,292.0	4,298.2	4,290.7	10.4	10.2	112.63	215.6	80.3	177.5	157.1	20.43	8.687	
4,400.0	4,391.8	4,398.1	4,390.4	10.6	10.5	112.47	222.6	80.7	180.9	160.0	20.94	8.641	
4,500.0	4,491.5	4,498.1	4,490.1	10.9	10.7	112.32	229.6	81.2	184.3	162.9	21.44	8.597	
4,600.0	4,591.3	4,598.0	4,589.8	11.1	11.0	112.18	236.5	81.7	187.8	165.8	21.95	8.555	
4,700.0	4,691.1	4,697.9	4,689.5	11.4	11.2	112.03	243.5	82.1	191.2	168.8	22.46	8.514	
4,800.0	4,790.8	4,797.9	4,789.2	11.6	11.5	111.90	250.4	82.6	194.6	171.7	22.96	8.476	
4,900.0	4,890.6	4,897.8	4,888.9	11.9	11.7	111.77	257.4	83.1	198.1	174.6	23.47	8.439	
5,000.0	4,990.3	4,997.8	4,988.6	12.2	12.0	111.64	264.3	83.5	201.5	177.5	23.98	8.404	
5,100.0	5,090.1	5,097.7	5,088.3	12.4	12.3	111.52	271.3	84.0	205.0	180.5	24.49	8.370	

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 #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0303A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.8	5,197.6	5,188.0	12.7	12.5	111.40	278.2	84.5	208.4	183.4	24.99	8.338	
5,300.0	5,289.6	5,297.6	5,287.7	12.9	12.8	111.28	285.2	84.9	211.8	186.3	25.50	8.307	
5,400.0	5,389.4	5,397.5	5,387.4	13.2	13.0	111.17	292.2	85.4	215.3	189.3	26.01	8.277	
5,500.0	5,489.1	5,497.5	5,487.1	13.4	13.3	111.06	299.1	85.9	218.7	192.2	26.52	8.248	
5,600.0	5,588.9	5,597.4	5,586.8	13.7	13.5	110.96	306.1	86.3	222.2	195.1	27.02	8.221	
5,700.0	5,688.4	5,695.0	5,684.0	14.0	13.8	110.65	314.3	86.9	226.4	198.9	27.53	8.226	
5,800.0	5,785.2	5,788.6	5,774.9	14.4	14.1	109.42	336.0	88.3	238.4	210.2	28.15	8.467	
5,900.0	5,875.6	5,880.5	5,859.0	14.9	14.6	107.38	372.7	90.8	258.9	229.9	29.01	8.926	
6,000.0	5,956.1	5,970.3	5,933.7	15.6	15.2	104.69	422.3	94.1	287.3	257.1	30.19	9.516	
6,100.0	6,023.9	6,057.8	5,997.2	16.6	15.9	101.49	482.2	98.1	322.3	290.6	31.76	10.149	
6,200.0	6,076.5	6,143.3	6,048.7	17.7	16.8	97.91	550.1	102.7	362.7	329.0	33.70	10.760	
6,300.0	6,111.9	6,227.5	6,087.9	19.1	17.7	94.12	624.4	107.6	406.9	371.0	35.95	11.319	
6,400.0	6,128.8	6,311.5	6,114.5	20.6	18.8	90.25	703.8	113.0	453.7	415.3	38.38	11.820	
6,500.0	6,130.3	6,397.4	6,128.2	22.1	19.9	89.73	788.3	118.6	500.7	459.7	41.00	12.212	
6,600.0	6,130.3	6,507.3	6,129.8	23.6	21.5	89.94	898.0	124.7	542.7	498.7	43.99	12.336	
6,700.0	6,130.3	6,618.6	6,129.8	25.1	23.0	89.95	1,009.3	125.6	575.3	528.1	47.16	12.199	
6,800.0	6,130.3	6,714.9	6,129.8	26.7	24.5	89.95	1,105.6	125.6	602.2	551.9	50.28	11.976	
6,900.0	6,130.3	6,812.5	6,129.8	28.3	26.1	89.95	1,203.2	125.6	624.0	570.5	53.46	11.672	
7,000.0	6,130.3	6,911.1	6,129.8	29.9	27.7	89.96	1,301.7	125.6	640.7	584.0	56.66	11.309	
7,100.0	6,130.3	7,010.4	6,129.8	31.5	29.4	89.96	1,401.1	125.6	652.2	592.4	59.82	10.903	
7,200.0	6,130.3	7,110.2	6,129.8	33.1	31.1	89.96	1,500.9	125.6	658.5	595.6	62.91	10.467	
7,300.0	6,130.3	7,210.2	6,129.8	34.7	32.8	89.96	1,600.8	125.6	659.8	593.7	66.04	9.991	
7,400.0	6,130.2	7,310.2	6,129.8	36.3	34.6	89.96	1,700.8	125.6	659.8	590.3	69.46	9.499	
7,500.0	6,130.2	7,410.2	6,129.8	37.9	36.3	89.96	1,800.8	125.6	659.8	586.9	72.92	9.048	
7,600.0	6,130.2	7,510.2	6,129.8	39.6	38.1	89.96	1,900.8	125.6	659.8	583.4	76.42	8.634	
7,700.0	6,130.2	7,610.2	6,129.8	41.3	39.9	89.96	2,000.8	125.6	659.8	579.8	79.95	8.252	
7,800.0	6,130.2	7,710.2	6,129.8	43.0	41.7	89.96	2,100.8	125.6	659.8	576.3	83.51	7.901	
7,900.0	6,130.2	7,810.2	6,129.8	44.7	43.5	89.96	2,200.8	125.6	659.8	572.7	87.09	7.576	
8,000.0	6,130.2	7,910.2	6,129.8	46.4	45.4	89.97	2,300.8	125.6	659.8	569.1	90.70	7.275	
8,100.0	6,130.2	8,010.2	6,129.8	48.2	47.2	89.97	2,400.8	125.6	659.8	565.5	94.32	6.995	
8,200.0	6,130.2	8,110.2	6,129.8	49.9	49.0	89.97	2,500.8	125.6	659.8	561.8	97.96	6.735	
8,300.0	6,130.2	8,210.2	6,129.8	51.7	50.9	89.97	2,600.8	125.6	659.8	558.2	101.61	6.493	
8,400.0	6,130.2	8,310.2	6,129.8	53.5	52.7	89.97	2,700.8	125.7	659.8	554.5	105.28	6.267	
8,500.0	6,130.2	8,410.2	6,129.8	55.3	54.6	89.97	2,800.8	125.7	659.8	550.8	108.96	6.055	
8,600.0	6,130.2	8,510.2	6,129.8	57.1	56.5	89.97	2,900.8	125.7	659.8	547.2	112.65	5.857	
8,700.0	6,130.2	8,610.2	6,129.8	58.9	58.3	89.97	3,000.8	125.7	659.8	543.5	116.35	5.671	
8,800.0	6,130.2	8,710.2	6,129.8	60.7	60.2	89.97	3,100.8	125.7	659.8	539.7	120.06	5.495	
8,900.0	6,130.2	8,810.2	6,129.9	62.5	62.1	89.97	3,200.8	125.7	659.8	536.0	123.78	5.330	
9,000.0	6,130.2	8,910.2	6,129.9	64.4	63.9	89.97	3,300.8	125.7	659.8	532.3	127.51	5.175	
9,100.0	6,130.2	9,010.2	6,129.9	66.2	65.8	89.97	3,400.8	125.7	659.8	528.6	131.24	5.028	
9,200.0	6,130.2	9,110.2	6,129.9	68.0	67.7	89.97	3,500.8	125.7	659.8	524.8	134.98	4.888	
9,300.0	6,130.2	9,210.2	6,129.9	69.9	69.6	89.97	3,600.8	125.7	659.8	521.1	138.72	4.756	
9,400.0	6,130.2	9,310.2	6,129.9	71.7	71.5	89.98	3,700.8	125.7	659.8	517.3	142.47	4.631	
9,500.0	6,130.1	9,410.2	6,129.9	73.6	73.3	89.98	3,800.8	125.7	659.8	513.6	146.23	4.512	
9,600.0	6,130.1	9,510.2	6,129.9	75.4	75.2	89.98	3,900.8	125.7	659.8	509.8	149.98	4.399	
9,700.0	6,130.1	9,610.2	6,129.9	77.3	77.1	89.98	4,000.8	125.7	659.8	506.1	153.75	4.292	
9,800.0	6,130.1	9,710.2	6,129.9	79.1	79.0	89.98	4,100.8	125.7	659.8	502.3	157.51	4.189	
9,900.0	6,130.1	9,810.2	6,129.9	81.0	80.9	89.98	4,200.8	125.7	659.8	498.5	161.28	4.091	
10,000.0	6,130.1	9,910.2	6,129.9	82.9	82.8	89.98	4,300.8	125.7	659.8	494.8	165.06	3.998	
10,100.0	6,130.1	10,010.2	6,129.9	84.7	84.7	89.98	4,400.8	125.7	659.8	491.0	168.84	3.908	
10,200.0	6,130.1	10,110.2	6,129.9	86.6	86.6	89.98	4,500.8	125.7	659.8	487.2	172.62	3.823	
10,300.0	6,130.1	10,210.2	6,129.9	88.5	88.5	89.98	4,600.8	125.7	659.8	483.4	176.40	3.741	

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 #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0303A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,130.1	10,310.2	6,129.9	90.4	90.4	89.98	4,700.8	125.7	659.8	479.7	180.18	3.662	
10,500.0	6,130.1	10,410.2	6,129.9	92.2	92.3	89.98	4,800.8	125.7	659.8	475.9	183.97	3.587	
10,600.0	6,130.1	10,510.2	6,129.9	94.1	94.2	89.98	4,900.8	125.7	659.8	472.1	187.76	3.514	
10,700.0	6,130.1	10,610.2	6,129.9	96.0	96.1	89.99	5,000.8	125.8	659.8	468.3	191.55	3.445	
10,800.0	6,130.1	10,710.2	6,129.9	97.9	98.0	89.99	5,100.8	125.8	659.8	464.5	195.35	3.378	
10,900.0	6,130.1	10,810.2	6,129.9	99.8	99.9	89.99	5,200.8	125.8	659.9	460.7	199.14	3.313	
11,000.0	6,130.1	10,910.2	6,129.9	101.6	101.8	89.99	5,300.8	125.8	659.9	456.9	202.94	3.251	
11,100.0	6,130.1	11,010.2	6,129.9	103.5	103.7	89.99	5,400.8	125.8	659.9	453.1	206.74	3.192	
11,200.0	6,130.1	11,110.2	6,129.9	105.4	105.6	89.99	5,500.8	125.8	659.9	449.3	210.54	3.134	
11,300.0	6,130.1	11,210.2	6,129.9	107.3	107.5	89.99	5,600.8	125.8	659.9	445.5	214.34	3.079	
11,400.0	6,130.1	11,310.2	6,130.0	109.2	109.4	89.99	5,700.8	125.8	659.9	441.7	218.15	3.025	
11,500.0	6,130.1	11,410.2	6,130.0	111.1	111.3	89.99	5,800.8	125.8	659.9	437.9	221.95	2.973	
11,600.0	6,130.0	11,510.2	6,130.0	113.0	113.2	89.99	5,900.8	125.8	659.9	434.1	225.76	2.923	
11,700.0	6,130.0	11,610.2	6,130.0	114.9	115.1	89.99	6,000.8	125.8	659.9	430.3	229.56	2.874	
11,800.0	6,130.0	11,710.2	6,130.0	116.8	117.0	89.99	6,100.8	125.8	659.9	426.5	233.37	2.828	
11,900.0	6,130.0	11,810.2	6,130.0	118.7	118.9	89.99	6,200.8	125.8	659.9	422.7	237.18	2.782	
12,000.0	6,130.0	11,910.2	6,130.0	120.6	120.8	90.00	6,300.8	125.8	659.9	418.9	240.99	2.738	
12,100.0	6,130.0	12,010.2	6,130.0	122.5	122.8	90.00	6,400.8	125.8	659.9	415.1	244.81	2.695	
12,200.0	6,130.0	12,110.2	6,130.0	124.4	124.7	90.00	6,500.8	125.8	659.9	411.3	248.62	2.654	
12,300.0	6,130.0	12,210.2	6,130.0	126.2	126.6	90.00	6,600.8	125.8	659.9	407.4	252.43	2.614	
12,400.0	6,130.0	12,310.2	6,130.0	128.1	128.5	90.00	6,700.8	125.8	659.9	403.6	256.25	2.575	
12,500.0	6,130.0	12,410.2	6,130.0	130.0	130.4	90.00	6,800.8	125.8	659.9	399.8	260.06	2.537	
12,600.0	6,130.0	12,510.2	6,130.0	131.9	132.3	90.00	6,900.8	125.8	659.9	396.0	263.88	2.501	
12,634.8	6,130.0	12,545.0	6,130.0	132.5	133.0	90.00	6,935.7	125.8	659.9	394.8	265.09	2.489	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0304B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	99.0	99.0				
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	99.0	99.0	98.9	0.19	529.603	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	99.0	99.0	98.4	0.64	155.590	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	99.0	99.0	98.0	1.09	91.190	
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	99.0	99.0	97.5	1.54	64.495	
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	99.0	99.0	97.1	1.99	49.890	
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	99.0	99.0	96.6	2.43	40.679	
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	99.0	99.0	96.2	2.88	34.338	
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	99.0	99.0	95.7	3.33	29.708	
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	99.0	99.0	95.3	3.78	26.178	CC, ES
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	115.83	0.0	99.0	99.8	95.6	4.23	23.587	
1,100.0	1,099.8	1,099.8	1,099.8	2.3	2.3	118.43	0.0	99.0	102.2	97.5	4.68	21.849	
1,200.0	1,199.6	1,199.6	1,199.6	2.6	2.6	121.75	0.0	99.0	105.7	100.6	5.13	20.615	
1,300.0	1,299.3	1,298.8	1,298.7	2.8	2.8	123.96	1.6	99.6	109.8	104.2	5.58	19.686	
1,400.0	1,399.1	1,398.1	1,397.9	3.0	3.0	124.29	6.5	101.2	114.5	108.5	6.03	18.990	
1,500.0	1,498.9	1,497.9	1,497.5	3.3	3.2	123.75	13.1	103.4	119.5	113.0	6.49	18.414	
1,600.0	1,598.6	1,597.8	1,597.1	3.5	3.5	123.25	19.7	105.5	124.5	117.6	6.96	17.900	
1,700.0	1,698.4	1,697.6	1,696.8	3.8	3.7	122.79	26.3	107.7	129.6	122.1	7.43	17.440	
1,800.0	1,798.1	1,797.5	1,796.4	4.0	3.9	122.36	33.0	109.9	134.6	126.7	7.91	17.027	
1,900.0	1,897.9	1,897.4	1,896.0	4.3	4.2	121.97	39.6	112.1	139.7	131.3	8.38	16.655	
2,000.0	1,997.6	1,997.2	1,995.6	4.5	4.4	121.60	46.2	114.3	144.7	135.8	8.87	16.319	
2,100.0	2,097.4	2,097.1	2,095.3	4.8	4.7	121.26	52.8	116.4	149.8	140.4	9.35	16.014	
2,200.0	2,197.2	2,197.0	2,194.9	5.0	4.9	120.94	59.4	118.6	154.8	145.0	9.84	15.736	
2,300.0	2,296.9	2,296.9	2,294.5	5.3	5.1	120.64	66.0	120.8	159.9	149.6	10.33	15.482	
2,400.0	2,396.7	2,396.7	2,394.1	5.5	5.4	120.36	72.7	123.0	165.0	154.1	10.82	15.249	
2,500.0	2,496.4	2,496.6	2,493.8	5.8	5.6	120.09	79.3	125.2	170.0	158.7	11.31	15.035	
2,600.0	2,596.2	2,596.5	2,593.4	6.0	5.9	119.84	85.9	127.3	175.1	163.3	11.80	14.837	
2,700.0	2,695.9	2,696.3	2,693.0	6.3	6.1	119.61	92.5	129.5	180.2	167.9	12.30	14.655	
2,800.0	2,795.7	2,796.2	2,792.6	6.5	6.4	119.38	99.1	131.7	185.3	172.5	12.79	14.485	
2,900.0	2,895.4	2,896.1	2,892.3	6.8	6.6	119.17	105.7	133.9	190.3	177.1	13.29	14.328	
3,000.0	2,995.2	2,995.9	2,991.9	7.0	6.9	118.97	112.4	136.1	195.4	181.7	13.78	14.181	
3,100.0	3,095.0	3,095.8	3,091.5	7.3	7.1	118.78	119.0	138.2	200.5	186.2	14.28	14.044	
3,200.0	3,194.7	3,195.7	3,191.1	7.5	7.4	118.60	125.6	140.4	205.6	190.8	14.78	13.916	
3,300.0	3,294.5	3,295.5	3,290.8	7.8	7.6	118.43	132.2	142.6	210.7	195.4	15.27	13.796	
3,400.0	3,394.2	3,395.4	3,390.4	8.1	7.9	118.27	138.8	144.8	215.8	200.0	15.77	13.683	
3,500.0	3,494.0	3,495.3	3,490.0	8.3	8.1	118.11	145.4	147.0	220.9	204.6	16.27	13.577	
3,600.0	3,593.7	3,595.1	3,589.6	8.6	8.4	117.96	152.1	149.1	226.0	209.2	16.77	13.476	
3,700.0	3,693.5	3,695.0	3,689.3	8.8	8.6	117.82	158.7	151.3	231.1	213.8	17.27	13.382	
3,800.0	3,793.3	3,794.9	3,788.9	9.1	8.9	117.68	165.3	153.5	236.2	218.4	17.77	13.293	
3,900.0	3,893.0	3,894.7	3,888.5	9.3	9.1	117.55	171.9	155.7	241.3	223.0	18.27	13.208	
4,000.0	3,992.8	3,994.6	3,988.1	9.6	9.4	117.43	178.5	157.9	246.4	227.6	18.77	13.128	
4,100.0	4,092.5	4,094.5	4,087.7	9.8	9.7	117.31	185.1	160.1	251.5	232.2	19.27	13.051	
4,200.0	4,192.3	4,194.3	4,187.4	10.1	9.9	117.19	191.8	162.2	256.6	236.9	19.77	12.979	
4,300.0	4,292.0	4,294.2	4,287.0	10.4	10.2	117.08	198.4	164.4	261.7	241.5	20.27	12.910	
4,400.0	4,391.8	4,394.1	4,386.6	10.6	10.4	116.98	205.0	166.6	266.8	246.1	20.78	12.844	
4,500.0	4,491.5	4,493.9	4,486.2	10.9	10.7	116.87	211.6	168.8	272.0	250.7	21.28	12.782	
4,600.0	4,591.3	4,593.8	4,585.9	11.1	10.9	116.78	218.2	171.0	277.1	255.3	21.78	12.722	
4,700.0	4,691.1	4,693.7	4,685.5	11.4	11.2	116.68	224.8	173.1	282.2	259.9	22.28	12.665	
4,800.0	4,790.8	4,793.6	4,785.1	11.6	11.4	116.59	231.5	175.3	287.3	264.5	22.78	12.610	
4,900.0	4,890.6	4,893.4	4,884.7	11.9	11.7	116.50	238.1	177.5	292.4	269.1	23.28	12.557	
5,000.0	4,990.3	4,993.3	4,984.4	12.2	11.9	116.42	244.7	179.7	297.5	273.7	23.79	12.507	
5,100.0	5,090.1	5,093.2	5,084.0	12.4	12.2	116.33	251.3	181.9	302.6	278.3	24.29	12.459	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0304B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.8	5,193.0	5,183.6	12.7	12.4	116.25	257.9	184.0	307.7	282.9	24.79	12.413	
5,300.0	5,289.6	5,292.9	5,283.2	12.9	12.7	116.18	264.5	186.2	312.9	287.6	25.30	12.368	
5,400.0	5,389.4	5,392.8	5,382.9	13.2	13.0	116.10	271.2	188.4	318.0	292.2	25.80	12.325	
5,500.0	5,489.1	5,492.6	5,482.5	13.4	13.2	116.03	277.8	190.6	323.1	296.8	26.30	12.284	
5,600.0	5,588.9	5,592.5	5,582.1	13.7	13.5	115.96	284.4	192.8	328.2	301.4	26.80	12.244	
5,700.0	5,688.4	5,692.3	5,681.7	14.0	13.7	115.87	291.0	194.9	334.1	306.8	27.28	12.247	
5,800.0	5,785.2	5,787.9	5,777.1	14.4	14.0	116.99	297.5	197.1	347.3	319.7	27.65	12.562	
5,900.0	5,875.6	5,869.9	5,857.8	14.9	14.2	117.40	310.9	201.5	372.4	344.4	27.99	13.305	
6,000.0	5,956.1	5,950.0	5,933.4	15.6	14.6	116.32	335.4	209.6	409.8	381.3	28.53	14.367	
6,100.0	6,023.9	6,028.0	6,002.5	16.6	15.0	113.76	369.7	220.9	457.9	428.4	29.51	15.518	
6,200.0	6,076.5	6,102.5	6,062.8	17.7	15.6	109.71	411.2	234.5	514.6	483.5	31.09	16.551	
6,300.0	6,111.9	6,174.1	6,114.3	19.1	16.1	104.29	458.3	250.1	578.0	544.8	33.27	17.373	
6,400.0	6,128.8	6,243.5	6,157.3	20.6	16.8	97.76	510.0	267.1	646.3	610.5	35.76	18.071	
6,500.0	6,130.3	6,314.8	6,193.5	22.1	17.6	97.01	568.3	286.3	716.6	678.6	37.91	18.903	
6,600.0	6,130.3	6,400.0	6,225.3	23.6	18.6	99.13	643.3	311.0	783.5	743.5	39.99	19.590	
6,700.0	6,130.3	6,498.9	6,245.5	25.1	19.9	99.68	735.1	341.3	845.1	802.5	42.54	19.868	
6,800.0	6,130.3	6,628.4	6,248.7	26.7	21.7	98.73	858.3	380.5	899.9	854.1	45.74	19.673	
6,900.0	6,130.3	6,800.6	6,248.7	28.3	24.0	97.77	1,025.8	420.7	943.6	894.0	49.62	19.017	
7,000.0	6,130.3	6,990.5	6,248.7	29.9	26.8	97.18	1,213.7	447.4	973.7	919.7	54.04	18.018	
7,100.0	6,130.3	7,178.1	6,248.7	31.5	29.7	96.91	1,401.1	455.3	989.1	930.4	58.63	16.868	
7,200.0	6,130.3	7,277.9	6,248.7	33.1	31.2	96.84	1,500.9	455.3	995.3	933.4	61.88	16.085	
7,300.0	6,130.3	7,377.9	6,248.7	34.7	32.9	96.83	1,600.8	455.3	996.6	931.5	65.08	15.312	
7,400.0	6,130.2	7,477.9	6,248.7	36.3	34.5	96.83	1,700.8	455.3	996.6	928.2	68.41	14.567	
7,500.0	6,130.2	7,577.9	6,248.8	37.9	36.2	96.83	1,800.8	455.3	996.6	924.8	71.79	13.882	
7,600.0	6,130.2	7,677.9	6,248.8	39.6	37.9	96.83	1,900.8	455.4	996.6	921.4	75.21	13.251	
7,700.0	6,130.2	7,777.9	6,248.8	41.3	39.6	96.83	2,000.8	455.4	996.6	917.9	78.66	12.669	
7,800.0	6,130.2	7,877.9	6,248.8	43.0	41.3	96.83	2,100.8	455.4	996.6	914.4	82.15	12.131	
7,900.0	6,130.2	7,977.9	6,248.8	44.7	43.1	96.83	2,200.8	455.4	996.6	910.9	85.67	11.633	
8,000.0	6,130.2	8,077.9	6,248.8	46.4	44.9	96.83	2,300.8	455.4	996.6	907.4	89.21	11.172	
8,100.0	6,130.2	8,177.9	6,248.8	48.2	46.6	96.83	2,400.8	455.4	996.6	903.8	92.77	10.742	
8,200.0	6,130.2	8,277.9	6,248.8	49.9	48.4	96.83	2,500.8	455.4	996.6	900.2	96.36	10.343	
8,300.0	6,130.2	8,377.9	6,248.8	51.7	50.2	96.83	2,600.8	455.4	996.6	896.7	99.96	9.970	
8,400.0	6,130.2	8,477.9	6,248.8	53.5	52.0	96.83	2,700.8	455.4	996.6	893.0	103.57	9.622	
8,500.0	6,130.2	8,577.9	6,248.8	55.3	53.9	96.83	2,800.8	455.4	996.6	889.4	107.20	9.297	
8,600.0	6,130.2	8,677.9	6,248.8	57.1	55.7	96.84	2,900.8	455.4	996.6	885.8	110.85	8.991	
8,700.0	6,130.2	8,777.9	6,248.8	58.9	57.5	96.84	3,000.8	455.4	996.6	882.1	114.50	8.704	
8,800.0	6,130.2	8,877.9	6,248.8	60.7	59.3	96.84	3,100.8	455.4	996.6	878.5	118.16	8.434	
8,900.0	6,130.2	8,977.9	6,248.8	62.5	61.2	96.84	3,200.8	455.4	996.6	874.8	121.84	8.180	
9,000.0	6,130.2	9,077.9	6,248.8	64.4	63.0	96.84	3,300.8	455.4	996.6	871.1	125.52	7.940	
9,100.0	6,130.2	9,177.9	6,248.8	66.2	64.9	96.84	3,400.8	455.4	996.6	867.4	129.21	7.713	
9,200.0	6,130.2	9,277.9	6,248.8	68.0	66.7	96.84	3,500.8	455.4	996.6	863.7	132.91	7.498	
9,300.0	6,130.2	9,377.9	6,248.8	69.9	68.6	96.84	3,600.8	455.4	996.6	860.0	136.62	7.295	
9,400.0	6,130.2	9,477.9	6,248.8	71.7	70.4	96.84	3,700.8	455.4	996.6	856.3	140.33	7.102	
9,500.0	6,130.1	9,577.9	6,248.8	73.6	72.3	96.84	3,800.8	455.4	996.6	852.6	144.04	6.919	
9,600.0	6,130.1	9,677.9	6,248.9	75.4	74.2	96.84	3,900.8	455.4	996.6	848.9	147.77	6.745	
9,700.0	6,130.1	9,777.9	6,248.9	77.3	76.0	96.84	4,000.8	455.4	996.6	845.1	151.49	6.579	
9,800.0	6,130.1	9,877.9	6,248.9	79.1	77.9	96.84	4,100.8	455.4	996.6	841.4	155.22	6.421	
9,900.0	6,130.1	9,977.9	6,248.9	81.0	79.8	96.84	4,200.8	455.4	996.6	837.7	158.96	6.270	
10,000.0	6,130.1	10,077.9	6,248.9	82.9	81.7	96.84	4,300.8	455.4	996.6	833.9	162.70	6.126	
10,100.0	6,130.1	10,177.9	6,248.9	84.7	83.5	96.84	4,400.8	455.4	996.6	830.2	166.44	5.988	
10,200.0	6,130.1	10,277.9	6,248.9	86.6	85.4	96.84	4,500.8	455.4	996.6	826.5	170.19	5.856	
10,300.0	6,130.1	10,377.9	6,248.9	88.5	87.3	96.84	4,600.8	455.4	996.6	822.7	173.94	5.730	

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

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-0304B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,130.1	10,477.9	6,248.9	90.4	89.2	96.85	4,700.8	455.4	996.6	819.0	177.69	5.609	
10,500.0	6,130.1	10,577.9	6,248.9	92.2	91.1	96.85	4,800.8	455.4	996.6	815.2	181.44	5.493	
10,600.0	6,130.1	10,677.9	6,248.9	94.1	93.0	96.85	4,900.8	455.4	996.6	811.4	185.20	5.381	
10,700.0	6,130.1	10,777.9	6,248.9	96.0	94.9	96.85	5,000.8	455.4	996.6	807.7	188.96	5.274	
10,800.0	6,130.1	10,877.9	6,248.9	97.9	96.7	96.85	5,100.8	455.4	996.6	803.9	192.73	5.171	
10,900.0	6,130.1	10,977.9	6,248.9	99.8	98.6	96.85	5,200.8	455.5	996.7	800.2	196.49	5.072	
11,000.0	6,130.1	11,077.9	6,248.9	101.6	100.5	96.85	5,300.8	455.5	996.7	796.4	200.26	4.977	
11,100.0	6,130.1	11,177.9	6,248.9	103.5	102.4	96.85	5,400.8	455.5	996.7	792.6	204.03	4.885	
11,200.0	6,130.1	11,277.9	6,248.9	105.4	104.3	96.85	5,500.8	455.5	996.7	788.9	207.80	4.796	
11,300.0	6,130.1	11,377.9	6,248.9	107.3	106.2	96.85	5,600.8	455.5	996.7	785.1	211.57	4.711	
11,400.0	6,130.1	11,477.9	6,248.9	109.2	108.1	96.85	5,700.8	455.5	996.7	781.3	215.34	4.628	
11,500.0	6,130.1	11,577.9	6,248.9	111.1	110.0	96.85	5,800.8	455.5	996.7	777.5	219.12	4.549	
11,600.0	6,130.0	11,677.9	6,248.9	113.0	111.9	96.85	5,900.8	455.5	996.7	773.8	222.90	4.471	
11,700.0	6,130.0	11,777.9	6,249.0	114.9	113.8	96.85	6,000.8	455.5	996.7	770.0	226.67	4.397	
11,800.0	6,130.0	11,877.9	6,249.0	116.8	115.7	96.85	6,100.8	455.5	996.7	766.2	230.45	4.325	
11,900.0	6,130.0	11,977.9	6,249.0	118.7	117.6	96.85	6,200.8	455.5	996.7	762.4	234.23	4.255	
12,000.0	6,130.0	12,077.9	6,249.0	120.6	119.5	96.85	6,300.8	455.5	996.7	758.7	238.02	4.187	
12,100.0	6,130.0	12,177.9	6,249.0	122.5	121.4	96.85	6,400.8	455.5	996.7	754.9	241.80	4.122	
12,200.0	6,130.0	12,277.9	6,249.0	124.4	123.3	96.85	6,500.8	455.5	996.7	751.1	245.58	4.058	
12,300.0	6,130.0	12,377.9	6,249.0	126.2	125.2	96.86	6,600.8	455.5	996.7	747.3	249.37	3.997	
12,400.0	6,130.0	12,477.9	6,249.0	128.1	127.1	96.86	6,700.8	455.5	996.7	743.5	253.16	3.937	
12,500.0	6,130.0	12,577.9	6,249.0	130.0	129.0	96.86	6,800.8	455.5	996.7	739.7	256.94	3.879	
12,600.0	6,130.0	12,677.9	6,249.0	131.9	130.9	96.86	6,900.8	455.5	996.7	735.9	260.73	3.823	
12,634.8	6,130.0	12,712.7	6,249.0	132.5	131.6	96.86	6,935.7	455.5	996.7	734.7	261.93	3.805 SF	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1501A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.58	-75.1	0.6	75.1				
100.0	100.0	100.0	100.0	0.1	0.1	179.58	-75.1	0.6	75.1	74.9	0.19	401.364	
200.0	200.0	200.0	200.0	0.3	0.3	179.58	-75.1	0.6	75.1	74.4	0.64	117.915	
300.0	300.0	300.0	300.0	0.5	0.5	179.58	-75.1	0.6	75.1	74.0	1.09	69.109	
400.0	400.0	400.0	400.0	0.8	0.8	179.58	-75.1	0.6	75.1	73.5	1.54	48.878	
500.0	500.0	500.0	500.0	1.0	1.0	179.58	-75.1	0.6	75.1	73.1	1.99	37.810	
600.0	600.0	600.0	600.0	1.2	1.2	179.58	-75.1	0.6	75.1	72.6	2.43	30.829	
700.0	700.0	700.0	700.0	1.4	1.4	179.58	-75.1	0.6	75.1	72.2	2.88	26.024	
800.0	800.0	800.0	800.0	1.7	1.7	179.58	-75.1	0.6	75.1	71.7	3.33	22.514	
900.0	900.0	900.0	900.0	1.9	1.9	179.58	-75.1	0.6	75.1	71.3	3.78	19.839	CC, ES
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-156.01	-75.1	0.6	76.6	72.4	4.23	18.113	
1,100.0	1,099.8	1,099.8	1,099.8	2.3	2.3	-157.47	-75.1	0.6	81.5	76.8	4.68	17.414	
1,200.0	1,199.6	1,199.6	1,199.6	2.6	2.6	-159.21	-75.1	0.6	87.9	82.8	5.13	17.154	SF
1,300.0	1,299.3	1,296.5	1,296.5	2.8	2.8	-160.23	-76.6	0.0	96.0	90.4	5.55	17.309	
1,400.0	1,399.1	1,392.8	1,392.7	3.0	2.9	-160.30	-81.1	-1.8	107.1	101.1	5.95	17.998	
1,500.0	1,498.9	1,491.7	1,491.3	3.3	3.1	-159.94	-87.5	-4.3	119.9	113.5	6.36	18.842	
1,600.0	1,598.6	1,590.9	1,590.3	3.5	3.3	-159.65	-94.0	-6.8	132.7	125.9	6.78	19.572	
1,700.0	1,698.4	1,690.1	1,689.2	3.8	3.5	-159.41	-100.4	-9.2	145.5	138.3	7.20	20.201	
1,800.0	1,798.1	1,789.3	1,788.2	4.0	3.7	-159.21	-106.9	-11.7	158.3	150.6	7.63	20.747	
1,900.0	1,897.9	1,888.4	1,887.1	4.3	3.9	-159.04	-113.4	-14.2	171.1	163.0	8.06	21.224	
2,000.0	1,997.6	1,987.6	1,986.0	4.5	4.2	-158.89	-119.8	-16.7	183.9	175.4	8.50	21.642	
2,100.0	2,097.4	2,086.8	2,085.0	4.8	4.4	-158.76	-126.3	-19.2	196.7	187.7	8.93	22.012	
2,200.0	2,197.2	2,186.0	2,183.9	5.0	4.6	-158.65	-132.7	-21.7	209.5	200.1	9.38	22.341	
2,300.0	2,296.9	2,285.1	2,282.8	5.3	4.9	-158.55	-139.2	-24.2	222.3	212.5	9.82	22.635	
2,400.0	2,396.7	2,384.3	2,381.8	5.5	5.1	-158.46	-145.6	-26.7	235.1	224.8	10.27	22.899	
2,500.0	2,496.4	2,483.5	2,480.7	5.8	5.3	-158.38	-152.1	-29.2	247.9	237.2	10.71	23.137	
2,600.0	2,596.2	2,582.7	2,579.6	6.0	5.6	-158.31	-158.5	-31.7	260.7	249.6	11.16	23.353	
2,700.0	2,695.9	2,681.8	2,678.6	6.3	5.8	-158.25	-165.0	-34.1	273.5	261.9	11.62	23.549	
2,800.0	2,795.7	2,781.0	2,777.5	6.5	6.1	-158.19	-171.4	-36.6	286.3	274.3	12.07	23.728	
2,900.0	2,895.4	2,880.2	2,876.4	6.8	6.3	-158.13	-177.9	-39.1	299.2	286.6	12.52	23.892	
3,000.0	2,995.2	2,979.4	2,975.4	7.0	6.6	-158.09	-184.4	-41.6	312.0	299.0	12.98	24.042	
3,100.0	3,095.0	3,078.5	3,074.3	7.3	6.8	-158.04	-190.8	-44.1	324.8	311.3	13.43	24.181	
3,200.0	3,194.7	3,177.7	3,173.2	7.5	7.1	-158.00	-197.3	-46.6	337.6	323.7	13.89	24.310	
3,300.0	3,294.5	3,276.9	3,272.2	7.8	7.3	-157.96	-203.7	-49.1	350.4	336.1	14.34	24.429	
3,400.0	3,394.2	3,376.1	3,371.1	8.1	7.6	-157.92	-210.2	-51.6	363.2	348.4	14.80	24.539	
3,500.0	3,494.0	3,475.2	3,470.0	8.3	7.8	-157.89	-216.6	-54.1	376.0	360.8	15.26	24.642	
3,600.0	3,593.7	3,574.4	3,569.0	8.6	8.1	-157.86	-223.1	-56.6	388.8	373.1	15.72	24.738	
3,700.0	3,693.5	3,673.6	3,667.9	8.8	8.3	-157.83	-229.5	-59.1	401.6	385.5	16.18	24.828	
3,800.0	3,793.3	3,772.8	3,766.8	9.1	8.6	-157.80	-236.0	-61.5	414.5	397.8	16.64	24.912	
3,900.0	3,893.0	3,871.9	3,865.8	9.3	8.8	-157.77	-242.4	-64.0	427.3	410.2	17.10	24.991	
4,000.0	3,992.8	3,971.1	3,964.7	9.6	9.1	-157.75	-248.9	-66.5	440.1	422.5	17.56	25.066	
4,100.0	4,092.5	4,070.3	4,063.6	9.8	9.3	-157.73	-255.3	-69.0	452.9	434.9	18.02	25.136	
4,200.0	4,192.3	4,169.5	4,162.6	10.1	9.6	-157.70	-261.8	-71.5	465.7	447.2	18.48	25.202	
4,300.0	4,292.0	4,268.6	4,261.5	10.4	9.8	-157.68	-268.3	-74.0	478.5	459.6	18.94	25.265	
4,400.0	4,391.8	4,367.8	4,360.4	10.6	10.1	-157.66	-274.7	-76.5	491.3	471.9	19.40	25.324	
4,500.0	4,491.5	4,467.0	4,459.4	10.9	10.4	-157.64	-281.2	-79.0	504.1	484.3	19.86	25.380	
4,600.0	4,591.3	4,566.2	4,558.3	11.1	10.6	-157.63	-287.6	-81.5	517.0	496.6	20.33	25.433	
4,700.0	4,691.1	4,665.3	4,657.2	11.4	10.9	-157.61	-294.1	-84.0	529.8	509.0	20.79	25.484	
4,800.0	4,790.8	4,764.5	4,756.2	11.6	11.1	-157.59	-300.5	-86.4	542.6	521.3	21.25	25.532	
4,900.0	4,890.6	4,863.7	4,855.1	11.9	11.4	-157.58	-307.0	-88.9	555.4	533.7	21.71	25.578	
5,000.0	4,990.3	4,962.9	4,954.0	12.2	11.6	-157.56	-313.4	-91.4	568.2	546.0	22.18	25.622	
5,100.0	5,090.1	5,062.1	5,053.0	12.4	11.9	-157.55	-319.9	-93.9	581.0	558.4	22.64	25.664	

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 #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1501A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.8	5,161.2	5,151.9	12.7	12.2	-157.54	-326.3	-96.4	593.8	570.7	23.10	25.704	
5,300.0	5,289.6	5,260.4	5,250.8	12.9	12.4	-157.52	-332.8	-98.9	606.7	583.1	23.57	25.742	
5,400.0	5,389.4	5,359.6	5,349.8	13.2	12.7	-157.51	-339.3	-101.4	619.5	595.4	24.03	25.778	
5,500.0	5,489.1	5,458.8	5,448.7	13.4	12.9	-157.50	-345.7	-103.9	632.3	607.8	24.49	25.813	
5,600.0	5,588.9	5,557.9	5,547.6	13.7	13.2	-157.49	-352.2	-106.4	645.1	620.1	24.96	25.847	
5,700.0	5,688.4	5,656.0	5,645.5	14.0	13.5	-157.23	-358.5	-108.8	659.5	634.3	25.25	26.124	
5,800.0	5,785.2	5,700.0	5,689.2	14.4	13.6	-155.92	-363.1	-110.6	692.1	667.3	24.72	28.000	
5,900.0	5,875.6	5,750.0	5,738.1	14.9	13.8	-153.37	-372.5	-114.2	746.9	723.2	23.71	31.498	
6,000.0	5,956.1	5,765.1	5,752.7	15.6	13.8	-148.08	-376.2	-115.6	818.8	796.1	22.71	36.052	
6,100.0	6,023.9	5,800.0	5,785.9	16.6	14.0	-139.05	-386.2	-119.5	904.0	880.9	23.11	39.122	
6,200.0	6,076.5	5,800.0	5,785.9	17.7	14.0	-117.95	-386.2	-119.5	996.4	968.2	28.17	35.373	
6,300.0	6,111.9	5,800.0	5,785.9	19.1	14.0	-79.72	-386.2	-119.5	1,092.7	1,060.0	32.70	33.417	
6,400.0	6,128.8	5,800.0	5,785.9	20.6	14.0	-46.25	-386.2	-119.5	1,188.8	1,162.8	25.96	45.798	
6,500.0	6,130.3	5,800.0	5,785.9	22.1	14.0	-34.13	-386.2	-119.5	1,282.8	1,261.0	21.80	58.850	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1502B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	155.79	-75.1	33.8	82.3				
100.0	100.0	100.0	100.0	0.1	0.1	155.79	-75.1	33.8	82.3	82.1	0.19	440.065	
200.0	200.0	200.0	200.0	0.3	0.3	155.79	-75.1	33.8	82.3	81.7	0.64	129.285	
300.0	300.0	300.0	300.0	0.5	0.5	155.79	-75.1	33.8	82.3	81.2	1.09	75.773	
400.0	400.0	400.0	400.0	0.8	0.8	155.79	-75.1	33.8	82.3	80.8	1.54	53.591	
500.0	500.0	500.0	500.0	1.0	1.0	155.79	-75.1	33.8	82.3	80.3	1.99	41.455	
600.0	600.0	600.0	600.0	1.2	1.2	155.79	-75.1	33.8	82.3	79.9	2.43	33.801	
700.0	700.0	700.0	700.0	1.4	1.4	155.79	-75.1	33.8	82.3	79.4	2.88	28.533	
800.0	800.0	800.0	800.0	1.7	1.7	155.79	-75.1	33.8	82.3	79.0	3.33	24.685	
900.0	900.0	900.0	900.0	1.9	1.9	155.79	-75.1	33.8	82.3	78.5	3.78	21.752	CC, ES
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-179.29	-75.1	33.8	84.0	79.8	4.23	19.861	
1,100.0	1,099.8	1,099.8	1,099.8	2.3	2.3	-179.33	-75.1	33.8	89.3	84.6	4.68	19.092	SF
1,200.0	1,199.6	1,196.8	1,196.8	2.6	2.5	-178.87	-76.7	33.5	97.7	92.6	5.09	19.185	
1,300.0	1,299.3	1,293.1	1,293.0	2.8	2.7	-177.59	-81.5	32.9	109.0	103.5	5.49	19.850	
1,400.0	1,399.1	1,392.0	1,391.6	3.0	2.9	-176.09	-88.3	32.0	122.0	116.1	5.90	20.680	
1,500.0	1,498.9	1,491.1	1,490.5	3.3	3.1	-174.87	-95.2	31.1	135.1	128.8	6.31	21.399	
1,600.0	1,598.6	1,590.2	1,589.4	3.5	3.3	-173.87	-102.0	30.2	148.2	141.5	6.73	22.017	
1,700.0	1,698.4	1,689.3	1,688.2	3.8	3.5	-173.03	-108.9	29.2	161.4	154.2	7.16	22.550	
1,800.0	1,798.1	1,788.4	1,787.1	4.0	3.7	-172.32	-115.7	28.3	174.6	167.0	7.59	23.014	
1,900.0	1,897.9	1,887.5	1,885.9	4.3	3.9	-171.71	-122.6	27.4	187.8	179.8	8.02	23.421	
2,000.0	1,997.6	1,986.6	1,984.8	4.5	4.2	-171.18	-129.4	26.5	201.1	192.6	8.46	23.778	
2,100.0	2,097.4	2,085.7	2,083.7	4.8	4.4	-170.71	-136.3	25.6	214.3	205.4	8.89	24.096	
2,200.0	2,197.2	2,184.8	2,182.5	5.0	4.6	-170.30	-143.2	24.7	227.6	218.3	9.34	24.379	
2,300.0	2,296.9	2,283.9	2,281.4	5.3	4.9	-169.94	-150.0	23.8	240.9	231.1	9.78	24.632	
2,400.0	2,396.7	2,383.0	2,380.2	5.5	5.1	-169.61	-156.9	22.8	254.2	243.9	10.22	24.861	
2,500.0	2,496.4	2,482.2	2,479.1	5.8	5.4	-169.31	-163.7	21.9	267.5	256.8	10.67	25.067	
2,600.0	2,596.2	2,581.3	2,578.0	6.0	5.6	-169.05	-170.6	21.0	280.8	269.6	11.12	25.254	
2,700.0	2,695.9	2,680.4	2,676.8	6.3	5.9	-168.80	-177.4	20.1	294.1	282.5	11.57	25.425	
2,800.0	2,795.7	2,779.5	2,775.7	6.5	6.1	-168.58	-184.3	19.2	307.4	295.4	12.02	25.581	
2,900.0	2,895.4	2,878.6	2,874.6	6.8	6.3	-168.38	-191.1	18.3	320.7	308.2	12.47	25.724	
3,000.0	2,995.2	2,977.7	2,973.4	7.0	6.6	-168.19	-198.0	17.4	334.0	321.1	12.92	25.856	
3,100.0	3,095.0	3,076.8	3,072.3	7.3	6.8	-168.02	-204.8	16.4	347.3	334.0	13.37	25.978	
3,200.0	3,194.7	3,175.9	3,171.1	7.5	7.1	-167.86	-211.7	15.5	360.7	346.8	13.82	26.091	
3,300.0	3,294.5	3,275.0	3,270.0	7.8	7.4	-167.71	-218.5	14.6	374.0	359.7	14.28	26.196	
3,400.0	3,394.2	3,374.1	3,368.9	8.1	7.6	-167.57	-225.4	13.7	387.3	372.6	14.73	26.293	
3,500.0	3,494.0	3,473.2	3,467.7	8.3	7.9	-167.44	-232.2	12.8	400.7	385.5	15.19	26.384	
3,600.0	3,593.7	3,572.3	3,566.6	8.6	8.1	-167.32	-239.1	11.9	414.0	398.4	15.64	26.469	
3,700.0	3,693.5	3,671.4	3,665.4	8.8	8.4	-167.21	-245.9	11.0	427.3	411.2	16.10	26.549	
3,800.0	3,793.3	3,770.5	3,764.3	9.1	8.6	-167.10	-252.8	10.0	440.7	424.1	16.55	26.623	
3,900.0	3,893.0	3,869.6	3,863.2	9.3	8.9	-167.00	-259.6	9.1	454.0	437.0	17.01	26.694	
4,000.0	3,992.8	3,968.7	3,962.0	9.6	9.1	-166.91	-266.5	8.2	467.3	449.9	17.46	26.760	
4,100.0	4,092.5	4,067.8	4,060.9	9.8	9.4	-166.82	-273.3	7.3	480.7	462.8	17.92	26.822	
4,200.0	4,192.3	4,166.9	4,159.8	10.1	9.6	-166.73	-280.2	6.4	494.0	475.7	18.38	26.881	
4,300.0	4,292.0	4,266.0	4,258.6	10.4	9.9	-166.65	-287.1	5.5	507.4	488.5	18.84	26.937	
4,400.0	4,391.8	4,365.1	4,357.5	10.6	10.2	-166.58	-293.9	4.6	520.7	501.4	19.29	26.990	
4,500.0	4,491.5	4,464.2	4,456.3	10.9	10.4	-166.50	-300.8	3.6	534.1	514.3	19.75	27.040	
4,600.0	4,591.3	4,563.3	4,555.2	11.1	10.7	-166.44	-307.6	2.7	547.4	527.2	20.21	27.088	
4,700.0	4,691.1	4,662.4	4,654.1	11.4	10.9	-166.37	-314.5	1.8	560.8	540.1	20.67	27.133	
4,800.0	4,790.8	4,761.5	4,752.9	11.6	11.2	-166.31	-321.3	0.9	574.1	553.0	21.13	27.176	
4,900.0	4,890.6	4,860.6	4,851.8	11.9	11.5	-166.25	-328.2	0.0	587.5	565.9	21.58	27.217	
5,000.0	4,990.3	4,959.7	4,950.6	12.2	11.7	-166.19	-335.0	-0.9	600.8	578.8	22.04	27.257	
5,100.0	5,090.1	5,058.8	5,049.5	12.4	12.0	-166.14	-341.9	-1.8	614.2	591.7	22.50	27.294	

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 #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1502B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.8	5,157.9	5,148.4	12.7	12.2	-166.09	-348.7	-2.8	627.5	604.6	22.96	27.330	
5,300.0	5,289.6	5,257.0	5,247.2	12.9	12.5	-166.04	-355.6	-3.7	640.9	617.4	23.42	27.364	
5,400.0	5,389.4	5,356.1	5,346.1	13.2	12.7	-165.99	-362.4	-4.6	654.2	630.3	23.88	27.397	
5,500.0	5,489.1	5,455.2	5,445.0	13.4	13.0	-165.94	-369.3	-5.5	667.6	643.2	24.34	27.429	
5,600.0	5,588.9	5,554.3	5,543.8	13.7	13.3	-165.90	-376.1	-6.4	680.9	656.1	24.80	27.459	
5,700.0	5,688.4	5,653.2	5,642.4	14.0	13.5	-165.69	-383.0	-7.3	696.0	670.9	25.06	27.768	
5,800.0	5,785.2	5,748.3	5,737.3	14.4	13.8	-165.12	-389.5	-8.2	726.1	701.6	24.51	29.632	
5,900.0	5,875.6	5,800.0	5,788.8	14.9	13.9	-163.84	-393.7	-8.8	774.8	751.7	23.15	33.469	
6,000.0	5,956.1	5,829.8	5,818.3	15.6	14.0	-161.09	-398.0	-9.3	842.9	821.6	21.33	39.522	
6,100.0	6,023.9	5,850.0	5,838.1	16.6	14.1	-155.46	-401.9	-9.9	925.8	905.9	19.92	46.483	
6,200.0	6,076.5	5,850.0	5,838.1	17.7	14.1	-140.63	-401.9	-9.9	1,018.6	996.2	22.48	45.310	
6,300.0	6,111.9	5,868.9	5,856.5	19.1	14.2	-101.19	-406.2	-10.4	1,115.9	1,083.0	32.92	33.899	
6,400.0	6,128.8	5,867.6	5,855.2	20.6	14.2	-44.19	-405.9	-10.4	1,214.4	1,188.9	25.51	47.608	
6,500.0	6,130.3	5,850.0	5,838.1	22.1	14.1	-25.40	-401.9	-9.9	1,311.5	1,293.7	17.73	73.975	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1503A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	138.74	-75.1	65.8	99.8				
100.0	100.0	100.0	100.0	0.1	0.1	138.74	-75.1	65.8	99.8	99.7	0.19	533.897	
200.0	200.0	200.0	200.0	0.3	0.3	138.74	-75.1	65.8	99.8	99.2	0.64	156.851	
300.0	300.0	300.0	300.0	0.5	0.5	138.74	-75.1	65.8	99.8	98.8	1.09	91.929	
400.0	400.0	400.0	400.0	0.8	0.8	138.74	-75.1	65.8	99.8	98.3	1.54	65.018	
500.0	500.0	500.0	500.0	1.0	1.0	138.74	-75.1	65.8	99.8	97.9	1.99	50.295	
600.0	600.0	600.0	600.0	1.2	1.2	138.74	-75.1	65.8	99.8	97.4	2.43	41.008	
700.0	700.0	700.0	700.0	1.4	1.4	138.74	-75.1	65.8	99.8	97.0	2.88	34.617	
800.0	800.0	800.0	800.0	1.7	1.7	138.74	-75.1	65.8	99.8	96.5	3.33	29.949	
900.0	900.0	900.0	900.0	1.9	1.9	138.74	-75.1	65.8	99.8	96.1	3.78	26.390	CC, ES
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	163.95	-75.1	65.8	101.5	97.3	4.23	23.994	
1,100.0	1,099.8	1,096.7	1,096.7	2.3	2.3	165.11	-76.7	66.1	108.0	103.4	4.64	23.263	SF
1,200.0	1,199.6	1,192.7	1,192.5	2.6	2.5	167.12	-81.4	66.9	119.2	114.2	5.04	23.648	
1,300.0	1,299.3	1,291.4	1,291.0	2.8	2.7	169.20	-88.2	68.1	132.2	126.8	5.45	24.266	
1,400.0	1,399.1	1,390.5	1,389.8	3.0	2.9	170.91	-95.0	69.3	145.4	139.5	5.86	24.805	
1,500.0	1,498.9	1,489.5	1,488.7	3.3	3.1	172.34	-101.8	70.5	158.7	152.4	6.28	25.265	
1,600.0	1,598.6	1,588.6	1,587.5	3.5	3.3	173.55	-108.6	71.6	172.0	165.3	6.70	25.660	
1,700.0	1,698.4	1,687.6	1,686.3	3.8	3.5	174.58	-115.4	72.8	185.4	178.3	7.13	26.001	
1,800.0	1,798.1	1,786.6	1,785.1	4.0	3.7	175.48	-122.3	74.0	198.9	191.3	7.56	26.299	
1,900.0	1,897.9	1,885.7	1,883.9	4.3	4.0	176.26	-129.1	75.2	212.4	204.4	8.00	26.559	
2,000.0	1,997.6	1,984.7	1,982.7	4.5	4.2	176.94	-135.9	76.3	226.0	217.5	8.43	26.790	
2,100.0	2,097.4	2,083.8	2,081.5	4.8	4.4	177.55	-142.7	77.5	239.5	230.7	8.87	26.994	
2,200.0	2,197.2	2,182.8	2,180.3	5.0	4.7	178.10	-149.5	78.7	253.1	243.8	9.31	27.177	
2,300.0	2,296.9	2,281.9	2,279.1	5.3	4.9	178.59	-156.3	79.9	266.8	257.0	9.76	27.340	
2,400.0	2,396.7	2,380.9	2,377.9	5.5	5.2	179.03	-163.1	81.1	280.4	270.2	10.20	27.488	
2,500.0	2,496.4	2,480.0	2,476.7	5.8	5.4	179.43	-169.9	82.2	294.1	283.4	10.65	27.621	
2,600.0	2,596.2	2,579.0	2,575.5	6.0	5.7	179.79	-176.7	83.4	307.7	296.6	11.09	27.743	
2,700.0	2,695.9	2,678.0	2,674.3	6.3	5.9	-179.87	-183.5	84.6	321.4	309.9	11.54	27.854	
2,800.0	2,795.7	2,777.1	2,773.1	6.5	6.2	-179.57	-190.3	85.8	335.1	323.1	11.99	27.955	
2,900.0	2,895.4	2,876.1	2,871.9	6.8	6.4	-179.29	-197.1	86.9	348.8	336.3	12.44	28.048	
3,000.0	2,995.2	2,975.2	2,970.7	7.0	6.7	-179.02	-204.0	88.1	362.5	349.6	12.88	28.134	
3,100.0	3,095.0	3,074.2	3,069.5	7.3	6.9	-178.78	-210.8	89.3	376.2	362.9	13.33	28.214	
3,200.0	3,194.7	3,173.3	3,168.3	7.5	7.2	-178.56	-217.6	90.5	389.9	376.1	13.78	28.287	
3,300.0	3,294.5	3,272.3	3,267.1	7.8	7.4	-178.35	-224.4	91.6	403.6	389.4	14.23	28.355	
3,400.0	3,394.2	3,371.3	3,365.9	8.1	7.7	-178.15	-231.2	92.8	417.4	402.7	14.69	28.419	
3,500.0	3,494.0	3,470.4	3,464.7	8.3	7.9	-177.97	-238.0	94.0	431.1	416.0	15.14	28.479	
3,600.0	3,593.7	3,569.4	3,563.5	8.6	8.2	-177.80	-244.8	95.2	444.8	429.2	15.59	28.534	
3,700.0	3,693.5	3,668.5	3,662.3	8.8	8.5	-177.64	-251.6	96.3	458.6	442.5	16.04	28.586	
3,800.0	3,793.3	3,767.5	3,761.1	9.1	8.7	-177.48	-258.4	97.5	472.3	455.8	16.49	28.635	
3,900.0	3,893.0	3,866.6	3,859.9	9.3	9.0	-177.34	-265.2	98.7	486.0	469.1	16.95	28.681	
4,000.0	3,992.8	3,965.6	3,958.7	9.6	9.2	-177.20	-272.0	99.9	499.8	482.4	17.40	28.724	
4,100.0	4,092.5	4,064.6	4,057.5	9.8	9.5	-177.07	-278.8	101.0	513.5	495.7	17.85	28.765	
4,200.0	4,192.3	4,163.7	4,156.3	10.1	9.7	-176.95	-285.7	102.2	527.3	509.0	18.31	28.804	
4,300.0	4,292.0	4,262.7	4,255.1	10.4	10.0	-176.84	-292.5	103.4	541.1	522.3	18.76	28.840	
4,400.0	4,391.8	4,361.8	4,353.9	10.6	10.3	-176.73	-299.3	104.6	554.8	535.6	19.21	28.875	
4,500.0	4,491.5	4,460.8	4,452.7	10.9	10.5	-176.62	-306.1	105.7	568.6	548.9	19.67	28.908	
4,600.0	4,591.3	4,559.9	4,551.5	11.1	10.8	-176.52	-312.9	106.9	582.3	562.2	20.12	28.939	
4,700.0	4,691.1	4,658.9	4,650.3	11.4	11.0	-176.43	-319.7	108.1	596.1	575.5	20.58	28.969	
4,800.0	4,790.8	4,758.0	4,749.1	11.6	11.3	-176.34	-326.5	109.3	609.9	588.8	21.03	28.997	
4,900.0	4,890.6	4,857.0	4,847.9	11.9	11.5	-176.25	-333.3	110.5	623.6	602.1	21.49	29.024	
5,000.0	4,990.3	4,956.0	4,946.7	12.2	11.8	-176.17	-340.1	111.6	637.4	615.5	21.94	29.050	
5,100.0	5,090.1	5,055.1	5,045.5	12.4	12.1	-176.09	-346.9	112.8	651.2	628.8	22.40	29.075	

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 #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1503A - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.8	5,154.1	5,144.3	12.7	12.3	-176.01	-353.7	114.0	664.9	642.1	22.85	29.098	
5,300.0	5,289.6	5,253.2	5,243.1	12.9	12.6	-175.94	-360.5	115.2	678.7	655.4	23.31	29.121	
5,400.0	5,389.4	5,352.2	5,341.9	13.2	12.8	-175.87	-367.3	116.3	692.5	668.7	23.76	29.143	
5,500.0	5,489.1	5,451.3	5,440.7	13.4	13.1	-175.80	-374.2	117.5	706.2	682.0	24.22	29.163	
5,600.0	5,588.9	5,550.3	5,539.5	13.7	13.4	-175.74	-381.0	118.7	720.0	695.3	24.67	29.183	
5,700.0	5,688.4	5,649.1	5,638.1	14.0	13.6	-175.62	-387.8	119.9	735.5	710.6	24.92	29.514	
5,800.0	5,785.2	5,700.0	5,688.7	14.4	13.8	-175.30	-393.1	120.8	769.7	745.5	24.20	31.802	
5,900.0	5,875.6	5,724.7	5,713.0	14.9	13.9	-174.64	-397.4	121.5	826.5	803.8	22.63	36.517	
6,000.0	5,956.1	5,750.0	5,737.6	15.6	14.0	-173.36	-403.0	122.5	901.6	881.2	20.38	44.242	
6,100.0	6,023.9	5,766.5	5,753.6	16.6	14.0	-170.55	-407.3	123.2	989.8	972.1	17.73	55.835	
6,200.0	6,076.5	5,775.6	5,762.3	17.7	14.1	-161.14	-409.8	123.7	1,085.9	1,069.2	16.70	65.010	
6,300.0	6,111.9	5,777.9	5,764.5	19.1	14.1	-58.64	-410.5	123.8	1,185.4	1,155.9	29.50	40.180	
6,400.0	6,128.8	5,774.3	5,761.0	20.6	14.1	-12.41	-409.4	123.6	1,284.3	1,273.1	11.25	114.173	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1504B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	127.16	-75.1	99.0	124.3				
100.0	100.0	100.0	100.0	0.1	0.1	127.16	-75.1	99.0	124.3	124.1	0.19	664.503	
200.0	200.0	200.0	200.0	0.3	0.3	127.16	-75.1	99.0	124.3	123.6	0.64	195.221	
300.0	300.0	300.0	300.0	0.5	0.5	127.16	-75.1	99.0	124.3	123.2	1.09	114.418	
400.0	400.0	400.0	400.0	0.8	0.8	127.16	-75.1	99.0	124.3	122.7	1.54	80.923	
500.0	500.0	500.0	500.0	1.0	1.0	127.16	-75.1	99.0	124.3	122.3	1.99	62.598	
600.0	600.0	600.0	600.0	1.2	1.2	127.16	-75.1	99.0	124.3	121.8	2.43	51.040	
700.0	700.0	700.0	700.0	1.4	1.4	127.16	-75.1	99.0	124.3	121.4	2.88	43.085	
800.0	800.0	800.0	800.0	1.7	1.7	127.16	-75.1	99.0	124.3	120.9	3.33	37.275	
900.0	900.0	900.0	900.0	1.9	1.9	127.16	-75.1	99.0	124.3	120.5	3.78	32.846	CC, ES
1,000.0	1,000.0	996.3	996.3	2.1	2.1	152.79	-76.6	99.7	127.3	123.1	4.20	30.320	
1,100.0	1,099.8	1,091.9	1,091.8	2.3	2.3	154.69	-81.0	101.5	136.4	131.8	4.60	29.675	SF
1,200.0	1,199.6	1,190.6	1,190.2	2.6	2.4	157.07	-87.4	104.1	148.9	143.9	5.00	29.759	
1,300.0	1,299.3	1,289.6	1,289.0	2.8	2.6	159.10	-93.7	106.7	161.7	156.3	5.42	29.846	
1,400.0	1,399.1	1,388.6	1,387.8	3.0	2.9	160.82	-100.1	109.3	174.7	168.9	5.84	29.916	
1,500.0	1,498.9	1,487.7	1,486.6	3.3	3.1	162.30	-106.5	112.0	187.8	181.6	6.27	29.974	
1,600.0	1,598.6	1,586.7	1,585.3	3.5	3.3	163.59	-112.9	114.6	201.1	194.4	6.70	30.022	
1,700.0	1,698.4	1,685.7	1,684.1	3.8	3.5	164.73	-119.3	117.2	214.4	207.2	7.13	30.063	
1,800.0	1,798.1	1,784.7	1,782.9	4.0	3.8	165.72	-125.7	119.8	227.7	220.2	7.57	30.097	
1,900.0	1,897.9	1,883.8	1,881.7	4.3	4.0	166.61	-132.1	122.5	241.2	233.2	8.01	30.129	
2,000.0	1,997.6	1,982.8	1,980.5	4.5	4.3	167.41	-138.5	125.1	254.7	246.2	8.45	30.156	
2,100.0	2,097.4	2,081.8	2,079.3	4.8	4.5	168.12	-144.9	127.7	268.2	259.3	8.89	30.180	
2,200.0	2,197.2	2,180.9	2,178.1	5.0	4.7	168.77	-151.3	130.3	281.8	272.4	9.33	30.201	
2,300.0	2,296.9	2,279.9	2,276.8	5.3	5.0	169.35	-157.6	132.9	295.4	285.6	9.77	30.220	
2,400.0	2,396.7	2,378.9	2,375.6	5.5	5.2	169.89	-164.0	135.6	309.0	298.8	10.22	30.237	
2,500.0	2,496.4	2,477.9	2,474.4	5.8	5.5	170.38	-170.4	138.2	322.7	312.0	10.67	30.253	
2,600.0	2,596.2	2,577.0	2,573.2	6.0	5.7	170.82	-176.8	140.8	336.3	325.2	11.11	30.267	
2,700.0	2,695.9	2,676.0	2,672.0	6.3	6.0	171.24	-183.2	143.4	350.0	338.5	11.56	30.280	
2,800.0	2,795.7	2,775.0	2,770.8	6.5	6.2	171.62	-189.6	146.1	363.7	351.7	12.01	30.292	
2,900.0	2,895.4	2,874.0	2,869.6	6.8	6.5	171.98	-196.0	148.7	377.5	365.0	12.46	30.302	
3,000.0	2,995.2	2,973.1	2,968.3	7.0	6.8	172.31	-202.4	151.3	391.2	378.3	12.91	30.312	
3,100.0	3,095.0	3,072.1	3,067.1	7.3	7.0	172.62	-208.8	153.9	405.0	391.6	13.36	30.321	
3,200.0	3,194.7	3,171.1	3,165.9	7.5	7.3	172.90	-215.2	156.6	418.7	404.9	13.81	30.330	
3,300.0	3,294.5	3,270.2	3,264.7	7.8	7.5	173.17	-221.6	159.2	432.5	418.2	14.26	30.337	
3,400.0	3,394.2	3,369.2	3,363.5	8.1	7.8	173.43	-227.9	161.8	446.3	431.6	14.71	30.344	
3,500.0	3,494.0	3,468.2	3,462.3	8.3	8.0	173.66	-234.3	164.4	460.1	444.9	15.16	30.351	
3,600.0	3,593.7	3,567.2	3,561.1	8.6	8.3	173.89	-240.7	167.1	473.9	458.3	15.61	30.357	
3,700.0	3,693.5	3,666.3	3,659.8	8.8	8.6	174.10	-247.1	169.7	487.7	471.6	16.06	30.363	
3,800.0	3,793.3	3,765.3	3,758.6	9.1	8.8	174.30	-253.5	172.3	501.5	485.0	16.51	30.368	
3,900.0	3,893.0	3,864.3	3,857.4	9.3	9.1	174.49	-259.9	174.9	515.3	498.3	16.97	30.373	
4,000.0	3,992.8	3,963.3	3,956.2	9.6	9.3	174.67	-266.3	177.5	529.1	511.7	17.42	30.378	
4,100.0	4,092.5	4,062.4	4,055.0	9.8	9.6	174.84	-272.7	180.2	542.9	525.1	17.87	30.383	
4,200.0	4,192.3	4,161.4	4,153.8	10.1	9.8	175.00	-279.1	182.8	556.8	538.4	18.32	30.387	
4,300.0	4,292.0	4,260.4	4,252.6	10.4	10.1	175.15	-285.5	185.4	570.6	551.8	18.78	30.391	
4,400.0	4,391.8	4,359.5	4,351.4	10.6	10.4	175.30	-291.8	188.0	584.4	565.2	19.23	30.394	
4,500.0	4,491.5	4,458.5	4,450.1	10.9	10.6	175.44	-298.2	190.7	598.3	578.6	19.68	30.398	
4,600.0	4,591.3	4,557.5	4,548.9	11.1	10.9	175.57	-304.6	193.3	612.1	592.0	20.13	30.401	
4,700.0	4,691.1	4,656.5	4,647.7	11.4	11.1	175.70	-311.0	195.9	626.0	605.4	20.59	30.404	
4,800.0	4,790.8	4,755.6	4,746.5	11.6	11.4	175.82	-317.4	198.5	639.8	618.8	21.04	30.407	
4,900.0	4,890.6	4,854.6	4,845.3	11.9	11.7	175.94	-323.8	201.2	653.7	632.2	21.49	30.410	
5,000.0	4,990.3	4,953.6	4,944.1	12.2	11.9	176.05	-330.2	203.8	667.5	645.6	21.95	30.413	
5,100.0	5,090.1	5,052.6	5,042.9	12.4	12.2	176.16	-336.6	206.4	681.4	659.0	22.40	30.415	

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 #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S10-T10N-R58W - Razor #10E-1504B - HZ - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.8	5,151.7	5,141.6	12.7	12.4	176.26	-343.0	209.0	695.2	672.4	22.86	30.418	
5,300.0	5,289.6	5,250.7	5,240.4	12.9	12.7	176.36	-349.4	211.7	709.1	685.8	23.31	30.420	
5,400.0	5,389.4	5,349.7	5,339.2	13.2	13.0	176.45	-355.7	214.3	723.0	699.2	23.76	30.422	
5,500.0	5,489.1	5,448.8	5,438.0	13.4	13.2	176.55	-362.1	216.9	736.8	712.6	24.22	30.424	
5,600.0	5,588.9	5,547.8	5,536.8	13.7	13.5	176.63	-368.5	219.5	750.7	726.0	24.67	30.426	
5,700.0	5,688.4	5,646.5	5,635.3	14.0	13.7	176.68	-374.9	222.1	766.3	741.4	24.92	30.752	
5,800.0	5,785.2	5,741.3	5,729.9	14.4	14.0	176.62	-381.0	224.6	797.5	773.2	24.28	32.850	
5,900.0	5,875.6	5,800.0	5,788.3	14.9	14.1	176.39	-385.3	226.4	847.2	824.4	22.74	37.250	
6,000.0	5,956.1	5,822.8	5,811.0	15.6	14.2	175.78	-388.2	227.6	916.3	895.9	20.42	44.863	
6,100.0	6,023.9	5,850.0	5,837.6	16.6	14.3	174.57	-392.9	229.5	1,000.4	982.8	17.58	56.902	
6,200.0	6,076.5	5,850.0	5,837.6	17.7	14.3	170.66	-392.9	229.5	1,094.1	1,079.3	14.82	73.828	
6,300.0	6,111.9	5,850.0	5,837.6	19.1	14.3	134.04	-392.9	229.5	1,193.0	1,167.8	25.14	47.450	
6,400.0	6,128.8	5,850.0	5,837.6	20.6	14.3	12.18	-392.9	229.5	1,292.6	1,281.4	11.16	115.854	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #10E-0301A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Reference Site:	S10-T10N-R58W	**MD Reference:**	WELL @ 5039.1usft (Original Well Elev)
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Razor #10E-0301A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5039.1usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.00 W °

Coordinates are relative to: Razor #10E-0301A
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.06°