WHITING PETROLEUM CORPORATION

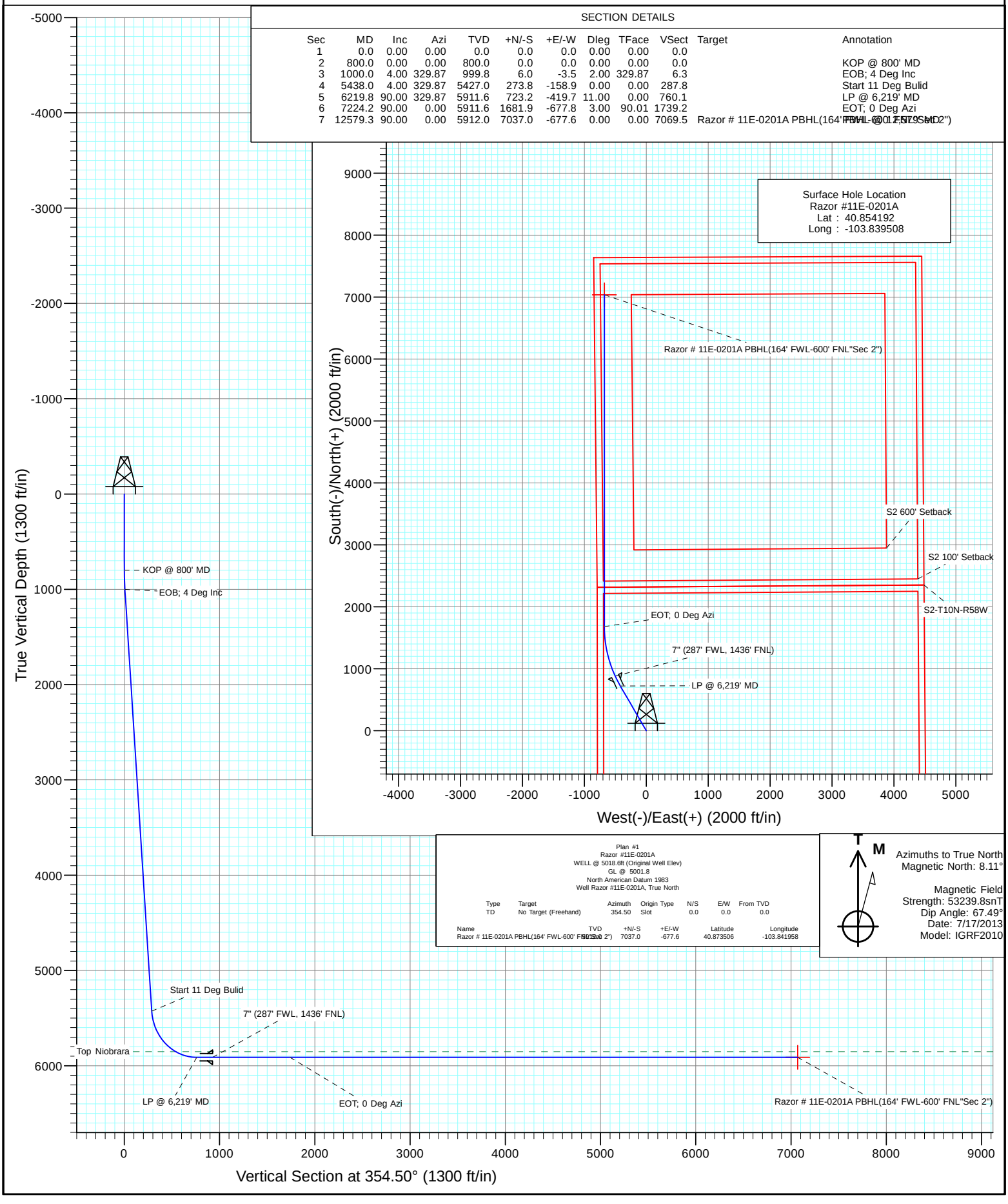
Project: Weld County, CO
Site: S11-T10N-R58W
Well: Razor #11E-0201A
Wellbore: HZ
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0		KOP @ 800' MD
3	1000.0	4.00	329.87	999.8	6.0	-3.5	2.00	329.87	6.3		EOB; 4 Deg Inc
4	5438.0	4.00	329.87	5427.0	273.8	-158.9	0.00	0.00	287.8		Start 11 Deg Bulid
5	6219.8	90.00	329.87	5911.6	723.2	-419.7	11.00	0.00	760.1		LP @ 6,219' MD
6	7224.2	90.00	0.00	5911.6	1681.9	-677.8	3.00	90.01	1739.2		EOT; 0 Deg Azi
7	12579.3	90.00	0.00	5912.0	7037.0	-677.6	0.00	0.00	7069.5	Razor # 11E-0201A PBHL(164' FWL-600' FNL"Sec 2")	Razor # 11E-0201A PBHL(164' FWL-600' FNL"Sec 2")

Surface Hole Location
Razor #11E-0201A
Lat : 40.854192
Long : -103.839508



Plan #1
Razor #11E-0201A
WELL @ 5018.6ft (Original Well Elev)
GL @ 5001.8
North American Datum 1983
Well Razor #11E-0201A, True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	354.50	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Razor # 11E-0201A PBHL(164' FWL-600' FNL"Sec 2")	5912.0	7037.0	-677.6	40.873506	-103.841958

T M

Azimuths to True North
Magnetic North: 8.11°

Magnetic Field
Strength: 53239.8snT
Dip Angle: 67.49°
Date: 7/17/2013
Model: IGRF2010

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site:	S11-T10N-R58W	**North Reference:**	True
Well:	Razor #11E-0201A	**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 S11-T10N-R58W

Site Position:		**Northing:**	1,558,623.69 ft	**Latitude:**	40.854775
From:	Lat/Long	**Easting:**	3,463,396.85 ft	**Longitude:**	-103.824847
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.08 °

Well Razor #11E-0201A

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,558,334.90 ft	**Latitude:**	40.854192
	+E/-W	0.0 ft	**Easting:**	3,459,345.66 ft	**Longitude:**	-103.839508
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,001.8 ft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/17/2013	8.11	67.49	53,240

Design Plan #1

Audit Notes:

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	354.50

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	4.00	329.87	999.8	6.0	-3.5	2.00	2.00	0.00	329.87	
5,438.0	4.00	329.87	5,427.0	273.8	-158.9	0.00	0.00	0.00	0.00	
6,219.8	90.00	329.87	5,911.6	723.2	-419.7	11.00	11.00	0.00	0.00	
7,224.2	90.00	0.00	5,911.6	1,681.9	-677.8	3.00	0.00	3.00	90.01	
12,579.3	90.00	0.00	5,912.0	7,037.0	-677.6	0.00	0.00	0.00	0.00	Razor # 11E-0201A P

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site:	S11-T10N-R58W	**North Reference:**	True
Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	KOP @ 800' MD
900.0	2.00	329.87	900.0	1.5	-0.9	1.6	2.00	2.00	
1,000.0	4.00	329.87	999.8	6.0	-3.5	6.3	2.00	2.00	EOB; 4 Deg Inc
1,100.0	4.00	329.87	1,099.6	12.1	-7.0	12.7	0.00	0.00	
1,200.0	4.00	329.87	1,199.4	18.1	-10.5	19.0	0.00	0.00	
1,300.0	4.00	329.87	1,299.1	24.1	-14.0	25.4	0.00	0.00	
1,400.0	4.00	329.87	1,398.9	30.2	-17.5	31.7	0.00	0.00	
1,500.0	4.00	329.87	1,498.6	36.2	-21.0	38.0	0.00	0.00	
1,600.0	4.00	329.87	1,598.4	42.2	-24.5	44.4	0.00	0.00	
1,700.0	4.00	329.87	1,698.1	48.3	-28.0	50.7	0.00	0.00	
1,800.0	4.00	329.87	1,797.9	54.3	-31.5	57.1	0.00	0.00	
1,900.0	4.00	329.87	1,897.6	60.3	-35.0	63.4	0.00	0.00	
2,000.0	4.00	329.87	1,997.4	66.4	-38.5	69.8	0.00	0.00	
2,100.0	4.00	329.87	2,097.2	72.4	-42.0	76.1	0.00	0.00	
2,200.0	4.00	329.87	2,196.9	78.4	-45.5	82.4	0.00	0.00	
2,300.0	4.00	329.87	2,296.7	84.5	-49.0	88.8	0.00	0.00	
2,400.0	4.00	329.87	2,396.4	90.5	-52.5	95.1	0.00	0.00	
2,500.0	4.00	329.87	2,496.2	96.5	-56.0	101.5	0.00	0.00	
2,600.0	4.00	329.87	2,595.9	102.6	-59.5	107.8	0.00	0.00	
2,700.0	4.00	329.87	2,695.7	108.6	-63.0	114.1	0.00	0.00	
2,800.0	4.00	329.87	2,795.5	114.6	-66.5	120.5	0.00	0.00	
2,900.0	4.00	329.87	2,895.2	120.7	-70.0	126.8	0.00	0.00	
3,000.0	4.00	329.87	2,995.0	126.7	-73.5	133.2	0.00	0.00	
3,100.0	4.00	329.87	3,094.7	132.7	-77.0	139.5	0.00	0.00	
3,200.0	4.00	329.87	3,194.5	138.8	-80.5	145.8	0.00	0.00	
3,300.0	4.00	329.87	3,294.2	144.8	-84.0	152.2	0.00	0.00	
3,400.0	4.00	329.87	3,394.0	150.8	-87.5	158.5	0.00	0.00	
3,500.0	4.00	329.87	3,493.7	156.9	-91.0	164.9	0.00	0.00	
3,600.0	4.00	329.87	3,593.5	162.9	-94.5	171.2	0.00	0.00	
3,700.0	4.00	329.87	3,693.3	168.9	-98.0	177.6	0.00	0.00	
3,800.0	4.00	329.87	3,793.0	175.0	-101.5	183.9	0.00	0.00	
3,900.0	4.00	329.87	3,892.8	181.0	-105.0	190.2	0.00	0.00	
4,000.0	4.00	329.87	3,992.5	187.0	-108.5	196.6	0.00	0.00	
4,100.0	4.00	329.87	4,092.3	193.1	-112.1	202.9	0.00	0.00	
4,200.0	4.00	329.87	4,192.0	199.1	-115.6	209.3	0.00	0.00	
4,300.0	4.00	329.87	4,291.8	205.1	-119.1	215.6	0.00	0.00	
4,400.0	4.00	329.87	4,391.6	211.2	-122.6	221.9	0.00	0.00	
4,500.0	4.00	329.87	4,491.3	217.2	-126.1	228.3	0.00	0.00	
4,600.0	4.00	329.87	4,591.1	223.2	-129.6	234.6	0.00	0.00	
4,700.0	4.00	329.87	4,690.8	229.3	-133.1	241.0	0.00	0.00	
4,800.0	4.00	329.87	4,790.6	235.3	-136.6	247.3	0.00	0.00	
4,900.0	4.00	329.87	4,890.3	241.3	-140.1	253.6	0.00	0.00	
5,000.0	4.00	329.87	4,990.1	247.4	-143.6	260.0	0.00	0.00	
5,100.0	4.00	329.87	5,089.9	253.4	-147.1	266.3	0.00	0.00	

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Site:	S11-T10N-R58W	**North Reference:**	True
Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
5,200.0	4.00	329.87	5,189.6	259.4	-150.6	272.7	0.00	0.00	
5,300.0	4.00	329.87	5,289.4	265.5	-154.1	279.0	0.00	0.00	
5,400.0	4.00	329.87	5,389.1	271.5	-157.6	285.3	0.00	0.00	
5,438.0	4.00	329.87	5,427.0	273.8	-158.9	287.8	0.00	0.00	Start 11 Deg Bulid
5,450.0	5.32	329.87	5,439.0	274.6	-159.4	288.6	11.00	11.00	
5,500.0	10.82	329.87	5,488.5	280.7	-162.9	295.0	11.00	11.00	
5,550.0	16.32	329.87	5,537.1	290.8	-168.8	305.7	11.00	11.00	
5,600.0	21.82	329.87	5,584.3	305.0	-177.0	320.5	11.00	11.00	
5,650.0	27.32	329.87	5,629.8	322.9	-187.4	339.4	11.00	11.00	
5,700.0	32.82	329.87	5,673.0	344.6	-200.0	362.2	11.00	11.00	
5,750.0	38.32	329.87	5,713.7	369.7	-214.6	388.6	11.00	11.00	
5,800.0	43.82	329.87	5,751.3	398.1	-231.1	418.5	11.00	11.00	
5,850.0	49.32	329.87	5,785.7	429.5	-249.3	451.5	11.00	11.00	
5,900.0	54.82	329.87	5,816.4	463.6	-269.1	487.3	11.00	11.00	
5,950.0	60.32	329.87	5,843.2	500.1	-290.3	525.6	11.00	11.00	
5,968.3	62.33	329.87	5,852.0	514.0	-298.3	540.2	11.00	11.00	Top Niobrara
6,000.0	65.82	329.87	5,865.9	538.7	-312.6	566.1	11.00	11.00	
6,050.0	71.32	329.87	5,884.1	578.9	-336.0	608.4	11.00	11.00	
6,100.0	76.82	329.87	5,897.8	620.5	-360.1	652.1	11.00	11.00	
6,150.0	82.32	329.87	5,906.9	663.0	-384.8	696.8	11.00	11.00	
6,200.0	87.82	329.87	5,911.2	706.0	-409.8	742.1	11.00	11.00	
6,219.8	90.00	329.87	5,911.6	723.2	-419.7	760.1	11.00	11.00	LP @ 6,219' MD
6,300.0	90.00	332.28	5,911.6	793.4	-458.5	833.6	3.00	0.00	
6,400.0	90.00	335.28	5,911.6	883.1	-502.7	927.2	3.00	0.00	7" (287' FWL, 1436' FNL)
6,500.0	90.00	338.28	5,911.6	974.9	-542.1	1,022.4	3.00	0.00	
6,600.0	90.00	341.28	5,911.6	1,068.8	-576.7	1,119.1	3.00	0.00	
6,700.0	90.00	344.28	5,911.6	1,164.3	-606.3	1,217.0	3.00	0.00	
6,800.0	90.00	347.28	5,911.6	1,261.2	-630.9	1,315.8	3.00	0.00	
6,900.0	90.00	350.28	5,911.6	1,359.3	-650.3	1,415.3	3.00	0.00	
7,000.0	90.00	353.28	5,911.6	1,458.2	-664.6	1,515.2	3.00	0.00	
7,100.0	90.00	356.28	5,911.6	1,557.8	-673.7	1,615.2	3.00	0.00	
7,200.0	90.00	359.28	5,911.6	1,657.7	-677.6	1,715.0	3.00	0.00	
7,224.2	90.00	0.00	5,911.6	1,681.9	-677.8	1,739.2	3.00	0.00	EOT; 0 Deg Azi
7,300.0	90.00	0.00	5,911.6	1,757.7	-677.8	1,814.6	0.00	0.00	
7,400.0	90.00	0.00	5,911.6	1,857.7	-677.8	1,914.1	0.00	0.00	
7,500.0	90.00	0.00	5,911.6	1,957.7	-677.8	2,013.7	0.00	0.00	
7,600.0	90.00	0.00	5,911.6	2,057.7	-677.8	2,113.2	0.00	0.00	
7,700.0	90.00	0.00	5,911.6	2,157.7	-677.8	2,212.7	0.00	0.00	
7,800.0	90.00	0.00	5,911.6	2,257.7	-677.7	2,312.3	0.00	0.00	
7,900.0	90.00	0.00	5,911.7	2,357.7	-677.7	2,411.8	0.00	0.00	
8,000.0	90.00	0.00	5,911.7	2,457.7	-677.7	2,511.4	0.00	0.00	
8,100.0	90.00	0.00	5,911.7	2,557.7	-677.7	2,610.9	0.00	0.00	
8,200.0	90.00	0.00	5,911.7	2,657.7	-677.7	2,710.4	0.00	0.00	
8,300.0	90.00	0.00	5,911.7	2,757.7	-677.7	2,810.0	0.00	0.00	
8,400.0	90.00	0.00	5,911.7	2,857.7	-677.7	2,909.5	0.00	0.00	
8,500.0	90.00	0.00	5,911.7	2,957.7	-677.7	3,009.1	0.00	0.00	
8,600.0	90.00	0.00	5,911.7	3,057.7	-677.7	3,108.6	0.00	0.00	
8,700.0	90.00	0.00	5,911.7	3,157.7	-677.7	3,208.1	0.00	0.00	
8,800.0	90.00	0.00	5,911.7	3,257.7	-677.7	3,307.7	0.00	0.00	
8,900.0	90.00	0.00	5,911.7	3,357.7	-677.7	3,407.2	0.00	0.00	
9,000.0	90.00	0.00	5,911.7	3,457.7	-677.7	3,506.7	0.00	0.00	
9,100.0	90.00	0.00	5,911.7	3,557.7	-677.7	3,606.3	0.00	0.00	

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Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,200.0	90.00	0.00	5,911.8	3,657.7	-677.7	3,705.8	0.00	0.00	
9,300.0	90.00	0.00	5,911.8	3,757.7	-677.7	3,805.4	0.00	0.00	
9,400.0	90.00	0.00	5,911.8	3,857.7	-677.7	3,904.9	0.00	0.00	
9,500.0	90.00	0.00	5,911.8	3,957.7	-677.7	4,004.4	0.00	0.00	
9,600.0	90.00	0.00	5,911.8	4,057.7	-677.7	4,104.0	0.00	0.00	
9,700.0	90.00	0.00	5,911.8	4,157.7	-677.7	4,203.5	0.00	0.00	
9,800.0	90.00	0.00	5,911.8	4,257.7	-677.7	4,303.1	0.00	0.00	
9,900.0	90.00	0.00	5,911.8	4,357.7	-677.7	4,402.6	0.00	0.00	
10,000.0	90.00	0.00	5,911.8	4,457.7	-677.7	4,502.1	0.00	0.00	
10,100.0	90.00	0.00	5,911.8	4,557.7	-677.7	4,601.7	0.00	0.00	
10,200.0	90.00	0.00	5,911.8	4,657.7	-677.7	4,701.2	0.00	0.00	
10,300.0	90.00	0.00	5,911.8	4,757.7	-677.7	4,800.8	0.00	0.00	
10,400.0	90.00	0.00	5,911.8	4,857.7	-677.7	4,900.3	0.00	0.00	
10,500.0	90.00	0.00	5,911.8	4,957.7	-677.7	4,999.8	0.00	0.00	
10,600.0	90.00	0.00	5,911.9	5,057.7	-677.7	5,099.4	0.00	0.00	
10,700.0	90.00	0.00	5,911.9	5,157.7	-677.6	5,198.9	0.00	0.00	
10,800.0	90.00	0.00	5,911.9	5,257.7	-677.6	5,298.5	0.00	0.00	
10,900.0	90.00	0.00	5,911.9	5,357.7	-677.6	5,398.0	0.00	0.00	
11,000.0	90.00	0.00	5,911.9	5,457.7	-677.6	5,497.5	0.00	0.00	
11,100.0	90.00	0.00	5,911.9	5,557.7	-677.6	5,597.1	0.00	0.00	
11,200.0	90.00	0.00	5,911.9	5,657.7	-677.6	5,696.6	0.00	0.00	
11,300.0	90.00	0.00	5,911.9	5,757.7	-677.6	5,796.2	0.00	0.00	
11,400.0	90.00	0.00	5,911.9	5,857.7	-677.6	5,895.7	0.00	0.00	
11,500.0	90.00	0.00	5,911.9	5,957.7	-677.6	5,995.2	0.00	0.00	
11,600.0	90.00	0.00	5,911.9	6,057.7	-677.6	6,094.8	0.00	0.00	
11,700.0	90.00	0.00	5,911.9	6,157.7	-677.6	6,194.3	0.00	0.00	
11,800.0	90.00	0.00	5,911.9	6,257.7	-677.6	6,293.8	0.00	0.00	
11,900.0	90.00	0.00	5,911.9	6,357.7	-677.6	6,393.4	0.00	0.00	
12,000.0	90.00	0.00	5,912.0	6,457.7	-677.6	6,492.9	0.00	0.00	
12,100.0	90.00	0.00	5,912.0	6,557.7	-677.6	6,592.5	0.00	0.00	
12,200.0	90.00	0.00	5,912.0	6,657.7	-677.6	6,692.0	0.00	0.00	
12,300.0	90.00	0.00	5,912.0	6,757.7	-677.6	6,791.5	0.00	0.00	
12,400.0	90.00	0.00	5,912.0	6,857.7	-677.6	6,891.1	0.00	0.00	
12,500.0	90.00	0.00	5,912.0	6,957.7	-677.6	6,990.6	0.00	0.00	
12,579.3	90.00	0.00	5,912.0	7,037.0	-677.6	7,069.5	0.00	0.00	PBHL @ 12,579' MD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Razor # 11E-0201A PBH - plan hits target center - Point	0.00	0.00	5,912.0	7,037.0	-677.6	1,565,357.95	3,458,536.43	40.873506	-103.841958

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Company:	Whiting Petroleum Corporation	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Project:	Weld County, CO	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site:	S11-T10N-R58W	**North Reference:**	True
Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,400.0	5,911.6	7" (287' FWL, 1436' FNL)	7.000	7.500

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,968.3	5,852.0	Top Niobrara		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
800.0	800.0	0.0	0.0	KOP @ 800' MD
1,000.0	999.8	6.0	-3.5	EOB; 4 Deg Inc
5,438.0	5,427.0	273.8	-158.9	Start 11 Deg Bulid
6,219.8	5,911.6	723.2	-419.7	LP @ 6,219' MD
7,224.2	5,911.6	1,681.9	-677.8	EOT; 0 Deg Azi
12,579.3	5,912.0	7,037.0	-677.6	PBHL @ 12,579' MD

Whiting Petroleum Corporation

Weld County, CO
S11-T10N-R58W
Razor #11E-0201A
HZ
Plan #1

Anticollision Report

19 July, 2013

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Plan #1

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

Survey Tool Program **Date** 7/19/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,578.3	Plan #1 (HZ)	ISCWSA MWD	MWD - ISCWSA

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S11-T10N-R58W						
Razor #11E-0202B - HZ - Plan #1	903.3	903.9	31.9	28.1	8.406	CC, ES
Razor #11E-0202B - HZ - Plan #1	12,579.3	12,567.5	344.7	86.4	1.334	Level 3, SF
Razor #11E-0203A - HZ - Plan #1	799.2	799.4	65.7	62.4	19.723	CC
Razor #11E-0203A - HZ - Plan #1	800.0	800.2	65.7	62.4	19.702	ES
Razor #11E-0203A - HZ - Plan #1	12,579.3	12,412.3	659.9	391.1	2.455	SF
Razor #11E-0204B - HZ - Plan #1	500.0	500.0	99.1	97.1	49.937	CC
Razor #11E-0204B - HZ - Plan #1	600.0	599.3	99.5	97.1	40.906	ES
Razor #11E-0204B - HZ - Plan #1	12,579.3	12,514.9	994.6	728.0	3.730	SF
Razor #11E-1401A - HZ - Plan #1	500.0	500.0	75.9	73.9	38.239	CC, ES
Razor #11E-1401A - HZ - Plan #1	1,000.0	993.8	107.1	103.0	26.031	SF
Razor #11E-1402B - HZ - Plan #1	600.0	600.0	82.8	80.4	34.007	CC, ES
Razor #11E-1402B - HZ - Plan #1	1,000.0	994.2	106.6	102.5	25.913	SF
Razor #11E-1403A - HZ - Plan #1	700.0	700.0	100.7	97.8	34.900	CC, ES
Razor #11E-1403A - HZ - Plan #1	1,000.0	993.5	118.4	114.2	28.714	SF
Razor #11E-1404B - HZ - Plan #1	800.0	800.0	124.9	121.5	37.457	CC, ES
Razor #11E-1404B - HZ - Plan #1	5,400.0	5,349.9	732.3	708.5	30.677	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	91.76	-1.0	33.0	33.1				
100.0	100.0	100.0	100.0	0.1	0.1	91.76	-1.0	33.0	33.1	32.9	0.19	176.783	
200.0	200.0	200.0	200.0	0.3	0.3	91.76	-1.0	33.0	33.1	32.4	0.64	51.936	
300.0	300.0	300.0	300.0	0.5	0.5	91.76	-1.0	33.0	33.1	32.0	1.09	30.439	
400.0	400.0	400.0	400.0	0.8	0.8	91.76	-1.0	33.0	33.1	31.5	1.54	21.529	
500.0	500.0	500.0	500.0	1.0	1.0	91.76	-1.0	33.0	33.1	31.1	1.99	16.653	
600.0	600.0	600.0	600.0	1.2	1.2	91.76	-1.0	33.0	33.1	30.6	2.43	13.579	
700.0	700.0	700.0	700.0	1.4	1.4	91.76	-1.0	33.0	33.1	30.2	2.88	11.462	
800.0	800.0	800.4	800.4	1.7	1.7	88.86	0.6	32.5	32.5	29.1	3.33	9.742	
900.0	900.0	900.6	900.4	1.9	1.9	112.74	5.6	30.8	31.9	28.1	3.78	8.437	
903.3	903.3	903.9	903.7	1.9	1.9	112.53	5.8	30.7	31.9	28.1	3.80	8.406	CC, ES
1,000.0	999.8	1,000.6	1,000.2	2.1	2.1	109.19	12.2	28.5	32.6	28.3	4.23	7.694	
1,100.0	1,099.6	1,100.6	1,099.9	2.3	2.4	108.65	18.8	26.2	33.9	29.2	4.70	7.214	
1,200.0	1,199.4	1,200.5	1,199.7	2.6	2.6	108.15	25.4	23.9	35.2	30.0	5.17	6.808	
1,300.0	1,299.1	1,300.5	1,299.4	2.8	2.8	107.69	32.0	21.7	36.5	30.9	5.65	6.463	
1,400.0	1,398.9	1,400.5	1,399.1	3.1	3.1	107.26	38.6	19.4	37.8	31.7	6.14	6.167	
1,500.0	1,498.6	1,500.5	1,498.9	3.3	3.3	106.86	45.2	17.1	39.2	32.5	6.63	5.911	
1,600.0	1,598.4	1,600.5	1,598.6	3.6	3.6	106.49	51.8	14.8	40.5	33.4	7.12	5.688	
1,700.0	1,698.1	1,700.5	1,698.4	3.8	3.8	106.13	58.4	12.6	41.8	34.2	7.62	5.492	
1,800.0	1,797.9	1,800.5	1,798.1	4.1	4.1	105.80	65.0	10.3	43.2	35.0	8.11	5.319	
1,900.0	1,897.6	1,900.5	1,897.9	4.3	4.3	105.49	71.6	8.0	44.5	35.9	8.61	5.164	
2,000.0	1,997.4	2,000.5	1,997.6	4.6	4.6	105.20	78.2	5.8	45.8	36.7	9.11	5.026	
2,100.0	2,097.2	2,100.5	2,097.4	4.8	4.8	104.93	84.7	3.5	47.1	37.5	9.62	4.902	
2,200.0	2,196.9	2,200.5	2,197.1	5.1	5.1	104.67	91.3	1.2	48.5	38.4	10.12	4.790	
2,300.0	2,296.7	2,300.4	2,296.9	5.3	5.4	104.42	97.9	-1.1	49.8	39.2	10.63	4.688	
2,400.0	2,396.4	2,400.4	2,396.6	5.6	5.6	104.19	104.5	-3.3	51.1	40.0	11.13	4.595	
2,500.0	2,496.2	2,500.4	2,496.4	5.8	5.9	103.97	111.1	-5.6	52.5	40.8	11.64	4.509	
2,600.0	2,595.9	2,600.4	2,596.1	6.1	6.1	103.75	117.7	-7.9	53.8	41.7	12.15	4.431	
2,700.0	2,695.7	2,700.4	2,695.9	6.3	6.4	103.55	124.3	-10.2	55.2	42.5	12.65	4.359	
2,800.0	2,795.5	2,800.4	2,795.6	6.6	6.6	103.36	130.9	-12.4	56.5	43.3	13.16	4.292	
2,900.0	2,895.2	2,900.4	2,895.4	6.8	6.9	103.18	137.5	-14.7	57.8	44.2	13.67	4.231	
3,000.0	2,995.0	3,000.4	2,995.1	7.1	7.1	103.01	144.1	-17.0	59.2	45.0	14.18	4.173	
3,100.0	3,094.7	3,100.4	3,094.9	7.3	7.4	102.84	150.7	-19.3	60.5	45.8	14.69	4.120	
3,200.0	3,194.5	3,200.4	3,194.6	7.6	7.6	102.68	157.3	-21.5	61.8	46.7	15.20	4.070	
3,300.0	3,294.2	3,300.4	3,294.3	7.9	7.9	102.53	163.9	-23.8	63.2	47.5	15.71	4.023	
3,400.0	3,394.0	3,400.3	3,394.1	8.1	8.2	102.38	170.5	-26.1	64.5	48.3	16.22	3.979	
3,500.0	3,493.7	3,500.3	3,493.8	8.4	8.4	102.24	177.1	-28.3	65.9	49.1	16.73	3.938	
3,600.0	3,593.5	3,600.3	3,593.6	8.6	8.7	102.11	183.7	-30.6	67.2	50.0	17.24	3.899	
3,700.0	3,693.3	3,700.3	3,693.3	8.9	8.9	101.98	190.3	-32.9	68.6	50.8	17.75	3.862	
3,800.0	3,793.0	3,800.3	3,793.1	9.1	9.2	101.86	196.9	-35.2	69.9	51.6	18.26	3.828	
3,900.0	3,892.8	3,900.3	3,892.8	9.4	9.4	101.74	203.4	-37.4	71.2	52.5	18.77	3.795	
4,000.0	3,992.5	4,000.3	3,992.6	9.6	9.7	101.62	210.0	-39.7	72.6	53.3	19.28	3.764	
4,100.0	4,092.3	4,100.3	4,092.3	9.9	9.9	101.51	216.6	-42.0	73.9	54.1	19.80	3.734	
4,200.0	4,192.0	4,200.3	4,192.1	10.2	10.2	101.40	223.2	-44.3	75.3	55.0	20.31	3.706	
4,300.0	4,291.8	4,300.3	4,291.8	10.4	10.5	101.30	229.8	-46.5	76.6	55.8	20.82	3.680	
4,400.0	4,391.6	4,400.3	4,391.6	10.7	10.7	101.20	236.4	-48.8	78.0	56.6	21.33	3.654	
4,500.0	4,491.3	4,500.2	4,491.3	10.9	11.0	101.11	243.0	-51.1	79.3	57.5	21.84	3.630	
4,600.0	4,591.1	4,600.2	4,591.1	11.2	11.2	101.01	249.6	-53.4	80.6	58.3	22.36	3.607	
4,700.0	4,690.8	4,700.2	4,690.8	11.4	11.5	100.92	256.2	-55.6	82.0	59.1	22.87	3.585	
4,800.0	4,790.6	4,800.2	4,790.6	11.7	11.7	100.84	262.8	-57.9	83.3	60.0	23.38	3.564	
4,900.0	4,890.3	4,900.2	4,890.3	12.0	12.0	100.75	269.4	-60.2	84.7	60.8	23.89	3.544	
5,000.0	4,990.1	5,000.2	4,990.1	12.2	12.3	100.67	276.0	-62.4	86.0	61.6	24.41	3.525	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,089.9	5,100.2	5,089.8	12.5	12.5	100.59	282.6	-64.7	87.4	62.4	24.92	3.506	
5,200.0	5,189.6	5,200.2	5,189.5	12.7	12.8	100.51	289.2	-67.0	88.7	63.3	25.43	3.488	
5,300.0	5,289.4	5,300.2	5,289.3	13.0	13.0	100.44	295.8	-69.3	90.1	64.1	25.94	3.471	
5,400.0	5,389.1	5,400.2	5,389.0	13.2	13.3	100.37	302.4	-71.5	91.4	64.9	26.46	3.455	
5,500.0	5,488.5	5,500.0	5,488.6	13.5	13.5	102.35	308.9	-73.8	93.5	66.5	26.96	3.467	
5,600.0	5,584.3	5,599.9	5,587.9	14.0	13.8	111.52	318.8	-77.2	100.8	73.5	27.33	3.689	
5,700.0	5,673.0	5,703.6	5,687.3	14.6	14.3	118.82	346.2	-86.7	114.2	86.7	27.56	4.145	
5,800.0	5,751.3	5,811.1	5,782.1	15.3	14.9	122.99	393.7	-103.0	131.8	104.0	27.81	4.739	
5,900.0	5,816.4	5,922.3	5,867.2	16.3	15.8	124.53	461.1	-126.2	151.6	123.2	28.43	5.334	
6,000.0	5,865.9	6,037.1	5,937.2	17.6	17.0	124.04	546.8	-155.8	172.5	142.6	29.83	5.782	
6,100.0	5,897.8	6,155.0	5,986.6	19.0	18.5	122.07	647.8	-190.6	193.3	161.0	32.26	5.990	
6,200.0	5,911.2	6,275.4	6,011.0	20.6	20.2	119.01	758.9	-228.9	213.2	177.5	35.69	5.974	
6,300.0	5,911.6	6,376.8	6,013.1	22.2	21.8	116.53	855.1	-261.2	230.3	191.0	39.31	5.857	
6,400.0	5,911.6	6,465.3	6,013.1	23.7	23.1	114.67	940.1	-285.7	246.3	203.7	42.60	5.781	
6,500.0	5,911.6	6,553.1	6,013.1	25.3	24.4	113.10	1,025.5	-306.0	261.9	216.1	45.83	5.714	
6,600.0	5,911.6	6,640.3	6,013.1	27.0	25.7	111.74	1,111.2	-322.3	277.1	228.1	49.00	5.655	
6,700.0	5,911.6	6,727.0	6,013.1	28.7	27.0	110.58	1,197.0	-334.6	291.8	239.8	52.09	5.603	
6,800.0	5,911.6	6,813.2	6,013.1	30.3	28.4	109.57	1,282.7	-343.0	306.0	250.9	55.06	5.557	
6,900.0	5,911.6	6,900.0	6,013.1	32.0	29.7	108.68	1,369.4	-347.5	319.5	261.6	57.93	5.516	
7,000.0	5,911.6	6,988.8	6,013.1	33.6	31.1	107.91	1,458.2	-348.3	332.2	271.5	60.70	5.473	
7,100.0	5,911.6	7,088.4	6,013.1	35.2	32.8	107.36	1,557.8	-348.3	340.9	277.4	63.49	5.369	
7,200.0	5,911.6	7,188.3	6,013.1	36.8	34.4	107.13	1,657.7	-348.3	344.6	278.5	66.08	5.214	
7,300.0	5,911.6	7,288.3	6,013.1	38.4	36.1	107.12	1,757.7	-348.3	344.7	275.6	69.16	4.984	
7,400.0	5,911.6	7,388.3	6,013.1	40.0	37.8	107.12	1,857.7	-348.3	344.7	272.3	72.46	4.758	
7,500.0	5,911.6	7,488.3	6,013.1	41.6	39.6	107.11	1,957.7	-348.3	344.7	268.9	75.79	4.548	
7,600.0	5,911.6	7,588.3	6,013.1	43.2	41.3	107.11	2,057.7	-348.3	344.7	265.6	79.16	4.355	
7,700.0	5,911.6	7,688.3	6,013.1	44.9	43.1	107.11	2,157.7	-348.3	344.7	262.2	82.56	4.176	
7,800.0	5,911.6	7,788.3	6,013.1	46.6	44.9	107.11	2,257.7	-348.3	344.7	258.8	85.98	4.010	
7,900.0	5,911.7	7,888.3	6,013.1	48.3	46.7	107.11	2,357.7	-348.3	344.7	255.3	89.42	3.855	
8,000.0	5,911.7	7,988.3	6,013.1	50.0	48.4	107.11	2,457.7	-348.3	344.7	251.8	92.88	3.711	
8,100.0	5,911.7	8,088.3	6,013.1	51.7	50.3	107.11	2,557.7	-348.3	344.7	248.4	96.36	3.577	
8,200.0	5,911.7	8,188.3	6,013.1	53.5	52.1	107.10	2,657.7	-348.3	344.7	244.9	99.86	3.452	
8,300.0	5,911.7	8,288.3	6,013.1	55.2	53.9	107.10	2,757.7	-348.2	344.7	241.4	103.37	3.335	
8,400.0	5,911.7	8,388.3	6,013.1	57.0	55.7	107.10	2,857.7	-348.2	344.7	237.8	106.89	3.225	
8,500.0	5,911.7	8,488.3	6,013.1	58.8	57.6	107.10	2,957.7	-348.2	344.7	234.3	110.42	3.122	
8,600.0	5,911.7	8,588.3	6,013.1	60.6	59.4	107.10	3,057.7	-348.2	344.7	230.8	113.97	3.025	
8,700.0	5,911.7	8,688.3	6,013.1	62.3	61.2	107.10	3,157.7	-348.2	344.7	227.2	117.52	2.933	
8,800.0	5,911.7	8,788.3	6,013.1	64.1	63.1	107.10	3,257.7	-348.2	344.7	223.6	121.08	2.847	
8,900.0	5,911.7	8,888.3	6,013.1	66.0	65.0	107.09	3,357.7	-348.2	344.7	220.1	124.66	2.765	
9,000.0	5,911.7	8,988.3	6,013.1	67.8	66.8	107.09	3,457.7	-348.2	344.7	216.5	128.23	2.688	
9,100.0	5,911.7	9,088.3	6,013.1	69.6	68.7	107.09	3,557.7	-348.2	344.7	212.9	131.82	2.615	
9,200.0	5,911.8	9,188.3	6,013.1	71.4	70.5	107.09	3,657.7	-348.2	344.7	209.3	135.41	2.546	
9,300.0	5,911.8	9,288.3	6,013.1	73.2	72.4	107.09	3,757.7	-348.2	344.7	205.7	139.01	2.480	
9,400.0	5,911.8	9,388.3	6,013.1	75.1	74.3	107.09	3,857.7	-348.2	344.7	202.1	142.61	2.417	
9,500.0	5,911.8	9,488.3	6,013.0	76.9	76.1	107.09	3,957.7	-348.2	344.7	198.5	146.21	2.358	
9,600.0	5,911.8	9,588.3	6,013.0	78.8	78.0	107.08	4,057.7	-348.2	344.7	194.9	149.83	2.301	
9,700.0	5,911.8	9,688.3	6,013.0	80.6	79.9	107.08	4,157.7	-348.2	344.7	191.3	153.44	2.247	
9,800.0	5,911.8	9,788.3	6,013.0	82.4	81.8	107.08	4,257.7	-348.2	344.7	187.7	157.06	2.195	
9,900.0	5,911.8	9,888.3	6,013.0	84.3	83.7	107.08	4,357.7	-348.2	344.7	184.0	160.68	2.145	
10,000.0	5,911.8	9,988.3	6,013.0	86.2	85.5	107.08	4,457.7	-348.2	344.7	180.4	164.31	2.098	
10,100.0	5,911.8	10,088.3	6,013.0	88.0	87.4	107.08	4,557.7	-348.1	344.7	176.8	167.94	2.053	
10,200.0	5,911.8	10,188.3	6,013.0	89.9	89.3	107.07	4,657.7	-348.1	344.7	173.1	171.57	2.009	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	5,911.8	10,288.3	6,013.0	91.7	91.2	107.07	4,757.7	-348.1	344.7	169.5	175.21	1.967	
10,400.0	5,911.8	10,388.3	6,013.0	93.6	93.1	107.07	4,857.7	-348.1	344.7	165.9	178.85	1.927	
10,500.0	5,911.8	10,488.3	6,013.0	95.5	95.0	107.07	4,957.7	-348.1	344.7	162.2	182.49	1.889	
10,600.0	5,911.9	10,588.3	6,013.0	97.3	96.9	107.07	5,057.7	-348.1	344.7	158.6	186.13	1.852	
10,700.0	5,911.9	10,688.3	6,013.0	99.2	98.8	107.07	5,157.7	-348.1	344.7	154.9	189.78	1.816	
10,800.0	5,911.9	10,788.3	6,013.0	101.1	100.7	107.07	5,257.7	-348.1	344.7	151.3	193.43	1.782	
10,900.0	5,911.9	10,888.3	6,013.0	103.0	102.6	107.06	5,357.7	-348.1	344.7	147.6	197.08	1.749	
11,000.0	5,911.9	10,988.3	6,013.0	104.8	104.5	107.06	5,457.7	-348.1	344.7	144.0	200.73	1.717	
11,100.0	5,911.9	11,088.3	6,013.0	106.7	106.4	107.06	5,557.7	-348.1	344.7	140.3	204.38	1.687	
11,200.0	5,911.9	11,188.3	6,013.0	108.6	108.3	107.06	5,657.7	-348.1	344.7	136.7	208.04	1.657	
11,300.0	5,911.9	11,288.3	6,013.0	110.5	110.1	107.06	5,757.7	-348.1	344.7	133.0	211.69	1.628	
11,400.0	5,911.9	11,388.3	6,013.0	112.4	112.0	107.06	5,857.7	-348.1	344.7	129.4	215.35	1.601	
11,500.0	5,911.9	11,488.3	6,013.0	114.3	113.9	107.06	5,957.7	-348.1	344.7	125.7	219.01	1.574	
11,600.0	5,911.9	11,588.3	6,013.0	116.1	115.9	107.05	6,057.7	-348.1	344.7	122.0	222.67	1.548	
11,700.0	5,911.9	11,688.3	6,013.0	118.0	117.8	107.05	6,157.7	-348.1	344.7	118.4	226.33	1.523	
11,800.0	5,911.9	11,788.3	6,013.0	119.9	119.7	107.05	6,257.7	-348.1	344.7	114.7	230.00	1.499	Level 3
11,900.0	5,911.9	11,888.3	6,013.0	121.8	121.6	107.05	6,357.7	-348.0	344.7	111.0	233.66	1.475	Level 3
12,000.0	5,912.0	11,988.3	6,013.0	123.7	123.5	107.05	6,457.7	-348.0	344.7	107.4	237.33	1.452	Level 3
12,100.0	5,912.0	12,088.3	6,013.0	125.6	125.4	107.05	6,557.7	-348.0	344.7	103.7	240.99	1.430	Level 3
12,200.0	5,912.0	12,188.3	6,013.0	127.5	127.3	107.05	6,657.7	-348.0	344.7	100.0	244.66	1.409	Level 3
12,300.0	5,912.0	12,288.3	6,013.0	129.4	129.2	107.04	6,757.7	-348.0	344.7	96.4	248.33	1.388	Level 3
12,400.0	5,912.0	12,388.3	6,013.0	131.3	131.1	107.04	6,857.7	-348.0	344.7	92.7	252.00	1.368	Level 3
12,500.0	5,912.0	12,488.3	6,013.0	133.2	133.0	107.04	6,957.7	-348.0	344.7	89.0	255.67	1.348	Level 3
12,579.3	5,912.0	12,567.5	6,013.0	134.4	134.5	107.04	7,036.9	-348.0	344.7	86.4	258.31	1.334	Level 3, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.88	-1.0	66.1	66.1				
100.0	100.0	100.0	100.0	0.1	0.1	90.88	-1.0	66.1	66.1	65.9	0.19	353.437	
200.0	200.0	200.0	200.0	0.3	0.3	90.88	-1.0	66.1	66.1	65.5	0.64	103.837	
300.0	300.0	300.0	300.0	0.5	0.5	90.88	-1.0	66.1	66.1	65.0	1.09	60.858	
400.0	400.0	400.0	400.0	0.8	0.8	90.88	-1.0	66.1	66.1	64.6	1.54	43.042	
500.0	500.0	500.0	500.0	1.0	1.0	90.88	-1.0	66.1	66.1	64.1	1.99	33.295	
600.0	600.0	600.0	600.0	1.2	1.2	90.88	-1.0	66.1	66.1	63.7	2.43	27.148	
700.0	700.0	700.2	700.2	1.4	1.4	89.37	0.7	65.9	65.9	63.1	2.88	22.859	
799.2	799.2	799.4	799.2	1.7	1.7	84.86	5.9	65.5	65.7	62.4	3.33	19.723	CC
800.0	800.0	800.2	800.0	1.7	1.7	84.81	5.9	65.5	65.7	62.4	3.34	19.702	ES
900.0	900.0	900.0	899.6	1.9	1.9	110.29	12.9	64.8	66.7	62.9	3.79	17.597	
1,000.0	999.8	999.9	999.3	2.1	2.1	108.55	19.8	64.2	69.1	64.9	4.25	16.261	
1,100.0	1,099.6	1,099.9	1,099.0	2.3	2.4	108.30	26.8	63.6	72.1	67.4	4.72	15.278	
1,200.0	1,199.4	1,199.8	1,198.7	2.6	2.6	108.06	33.7	63.0	75.1	69.9	5.20	14.452	
1,300.0	1,299.1	1,299.8	1,298.4	2.8	2.9	107.85	40.7	62.3	78.1	72.4	5.68	13.751	
1,400.0	1,398.9	1,399.8	1,398.1	3.1	3.1	107.65	47.6	61.7	81.1	75.0	6.17	13.151	
1,500.0	1,498.6	1,499.7	1,497.8	3.3	3.4	107.46	54.5	61.1	84.1	77.5	6.66	12.632	
1,600.0	1,598.4	1,599.7	1,597.6	3.6	3.6	107.29	61.5	60.5	87.1	80.0	7.15	12.180	
1,700.0	1,698.1	1,699.6	1,697.3	3.8	3.9	107.13	68.4	59.8	90.1	82.5	7.65	11.783	
1,800.0	1,797.9	1,799.6	1,797.0	4.1	4.1	106.98	75.4	59.2	93.2	85.0	8.15	11.432	
1,900.0	1,897.6	1,899.5	1,896.7	4.3	4.4	106.83	82.3	58.6	96.2	87.5	8.65	11.119	
2,000.0	1,997.4	1,999.5	1,996.4	4.6	4.6	106.70	89.3	58.0	99.2	90.0	9.15	10.840	
2,100.0	2,097.2	2,099.4	2,096.1	4.8	4.9	106.58	96.2	57.3	102.2	92.5	9.65	10.588	
2,200.0	2,196.9	2,199.4	2,195.8	5.1	5.1	106.46	103.2	56.7	105.2	95.0	10.15	10.360	
2,300.0	2,296.7	2,299.3	2,295.5	5.3	5.4	106.35	110.1	56.1	108.2	97.5	10.66	10.153	
2,400.0	2,396.4	2,399.3	2,395.2	5.6	5.6	106.24	117.0	55.5	111.2	100.1	11.16	9.964	
2,500.0	2,496.2	2,499.3	2,495.0	5.8	5.9	106.14	124.0	54.8	114.2	102.6	11.67	9.791	
2,600.0	2,595.9	2,599.2	2,594.7	6.1	6.2	106.05	130.9	54.2	117.2	105.1	12.17	9.632	
2,700.0	2,695.7	2,699.2	2,694.4	6.3	6.4	105.96	137.9	53.6	120.2	107.6	12.68	9.485	
2,800.0	2,795.5	2,799.1	2,794.1	6.6	6.7	105.87	144.8	53.0	123.3	110.1	13.18	9.349	
2,900.0	2,895.2	2,899.1	2,893.8	6.8	6.9	105.79	151.8	52.3	126.3	112.6	13.69	9.223	
3,000.0	2,995.0	2,999.0	2,993.5	7.1	7.2	105.71	158.7	51.7	129.3	115.1	14.20	9.106	
3,100.0	3,094.7	3,099.0	3,093.2	7.3	7.4	105.64	165.7	51.1	132.3	117.6	14.71	8.997	
3,200.0	3,194.5	3,198.9	3,192.9	7.6	7.7	105.57	172.6	50.5	135.3	120.1	15.21	8.895	
3,300.0	3,294.2	3,298.9	3,292.6	7.9	7.9	105.50	179.5	49.8	138.3	122.6	15.72	8.799	
3,400.0	3,394.0	3,398.8	3,392.4	8.1	8.2	105.44	186.5	49.2	141.3	125.1	16.23	8.709	
3,500.0	3,493.7	3,498.8	3,492.1	8.4	8.4	105.37	193.4	48.6	144.4	127.6	16.74	8.625	
3,600.0	3,593.5	3,598.8	3,591.8	8.6	8.7	105.31	200.4	48.0	147.4	130.1	17.25	8.546	
3,700.0	3,693.3	3,698.7	3,691.5	8.9	9.0	105.26	207.3	47.3	150.4	132.6	17.75	8.471	
3,800.0	3,793.0	3,798.7	3,791.2	9.1	9.2	105.20	214.3	46.7	153.4	135.1	18.26	8.400	
3,900.0	3,892.8	3,898.6	3,890.9	9.4	9.5	105.15	221.2	46.1	156.4	137.6	18.77	8.333	
4,000.0	3,992.5	3,998.6	3,990.6	9.6	9.7	105.10	228.2	45.5	159.4	140.1	19.28	8.269	
4,100.0	4,092.3	4,098.5	4,090.3	9.9	10.0	105.05	235.1	44.8	162.4	142.7	19.79	8.209	
4,200.0	4,192.0	4,198.5	4,190.0	10.2	10.2	105.00	242.0	44.2	165.5	145.2	20.30	8.151	
4,300.0	4,291.8	4,298.4	4,289.8	10.4	10.5	104.96	249.0	43.6	168.5	147.7	20.81	8.097	
4,400.0	4,391.6	4,398.4	4,389.5	10.7	10.7	104.91	255.9	43.0	171.5	150.2	21.32	8.045	
4,500.0	4,491.3	4,498.3	4,489.2	10.9	11.0	104.87	262.9	42.3	174.5	152.7	21.83	7.995	
4,600.0	4,591.1	4,598.3	4,588.9	11.2	11.3	104.83	269.8	41.7	177.5	155.2	22.34	7.948	
4,700.0	4,690.8	4,698.3	4,688.6	11.4	11.5	104.79	276.8	41.1	180.5	157.7	22.85	7.902	
4,800.0	4,790.6	4,798.2	4,788.3	11.7	11.8	104.75	283.7	40.5	183.6	160.2	23.36	7.859	
4,900.0	4,890.3	4,898.2	4,888.0	12.0	12.0	104.72	290.7	39.9	186.6	162.7	23.87	7.817	
5,000.0	4,990.1	4,998.1	4,987.7	12.2	12.3	104.68	297.6	39.2	189.6	165.2	24.38	7.778	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,089.9	5,098.1	5,087.4	12.5	12.5	104.65	304.5	38.6	192.6	167.7	24.89	7.739	
5,200.0	5,189.6	5,198.0	5,187.2	12.7	12.8	104.61	311.5	38.0	195.6	170.2	25.39	7.703	
5,300.0	5,289.4	5,298.0	5,286.9	13.0	13.0	104.58	318.4	37.4	198.6	172.7	25.90	7.668	
5,400.0	5,389.1	5,397.9	5,386.6	13.2	13.3	104.55	325.4	36.7	201.6	175.2	26.41	7.634	
5,500.0	5,488.5	5,494.0	5,482.1	13.5	13.6	104.30	334.9	35.9	206.1	179.2	26.95	7.650	
5,600.0	5,584.3	5,586.6	5,571.4	14.0	14.0	103.44	359.0	33.7	217.9	190.2	27.68	7.871	
5,700.0	5,673.0	5,678.1	5,654.0	14.6	14.5	102.03	397.9	30.2	237.0	208.4	28.69	8.262	
5,800.0	5,751.3	5,768.2	5,727.5	15.3	15.1	100.15	449.6	25.6	262.8	232.8	30.03	8.752	
5,900.0	5,816.4	5,856.8	5,789.9	16.3	15.9	97.86	512.0	19.9	294.2	262.5	31.74	9.270	
6,000.0	5,865.9	5,944.2	5,840.4	17.6	16.8	95.27	583.0	13.5	330.2	296.3	33.82	9.762	
6,100.0	5,897.8	6,031.2	5,877.9	19.0	17.9	92.48	661.1	6.5	369.4	333.2	36.22	10.199	
6,200.0	5,911.2	6,118.6	5,902.1	20.6	19.1	89.61	744.6	-1.0	410.7	371.9	38.84	10.573	
6,300.0	5,911.6	6,208.8	5,911.9	22.2	20.4	90.05	833.8	-9.0	451.3	409.6	41.72	10.817	
6,400.0	5,911.6	6,285.6	5,912.1	23.7	21.5	90.07	910.3	-14.8	488.7	444.2	44.43	10.999	
6,500.0	5,911.6	6,359.3	5,912.1	25.3	22.5	90.06	984.0	-17.5	524.7	477.6	47.10	11.141	
6,600.0	5,911.6	6,444.1	5,912.1	27.0	23.8	90.06	1,068.8	-17.8	558.9	508.9	50.00	11.178	
6,700.0	5,911.6	6,539.6	5,912.1	28.7	25.3	90.05	1,164.3	-17.8	588.5	535.4	53.14	11.075	
6,800.0	5,911.6	6,636.5	5,912.1	30.3	26.9	90.05	1,261.2	-17.8	613.1	556.8	56.30	10.891	
6,900.0	5,911.6	6,734.6	5,912.1	32.0	28.6	90.05	1,359.3	-17.8	632.6	573.1	59.43	10.644	
7,000.0	5,911.6	6,833.5	5,912.1	33.6	30.3	90.04	1,458.2	-17.8	646.9	584.4	62.51	10.349	
7,100.0	5,911.6	6,933.1	5,912.1	35.2	32.0	90.04	1,557.8	-17.8	656.0	590.5	65.50	10.016	
7,200.0	5,911.6	7,033.0	5,912.1	36.8	33.7	90.04	1,657.7	-17.8	659.9	591.5	68.36	9.652	
7,300.0	5,911.6	7,133.0	5,912.1	38.4	35.5	90.04	1,757.7	-17.8	660.0	588.4	71.65	9.211	
7,400.0	5,911.6	7,233.0	5,912.1	40.0	37.3	90.04	1,857.7	-17.7	660.0	584.9	75.12	8.786	
7,500.0	5,911.6	7,333.0	5,912.1	41.6	39.1	90.04	1,957.7	-17.7	660.0	581.4	78.62	8.394	
7,600.0	5,911.6	7,433.0	5,912.1	43.2	40.9	90.04	2,057.7	-17.7	660.0	577.8	82.16	8.033	
7,700.0	5,911.6	7,533.0	5,912.1	44.9	42.7	90.04	2,157.7	-17.7	660.0	574.3	85.72	7.700	
7,800.0	5,911.6	7,633.0	5,912.1	46.6	44.6	90.04	2,257.7	-17.7	660.0	570.7	89.30	7.391	
7,900.0	5,911.7	7,733.0	5,912.1	48.3	46.4	90.04	2,357.7	-17.7	660.0	567.1	92.91	7.104	
8,000.0	5,911.7	7,833.0	5,912.1	50.0	48.2	90.04	2,457.7	-17.7	660.0	563.5	96.53	6.837	
8,100.0	5,911.7	7,933.0	5,912.1	51.7	50.1	90.03	2,557.7	-17.7	660.0	559.8	100.17	6.589	
8,200.0	5,911.7	8,033.0	5,912.1	53.5	51.9	90.03	2,657.7	-17.7	660.0	556.2	103.82	6.357	
8,300.0	5,911.7	8,133.0	5,912.1	55.2	53.8	90.03	2,757.7	-17.7	660.0	552.5	107.49	6.140	
8,400.0	5,911.7	8,233.0	5,912.1	57.0	55.7	90.03	2,857.7	-17.7	660.0	548.8	111.17	5.937	
8,500.0	5,911.7	8,333.0	5,912.1	58.8	57.5	90.03	2,957.7	-17.7	660.0	545.1	114.86	5.746	
8,600.0	5,911.7	8,433.0	5,912.0	60.6	59.4	90.03	3,057.7	-17.7	660.0	541.4	118.56	5.567	
8,700.0	5,911.7	8,533.0	5,912.0	62.3	61.3	90.03	3,157.7	-17.7	660.0	537.7	122.27	5.398	
8,800.0	5,911.7	8,633.0	5,912.0	64.1	63.1	90.03	3,257.7	-17.7	660.0	534.0	125.98	5.239	
8,900.0	5,911.7	8,733.0	5,912.0	66.0	65.0	90.03	3,357.7	-17.7	660.0	530.3	129.71	5.088	
9,000.0	5,911.7	8,833.0	5,912.0	67.8	66.9	90.03	3,457.7	-17.7	660.0	526.5	133.44	4.946	
9,100.0	5,911.7	8,933.0	5,912.0	69.6	68.8	90.03	3,557.7	-17.7	660.0	522.8	137.17	4.811	
9,200.0	5,911.8	9,033.0	5,912.0	71.4	70.7	90.03	3,657.7	-17.7	660.0	519.1	140.92	4.683	
9,300.0	5,911.8	9,133.0	5,912.0	73.2	72.6	90.03	3,757.7	-17.7	660.0	515.3	144.67	4.562	
9,400.0	5,911.8	9,233.0	5,912.0	75.1	74.5	90.02	3,857.7	-17.7	660.0	511.6	148.42	4.447	
9,500.0	5,911.8	9,333.0	5,912.0	76.9	76.3	90.02	3,957.7	-17.7	660.0	507.8	152.18	4.337	
9,600.0	5,911.8	9,433.0	5,912.0	78.8	78.2	90.02	4,057.7	-17.7	660.0	504.0	155.94	4.232	
9,700.0	5,911.8	9,533.0	5,912.0	80.6	80.1	90.02	4,157.7	-17.7	660.0	500.3	159.70	4.132	
9,800.0	5,911.8	9,633.0	5,912.0	82.4	82.0	90.02	4,257.7	-17.7	660.0	496.5	163.47	4.037	
9,900.0	5,911.8	9,733.0	5,912.0	84.3	83.9	90.02	4,357.7	-17.7	660.0	492.7	167.24	3.946	
10,000.0	5,911.8	9,833.0	5,912.0	86.2	85.8	90.02	4,457.7	-17.7	660.0	488.9	171.02	3.859	
10,100.0	5,911.8	9,933.0	5,912.0	88.0	87.7	90.02	4,557.7	-17.7	660.0	485.2	174.80	3.776	
10,200.0	5,911.8	10,033.0	5,912.0	89.9	89.6	90.02	4,657.7	-17.7	660.0	481.4	178.58	3.696	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	5,911.8	10,133.0	5,912.0	91.7	91.5	90.02	4,757.7	-17.7	660.0	477.6	182.36	3.619	
10,400.0	5,911.8	10,233.0	5,912.0	93.6	93.4	90.02	4,857.7	-17.7	660.0	473.8	186.15	3.545	
10,500.0	5,911.8	10,333.0	5,912.0	95.5	95.3	90.02	4,957.7	-17.7	660.0	470.0	189.94	3.475	
10,600.0	5,911.9	10,433.0	5,912.0	97.3	97.2	90.02	5,057.7	-17.7	660.0	466.2	193.73	3.407	
10,700.0	5,911.9	10,533.0	5,912.0	99.2	99.1	90.01	5,157.7	-17.7	660.0	462.4	197.52	3.341	
10,800.0	5,911.9	10,633.0	5,912.0	101.1	101.0	90.01	5,257.7	-17.7	659.9	458.6	201.32	3.278	
10,900.0	5,911.9	10,733.0	5,912.0	103.0	102.9	90.01	5,357.7	-17.7	659.9	454.8	205.11	3.217	
11,000.0	5,911.9	10,833.0	5,912.0	104.8	104.8	90.01	5,457.7	-17.7	659.9	451.0	208.91	3.159	
11,100.0	5,911.9	10,933.0	5,912.0	106.7	106.8	90.01	5,557.7	-17.7	659.9	447.2	212.71	3.103	
11,200.0	5,911.9	11,033.0	5,912.0	108.6	108.7	90.01	5,657.7	-17.7	659.9	443.4	216.51	3.048	
11,300.0	5,911.9	11,133.0	5,912.0	110.5	110.6	90.01	5,757.7	-17.7	659.9	439.6	220.31	2.995	
11,400.0	5,911.9	11,233.0	5,912.0	112.4	112.5	90.01	5,857.7	-17.7	659.9	435.8	224.12	2.945	
11,500.0	5,911.9	11,333.0	5,912.0	114.3	114.4	90.01	5,957.7	-17.7	659.9	432.0	227.92	2.895	
11,600.0	5,911.9	11,433.0	5,912.0	116.1	116.3	90.01	6,057.7	-17.7	659.9	428.2	231.73	2.848	
11,700.0	5,911.9	11,533.0	5,912.0	118.0	118.2	90.01	6,157.7	-17.7	659.9	424.4	235.54	2.802	
11,800.0	5,911.9	11,633.0	5,912.0	119.9	120.1	90.01	6,257.7	-17.7	659.9	420.6	239.35	2.757	
11,900.0	5,911.9	11,733.0	5,912.0	121.8	122.0	90.01	6,357.7	-17.7	659.9	416.8	243.16	2.714	
12,000.0	5,912.0	11,833.0	5,912.0	123.7	123.9	90.01	6,457.7	-17.7	659.9	413.0	246.97	2.672	
12,100.0	5,912.0	11,933.0	5,912.0	125.6	125.8	90.00	6,557.7	-17.7	659.9	409.1	250.78	2.631	
12,200.0	5,912.0	12,033.0	5,912.0	127.5	127.8	90.00	6,657.7	-17.7	659.9	405.3	254.60	2.592	
12,300.0	5,912.0	12,133.0	5,912.0	129.4	129.7	90.00	6,757.7	-17.7	659.9	401.5	258.41	2.554	
12,400.0	5,912.0	12,233.0	5,912.0	131.3	131.6	90.00	6,857.7	-17.7	659.9	397.7	262.22	2.517	
12,500.0	5,912.0	12,333.0	5,912.0	133.2	133.5	90.00	6,957.7	-17.7	659.9	393.9	266.04	2.481	
12,579.3	5,912.0	12,412.3	5,912.0	134.4	135.0	90.00	7,037.0	-17.7	659.9	391.1	268.79	2.455	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0204B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	99.1	99.1				
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	99.1	99.1	98.9	0.19	530.097	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	99.1	99.1	98.5	0.64	155.735	
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	99.1	99.1	98.0	1.09	91.275	
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	99.1	99.1	97.6	1.54	64.555	
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	99.1	99.1	97.1	1.99	49.937	CC
600.0	600.0	599.3	599.2	1.2	1.2	89.03	1.7	99.5	99.5	97.1	2.43	40.906	ES
700.0	700.0	698.3	698.1	1.4	1.4	86.17	6.7	100.5	100.8	97.9	2.88	34.966	
800.0	800.0	798.0	797.6	1.7	1.7	82.43	13.5	101.9	102.8	99.5	3.34	30.795	
900.0	900.0	897.9	897.2	1.9	1.9	109.82	20.4	103.3	105.9	102.1	3.80	27.885	
1,000.0	999.8	997.8	996.9	2.1	2.2	108.93	27.2	104.7	110.3	106.0	4.26	25.886	
1,100.0	1,099.6	1,097.6	1,096.5	2.3	2.4	109.01	34.0	106.1	115.3	110.5	4.73	24.360	
1,200.0	1,199.4	1,197.5	1,196.1	2.6	2.6	109.08	40.8	107.5	120.2	115.0	5.21	23.082	
1,300.0	1,299.1	1,297.4	1,295.8	2.8	2.9	109.15	47.7	108.9	125.2	119.5	5.69	21.998	
1,400.0	1,398.9	1,397.3	1,395.4	3.1	3.1	109.22	54.5	110.3	130.2	124.0	6.18	21.071	
1,500.0	1,498.6	1,497.1	1,495.0	3.3	3.4	109.28	61.3	111.7	135.1	128.5	6.67	20.270	
1,600.0	1,598.4	1,597.0	1,594.7	3.6	3.7	109.33	68.1	113.1	140.1	132.9	7.16	19.572	
1,700.0	1,698.1	1,696.9	1,694.3	3.8	3.9	109.38	75.0	114.5	145.1	137.4	7.65	18.959	
1,800.0	1,797.9	1,796.8	1,793.9	4.1	4.2	109.43	81.8	115.9	150.0	141.9	8.15	18.417	
1,900.0	1,897.6	1,896.6	1,893.6	4.3	4.4	109.47	88.6	117.3	155.0	146.3	8.64	17.934	
2,000.0	1,997.4	1,996.5	1,993.2	4.6	4.7	109.51	95.4	118.7	160.0	150.8	9.14	17.502	
2,100.0	2,097.2	2,096.4	2,092.8	4.8	4.9	109.55	102.3	120.1	164.9	155.3	9.64	17.112	
2,200.0	2,196.9	2,196.3	2,192.5	5.1	5.2	109.59	109.1	121.5	169.9	159.8	10.14	16.760	
2,300.0	2,296.7	2,296.2	2,292.1	5.3	5.4	109.63	115.9	122.9	174.9	164.2	10.64	16.440	
2,400.0	2,396.4	2,396.0	2,391.7	5.6	5.7	109.66	122.7	124.3	179.8	168.7	11.14	16.147	
2,500.0	2,496.2	2,495.9	2,491.4	5.8	5.9	109.69	129.6	125.7	184.8	173.2	11.64	15.879	
2,600.0	2,595.9	2,595.8	2,591.0	6.1	6.2	109.72	136.4	127.1	189.8	177.6	12.14	15.633	
2,700.0	2,695.7	2,695.7	2,690.6	6.3	6.4	109.75	143.2	128.5	194.7	182.1	12.64	15.405	
2,800.0	2,795.5	2,795.5	2,790.3	6.6	6.7	109.77	150.0	129.9	199.7	186.5	13.14	15.195	
2,900.0	2,895.2	2,895.4	2,889.9	6.8	7.0	109.80	156.9	131.3	204.7	191.0	13.64	15.000	
3,000.0	2,995.0	2,995.3	2,989.5	7.1	7.2	109.82	163.7	132.7	209.6	195.5	14.15	14.818	
3,100.0	3,094.7	3,095.2	3,089.2	7.3	7.5	109.85	170.5	134.1	214.6	199.9	14.65	14.649	
3,200.0	3,194.5	3,195.0	3,188.8	7.6	7.7	109.87	177.3	135.5	219.6	204.4	15.15	14.490	
3,300.0	3,294.2	3,294.9	3,288.4	7.9	8.0	109.89	184.2	136.9	224.5	208.9	15.65	14.342	
3,400.0	3,394.0	3,394.8	3,388.1	8.1	8.2	109.91	191.0	138.3	229.5	213.3	16.16	14.203	
3,500.0	3,493.7	3,494.7	3,487.7	8.4	8.5	109.93	197.8	139.7	234.5	217.8	16.66	14.072	
3,600.0	3,593.5	3,594.5	3,587.3	8.6	8.7	109.95	204.6	141.1	239.4	222.3	17.17	13.948	
3,700.0	3,693.3	3,694.4	3,687.0	8.9	9.0	109.97	211.5	142.5	244.4	226.7	17.67	13.832	
3,800.0	3,793.0	3,794.3	3,786.6	9.1	9.2	109.98	218.3	143.9	249.4	231.2	18.17	13.721	
3,900.0	3,892.8	3,894.2	3,886.2	9.4	9.5	110.00	225.1	145.3	254.3	235.6	18.68	13.617	
4,000.0	3,992.5	3,994.1	3,985.9	9.6	9.8	110.01	231.9	146.7	259.3	240.1	19.18	13.518	
4,100.0	4,092.3	4,093.9	4,085.5	9.9	10.0	110.03	238.7	148.1	264.3	244.6	19.68	13.424	
4,200.0	4,192.0	4,193.8	4,185.1	10.2	10.3	110.04	245.6	149.5	269.2	249.0	20.19	13.335	
4,300.0	4,291.8	4,293.7	4,284.8	10.4	10.5	110.06	252.4	150.9	274.2	253.5	20.69	13.250	
4,400.0	4,391.6	4,393.6	4,384.4	10.7	10.8	110.07	259.2	152.3	279.2	258.0	21.20	13.169	
4,500.0	4,491.3	4,493.4	4,484.0	10.9	11.0	110.08	266.0	153.7	284.1	262.4	21.70	13.092	
4,600.0	4,591.1	4,593.3	4,583.7	11.2	11.3	110.10	272.9	155.1	289.1	266.9	22.21	13.018	
4,700.0	4,690.8	4,693.2	4,683.3	11.4	11.5	110.11	279.7	156.5	294.1	271.3	22.71	12.948	
4,800.0	4,790.6	4,793.1	4,782.9	11.7	11.8	110.12	286.5	157.9	299.0	275.8	23.22	12.880	
4,900.0	4,890.3	4,892.9	4,882.6	12.0	12.1	110.13	293.3	159.3	304.0	280.3	23.72	12.815	
5,000.0	4,990.1	4,992.8	4,982.2	12.2	12.3	110.14	300.2	160.7	309.0	284.7	24.23	12.753	
5,100.0	5,089.9	5,092.7	5,081.8	12.5	12.6	110.15	307.0	162.1	313.9	289.2	24.73	12.694	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0204B - HZ - Plan #1

Survey Program: 0-ISCWSA MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.6	5,192.6	5,181.5	12.7	12.8	110.16	313.8	163.5	318.9	293.7	25.24	12.637	
5,300.0	5,289.4	5,292.4	5,281.1	13.0	13.1	110.17	320.6	164.9	323.9	298.1	25.74	12.582	
5,400.0	5,389.1	5,392.3	5,380.7	13.2	13.3	110.18	327.5	166.3	328.8	302.6	26.24	12.529	
5,500.0	5,488.5	5,492.0	5,480.2	13.5	13.6	110.33	334.3	167.7	335.1	308.3	26.73	12.536	
5,600.0	5,584.3	5,580.7	5,568.5	14.0	13.8	111.59	341.9	169.3	348.6	321.4	27.19	12.824	
5,700.0	5,673.0	5,659.7	5,645.5	14.6	14.1	111.80	359.1	172.8	374.1	346.4	27.73	13.492	
5,800.0	5,751.3	5,736.9	5,717.2	15.3	14.5	110.73	386.6	178.5	411.1	382.6	28.52	14.415	
5,900.0	5,816.4	5,811.4	5,781.9	16.3	15.0	108.34	422.8	185.9	458.1	428.4	29.73	15.412	
6,000.0	5,865.9	5,883.1	5,838.5	17.6	15.6	104.65	465.8	194.8	513.3	481.9	31.44	16.325	
6,100.0	5,897.8	5,952.2	5,886.9	19.0	16.2	99.77	514.1	204.7	574.8	541.2	33.61	17.104	
6,200.0	5,911.2	6,019.7	5,927.4	20.6	16.9	93.97	566.9	215.5	640.8	604.8	35.99	17.805	
6,300.0	5,911.6	6,091.1	5,962.3	22.2	17.7	95.46	627.9	228.0	708.0	669.8	38.15	18.556	
6,400.0	5,911.6	6,176.6	5,992.5	23.7	18.8	97.63	706.1	244.1	771.7	731.2	40.45	19.076	
6,500.0	5,911.6	6,274.7	6,010.5	25.3	20.1	98.23	800.4	263.4	830.1	787.0	43.17	19.232	
6,600.0	5,911.6	6,408.4	6,012.6	27.0	22.0	97.43	931.7	288.4	881.7	835.1	46.57	18.934	
6,700.0	5,911.6	6,581.0	6,012.6	28.7	24.5	96.68	1,103.1	307.7	921.5	870.9	50.61	18.208	
6,800.0	5,911.6	6,739.1	6,012.6	30.3	26.8	96.27	1,261.2	311.9	948.2	893.5	54.71	17.331	
6,900.0	5,911.6	6,837.2	6,012.6	32.0	28.4	96.08	1,359.3	311.9	967.5	909.5	57.99	16.683	
7,000.0	5,911.6	6,936.1	6,012.6	33.6	30.0	95.95	1,458.2	311.9	981.7	920.5	61.26	16.027	
7,100.0	5,911.6	7,035.7	6,012.6	35.2	31.7	95.87	1,557.8	311.9	990.8	926.4	64.44	15.375	
7,200.0	5,911.6	7,135.6	6,012.6	36.8	33.4	95.83	1,657.7	311.9	994.7	927.1	67.53	14.730	
7,300.0	5,911.6	7,235.6	6,012.6	38.4	35.1	95.83	1,757.7	311.9	994.8	924.0	70.83	14.045	
7,400.0	5,911.6	7,335.6	6,012.7	40.0	36.9	95.83	1,857.7	311.9	994.8	920.6	74.25	13.398	
7,500.0	5,911.6	7,435.6	6,012.7	41.6	38.6	95.83	1,957.7	311.9	994.8	917.1	77.71	12.802	
7,600.0	5,911.6	7,535.6	6,012.7	43.2	40.4	95.83	2,057.7	311.9	994.8	913.6	81.20	12.251	
7,700.0	5,911.6	7,635.6	6,012.7	44.9	42.2	95.83	2,157.7	311.9	994.8	910.1	84.72	11.742	
7,800.0	5,911.6	7,735.6	6,012.7	46.6	44.0	95.83	2,257.7	311.9	994.8	906.5	88.27	11.270	
7,900.0	5,911.7	7,835.6	6,012.7	48.3	45.8	95.83	2,357.7	311.9	994.8	903.0	91.84	10.832	
8,000.0	5,911.7	7,935.6	6,012.7	50.0	47.6	95.83	2,457.7	311.9	994.8	899.4	95.43	10.425	
8,100.0	5,911.7	8,035.6	6,012.7	51.7	49.5	95.83	2,557.7	311.9	994.8	895.8	99.03	10.045	
8,200.0	5,911.7	8,135.6	6,012.7	53.5	51.3	95.83	2,657.7	311.9	994.8	892.1	102.65	9.691	
8,300.0	5,911.7	8,235.6	6,012.7	55.2	53.2	95.83	2,757.7	311.9	994.8	888.5	106.29	9.359	
8,400.0	5,911.7	8,335.6	6,012.7	57.0	55.0	95.83	2,857.7	311.9	994.8	884.8	109.94	9.048	
8,500.0	5,911.7	8,435.6	6,012.7	58.8	56.8	95.83	2,957.7	311.9	994.8	881.2	113.60	8.757	
8,600.0	5,911.7	8,535.6	6,012.7	60.6	58.7	95.83	3,057.7	311.9	994.8	877.5	117.27	8.483	
8,700.0	5,911.7	8,635.6	6,012.7	62.3	60.6	95.83	3,157.7	311.9	994.8	873.8	120.95	8.224	
8,800.0	5,911.7	8,735.6	6,012.8	64.1	62.4	95.83	3,257.7	311.9	994.8	870.1	124.64	7.981	
8,900.0	5,911.7	8,835.6	6,012.8	66.0	64.3	95.83	3,357.7	311.9	994.8	866.4	128.34	7.751	
9,000.0	5,911.7	8,935.6	6,012.8	67.8	66.2	95.83	3,457.7	311.9	994.8	862.7	132.05	7.533	
9,100.0	5,911.7	9,035.6	6,012.8	69.6	68.0	95.83	3,557.7	311.9	994.8	859.0	135.76	7.327	
9,200.0	5,911.8	9,135.6	6,012.8	71.4	69.9	95.83	3,657.7	311.9	994.7	855.3	139.48	7.132	
9,300.0	5,911.8	9,235.6	6,012.8	73.2	71.8	95.83	3,757.7	311.9	994.7	851.5	143.20	6.947	
9,400.0	5,911.8	9,335.6	6,012.8	75.1	73.7	95.83	3,857.7	311.9	994.7	847.8	146.93	6.770	
9,500.0	5,911.8	9,435.6	6,012.8	76.9	75.6	95.83	3,957.7	311.9	994.7	844.1	150.66	6.602	
9,600.0	5,911.8	9,535.6	6,012.8	78.8	77.4	95.83	4,057.7	311.9	994.7	840.3	154.40	6.443	
9,700.0	5,911.8	9,635.6	6,012.8	80.6	79.3	95.83	4,157.7	311.9	994.7	836.6	158.14	6.290	
9,800.0	5,911.8	9,735.6	6,012.8	82.4	81.2	95.83	4,257.7	311.9	994.7	832.8	161.89	6.145	
9,900.0	5,911.8	9,835.6	6,012.8	84.3	83.1	95.83	4,357.7	311.9	994.7	829.1	165.64	6.005	
10,000.0	5,911.8	9,935.6	6,012.8	86.2	85.0	95.83	4,457.7	311.9	994.7	825.3	169.39	5.872	
10,100.0	5,911.8	10,035.6	6,012.8	88.0	86.9	95.83	4,557.7	311.9	994.7	821.6	173.15	5.745	
10,200.0	5,911.8	10,135.6	6,012.8	89.9	88.8	95.83	4,657.7	311.9	994.7	817.8	176.91	5.623	
10,300.0	5,911.8	10,235.6	6,012.9	91.7	90.7	95.83	4,757.7	311.9	994.7	814.0	180.67	5.506	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-0204B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	5,911.8	10,335.6	6,012.9	93.6	92.6	95.83	4,857.7	311.9	994.7	810.3	184.44	5.393	
10,500.0	5,911.8	10,435.6	6,012.9	95.5	94.5	95.83	4,957.7	311.9	994.7	806.5	188.20	5.285	
10,600.0	5,911.9	10,535.6	6,012.9	97.3	96.4	95.83	5,057.7	311.9	994.7	802.7	191.97	5.181	
10,700.0	5,911.9	10,635.6	6,012.9	99.2	98.3	95.83	5,157.7	311.9	994.7	799.0	195.75	5.082	
10,800.0	5,911.9	10,735.6	6,012.9	101.1	100.2	95.83	5,257.7	311.9	994.7	795.2	199.52	4.985	
10,900.0	5,911.9	10,835.6	6,012.9	103.0	102.1	95.83	5,357.7	311.9	994.7	791.4	203.30	4.893	
11,000.0	5,911.9	10,935.6	6,012.9	104.8	104.0	95.83	5,457.7	311.9	994.7	787.6	207.07	4.804	
11,100.0	5,911.9	11,035.6	6,012.9	106.7	105.9	95.83	5,557.7	311.9	994.7	783.8	210.85	4.717	
11,200.0	5,911.9	11,135.6	6,012.9	108.6	107.8	95.83	5,657.7	311.9	994.7	780.0	214.63	4.634	
11,300.0	5,911.9	11,235.6	6,012.9	110.5	109.7	95.83	5,757.7	311.9	994.7	776.3	218.42	4.554	
11,400.0	5,911.9	11,335.6	6,012.9	112.4	111.6	95.83	5,857.7	311.9	994.7	772.5	222.20	4.476	
11,500.0	5,911.9	11,435.6	6,012.9	114.3	113.5	95.83	5,957.7	311.9	994.7	768.7	225.99	4.401	
11,600.0	5,911.9	11,535.6	6,012.9	116.1	115.4	95.83	6,057.7	311.9	994.7	764.9	229.77	4.329	
11,700.0	5,911.9	11,635.6	6,013.0	118.0	117.3	95.83	6,157.7	311.9	994.7	761.1	233.56	4.259	
11,800.0	5,911.9	11,735.6	6,013.0	119.9	119.2	95.83	6,257.7	311.9	994.7	757.3	237.35	4.191	
11,900.0	5,911.9	11,835.6	6,013.0	121.8	121.1	95.83	6,357.7	311.9	994.7	753.5	241.14	4.125	
12,000.0	5,912.0	11,935.6	6,013.0	123.7	123.0	95.83	6,457.7	311.9	994.7	749.7	244.93	4.061	
12,100.0	5,912.0	12,035.6	6,013.0	125.6	124.9	95.83	6,557.7	311.9	994.6	745.9	248.73	3.999	
12,200.0	5,912.0	12,135.6	6,013.0	127.5	126.8	95.83	6,657.7	311.9	994.6	742.1	252.52	3.939	
12,300.0	5,912.0	12,235.6	6,013.0	129.4	128.7	95.83	6,757.7	311.9	994.6	738.3	256.32	3.881	
12,400.0	5,912.0	12,335.6	6,013.0	131.3	130.6	95.83	6,857.7	311.9	994.6	734.5	260.11	3.824	
12,500.0	5,912.0	12,435.6	6,013.0	133.2	132.6	95.83	6,957.7	311.9	994.6	730.7	263.91	3.769	
12,579.3	5,912.0	12,514.9	6,013.0	134.4	134.1	95.83	7,037.0	311.9	994.6	728.0	266.64	3.730	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1401A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-75.9	0.0	75.9				
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-75.9	0.0	75.9	75.7	0.19	405.940	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-75.9	0.0	75.9	75.3	0.64	119.258	
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-75.9	0.0	75.9	74.8	1.09	69.895	
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-75.9	0.0	75.9	74.4	1.54	49.434	
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-75.9	0.0	75.9	73.9	1.99	38.239	CC, ES
600.0	600.0	597.6	597.6	1.2	1.2	-179.45	-77.4	-0.7	77.4	75.0	2.41	32.191	
700.0	700.0	695.1	694.9	1.4	1.4	-177.91	-81.8	-3.0	82.0	79.2	2.82	29.126	
800.0	800.0	794.7	794.3	1.7	1.6	-176.03	-88.0	-6.1	88.4	85.2	3.24	27.292	
900.0	900.0	894.4	893.7	1.9	1.8	-144.78	-94.2	-9.2	96.3	92.6	3.68	26.202	
1,000.0	999.8	993.8	992.9	2.1	2.0	-144.90	-100.4	-12.4	107.1	103.0	4.11	26.031	SF
1,100.0	1,099.6	1,093.0	1,091.9	2.3	2.3	-145.57	-106.6	-15.5	119.2	114.7	4.55	26.185	
1,200.0	1,199.4	1,192.3	1,190.9	2.6	2.5	-146.13	-112.8	-18.6	131.4	126.4	5.00	26.284	
1,300.0	1,299.1	1,291.5	1,289.9	2.8	2.8	-146.58	-119.0	-21.7	143.6	138.2	5.45	26.347	
1,400.0	1,398.9	1,390.8	1,388.9	3.1	3.0	-146.97	-125.2	-24.8	155.8	149.9	5.91	26.386	
1,500.0	1,498.6	1,490.0	1,487.9	3.3	3.3	-147.30	-131.4	-27.9	168.0	161.7	6.36	26.409	
1,600.0	1,598.4	1,589.3	1,586.9	3.6	3.5	-147.58	-137.5	-31.1	180.3	173.4	6.82	26.422	
1,700.0	1,698.1	1,688.5	1,685.9	3.8	3.8	-147.83	-143.7	-34.2	192.5	185.2	7.28	26.427	
1,800.0	1,797.9	1,787.8	1,784.9	4.1	4.0	-148.05	-149.9	-37.3	204.7	196.9	7.75	26.427	
1,900.0	1,897.6	1,887.0	1,884.0	4.3	4.3	-148.25	-156.1	-40.4	216.9	208.7	8.21	26.424	
2,000.0	1,997.4	1,986.3	1,983.0	4.6	4.5	-148.42	-162.3	-43.5	229.1	220.5	8.67	26.419	
2,100.0	2,097.2	2,085.5	2,082.0	4.8	4.8	-148.58	-168.4	-46.6	241.4	232.2	9.14	26.412	
2,200.0	2,196.9	2,184.7	2,181.0	5.1	5.1	-148.72	-174.6	-49.8	253.6	244.0	9.60	26.404	
2,300.0	2,296.7	2,284.0	2,280.0	5.3	5.3	-148.85	-180.8	-52.9	265.8	255.8	10.07	26.395	
2,400.0	2,396.4	2,383.2	2,379.0	5.6	5.6	-148.96	-187.0	-56.0	278.1	267.5	10.54	26.386	
2,500.0	2,496.2	2,482.5	2,478.0	5.8	5.8	-149.07	-193.2	-59.1	290.3	279.3	11.01	26.376	
2,600.0	2,595.9	2,581.7	2,577.0	6.1	6.1	-149.17	-199.4	-62.2	302.5	291.1	11.47	26.367	
2,700.0	2,695.7	2,681.0	2,676.0	6.3	6.4	-149.26	-205.5	-65.3	314.8	302.8	11.94	26.357	
2,800.0	2,795.5	2,780.2	2,775.0	6.6	6.6	-149.34	-211.7	-68.5	327.0	314.6	12.41	26.348	
2,900.0	2,895.2	2,879.5	2,874.0	6.8	6.9	-149.42	-217.9	-71.6	339.2	326.4	12.88	26.338	
3,000.0	2,995.0	2,978.7	2,973.0	7.1	7.1	-149.49	-224.1	-74.7	351.5	338.1	13.35	26.329	
3,100.0	3,094.7	3,078.0	3,072.0	7.3	7.4	-149.56	-230.3	-77.8	363.7	349.9	13.82	26.321	
3,200.0	3,194.5	3,177.2	3,171.0	7.6	7.7	-149.62	-236.4	-80.9	375.9	361.7	14.29	26.312	
3,300.0	3,294.2	3,276.5	3,270.0	7.9	7.9	-149.68	-242.6	-84.0	388.2	373.4	14.76	26.304	
3,400.0	3,394.0	3,375.7	3,369.0	8.1	8.2	-149.74	-248.8	-87.2	400.4	385.2	15.23	26.296	
3,500.0	3,493.7	3,475.0	3,468.0	8.4	8.4	-149.79	-255.0	-90.3	412.7	397.0	15.70	26.288	
3,600.0	3,593.5	3,574.2	3,567.0	8.6	8.7	-149.84	-261.2	-93.4	424.9	408.7	16.17	26.281	
3,700.0	3,693.3	3,673.5	3,666.1	8.9	9.0	-149.89	-267.4	-96.5	437.1	420.5	16.64	26.273	
3,800.0	3,793.0	3,772.7	3,765.1	9.1	9.2	-149.93	-273.5	-99.6	449.4	432.3	17.11	26.266	
3,900.0	3,892.8	3,872.0	3,864.1	9.4	9.5	-149.97	-279.7	-102.7	461.6	444.0	17.58	26.259	
4,000.0	3,992.5	3,971.2	3,963.1	9.6	9.8	-150.01	-285.9	-105.8	473.9	455.8	18.05	26.253	
4,100.0	4,092.3	4,070.5	4,062.1	9.9	10.0	-150.05	-292.1	-109.0	486.1	467.6	18.52	26.247	
4,200.0	4,192.0	4,169.7	4,161.1	10.2	10.3	-150.09	-298.3	-112.1	498.3	479.4	18.99	26.240	
4,300.0	4,291.8	4,268.9	4,260.1	10.4	10.5	-150.12	-304.5	-115.2	510.6	491.1	19.46	26.234	
4,400.0	4,391.6	4,368.2	4,359.1	10.7	10.8	-150.15	-310.6	-118.3	522.8	502.9	19.93	26.229	
4,500.0	4,491.3	4,467.4	4,458.1	10.9	11.1	-150.18	-316.8	-121.4	535.1	514.7	20.40	26.223	
4,600.0	4,591.1	4,566.7	4,557.1	11.2	11.3	-150.21	-323.0	-124.5	547.3	526.4	20.88	26.218	
4,700.0	4,690.8	4,665.9	4,656.1	11.4	11.6	-150.24	-329.2	-127.7	559.5	538.2	21.35	26.213	
4,800.0	4,790.6	4,765.2	4,755.1	11.7	11.9	-150.27	-335.4	-130.8	571.8	550.0	21.82	26.208	
4,900.0	4,890.3	4,864.4	4,854.1	12.0	12.1	-150.29	-341.5	-133.9	584.0	561.7	22.29	26.203	
5,000.0	4,990.1	4,963.7	4,953.1	12.2	12.4	-150.32	-347.7	-137.0	596.3	573.5	22.76	26.198	
5,100.0	5,089.9	5,062.9	5,052.1	12.5	12.6	-150.34	-353.9	-140.1	608.5	585.3	23.23	26.193	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1401A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.6	5,162.2	5,151.1	12.7	12.9	-150.36	-360.1	-143.2	620.8	597.1	23.70	26.189	
5,300.0	5,289.4	5,261.4	5,250.1	13.0	13.2	-150.39	-366.3	-146.4	633.0	608.8	24.17	26.185	
5,400.0	5,389.1	5,360.7	5,349.2	13.2	13.4	-150.41	-372.5	-149.5	645.2	620.6	24.65	26.180	
5,500.0	5,488.5	5,450.0	5,438.3	13.5	13.7	-149.93	-378.1	-152.3	660.8	636.0	24.83	26.611	
5,600.0	5,584.3	5,500.0	5,487.8	14.0	13.8	-148.18	-384.3	-155.4	696.3	672.0	24.36	28.589	
5,700.0	5,673.0	5,528.7	5,515.8	14.6	13.9	-144.51	-389.8	-158.2	752.2	728.6	23.59	31.879	
5,800.0	5,751.3	5,550.0	5,536.4	15.3	14.0	-137.77	-394.7	-160.7	824.5	801.1	23.35	35.305	
5,900.0	5,816.4	5,577.7	5,562.8	16.3	14.2	-126.47	-402.2	-164.5	908.3	883.2	25.12	36.154	
6,000.0	5,865.9	5,600.0	5,583.6	17.6	14.3	-107.13	-409.2	-168.0	999.5	969.7	29.75	33.598	
6,100.0	5,897.8	5,600.0	5,583.6	19.0	14.3	-77.01	-409.2	-168.0	1,093.5	1,061.2	32.33	33.824	
6,200.0	5,911.2	5,600.0	5,583.6	20.6	14.3	-50.80	-409.2	-168.0	1,187.2	1,159.6	27.64	42.955	
6,300.0	5,911.6	5,600.0	5,583.6	22.2	14.3	-42.67	-409.2	-168.0	1,279.9	1,254.0	25.90	49.415	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1402B - HZ - Plan #1 — **Offset Site Error:** 0.0 ft

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

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	156.48	-75.9	33.0	82.8				
100.0	100.0	100.0	100.0	0.1	0.1	156.48	-75.9	33.0	82.8	82.6	0.19	442.750	
200.0	200.0	200.0	200.0	0.3	0.3	156.48	-75.9	33.0	82.8	82.2	0.64	130.074	
300.0	300.0	300.0	300.0	0.5	0.5	156.48	-75.9	33.0	82.8	81.7	1.09	76.235	
400.0	400.0	400.0	400.0	0.8	0.8	156.48	-75.9	33.0	82.8	81.3	1.54	53.918	
500.0	500.0	500.0	500.0	1.0	1.0	156.48	-75.9	33.0	82.8	80.8	1.99	41.708	
600.0	600.0	600.0	600.0	1.2	1.2	156.48	-75.9	33.0	82.8	80.4	2.43	34.007	CC, ES
700.0	700.0	697.8	697.7	1.4	1.4	157.19	-77.5	32.6	84.1	81.3	2.85	29.481	
800.0	800.0	795.3	795.1	1.7	1.6	159.19	-82.3	31.3	88.2	85.0	3.26	27.050	
900.0	900.0	894.8	894.4	1.9	1.8	-168.36	-89.0	29.5	95.6	92.0	3.69	25.953	
1,000.0	999.8	994.2	993.6	2.1	2.0	-166.80	-95.7	27.6	106.6	102.5	4.11	25.913	SF
1,100.0	1,099.6	1,093.4	1,092.5	2.3	2.2	-165.77	-102.4	25.8	119.3	114.7	4.54	26.248	
1,200.0	1,199.4	1,192.5	1,191.4	2.6	2.5	-164.94	-109.1	24.0	132.0	127.0	4.98	26.498	
1,300.0	1,299.1	1,291.7	1,290.3	2.8	2.7	-164.26	-115.7	22.2	144.7	139.3	5.42	26.686	
1,400.0	1,398.9	1,390.9	1,389.3	3.1	2.9	-163.69	-122.4	20.3	157.5	151.6	5.87	26.832	
1,500.0	1,498.6	1,490.0	1,488.2	3.3	3.2	-163.21	-129.1	18.5	170.3	163.9	6.32	26.946	
1,600.0	1,598.4	1,589.2	1,587.1	3.6	3.4	-162.79	-135.7	16.7	183.0	176.3	6.77	27.035	
1,700.0	1,698.1	1,688.4	1,686.1	3.8	3.7	-162.42	-142.4	14.9	195.8	188.6	7.22	27.109	
1,800.0	1,797.9	1,787.6	1,785.0	4.1	3.9	-162.10	-149.1	13.0	208.6	200.9	7.68	27.169	
1,900.0	1,897.6	1,886.7	1,883.9	4.3	4.2	-161.82	-155.8	11.2	221.4	213.3	8.13	27.218	
2,000.0	1,997.4	1,985.9	1,982.9	4.6	4.4	-161.57	-162.4	9.4	234.2	225.6	8.59	27.258	
2,100.0	2,097.2	2,085.1	2,081.8	4.8	4.7	-161.35	-169.1	7.5	247.0	238.0	9.05	27.292	
2,200.0	2,196.9	2,184.2	2,180.7	5.1	5.0	-161.14	-175.8	5.7	259.8	250.3	9.51	27.321	
2,300.0	2,296.7	2,283.4	2,279.6	5.3	5.2	-160.96	-182.5	3.9	272.7	262.7	9.97	27.346	
2,400.0	2,396.4	2,382.6	2,378.6	5.6	5.5	-160.79	-189.1	2.1	285.5	275.0	10.43	27.366	
2,500.0	2,496.2	2,481.8	2,477.5	5.8	5.7	-160.64	-195.8	0.2	298.3	287.4	10.89	27.384	
2,600.0	2,595.9	2,580.9	2,576.4	6.1	6.0	-160.50	-202.5	-1.6	311.1	299.8	11.35	27.400	
2,700.0	2,695.7	2,680.1	2,675.4	6.3	6.2	-160.37	-209.1	-3.4	323.9	312.1	11.82	27.413	
2,800.0	2,795.5	2,779.3	2,774.3	6.6	6.5	-160.25	-215.8	-5.2	336.8	324.5	12.28	27.425	
2,900.0	2,895.2	2,878.5	2,873.2	6.8	6.8	-160.14	-222.5	-7.1	349.6	336.8	12.74	27.435	
3,000.0	2,995.0	2,977.6	2,972.2	7.1	7.0	-160.04	-229.2	-8.9	362.4	349.2	13.21	27.444	
3,100.0	3,094.7	3,076.8	3,071.1	7.3	7.3	-159.94	-235.8	-10.7	375.2	361.6	13.67	27.452	
3,200.0	3,194.5	3,176.0	3,170.0	7.6	7.5	-159.85	-242.5	-12.5	388.1	373.9	14.13	27.459	
3,300.0	3,294.2	3,275.1	3,268.9	7.9	7.8	-159.77	-249.2	-14.4	400.9	386.3	14.60	27.465	
3,400.0	3,394.0	3,374.3	3,367.9	8.1	8.1	-159.69	-255.9	-16.2	413.7	398.7	15.06	27.470	
3,500.0	3,493.7	3,473.5	3,466.8	8.4	8.3	-159.61	-262.5	-18.0	426.6	411.0	15.53	27.475	
3,600.0	3,593.5	3,572.7	3,565.7	8.6	8.6	-159.55	-269.2	-19.8	439.4	423.4	15.99	27.479	
3,700.0	3,693.3	3,671.8	3,664.7	8.9	8.8	-159.48	-275.9	-21.7	452.2	435.8	16.45	27.483	
3,800.0	3,793.0	3,771.0	3,763.6	9.1	9.1	-159.42	-282.5	-23.5	465.1	448.1	16.92	27.487	
3,900.0	3,892.8	3,870.2	3,862.5	9.4	9.4	-159.36	-289.2	-25.3	477.9	460.5	17.38	27.490	
4,000.0	3,992.5	3,969.3	3,961.5	9.6	9.6	-159.30	-295.9	-27.1	490.7	472.9	17.85	27.493	
4,100.0	4,092.3	4,068.5	4,060.4	9.9	9.9	-159.25	-302.6	-29.0	503.6	485.2	18.31	27.495	
4,200.0	4,192.0	4,167.7	4,159.3	10.2	10.2	-159.20	-309.2	-30.8	516.4	497.6	18.78	27.497	
4,300.0	4,291.8	4,266.9	4,258.3	10.4	10.4	-159.15	-315.9	-32.6	529.2	510.0	19.25	27.499	
4,400.0	4,391.6	4,366.0	4,357.2	10.7	10.7	-159.11	-322.6	-34.4	542.1	522.4	19.71	27.501	
4,500.0	4,491.3	4,465.2	4,456.1	10.9	10.9	-159.06	-329.3	-36.3	554.9	534.7	20.18	27.503	
4,600.0	4,591.1	4,564.4	4,555.0	11.2	11.2	-159.02	-335.9	-38.1	567.7	547.1	20.64	27.504	
4,700.0	4,690.8	4,663.5	4,654.0	11.4	11.5	-158.98	-342.6	-39.9	580.6	559.5	21.11	27.505	
4,800.0	4,790.6	4,762.7	4,752.9	11.7	11.7	-158.95	-349.3	-41.7	593.4	571.8	21.57	27.507	
4,900.0	4,890.3	4,861.9	4,851.8	12.0	12.0	-158.91	-355.9	-43.6	606.2	584.2	22.04	27.508	
5,000.0	4,990.1	4,961.1	4,950.8	12.2	12.2	-158.87	-362.6	-45.4	619.1	596.6	22.51	27.509	
5,100.0	5,089.9	5,060.2	5,049.7	12.5	12.5	-158.84	-369.3	-47.2	631.9	609.0	22.97	27.510	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1402B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.6	5,159.4	5,148.6	12.7	12.8	-158.81	-376.0	-49.0	644.8	621.3	23.44	27.510	
5,300.0	5,289.4	5,258.6	5,247.6	13.0	13.0	-158.78	-382.6	-50.9	657.6	633.7	23.90	27.511	
5,400.0	5,389.1	5,357.7	5,346.5	13.2	13.3	-158.75	-389.3	-52.7	670.4	646.1	24.37	27.512	
5,500.0	5,488.5	5,456.3	5,444.8	13.5	13.6	-158.37	-395.9	-54.5	686.7	662.1	24.53	27.987	
5,600.0	5,584.3	5,544.7	5,533.0	14.0	13.8	-157.52	-401.9	-56.1	719.0	695.0	23.95	30.022	
5,700.0	5,673.0	5,581.5	5,569.6	14.6	13.9	-155.26	-406.0	-57.2	771.0	748.2	22.75	33.892	
5,800.0	5,751.3	5,600.0	5,587.8	15.3	14.0	-150.58	-408.9	-58.1	841.5	819.9	21.56	39.025	
5,900.0	5,816.4	5,631.2	5,618.3	16.3	14.1	-142.29	-415.4	-59.8	925.0	903.3	21.75	42.524	
6,000.0	5,865.9	5,650.0	5,636.4	17.6	14.2	-124.62	-420.1	-61.1	1,017.4	990.9	26.45	38.457	
6,100.0	5,897.8	5,650.0	5,636.4	19.0	14.2	-86.72	-420.1	-61.1	1,113.8	1,080.5	33.24	33.505	
6,200.0	5,911.2	5,650.0	5,636.4	20.6	14.2	-48.80	-420.1	-61.1	1,210.4	1,183.3	27.15	44.592	
6,300.0	5,911.6	5,650.0	5,636.4	22.2	14.2	-37.71	-420.1	-61.1	1,306.1	1,282.3	23.87	54.730	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1403A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	138.96	-75.9	66.1	100.7				
100.0	100.0	100.0	100.0	0.1	0.1	138.96	-75.9	66.1	100.7	100.5	0.19	538.265	
200.0	200.0	200.0	200.0	0.3	0.3	138.96	-75.9	66.1	100.7	100.0	0.64	158.135	
300.0	300.0	300.0	300.0	0.5	0.5	138.96	-75.9	66.1	100.7	99.6	1.09	92.682	
400.0	400.0	400.0	400.0	0.8	0.8	138.96	-75.9	66.1	100.7	99.1	1.54	65.550	
500.0	500.0	500.0	500.0	1.0	1.0	138.96	-75.9	66.1	100.7	98.7	1.99	50.706	
600.0	600.0	600.0	600.0	1.2	1.2	138.96	-75.9	66.1	100.7	98.2	2.43	41.344	
700.0	700.0	700.0	700.0	1.4	1.4	138.96	-75.9	66.1	100.7	97.8	2.88	34.900	CC, ES
800.0	800.0	797.4	797.4	1.7	1.6	139.57	-77.6	66.1	102.0	98.6	3.30	30.880	
900.0	900.0	894.4	894.2	1.9	1.8	171.54	-82.5	66.1	107.6	103.9	3.70	29.048	
1,000.0	999.8	993.5	993.1	2.1	2.0	173.98	-89.4	66.1	118.4	114.2	4.12	28.714	SF
1,100.0	1,099.6	1,092.6	1,092.0	2.3	2.2	176.08	-96.3	66.2	131.0	126.5	4.54	28.852	
1,200.0	1,199.4	1,191.7	1,190.8	2.6	2.4	177.82	-103.3	66.2	143.8	138.9	4.97	28.951	
1,300.0	1,299.1	1,290.8	1,289.7	2.8	2.7	179.27	-110.2	66.2	156.7	151.3	5.40	29.023	
1,400.0	1,398.9	1,389.9	1,388.5	3.1	2.9	-179.50	-117.1	66.3	169.7	163.9	5.84	29.076	
1,500.0	1,498.6	1,489.0	1,487.4	3.3	3.1	-178.45	-124.0	66.3	182.8	176.5	6.28	29.116	
1,600.0	1,598.4	1,588.1	1,586.2	3.6	3.4	-177.54	-130.9	66.3	195.9	189.2	6.72	29.147	
1,700.0	1,698.1	1,687.2	1,685.1	3.8	3.6	-176.74	-137.8	66.4	209.1	201.9	7.17	29.170	
1,800.0	1,797.9	1,786.3	1,783.9	4.1	3.9	-176.04	-144.7	66.4	222.2	214.6	7.61	29.188	
1,900.0	1,897.6	1,885.4	1,882.8	4.3	4.1	-175.41	-151.6	66.4	235.5	227.4	8.06	29.203	
2,000.0	1,997.4	1,984.4	1,981.6	4.6	4.4	-174.85	-158.5	66.4	248.7	240.2	8.51	29.214	
2,100.0	2,097.2	2,083.5	2,080.5	4.8	4.6	-174.35	-165.5	66.5	262.0	253.0	8.96	29.223	
2,200.0	2,196.9	2,182.6	2,179.3	5.1	4.9	-173.90	-172.4	66.5	275.3	265.8	9.42	29.230	
2,300.0	2,296.7	2,281.7	2,278.2	5.3	5.1	-173.49	-179.3	66.5	288.6	278.7	9.87	29.235	
2,400.0	2,396.4	2,380.8	2,377.0	5.6	5.4	-173.11	-186.2	66.6	301.9	291.5	10.32	29.239	
2,500.0	2,496.2	2,479.9	2,475.9	5.8	5.6	-172.77	-193.1	66.6	315.2	304.4	10.78	29.242	
2,600.0	2,595.9	2,579.0	2,574.7	6.1	5.9	-172.45	-200.0	66.6	328.5	317.3	11.23	29.245	
2,700.0	2,695.7	2,678.1	2,673.6	6.3	6.1	-172.16	-206.9	66.7	341.9	330.2	11.69	29.247	
2,800.0	2,795.5	2,777.2	2,772.4	6.6	6.4	-171.89	-213.8	66.7	355.2	343.1	12.14	29.248	
2,900.0	2,895.2	2,876.3	2,871.3	6.8	6.7	-171.64	-220.8	66.7	368.6	356.0	12.60	29.249	
3,000.0	2,995.0	2,975.4	2,970.1	7.1	6.9	-171.41	-227.7	66.8	381.9	368.9	13.06	29.249	
3,100.0	3,094.7	3,074.5	3,069.0	7.3	7.2	-171.19	-234.6	66.8	395.3	381.8	13.52	29.249	
3,200.0	3,194.5	3,173.5	3,167.8	7.6	7.4	-170.99	-241.5	66.8	408.7	394.7	13.97	29.249	
3,300.0	3,294.2	3,272.6	3,266.7	7.9	7.7	-170.80	-248.4	66.8	422.1	407.6	14.43	29.249	
3,400.0	3,394.0	3,371.7	3,365.5	8.1	8.0	-170.62	-255.3	66.9	435.4	420.6	14.89	29.248	
3,500.0	3,493.7	3,470.8	3,464.4	8.4	8.2	-170.45	-262.2	66.9	448.8	433.5	15.35	29.248	
3,600.0	3,593.5	3,569.9	3,563.2	8.6	8.5	-170.30	-269.1	66.9	462.2	446.4	15.80	29.247	
3,700.0	3,693.3	3,669.0	3,662.1	8.9	8.7	-170.15	-276.1	67.0	475.6	459.4	16.26	29.246	
3,800.0	3,793.0	3,768.1	3,760.9	9.1	9.0	-170.01	-283.0	67.0	489.0	472.3	16.72	29.245	
3,900.0	3,892.8	3,867.2	3,859.8	9.4	9.2	-169.87	-289.9	67.0	502.4	485.2	17.18	29.244	
4,000.0	3,992.5	3,966.3	3,958.6	9.6	9.5	-169.75	-296.8	67.1	515.8	498.2	17.64	29.243	
4,100.0	4,092.3	4,065.4	4,057.5	9.9	9.8	-169.63	-303.7	67.1	529.2	511.1	18.10	29.242	
4,200.0	4,192.0	4,164.5	4,156.3	10.2	10.0	-169.51	-310.6	67.1	542.6	524.1	18.56	29.241	
4,300.0	4,291.8	4,263.6	4,255.2	10.4	10.3	-169.40	-317.5	67.1	556.0	537.0	19.02	29.240	
4,400.0	4,391.6	4,362.6	4,354.0	10.7	10.6	-169.30	-324.4	67.2	569.5	550.0	19.48	29.239	
4,500.0	4,491.3	4,461.7	4,452.9	10.9	10.8	-169.20	-331.4	67.2	582.9	562.9	19.94	29.238	
4,600.0	4,591.1	4,560.8	4,551.7	11.2	11.1	-169.11	-338.3	67.2	596.3	575.9	20.39	29.237	
4,700.0	4,690.8	4,659.9	4,650.6	11.4	11.3	-169.02	-345.2	67.3	609.7	588.8	20.85	29.236	
4,800.0	4,790.6	4,759.0	4,749.4	11.7	11.6	-168.93	-352.1	67.3	623.1	601.8	21.31	29.235	
4,900.0	4,890.3	4,858.1	4,848.3	12.0	11.9	-168.85	-359.0	67.3	636.5	614.8	21.77	29.234	
5,000.0	4,990.1	4,957.2	4,947.1	12.2	12.1	-168.77	-365.9	67.4	650.0	627.7	22.23	29.233	
5,100.0	5,089.9	5,056.3	5,046.0	12.5	12.4	-168.69	-372.8	67.4	663.4	640.7	22.69	29.232	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1403A - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.6	5,155.4	5,144.8	12.7	12.6	-168.62	-379.7	67.4	676.8	653.6	23.15	29.230	
5,300.0	5,289.4	5,254.5	5,243.7	13.0	12.9	-168.55	-386.7	67.4	690.2	666.6	23.61	29.229	
5,400.0	5,389.1	5,353.6	5,342.5	13.2	13.2	-168.48	-393.6	67.5	703.6	679.6	24.07	29.228	
5,500.0	5,488.5	5,444.6	5,433.4	13.5	13.4	-168.20	-399.9	67.5	720.7	696.5	24.19	29.793	
5,600.0	5,584.3	5,484.0	5,472.4	14.0	13.5	-167.30	-404.6	67.5	758.8	735.4	23.38	32.453	
5,700.0	5,673.0	5,516.7	5,504.6	14.6	13.6	-165.48	-410.7	67.5	818.8	796.9	21.90	37.388	
5,800.0	5,751.3	5,550.0	5,536.9	15.3	13.8	-162.08	-419.0	67.6	896.0	875.9	20.08	44.621	
5,900.0	5,816.4	5,550.0	5,536.9	16.3	13.8	-153.80	-419.0	67.6	985.1	965.9	19.24	51.211	
6,000.0	5,865.9	5,550.0	5,536.9	17.6	13.8	-127.68	-419.0	67.6	1,081.6	1,055.7	25.89	41.775	
6,100.0	5,897.8	5,568.0	5,554.0	19.0	13.9	-62.69	-424.3	67.6	1,180.1	1,149.9	30.19	39.085	
6,200.0	5,911.2	5,550.0	5,536.9	20.6	13.8	-24.85	-419.0	67.6	1,278.1	1,261.7	16.46	77.656	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1404B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	127.45	-75.9	99.1	124.9				
100.0	100.0	100.0	100.0	0.1	0.1	127.45	-75.9	99.1	124.9	124.7	0.19	667.740	
200.0	200.0	200.0	200.0	0.3	0.3	127.45	-75.9	99.1	124.9	124.2	0.64	196.172	
300.0	300.0	300.0	300.0	0.5	0.5	127.45	-75.9	99.1	124.9	123.8	1.09	114.975	
400.0	400.0	400.0	400.0	0.8	0.8	127.45	-75.9	99.1	124.9	123.3	1.54	81.317	
500.0	500.0	500.0	500.0	1.0	1.0	127.45	-75.9	99.1	124.9	122.9	1.99	62.903	
600.0	600.0	600.0	600.0	1.2	1.2	127.45	-75.9	99.1	124.9	122.4	2.43	51.289	
700.0	700.0	700.0	700.0	1.4	1.4	127.45	-75.9	99.1	124.9	122.0	2.88	43.295	
800.0	800.0	800.0	800.0	1.7	1.7	127.45	-75.9	99.1	124.9	121.5	3.33	37.457	CC, ES
900.0	900.0	896.5	896.5	1.9	1.9	158.28	-77.5	99.6	127.8	124.1	3.75	34.109	
1,000.0	999.8	992.4	992.2	2.1	2.0	160.20	-82.1	100.9	136.9	132.7	4.15	32.999	
1,100.0	1,099.6	1,091.1	1,090.7	2.3	2.2	162.59	-88.8	102.8	149.3	144.7	4.56	32.754	
1,200.0	1,199.4	1,190.2	1,189.5	2.6	2.4	164.63	-95.4	104.6	162.0	157.0	4.98	32.558	
1,300.0	1,299.1	1,289.2	1,288.3	2.8	2.6	166.36	-102.1	106.5	174.8	169.4	5.40	32.382	
1,400.0	1,398.9	1,388.2	1,387.1	3.1	2.9	167.86	-108.7	108.4	187.8	182.0	5.83	32.225	
1,500.0	1,498.6	1,487.3	1,485.9	3.3	3.1	169.16	-115.4	110.3	200.9	194.6	6.26	32.086	
1,600.0	1,598.4	1,586.3	1,584.7	3.6	3.3	170.31	-122.0	112.1	214.1	207.4	6.70	31.963	
1,700.0	1,698.1	1,685.4	1,683.5	3.8	3.6	171.32	-128.7	114.0	227.3	220.2	7.14	31.853	
1,800.0	1,797.9	1,784.4	1,782.3	4.1	3.8	172.22	-135.3	115.9	240.7	233.1	7.58	31.755	
1,900.0	1,897.6	1,883.4	1,881.1	4.3	4.1	173.02	-142.0	117.8	254.0	246.0	8.02	31.668	
2,000.0	1,997.4	1,982.5	1,979.9	4.6	4.3	173.75	-148.6	119.6	267.5	259.0	8.47	31.589	
2,100.0	2,097.2	2,081.5	2,078.7	4.8	4.6	174.40	-155.3	121.5	280.9	272.0	8.91	31.518	
2,200.0	2,196.9	2,180.6	2,177.5	5.1	4.8	175.00	-161.9	123.4	294.4	285.0	9.36	31.454	
2,300.0	2,296.7	2,279.6	2,276.3	5.3	5.1	175.54	-168.6	125.3	307.9	298.1	9.81	31.395	
2,400.0	2,396.4	2,378.7	2,375.1	5.6	5.3	176.04	-175.2	127.1	321.4	311.2	10.26	31.342	
2,500.0	2,496.2	2,477.7	2,473.9	5.8	5.6	176.50	-181.9	129.0	335.0	324.3	10.71	31.293	
2,600.0	2,595.9	2,576.7	2,572.7	6.1	5.8	176.92	-188.5	130.9	348.6	337.4	11.16	31.248	
2,700.0	2,695.7	2,675.8	2,671.5	6.3	6.1	177.31	-195.2	132.8	362.2	350.6	11.61	31.206	
2,800.0	2,795.5	2,774.8	2,770.3	6.6	6.3	177.67	-201.8	134.6	375.8	363.7	12.06	31.167	
2,900.0	2,895.2	2,873.9	2,869.1	6.8	6.6	178.01	-208.5	136.5	389.4	376.9	12.51	31.132	
3,000.0	2,995.0	2,972.9	2,967.9	7.1	6.8	178.32	-215.1	138.4	403.1	390.1	12.96	31.098	
3,100.0	3,094.7	3,071.9	3,066.7	7.3	7.1	178.61	-221.8	140.3	416.7	403.3	13.41	31.067	
3,200.0	3,194.5	3,171.0	3,165.5	7.6	7.3	178.89	-228.4	142.1	430.4	416.5	13.87	31.038	
3,300.0	3,294.2	3,270.0	3,264.3	7.9	7.6	179.15	-235.1	144.0	444.1	429.7	14.32	31.011	
3,400.0	3,394.0	3,369.1	3,363.1	8.1	7.9	179.39	-241.7	145.9	457.7	443.0	14.77	30.985	
3,500.0	3,493.7	3,468.1	3,461.9	8.4	8.1	179.62	-248.4	147.8	471.4	456.2	15.23	30.961	
3,600.0	3,593.5	3,567.2	3,560.7	8.6	8.4	179.83	-255.0	149.6	485.1	469.4	15.68	30.939	
3,700.0	3,693.3	3,666.2	3,659.5	8.9	8.6	-179.97	-261.7	151.5	498.8	482.7	16.13	30.917	
3,800.0	3,793.0	3,765.2	3,758.3	9.1	8.9	-179.77	-268.3	153.4	512.5	495.9	16.59	30.897	
3,900.0	3,892.8	3,864.3	3,857.1	9.4	9.2	-179.59	-274.9	155.3	526.2	509.2	17.04	30.878	
4,000.0	3,992.5	3,963.3	3,955.9	9.6	9.4	-179.42	-281.6	157.1	539.9	522.4	17.50	30.860	
4,100.0	4,092.3	4,062.4	4,054.7	9.9	9.7	-179.25	-288.2	159.0	553.7	535.7	17.95	30.842	
4,200.0	4,192.0	4,161.4	4,153.5	10.2	9.9	-179.09	-294.9	160.9	567.4	549.0	18.41	30.826	
4,300.0	4,291.8	4,260.5	4,252.3	10.4	10.2	-178.95	-301.5	162.8	581.1	562.3	18.86	30.810	
4,400.0	4,391.6	4,359.5	4,351.2	10.7	10.5	-178.80	-308.2	164.6	594.8	575.5	19.32	30.795	
4,500.0	4,491.3	4,458.5	4,450.0	10.9	10.7	-178.67	-314.8	166.5	608.6	588.8	19.77	30.781	
4,600.0	4,591.1	4,557.6	4,548.8	11.2	11.0	-178.54	-321.5	168.4	622.3	602.1	20.23	30.767	
4,700.0	4,690.8	4,656.6	4,647.6	11.4	11.2	-178.41	-328.1	170.3	636.1	615.4	20.68	30.754	
4,800.0	4,790.6	4,755.7	4,746.4	11.7	11.5	-178.29	-334.8	172.1	649.8	628.7	21.14	30.742	
4,900.0	4,890.3	4,854.7	4,845.2	12.0	11.8	-178.18	-341.4	174.0	663.6	642.0	21.59	30.730	
5,000.0	4,990.1	4,953.7	4,944.0	12.2	12.0	-178.07	-348.1	175.9	677.3	655.3	22.05	30.718	
5,100.0	5,089.9	5,052.8	5,042.8	12.5	12.3	-177.96	-354.7	177.8	691.1	668.6	22.50	30.707	

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 #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design S11-T10N-R58W - Razor #11E-1404B - HZ - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.6	5,151.8	5,141.6	12.7	12.5	-177.86	-361.4	179.6	704.8	681.9	22.96	30.697	
5,300.0	5,289.4	5,250.9	5,240.4	13.0	12.8	-177.77	-368.0	181.5	718.6	695.2	23.42	30.687	
5,400.0	5,389.1	5,349.9	5,339.2	13.2	13.1	-177.67	-374.7	183.4	732.3	708.5	23.87	30.677	SF
5,500.0	5,488.5	5,448.3	5,437.3	13.5	13.3	-177.54	-381.3	185.3	749.7	725.7	23.99	31.250	
5,600.0	5,584.3	5,540.0	5,528.8	14.0	13.6	-177.34	-387.5	187.0	784.2	761.0	23.23	33.764	
5,700.0	5,673.0	5,574.0	5,562.6	14.6	13.7	-176.98	-390.8	187.9	838.7	817.2	21.57	38.885	
5,800.0	5,751.3	5,600.0	5,588.3	15.3	13.7	-176.29	-394.8	189.1	912.1	892.8	19.22	47.452	
5,900.0	5,816.4	5,617.2	5,605.1	16.3	13.8	-174.79	-398.1	190.0	999.0	982.6	16.38	60.990	
6,000.0	5,865.9	5,627.0	5,614.7	17.6	13.9	-170.12	-400.2	190.6	1,094.5	1,080.6	13.84	79.078	
6,100.0	5,897.8	5,630.0	5,617.6	19.0	13.9	-76.93	-400.9	190.8	1,193.8	1,160.9	32.97	36.211	
6,200.0	5,911.2	5,627.1	5,614.7	20.6	13.9	-8.26	-400.2	190.6	1,293.1	1,283.6	9.55	135.393	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0201A
Project:	Weld County, CO	**TVD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Reference Site:	S11-T10N-R58W	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Razor #11E-0201A	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5018.6ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Razor #11E-0201A
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.07°