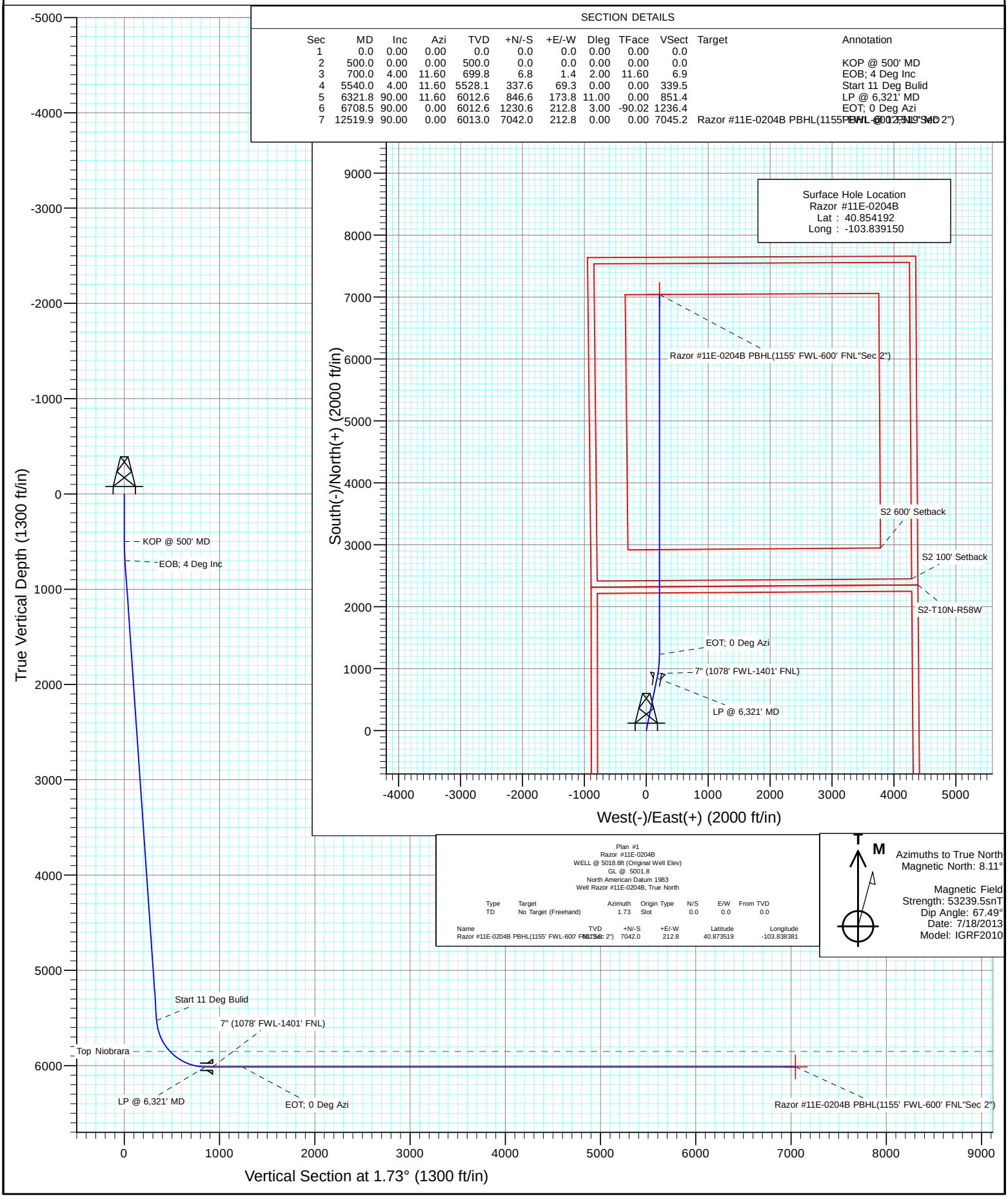
WHITING PETROLEUM CORPORATION

Project: Weld County, CO
Site: S11-T10N-R58W
Well: Razor #11E-0204B
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	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0		KOP @ 500' MD
3	700.0	4.00	11.60	699.8	6.8	1.4	2.00	11.60	6.9		EOB; 4 Deg Inc
4	5540.0	4.00	11.60	5528.1	337.6	69.3	0.00	0.00	339.5		Start 11 Deg Bulid
5	6321.8	90.00	11.60	6012.6	846.6	173.8	11.00	0.00	851.4		LP @ 6,321' MD
6	6708.5	90.00	0.00	6012.6	1230.6	212.8	3.00	-90.02	1236.4		EOT; 0 Deg Azi
7	12519.9	90.00	0.00	6013.0	7042.0	212.8	0.00	0.00	7045.2	Razor #11E-0204B PBHL(1155' FWL-600' FNL"Sec 2")	Razor #11E-0204B PBHL(1155' FWL-600' FNL"Sec 2")



Plan #1
Razor #11E-0204B
WELL @ 5018.6ft (Original Well Elev)
GL @ 5001.8
North American Datum 1983
Well Razor #11E-0204B, True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	1.73	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Razor #11E-0204B PBHL(1155' FWL-600' FNL"Sec 2")	6013.0	7042.0	212.8	40.873519	-103.838381

Azimuths to True North
Magnetic North: 8.11°

Magnetic Field
Strength: 53239.5snT
Dip Angle: 67.49°
Date: 7/18/2013
Model: IGRF2010

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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-0204B

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,558,336.76 ft	**Latitude:**	40.854192
	+E/-W	0.0 ft	**Easting:**	3,459,444.77 ft	**Longitude:**	-103.839150
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	7/18/2013	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	1.73

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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
700.0	4.00	11.60	699.8	6.8	1.4	2.00	2.00	0.00	11.60	
5,540.0	4.00	11.60	5,528.1	337.6	69.3	0.00	0.00	0.00	0.00	
6,321.8	90.00	11.60	6,012.6	846.6	173.8	11.00	11.00	0.00	0.00	
6,708.5	90.00	0.00	6,012.6	1,230.6	212.8	3.00	0.00	-3.00	-90.02	
12,519.9	90.00	0.00	6,013.0	7,042.0	212.8	0.00	0.00	0.00	0.00	Razor #11E-0204B PI

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	KOP @ 500' MD
600.0	2.00	11.60	600.0	1.7	0.4	1.7	2.00	2.00	
700.0	4.00	11.60	699.8	6.8	1.4	6.9	2.00	2.00	EOB; 4 Deg Inc
800.0	4.00	11.60	799.6	13.7	2.8	13.7	0.00	0.00	
900.0	4.00	11.60	899.4	20.5	4.2	20.6	0.00	0.00	
1,000.0	4.00	11.60	999.1	27.3	5.6	27.5	0.00	0.00	
1,100.0	4.00	11.60	1,098.9	34.2	7.0	34.4	0.00	0.00	
1,200.0	4.00	11.60	1,198.6	41.0	8.4	41.2	0.00	0.00	
1,300.0	4.00	11.60	1,298.4	47.8	9.8	48.1	0.00	0.00	
1,400.0	4.00	11.60	1,398.1	54.7	11.2	55.0	0.00	0.00	
1,500.0	4.00	11.60	1,497.9	61.5	12.6	61.9	0.00	0.00	
1,600.0	4.00	11.60	1,597.6	68.3	14.0	68.7	0.00	0.00	
1,700.0	4.00	11.60	1,697.4	75.2	15.4	75.6	0.00	0.00	
1,800.0	4.00	11.60	1,797.2	82.0	16.8	82.5	0.00	0.00	
1,900.0	4.00	11.60	1,896.9	88.8	18.2	89.3	0.00	0.00	
2,000.0	4.00	11.60	1,996.7	95.7	19.6	96.2	0.00	0.00	
2,100.0	4.00	11.60	2,096.4	102.5	21.0	103.1	0.00	0.00	
2,200.0	4.00	11.60	2,196.2	109.3	22.4	110.0	0.00	0.00	
2,300.0	4.00	11.60	2,295.9	116.2	23.8	116.8	0.00	0.00	
2,400.0	4.00	11.60	2,395.7	123.0	25.2	123.7	0.00	0.00	
2,500.0	4.00	11.60	2,495.5	129.8	26.7	130.6	0.00	0.00	
2,600.0	4.00	11.60	2,595.2	136.7	28.1	137.5	0.00	0.00	
2,700.0	4.00	11.60	2,695.0	143.5	29.5	144.3	0.00	0.00	
2,800.0	4.00	11.60	2,794.7	150.3	30.9	151.2	0.00	0.00	
2,900.0	4.00	11.60	2,894.5	157.2	32.3	158.1	0.00	0.00	
3,000.0	4.00	11.60	2,994.2	164.0	33.7	164.9	0.00	0.00	
3,100.0	4.00	11.60	3,094.0	170.8	35.1	171.8	0.00	0.00	
3,200.0	4.00	11.60	3,193.7	177.7	36.5	178.7	0.00	0.00	
3,300.0	4.00	11.60	3,293.5	184.5	37.9	185.6	0.00	0.00	
3,400.0	4.00	11.60	3,393.3	191.3	39.3	192.4	0.00	0.00	
3,500.0	4.00	11.60	3,493.0	198.2	40.7	199.3	0.00	0.00	
3,600.0	4.00	11.60	3,592.8	205.0	42.1	206.2	0.00	0.00	
3,700.0	4.00	11.60	3,692.5	211.8	43.5	213.0	0.00	0.00	
3,800.0	4.00	11.60	3,792.3	218.7	44.9	219.9	0.00	0.00	
3,900.0	4.00	11.60	3,892.0	225.5	46.3	226.8	0.00	0.00	
4,000.0	4.00	11.60	3,991.8	232.3	47.7	233.7	0.00	0.00	
4,100.0	4.00	11.60	4,091.6	239.2	49.1	240.5	0.00	0.00	
4,200.0	4.00	11.60	4,191.3	246.0	50.5	247.4	0.00	0.00	
4,300.0	4.00	11.60	4,291.1	252.8	51.9	254.3	0.00	0.00	
4,400.0	4.00	11.60	4,390.8	259.7	53.3	261.2	0.00	0.00	
4,500.0	4.00	11.60	4,490.6	266.5	54.7	268.0	0.00	0.00	
4,600.0	4.00	11.60	4,590.3	273.3	56.1	274.9	0.00	0.00	
4,700.0	4.00	11.60	4,690.1	280.2	57.5	281.8	0.00	0.00	
4,800.0	4.00	11.60	4,789.9	287.0	58.9	288.6	0.00	0.00	
4,900.0	4.00	11.60	4,889.6	293.8	60.3	295.5	0.00	0.00	
5,000.0	4.00	11.60	4,989.4	300.7	61.7	302.4	0.00	0.00	
5,100.0	4.00	11.60	5,089.1	307.5	63.1	309.3	0.00	0.00	

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Site:	S11-T10N-R58W	**North Reference:**	True
Well:	Razor #11E-0204B	**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	11.60	5,188.9	314.3	64.5	316.1	0.00	0.00	
5,300.0	4.00	11.60	5,288.6	321.2	65.9	323.0	0.00	0.00	
5,400.0	4.00	11.60	5,388.4	328.0	67.3	329.9	0.00	0.00	
5,500.0	4.00	11.60	5,488.1	334.8	68.7	336.8	0.00	0.00	
5,540.0	4.00	11.60	5,528.1	337.6	69.3	339.5	0.00	0.00	Start 11 Deg Bulid
5,550.0	5.10	11.60	5,538.0	338.3	69.5	340.3	11.00	11.00	
5,600.0	10.60	11.60	5,587.5	345.0	70.8	347.0	11.00	11.00	
5,650.0	16.10	11.60	5,636.2	356.3	73.1	358.4	11.00	11.00	
5,700.0	21.60	11.60	5,683.5	372.1	76.4	374.3	11.00	11.00	
5,750.0	27.10	11.60	5,729.0	392.3	80.5	394.6	11.00	11.00	
5,800.0	32.60	11.60	5,772.3	416.7	85.5	419.1	11.00	11.00	
5,850.0	38.10	11.60	5,813.1	445.0	91.4	447.6	11.00	11.00	
5,900.0	43.60	11.60	5,850.9	477.0	97.9	479.8	11.00	11.00	
5,901.5	43.76	11.60	5,852.0	478.1	98.1	480.8	11.00	11.00	Top Niobrara
5,950.0	49.10	11.60	5,885.4	512.5	105.2	515.4	11.00	11.00	
6,000.0	54.60	11.60	5,916.3	551.0	113.1	554.1	11.00	11.00	
6,050.0	60.10	11.60	5,943.3	592.2	121.6	595.6	11.00	11.00	
6,100.0	65.60	11.60	5,966.1	635.8	130.5	639.4	11.00	11.00	
6,150.0	71.10	11.60	5,984.5	681.3	139.8	685.2	11.00	11.00	
6,200.0	76.60	11.60	5,998.4	728.3	149.5	732.5	11.00	11.00	
6,250.0	82.10	11.60	6,007.7	776.4	159.4	780.9	11.00	11.00	
6,300.0	87.60	11.60	6,012.1	825.2	169.4	829.9	11.00	11.00	
6,321.8	90.00	11.60	6,012.6	846.6	173.8	851.4	11.00	11.00	LP @ 6,321' MD
6,400.0	90.00	9.25	6,012.6	923.4	187.9	928.7	3.00	0.00	7" (1078' FWL-1401' FNL)
6,500.0	90.00	6.25	6,012.6	1,022.5	201.4	1,028.1	3.00	0.00	
6,600.0	90.00	3.25	6,012.6	1,122.1	209.7	1,128.0	3.00	0.00	
6,708.5	90.00	0.00	6,012.6	1,230.6	212.8	1,236.4	3.00	0.00	EOT; 0 Deg Azi
6,800.0	90.00	0.00	6,012.6	1,322.1	212.8	1,327.9	0.00	0.00	
6,900.0	90.00	0.00	6,012.6	1,422.1	212.8	1,427.9	0.00	0.00	
7,000.0	90.00	0.00	6,012.6	1,522.1	212.8	1,527.8	0.00	0.00	
7,100.0	90.00	0.00	6,012.6	1,622.1	212.8	1,627.8	0.00	0.00	
7,200.0	90.00	0.00	6,012.6	1,722.1	212.8	1,727.7	0.00	0.00	
7,300.0	90.00	0.00	6,012.7	1,822.1	212.8	1,827.7	0.00	0.00	
7,400.0	90.00	0.00	6,012.7	1,922.1	212.8	1,927.6	0.00	0.00	
7,500.0	90.00	0.00	6,012.7	2,022.1	212.8	2,027.6	0.00	0.00	
7,600.0	90.00	0.00	6,012.7	2,122.1	212.8	2,127.5	0.00	0.00	
7,700.0	90.00	0.00	6,012.7	2,222.1	212.8	2,227.5	0.00	0.00	
7,800.0	90.00	0.00	6,012.7	2,322.1	212.8	2,327.5	0.00	0.00	
7,900.0	90.00	0.00	6,012.7	2,422.1	212.8	2,427.4	0.00	0.00	
8,000.0	90.00	0.00	6,012.7	2,522.1	212.8	2,527.4	0.00	0.00	
8,100.0	90.00	0.00	6,012.7	2,622.1	212.8	2,627.3	0.00	0.00	
8,200.0	90.00	0.00	6,012.7	2,722.1	212.8	2,727.3	0.00	0.00	
8,300.0	90.00	0.00	6,012.7	2,822.1	212.8	2,827.2	0.00	0.00	
8,400.0	90.00	0.00	6,012.7	2,922.1	212.8	2,927.2	0.00	0.00	
8,500.0	90.00	0.00	6,012.7	3,022.1	212.8	3,027.1	0.00	0.00	
8,600.0	90.00	0.00	6,012.7	3,122.1	212.8	3,127.1	0.00	0.00	
8,700.0	90.00	0.00	6,012.7	3,222.1	212.8	3,227.0	0.00	0.00	
8,800.0	90.00	0.00	6,012.8	3,322.1	212.8	3,327.0	0.00	0.00	
8,900.0	90.00	0.00	6,012.8	3,422.1	212.8	3,427.0	0.00	0.00	
9,000.0	90.00	0.00	6,012.8	3,522.1	212.8	3,526.9	0.00	0.00	
9,100.0	90.00	0.00	6,012.8	3,622.1	212.8	3,626.9	0.00	0.00	
9,200.0	90.00	0.00	6,012.8	3,722.1	212.8	3,726.8	0.00	0.00	

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Well:	Razor #11E-0204B	**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
9,300.0	90.00	0.00	6,012.8	3,822.1	212.8	3,826.8	0.00	0.00	
9,400.0	90.00	0.00	6,012.8	3,922.1	212.8	3,926.7	0.00	0.00	
9,500.0	90.00	0.00	6,012.8	4,022.1	212.8	4,026.7	0.00	0.00	
9,600.0	90.00	0.00	6,012.8	4,122.1	212.8	4,126.6	0.00	0.00	
9,700.0	90.00	0.00	6,012.8	4,222.1	212.8	4,226.6	0.00	0.00	
9,800.0	90.00	0.00	6,012.8	4,322.1	212.8	4,326.5	0.00	0.00	
9,900.0	90.00	0.00	6,012.8	4,422.1	212.8	4,426.5	0.00	0.00	
10,000.0	90.00	0.00	6,012.8	4,522.1	212.8	4,526.4	0.00	0.00	
10,100.0	90.00	0.00	6,012.8	4,622.1	212.8	4,626.4	0.00	0.00	
10,200.0	90.00	0.00	6,012.9	4,722.1	212.8	4,726.4	0.00	0.00	
10,300.0	90.00	0.00	6,012.9	4,822.1	212.8	4,826.3	0.00	0.00	
10,400.0	90.00	0.00	6,012.9	4,922.1	212.8	4,926.3	0.00	0.00	
10,500.0	90.00	0.00	6,012.9	5,022.1	212.8	5,026.2	0.00	0.00	
10,600.0	90.00	0.00	6,012.9	5,122.1	212.8	5,126.2	0.00	0.00	
10,700.0	90.00	0.00	6,012.9	5,222.1	212.8	5,226.1	0.00	0.00	
10,800.0	90.00	0.00	6,012.9	5,322.1	212.8	5,326.1	0.00	0.00	
10,900.0	90.00	0.00	6,012.9	5,422.1	212.8	5,426.0	0.00	0.00	
11,000.0	90.00	0.00	6,012.9	5,522.1	212.8	5,526.0	0.00	0.00	
11,100.0	90.00	0.00	6,012.9	5,622.1	212.8	5,625.9	0.00	0.00	
11,200.0	90.00	0.00	6,012.9	5,722.1	212.8	5,725.9	0.00	0.00	
11,300.0	90.00	0.00	6,012.9	5,822.1	212.8	5,825.9	0.00	0.00	
11,400.0	90.00	0.00	6,012.9	5,922.1	212.8	5,925.8	0.00	0.00	
11,500.0	90.00	0.00	6,012.9	6,022.1	212.8	6,025.8	0.00	0.00	
11,600.0	90.00	0.00	6,012.9	6,122.1	212.8	6,125.7	0.00	0.00	
11,700.0	90.00	0.00	6,013.0	6,222.1	212.8	6,225.7	0.00	0.00	
11,800.0	90.00	0.00	6,013.0	6,322.1	212.8	6,325.6	0.00	0.00	
11,900.0	90.00	0.00	6,013.0	6,422.1	212.8	6,425.6	0.00	0.00	
12,000.0	90.00	0.00	6,013.0	6,522.1	212.8	6,525.5	0.00	0.00	
12,100.0	90.00	0.00	6,013.0	6,622.1	212.8	6,625.5	0.00	0.00	
12,200.0	90.00	0.00	6,013.0	6,722.1	212.8	6,725.4	0.00	0.00	
12,300.0	90.00	0.00	6,013.0	6,822.1	212.8	6,825.4	0.00	0.00	
12,400.0	90.00	0.00	6,013.0	6,922.1	212.8	6,925.4	0.00	0.00	
12,500.0	90.00	0.00	6,013.0	7,022.1	212.8	7,025.3	0.00	0.00	
12,519.9	90.00	0.00	6,013.0	7,042.0	212.8	7,045.2	0.00	0.00	PBHL @ 12,519' 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-0204B PBH - plan hits target center - Point	0.00	0.00	6,013.0	7,042.0	212.8	1,565,381.53	3,459,525.65	40.873519	-103.838381

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,400.0	6,012.6	7" (1078' FWL-1401' FNL)	7.000	7.500

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,901.5	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
500.0	500.0	0.0	0.0	KOP @ 500' MD
700.0	699.8	6.8	1.4	EOB; 4 Deg Inc
5,540.0	5,528.1	337.6	69.3	Start 11 Deg Bulid
6,321.8	6,012.6	846.6	173.8	LP @ 6,321' MD
6,708.5	6,012.6	1,230.6	212.8	EOT; 0 Deg Azi
12,519.9	6,013.0	7,042.0	212.8	PBHL @ 12,519' MD

Whiting Petroleum Corporation

Weld County, CO
S11-T10N-R58W
Razor #11E-0204B
HZ
Plan #1

Anticollision Report

19 July, 2013

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	12,519.9	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-0201A - HZ - Plan #1	500.0	500.0	99.1	97.1	49.937	CC
Razor #11E-0201A - HZ - Plan #1	600.0	600.0	99.5	97.1	40.884	ES
Razor #11E-0201A - HZ - Plan #1	12,519.9	12,579.3	994.6	727.9	3.729	SF
Razor #11E-0202B - HZ - Plan #1	500.0	500.0	66.1	64.1	33.295	CC
Razor #11E-0202B - HZ - Plan #1	600.0	600.0	66.5	64.1	27.323	ES
Razor #11E-0202B - HZ - Plan #1	12,519.9	12,569.6	659.9	391.5	2.458	SF
Razor #11E-0203A - HZ - Plan #1	500.0	500.0	33.1	31.1	16.654	CC
Razor #11E-0203A - HZ - Plan #1	600.0	600.0	33.5	31.1	13.767	ES
Razor #11E-0203A - HZ - Plan #1	12,519.9	12,416.2	344.7	85.9	1.332	Level 3, SF
Razor #11E-1401A - HZ - Plan #1	500.0	500.0	124.9	122.9	62.896	CC, ES
Razor #11E-1401A - HZ - Plan #1	5,500.0	5,439.0	783.0	758.5	31.961	SF
Razor #11E-1402B - HZ - Plan #1	500.0	500.0	100.7	98.7	50.703	CC, ES
Razor #11E-1402B - HZ - Plan #1	5,500.0	5,446.3	765.0	740.6	31.345	SF
Razor #11E-1403A - HZ - Plan #1	500.0	500.0	82.8	80.8	41.712	CC, ES
Razor #11E-1403A - HZ - Plan #1	900.0	892.6	109.6	105.9	29.506	SF
Razor #11E-1404B - HZ - Plan #1	500.0	500.0	75.9	73.9	38.251	CC, ES
Razor #11E-1404B - HZ - Plan #1	900.0	896.2	98.1	94.4	26.100	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-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	600.0	600.0	1.2	1.2	-102.58	0.0	-99.1	99.5	97.1	2.43	40.884	ES
700.0	699.8	699.8	699.8	1.4	1.4	-105.45	0.0	-99.1	100.8	97.9	2.88	34.938	
800.0	799.6	799.6	799.6	1.7	1.7	-109.19	0.0	-99.1	102.8	99.5	3.34	30.782	
900.0	899.4	898.1	898.1	1.9	1.9	-111.87	1.5	-100.0	105.9	102.1	3.80	27.887	
1,000.0	999.1	996.8	996.7	2.2	2.1	-112.71	5.8	-102.5	110.3	106.0	4.26	25.891	
1,100.0	1,098.9	1,096.6	1,096.2	2.4	2.3	-112.63	11.9	-106.0	115.2	110.5	4.73	24.362	
1,200.0	1,198.6	1,196.5	1,195.9	2.7	2.6	-112.55	17.9	-109.5	120.2	115.0	5.21	23.083	
1,300.0	1,298.4	1,296.4	1,295.5	2.9	2.8	-112.48	23.9	-113.0	125.2	119.5	5.69	21.999	
1,400.0	1,398.1	1,396.3	1,395.1	3.2	3.1	-112.42	29.9	-116.5	130.1	124.0	6.18	21.072	
1,500.0	1,497.9	1,496.1	1,494.8	3.4	3.3	-112.36	36.0	-120.0	135.1	128.4	6.66	20.271	
1,600.0	1,597.6	1,596.0	1,594.4	3.7	3.5	-112.31	42.0	-123.5	140.1	132.9	7.16	19.573	
1,700.0	1,697.4	1,695.9	1,694.0	3.9	3.8	-112.26	48.0	-127.0	145.0	137.4	7.65	18.959	
1,800.0	1,797.2	1,795.8	1,793.7	4.2	4.0	-112.21	54.0	-130.5	150.0	141.9	8.14	18.417	
1,900.0	1,896.9	1,895.7	1,893.3	4.4	4.3	-112.16	60.1	-134.0	155.0	146.3	8.64	17.934	
2,000.0	1,996.7	1,995.5	1,992.9	4.7	4.5	-112.12	66.1	-137.5	159.9	150.8	9.14	17.502	
2,100.0	2,096.4	2,095.4	2,092.6	4.9	4.8	-112.08	72.1	-141.0	164.9	155.3	9.64	17.112	
2,200.0	2,196.2	2,195.3	2,192.2	5.2	5.0	-112.05	78.1	-144.5	169.9	159.7	10.14	16.760	
2,300.0	2,295.9	2,295.2	2,291.8	5.4	5.3	-112.01	84.2	-148.0	174.8	164.2	10.63	16.440	
2,400.0	2,395.7	2,395.0	2,391.5	5.7	5.5	-111.98	90.2	-151.5	179.8	168.7	11.13	16.147	
2,500.0	2,495.5	2,494.9	2,491.1	5.9	5.8	-111.95	96.2	-155.0	184.8	173.1	11.64	15.879	
2,600.0	2,595.2	2,594.8	2,590.7	6.2	6.1	-111.92	102.3	-158.5	189.7	177.6	12.14	15.633	
2,700.0	2,695.0	2,694.7	2,690.4	6.5	6.3	-111.89	108.3	-162.0	194.7	182.1	12.64	15.405	
2,800.0	2,794.7	2,794.5	2,790.0	6.7	6.6	-111.86	114.3	-165.5	199.7	186.5	13.14	15.195	
2,900.0	2,894.5	2,894.4	2,889.6	7.0	6.8	-111.84	120.3	-169.0	204.6	191.0	13.64	15.000	
3,000.0	2,994.2	2,994.3	2,989.3	7.2	7.1	-111.81	126.4	-172.5	209.6	195.5	14.14	14.818	
3,100.0	3,094.0	3,094.2	3,088.9	7.5	7.3	-111.79	132.4	-176.0	214.6	199.9	14.65	14.649	
3,200.0	3,193.7	3,194.0	3,188.5	7.7	7.6	-111.77	138.4	-179.5	219.5	204.4	15.15	14.490	
3,300.0	3,293.5	3,293.9	3,288.2	8.0	7.8	-111.75	144.4	-183.0	224.5	208.8	15.65	14.342	
3,400.0	3,393.3	3,393.8	3,387.8	8.2	8.1	-111.73	150.5	-186.5	229.5	213.3	16.16	14.203	
3,500.0	3,493.0	3,493.7	3,487.4	8.5	8.4	-111.71	156.5	-190.0	234.4	217.8	16.66	14.071	
3,600.0	3,592.8	3,593.6	3,587.1	8.8	8.6	-111.69	162.5	-193.4	239.4	222.2	17.16	13.948	
3,700.0	3,692.5	3,693.4	3,686.7	9.0	8.9	-111.67	168.5	-196.9	244.4	226.7	17.67	13.831	
3,800.0	3,792.3	3,793.3	3,786.3	9.3	9.1	-111.65	174.6	-200.4	249.3	231.2	18.17	13.721	
3,900.0	3,892.0	3,893.2	3,886.0	9.5	9.4	-111.64	180.6	-203.9	254.3	235.6	18.68	13.617	
4,000.0	3,991.8	3,993.1	3,985.6	9.8	9.6	-111.62	186.6	-207.4	259.3	240.1	19.18	13.518	
4,100.0	4,091.6	4,092.9	4,085.2	10.0	9.9	-111.61	192.6	-210.9	264.2	244.5	19.68	13.424	
4,200.0	4,191.3	4,192.8	4,184.9	10.3	10.1	-111.59	198.7	-214.4	269.2	249.0	20.19	13.335	
4,300.0	4,291.1	4,292.7	4,284.5	10.5	10.4	-111.58	204.7	-217.9	274.2	253.5	20.69	13.250	
4,400.0	4,390.8	4,392.6	4,384.1	10.8	10.7	-111.57	210.7	-221.4	279.1	257.9	21.20	13.169	
4,500.0	4,490.6	4,492.4	4,483.8	11.1	10.9	-111.55	216.7	-224.9	284.1	262.4	21.70	13.092	
4,600.0	4,590.3	4,592.3	4,583.4	11.3	11.2	-111.54	222.8	-228.4	289.1	266.9	22.21	13.018	
4,700.0	4,690.1	4,692.2	4,683.0	11.6	11.4	-111.53	228.8	-231.9	294.0	271.3	22.71	12.947	
4,800.0	4,789.9	4,792.1	4,782.7	11.8	11.7	-111.52	234.8	-235.4	299.0	275.8	23.21	12.880	
4,900.0	4,889.6	4,892.0	4,882.3	12.1	11.9	-111.50	240.8	-238.9	304.0	280.2	23.72	12.815	
5,000.0	4,989.4	4,991.8	4,981.9	12.3	12.2	-111.49	246.9	-242.4	308.9	284.7	24.22	12.753	
5,100.0	5,089.1	5,091.7	5,081.6	12.6	12.4	-111.48	252.9	-245.9	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-0204B
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-0204B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,188.9	5,191.6	5,181.2	12.8	12.7	-111.47	258.9	-249.4	318.9	293.6	25.23	12.637	
5,300.0	5,288.6	5,291.5	5,280.8	13.1	13.0	-111.46	264.9	-252.9	323.8	298.1	25.74	12.582	
5,400.0	5,388.4	5,391.3	5,380.5	13.4	13.2	-111.45	271.0	-256.4	328.8	302.6	26.24	12.529	
5,500.0	5,488.1	5,481.5	5,470.2	13.6	13.5	-111.15	278.0	-260.5	334.5	307.8	26.74	12.511	
5,600.0	5,587.5	5,561.0	5,547.6	13.9	13.8	-108.71	293.6	-269.5	346.5	319.3	27.27	12.710	
5,700.0	5,683.5	5,637.3	5,618.4	14.3	14.2	-105.17	318.0	-283.7	369.9	342.0	27.92	13.249	
5,800.0	5,772.3	5,709.6	5,681.0	14.9	14.6	-101.16	349.2	-301.8	403.6	374.8	28.79	14.018	
5,900.0	5,850.9	5,777.8	5,735.0	15.7	15.2	-96.74	385.1	-322.7	445.8	415.9	29.93	14.897	
6,000.0	5,916.3	5,841.9	5,780.4	16.7	15.7	-91.96	424.3	-345.4	494.7	463.4	31.28	15.815	
6,100.0	5,966.1	5,900.0	5,816.4	17.8	16.3	-86.82	463.6	-368.2	548.4	515.7	32.73	16.753	
6,200.0	5,998.4	5,960.0	5,848.1	19.1	17.1	-81.74	507.7	-393.8	605.3	571.1	34.24	17.678	
6,300.0	6,012.1	6,015.4	5,872.0	20.5	17.8	-76.63	550.9	-418.8	664.0	628.3	35.67	18.616	
6,400.0	6,012.6	6,071.8	5,890.7	21.9	18.6	-77.98	596.9	-445.6	723.0	685.1	37.93	19.064	
6,500.0	6,012.6	6,134.6	5,904.6	23.3	19.5	-80.32	649.8	-476.3	780.9	740.5	40.40	19.331	
6,600.0	6,012.6	6,202.5	5,911.3	24.7	20.6	-81.71	708.2	-510.2	836.5	793.6	42.95	19.477	
6,700.0	6,012.6	6,339.2	5,911.6	26.2	22.8	-82.68	828.2	-575.5	887.0	840.5	46.47	19.088	
6,800.0	6,012.6	6,512.3	5,911.6	27.8	25.5	-83.29	986.4	-645.8	927.4	876.8	50.54	18.348	
6,900.0	6,012.6	6,698.7	5,911.6	29.4	28.6	-83.72	1,163.0	-705.1	959.0	903.9	55.10	17.406	
7,000.0	6,012.6	6,895.8	5,911.6	31.1	31.9	-84.00	1,355.1	-748.7	981.1	921.1	60.01	16.349	
7,100.0	6,012.6	7,100.3	5,911.6	32.8	35.2	-84.15	1,558.1	-772.9	992.9	927.7	65.14	15.242	
7,200.0	6,012.6	7,264.4	5,911.6	34.5	37.8	-84.17	1,722.1	-776.9	994.8	925.2	69.61	14.290	
7,300.0	6,012.7	7,364.4	5,911.6	36.3	39.4	-84.17	1,822.1	-776.9	994.8	921.8	73.03	13.622	
7,400.0	6,012.7	7,464.4	5,911.6	38.0	41.0	-84.17	1,922.1	-776.9	994.8	918.3	76.48	13.008	
7,500.0	6,012.7	7,564.4	5,911.6	39.8	42.6	-84.17	2,022.1	-776.9	994.8	914.8	79.96	12.442	
7,600.0	6,012.7	7,664.4	5,911.6	41.6	44.3	-84.17	2,122.1	-776.9	994.8	911.3	83.47	11.919	
7,700.0	6,012.7	7,764.4	5,911.6	43.4	46.0	-84.17	2,222.1	-776.9	994.8	907.8	87.00	11.434	
7,800.0	6,012.7	7,864.4	5,911.7	45.2	47.7	-84.17	2,322.1	-776.9	994.8	904.2	90.57	10.984	
7,900.0	6,012.7	7,964.4	5,911.7	47.0	49.4	-84.17	2,422.1	-776.9	994.8	900.6	94.15	10.566	
8,000.0	6,012.7	8,064.4	5,911.7	48.8	51.1	-84.17	2,522.1	-776.9	994.8	897.0	97.75	10.177	
8,100.0	6,012.7	8,164.4	5,911.7	50.7	52.9	-84.17	2,622.1	-776.9	994.8	893.4	101.36	9.814	
8,200.0	6,012.7	8,264.4	5,911.7	52.5	54.6	-84.17	2,722.1	-776.9	994.8	889.8	105.00	9.475	
8,300.0	6,012.7	8,364.4	5,911.7	54.3	56.4	-84.17	2,822.1	-776.8	994.8	886.1	108.64	9.157	
8,400.0	6,012.7	8,464.4	5,911.7	56.2	58.1	-84.17	2,922.1	-776.8	994.8	882.5	112.30	8.858	
8,500.0	6,012.7	8,564.4	5,911.7	58.0	59.9	-84.17	3,022.1	-776.8	994.8	878.8	115.96	8.578	
8,600.0	6,012.7	8,664.4	5,911.7	59.9	61.7	-84.17	3,122.1	-776.8	994.8	875.1	119.64	8.314	
8,700.0	6,012.7	8,764.4	5,911.7	61.8	63.5	-84.17	3,222.1	-776.8	994.8	871.4	123.33	8.066	
8,800.0	6,012.8	8,864.4	5,911.7	63.6	65.3	-84.17	3,322.1	-776.8	994.8	867.7	127.02	7.831	
8,900.0	6,012.8	8,964.4	5,911.7	65.5	67.1	-84.17	3,422.1	-776.8	994.8	864.0	130.73	7.609	
9,000.0	6,012.8	9,064.4	5,911.7	67.4	68.9	-84.17	3,522.1	-776.8	994.8	860.3	134.44	7.399	
9,100.0	6,012.8	9,164.4	5,911.7	69.2	70.8	-84.17	3,622.1	-776.8	994.8	856.6	138.15	7.200	
9,200.0	6,012.8	9,264.4	5,911.8	71.1	72.6	-84.17	3,722.1	-776.8	994.7	852.9	141.87	7.012	
9,300.0	6,012.8	9,364.4	5,911.8	73.0	74.4	-84.17	3,822.1	-776.8	994.7	849.1	145.60	6.832	
9,400.0	6,012.8	9,464.4	5,911.8	74.9	76.3	-84.17	3,922.1	-776.8	994.7	845.4	149.33	6.661	
9,500.0	6,012.8	9,564.4	5,911.8	76.8	78.1	-84.17	4,022.1	-776.8	994.7	841.7	153.07	6.499	
9,600.0	6,012.8	9,664.4	5,911.8	78.7	79.9	-84.17	4,122.1	-776.8	994.7	837.9	156.81	6.344	
9,700.0	6,012.8	9,764.4	5,911.8	80.5	81.8	-84.17	4,222.1	-776.8	994.7	834.2	160.56	6.196	
9,800.0	6,012.8	9,864.4	5,911.8	82.4	83.6	-84.17	4,322.1	-776.8	994.7	830.4	164.30	6.054	
9,900.0	6,012.8	9,964.4	5,911.8	84.3	85.5	-84.17	4,422.1	-776.8	994.7	826.7	168.06	5.919	
10,000.0	6,012.8	10,064.4	5,911.8	86.2	87.4	-84.17	4,522.1	-776.8	994.7	822.9	171.81	5.790	
10,100.0	6,012.8	10,164.4	5,911.8	88.1	89.2	-84.17	4,622.1	-776.8	994.7	819.1	175.57	5.666	
10,200.0	6,012.9	10,264.4	5,911.8	90.0	91.1	-84.17	4,722.1	-776.8	994.7	815.4	179.33	5.547	
10,300.0	6,012.9	10,364.4	5,911.8	91.9	92.9	-84.17	4,822.1	-776.8	994.7	811.6	183.10	5.433	

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-0204B
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-0204B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,012.9	10,464.4	5,911.8	93.8	94.8	-84.17	4,922.1	-776.8	994.7	807.8	186.86	5.323	
10,500.0	6,012.9	10,564.4	5,911.9	95.7	96.7	-84.17	5,022.1	-776.8	994.7	804.1	190.63	5.218	
10,600.0	6,012.9	10,664.4	5,911.9	97.6	98.6	-84.17	5,122.1	-776.8	994.7	800.3	194.40	5.117	
10,700.0	6,012.9	10,764.4	5,911.9	99.5	100.4	-84.17	5,222.1	-776.8	994.7	796.5	198.18	5.019	
10,800.0	6,012.9	10,864.4	5,911.9	101.4	102.3	-84.17	5,322.1	-776.8	994.7	792.7	201.95	4.925	
10,900.0	6,012.9	10,964.4	5,911.9	103.3	104.2	-84.17	5,422.1	-776.7	994.7	789.0	205.73	4.835	
11,000.0	6,012.9	11,064.4	5,911.9	105.2	106.1	-84.17	5,522.1	-776.7	994.7	785.2	209.51	4.748	
11,100.0	6,012.9	11,164.4	5,911.9	107.1	107.9	-84.17	5,622.1	-776.7	994.7	781.4	213.29	4.664	
11,200.0	6,012.9	11,264.4	5,911.9	109.0	109.8	-84.17	5,722.1	-776.7	994.7	777.6	217.07	4.582	
11,300.0	6,012.9	11,364.4	5,911.9	110.9	111.7	-84.17	5,822.1	-776.7	994.7	773.8	220.85	4.504	
11,400.0	6,012.9	11,464.4	5,911.9	112.8	113.6	-84.17	5,922.1	-776.7	994.7	770.0	224.64	4.428	
11,500.0	6,012.9	11,564.4	5,911.9	114.7	115.5	-84.17	6,022.1	-776.7	994.7	766.2	228.43	4.354	
11,600.0	6,012.9	11,664.4	5,911.9	116.6	117.4	-84.17	6,122.1	-776.7	994.7	762.5	232.21	4.283	
11,700.0	6,013.0	11,764.4	5,911.9	118.5	119.2	-84.17	6,222.1	-776.7	994.7	758.7	236.00	4.215	
11,800.0	6,013.0	11,864.4	5,911.9	120.4	121.1	-84.17	6,322.1	-776.7	994.7	754.9	239.79	4.148	
11,900.0	6,013.0	11,964.4	5,912.0	122.3	123.0	-84.17	6,422.1	-776.7	994.7	751.1	243.58	4.083	
12,000.0	6,013.0	12,064.4	5,912.0	124.2	124.9	-84.17	6,522.1	-776.7	994.7	747.3	247.38	4.021	
12,100.0	6,013.0	12,164.4	5,912.0	126.1	126.8	-84.17	6,622.1	-776.7	994.6	743.5	251.17	3.960	
12,200.0	6,013.0	12,264.4	5,912.0	128.1	128.7	-84.17	6,722.1	-776.7	994.6	739.7	254.96	3.901	
12,300.0	6,013.0	12,364.4	5,912.0	130.0	130.6	-84.17	6,822.1	-776.7	994.6	735.9	258.76	3.844	
12,400.0	6,013.0	12,464.4	5,912.0	131.9	132.5	-84.17	6,922.1	-776.7	994.6	732.1	262.56	3.788	
12,500.0	6,013.0	12,564.4	5,912.0	133.8	134.2	-84.17	7,022.1	-776.7	994.6	728.5	266.13	3.737	
12,514.5	6,013.0	12,578.9	5,912.0	134.1	134.4	-84.17	7,036.6	-776.7	994.6	728.0	266.63	3.730	
12,519.9	6,013.0	12,579.3	5,912.0	134.2	134.4	-84.17	7,037.0	-776.7	994.6	727.9	266.74	3.729	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	-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	353.440	
200.0	200.0	200.0	200.0	0.3	0.3	-90.88	-1.0	-66.1	66.1	65.5	0.64	103.836	
300.0	300.0	300.0	300.0	0.5	0.5	-90.88	-1.0	-66.1	66.1	65.0	1.09	60.857	
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	CC
600.0	600.0	600.0	600.0	1.2	1.2	-103.94	-1.0	-66.1	66.5	64.1	2.43	27.323	ES
700.0	699.8	699.8	699.8	1.4	1.4	-108.19	-1.0	-66.1	67.9	65.1	2.88	23.557	
800.0	799.6	799.3	799.2	1.7	1.7	-112.18	0.6	-66.6	70.7	67.3	3.34	21.165	
900.0	899.4	898.9	898.7	1.9	1.9	-113.20	5.5	-68.3	74.1	70.3	3.80	19.494	
1,000.0	999.1	998.8	998.4	2.2	2.1	-112.82	12.1	-70.6	77.7	73.5	4.27	18.196	
1,100.0	1,098.9	1,098.7	1,098.1	2.4	2.4	-112.48	18.7	-72.9	81.4	76.6	4.75	17.129	
1,200.0	1,198.6	1,198.6	1,197.8	2.7	2.6	-112.17	25.3	-75.2	85.0	79.8	5.24	16.241	
1,300.0	1,298.4	1,298.6	1,297.4	2.9	2.8	-111.88	31.9	-77.4	88.7	83.0	5.73	15.492	
1,400.0	1,398.1	1,398.5	1,397.1	3.2	3.1	-111.62	38.5	-79.7	92.4	86.1	6.22	14.854	
1,500.0	1,497.9	1,498.4	1,496.8	3.4	3.3	-111.38	45.0	-82.0	96.0	89.3	6.71	14.305	
1,600.0	1,597.6	1,598.4	1,596.5	3.7	3.6	-111.15	51.6	-84.2	99.7	92.5	7.21	13.827	
1,700.0	1,697.4	1,698.3	1,696.2	3.9	3.8	-110.94	58.2	-86.5	103.3	95.6	7.71	13.408	
1,800.0	1,797.2	1,798.2	1,795.9	4.2	4.1	-110.75	64.8	-88.8	107.0	98.8	8.21	13.038	
1,900.0	1,896.9	1,898.2	1,895.6	4.4	4.3	-110.57	71.4	-91.1	110.7	102.0	8.71	12.709	
2,000.0	1,996.7	1,998.1	1,995.3	4.7	4.6	-110.40	78.0	-93.3	114.3	105.1	9.21	12.415	
2,100.0	2,096.4	2,098.0	2,095.0	4.9	4.8	-110.24	84.6	-95.6	118.0	108.3	9.71	12.151	
2,200.0	2,196.2	2,198.0	2,194.6	5.2	5.1	-110.09	91.2	-97.9	121.7	111.5	10.22	11.911	
2,300.0	2,295.9	2,297.9	2,294.3	5.4	5.3	-109.95	97.8	-100.1	125.4	114.6	10.72	11.694	
2,400.0	2,395.7	2,397.8	2,394.0	5.7	5.6	-109.81	104.4	-102.4	129.0	117.8	11.22	11.496	
2,500.0	2,495.5	2,497.8	2,493.7	5.9	5.9	-109.69	111.0	-104.7	132.7	121.0	11.73	11.314	
2,600.0	2,595.2	2,597.7	2,593.4	6.2	6.1	-109.57	117.5	-107.0	136.4	124.1	12.23	11.147	
2,700.0	2,695.0	2,697.6	2,693.1	6.5	6.4	-109.46	124.1	-109.2	140.0	127.3	12.74	10.993	
2,800.0	2,794.7	2,797.6	2,792.8	6.7	6.6	-109.35	130.7	-111.5	143.7	130.5	13.24	10.851	
2,900.0	2,894.5	2,897.5	2,892.5	7.0	6.9	-109.25	137.3	-113.8	147.4	133.6	13.75	10.719	
3,000.0	2,994.2	2,997.4	2,992.2	7.2	7.1	-109.15	143.9	-116.0	151.1	136.8	14.26	10.596	
3,100.0	3,094.0	3,097.4	3,091.8	7.5	7.4	-109.06	150.5	-118.3	154.7	140.0	14.76	10.482	
3,200.0	3,193.7	3,197.3	3,191.5	7.7	7.6	-108.97	157.1	-120.6	158.4	143.1	15.27	10.375	
3,300.0	3,293.5	3,297.2	3,291.2	8.0	7.9	-108.89	163.7	-122.9	162.1	146.3	15.78	10.274	
3,400.0	3,393.3	3,397.2	3,390.9	8.2	8.1	-108.81	170.3	-125.1	165.8	149.5	16.28	10.180	
3,500.0	3,493.0	3,497.1	3,490.6	8.5	8.4	-108.73	176.9	-127.4	169.4	152.7	16.79	10.092	
3,600.0	3,592.8	3,597.0	3,590.3	8.8	8.7	-108.66	183.4	-129.7	173.1	155.8	17.30	10.009	
3,700.0	3,692.5	3,696.9	3,690.0	9.0	8.9	-108.59	190.0	-131.9	176.8	159.0	17.80	9.930	
3,800.0	3,792.3	3,796.9	3,789.7	9.3	9.2	-108.52	196.6	-134.2	180.5	162.2	18.31	9.856	
3,900.0	3,892.0	3,896.8	3,889.4	9.5	9.4	-108.45	203.2	-136.5	184.1	165.3	18.82	9.785	
4,000.0	3,991.8	3,996.7	3,989.0	9.8	9.7	-108.39	209.8	-138.8	187.8	168.5	19.33	9.719	
4,100.0	4,091.6	4,096.7	4,088.7	10.0	9.9	-108.33	216.4	-141.0	191.5	171.7	19.83	9.655	
4,200.0	4,191.3	4,196.6	4,188.4	10.3	10.2	-108.27	223.0	-143.3	195.2	174.8	20.34	9.595	
4,300.0	4,291.1	4,296.5	4,288.1	10.5	10.4	-108.22	229.6	-145.6	198.9	178.0	20.85	9.538	
4,400.0	4,390.8	4,396.5	4,387.8	10.8	10.7	-108.16	236.2	-147.8	202.5	181.2	21.36	9.484	
4,500.0	4,490.6	4,496.4	4,487.5	11.1	11.0	-108.11	242.8	-150.1	206.2	184.4	21.86	9.432	
4,600.0	4,590.3	4,596.3	4,587.2	11.3	11.2	-108.06	249.3	-152.4	209.9	187.5	22.37	9.382	
4,700.0	4,690.1	4,696.3	4,686.9	11.6	11.5	-108.01	255.9	-154.7	213.6	190.7	22.88	9.334	
4,800.0	4,789.9	4,796.2	4,786.5	11.8	11.7	-107.97	262.5	-156.9	217.3	193.9	23.39	9.289	
4,900.0	4,889.6	4,896.1	4,886.2	12.1	12.0	-107.92	269.1	-159.2	220.9	197.0	23.90	9.245	
5,000.0	4,989.4	4,996.1	4,985.9	12.3	12.2	-107.88	275.7	-161.5	224.6	200.2	24.40	9.204	
5,100.0	5,089.1	5,096.0	5,085.6	12.6	12.5	-107.84	282.3	-163.8	228.3	203.4	24.91	9.164	

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-0204B
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-0204B	**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

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	5,188.9	5,195.9	5,185.3	12.8	12.8	-107.80	288.9	-166.0	232.0	206.6	25.42	9.125	
5,300.0	5,288.6	5,295.9	5,285.0	13.1	13.0	-107.76	295.5	-168.3	235.7	209.7	25.93	9.088	
5,400.0	5,388.4	5,395.8	5,384.7	13.4	13.3	-107.72	302.1	-170.6	239.3	212.9	26.44	9.053	
5,500.0	5,488.1	5,495.7	5,484.4	13.6	13.5	-107.68	308.7	-172.8	243.0	216.1	26.95	9.019	
5,600.0	5,587.5	5,590.3	5,578.5	13.9	13.8	-107.39	317.2	-175.8	248.3	220.9	27.46	9.044	
5,700.0	5,683.5	5,679.8	5,665.0	14.3	14.2	-106.35	338.3	-183.0	262.3	234.2	28.13	9.325	
5,800.0	5,772.3	5,767.6	5,745.0	14.9	14.6	-104.65	372.2	-194.8	285.1	256.1	29.03	9.820	
5,900.0	5,850.9	5,853.2	5,816.1	15.7	15.2	-102.33	417.2	-210.2	315.9	285.6	30.25	10.443	
6,000.0	5,916.3	5,936.7	5,877.1	16.7	16.0	-99.48	471.0	-228.8	353.3	321.5	31.81	11.107	
6,100.0	5,966.1	6,018.3	5,927.1	17.8	16.8	-96.20	531.8	-249.8	396.1	362.4	33.69	11.758	
6,200.0	5,998.4	6,100.0	5,966.6	19.1	17.8	-92.65	599.4	-273.1	442.9	407.1	35.83	12.360	
6,300.0	6,012.1	6,179.3	5,993.7	20.5	18.8	-88.91	669.8	-297.3	492.2	454.1	38.13	12.909	
6,400.0	6,012.6	6,263.0	6,009.8	21.9	20.1	-89.66	747.3	-324.0	541.4	500.7	40.71	13.301	
6,500.0	6,012.6	6,365.4	6,013.1	23.3	21.6	-90.05	844.2	-356.9	586.1	542.5	43.62	13.437	
6,600.0	6,012.6	6,502.5	6,013.1	24.7	23.6	-90.05	976.1	-393.9	621.0	573.9	47.09	13.186	
6,700.0	6,012.6	6,648.0	6,013.1	26.2	25.8	-90.04	1,118.8	-422.7	643.8	592.9	50.90	12.648	
6,800.0	6,012.6	6,798.5	6,013.1	27.8	28.2	-90.04	1,268.1	-441.0	656.0	601.2	54.83	11.964	
6,900.0	6,012.6	6,951.0	6,013.1	29.4	30.5	-90.04	1,420.4	-447.4	660.2	601.3	58.92	11.205	
7,000.0	6,012.6	7,052.7	6,013.1	31.1	32.2	-90.04	1,522.1	-447.4	660.2	597.9	62.29	10.599	
7,100.0	6,012.6	7,152.7	6,013.1	32.8	33.8	-90.04	1,622.1	-447.4	660.2	594.5	65.69	10.050	
7,200.0	6,012.6	7,252.7	6,013.1	34.5	35.5	-90.04	1,722.1	-447.4	660.2	591.1	69.14	9.549	
7,300.0	6,012.7	7,352.7	6,013.1	36.3	37.2	-90.04	1,822.1	-447.4	660.2	587.6	72.63	9.090	
7,400.0	6,012.7	7,452.7	6,013.1	38.0	39.0	-90.04	1,922.1	-447.4	660.2	584.1	76.15	8.670	
7,500.0	6,012.7	7,552.7	6,013.1	39.8	40.7	-90.04	2,022.1	-447.4	660.2	580.5	79.70	8.283	
7,600.0	6,012.7	7,652.7	6,013.1	41.6	42.5	-90.03	2,122.1	-447.4	660.2	576.9	83.28	7.927	
7,700.0	6,012.7	7,752.7	6,013.1	43.4	44.2	-90.03	2,222.1	-447.4	660.2	573.3	86.88	7.599	
7,800.0	6,012.7	7,852.7	6,013.1	45.2	46.0	-90.03	2,322.1	-447.4	660.2	569.7	90.50	7.295	
7,900.0	6,012.7	7,952.7	6,013.1	47.0	47.8	-90.03	2,422.1	-447.4	660.2	566.0	94.14	7.013	
8,000.0	6,012.7	8,052.7	6,013.1	48.8	49.6	-90.03	2,522.1	-447.4	660.2	562.4	97.79	6.751	
8,100.0	6,012.7	8,152.7	6,013.1	50.7	51.4	-90.03	2,622.1	-447.4	660.2	558.7	101.46	6.507	
8,200.0	6,012.7	8,252.7	6,013.1	52.5	53.2	-90.03	2,722.1	-447.4	660.2	555.0	105.14	6.279	
8,300.0	6,012.7	8,352.7	6,013.1	54.3	55.1	-90.03	2,822.1	-447.4	660.2	551.3	108.83	6.066	
8,400.0	6,012.7	8,452.7	6,013.1	56.2	56.9	-90.03	2,922.1	-447.4	660.1	547.6	112.53	5.866	
8,500.0	6,012.7	8,552.7	6,013.1	58.0	58.7	-90.03	3,022.1	-447.4	660.1	543.9	116.24	5.679	
8,600.0	6,012.7	8,652.7	6,013.1	59.9	60.6	-90.03	3,122.1	-447.3	660.1	540.2	119.96	5.503	
8,700.0	6,012.7	8,752.7	6,013.1	61.8	62.4	-90.03	3,222.1	-447.3	660.1	536.4	123.69	5.337	
8,800.0	6,012.8	8,852.7	6,013.1	63.6	64.3	-90.03	3,322.1	-447.3	660.1	532.7	127.42	5.181	
8,900.0	6,012.8	8,952.7	6,013.1	65.5	66.1	-90.03	3,422.1	-447.3	660.1	529.0	131.16	5.033	
9,000.0	6,012.8	9,052.7	6,013.1	67.4	68.0	-90.02	3,522.1	-447.3	660.1	525.2	134.91	4.893	
9,100.0	6,012.8	9,152.7	6,013.1	69.2	69.9	-90.02	3,622.1	-447.3	660.1	521.4	138.66	4.761	
9,200.0	6,012.8	9,252.7	6,013.1	71.1	71.7	-90.02	3,722.1	-447.3	660.1	517.7	142.42	4.635	
9,300.0	6,012.8	9,352.7	6,013.1	73.0	73.6	-90.02	3,822.1	-447.3	660.1	513.9	146.18	4.516	
9,400.0	6,012.8	9,452.7	6,013.0	74.9	75.5	-90.02	3,922.1	-447.3	660.1	510.1	149.94	4.402	
9,500.0	6,012.8	9,552.7	6,013.0	76.8	77.4	-90.02	4,022.1	-447.3	660.1	506.4	153.71	4.294	
9,600.0	6,012.8	9,652.7	6,013.0	78.7	79.2	-90.02	4,122.1	-447.3	660.1	502.6	157.48	4.191	
9,700.0	6,012.8	9,752.7	6,013.0	80.5	81.1	-90.02	4,222.1	-447.3	660.1	498.8	161.26	4.093	
9,800.0	6,012.8	9,852.7	6,013.0	82.4	83.0	-90.02	4,322.1	-447.3	660.1	495.0	165.04	4.000	
9,900.0	6,012.8	9,952.7	6,013.0	84.3	84.9	-90.02	4,422.1	-447.3	660.1	491.2	168.82	3.910	
10,000.0	6,012.8	10,052.7	6,013.0	86.2	86.8	-90.02	4,522.1	-447.3	660.1	487.5	172.60	3.824	
10,100.0	6,012.8	10,152.7	6,013.0	88.1	88.6	-90.02	4,622.1	-447.3	660.1	483.7	176.39	3.742	
10,200.0	6,012.9	10,252.7	6,013.0	90.0	90.5	-90.02	4,722.1	-447.3	660.0	479.9	180.18	3.663	
10,300.0	6,012.9	10,352.7	6,013.0	91.9	92.4	-90.02	4,822.1	-447.2	660.0	476.1	183.97	3.588	

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-0204B
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-0204B	**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
10,400.0	6,012.9	10,452.7	6,013.0	93.8	94.3	-90.01	4,922.1	-447.2	660.0	472.3	187.76	3.515	
10,500.0	6,012.9	10,552.7	6,013.0	95.7	96.2	-90.01	5,022.1	-447.2	660.0	468.5	191.56	3.446	
10,600.0	6,012.9	10,652.7	6,013.0	97.6	98.1	-90.01	5,122.1	-447.2	660.0	464.7	195.36	3.379	
10,700.0	6,012.9	10,752.7	6,013.0	99.5	100.0	-90.01	5,222.1	-447.2	660.0	460.9	199.16	3.314	
10,800.0	6,012.9	10,852.7	6,013.0	101.4	101.9	-90.01	5,322.1	-447.2	660.0	457.1	202.96	3.252	
10,900.0	6,012.9	10,952.7	6,013.0	103.3	103.8	-90.01	5,422.1	-447.2	660.0	453.2	206.76	3.192	
11,000.0	6,012.9	11,052.7	6,013.0	105.2	105.7	-90.01	5,522.1	-447.2	660.0	449.4	210.56	3.134	
11,100.0	6,012.9	11,152.7	6,013.0	107.1	107.6	-90.01	5,622.1	-447.2	660.0	445.6	214.37	3.079	
11,200.0	6,012.9	11,252.7	6,013.0	109.0	109.5	-90.01	5,722.1	-447.2	660.0	441.8	218.18	3.025	
11,300.0	6,012.9	11,352.7	6,013.0	110.9	111.4	-90.01	5,822.1	-447.2	660.0	438.0	221.98	2.973	
11,400.0	6,012.9	11,452.7	6,013.0	112.8	113.3	-90.01	5,922.1	-447.2	660.0	434.2	225.79	2.923	
11,500.0	6,012.9	11,552.7	6,013.0	114.7	115.2	-90.01	6,022.1	-447.2	660.0	430.4	229.60	2.874	
11,600.0	6,012.9	11,652.7	6,013.0	116.6	117.1	-90.01	6,122.1	-447.2	660.0	426.6	233.42	2.827	
11,700.0	6,013.0	11,752.7	6,013.0	118.5	119.0	-90.01	6,222.1	-447.2	660.0	422.7	237.23	2.782	
11,800.0	6,013.0	11,852.7	6,013.0	120.4	120.9	-90.01	6,322.1	-447.2	660.0	418.9	241.04	2.738	
11,900.0	6,013.0	11,952.7	6,013.0	122.3	122.8	-90.00	6,422.1	-447.2	660.0	415.1	244.86	2.695	
12,000.0	6,013.0	12,052.7	6,013.0	124.2	124.7	-90.00	6,522.1	-447.1	659.9	411.3	248.67	2.654	
12,100.0	6,013.0	12,152.7	6,013.0	126.1	126.6	-90.00	6,622.1	-447.1	659.9	407.5	252.49	2.614	
12,200.0	6,013.0	12,252.7	6,013.0	128.1	128.5	-90.00	6,722.1	-447.1	659.9	403.6	256.30	2.575	
12,300.0	6,013.0	12,352.7	6,013.0	130.0	130.4	-90.00	6,822.1	-447.1	659.9	399.8	260.12	2.537	
12,400.0	6,013.0	12,452.7	6,013.0	131.9	132.3	-90.00	6,922.1	-447.1	659.9	396.0	263.94	2.500	
12,500.0	6,013.0	12,552.7	6,013.0	133.8	134.2	-90.00	7,022.1	-447.1	659.9	392.2	267.76	2.465	
12,516.6	6,013.0	12,569.4	6,013.0	134.1	134.5	-90.00	7,038.8	-447.1	659.9	391.5	268.40	2.459	
12,519.9	6,013.0	12,569.6	6,013.0	134.2	134.5	-90.00	7,039.0	-447.1	659.9	391.5	268.46	2.458	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	-91.77	-1.0	-33.0	33.1				
100.0	100.0	100.0	100.0	0.1	0.1	-91.77	-1.0	-33.0	33.1	32.9	0.19	176.781	
200.0	200.0	200.0	200.0	0.3	0.3	-91.77	-1.0	-33.0	33.1	32.4	0.64	51.937	
300.0	300.0	300.0	300.0	0.5	0.5	-91.77	-1.0	-33.0	33.1	32.0	1.09	30.440	
400.0	400.0	400.0	400.0	0.8	0.8	-91.77	-1.0	-33.0	33.1	31.5	1.54	21.529	
500.0	500.0	500.0	500.0	1.0	1.0	-91.77	-1.0	-33.0	33.1	31.1	1.99	16.654	CC
600.0	600.0	600.0	600.0	1.2	1.2	-106.26	-1.0	-33.0	33.5	31.1	2.43	13.767	ES
700.0	699.8	700.0	699.9	1.4	1.4	-111.59	0.7	-33.2	35.1	32.3	2.88	12.186	
800.0	799.6	800.1	799.9	1.7	1.7	-113.55	5.9	-33.7	37.3	33.9	3.34	11.158	
900.0	899.4	900.0	899.6	1.9	1.9	-112.77	12.9	-34.3	39.3	35.4	3.81	10.297	
1,000.0	999.1	1,000.0	999.4	2.2	2.1	-112.07	19.8	-34.9	41.2	36.9	4.29	9.605	
1,100.0	1,098.9	1,100.0	1,099.1	2.4	2.4	-111.43	26.8	-35.5	43.2	38.4	4.78	9.042	
1,200.0	1,198.6	1,200.0	1,198.8	2.7	2.6	-110.85	33.7	-36.2	45.2	39.9	5.27	8.576	
1,300.0	1,298.4	1,300.0	1,298.6	2.9	2.9	-110.32	40.7	-36.8	47.2	41.4	5.76	8.185	
1,400.0	1,398.1	1,399.9	1,398.3	3.2	3.1	-109.82	47.6	-37.4	49.1	42.9	6.26	7.853	
1,500.0	1,497.9	1,499.9	1,498.0	3.4	3.4	-109.37	54.6	-38.0	51.1	44.4	6.76	7.567	
1,600.0	1,597.6	1,599.9	1,597.8	3.7	3.6	-108.95	61.5	-38.7	53.1	45.9	7.26	7.320	
1,700.0	1,697.4	1,699.9	1,697.5	3.9	3.9	-108.57	68.4	-39.3	55.1	47.4	7.76	7.104	
1,800.0	1,797.2	1,799.9	1,797.3	4.2	4.1	-108.20	75.4	-39.9	57.1	48.9	8.26	6.913	
1,900.0	1,896.9	1,899.8	1,897.0	4.4	4.4	-107.87	82.3	-40.5	59.1	50.4	8.77	6.744	
2,000.0	1,996.7	1,999.8	1,996.7	4.7	4.6	-107.55	89.3	-41.2	61.1	51.9	9.27	6.592	
2,100.0	2,096.4	2,099.8	2,096.5	4.9	4.9	-107.26	96.2	-41.8	63.1	53.4	9.78	6.456	
2,200.0	2,196.2	2,199.8	2,196.2	5.2	5.1	-106.98	103.2	-42.4	65.2	54.9	10.29	6.334	
2,300.0	2,295.9	2,299.7	2,295.9	5.4	5.4	-106.72	110.1	-43.0	67.2	56.4	10.79	6.222	
2,400.0	2,395.7	2,399.7	2,395.7	5.7	5.6	-106.48	117.1	-43.7	69.2	57.9	11.30	6.121	
2,500.0	2,495.5	2,499.7	2,495.4	5.9	5.9	-106.25	124.0	-44.3	71.2	59.4	11.81	6.028	
2,600.0	2,595.2	2,599.7	2,595.1	6.2	6.2	-106.03	131.0	-44.9	73.2	60.9	12.32	5.943	
2,700.0	2,695.0	2,699.7	2,694.9	6.5	6.4	-105.82	137.9	-45.5	75.2	62.4	12.82	5.864	
2,800.0	2,794.7	2,799.6	2,794.6	6.7	6.7	-105.62	144.9	-46.2	77.2	63.9	13.33	5.791	
2,900.0	2,894.5	2,899.6	2,894.3	7.0	6.9	-105.44	151.8	-46.8	79.2	65.4	13.84	5.724	
3,000.0	2,994.2	2,999.6	2,994.1	7.2	7.2	-105.26	158.7	-47.4	81.2	66.9	14.35	5.661	
3,100.0	3,094.0	3,099.6	3,093.8	7.5	7.4	-105.09	165.7	-48.0	83.3	68.4	14.86	5.603	
3,200.0	3,193.7	3,199.6	3,193.6	7.7	7.7	-104.93	172.6	-48.7	85.3	69.9	15.37	5.549	
3,300.0	3,293.5	3,299.5	3,293.3	8.0	7.9	-104.78	179.6	-49.3	87.3	71.4	15.88	5.498	
3,400.0	3,393.3	3,399.5	3,393.0	8.2	8.2	-104.63	186.5	-49.9	89.3	72.9	16.39	5.450	
3,500.0	3,493.0	3,499.5	3,492.8	8.5	8.4	-104.50	193.5	-50.5	91.3	74.4	16.90	5.405	
3,600.0	3,592.8	3,599.5	3,592.5	8.8	8.7	-104.36	200.4	-51.2	93.4	75.9	17.41	5.362	
3,700.0	3,692.5	3,699.5	3,692.2	9.0	9.0	-104.23	207.4	-51.8	95.4	77.5	17.92	5.323	
3,800.0	3,792.3	3,799.4	3,792.0	9.3	9.2	-104.11	214.3	-52.4	97.4	79.0	18.43	5.285	
3,900.0	3,892.0	3,899.4	3,891.7	9.5	9.5	-103.99	221.3	-53.0	99.4	80.5	18.94	5.249	
4,000.0	3,991.8	3,999.4	3,991.4	9.8	9.7	-103.88	228.2	-53.7	101.4	82.0	19.45	5.215	
4,100.0	4,091.6	4,099.4	4,091.2	10.0	10.0	-103.77	235.2	-54.3	103.5	83.5	19.96	5.183	
4,200.0	4,191.3	4,199.4	4,190.9	10.3	10.2	-103.67	242.1	-54.9	105.5	85.0	20.47	5.153	
4,300.0	4,291.1	4,299.3	4,290.6	10.5	10.5	-103.57	249.1	-55.5	107.5	86.5	20.98	5.124	
4,400.0	4,390.8	4,399.3	4,390.4	10.8	10.7	-103.47	256.0	-56.2	109.5	88.0	21.49	5.096	
4,500.0	4,490.6	4,499.3	4,490.1	11.1	11.0	-103.38	262.9	-56.8	111.5	89.5	22.00	5.070	
4,600.0	4,590.3	4,599.3	4,589.9	11.3	11.3	-103.29	269.9	-57.4	113.6	91.1	22.51	5.045	
4,700.0	4,690.1	4,699.3	4,689.6	11.6	11.5	-103.20	276.8	-58.0	115.6	92.6	23.02	5.021	
4,800.0	4,789.9	4,799.2	4,789.3	11.8	11.8	-103.12	283.8	-58.7	117.6	94.1	23.53	4.998	
4,900.0	4,889.6	4,899.2	4,889.1	12.1	12.0	-103.04	290.7	-59.3	119.6	95.6	24.05	4.976	
5,000.0	4,989.4	4,999.2	4,988.8	12.3	12.3	-102.96	297.7	-59.9	121.7	97.1	24.56	4.955	
5,100.0	5,089.1	5,099.2	5,088.5	12.6	12.5	-102.88	304.6	-60.5	123.7	98.6	25.07	4.934	

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-0204B
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-0204B	**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
5,200.0	5,188.9	5,199.1	5,188.3	12.8	12.8	-102.81	311.6	-61.2	125.7	100.1	25.58	4.915	
5,300.0	5,288.6	5,299.1	5,288.0	13.1	13.1	-102.74	318.5	-61.8	127.7	101.7	26.09	4.896	
5,400.0	5,388.4	5,399.1	5,387.7	13.4	13.3	-102.67	325.5	-62.4	129.8	103.2	26.60	4.878	
5,500.0	5,488.1	5,497.8	5,485.8	13.6	13.6	-101.17	335.6	-63.3	132.1	104.9	27.14	4.866	
5,600.0	5,587.5	5,592.4	5,576.8	13.9	14.0	-94.01	361.0	-65.6	137.8	110.0	27.80	4.955	
5,700.0	5,683.5	5,683.5	5,658.7	14.3	14.5	-86.98	400.6	-69.2	150.4	121.7	28.65	5.248	
5,800.0	5,772.3	5,771.7	5,730.1	14.9	15.2	-81.38	451.8	-73.8	168.5	138.8	29.67	5.680	
5,900.0	5,850.9	5,857.2	5,790.2	15.7	15.9	-77.19	512.3	-79.2	190.5	159.7	30.81	6.183	
6,000.0	5,916.3	5,940.5	5,838.4	16.7	16.8	-74.18	579.8	-85.3	215.1	182.9	32.14	6.691	
6,100.0	5,966.1	6,022.1	5,874.6	17.8	17.8	-72.06	652.6	-91.8	241.0	207.3	33.71	7.148	
6,200.0	5,998.4	6,100.0	5,898.1	19.1	18.8	-70.57	726.5	-98.5	267.5	231.9	35.54	7.526	
6,300.0	6,012.1	6,182.8	5,910.7	20.5	20.0	-69.72	807.9	-105.8	293.8	256.0	37.80	7.773	
6,400.0	6,012.6	6,281.1	5,912.1	21.9	21.4	-71.18	905.9	-113.7	318.4	277.5	40.84	7.795	
6,500.0	6,012.6	6,397.8	5,912.1	23.3	23.0	-72.38	1,022.5	-116.9	333.8	289.8	44.02	7.583	
6,600.0	6,012.6	6,497.5	5,912.1	24.7	24.6	-72.87	1,122.1	-116.9	341.7	294.7	47.03	7.265	
6,700.0	6,012.6	6,597.4	5,912.1	26.2	26.3	-73.04	1,222.1	-116.9	344.6	294.6	50.01	6.891	
6,800.0	6,012.6	6,697.4	5,912.1	27.8	27.9	-73.04	1,322.1	-116.9	344.7	291.5	53.13	6.487	
6,900.0	6,012.6	6,797.4	5,912.1	29.4	29.6	-73.04	1,422.1	-116.9	344.7	288.3	56.36	6.116	
7,000.0	6,012.6	6,897.4	5,912.1	31.1	31.4	-73.04	1,522.1	-116.9	344.7	285.0	59.64	5.779	
7,100.0	6,012.6	6,997.4	5,912.1	32.8	33.1	-73.04	1,622.1	-116.9	344.7	281.7	62.97	5.473	
7,200.0	6,012.6	7,097.4	5,912.1	34.5	34.9	-73.03	1,722.1	-116.9	344.7	278.3	66.34	5.196	
7,300.0	6,012.7	7,197.4	5,912.1	36.3	36.7	-73.03	1,822.1	-116.9	344.7	274.9	69.74	4.942	
7,400.0	6,012.7	7,297.4	5,912.1	38.0	38.4	-73.03	1,922.1	-116.9	344.7	271.5	73.17	4.710	
7,500.0	6,012.7	7,397.4	5,912.1	39.8	40.3	-73.03	2,022.1	-116.9	344.7	268.0	76.63	4.498	
7,600.0	6,012.7	7,497.4	5,912.1	41.6	42.1	-73.03	2,122.1	-116.9	344.7	264.6	80.10	4.303	
7,700.0	6,012.7	7,597.4	5,912.1	43.4	43.9	-73.03	2,222.1	-116.9	344.7	261.1	83.60	4.123	
7,800.0	6,012.7	7,697.4	5,912.1	45.2	45.7	-73.03	2,322.1	-116.9	344.7	257.5	87.11	3.956	
7,900.0	6,012.7	7,797.4	5,912.1	47.0	47.6	-73.03	2,422.1	-116.9	344.7	254.0	90.64	3.802	
8,000.0	6,012.7	7,897.4	5,912.1	48.8	49.4	-73.02	2,522.1	-116.9	344.7	250.5	94.18	3.659	
8,100.0	6,012.7	7,997.4	5,912.1	50.7	51.3	-73.02	2,622.1	-116.9	344.7	246.9	97.74	3.526	
8,200.0	6,012.7	8,097.4	5,912.1	52.5	53.1	-73.02	2,722.1	-116.9	344.7	243.4	101.30	3.402	
8,300.0	6,012.7	8,197.4	5,912.1	54.3	55.0	-73.02	2,822.1	-116.9	344.7	239.8	104.87	3.286	
8,400.0	6,012.7	8,297.4	5,912.1	56.2	56.9	-73.02	2,922.1	-116.9	344.7	236.2	108.46	3.178	
8,500.0	6,012.7	8,397.4	5,912.1	58.0	58.7	-73.02	3,022.1	-116.9	344.7	232.6	112.04	3.076	
8,600.0	6,012.7	8,497.4	5,912.0	59.9	60.6	-73.02	3,122.1	-116.8	344.7	229.0	115.64	2.981	
8,700.0	6,012.7	8,597.4	5,912.0	61.8	62.5	-73.01	3,222.1	-116.8	344.7	225.4	119.24	2.890	
8,800.0	6,012.8	8,697.4	5,912.0	63.6	64.4	-73.01	3,322.1	-116.8	344.7	221.8	122.85	2.806	
8,900.0	6,012.8	8,797.4	5,912.0	65.5	66.2	-73.01	3,422.1	-116.8	344.7	218.2	126.46	2.725	
9,000.0	6,012.8	8,897.4	5,912.0	67.4	68.1	-73.01	3,522.1	-116.8	344.7	214.6	130.08	2.650	
9,100.0	6,012.8	8,997.4	5,912.0	69.2	70.0	-73.01	3,622.1	-116.8	344.7	211.0	133.70	2.578	
9,200.0	6,012.8	9,097.4	5,912.0	71.1	71.9	-73.01	3,722.1	-116.8	344.7	207.3	137.33	2.510	
9,300.0	6,012.8	9,197.4	5,912.0	73.0	73.8	-73.01	3,822.1	-116.8	344.7	203.7	140.96	2.445	
9,400.0	6,012.8	9,297.4	5,912.0	74.9	75.7	-73.00	3,922.1	-116.8	344.7	200.1	144.59	2.384	
9,500.0	6,012.8	9,397.4	5,912.0	76.8	77.6	-73.00	4,022.1	-116.8	344.7	196.4	148.23	2.325	
9,600.0	6,012.8	9,497.4	5,912.0	78.7	79.5	-73.00	4,122.1	-116.8	344.7	192.8	151.87	2.270	
9,700.0	6,012.8	9,597.4	5,912.0	80.5	81.4	-73.00	4,222.1	-116.8	344.7	189.2	155.51	2.216	
9,800.0	6,012.8	9,697.4	5,912.0	82.4	83.3	-73.00	4,322.1	-116.8	344.7	185.5	159.16	2.166	
9,900.0	6,012.8	9,797.4	5,912.0	84.3	85.1	-73.00	4,422.1	-116.8	344.7	181.9	162.81	2.117	
10,000.0	6,012.8	9,897.4	5,912.0	86.2	87.0	-73.00	4,522.1	-116.8	344.7	178.2	166.45	2.071	
10,100.0	6,012.8	9,997.4	5,912.0	88.1	88.9	-72.99	4,622.1	-116.8	344.7	174.6	170.11	2.026	
10,200.0	6,012.9	10,097.4	5,912.0	90.0	90.8	-72.99	4,722.1	-116.8	344.7	170.9	173.76	1.984	
10,300.0	6,012.9	10,197.4	5,912.0	91.9	92.7	-72.99	4,822.1	-116.8	344.7	167.3	177.42	1.943	

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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
10,400.0	6,012.9	10,297.4	5,912.0	93.8	94.6	-72.99	4,922.1	-116.8	344.7	163.6	181.07	1.904	
10,500.0	6,012.9	10,397.4	5,912.0	95.7	96.6	-72.99	5,022.1	-116.8	344.7	160.0	184.73	1.866	
10,600.0	6,012.9	10,497.4	5,912.0	97.6	98.5	-72.99	5,122.1	-116.8	344.7	156.3	188.39	1.830	
10,700.0	6,012.9	10,597.4	5,912.0	99.5	100.4	-72.99	5,222.1	-116.8	344.7	152.6	192.05	1.795	
10,800.0	6,012.9	10,697.4	5,912.0	101.4	102.3	-72.99	5,322.1	-116.8	344.7	149.0	195.72	1.761	
10,900.0	6,012.9	10,797.4	5,912.0	103.3	104.2	-72.98	5,422.1	-116.8	344.7	145.3	199.38	1.729	
11,000.0	6,012.9	10,897.4	5,912.0	105.2	106.1	-72.98	5,522.1	-116.8	344.7	141.6	203.05	1.698	
11,100.0	6,012.9	10,997.4	5,912.0	107.1	108.0	-72.98	5,622.1	-116.8	344.7	138.0	206.71	1.667	
11,200.0	6,012.9	11,097.4	5,912.0	109.0	109.9	-72.98	5,722.1	-116.8	344.7	134.3	210.38	1.638	
11,300.0	6,012.9	11,197.4	5,912.0	110.9	111.8	-72.98	5,822.1	-116.8	344.7	130.6	214.05	1.610	
11,400.0	6,012.9	11,297.4	5,912.0	112.8	113.7	-72.98	5,922.1	-116.8	344.7	127.0	217.72	1.583	
11,500.0	6,012.9	11,397.4	5,912.0	114.7	115.6	-72.98	6,022.1	-116.8	344.7	123.3	221.39	1.557	
11,600.0	6,012.9	11,497.4	5,912.0	116.6	117.5	-72.97	6,122.1	-116.8	344.7	119.6	225.06	1.532	
11,700.0	6,013.0	11,597.4	5,912.0	118.5	119.4	-72.97	6,222.1	-116.8	344.7	116.0	228.73	1.507	
11,800.0	6,013.0	11,697.4	5,912.0	120.4	121.3	-72.97	6,322.1	-116.8	344.7	112.3	232.40	1.483	Level 3
11,900.0	6,013.0	11,797.4	5,912.0	122.3	123.3	-72.97	6,422.1	-116.8	344.7	108.6	236.08	1.460	Level 3
12,000.0	6,013.0	11,897.4	5,912.0	124.2	125.2	-72.97	6,522.1	-116.8	344.7	104.9	239.75	1.438	Level 3
12,100.0	6,013.0	11,997.4	5,912.0	126.1	127.1	-72.97	6,622.1	-116.8	344.7	101.3	243.43	1.416	Level 3
12,200.0	6,013.0	12,097.4	5,912.0	128.1	129.0	-72.97	6,722.1	-116.8	344.7	97.6	247.10	1.395	Level 3
12,300.0	6,013.0	12,197.4	5,912.0	130.0	130.9	-72.96	6,822.1	-116.8	344.7	93.9	250.78	1.375	Level 3
12,400.0	6,013.0	12,297.4	5,912.0	131.9	132.8	-72.96	6,922.1	-116.8	344.7	90.2	254.46	1.355	Level 3
12,500.0	6,013.0	12,397.4	5,912.0	133.8	134.7	-72.96	7,022.1	-116.8	344.7	86.6	258.13	1.335	Level 3
12,507.3	6,013.0	12,404.7	5,912.0	133.9	134.9	-72.96	7,029.4	-116.8	344.7	86.3	258.40	1.334	Level 3
12,519.9	6,013.0	12,416.2	5,912.0	134.2	135.1	-72.96	7,040.9	-116.8	344.7	85.9	258.84	1.332	Level 3, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	-127.44	-75.9	-99.1	124.9				
100.0	100.0	100.0	100.0	0.1	0.1	-127.44	-75.9	-99.1	124.9	124.7	0.19	667.697	
200.0	200.0	200.0	200.0	0.3	0.3	-127.44	-75.9	-99.1	124.9	124.2	0.64	196.157	
300.0	300.0	300.0	300.0	0.5	0.5	-127.44	-75.9	-99.1	124.9	123.8	1.09	114.964	
400.0	400.0	400.0	400.0	0.8	0.8	-127.44	-75.9	-99.1	124.9	123.3	1.54	81.309	
500.0	500.0	500.0	500.0	1.0	1.0	-127.44	-75.9	-99.1	124.9	122.9	1.99	62.896	CC, ES
600.0	600.0	596.1	596.1	1.2	1.2	-139.81	-77.3	-99.9	127.7	125.3	2.40	53.111	
700.0	699.8	691.6	691.4	1.4	1.4	-141.92	-81.6	-102.0	136.3	133.5	2.82	48.323	
800.0	799.6	790.2	789.9	1.7	1.6	-144.61	-87.8	-105.1	148.4	145.2	3.25	45.686	
900.0	899.4	889.3	888.7	1.9	1.8	-146.90	-93.9	-108.2	160.8	157.1	3.68	43.703	
1,000.0	999.1	988.3	987.5	2.2	2.0	-148.86	-100.1	-111.3	173.3	169.2	4.11	42.127	
1,100.0	1,098.9	1,087.4	1,086.3	2.4	2.3	-150.55	-106.3	-114.4	186.1	181.5	4.56	40.852	
1,200.0	1,198.6	1,186.4	1,185.1	2.7	2.5	-152.03	-112.4	-117.5	199.0	194.0	5.00	39.806	
1,300.0	1,298.4	1,285.5	1,283.9	2.9	2.8	-153.33	-118.6	-120.7	212.0	206.5	5.44	38.937	
1,400.0	1,398.1	1,384.5	1,382.7	3.2	3.0	-154.48	-124.8	-123.8	225.1	219.2	5.89	38.205	
1,500.0	1,497.9	1,483.5	1,481.5	3.4	3.3	-155.50	-130.9	-126.9	238.3	231.9	6.34	37.580	
1,600.0	1,597.6	1,582.6	1,580.3	3.7	3.5	-156.41	-137.1	-130.0	251.5	244.7	6.79	37.044	
1,700.0	1,697.4	1,681.6	1,679.1	3.9	3.8	-157.23	-143.3	-133.1	264.8	257.6	7.24	36.578	
1,800.0	1,797.2	1,780.7	1,777.9	4.2	4.0	-157.98	-149.5	-136.2	278.1	270.5	7.69	36.170	
1,900.0	1,896.9	1,879.7	1,876.7	4.4	4.3	-158.65	-155.6	-139.3	291.5	283.4	8.14	35.809	
2,000.0	1,996.7	1,978.8	1,975.5	4.7	4.5	-159.27	-161.8	-142.4	305.0	296.4	8.59	35.489	
2,100.0	2,096.4	2,077.8	2,074.3	4.9	4.8	-159.83	-168.0	-145.5	318.4	309.4	9.05	35.202	
2,200.0	2,196.2	2,176.8	2,173.1	5.2	5.0	-160.35	-174.1	-148.6	331.9	322.4	9.50	34.945	
2,300.0	2,295.9	2,275.9	2,271.9	5.4	5.3	-160.83	-180.3	-151.8	345.4	335.5	9.95	34.712	
2,400.0	2,395.7	2,374.9	2,370.7	5.7	5.6	-161.27	-186.5	-154.9	358.9	348.5	10.40	34.501	
2,500.0	2,495.5	2,474.0	2,469.5	5.9	5.8	-161.68	-192.6	-158.0	372.5	361.6	10.86	34.308	
2,600.0	2,595.2	2,573.0	2,568.3	6.2	6.1	-162.06	-198.8	-161.1	386.1	374.7	11.31	34.131	
2,700.0	2,695.0	2,672.1	2,667.1	6.5	6.3	-162.42	-205.0	-164.2	399.6	387.9	11.76	33.969	
2,800.0	2,794.7	2,771.1	2,765.9	6.7	6.6	-162.75	-211.2	-167.3	413.2	401.0	12.22	33.820	
2,900.0	2,894.5	2,870.2	2,864.7	7.0	6.9	-163.06	-217.3	-170.4	426.9	414.2	12.67	33.682	
3,000.0	2,994.2	2,969.2	2,963.5	7.2	7.1	-163.35	-223.5	-173.5	440.5	427.3	13.13	33.554	
3,100.0	3,094.0	3,068.2	3,062.3	7.5	7.4	-163.62	-229.7	-176.6	454.1	440.5	13.58	33.435	
3,200.0	3,193.7	3,167.3	3,161.1	7.7	7.6	-163.88	-235.8	-179.7	467.7	453.7	14.04	33.324	
3,300.0	3,293.5	3,266.3	3,259.9	8.0	7.9	-164.12	-242.0	-182.8	481.4	466.9	14.49	33.220	
3,400.0	3,393.3	3,365.4	3,358.7	8.2	8.2	-164.35	-248.2	-186.0	495.1	480.1	14.95	33.123	
3,500.0	3,493.0	3,464.4	3,457.5	8.5	8.4	-164.57	-254.3	-189.1	508.7	493.3	15.40	33.032	
3,600.0	3,592.8	3,563.5	3,556.3	8.8	8.7	-164.78	-260.5	-192.2	522.4	506.5	15.86	32.946	
3,700.0	3,692.5	3,662.5	3,655.1	9.0	8.9	-164.97	-266.7	-195.3	536.1	519.8	16.31	32.865	
3,800.0	3,792.3	3,761.5	3,753.9	9.3	9.2	-165.16	-272.8	-198.4	549.8	533.0	16.77	32.789	
3,900.0	3,892.0	3,860.6	3,852.7	9.5	9.5	-165.34	-279.0	-201.5	563.5	546.2	17.22	32.717	
4,000.0	3,991.8	3,959.6	3,951.5	9.8	9.7	-165.51	-285.2	-204.6	577.2	559.5	17.68	32.649	
4,100.0	4,091.6	4,058.7	4,050.3	10.0	10.0	-165.67	-291.4	-207.7	590.9	572.7	18.13	32.585	
4,200.0	4,191.3	4,157.7	4,149.1	10.3	10.2	-165.82	-297.5	-210.8	604.6	586.0	18.59	32.524	
4,300.0	4,291.1	4,256.8	4,247.9	10.5	10.5	-165.97	-303.7	-213.9	618.3	599.2	19.04	32.465	
4,400.0	4,390.8	4,355.8	4,346.7	10.8	10.8	-166.11	-309.9	-217.1	632.0	612.5	19.50	32.410	
4,500.0	4,490.6	4,454.9	4,445.5	11.1	11.0	-166.24	-316.0	-220.2	645.7	625.7	19.96	32.357	
4,600.0	4,590.3	4,553.9	4,544.3	11.3	11.3	-166.37	-322.2	-223.3	659.4	639.0	20.41	32.307	
4,700.0	4,690.1	4,652.9	4,643.1	11.6	11.6	-166.49	-328.4	-226.4	673.1	652.3	20.87	32.259	
4,800.0	4,789.9	4,752.0	4,742.0	11.8	11.8	-166.61	-334.5	-229.5	686.9	665.5	21.32	32.213	
4,900.0	4,889.6	4,851.0	4,840.8	12.1	12.1	-166.73	-340.7	-232.6	700.6	678.8	21.78	32.169	
5,000.0	4,989.4	4,950.1	4,939.6	12.3	12.3	-166.84	-346.9	-235.7	714.3	692.1	22.23	32.127	
5,100.0	5,089.1	5,049.1	5,038.4	12.6	12.6	-166.94	-353.1	-238.8	728.1	705.4	22.69	32.087	

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-0204B
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-0204B	**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	5,188.9	5,148.2	5,137.2	12.8	12.9	-167.04	-359.2	-241.9	741.8	718.6	23.15	32.048	
5,300.0	5,288.6	5,247.2	5,236.0	13.1	13.1	-167.14	-365.4	-245.0	755.5	731.9	23.60	32.011	
5,400.0	5,388.4	5,346.2	5,334.8	13.4	13.4	-167.23	-371.6	-248.2	769.3	745.2	24.06	31.975	
5,500.0	5,488.1	5,439.0	5,427.3	13.6	13.6	-167.32	-377.3	-251.1	783.0	758.5	24.50	31.961	SF
5,600.0	5,587.5	5,480.2	5,468.3	13.9	13.8	-167.00	-381.4	-253.1	804.2	779.7	24.52	32.794	
5,700.0	5,683.5	5,500.0	5,487.8	14.3	13.8	-165.77	-384.3	-254.6	848.6	824.9	23.71	35.790	
5,800.0	5,772.3	5,550.0	5,536.4	14.9	14.0	-163.75	-394.7	-259.8	912.9	890.5	22.36	40.830	
5,900.0	5,850.9	5,550.0	5,536.4	15.7	14.0	-158.89	-394.7	-259.8	993.4	972.6	20.81	47.739	
6,000.0	5,916.3	5,576.8	5,561.9	16.7	14.2	-149.06	-402.0	-263.5	1,084.2	1,063.3	20.87	51.951	
6,100.0	5,966.1	5,600.0	5,583.6	17.8	14.3	-120.97	-409.2	-267.1	1,181.6	1,153.6	28.01	42.181	
6,200.0	5,998.4	5,600.0	5,583.6	19.1	14.3	-54.96	-409.2	-267.1	1,280.4	1,252.4	28.07	45.612	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	-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	538.234	
200.0	200.0	200.0	200.0	0.3	0.3	-138.96	-75.9	-66.1	100.7	100.0	0.64	158.125	
300.0	300.0	300.0	300.0	0.5	0.5	-138.96	-75.9	-66.1	100.7	99.6	1.09	92.676	
400.0	400.0	400.0	400.0	0.8	0.8	-138.96	-75.9	-66.1	100.7	99.1	1.54	65.546	
500.0	500.0	500.0	500.0	1.0	1.0	-138.96	-75.9	-66.1	100.7	98.7	1.99	50.703	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	-151.03	-75.9	-66.1	102.2	99.7	2.44	41.944	
700.0	699.8	696.5	696.5	1.4	1.4	-152.64	-77.5	-66.5	108.3	105.5	2.86	37.893	
800.0	799.6	792.3	792.1	1.7	1.6	-155.06	-82.1	-67.8	119.2	116.0	3.27	36.477	
900.0	899.4	891.0	890.6	1.9	1.8	-157.41	-88.8	-69.6	132.2	128.5	3.69	35.808	
1,000.0	999.1	990.0	989.4	2.2	2.0	-159.35	-95.4	-71.4	145.3	141.1	4.11	35.301	
1,100.0	1,098.9	1,089.1	1,088.2	2.4	2.2	-160.97	-102.1	-73.2	158.5	154.0	4.54	34.875	
1,200.0	1,198.6	1,188.1	1,187.0	2.7	2.5	-162.34	-108.8	-75.1	171.9	166.9	4.98	34.512	
1,300.0	1,298.4	1,287.1	1,285.8	2.9	2.7	-163.51	-115.4	-76.9	185.3	179.9	5.42	34.200	
1,400.0	1,398.1	1,386.1	1,384.6	3.2	2.9	-164.52	-122.1	-78.7	198.8	192.9	5.86	33.932	
1,500.0	1,497.9	1,485.2	1,483.3	3.4	3.2	-165.41	-128.7	-80.5	212.3	206.0	6.30	33.698	
1,600.0	1,597.6	1,584.2	1,582.1	3.7	3.4	-166.18	-135.4	-82.4	225.9	219.2	6.75	33.492	
1,700.0	1,697.4	1,683.2	1,680.9	3.9	3.7	-166.87	-142.1	-84.2	239.6	232.4	7.19	33.312	
1,800.0	1,797.2	1,782.3	1,779.7	4.2	3.9	-167.49	-148.7	-86.0	253.2	245.6	7.64	33.151	
1,900.0	1,896.9	1,881.3	1,878.5	4.4	4.2	-168.04	-155.4	-87.8	266.9	258.8	8.09	33.008	
2,000.0	1,996.7	1,980.3	1,977.3	4.7	4.4	-168.54	-162.1	-89.7	280.6	272.1	8.53	32.879	
2,100.0	2,096.4	2,079.3	2,076.1	4.9	4.7	-168.99	-168.7	-91.5	294.3	285.4	8.98	32.762	
2,200.0	2,196.2	2,178.4	2,174.8	5.2	4.9	-169.40	-175.4	-93.3	308.1	298.7	9.43	32.656	
2,300.0	2,295.9	2,277.4	2,273.6	5.4	5.2	-169.78	-182.1	-95.1	321.8	312.0	9.88	32.560	
2,400.0	2,395.7	2,376.4	2,372.4	5.7	5.5	-170.12	-188.7	-96.9	335.6	325.3	10.34	32.472	
2,500.0	2,495.5	2,475.4	2,471.2	5.9	5.7	-170.44	-195.4	-98.8	349.4	338.6	10.79	32.391	
2,600.0	2,595.2	2,574.5	2,570.0	6.2	6.0	-170.74	-202.0	-100.6	363.2	352.0	11.24	32.316	
2,700.0	2,695.0	2,673.5	2,668.8	6.5	6.2	-171.01	-208.7	-102.4	377.0	365.3	11.69	32.247	
2,800.0	2,794.7	2,772.5	2,767.6	6.7	6.5	-171.26	-215.4	-104.2	390.8	378.7	12.14	32.183	
2,900.0	2,894.5	2,871.6	2,866.3	7.0	6.7	-171.50	-222.0	-106.1	404.6	392.0	12.60	32.123	
3,000.0	2,994.2	2,970.6	2,965.1	7.2	7.0	-171.72	-228.7	-107.9	418.4	405.4	13.05	32.068	
3,100.0	3,094.0	3,069.6	3,063.9	7.5	7.3	-171.92	-235.4	-109.7	432.3	418.8	13.50	32.016	
3,200.0	3,193.7	3,168.6	3,162.7	7.7	7.5	-172.12	-242.0	-111.5	446.1	432.1	13.95	31.968	
3,300.0	3,293.5	3,267.7	3,261.5	8.0	7.8	-172.30	-248.7	-113.4	459.9	445.5	14.41	31.922	
3,400.0	3,393.3	3,366.7	3,360.3	8.2	8.0	-172.47	-255.3	-115.2	473.8	458.9	14.86	31.879	
3,500.0	3,493.0	3,465.7	3,459.1	8.5	8.3	-172.63	-262.0	-117.0	487.6	472.3	15.32	31.839	
3,600.0	3,592.8	3,564.8	3,557.9	8.8	8.6	-172.79	-268.7	-118.8	501.5	485.7	15.77	31.801	
3,700.0	3,692.5	3,663.8	3,656.6	9.0	8.8	-172.93	-275.3	-120.6	515.3	499.1	16.22	31.765	
3,800.0	3,792.3	3,762.8	3,755.4	9.3	9.1	-173.07	-282.0	-122.5	529.2	512.5	16.68	31.731	
3,900.0	3,892.0	3,861.8	3,854.2	9.5	9.3	-173.20	-288.7	-124.3	543.0	525.9	17.13	31.699	
4,000.0	3,991.8	3,960.9	3,953.0	9.8	9.6	-173.32	-295.3	-126.1	556.9	539.3	17.59	31.668	
4,100.0	4,091.6	4,059.9	4,051.8	10.0	9.9	-173.44	-302.0	-127.9	570.8	552.7	18.04	31.639	
4,200.0	4,191.3	4,158.9	4,150.6	10.3	10.1	-173.55	-308.6	-129.8	584.6	566.1	18.49	31.612	
4,300.0	4,291.1	4,257.9	4,249.4	10.5	10.4	-173.66	-315.3	-131.6	598.5	579.5	18.95	31.585	
4,400.0	4,390.8	4,357.0	4,348.1	10.8	10.7	-173.76	-322.0	-133.4	612.4	593.0	19.40	31.560	
4,500.0	4,490.6	4,456.0	4,446.9	11.1	10.9	-173.86	-328.6	-135.2	626.2	606.4	19.86	31.536	
4,600.0	4,590.3	4,555.0	4,545.7	11.3	11.2	-173.95	-335.3	-137.0	640.1	619.8	20.31	31.513	
4,700.0	4,690.1	4,654.1	4,644.5	11.6	11.4	-174.04	-342.0	-138.9	654.0	633.2	20.77	31.492	
4,800.0	4,789.9	4,753.1	4,743.3	11.8	11.7	-174.12	-348.6	-140.7	667.9	646.6	21.22	31.471	
4,900.0	4,889.6	4,852.1	4,842.1	12.1	12.0	-174.21	-355.3	-142.5	681.7	660.1	21.68	31.450	
5,000.0	4,989.4	4,951.1	4,940.9	12.3	12.2	-174.28	-362.0	-144.3	695.6	673.5	22.13	31.431	
5,100.0	5,089.1	5,050.2	5,039.7	12.6	12.5	-174.36	-368.6	-146.2	709.5	686.9	22.59	31.413	

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-0204B
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-0204B	**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	5,188.9	5,149.2	5,138.4	12.8	12.7	-174.43	-375.3	-148.0	723.4	700.3	23.04	31.395	
5,300.0	5,288.6	5,248.2	5,237.2	13.1	13.0	-174.50	-381.9	-149.8	737.3	713.8	23.50	31.378	
5,400.0	5,388.4	5,347.3	5,336.0	13.4	13.3	-174.57	-388.6	-151.6	751.1	727.2	23.95	31.361	
5,500.0	5,488.1	5,446.3	5,434.8	13.6	13.5	-174.63	-395.3	-153.5	765.0	740.6	24.41	31.345	SF
5,600.0	5,587.5	5,540.0	5,528.3	13.9	13.8	-174.59	-401.6	-155.2	782.3	757.8	24.52	31.898	
5,700.0	5,683.5	5,578.3	5,566.4	14.3	13.9	-174.24	-405.5	-156.3	820.1	796.4	23.66	34.655	
5,800.0	5,772.3	5,600.0	5,587.8	14.9	14.0	-173.43	-408.9	-157.2	880.1	858.1	22.01	39.983	
5,900.0	5,850.9	5,631.4	5,618.5	15.7	14.1	-171.95	-415.4	-159.0	957.3	937.6	19.77	48.423	
6,000.0	5,916.3	5,650.0	5,636.4	16.7	14.2	-168.45	-420.1	-160.2	1,046.9	1,029.5	17.33	60.407	
6,100.0	5,966.1	5,650.0	5,636.4	17.8	14.2	-154.38	-420.1	-160.2	1,143.7	1,125.5	18.21	62.817	
6,200.0	5,998.4	5,650.0	5,636.4	19.1	14.2	-43.27	-420.1	-160.2	1,243.3	1,219.2	24.04	51.709	
6,300.0	6,012.1	5,650.0	5,636.4	20.5	14.2	-12.71	-420.1	-160.2	1,341.8	1,330.6	11.15	120.337	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	-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	442.789	
200.0	200.0	200.0	200.0	0.3	0.3	-156.48	-75.9	-33.0	82.8	82.2	0.64	130.085	
300.0	300.0	300.0	300.0	0.5	0.5	-156.48	-75.9	-33.0	82.8	81.7	1.09	76.242	
400.0	400.0	400.0	400.0	0.8	0.8	-156.48	-75.9	-33.0	82.8	81.3	1.54	53.923	
500.0	500.0	500.0	500.0	1.0	1.0	-156.48	-75.9	-33.0	82.8	80.8	1.99	41.712	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	-168.32	-75.9	-33.0	84.5	82.1	2.44	34.682	
700.0	699.8	699.8	699.8	1.4	1.4	-168.98	-75.9	-33.0	89.6	86.8	2.89	31.024	
800.0	799.6	796.5	796.5	1.7	1.6	-170.10	-77.6	-33.0	98.1	94.7	3.31	29.640	
900.0	899.4	892.6	892.4	1.9	1.8	-171.66	-82.4	-33.0	109.6	105.9	3.72	29.506	SF
1,000.0	999.1	991.3	991.0	2.2	2.0	-173.24	-89.3	-33.0	123.1	119.0	4.13	29.784	
1,100.0	1,098.9	1,090.4	1,089.8	2.4	2.2	-174.51	-96.2	-33.0	136.6	132.1	4.55	30.010	
1,200.0	1,198.6	1,189.4	1,188.6	2.7	2.4	-175.56	-103.1	-32.9	150.2	145.3	4.98	30.173	
1,300.0	1,298.4	1,288.5	1,287.4	2.9	2.7	-176.43	-110.0	-32.9	163.9	158.5	5.41	30.290	
1,400.0	1,398.1	1,387.5	1,386.1	3.2	2.9	-177.17	-116.9	-32.9	177.6	171.7	5.85	30.374	
1,500.0	1,497.9	1,486.5	1,484.9	3.4	3.1	-177.80	-123.8	-32.8	191.3	185.0	6.28	30.436	
1,600.0	1,597.6	1,585.6	1,583.7	3.7	3.4	-178.35	-130.7	-32.8	205.0	198.2	6.72	30.482	
1,700.0	1,697.4	1,684.6	1,682.5	3.9	3.6	-178.83	-137.6	-32.8	218.7	211.5	7.17	30.515	
1,800.0	1,797.2	1,783.6	1,781.3	4.2	3.9	-179.25	-144.5	-32.7	232.4	224.8	7.61	30.540	
1,900.0	1,896.9	1,882.7	1,880.1	4.4	4.1	-179.63	-151.5	-32.7	246.2	238.1	8.06	30.559	
2,000.0	1,996.7	1,981.7	1,978.9	4.7	4.4	-179.96	-158.4	-32.7	260.0	251.5	8.50	30.572	
2,100.0	2,096.4	2,080.8	2,077.7	4.9	4.6	179.74	-165.3	-32.7	273.7	264.8	8.95	30.581	
2,200.0	2,196.2	2,179.8	2,176.5	5.2	4.9	179.46	-172.2	-32.6	287.5	278.1	9.40	30.587	
2,300.0	2,295.9	2,278.8	2,275.3	5.4	5.1	179.22	-179.1	-32.6	301.3	291.5	9.85	30.591	
2,400.0	2,395.7	2,377.9	2,374.1	5.7	5.4	178.99	-186.0	-32.6	315.1	304.8	10.30	30.594	
2,500.0	2,495.5	2,476.9	2,472.9	5.9	5.6	178.78	-192.9	-32.5	328.9	318.1	10.75	30.595	
2,600.0	2,595.2	2,575.9	2,571.7	6.2	5.9	178.59	-199.8	-32.5	342.7	331.5	11.20	30.595	
2,700.0	2,695.0	2,675.0	2,670.5	6.5	6.1	178.42	-206.7	-32.5	356.5	344.8	11.65	30.594	
2,800.0	2,794.7	2,774.0	2,769.3	6.7	6.4	178.25	-213.6	-32.4	370.3	358.2	12.10	30.592	
2,900.0	2,894.5	2,873.1	2,868.1	7.0	6.7	178.10	-220.5	-32.4	384.1	371.5	12.56	30.590	
3,000.0	2,994.2	2,972.1	2,966.9	7.2	6.9	177.96	-227.4	-32.4	397.9	384.9	13.01	30.587	
3,100.0	3,094.0	3,071.1	3,065.7	7.5	7.2	177.83	-234.4	-32.4	411.7	398.3	13.46	30.584	
3,200.0	3,193.7	3,170.2	3,164.5	7.7	7.4	177.71	-241.3	-32.3	425.5	411.6	13.92	30.581	
3,300.0	3,293.5	3,269.2	3,263.3	8.0	7.7	177.59	-248.2	-32.3	439.4	425.0	14.37	30.578	
3,400.0	3,393.3	3,368.2	3,362.1	8.2	7.9	177.49	-255.1	-32.3	453.2	438.4	14.82	30.575	
3,500.0	3,493.0	3,467.3	3,460.9	8.5	8.2	177.38	-262.0	-32.2	467.0	451.7	15.28	30.571	
3,600.0	3,592.8	3,566.3	3,559.7	8.8	8.5	177.29	-268.9	-32.2	480.8	465.1	15.73	30.568	
3,700.0	3,692.5	3,665.4	3,658.5	9.0	8.7	177.20	-275.8	-32.2	494.6	478.5	16.18	30.564	
3,800.0	3,792.3	3,764.4	3,757.3	9.3	9.0	177.11	-282.7	-32.1	508.5	491.8	16.64	30.561	
3,900.0	3,892.0	3,863.4	3,856.0	9.5	9.2	177.03	-289.6	-32.1	522.3	505.2	17.09	30.557	
4,000.0	3,991.8	3,962.5	3,954.8	9.8	9.5	176.96	-296.5	-32.1	536.1	518.6	17.55	30.554	
4,100.0	4,091.6	4,061.5	4,053.6	10.0	9.8	176.88	-303.4	-32.1	549.9	531.9	18.00	30.550	
4,200.0	4,191.3	4,160.5	4,152.4	10.3	10.0	176.81	-310.3	-32.0	563.8	545.3	18.46	30.547	
4,300.0	4,291.1	4,259.6	4,251.2	10.5	10.3	176.75	-317.3	-32.0	577.6	558.7	18.91	30.543	
4,400.0	4,390.8	4,358.6	4,350.0	10.8	10.5	176.68	-324.2	-32.0	591.4	572.1	19.37	30.540	
4,500.0	4,490.6	4,457.7	4,448.8	11.1	10.8	176.62	-331.1	-31.9	605.3	585.4	19.82	30.537	
4,600.0	4,590.3	4,556.7	4,547.6	11.3	11.1	176.57	-338.0	-31.9	619.1	598.8	20.28	30.534	
4,700.0	4,690.1	4,655.7	4,646.4	11.6	11.3	176.51	-344.9	-31.9	632.9	612.2	20.73	30.530	
4,800.0	4,789.9	4,754.8	4,745.2	11.8	11.6	176.46	-351.8	-31.8	646.7	625.6	21.19	30.527	
4,900.0	4,889.6	4,853.8	4,844.0	12.1	11.8	176.41	-358.7	-31.8	660.6	638.9	21.64	30.524	
5,000.0	4,989.4	4,952.8	4,942.8	12.3	12.1	176.36	-365.6	-31.8	674.4	652.3	22.10	30.521	
5,100.0	5,089.1	5,051.9	5,041.6	12.6	12.4	176.32	-372.5	-31.8	688.2	665.7	22.55	30.518	

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-0204B
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-0204B	**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	5,188.9	5,150.9	5,140.4	12.8	12.6	176.27	-379.4	-31.7	702.1	679.1	23.01	30.516	
5,300.0	5,288.6	5,249.9	5,239.2	13.1	12.9	176.23	-386.3	-31.7	715.9	692.4	23.46	30.513	
5,400.0	5,388.4	5,349.0	5,338.0	13.4	13.1	176.19	-393.2	-31.7	729.7	705.8	23.92	30.510	
5,500.0	5,488.1	5,442.7	5,431.5	13.6	13.4	176.15	-399.8	-31.6	743.6	719.2	24.36	30.523	
5,600.0	5,587.5	5,482.8	5,471.3	13.9	13.5	176.00	-404.4	-31.6	765.3	740.9	24.37	31.402	
5,700.0	5,683.5	5,518.5	5,506.4	14.3	13.7	175.57	-411.1	-31.6	810.2	786.7	23.51	34.458	
5,800.0	5,772.3	5,550.0	5,536.9	14.9	13.8	174.77	-419.0	-31.5	876.1	854.2	21.88	40.036	
5,900.0	5,850.9	5,568.3	5,554.3	15.7	13.9	173.16	-424.4	-31.5	957.8	938.2	19.58	48.917	
6,000.0	5,916.3	5,581.3	5,566.7	16.7	13.9	169.12	-428.6	-31.5	1,050.1	1,033.0	17.08	61.471	
6,100.0	5,966.1	5,600.0	5,584.1	17.8	14.0	150.22	-435.2	-31.5	1,148.5	1,129.1	19.36	59.311	
6,200.0	5,998.4	5,600.0	5,584.1	19.1	14.0	23.49	-435.2	-31.5	1,248.2	1,231.9	16.33	76.417	
6,300.0	6,012.1	5,580.8	5,566.2	20.5	13.9	8.02	-428.4	-31.5	1,345.6	1,336.1	9.53	141.146	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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	-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	406.046	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-75.9	0.0	75.9	75.3	0.64	119.290	
300.0	300.0	300.0	300.0	0.5	0.5	-180.00	-75.9	0.0	75.9	74.8	1.09	69.915	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-75.9	0.0	75.9	74.4	1.54	49.448	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-75.9	0.0	75.9	73.9	1.99	38.251	CC, ES
600.0	600.0	600.0	600.0	1.2	1.2	168.65	-75.9	0.0	77.6	75.2	2.44	31.862	
700.0	699.8	699.8	699.8	1.4	1.4	169.35	-75.9	0.0	82.8	79.9	2.89	28.645	
800.0	799.6	799.6	799.6	1.7	1.7	170.17	-75.9	0.0	89.6	86.3	3.34	26.851	
900.0	899.4	896.2	896.2	1.9	1.9	170.56	-77.5	0.4	98.1	94.4	3.76	26.100	SF
1,000.0	999.1	992.2	992.1	2.2	2.0	170.35	-82.1	1.8	109.8	105.6	4.17	26.342	
1,100.0	1,098.9	1,091.0	1,090.7	2.4	2.2	169.91	-88.8	3.6	123.3	118.7	4.58	26.888	
1,200.0	1,198.6	1,190.1	1,189.5	2.7	2.4	169.55	-95.4	5.5	136.8	131.7	5.00	27.329	
1,300.0	1,298.4	1,289.2	1,288.3	2.9	2.6	169.26	-102.1	7.4	150.3	144.8	5.43	27.672	
1,400.0	1,398.1	1,388.3	1,387.2	3.2	2.9	169.02	-108.7	9.2	163.8	157.9	5.86	27.942	
1,500.0	1,497.9	1,487.4	1,486.0	3.4	3.1	168.81	-115.4	11.1	177.3	171.0	6.30	28.157	
1,600.0	1,597.6	1,586.4	1,584.9	3.7	3.3	168.63	-122.0	13.0	190.8	184.1	6.73	28.330	
1,700.0	1,697.4	1,685.5	1,683.7	3.9	3.6	168.48	-128.7	14.9	204.3	197.1	7.18	28.472	
1,800.0	1,797.2	1,784.6	1,782.5	4.2	3.8	168.34	-135.3	16.8	217.8	210.2	7.62	28.589	
1,900.0	1,896.9	1,883.7	1,881.4	4.4	4.1	168.22	-142.0	18.6	231.3	223.3	8.06	28.688	
2,000.0	1,996.7	1,982.8	1,980.2	4.7	4.3	168.11	-148.6	20.5	244.9	236.3	8.51	28.770	
2,100.0	2,096.4	2,081.9	2,079.1	4.9	4.6	168.02	-155.3	22.4	258.4	249.4	8.96	28.841	
2,200.0	2,196.2	2,180.9	2,177.9	5.2	4.8	167.93	-161.9	24.3	271.9	262.5	9.41	28.901	
2,300.0	2,295.9	2,280.0	2,276.7	5.4	5.1	167.85	-168.6	26.1	285.4	275.6	9.86	28.953	
2,400.0	2,395.7	2,379.1	2,375.6	5.7	5.3	167.78	-175.2	28.0	298.9	288.6	10.31	28.998	
2,500.0	2,495.5	2,478.2	2,474.4	5.9	5.6	167.72	-181.9	29.9	312.4	301.7	10.76	29.037	
2,600.0	2,595.2	2,577.3	2,573.3	6.2	5.8	167.66	-188.5	31.8	326.0	314.8	11.21	29.071	
2,700.0	2,695.0	2,676.3	2,672.1	6.5	6.1	167.61	-195.2	33.6	339.5	327.8	11.67	29.102	
2,800.0	2,794.7	2,775.4	2,770.9	6.7	6.3	167.56	-201.8	35.5	353.0	340.9	12.12	29.129	
2,900.0	2,894.5	2,874.5	2,869.8	7.0	6.6	167.51	-208.5	37.4	366.5	354.0	12.57	29.153	
3,000.0	2,994.2	2,973.6	2,968.6	7.2	6.8	167.47	-215.2	39.3	380.1	367.0	13.03	29.174	
3,100.0	3,094.0	3,072.7	3,067.5	7.5	7.1	167.43	-221.8	41.1	393.6	380.1	13.48	29.193	
3,200.0	3,193.7	3,171.7	3,166.3	7.7	7.3	167.39	-228.5	43.0	407.1	393.2	13.94	29.211	
3,300.0	3,293.5	3,270.8	3,265.1	8.0	7.6	167.35	-235.1	44.9	420.6	406.2	14.39	29.226	
3,400.0	3,393.3	3,369.9	3,364.0	8.2	7.9	167.32	-241.8	46.8	434.1	419.3	14.85	29.240	
3,500.0	3,493.0	3,469.0	3,462.8	8.5	8.1	167.29	-248.4	48.6	447.7	432.4	15.30	29.253	
3,600.0	3,592.8	3,568.1	3,561.7	8.8	8.4	167.26	-255.1	50.5	461.2	445.4	15.76	29.265	
3,700.0	3,692.5	3,667.1	3,660.5	9.0	8.6	167.23	-261.7	52.4	474.7	458.5	16.22	29.276	
3,800.0	3,792.3	3,766.2	3,759.3	9.3	8.9	167.21	-268.4	54.3	488.2	471.6	16.67	29.285	
3,900.0	3,892.0	3,865.3	3,858.2	9.5	9.2	167.18	-275.0	56.1	501.8	484.6	17.13	29.294	
4,000.0	3,991.8	3,964.4	3,957.0	9.8	9.4	167.16	-281.7	58.0	515.3	497.7	17.58	29.303	
4,100.0	4,091.6	4,063.5	4,055.8	10.0	9.7	167.14	-288.3	59.9	528.8	510.8	18.04	29.310	
4,200.0	4,191.3	4,162.6	4,154.7	10.3	9.9	167.11	-295.0	61.8	542.3	523.8	18.50	29.317	
4,300.0	4,291.1	4,261.6	4,253.5	10.5	10.2	167.09	-301.6	63.7	555.9	536.9	18.96	29.324	
4,400.0	4,390.8	4,360.7	4,352.4	10.8	10.5	167.08	-308.3	65.5	569.4	550.0	19.41	29.330	
4,500.0	4,490.6	4,459.8	4,451.2	11.1	10.7	167.06	-314.9	67.4	582.9	563.0	19.87	29.335	
4,600.0	4,590.3	4,558.9	4,550.0	11.3	11.0	167.04	-321.6	69.3	596.4	576.1	20.33	29.341	
4,700.0	4,690.1	4,658.0	4,648.9	11.6	11.2	167.02	-328.2	71.2	609.9	589.2	20.79	29.345	
4,800.0	4,789.9	4,757.0	4,747.7	11.8	11.5	167.01	-334.9	73.0	623.5	602.2	21.24	29.350	
4,900.0	4,889.6	4,856.1	4,846.6	12.1	11.8	166.99	-341.5	74.9	637.0	615.3	21.70	29.354	
5,000.0	4,989.4	4,955.2	4,945.4	12.3	12.0	166.98	-348.2	76.8	650.5	628.4	22.16	29.358	
5,100.0	5,089.1	5,054.3	5,044.2	12.6	12.3	166.96	-354.8	78.7	664.0	641.4	22.62	29.362	

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-0204B
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-0204B	**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	5,188.9	5,153.4	5,143.1	12.8	12.5	166.95	-361.5	80.5	677.6	654.5	23.07	29.365	
5,300.0	5,288.6	5,252.4	5,241.9	13.1	12.8	166.94	-368.1	82.4	691.1	667.6	23.53	29.368	
5,400.0	5,388.4	5,351.5	5,340.8	13.4	13.1	166.93	-374.8	84.3	704.6	680.6	23.99	29.371	
5,500.0	5,488.1	5,450.6	5,439.6	13.6	13.3	166.91	-381.5	86.2	718.1	693.7	24.45	29.374	
5,600.0	5,587.5	5,543.8	5,532.6	13.9	13.6	166.66	-387.7	87.9	735.0	710.4	24.59	29.894	
5,700.0	5,683.5	5,582.4	5,570.9	14.3	13.7	165.71	-392.0	89.1	772.4	748.6	23.80	32.451	
5,800.0	5,772.3	5,600.0	5,588.3	14.9	13.7	163.62	-394.8	89.9	832.1	809.8	22.34	37.245	
5,900.0	5,850.9	5,650.0	5,636.9	15.7	13.9	160.18	-405.9	93.1	908.5	887.9	20.66	43.971	
6,000.0	5,916.3	5,650.0	5,636.9	16.7	13.9	151.45	-405.9	93.1	997.0	976.9	20.10	49.600	
6,100.0	5,966.1	5,650.0	5,636.9	17.8	13.9	125.86	-405.9	93.1	1,093.1	1,066.8	26.27	41.616	
6,200.0	5,998.4	5,650.0	5,636.9	19.1	13.9	62.08	-405.9	93.1	1,191.8	1,162.2	29.59	40.281	
6,300.0	6,012.1	5,650.0	5,636.9	20.5	13.9	28.09	-405.9	93.1	1,289.2	1,271.3	17.93	71.913	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0204B
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-0204B	**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-0204B
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.07°