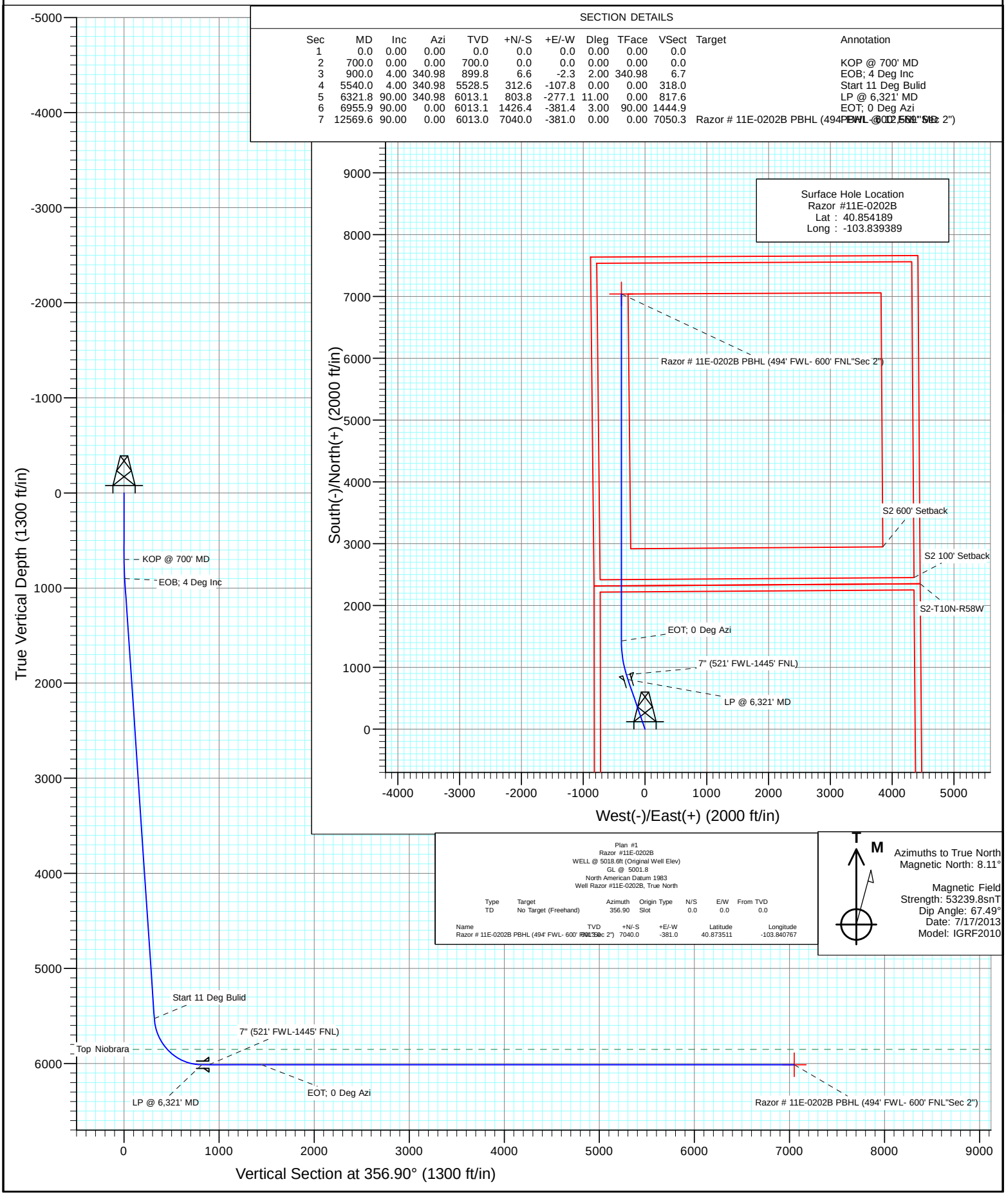
WHITING PETROLEUM CORPORATION

Project: Weld County, CO
Site: S11-T10N-R58W
Well: Razor #11E-0202B
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	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0		KOP @ 700' MD
3	900.0	4.00	340.98	899.8	6.6	-2.3	2.00	340.98	6.7		EOB; 4 Deg Inc
4	5540.0	4.00	340.98	5528.5	312.6	-107.8	0.00	0.00	318.0		Start 11 Deg Bulid
5	6321.8	90.00	340.98	6013.1	803.8	-277.1	11.00	0.00	817.6		LP @ 6,321' MD
6	6955.9	90.00	0.00	6013.1	1426.4	-381.4	3.00	90.00	1444.9		EOT; 0 Deg Azi
7	12569.6	90.00	0.00	6013.0	7040.0	-381.0	0.00	0.00	7050.3	Razor # 11E-0202B PBHL (494' FWL- 600' FNL"Sec 2")	PBHL @ 12,569' MD



Plan #1
Razor #11E-0202B
WELL @ 5018.6ft (Original Well Elev)
GL @ 5001.8
North American Datum 1983
Well Razor #11E-0202B, True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	356.90	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Razor # 11E-0202B PBHL (494' FWL- 600' FNL"Sec 2")	7040.0	-381.0	40.873511	-103.840767

T M

Azimuths to True North
Magnetic North: 8.11°

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

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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-0202B

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,558,334.50 ft	**Latitude:**	40.854189
	+E/-W	0.0 ft	**Easting:**	3,459,378.72 ft	**Longitude:**	-103.839389
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,001.8 ft

Wellbore HZ

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

Design Plan #1

Audit Notes:

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	356.90

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	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
900.0	4.00	340.98	899.8	6.6	-2.3	2.00	2.00	0.00	340.98	
5,540.0	4.00	340.98	5,528.5	312.6	-107.8	0.00	0.00	0.00	0.00	
6,321.8	90.00	340.98	6,013.1	803.8	-277.1	11.00	11.00	0.00	0.00	
6,955.9	90.00	0.00	6,013.1	1,426.4	-381.4	3.00	0.00	3.00	90.00	
12,569.6	90.00	0.00	6,013.0	7,040.0	-381.0	0.00	0.00	0.00	0.00	Razor # 11E-0202B P

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	KOP @ 700' MD
800.0	2.00	340.98	800.0	1.6	-0.6	1.7	2.00	2.00	
900.0	4.00	340.98	899.8	6.6	-2.3	6.7	2.00	2.00	EOB; 4 Deg Inc
1,000.0	4.00	340.98	999.6	13.2	-4.5	13.4	0.00	0.00	
1,100.0	4.00	340.98	1,099.4	19.8	-6.8	20.1	0.00	0.00	
1,200.0	4.00	340.98	1,199.1	26.4	-9.1	26.8	0.00	0.00	
1,300.0	4.00	340.98	1,298.9	33.0	-11.4	33.5	0.00	0.00	
1,400.0	4.00	340.98	1,398.6	39.6	-13.6	40.3	0.00	0.00	
1,500.0	4.00	340.98	1,498.4	46.2	-15.9	47.0	0.00	0.00	
1,600.0	4.00	340.98	1,598.1	52.8	-18.2	53.7	0.00	0.00	
1,700.0	4.00	340.98	1,697.9	59.4	-20.5	60.4	0.00	0.00	
1,800.0	4.00	340.98	1,797.6	66.0	-22.7	67.1	0.00	0.00	
1,900.0	4.00	340.98	1,897.4	72.5	-25.0	73.8	0.00	0.00	
2,000.0	4.00	340.98	1,997.2	79.1	-27.3	80.5	0.00	0.00	
2,100.0	4.00	340.98	2,096.9	85.7	-29.6	87.2	0.00	0.00	
2,200.0	4.00	340.98	2,196.7	92.3	-31.8	93.9	0.00	0.00	
2,300.0	4.00	340.98	2,296.4	98.9	-34.1	100.6	0.00	0.00	
2,400.0	4.00	340.98	2,396.2	105.5	-36.4	107.3	0.00	0.00	
2,500.0	4.00	340.98	2,495.9	112.1	-38.6	114.0	0.00	0.00	
2,600.0	4.00	340.98	2,595.7	118.7	-40.9	120.7	0.00	0.00	
2,700.0	4.00	340.98	2,695.5	125.3	-43.2	127.5	0.00	0.00	
2,800.0	4.00	340.98	2,795.2	131.9	-45.5	134.2	0.00	0.00	
2,900.0	4.00	340.98	2,895.0	138.5	-47.7	140.9	0.00	0.00	
3,000.0	4.00	340.98	2,994.7	145.1	-50.0	147.6	0.00	0.00	
3,100.0	4.00	340.98	3,094.5	151.7	-52.3	154.3	0.00	0.00	
3,200.0	4.00	340.98	3,194.2	158.3	-54.6	161.0	0.00	0.00	
3,300.0	4.00	340.98	3,294.0	164.9	-56.8	167.7	0.00	0.00	
3,400.0	4.00	340.98	3,393.7	171.5	-59.1	174.4	0.00	0.00	
3,500.0	4.00	340.98	3,493.5	178.1	-61.4	181.1	0.00	0.00	
3,600.0	4.00	340.98	3,593.3	184.7	-63.7	187.8	0.00	0.00	
3,700.0	4.00	340.98	3,693.0	191.3	-65.9	194.5	0.00	0.00	
3,800.0	4.00	340.98	3,792.8	197.8	-68.2	201.2	0.00	0.00	
3,900.0	4.00	340.98	3,892.5	204.4	-70.5	208.0	0.00	0.00	
4,000.0	4.00	340.98	3,992.3	211.0	-72.7	214.7	0.00	0.00	
4,100.0	4.00	340.98	4,092.0	217.6	-75.0	221.4	0.00	0.00	
4,200.0	4.00	340.98	4,191.8	224.2	-77.3	228.1	0.00	0.00	
4,300.0	4.00	340.98	4,291.6	230.8	-79.6	234.8	0.00	0.00	
4,400.0	4.00	340.98	4,391.3	237.4	-81.8	241.5	0.00	0.00	
4,500.0	4.00	340.98	4,491.1	244.0	-84.1	248.2	0.00	0.00	
4,600.0	4.00	340.98	4,590.8	250.6	-86.4	254.9	0.00	0.00	
4,700.0	4.00	340.98	4,690.6	257.2	-88.7	261.6	0.00	0.00	
4,800.0	4.00	340.98	4,790.3	263.8	-90.9	268.3	0.00	0.00	
4,900.0	4.00	340.98	4,890.1	270.4	-93.2	275.0	0.00	0.00	
5,000.0	4.00	340.98	4,989.9	277.0	-95.5	281.7	0.00	0.00	
5,100.0	4.00	340.98	5,089.6	283.6	-97.8	288.4	0.00	0.00	

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Site:	S11-T10N-R58W	**North Reference:**	True
Well:	Razor #11E-0202B	**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	340.98	5,189.4	290.2	-100.0	295.2	0.00	0.00	
5,300.0	4.00	340.98	5,289.1	296.8	-102.3	301.9	0.00	0.00	
5,400.0	4.00	340.98	5,388.9	303.4	-104.6	308.6	0.00	0.00	
5,500.0	4.00	340.98	5,488.6	310.0	-106.8	315.3	0.00	0.00	
5,540.0	4.00	340.98	5,528.5	312.6	-107.8	318.0	0.00	0.00	Start 11 Deg Bulid
5,550.0	5.10	340.98	5,538.5	313.3	-108.0	318.7	11.00	11.00	
5,600.0	10.60	340.98	5,588.0	319.8	-110.2	325.3	11.00	11.00	
5,650.0	16.10	340.98	5,636.6	330.7	-114.0	336.4	11.00	11.00	
5,700.0	21.60	340.98	5,683.9	346.0	-119.3	351.9	11.00	11.00	
5,750.0	27.10	340.98	5,729.5	365.5	-126.0	371.7	11.00	11.00	
5,800.0	32.60	340.98	5,772.8	389.0	-134.1	395.7	11.00	11.00	
5,850.0	38.10	340.98	5,813.6	416.3	-143.5	423.5	11.00	11.00	
5,900.0	43.60	340.98	5,851.4	447.2	-154.2	454.9	11.00	11.00	
5,900.8	43.69	340.98	5,852.0	447.8	-154.3	455.4	11.00	11.00	Top Niobrara
5,950.0	49.10	340.98	5,885.9	481.4	-165.9	489.7	11.00	11.00	
6,000.0	54.60	340.98	5,916.8	518.6	-178.8	527.5	11.00	11.00	
6,050.0	60.10	340.98	5,943.7	558.3	-192.5	567.9	11.00	11.00	
6,100.0	65.60	340.98	5,966.6	600.4	-207.0	610.7	11.00	11.00	
6,150.0	71.10	340.98	5,985.0	644.3	-222.1	655.4	11.00	11.00	
6,200.0	76.60	340.98	5,998.9	689.7	-237.8	701.5	11.00	11.00	
6,250.0	82.10	340.98	6,008.1	736.1	-253.8	748.8	11.00	11.00	
6,300.0	87.60	340.98	6,012.6	783.2	-270.0	796.6	11.00	11.00	
6,321.8	90.00	340.98	6,013.1	803.8	-277.1	817.6	11.00	11.00	LP @ 6,321' MD
6,400.0	90.00	343.33	6,013.1	878.2	-301.1	893.2	3.00	0.00	7" (521' FWL-1445' FNL)
6,500.0	90.00	346.33	6,013.1	974.7	-327.2	991.0	3.00	0.00	
6,600.0	90.00	349.33	6,013.1	1,072.5	-348.3	1,089.7	3.00	0.00	
6,700.0	90.00	352.33	6,013.1	1,171.2	-364.3	1,189.2	3.00	0.00	
6,800.0	90.00	355.33	6,013.1	1,270.6	-375.0	1,289.0	3.00	0.00	
6,900.0	90.00	358.33	6,013.1	1,370.4	-380.5	1,389.0	3.00	0.00	
6,955.9	90.00	0.00	6,013.1	1,426.4	-381.4	1,444.9	3.00	0.00	EOT; 0 Deg Azi
7,000.0	90.00	0.00	6,013.1	1,470.4	-381.4	1,488.9	0.00	0.00	
7,100.0	90.00	0.00	6,013.1	1,570.4	-381.4	1,588.7	0.00	0.00	
7,200.0	90.00	0.00	6,013.1	1,670.4	-381.4	1,688.6	0.00	0.00	
7,300.0	90.00	0.00	6,013.1	1,770.4	-381.3	1,788.4	0.00	0.00	
7,400.0	90.00	0.00	6,013.1	1,870.4	-381.3	1,888.3	0.00	0.00	
7,500.0	90.00	0.00	6,013.1	1,970.4	-381.3	1,988.2	0.00	0.00	
7,600.0	90.00	0.00	6,013.1	2,070.4	-381.3	2,088.0	0.00	0.00	
7,700.0	90.00	0.00	6,013.1	2,170.4	-381.3	2,187.9	0.00	0.00	
7,800.0	90.00	0.00	6,013.1	2,270.4	-381.3	2,287.7	0.00	0.00	
7,900.0	90.00	0.00	6,013.1	2,370.4	-381.3	2,387.6	0.00	0.00	
8,000.0	90.00	0.00	6,013.1	2,470.4	-381.3	2,487.4	0.00	0.00	
8,100.0	90.00	0.00	6,013.1	2,570.4	-381.3	2,587.3	0.00	0.00	
8,200.0	90.00	0.00	6,013.1	2,670.4	-381.3	2,687.1	0.00	0.00	
8,300.0	90.00	0.00	6,013.1	2,770.4	-381.3	2,787.0	0.00	0.00	
8,400.0	90.00	0.00	6,013.1	2,870.4	-381.3	2,886.8	0.00	0.00	
8,500.0	90.00	0.00	6,013.1	2,970.4	-381.3	2,986.7	0.00	0.00	
8,600.0	90.00	0.00	6,013.1	3,070.4	-381.3	3,086.5	0.00	0.00	
8,700.0	90.00	0.00	6,013.1	3,170.4	-381.3	3,186.4	0.00	0.00	
8,800.0	90.00	0.00	6,013.1	3,270.4	-381.3	3,286.2	0.00	0.00	
8,900.0	90.00	0.00	6,013.1	3,370.4	-381.3	3,386.1	0.00	0.00	
9,000.0	90.00	0.00	6,013.1	3,470.4	-381.2	3,486.0	0.00	0.00	
9,100.0	90.00	0.00	6,013.1	3,570.4	-381.2	3,585.8	0.00	0.00	

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Project:	Weld County, CO	**MD Reference:**	WELL @ 5018.6ft (Original Well Elev)
Site:	S11-T10N-R58W	**North Reference:**	True
Well:	Razor #11E-0202B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,200.0	90.00	0.00	6,013.1	3,670.4	-381.2	3,685.7	0.00	0.00	
9,300.0	90.00	0.00	6,013.1	3,770.4	-381.2	3,785.5	0.00	0.00	
9,400.0	90.00	0.00	6,013.1	3,870.4	-381.2	3,885.4	0.00	0.00	
9,500.0	90.00	0.00	6,013.0	3,970.4	-381.2	3,985.2	0.00	0.00	
9,600.0	90.00	0.00	6,013.0	4,070.4	-381.2	4,085.1	0.00	0.00	
9,700.0	90.00	0.00	6,013.0	4,170.4	-381.2	4,184.9	0.00	0.00	
9,800.0	90.00	0.00	6,013.0	4,270.4	-381.2	4,284.8	0.00	0.00	
9,900.0	90.00	0.00	6,013.0	4,370.4	-381.2	4,384.6	0.00	0.00	
10,000.0	90.00	0.00	6,013.0	4,470.4	-381.2	4,484.5	0.00	0.00	
10,100.0	90.00	0.00	6,013.0	4,570.4	-381.2	4,584.3	0.00	0.00	
10,200.0	90.00	0.00	6,013.0	4,670.4	-381.2	4,684.2	0.00	0.00	
10,300.0	90.00	0.00	6,013.0	4,770.4	-381.2	4,784.1	0.00	0.00	
10,400.0	90.00	0.00	6,013.0	4,870.4	-381.2	4,883.9	0.00	0.00	
10,500.0	90.00	0.00	6,013.0	4,970.4	-381.2	4,983.8	0.00	0.00	
10,600.0	90.00	0.00	6,013.0	5,070.4	-381.2	5,083.6	0.00	0.00	
10,700.0	90.00	0.00	6,013.0	5,170.4	-381.2	5,183.5	0.00	0.00	
10,800.0	90.00	0.00	6,013.0	5,270.4	-381.1	5,283.3	0.00	0.00	
10,900.0	90.00	0.00	6,013.0	5,370.4	-381.1	5,383.2	0.00	0.00	
11,000.0	90.00	0.00	6,013.0	5,470.4	-381.1	5,483.0	0.00	0.00	
11,100.0	90.00	0.00	6,013.0	5,570.4	-381.1	5,582.9	0.00	0.00	
11,200.0	90.00	0.00	6,013.0	5,670.4	-381.1	5,682.7	0.00	0.00	
11,300.0	90.00	0.00	6,013.0	5,770.4	-381.1	5,782.6	0.00	0.00	
11,400.0	90.00	0.00	6,013.0	5,870.4	-381.1	5,882.4	0.00	0.00	
11,500.0	90.00	0.00	6,013.0	5,970.4	-381.1	5,982.3	0.00	0.00	
11,600.0	90.00	0.00	6,013.0	6,070.4	-381.1	6,082.1	0.00	0.00	
11,700.0	90.00	0.00	6,013.0	6,170.4	-381.1	6,182.0	0.00	0.00	
11,800.0	90.00	0.00	6,013.0	6,270.4	-381.1	6,281.9	0.00	0.00	
11,900.0	90.00	0.00	6,013.0	6,370.4	-381.1	6,381.7	0.00	0.00	
12,000.0	90.00	0.00	6,013.0	6,470.4	-381.1	6,481.6	0.00	0.00	
12,100.0	90.00	0.00	6,013.0	6,570.4	-381.1	6,581.4	0.00	0.00	
12,200.0	90.00	0.00	6,013.0	6,670.4	-381.1	6,681.3	0.00	0.00	
12,300.0	90.00	0.00	6,013.0	6,770.4	-381.1	6,781.1	0.00	0.00	
12,400.0	90.00	0.00	6,013.0	6,870.4	-381.1	6,881.0	0.00	0.00	
12,500.0	90.00	0.00	6,013.0	6,970.4	-381.0	6,980.8	0.00	0.00	
12,569.6	90.00	0.00	6,013.0	7,040.0	-381.0	7,050.3	0.00	0.00	PBHL @ 12,569' 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-0202B PBH - plan hits target center - Point	0.00	0.00	6,013.0	7,040.0	-381.0	1,565,366.13	3,458,865.91	40.873511	-103.840767

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,400.0	6,013.1	7" (521' FWL-1445' FNL)	7.000	7.500

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,900.8	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
700.0	700.0	0.0	0.0	KOP @ 700' MD
900.0	899.8	6.6	-2.3	EOB; 4 Deg Inc
5,540.0	5,528.5	312.6	-107.8	Start 11 Deg Bulid
6,321.8	6,013.1	803.8	-277.1	LP @ 6,321' MD
6,955.9	6,013.1	1,426.4	-381.4	EOT; 0 Deg Azi
12,569.6	6,013.0	7,040.0	-381.0	PBHL @ 12,569' MD

Whiting Petroleum Corporation

Weld County, CO
S11-T10N-R58W
Razor #11E-0202B
HZ
Plan #1

Anticollision Report

19 July, 2013

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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	12,569.6	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	904.0	903.4	31.9	28.1	8.400	CC, ES
Razor #11E-0201A - HZ - Plan #1	12,569.6	12,579.3	344.7	86.4	1.334	Level 3, SF
Razor #11E-0203A - HZ - Plan #1	710.7	710.8	32.9	30.0	11.232	CC, ES
Razor #11E-0203A - HZ - Plan #1	12,569.6	12,414.3	345.4	86.4	1.334	Level 3, SF
Razor #11E-0204B - HZ - Plan #1	500.0	500.0	66.1	64.1	33.295	CC
Razor #11E-0204B - HZ - Plan #1	600.0	599.5	66.5	64.1	27.336	ES
Razor #11E-0204B - HZ - Plan #1	12,569.6	12,516.9	659.9	391.5	2.459	SF
Razor #11E-1401A - HZ - Plan #1	500.0	500.0	81.9	79.9	41.236	CC, ES
Razor #11E-1401A - HZ - Plan #1	5,400.0	5,355.8	680.4	656.0	27.848	SF
Razor #11E-1402B - HZ - Plan #1	600.0	600.0	74.9	72.5	30.764	CC, ES
Razor #11E-1402B - HZ - Plan #1	800.0	794.7	83.1	79.9	25.455	SF
Razor #11E-1403A - HZ - Plan #1	700.0	700.0	81.9	79.0	28.387	CC, ES
Razor #11E-1403A - HZ - Plan #1	900.0	894.0	95.1	91.4	25.619	SF
Razor #11E-1404B - HZ - Plan #1	700.0	700.0	99.9	97.0	34.637	CC, ES
Razor #11E-1404B - HZ - Plan #1	1,000.0	992.3	119.1	115.0	28.685	SF

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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	-88.24	1.0	-33.0	33.1				
100.0	100.0	100.0	100.0	0.1	0.1	-88.24	1.0	-33.0	33.1	32.9	0.19	176.783	
200.0	200.0	200.0	200.0	0.3	0.3	-88.24	1.0	-33.0	33.1	32.4	0.64	51.936	
300.0	300.0	300.0	300.0	0.5	0.5	-88.24	1.0	-33.0	33.1	32.0	1.09	30.439	
400.0	400.0	400.0	400.0	0.8	0.8	-88.24	1.0	-33.0	33.1	31.5	1.54	21.529	
500.0	500.0	500.0	500.0	1.0	1.0	-88.24	1.0	-33.0	33.1	31.1	1.99	16.653	
600.0	600.0	600.0	600.0	1.2	1.2	-88.24	1.0	-33.0	33.1	30.6	2.43	13.579	
700.0	700.0	700.0	700.0	1.4	1.4	-88.24	1.0	-33.0	33.1	30.2	2.88	11.462	
800.0	800.0	800.0	800.0	1.7	1.7	-72.11	1.0	-33.0	32.5	29.1	3.33	9.747	
900.0	899.8	899.4	899.4	1.9	1.9	-78.32	2.5	-33.9	31.9	28.1	3.78	8.443	
904.0	903.8	903.4	903.4	1.9	1.9	-78.57	2.6	-34.0	31.9	28.1	3.80	8.400	CC, ES
1,000.0	999.6	999.0	998.9	2.1	2.1	-81.89	7.0	-36.5	32.6	28.3	4.23	7.697	
1,100.0	1,099.4	1,099.0	1,098.6	2.4	2.3	-82.43	13.0	-40.0	33.9	29.2	4.70	7.217	
1,200.0	1,199.1	1,199.0	1,198.3	2.6	2.6	-82.92	19.1	-43.5	35.2	30.0	5.17	6.810	
1,300.0	1,298.9	1,299.0	1,298.1	2.8	2.8	-83.39	25.1	-47.0	36.5	30.9	5.65	6.465	
1,400.0	1,398.6	1,399.0	1,397.8	3.1	3.1	-83.82	31.1	-50.5	37.8	31.7	6.13	6.169	
1,500.0	1,498.4	1,499.0	1,497.6	3.3	3.3	-84.22	37.2	-54.0	39.2	32.5	6.62	5.912	
1,600.0	1,598.1	1,599.0	1,597.3	3.6	3.6	-84.59	43.2	-57.5	40.5	33.4	7.12	5.689	
1,700.0	1,697.9	1,698.9	1,697.1	3.8	3.8	-84.95	49.2	-61.0	41.8	34.2	7.61	5.493	
1,800.0	1,797.6	1,798.9	1,796.8	4.1	4.0	-85.28	55.3	-64.5	43.1	35.0	8.11	5.319	
1,900.0	1,897.4	1,898.9	1,896.6	4.3	4.3	-85.59	61.3	-68.0	44.5	35.9	8.61	5.165	
2,000.0	1,997.2	1,998.9	1,996.3	4.6	4.5	-85.88	67.3	-71.5	45.8	36.7	9.11	5.027	
2,100.0	2,096.9	2,098.9	2,096.1	4.8	4.8	-86.15	73.4	-75.0	47.1	37.5	9.61	4.903	
2,200.0	2,196.7	2,198.9	2,195.8	5.1	5.1	-86.41	79.4	-78.5	48.5	38.3	10.12	4.790	
2,300.0	2,296.4	2,298.9	2,295.6	5.4	5.3	-86.66	85.4	-82.0	49.8	39.2	10.62	4.688	
2,400.0	2,396.2	2,398.9	2,395.3	5.6	5.6	-86.89	91.4	-85.5	51.1	40.0	11.13	4.595	
2,500.0	2,495.9	2,498.9	2,495.1	5.9	5.8	-87.12	97.5	-89.0	52.5	40.8	11.63	4.510	
2,600.0	2,595.7	2,598.9	2,594.8	6.1	6.1	-87.33	103.5	-92.5	53.8	41.7	12.14	4.432	
2,700.0	2,695.5	2,698.9	2,694.6	6.4	6.3	-87.53	109.5	-96.0	55.1	42.5	12.65	4.359	
2,800.0	2,795.2	2,798.8	2,794.3	6.6	6.6	-87.72	115.6	-99.5	56.5	43.3	13.16	4.293	
2,900.0	2,895.0	2,898.8	2,894.0	6.9	6.8	-87.90	121.6	-103.0	57.8	44.2	13.67	4.231	
3,000.0	2,994.7	2,998.8	2,993.8	7.1	7.1	-88.07	127.6	-106.5	59.2	45.0	14.18	4.173	
3,100.0	3,094.5	3,098.8	3,093.5	7.4	7.3	-88.24	133.7	-110.0	60.5	45.8	14.68	4.120	
3,200.0	3,194.2	3,198.8	3,193.3	7.6	7.6	-88.40	139.7	-113.5	61.8	46.6	15.19	4.070	
3,300.0	3,294.0	3,298.8	3,293.0	7.9	7.9	-88.55	145.7	-117.0	63.2	47.5	15.70	4.023	
3,400.0	3,393.7	3,398.8	3,392.8	8.2	8.1	-88.70	151.8	-120.5	64.5	48.3	16.21	3.979	
3,500.0	3,493.5	3,498.8	3,492.5	8.4	8.4	-88.84	157.8	-124.0	65.9	49.1	16.73	3.938	
3,600.0	3,593.3	3,598.8	3,592.3	8.7	8.6	-88.97	163.8	-127.5	67.2	50.0	17.24	3.899	
3,700.0	3,693.0	3,698.8	3,692.0	8.9	8.9	-89.10	169.9	-131.0	68.5	50.8	17.75	3.862	
3,800.0	3,792.8	3,798.8	3,791.8	9.2	9.1	-89.23	175.9	-134.5	69.9	51.6	18.26	3.828	
3,900.0	3,892.5	3,898.7	3,891.5	9.4	9.4	-89.34	181.9	-138.0	71.2	52.5	18.77	3.795	
4,000.0	3,992.3	3,998.7	3,991.3	9.7	9.6	-89.46	188.0	-141.5	72.6	53.3	19.28	3.764	
4,100.0	4,092.0	4,098.7	4,091.0	9.9	9.9	-89.57	194.0	-145.0	73.9	54.1	19.79	3.734	
4,200.0	4,191.8	4,198.7	4,190.8	10.2	10.2	-89.68	200.0	-148.6	75.3	55.0	20.30	3.706	
4,300.0	4,291.6	4,298.7	4,290.5	10.5	10.4	-89.78	206.1	-152.1	76.6	55.8	20.82	3.680	
4,400.0	4,391.3	4,398.7	4,390.3	10.7	10.7	-89.88	212.1	-155.6	77.9	56.6	21.33	3.655	
4,500.0	4,491.1	4,498.7	4,490.0	11.0	10.9	-89.98	218.1	-159.1	79.3	57.4	21.84	3.630	
4,600.0	4,590.8	4,598.7	4,589.8	11.2	11.2	-90.07	224.2	-162.6	80.6	58.3	22.35	3.607	
4,700.0	4,690.6	4,698.7	4,689.5	11.5	11.4	-90.16	230.2	-166.1	82.0	59.1	22.86	3.585	
4,800.0	4,790.3	4,798.7	4,789.2	11.7	11.7	-90.25	236.2	-169.6	83.3	59.9	23.38	3.564	
4,900.0	4,890.1	4,898.7	4,889.0	12.0	12.0	-90.33	242.3	-173.1	84.7	60.8	23.89	3.544	
5,000.0	4,989.9	4,998.6	4,988.7	12.3	12.2	-90.41	248.3	-176.6	86.0	61.6	24.40	3.525	

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

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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

Survey Program: 0-ISCWSA MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,089.6	5,098.6	5,088.5	12.5	12.5	-90.49	254.3	-180.1	87.4	62.4	24.91	3.506	
5,200.0	5,189.4	5,198.6	5,188.2	12.8	12.7	-90.57	260.4	-183.6	88.7	63.3	25.43	3.488	
5,300.0	5,289.1	5,298.6	5,288.0	13.0	13.0	-90.64	266.4	-187.1	90.0	64.1	25.94	3.471	
5,400.0	5,388.9	5,398.6	5,387.7	13.3	13.2	-90.72	272.4	-190.6	91.4	64.9	26.45	3.455	
5,500.0	5,488.6	5,496.5	5,485.0	13.5	13.5	-88.80	281.2	-195.6	93.4	66.4	26.96	3.464	
5,600.0	5,588.0	5,590.0	5,575.0	13.8	13.9	-79.59	302.8	-208.2	100.3	72.8	27.45	3.653	
5,700.0	5,683.9	5,680.4	5,656.4	14.2	14.4	-71.72	336.7	-227.9	112.4	84.4	28.01	4.015	
5,800.0	5,772.8	5,768.4	5,727.9	14.8	15.1	-66.38	380.8	-253.5	127.8	99.3	28.58	4.473	
5,900.0	5,851.4	5,854.3	5,788.5	15.6	15.9	-63.10	433.4	-284.0	144.9	115.7	29.23	4.958	
6,000.0	5,916.8	5,938.5	5,837.4	16.6	16.8	-61.33	492.6	-318.3	162.6	132.5	30.15	5.395	
6,100.0	5,966.6	6,021.5	5,874.3	17.8	17.9	-60.65	556.8	-355.6	180.3	148.8	31.52	5.720	
6,200.0	5,998.9	6,100.0	5,897.8	19.1	19.0	-60.66	621.5	-393.1	197.5	164.1	33.42	5.911	
6,300.0	6,012.6	6,185.8	5,910.5	20.6	20.3	-61.47	694.8	-435.7	213.8	177.7	36.09	5.925	
6,400.0	6,013.1	6,283.9	5,911.6	22.1	21.9	-63.47	780.1	-484.0	231.1	191.7	39.41	5.864	
6,500.0	6,013.1	6,394.5	5,911.6	23.6	23.6	-65.52	879.1	-533.4	248.9	206.2	42.78	5.820	
6,600.0	6,013.1	6,506.5	5,911.6	25.1	25.5	-67.25	982.0	-577.6	266.5	220.4	46.10	5.782	
6,700.0	6,013.1	6,620.0	5,911.6	26.6	27.3	-68.71	1,088.8	-616.1	283.7	234.4	49.36	5.748	
6,800.0	6,013.1	6,734.9	5,911.6	28.2	29.2	-69.97	1,199.0	-648.5	300.4	247.9	52.51	5.720	
6,900.0	6,013.1	6,851.2	5,911.6	29.7	31.2	-71.05	1,312.3	-674.5	316.4	260.8	55.55	5.695	
7,000.0	6,013.1	6,968.9	5,911.6	31.3	33.1	-72.00	1,428.4	-693.8	331.2	272.3	58.84	5.628	
7,100.0	6,013.1	7,088.5	5,911.6	33.0	35.0	-72.64	1,547.3	-706.0	340.9	278.4	62.56	5.449	
7,200.0	6,013.1	7,209.1	5,911.6	34.6	37.0	-72.88	1,667.8	-710.7	344.7	278.5	66.22	5.205	
7,300.0	6,013.1	7,311.7	5,911.6	36.3	38.6	-72.88	1,770.4	-710.8	344.7	275.2	69.55	4.957	
7,400.0	6,013.1	7,411.7	5,911.6	38.0	40.2	-72.88	1,870.4	-710.8	344.7	271.9	72.85	4.732	
7,500.0	6,013.1	7,511.7	5,911.6	39.8	41.8	-72.89	1,970.4	-710.8	344.7	268.5	76.19	4.525	
7,600.0	6,013.1	7,611.7	5,911.6	41.5	43.4	-72.89	2,070.4	-710.8	344.7	265.2	79.56	4.333	
7,700.0	6,013.1	7,711.7	5,911.6	43.3	45.1	-72.89	2,170.4	-710.8	344.7	261.8	82.96	4.156	
7,800.0	6,013.1	7,811.7	5,911.6	45.1	46.8	-72.89	2,270.4	-710.8	344.7	258.3	86.38	3.991	
7,900.0	6,013.1	7,911.7	5,911.7	46.9	48.5	-72.89	2,370.4	-710.8	344.7	254.9	89.82	3.838	
8,000.0	6,013.1	8,011.7	5,911.7	48.7	50.2	-72.89	2,470.4	-710.8	344.7	251.4	93.29	3.695	
8,100.0	6,013.1	8,111.7	5,911.7	50.5	51.9	-72.89	2,570.4	-710.8	344.7	248.0	96.77	3.562	
8,200.0	6,013.1	8,211.7	5,911.7	52.3	53.7	-72.90	2,670.4	-710.8	344.7	244.5	100.27	3.438	
8,300.0	6,013.1	8,311.7	5,911.7	54.1	55.4	-72.90	2,770.4	-710.8	344.7	240.9	103.78	3.322	
8,400.0	6,013.1	8,411.7	5,911.7	55.9	57.2	-72.90	2,870.4	-710.8	344.7	237.4	107.30	3.213	
8,500.0	6,013.1	8,511.7	5,911.7	57.8	59.0	-72.90	2,970.4	-710.8	344.7	233.9	110.84	3.110	
8,600.0	6,013.1	8,611.7	5,911.7	59.6	60.8	-72.90	3,070.4	-710.8	344.7	230.3	114.38	3.014	
8,700.0	6,013.1	8,711.7	5,911.7	61.5	62.6	-72.90	3,170.4	-710.8	344.7	226.8	117.94	2.923	
8,800.0	6,013.1	8,811.7	5,911.7	63.3	64.4	-72.90	3,270.4	-710.8	344.7	223.2	121.50	2.837	
8,900.0	6,013.1	8,911.7	5,911.7	65.2	66.2	-72.91	3,370.4	-710.7	344.7	219.6	125.07	2.756	
9,000.0	6,013.1	9,011.7	5,911.7	67.0	68.0	-72.91	3,470.4	-710.7	344.7	216.1	128.65	2.679	
9,100.0	6,013.1	9,111.7	5,911.7	68.9	69.8	-72.91	3,570.4	-710.7	344.7	212.5	132.24	2.607	
9,200.0	6,013.1	9,211.7	5,911.8	70.8	71.6	-72.91	3,670.4	-710.7	344.7	208.9	135.83	2.538	
9,300.0	6,013.1	9,311.7	5,911.8	72.6	73.5	-72.91	3,770.4	-710.7	344.7	205.3	139.43	2.472	
9,400.0	6,013.1	9,411.7	5,911.8	74.5	75.3	-72.91	3,870.4	-710.7	344.7	201.7	143.03	2.410	
9,500.0	6,013.0	9,511.7	5,911.8	76.4	77.1	-72.91	3,970.4	-710.7	344.7	198.1	146.64	2.351	
9,600.0	6,013.0	9,611.7	5,911.8	78.2	79.0	-72.92	4,070.4	-710.7	344.7	194.5	150.25	2.294	
9,700.0	6,013.0	9,711.7	5,911.8	80.1	80.8	-72.92	4,170.4	-710.7	344.7	190.9	153.87	2.240	
9,800.0	6,013.0	9,811.7	5,911.8	82.0	82.7	-72.92	4,270.4	-710.7	344.7	187.2	157.49	2.189	
9,900.0	6,013.0	9,911.7	5,911.8	83.9	84.5	-72.92	4,370.4	-710.7	344.7	183.6	161.11	2.140	
10,000.0	6,013.0	10,011.7	5,911.8	85.8	86.4	-72.92	4,470.4	-710.7	344.7	180.0	164.74	2.093	
10,100.0	6,013.0	10,111.7	5,911.8	87.7	88.2	-72.92	4,570.4	-710.7	344.7	176.4	168.37	2.047	
10,200.0	6,013.0	10,211.7	5,911.8	89.5	90.1	-72.93	4,670.4	-710.7	344.7	172.7	172.00	2.004	

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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	6,013.0	10,311.7	5,911.8	91.4	92.0	-72.93	4,770.4	-710.7	344.7	169.1	175.64	1.963	
10,400.0	6,013.0	10,411.7	5,911.8	93.3	93.8	-72.93	4,870.4	-710.7	344.7	165.4	179.27	1.923	
10,500.0	6,013.0	10,511.7	5,911.8	95.2	95.7	-72.93	4,970.4	-710.7	344.7	161.8	182.92	1.885	
10,600.0	6,013.0	10,611.7	5,911.9	97.1	97.6	-72.93	5,070.4	-710.7	344.7	158.2	186.56	1.848	
10,700.0	6,013.0	10,711.7	5,911.9	99.0	99.4	-72.93	5,170.4	-710.7	344.7	154.5	190.21	1.812	
10,800.0	6,013.0	10,811.7	5,911.9	100.9	101.3	-72.93	5,270.4	-710.7	344.7	150.9	193.85	1.778	
10,900.0	6,013.0	10,911.7	5,911.9	102.8	103.2	-72.94	5,370.4	-710.7	344.7	147.2	197.50	1.745	
11,000.0	6,013.0	11,011.7	5,911.9	104.7	105.1	-72.94	5,470.4	-710.7	344.7	143.6	201.15	1.714	
11,100.0	6,013.0	11,111.7	5,911.9	106.6	106.9	-72.94	5,570.4	-710.7	344.7	139.9	204.81	1.683	
11,200.0	6,013.0	11,211.7	5,911.9	108.5	108.8	-72.94	5,670.4	-710.7	344.7	136.2	208.46	1.654	
11,300.0	6,013.0	11,311.7	5,911.9	110.4	110.7	-72.94	5,770.4	-710.7	344.7	132.6	212.12	1.625	
11,400.0	6,013.0	11,411.7	5,911.9	112.3	112.6	-72.94	5,870.4	-710.7	344.7	128.9	215.78	1.598	
11,500.0	6,013.0	11,511.7	5,911.9	114.2	114.5	-72.94	5,970.4	-710.7	344.7	125.3	219.44	1.571	
11,600.0	6,013.0	11,611.7	5,911.9	116.1	116.4	-72.95	6,070.4	-710.7	344.7	121.6	223.10	1.545	
11,700.0	6,013.0	11,711.7	5,911.9	118.0	118.2	-72.95	6,170.4	-710.7	344.7	117.9	226.76	1.520	
11,800.0	6,013.0	11,811.7	5,911.9	119.9	120.1	-72.95	6,270.4	-710.6	344.7	114.3	230.43	1.496	Level 3
11,900.0	6,013.0	11,911.7	5,912.0	121.8	122.0	-72.95	6,370.4	-710.6	344.7	110.6	234.09	1.473	Level 3
12,000.0	6,013.0	12,011.7	5,912.0	123.7	123.9	-72.95	6,470.4	-710.6	344.7	107.0	237.76	1.450	Level 3
12,100.0	6,013.0	12,111.7	5,912.0	125.6	125.8	-72.95	6,570.4	-710.6	344.7	103.3	241.42	1.428	Level 3
12,200.0	6,013.0	12,211.7	5,912.0	127.5	127.7	-72.95	6,670.4	-710.6	344.7	99.6	245.09	1.406	Level 3
12,300.0	6,013.0	12,311.7	5,912.0	129.4	129.6	-72.96	6,770.4	-710.6	344.7	95.9	248.76	1.386	Level 3
12,400.0	6,013.0	12,411.7	5,912.0	131.3	131.5	-72.96	6,870.4	-710.6	344.7	92.3	252.43	1.366	Level 3
12,500.0	6,013.0	12,511.7	5,912.0	133.2	133.3	-72.96	6,970.4	-710.6	344.7	88.6	256.06	1.346	Level 3
12,550.7	6,013.0	12,562.4	5,912.0	134.2	134.1	-72.96	7,021.2	-710.6	344.7	87.0	257.75	1.337	Level 3
12,569.6	6,013.0	12,579.3	5,912.0	134.5	134.4	-72.96	7,038.0	-710.6	344.7	86.4	258.35	1.334	Level 3, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	90.01	0.0	33.0	33.0				
100.0	100.0	100.0	100.0	0.1	0.1	90.01	0.0	33.0	33.0	32.9	0.19	176.697	
200.0	200.0	200.0	200.0	0.3	0.3	90.01	0.0	33.0	33.0	32.4	0.64	51.913	
300.0	300.0	300.0	300.0	0.5	0.5	90.01	0.0	33.0	33.0	32.0	1.09	30.425	
400.0	400.0	400.0	400.0	0.8	0.8	90.01	0.0	33.0	33.0	31.5	1.54	21.519	
500.0	500.0	500.0	500.0	1.0	1.0	90.01	0.0	33.0	33.0	31.1	1.99	16.646	
600.0	600.0	600.0	600.0	1.2	1.2	90.01	0.0	33.0	33.0	30.6	2.43	13.572	
700.0	700.0	700.1	700.0	1.4	1.4	86.98	1.7	32.9	32.9	30.0	2.88	11.420	
710.7	710.7	710.8	710.7	1.5	1.5	105.35	2.1	32.9	32.9	30.0	2.93	11.232	CC, ES
800.0	800.0	800.0	799.8	1.7	1.7	99.88	6.9	32.4	33.4	30.1	3.33	10.025	
900.0	899.8	899.9	899.5	1.9	1.9	96.89	13.9	31.8	34.8	31.1	3.79	9.193	
1,000.0	999.6	999.9	999.3	2.1	2.1	96.89	20.8	31.2	36.5	32.3	4.26	8.576	
1,100.0	1,099.4	1,099.9	1,099.0	2.4	2.4	96.89	27.8	30.5	38.2	33.5	4.74	8.066	
1,200.0	1,199.1	1,199.9	1,198.8	2.6	2.6	96.89	34.7	29.9	39.9	34.7	5.22	7.640	
1,300.0	1,298.9	1,299.9	1,298.5	2.8	2.9	96.89	41.7	29.3	41.6	35.9	5.71	7.280	
1,400.0	1,398.6	1,399.9	1,398.2	3.1	3.1	96.89	48.6	28.7	43.3	37.1	6.21	6.973	
1,500.0	1,498.4	1,499.9	1,498.0	3.3	3.4	96.90	55.6	28.0	45.0	38.3	6.70	6.708	
1,600.0	1,598.1	1,599.8	1,597.7	3.6	3.6	96.90	62.5	27.4	46.6	39.4	7.20	6.478	
1,700.0	1,697.9	1,699.8	1,697.5	3.8	3.9	96.90	69.5	26.8	48.3	40.6	7.70	6.276	
1,800.0	1,797.6	1,799.8	1,797.2	4.1	4.1	96.90	76.4	26.2	50.0	41.8	8.20	6.097	
1,900.0	1,897.4	1,899.8	1,897.0	4.3	4.4	96.90	83.4	25.5	51.7	43.0	8.71	5.939	
2,000.0	1,997.2	1,999.8	1,996.7	4.6	4.6	96.90	90.3	24.9	53.4	44.2	9.21	5.796	
2,100.0	2,096.9	2,099.8	2,096.4	4.8	4.9	96.90	97.2	24.3	55.1	45.4	9.71	5.669	
2,200.0	2,196.7	2,199.8	2,196.2	5.1	5.1	96.90	104.2	23.7	56.8	46.5	10.22	5.553	
2,300.0	2,296.4	2,299.7	2,295.9	5.4	5.4	96.90	111.1	23.0	58.4	47.7	10.73	5.448	
2,400.0	2,396.2	2,399.7	2,395.7	5.6	5.6	96.90	118.1	22.4	60.1	48.9	11.23	5.352	
2,500.0	2,495.9	2,499.7	2,495.4	5.9	5.9	96.90	125.0	21.8	61.8	50.1	11.74	5.264	
2,600.0	2,595.7	2,599.7	2,595.2	6.1	6.2	96.90	132.0	21.2	63.5	51.2	12.25	5.184	
2,700.0	2,695.5	2,699.7	2,694.9	6.4	6.4	96.90	138.9	20.5	65.2	52.4	12.76	5.109	
2,800.0	2,795.2	2,799.7	2,794.6	6.6	6.7	96.90	145.9	19.9	66.9	53.6	13.27	5.040	
2,900.0	2,895.0	2,899.7	2,894.4	6.9	6.9	96.91	152.8	19.3	68.6	54.8	13.78	4.976	
3,000.0	2,994.7	2,999.6	2,994.1	7.1	7.2	96.91	159.8	18.7	70.2	56.0	14.29	4.917	
3,100.0	3,094.5	3,099.6	3,093.9	7.4	7.4	96.91	166.7	18.0	71.9	57.1	14.79	4.862	
3,200.0	3,194.2	3,199.6	3,193.6	7.6	7.7	96.91	173.7	17.4	73.6	58.3	15.30	4.810	
3,300.0	3,294.0	3,299.6	3,293.3	7.9	7.9	96.91	180.6	16.8	75.3	59.5	15.81	4.761	
3,400.0	3,393.7	3,399.6	3,393.1	8.2	8.2	96.91	187.6	16.2	77.0	60.7	16.32	4.716	
3,500.0	3,493.5	3,499.6	3,492.8	8.4	8.4	96.91	194.5	15.5	78.7	61.8	16.83	4.673	
3,600.0	3,593.3	3,599.6	3,592.6	8.7	8.7	96.91	201.4	14.9	80.4	63.0	17.34	4.633	
3,700.0	3,693.0	3,699.5	3,692.3	8.9	9.0	96.91	208.4	14.3	82.0	64.2	17.86	4.595	
3,800.0	3,792.8	3,799.5	3,792.1	9.2	9.2	96.91	215.3	13.7	83.7	65.4	18.37	4.559	
3,900.0	3,892.5	3,899.5	3,891.8	9.4	9.5	96.91	222.3	13.0	85.4	66.5	18.88	4.525	
4,000.0	3,992.3	3,999.5	3,991.5	9.7	9.7	96.91	229.2	12.4	87.1	67.7	19.39	4.492	
4,100.0	4,092.0	4,099.5	4,091.3	9.9	10.0	96.91	236.2	11.8	88.8	68.9	19.90	4.462	
4,200.0	4,191.8	4,199.5	4,191.0	10.2	10.2	96.91	243.1	11.2	90.5	70.1	20.41	4.433	
4,300.0	4,291.6	4,299.5	4,290.8	10.5	10.5	96.91	250.1	10.5	92.2	71.2	20.92	4.405	
4,400.0	4,391.3	4,399.4	4,390.5	10.7	10.7	96.91	257.0	9.9	93.8	72.4	21.43	4.378	
4,500.0	4,491.1	4,499.4	4,490.3	11.0	11.0	96.91	264.0	9.3	95.5	73.6	21.94	4.353	
4,600.0	4,590.8	4,599.4	4,590.0	11.2	11.3	96.91	270.9	8.7	97.2	74.8	22.45	4.329	
4,700.0	4,690.6	4,699.4	4,689.7	11.5	11.5	96.91	277.9	8.0	98.9	75.9	22.97	4.306	
4,800.0	4,790.3	4,799.4	4,789.5	11.7	11.8	96.91	284.8	7.4	100.6	77.1	23.48	4.284	
4,900.0	4,890.1	4,899.4	4,889.2	12.0	12.0	96.91	291.8	6.8	102.3	78.3	23.99	4.263	
5,000.0	4,989.9	4,999.4	4,989.0	12.3	12.3	96.91	298.7	6.2	104.0	79.5	24.50	4.243	

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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,089.6	5,099.3	5,088.7	12.5	12.5	96.91	305.6	5.5	105.6	80.6	25.01	4.224	
5,200.0	5,189.4	5,199.3	5,188.4	12.8	12.8	96.91	312.6	4.9	107.3	81.8	25.52	4.205	
5,300.0	5,289.1	5,299.3	5,288.2	13.0	13.1	96.91	319.5	4.3	109.0	83.0	26.04	4.187	
5,400.0	5,388.9	5,399.3	5,387.9	13.3	13.3	96.91	326.5	3.7	110.7	84.1	26.55	4.170	
5,500.0	5,488.6	5,497.5	5,485.6	13.5	13.6	95.26	336.6	2.8	112.8	85.8	27.08	4.166	
5,600.0	5,588.0	5,591.5	5,575.9	13.8	14.0	87.25	361.7	0.5	119.0	91.3	27.72	4.294	
5,700.0	5,683.9	5,682.2	5,657.6	14.2	14.5	79.88	400.9	-3.0	131.3	102.8	28.49	4.607	
5,800.0	5,772.8	5,770.3	5,729.1	14.8	15.1	74.45	451.9	-7.6	147.9	118.5	29.35	5.039	
5,900.0	5,851.4	5,856.0	5,789.4	15.6	15.9	70.74	512.4	-13.0	167.3	137.0	30.31	5.520	
6,000.0	5,916.8	5,939.8	5,838.1	16.6	16.8	68.38	580.2	-19.2	188.3	156.9	31.48	5.983	
6,100.0	5,966.6	6,022.2	5,874.7	17.8	17.8	67.00	653.7	-25.8	210.0	177.1	32.98	6.370	
6,200.0	5,998.9	6,100.0	5,898.1	19.1	18.8	66.26	727.5	-32.4	231.8	197.0	34.82	6.658	
6,300.0	6,012.6	6,184.9	5,910.8	20.6	20.0	66.26	811.0	-39.9	253.1	215.9	37.25	6.794	
6,400.0	6,013.1	6,268.9	5,912.1	22.1	21.2	67.86	894.7	-46.8	274.0	233.8	40.20	6.817	
6,500.0	6,013.1	6,354.5	5,912.1	23.6	22.4	69.51	980.2	-50.4	294.7	251.6	43.09	6.838	
6,600.0	6,013.1	6,446.8	5,912.1	25.1	23.8	70.94	1,072.5	-50.8	314.2	268.0	46.14	6.810	
6,700.0	6,013.1	6,545.5	5,912.1	26.6	25.4	71.99	1,171.2	-50.8	329.3	280.0	49.28	6.682	
6,800.0	6,013.1	6,644.9	5,912.1	28.2	27.1	72.64	1,270.6	-50.8	339.6	287.2	52.35	6.487	
6,900.0	6,013.1	6,744.7	5,912.1	29.7	28.7	72.96	1,370.4	-50.8	344.9	289.6	55.29	6.237	
7,000.0	6,013.1	6,844.7	5,912.1	31.3	30.4	73.01	1,470.4	-50.8	345.7	287.3	58.30	5.928	
7,100.0	6,013.1	6,944.7	5,912.1	33.0	32.2	73.01	1,570.4	-50.8	345.6	284.1	61.60	5.612	
7,200.0	6,013.1	7,044.7	5,912.1	34.6	33.9	73.01	1,670.4	-50.8	345.6	280.7	64.93	5.323	
7,300.0	6,013.1	7,144.7	5,912.1	36.3	35.7	73.01	1,770.4	-50.8	345.6	277.3	68.30	5.060	
7,400.0	6,013.1	7,244.7	5,912.1	38.0	37.5	73.01	1,870.4	-50.8	345.6	273.9	71.71	4.820	
7,500.0	6,013.1	7,344.7	5,912.1	39.8	39.3	73.01	1,970.4	-50.8	345.6	270.5	75.14	4.600	
7,600.0	6,013.1	7,444.7	5,912.1	41.5	41.1	73.01	2,070.4	-50.8	345.6	267.0	78.60	4.397	
7,700.0	6,013.1	7,544.7	5,912.1	43.3	42.9	73.01	2,170.4	-50.8	345.6	263.5	82.08	4.211	
7,800.0	6,013.1	7,644.7	5,912.1	45.1	44.8	73.01	2,270.4	-50.8	345.6	260.0	85.58	4.039	
7,900.0	6,013.1	7,744.7	5,912.1	46.9	46.6	73.01	2,370.4	-50.8	345.6	256.5	89.09	3.879	
8,000.0	6,013.1	7,844.7	5,912.1	48.7	48.4	73.01	2,470.4	-50.8	345.6	253.0	92.62	3.732	
8,100.0	6,013.1	7,944.7	5,912.1	50.5	50.3	73.01	2,570.4	-50.8	345.6	249.4	96.16	3.594	
8,200.0	6,013.1	8,044.7	5,912.1	52.3	52.2	73.01	2,670.4	-50.8	345.6	245.9	99.71	3.466	
8,300.0	6,013.1	8,144.7	5,912.1	54.1	54.0	73.01	2,770.4	-50.8	345.6	242.3	103.28	3.346	
8,400.0	6,013.1	8,244.7	5,912.1	55.9	55.9	73.01	2,870.4	-50.8	345.6	238.7	106.85	3.234	
8,500.0	6,013.1	8,344.7	5,912.1	57.8	57.7	73.01	2,970.4	-50.8	345.6	235.2	110.43	3.130	
8,600.0	6,013.1	8,444.7	5,912.0	59.6	59.6	73.01	3,070.4	-50.8	345.6	231.6	114.02	3.031	
8,700.0	6,013.1	8,544.7	5,912.0	61.5	61.5	73.01	3,170.4	-50.8	345.6	228.0	117.61	2.938	
8,800.0	6,013.1	8,644.7	5,912.0	63.3	63.4	73.01	3,270.4	-50.8	345.6	224.4	121.22	2.851	
8,900.0	6,013.1	8,744.7	5,912.0	65.2	65.2	73.01	3,370.4	-50.8	345.6	220.8	124.82	2.768	
9,000.0	6,013.1	8,844.7	5,912.0	67.0	67.1	73.01	3,470.4	-50.8	345.6	217.1	128.44	2.691	
9,100.0	6,013.1	8,944.7	5,912.0	68.9	69.0	73.01	3,570.4	-50.8	345.6	213.5	132.06	2.617	
9,200.0	6,013.1	9,044.7	5,912.0	70.8	70.9	73.01	3,670.4	-50.8	345.6	209.9	135.68	2.547	
9,300.0	6,013.1	9,144.7	5,912.0	72.6	72.8	73.01	3,770.4	-50.8	345.6	206.3	139.31	2.481	
9,400.0	6,013.1	9,244.7	5,912.0	74.5	74.7	73.01	3,870.4	-50.8	345.6	202.6	142.94	2.418	
9,500.0	6,013.0	9,344.7	5,912.0	76.4	76.6	73.01	3,970.4	-50.8	345.6	199.0	146.57	2.358	
9,600.0	6,013.0	9,444.7	5,912.0	78.2	78.5	73.00	4,070.4	-50.8	345.6	195.3	150.21	2.300	
9,700.0	6,013.0	9,544.7	5,912.0	80.1	80.4	73.00	4,170.4	-50.8	345.5	191.7	153.85	2.246	
9,800.0	6,013.0	9,644.7	5,912.0	82.0	82.3	73.00	4,270.4	-50.8	345.5	188.1	157.49	2.194	
9,900.0	6,013.0	9,744.7	5,912.0	83.9	84.1	73.00	4,370.4	-50.7	345.5	184.4	161.14	2.144	
10,000.0	6,013.0	9,844.7	5,912.0	85.8	86.0	73.00	4,470.4	-50.7	345.5	180.8	164.79	2.097	
10,100.0	6,013.0	9,944.7	5,912.0	87.7	87.9	73.00	4,570.4	-50.7	345.5	177.1	168.44	2.051	
10,200.0	6,013.0	10,044.7	5,912.0	89.5	89.8	73.00	4,670.4	-50.7	345.5	173.4	172.09	2.008	

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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	6,013.0	10,144.7	5,912.0	91.4	91.7	73.00	4,770.4	-50.7	345.5	169.8	175.74	1.966	
10,400.0	6,013.0	10,244.7	5,912.0	93.3	93.6	73.00	4,870.4	-50.7	345.5	166.1	179.40	1.926	
10,500.0	6,013.0	10,344.7	5,912.0	95.2	95.5	73.00	4,970.4	-50.7	345.5	162.5	183.06	1.887	
10,600.0	6,013.0	10,444.7	5,912.0	97.1	97.5	73.00	5,070.4	-50.7	345.5	158.8	186.72	1.850	
10,700.0	6,013.0	10,544.7	5,912.0	99.0	99.4	73.00	5,170.4	-50.7	345.5	155.1	190.38	1.815	
10,800.0	6,013.0	10,644.7	5,912.0	100.9	101.3	73.00	5,270.4	-50.7	345.5	151.5	194.04	1.781	
10,900.0	6,013.0	10,744.7	5,912.0	102.8	103.2	73.00	5,370.4	-50.7	345.5	147.8	197.71	1.748	
11,000.0	6,013.0	10,844.7	5,912.0	104.7	105.1	73.00	5,470.4	-50.7	345.5	144.1	201.37	1.716	
11,100.0	6,013.0	10,944.7	5,912.0	106.6	107.0	73.00	5,570.4	-50.7	345.5	140.5	205.04	1.685	
11,200.0	6,013.0	11,044.7	5,912.0	108.5	108.9	73.00	5,670.4	-50.7	345.5	136.8	208.71	1.655	
11,300.0	6,013.0	11,144.7	5,912.0	110.4	110.8	73.00	5,770.4	-50.7	345.5	133.1	212.38	1.627	
11,400.0	6,013.0	11,244.7	5,912.0	112.3	112.7	73.00	5,870.4	-50.7	345.5	129.4	216.05	1.599	
11,500.0	6,013.0	11,344.7	5,912.0	114.2	114.6	73.00	5,970.4	-50.7	345.5	125.8	219.72	1.572	
11,600.0	6,013.0	11,444.7	5,912.0	116.1	116.5	73.00	6,070.4	-50.7	345.5	122.1	223.39	1.546	
11,700.0	6,013.0	11,544.7	5,912.0	118.0	118.4	73.00	6,170.4	-50.7	345.5	118.4	227.07	1.521	
11,800.0	6,013.0	11,644.7	5,912.0	119.9	120.3	73.00	6,270.4	-50.7	345.5	114.7	230.74	1.497	Level 3
11,900.0	6,013.0	11,744.7	5,912.0	121.8	122.2	73.00	6,370.4	-50.7	345.5	111.0	234.41	1.474	Level 3
12,000.0	6,013.0	11,844.7	5,912.0	123.7	124.2	73.00	6,470.4	-50.7	345.5	107.4	238.09	1.451	Level 3
12,100.0	6,013.0	11,944.7	5,912.0	125.6	126.1	73.00	6,570.4	-50.7	345.5	103.7	241.77	1.429	Level 3
12,200.0	6,013.0	12,044.7	5,912.0	127.5	128.0	73.00	6,670.4	-50.7	345.5	100.0	245.44	1.407	Level 3
12,300.0	6,013.0	12,144.7	5,912.0	129.4	129.9	73.00	6,770.4	-50.7	345.4	96.3	249.12	1.387	Level 3
12,400.0	6,013.0	12,244.7	5,912.0	131.3	131.8	73.00	6,870.4	-50.7	345.4	92.6	252.80	1.366	Level 3
12,500.0	6,013.0	12,344.7	5,912.0	133.2	133.7	73.00	6,970.4	-50.7	345.4	89.0	256.48	1.347	Level 3
12,569.6	6,013.0	12,414.3	5,912.0	134.5	135.0	73.00	7,040.0	-50.7	345.4	86.4	259.04	1.334	Level 3, SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.12	1.0	66.1	66.1				
100.0	100.0	100.0	100.0	0.1	0.1	89.12	1.0	66.1	66.1	65.9	0.19	353.440	
200.0	200.0	200.0	200.0	0.3	0.3	89.12	1.0	66.1	66.1	65.5	0.64	103.836	
300.0	300.0	300.0	300.0	0.5	0.5	89.12	1.0	66.1	66.1	65.0	1.09	60.857	
400.0	400.0	400.0	400.0	0.8	0.8	89.12	1.0	66.1	66.1	64.6	1.54	43.042	
500.0	500.0	500.0	500.0	1.0	1.0	89.12	1.0	66.1	66.1	64.1	1.99	33.295	CC
600.0	600.0	599.5	599.4	1.2	1.2	87.67	2.7	66.4	66.5	64.1	2.43	27.336	ES
700.0	700.0	698.7	698.5	1.4	1.4	83.44	7.8	67.5	67.9	65.1	2.88	23.576	
800.0	800.0	798.5	798.1	1.7	1.7	98.41	14.6	68.9	70.7	67.3	3.34	21.167	
900.0	899.8	898.5	897.8	1.9	1.9	97.35	21.4	70.3	74.1	70.3	3.80	19.494	
1,000.0	999.6	998.4	997.5	2.1	2.2	97.73	28.2	71.7	77.7	73.5	4.27	18.196	
1,100.0	1,099.4	1,098.3	1,097.2	2.4	2.4	98.07	35.1	73.1	81.4	76.6	4.75	17.130	
1,200.0	1,199.1	1,198.2	1,196.9	2.6	2.6	98.38	41.9	74.5	85.0	79.8	5.24	16.241	
1,300.0	1,298.9	1,298.2	1,296.6	2.8	2.9	98.66	48.7	75.9	88.7	83.0	5.72	15.493	
1,400.0	1,398.6	1,398.1	1,396.2	3.1	3.1	98.93	55.6	77.3	92.3	86.1	6.22	14.855	
1,500.0	1,498.4	1,498.0	1,495.9	3.3	3.4	99.17	62.4	78.7	96.0	89.3	6.71	14.305	
1,600.0	1,598.1	1,598.0	1,595.6	3.6	3.7	99.39	69.2	80.1	99.7	92.5	7.21	13.827	
1,700.0	1,697.9	1,697.9	1,695.3	3.8	3.9	99.60	76.0	81.5	103.3	95.6	7.71	13.408	
1,800.0	1,797.6	1,797.8	1,795.0	4.1	4.2	99.80	82.9	82.9	107.0	98.8	8.21	13.039	
1,900.0	1,897.4	1,897.8	1,894.7	4.3	4.4	99.98	89.7	84.3	110.7	102.0	8.71	12.710	
2,000.0	1,997.2	1,997.7	1,994.4	4.6	4.7	100.15	96.5	85.7	114.3	105.1	9.21	12.416	
2,100.0	2,096.9	2,097.6	2,094.1	4.8	4.9	100.31	103.4	87.1	118.0	108.3	9.71	12.151	
2,200.0	2,196.7	2,197.6	2,193.8	5.1	5.2	100.46	110.2	88.5	121.7	111.5	10.21	11.912	
2,300.0	2,296.4	2,297.5	2,293.4	5.4	5.4	100.60	117.0	89.9	125.3	114.6	10.72	11.694	
2,400.0	2,396.2	2,397.4	2,393.1	5.6	5.7	100.74	123.8	91.3	129.0	117.8	11.22	11.496	
2,500.0	2,495.9	2,497.4	2,492.8	5.9	5.9	100.86	130.7	92.7	132.7	121.0	11.73	11.314	
2,600.0	2,595.7	2,597.3	2,592.5	6.1	6.2	100.98	137.5	94.1	136.4	124.1	12.23	11.147	
2,700.0	2,695.5	2,697.2	2,692.2	6.4	6.4	101.09	144.3	95.5	140.0	127.3	12.74	10.994	
2,800.0	2,795.2	2,797.2	2,791.9	6.6	6.7	101.20	151.2	96.9	143.7	130.5	13.24	10.851	
2,900.0	2,895.0	2,897.1	2,891.6	6.9	7.0	101.30	158.0	98.3	147.4	133.6	13.75	10.719	
3,000.0	2,994.7	2,997.0	2,991.3	7.1	7.2	101.40	164.8	99.7	151.1	136.8	14.26	10.596	
3,100.0	3,094.5	3,097.0	3,091.0	7.4	7.5	101.49	171.6	101.1	154.7	140.0	14.76	10.482	
3,200.0	3,194.2	3,196.9	3,190.6	7.6	7.7	101.58	178.5	102.5	158.4	143.1	15.27	10.375	
3,300.0	3,294.0	3,296.8	3,290.3	7.9	8.0	101.66	185.3	103.9	162.1	146.3	15.78	10.275	
3,400.0	3,393.7	3,396.8	3,390.0	8.2	8.2	101.74	192.1	105.3	165.8	149.5	16.28	10.181	
3,500.0	3,493.5	3,496.7	3,489.7	8.4	8.5	101.82	199.0	106.7	169.4	152.6	16.79	10.092	
3,600.0	3,593.3	3,596.6	3,589.4	8.7	8.7	101.89	205.8	108.1	173.1	155.8	17.30	10.009	
3,700.0	3,693.0	3,696.5	3,689.1	8.9	9.0	101.96	212.6	109.5	176.8	159.0	17.80	9.930	
3,800.0	3,792.8	3,796.5	3,788.8	9.2	9.3	102.03	219.4	110.9	180.5	162.2	18.31	9.856	
3,900.0	3,892.5	3,896.4	3,888.5	9.4	9.5	102.10	226.3	112.3	184.1	165.3	18.82	9.786	
4,000.0	3,992.3	3,996.3	3,988.2	9.7	9.8	102.16	233.1	113.7	187.8	168.5	19.33	9.719	
4,100.0	4,092.0	4,096.3	4,087.8	9.9	10.0	102.22	239.9	115.1	191.5	171.7	19.83	9.656	
4,200.0	4,191.8	4,196.2	4,187.5	10.2	10.3	102.28	246.8	116.5	195.2	174.8	20.34	9.595	
4,300.0	4,291.6	4,296.1	4,287.2	10.5	10.5	102.33	253.6	117.9	198.9	178.0	20.85	9.538	
4,400.0	4,391.3	4,396.1	4,386.9	10.7	10.8	102.38	260.4	119.3	202.5	181.2	21.36	9.484	
4,500.0	4,491.1	4,496.0	4,486.6	11.0	11.0	102.44	267.2	120.7	206.2	184.3	21.86	9.432	
4,600.0	4,590.8	4,595.9	4,586.3	11.2	11.3	102.49	274.1	122.1	209.9	187.5	22.37	9.382	
4,700.0	4,690.6	4,695.9	4,686.0	11.5	11.6	102.53	280.9	123.5	213.6	190.7	22.88	9.334	
4,800.0	4,790.3	4,795.8	4,785.7	11.7	11.8	102.58	287.7	124.9	217.2	193.9	23.39	9.289	
4,900.0	4,890.1	4,895.7	4,885.4	12.0	12.1	102.63	294.6	126.3	220.9	197.0	23.90	9.245	
5,000.0	4,989.9	4,995.7	4,985.0	12.3	12.3	102.67	301.4	127.7	224.6	200.2	24.40	9.204	
5,100.0	5,089.6	5,095.6	5,084.7	12.5	12.6	102.71	308.2	129.1	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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Survey Program: 0-ISCWSA MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.4	5,195.5	5,184.4	12.8	12.8	102.75	315.0	130.5	232.0	206.5	25.42	9.125	
5,300.0	5,289.1	5,295.5	5,284.1	13.0	13.1	102.79	321.9	131.9	235.6	209.7	25.93	9.088	
5,400.0	5,388.9	5,395.4	5,383.8	13.3	13.3	102.83	328.7	133.3	239.3	212.9	26.44	9.053	
5,500.0	5,488.6	5,495.3	5,483.5	13.5	13.6	102.87	335.5	134.8	243.0	216.1	26.94	9.019	
5,600.0	5,588.0	5,588.3	5,576.0	13.8	13.9	102.69	344.1	136.5	248.2	220.8	27.46	9.039	
5,700.0	5,683.9	5,674.9	5,659.9	14.2	14.2	101.99	364.7	140.7	261.8	233.6	28.15	9.298	
5,800.0	5,772.8	5,759.9	5,737.8	14.8	14.7	100.81	397.9	147.5	283.9	254.9	29.08	9.763	
5,900.0	5,851.4	5,843.1	5,807.7	15.6	15.2	99.11	441.9	156.6	313.9	283.6	30.31	10.357	
6,000.0	5,916.8	5,924.4	5,868.2	16.6	15.9	96.90	494.9	167.5	350.4	318.6	31.85	11.003	
6,100.0	5,966.6	6,004.0	5,918.6	17.8	16.7	94.25	555.2	179.8	392.4	358.7	33.70	11.644	
6,200.0	5,998.9	6,082.7	5,958.7	19.1	17.6	91.25	621.5	193.4	438.4	402.6	35.81	12.242	
6,300.0	6,012.6	6,161.5	5,988.1	20.6	18.6	88.05	693.0	208.1	487.2	449.1	38.11	12.785	
6,400.0	6,013.1	6,243.8	6,006.8	22.1	19.7	89.23	771.4	224.2	536.1	495.4	40.68	13.179	
6,500.0	6,013.1	6,337.0	6,012.6	23.6	21.0	89.95	862.4	242.8	581.0	537.6	43.44	13.374	
6,600.0	6,013.1	6,472.8	6,012.6	25.1	22.9	89.95	996.5	264.3	617.3	570.5	46.83	13.182	
6,700.0	6,013.1	6,617.5	6,012.6	26.6	25.0	89.96	1,140.6	276.7	641.7	591.2	50.51	12.704	
6,800.0	6,013.1	6,747.5	6,012.6	28.2	27.0	89.96	1,270.6	278.9	653.9	599.8	54.12	12.083	
6,900.0	6,013.1	6,847.3	6,012.6	29.7	28.6	89.96	1,370.4	278.9	659.4	602.1	57.30	11.509	
7,000.0	6,013.1	6,947.3	6,012.6	31.3	30.2	89.96	1,470.4	278.9	660.2	599.7	60.52	10.909	
7,100.0	6,013.1	7,047.3	6,012.6	33.0	31.9	89.96	1,570.4	278.9	660.2	596.3	63.89	10.333	
7,200.0	6,013.1	7,147.3	6,012.6	34.6	33.6	89.96	1,670.4	278.9	660.2	592.9	67.32	9.807	
7,300.0	6,013.1	7,247.3	6,012.6	36.3	35.3	89.96	1,770.4	278.9	660.2	589.4	70.79	9.327	
7,400.0	6,013.1	7,347.3	6,012.7	38.0	37.1	89.96	1,870.4	278.9	660.2	585.9	74.29	8.887	
7,500.0	6,013.1	7,447.3	6,012.7	39.8	38.9	89.96	1,970.4	278.9	660.2	582.4	77.83	8.483	
7,600.0	6,013.1	7,547.3	6,012.7	41.5	40.6	89.96	2,070.4	278.9	660.2	578.8	81.39	8.111	
7,700.0	6,013.1	7,647.3	6,012.7	43.3	42.4	89.97	2,170.4	278.9	660.2	575.2	84.98	7.769	
7,800.0	6,013.1	7,747.3	6,012.7	45.1	44.2	89.97	2,270.4	278.9	660.2	571.6	88.59	7.452	
7,900.0	6,013.1	7,847.3	6,012.7	46.9	46.0	89.97	2,370.4	278.9	660.2	568.0	92.22	7.159	
8,000.0	6,013.1	7,947.3	6,012.7	48.7	47.9	89.97	2,470.4	278.9	660.2	564.3	95.86	6.887	
8,100.0	6,013.1	8,047.3	6,012.7	50.5	49.7	89.97	2,570.4	278.9	660.2	560.6	99.52	6.633	
8,200.0	6,013.1	8,147.3	6,012.7	52.3	51.5	89.97	2,670.4	278.9	660.2	557.0	103.20	6.397	
8,300.0	6,013.1	8,247.3	6,012.7	54.1	53.4	89.97	2,770.4	278.9	660.2	553.3	106.88	6.176	
8,400.0	6,013.1	8,347.3	6,012.7	55.9	55.2	89.97	2,870.4	278.9	660.1	549.6	110.58	5.970	
8,500.0	6,013.1	8,447.3	6,012.7	57.8	57.1	89.97	2,970.4	278.9	660.1	545.9	114.29	5.776	
8,600.0	6,013.1	8,547.3	6,012.7	59.6	58.9	89.97	3,070.4	278.9	660.1	542.1	118.00	5.594	
8,700.0	6,013.1	8,647.3	6,012.7	61.5	60.8	89.97	3,170.4	278.9	660.1	538.4	121.72	5.423	
8,800.0	6,013.1	8,747.3	6,012.8	63.3	62.6	89.97	3,270.4	278.9	660.1	534.7	125.45	5.262	
8,900.0	6,013.1	8,847.3	6,012.8	65.2	64.5	89.97	3,370.4	278.9	660.1	530.9	129.19	5.110	
9,000.0	6,013.1	8,947.3	6,012.8	67.0	66.4	89.97	3,470.4	278.9	660.1	527.2	132.93	4.966	
9,100.0	6,013.1	9,047.3	6,012.8	68.9	68.3	89.98	3,570.4	278.9	660.1	523.4	136.68	4.830	
9,200.0	6,013.1	9,147.3	6,012.8	70.8	70.1	89.98	3,670.4	278.9	660.1	519.7	140.44	4.700	
9,300.0	6,013.1	9,247.3	6,012.8	72.6	72.0	89.98	3,770.4	278.9	660.1	515.9	144.19	4.578	
9,400.0	6,013.1	9,347.3	6,012.8	74.5	73.9	89.98	3,870.4	278.9	660.1	512.1	147.96	4.461	
9,500.0	6,013.0	9,447.3	6,012.8	76.4	75.8	89.98	3,970.4	278.9	660.1	508.4	151.72	4.351	
9,600.0	6,013.0	9,547.3	6,012.8	78.2	77.7	89.98	4,070.4	278.9	660.1	504.6	155.49	4.245	
9,700.0	6,013.0	9,647.3	6,012.8	80.1	79.5	89.98	4,170.4	278.9	660.1	500.8	159.27	4.144	
9,800.0	6,013.0	9,747.3	6,012.8	82.0	81.4	89.98	4,270.4	278.9	660.1	497.0	163.04	4.048	
9,900.0	6,013.0	9,847.3	6,012.8	83.9	83.3	89.98	4,370.4	278.9	660.1	493.2	166.82	3.957	
10,000.0	6,013.0	9,947.3	6,012.8	85.8	85.2	89.98	4,470.4	278.9	660.1	489.5	170.61	3.869	
10,100.0	6,013.0	10,047.3	6,012.8	87.7	87.1	89.98	4,570.4	278.9	660.1	485.7	174.39	3.785	
10,200.0	6,013.0	10,147.3	6,012.8	89.5	89.0	89.98	4,670.4	278.9	660.0	481.9	178.18	3.704	
10,300.0	6,013.0	10,247.3	6,012.9	91.4	90.9	89.98	4,770.4	278.9	660.0	478.1	181.97	3.627	

Cathedral Energy Services

Anticollision Report

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,013.0	10,347.3	6,012.9	93.3	92.8	89.98	4,870.4	278.9	660.0	474.3	185.76	3.553	
10,500.0	6,013.0	10,447.3	6,012.9	95.2	94.7	89.99	4,970.4	278.9	660.0	470.5	189.56	3.482	
10,600.0	6,013.0	10,547.3	6,012.9	97.1	96.6	89.99	5,070.4	278.9	660.0	466.7	193.36	3.414	
10,700.0	6,013.0	10,647.3	6,012.9	99.0	98.5	89.99	5,170.4	278.9	660.0	462.9	197.15	3.348	
10,800.0	6,013.0	10,747.3	6,012.9	100.9	100.4	89.99	5,270.4	278.9	660.0	459.1	200.95	3.284	
10,900.0	6,013.0	10,847.3	6,012.9	102.8	102.3	89.99	5,370.4	278.9	660.0	455.3	204.76	3.223	
11,000.0	6,013.0	10,947.3	6,012.9	104.7	104.2	89.99	5,470.4	278.9	660.0	451.4	208.56	3.165	
11,100.0	6,013.0	11,047.3	6,012.9	106.6	106.1	89.99	5,570.4	278.9	660.0	447.6	212.36	3.108	
11,200.0	6,013.0	11,147.3	6,012.9	108.5	108.0	89.99	5,670.4	278.9	660.0	443.8	216.17	3.053	
11,300.0	6,013.0	11,247.3	6,012.9	110.4	109.9	89.99	5,770.4	278.9	660.0	440.0	219.98	3.000	
11,400.0	6,013.0	11,347.3	6,012.9	112.3	111.8	89.99	5,870.4	278.9	660.0	436.2	223.79	2.949	
11,500.0	6,013.0	11,447.3	6,012.9	114.2	113.7	89.99	5,970.4	278.9	660.0	432.4	227.60	2.900	
11,600.0	6,013.0	11,547.3	6,012.9	116.1	115.6	89.99	6,070.4	278.9	660.0	428.6	231.41	2.852	
11,700.0	6,013.0	11,647.3	6,013.0	118.0	117.5	89.99	6,170.4	278.9	660.0	424.7	235.22	2.806	
11,800.0	6,013.0	11,747.3	6,013.0	119.9	119.4	89.99	6,270.4	278.9	660.0	420.9	239.03	2.761	
11,900.0	6,013.0	11,847.3	6,013.0	121.8	121.3	90.00	6,370.4	278.9	660.0	417.1	242.85	2.718	
12,000.0	6,013.0	11,947.3	6,013.0	123.7	123.2	90.00	6,470.4	278.9	659.9	413.3	246.66	2.676	
12,100.0	6,013.0	12,047.3	6,013.0	125.6	125.1	90.00	6,570.4	278.9	659.9	409.5	250.48	2.635	
12,200.0	6,013.0	12,147.3	6,013.0	127.5	127.1	90.00	6,670.4	278.9	659.9	405.6	254.29	2.595	
12,300.0	6,013.0	12,247.3	6,013.0	129.4	129.0	90.00	6,770.4	278.9	659.9	401.8	258.11	2.557	
12,400.0	6,013.0	12,347.3	6,013.0	131.3	130.9	90.00	6,870.4	278.9	659.9	398.0	261.93	2.519	
12,500.0	6,013.0	12,447.3	6,013.0	133.2	132.8	90.00	6,970.4	278.9	659.9	394.2	265.75	2.483	
12,569.6	6,013.0	12,516.9	6,013.0	134.5	134.1	90.00	7,040.0	278.9	659.9	391.5	268.40	2.459	SF

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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	-156.19	-74.9	-33.0	81.9				
100.0	100.0	100.0	100.0	0.1	0.1	-156.19	-74.9	-33.0	81.9	81.7	0.19	437.757	
200.0	200.0	200.0	200.0	0.3	0.3	-156.19	-74.9	-33.0	81.9	81.2	0.64	128.605	
300.0	300.0	300.0	300.0	0.5	0.5	-156.19	-74.9	-33.0	81.9	80.8	1.09	75.373	
400.0	400.0	400.0	400.0	0.8	0.8	-156.19	-74.9	-33.0	81.9	80.3	1.54	53.308	
500.0	500.0	500.0	500.0	1.0	1.0	-156.19	-74.9	-33.0	81.9	79.9	1.99	41.236	CC, ES
600.0	600.0	597.2	597.2	1.2	1.2	-156.13	-76.4	-33.8	83.6	81.1	2.40	34.752	
700.0	700.0	694.1	694.0	1.4	1.4	-155.97	-80.8	-36.0	88.6	85.8	2.81	31.490	
800.0	800.0	793.6	793.2	1.7	1.6	-137.35	-87.0	-39.1	96.9	93.6	3.24	29.860	
900.0	899.8	893.0	892.3	1.9	1.8	-138.89	-93.1	-42.2	107.7	104.0	3.68	29.307	
1,000.0	999.6	992.1	991.3	2.1	2.0	-140.80	-99.3	-45.4	120.0	115.9	4.11	29.195	
1,100.0	1,099.4	1,091.3	1,090.2	2.4	2.3	-142.35	-105.5	-48.5	132.3	127.8	4.55	29.085	
1,200.0	1,199.1	1,190.5	1,189.1	2.6	2.5	-143.64	-111.7	-51.6	144.8	139.8	5.00	28.983	
1,300.0	1,298.9	1,289.7	1,288.1	2.8	2.8	-144.73	-117.9	-54.7	157.3	151.9	5.45	28.889	
1,400.0	1,398.6	1,388.8	1,387.0	3.1	3.0	-145.65	-124.0	-57.8	169.9	164.0	5.90	28.804	
1,500.0	1,498.4	1,488.0	1,485.9	3.3	3.3	-146.45	-130.2	-60.9	182.5	176.1	6.35	28.727	
1,600.0	1,598.1	1,587.2	1,584.9	3.6	3.5	-147.14	-136.4	-64.0	195.1	188.3	6.81	28.658	
1,700.0	1,697.9	1,686.4	1,683.8	3.8	3.8	-147.75	-142.6	-67.2	207.7	200.5	7.26	28.596	
1,800.0	1,797.6	1,785.5	1,782.7	4.1	4.0	-148.29	-148.7	-70.3	220.4	212.7	7.72	28.539	
1,900.0	1,897.4	1,884.7	1,881.7	4.3	4.3	-148.77	-154.9	-73.4	233.1	224.9	8.18	28.488	
2,000.0	1,997.2	1,983.9	1,980.6	4.6	4.5	-149.20	-161.1	-76.5	245.8	237.1	8.64	28.441	
2,100.0	2,096.9	2,083.1	2,079.5	4.8	4.8	-149.59	-167.3	-79.6	258.5	249.4	9.10	28.398	
2,200.0	2,196.7	2,182.2	2,178.5	5.1	5.1	-149.94	-173.5	-82.7	271.2	261.7	9.56	28.359	
2,300.0	2,296.4	2,281.4	2,277.4	5.4	5.3	-150.27	-179.6	-85.8	284.0	273.9	10.03	28.322	
2,400.0	2,396.2	2,380.6	2,376.3	5.6	5.6	-150.56	-185.8	-89.0	296.7	286.2	10.49	28.289	
2,500.0	2,495.9	2,479.8	2,475.3	5.9	5.8	-150.83	-192.0	-92.1	309.4	298.5	10.95	28.258	
2,600.0	2,595.7	2,578.9	2,574.2	6.1	6.1	-151.08	-198.2	-95.2	322.2	310.8	11.41	28.229	
2,700.0	2,695.5	2,678.1	2,673.1	6.4	6.4	-151.30	-204.3	-98.3	335.0	323.1	11.88	28.203	
2,800.0	2,795.2	2,777.3	2,772.1	6.6	6.6	-151.52	-210.5	-101.4	347.7	335.4	12.34	28.178	
2,900.0	2,895.0	2,876.5	2,871.0	6.9	6.9	-151.71	-216.7	-104.5	360.5	347.7	12.80	28.155	
3,000.0	2,994.7	2,975.6	2,969.9	7.1	7.1	-151.90	-222.9	-107.6	373.3	360.0	13.27	28.133	
3,100.0	3,094.5	3,074.8	3,068.9	7.4	7.4	-152.07	-229.1	-110.7	386.0	372.3	13.73	28.112	
3,200.0	3,194.2	3,174.0	3,167.8	7.6	7.7	-152.23	-235.2	-113.9	398.8	384.6	14.20	28.093	
3,300.0	3,294.0	3,273.1	3,266.7	7.9	7.9	-152.38	-241.4	-117.0	411.6	397.0	14.66	28.075	
3,400.0	3,393.7	3,372.3	3,365.7	8.2	8.2	-152.52	-247.6	-120.1	424.4	409.3	15.13	28.058	
3,500.0	3,493.5	3,471.5	3,464.6	8.4	8.4	-152.65	-253.8	-123.2	437.2	421.6	15.59	28.042	
3,600.0	3,593.3	3,570.7	3,563.5	8.7	8.7	-152.78	-259.9	-126.3	450.0	433.9	16.06	28.027	
3,700.0	3,693.0	3,669.8	3,662.4	8.9	9.0	-152.90	-266.1	-129.4	462.8	446.2	16.52	28.012	
3,800.0	3,792.8	3,769.0	3,761.4	9.2	9.2	-153.01	-272.3	-132.5	475.6	458.6	16.99	27.999	
3,900.0	3,892.5	3,868.2	3,860.3	9.4	9.5	-153.12	-278.5	-135.7	488.4	470.9	17.45	27.986	
4,000.0	3,992.3	3,967.4	3,959.2	9.7	9.7	-153.22	-284.7	-138.8	501.2	483.2	17.92	27.973	
4,100.0	4,092.0	4,066.5	4,058.2	9.9	10.0	-153.31	-290.8	-141.9	514.0	495.6	18.38	27.962	
4,200.0	4,191.8	4,165.7	4,157.1	10.2	10.3	-153.41	-297.0	-145.0	526.8	507.9	18.85	27.950	
4,300.0	4,291.6	4,264.9	4,256.0	10.5	10.5	-153.49	-303.2	-148.1	539.6	520.2	19.31	27.940	
4,400.0	4,391.3	4,364.1	4,355.0	10.7	10.8	-153.57	-309.4	-151.2	552.4	532.6	19.78	27.929	
4,500.0	4,491.1	4,463.2	4,453.9	11.0	11.1	-153.65	-315.5	-154.3	565.2	544.9	20.24	27.920	
4,600.0	4,590.8	4,562.4	4,552.8	11.2	11.3	-153.73	-321.7	-157.5	578.0	557.3	20.71	27.910	
4,700.0	4,690.6	4,661.6	4,651.8	11.5	11.6	-153.80	-327.9	-160.6	590.8	569.6	21.17	27.901	
4,800.0	4,790.3	4,760.8	4,750.7	11.7	11.8	-153.87	-334.1	-163.7	603.6	581.9	21.64	27.893	
4,900.0	4,890.1	4,859.9	4,849.6	12.0	12.1	-153.94	-340.3	-166.8	616.4	594.3	22.11	27.884	
5,000.0	4,989.9	4,959.1	4,948.6	12.3	12.4	-154.00	-346.4	-169.9	629.2	606.6	22.57	27.876	
5,100.0	5,089.6	5,058.3	5,047.5	12.5	12.6	-154.06	-352.6	-173.0	642.0	619.0	23.04	27.869	

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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.4	5,157.5	5,146.4	12.8	12.9	-154.12	-358.8	-176.1	654.8	631.3	23.50	27.861	
5,300.0	5,289.1	5,256.6	5,245.4	13.0	13.2	-154.18	-365.0	-179.3	667.6	643.7	23.97	27.854	
5,400.0	5,388.9	5,355.8	5,344.3	13.3	13.4	-154.23	-371.1	-182.4	680.4	656.0	24.43	27.848	SF
5,500.0	5,488.6	5,446.1	5,434.4	13.5	13.7	-154.28	-376.8	-185.2	693.3	668.5	24.88	27.868	
5,600.0	5,588.0	5,500.0	5,487.8	13.8	13.8	-153.57	-383.3	-188.5	714.5	689.5	24.98	28.597	
5,700.0	5,683.9	5,528.0	5,515.1	14.2	13.9	-151.31	-388.6	-191.2	757.1	732.7	24.41	31.015	
5,800.0	5,772.8	5,550.0	5,536.4	14.8	14.0	-147.00	-393.7	-193.7	819.8	796.2	23.59	34.752	
5,900.0	5,851.4	5,584.0	5,568.6	15.6	14.2	-139.74	-403.1	-198.5	897.2	873.8	23.39	38.364	
6,000.0	5,916.8	5,600.0	5,583.6	16.6	14.3	-125.66	-408.2	-201.0	985.1	959.3	25.72	38.300	
6,100.0	5,966.6	5,600.0	5,583.6	17.8	14.3	-98.11	-408.2	-201.0	1,078.8	1,047.7	31.18	34.600	
6,200.0	5,998.9	5,600.0	5,583.6	19.1	14.3	-63.57	-408.2	-201.0	1,174.4	1,144.1	30.28	38.779	
6,300.0	6,012.6	5,600.0	5,583.6	20.6	14.3	-40.34	-408.2	-201.0	1,268.1	1,244.7	23.45	54.089	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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	-180.00	-74.9	0.0	74.9				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-74.9	0.0	74.9	74.7	0.19	400.529	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-74.9	0.0	74.9	74.3	0.64	117.670	
300.0	300.0	300.0	300.0	0.5	0.5	-180.00	-74.9	0.0	74.9	73.8	1.09	68.965	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-74.9	0.0	74.9	73.4	1.54	48.776	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-74.9	0.0	74.9	72.9	1.99	37.731	
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-74.9	0.0	74.9	72.5	2.43	30.764	CC, ES
700.0	700.0	697.5	697.5	1.4	1.4	-179.67	-76.5	-0.4	76.5	73.7	2.85	26.827	
800.0	800.0	794.7	794.5	1.7	1.6	-160.11	-81.3	-1.7	83.1	79.9	3.27	25.455	SF
900.0	899.8	893.8	893.4	1.9	1.8	-160.06	-87.9	-3.6	94.8	91.1	3.69	25.680	
1,000.0	999.6	992.9	992.3	2.1	2.0	-160.40	-94.6	-5.4	108.1	103.9	4.11	26.276	
1,100.0	1,099.4	1,092.1	1,091.2	2.4	2.2	-160.66	-101.3	-7.2	121.3	116.8	4.54	26.718	
1,200.0	1,199.1	1,191.2	1,190.0	2.6	2.5	-160.87	-108.0	-9.0	134.6	129.7	4.98	27.052	
1,300.0	1,298.9	1,290.3	1,288.9	2.8	2.7	-161.04	-114.6	-10.9	147.9	142.5	5.42	27.310	
1,400.0	1,398.6	1,389.4	1,387.8	3.1	2.9	-161.19	-121.3	-12.7	161.2	155.4	5.86	27.512	
1,500.0	1,498.4	1,488.5	1,486.7	3.3	3.2	-161.31	-128.0	-14.5	174.5	168.2	6.31	27.674	
1,600.0	1,598.1	1,587.6	1,585.5	3.6	3.4	-161.42	-134.6	-16.3	187.8	181.1	6.75	27.805	
1,700.0	1,697.9	1,686.7	1,684.4	3.8	3.7	-161.51	-141.3	-18.2	201.1	193.9	7.20	27.914	
1,800.0	1,797.6	1,785.8	1,783.3	4.1	3.9	-161.59	-148.0	-20.0	214.4	206.8	7.66	28.004	
1,900.0	1,897.4	1,884.9	1,882.1	4.3	4.2	-161.66	-154.6	-21.8	227.7	219.6	8.11	28.079	
2,000.0	1,997.2	1,984.1	1,981.0	4.6	4.4	-161.72	-161.3	-23.6	241.0	232.4	8.56	28.144	
2,100.0	2,096.9	2,083.2	2,079.9	4.8	4.7	-161.78	-168.0	-25.5	254.3	245.3	9.02	28.199	
2,200.0	2,196.7	2,182.3	2,178.7	5.1	5.0	-161.83	-174.6	-27.3	267.6	258.1	9.47	28.247	
2,300.0	2,296.4	2,281.4	2,277.6	5.4	5.2	-161.88	-181.3	-29.1	280.9	271.0	9.93	28.288	
2,400.0	2,396.2	2,380.5	2,376.5	5.6	5.5	-161.92	-188.0	-30.9	294.2	283.8	10.39	28.325	
2,500.0	2,495.9	2,479.6	2,475.4	5.9	5.7	-161.96	-194.6	-32.8	307.5	296.7	10.84	28.357	
2,600.0	2,595.7	2,578.7	2,574.2	6.1	6.0	-161.99	-201.3	-34.6	320.8	309.5	11.30	28.385	
2,700.0	2,695.5	2,677.8	2,673.1	6.4	6.2	-162.02	-208.0	-36.4	334.1	322.3	11.76	28.410	
2,800.0	2,795.2	2,776.9	2,772.0	6.6	6.5	-162.05	-214.6	-38.2	347.4	335.2	12.22	28.433	
2,900.0	2,895.0	2,876.1	2,870.8	6.9	6.8	-162.08	-221.3	-40.1	360.7	348.0	12.68	28.453	
3,000.0	2,994.7	2,975.2	2,969.7	7.1	7.0	-162.11	-228.0	-41.9	374.0	360.9	13.14	28.471	
3,100.0	3,094.5	3,074.3	3,068.6	7.4	7.3	-162.13	-234.7	-43.7	387.3	373.7	13.60	28.488	
3,200.0	3,194.2	3,173.4	3,167.4	7.6	7.5	-162.15	-241.3	-45.5	400.6	386.5	14.05	28.503	
3,300.0	3,294.0	3,272.5	3,266.3	7.9	7.8	-162.17	-248.0	-47.4	413.9	399.4	14.51	28.516	
3,400.0	3,393.7	3,371.6	3,365.2	8.2	8.1	-162.19	-254.7	-49.2	427.2	412.2	14.97	28.529	
3,500.0	3,493.5	3,470.7	3,464.1	8.4	8.3	-162.21	-261.3	-51.0	440.5	425.1	15.43	28.540	
3,600.0	3,593.3	3,569.8	3,562.9	8.7	8.6	-162.23	-268.0	-52.8	453.8	437.9	15.89	28.551	
3,700.0	3,693.0	3,669.0	3,661.8	8.9	8.8	-162.24	-274.7	-54.6	467.1	450.7	16.35	28.560	
3,800.0	3,792.8	3,768.1	3,760.7	9.2	9.1	-162.26	-281.3	-56.5	480.4	463.6	16.82	28.569	
3,900.0	3,892.5	3,867.2	3,859.5	9.4	9.4	-162.27	-288.0	-58.3	493.7	476.4	17.28	28.578	
4,000.0	3,992.3	3,966.3	3,958.4	9.7	9.6	-162.29	-294.7	-60.1	507.0	489.3	17.74	28.585	
4,100.0	4,092.0	4,065.4	4,057.3	9.9	9.9	-162.30	-301.3	-61.9	520.3	502.1	18.20	28.593	
4,200.0	4,191.8	4,164.5	4,156.1	10.2	10.1	-162.31	-308.0	-63.8	533.6	514.9	18.66	28.599	
4,300.0	4,291.6	4,263.6	4,255.0	10.5	10.4	-162.33	-314.7	-65.6	546.9	527.8	19.12	28.606	
4,400.0	4,391.3	4,362.7	4,353.9	10.7	10.7	-162.34	-321.3	-67.4	560.2	540.6	19.58	28.611	
4,500.0	4,491.1	4,461.8	4,452.8	11.0	10.9	-162.35	-328.0	-69.2	573.5	553.5	20.04	28.617	
4,600.0	4,590.8	4,561.0	4,551.6	11.2	11.2	-162.36	-334.7	-71.1	586.8	566.3	20.50	28.622	
4,700.0	4,690.6	4,660.1	4,650.5	11.5	11.4	-162.37	-341.4	-72.9	600.1	579.1	20.96	28.627	
4,800.0	4,790.3	4,759.2	4,749.4	11.7	11.7	-162.38	-348.0	-74.7	613.4	592.0	21.42	28.631	
4,900.0	4,890.1	4,858.3	4,848.2	12.0	12.0	-162.39	-354.7	-76.5	626.7	604.8	21.89	28.635	
5,000.0	4,989.9	4,957.4	4,947.1	12.3	12.2	-162.39	-361.4	-78.4	640.0	617.7	22.35	28.640	
5,100.0	5,089.6	5,056.5	5,046.0	12.5	12.5	-162.40	-368.0	-80.2	653.3	630.5	22.81	28.643	

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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.4	5,155.6	5,144.9	12.8	12.8	-162.41	-374.7	-82.0	666.6	643.3	23.27	28.647	
5,300.0	5,289.1	5,254.7	5,243.7	13.0	13.0	-162.42	-381.4	-83.8	679.9	656.2	23.73	28.650	
5,400.0	5,388.9	5,353.8	5,342.6	13.3	13.3	-162.43	-388.0	-85.7	693.2	669.0	24.19	28.654	
5,500.0	5,488.6	5,453.0	5,441.5	13.5	13.5	-162.43	-394.7	-87.5	706.5	681.8	24.65	28.657	
5,600.0	5,588.0	5,544.9	5,533.2	13.8	13.8	-162.12	-400.9	-89.2	723.1	698.3	24.80	29.160	
5,700.0	5,683.9	5,584.2	5,572.2	14.2	13.9	-160.89	-405.3	-90.4	760.1	736.1	24.06	31.588	
5,800.0	5,772.8	5,617.1	5,604.5	14.8	14.0	-158.40	-411.2	-92.0	818.8	796.0	22.78	35.947	
5,900.0	5,851.4	5,650.0	5,636.4	15.6	14.2	-153.83	-419.0	-94.1	894.6	873.1	21.46	41.680	
6,000.0	5,916.8	5,650.0	5,636.4	16.6	14.2	-143.15	-419.0	-94.1	982.3	960.3	21.94	44.766	
6,100.0	5,966.6	5,668.0	5,653.6	17.8	14.3	-119.66	-424.1	-95.5	1,077.0	1,048.9	28.13	38.295	
6,200.0	5,998.9	5,670.1	5,655.6	19.1	14.3	-70.95	-424.8	-95.7	1,174.8	1,142.7	32.03	36.681	
6,300.0	6,012.6	5,650.0	5,636.4	20.6	14.2	-34.69	-419.0	-94.1	1,271.9	1,250.8	21.12	60.237	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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	156.20	-74.9	33.0	81.9				
100.0	100.0	100.0	100.0	0.1	0.1	156.20	-74.9	33.0	81.9	81.7	0.19	437.812	
200.0	200.0	200.0	200.0	0.3	0.3	156.20	-74.9	33.0	81.9	81.2	0.64	128.623	
300.0	300.0	300.0	300.0	0.5	0.5	156.20	-74.9	33.0	81.9	80.8	1.09	75.385	
400.0	400.0	400.0	400.0	0.8	0.8	156.20	-74.9	33.0	81.9	80.3	1.54	53.317	
500.0	500.0	500.0	500.0	1.0	1.0	156.20	-74.9	33.0	81.9	79.9	1.99	41.243	
600.0	600.0	600.0	600.0	1.2	1.2	156.20	-74.9	33.0	81.9	79.4	2.43	33.628	
700.0	700.0	700.0	700.0	1.4	1.4	156.20	-74.9	33.0	81.9	79.0	2.88	28.387	CC, ES
800.0	800.0	797.3	797.3	1.7	1.6	175.75	-76.6	33.1	85.2	81.9	3.30	25.786	
900.0	899.8	894.0	893.9	1.9	1.8	177.13	-81.5	33.1	95.1	91.4	3.71	25.619	SF
1,000.0	999.6	992.9	992.5	2.1	2.0	178.67	-88.4	33.1	108.5	104.4	4.13	26.306	
1,100.0	1,099.4	1,091.9	1,091.3	2.4	2.2	179.87	-95.3	33.1	122.1	117.5	4.54	26.860	
1,200.0	1,199.1	1,191.0	1,190.1	2.6	2.4	-179.17	-102.2	33.2	135.6	130.7	4.97	27.292	
1,300.0	1,298.9	1,290.0	1,288.9	2.8	2.7	-178.38	-109.1	33.2	149.2	143.8	5.40	27.634	
1,400.0	1,398.6	1,389.1	1,387.7	3.1	2.9	-177.73	-116.0	33.2	162.8	157.0	5.83	27.908	
1,500.0	1,498.4	1,488.1	1,486.5	3.3	3.1	-177.17	-122.9	33.3	176.5	170.2	6.27	28.133	
1,600.0	1,598.1	1,587.2	1,585.3	3.6	3.4	-176.70	-129.8	33.3	190.1	183.4	6.71	28.319	
1,700.0	1,697.9	1,686.2	1,684.2	3.8	3.6	-176.29	-136.7	33.3	203.8	196.6	7.16	28.474	
1,800.0	1,797.6	1,785.3	1,783.0	4.1	3.9	-175.93	-143.6	33.3	217.5	209.9	7.60	28.606	
1,900.0	1,897.4	1,884.3	1,881.8	4.3	4.1	-175.61	-150.6	33.4	231.1	223.1	8.05	28.718	
2,000.0	1,997.2	1,983.4	1,980.6	4.6	4.4	-175.33	-157.5	33.4	244.8	236.3	8.50	28.816	
2,100.0	2,096.9	2,082.4	2,079.4	4.8	4.6	-175.08	-164.4	33.4	258.5	249.6	8.94	28.900	
2,200.0	2,196.7	2,181.5	2,178.2	5.1	4.9	-174.85	-171.3	33.5	272.2	262.8	9.39	28.974	
2,300.0	2,296.4	2,280.6	2,277.0	5.4	5.1	-174.65	-178.2	33.5	285.9	276.1	9.85	29.040	
2,400.0	2,396.2	2,379.6	2,375.8	5.6	5.4	-174.46	-185.1	33.5	299.6	289.3	10.30	29.098	
2,500.0	2,495.9	2,478.7	2,474.7	5.9	5.6	-174.29	-192.0	33.6	313.3	302.6	10.75	29.150	
2,600.0	2,595.7	2,577.7	2,573.5	6.1	5.9	-174.14	-198.9	33.6	327.0	315.8	11.20	29.196	
2,700.0	2,695.5	2,676.8	2,672.3	6.4	6.1	-174.00	-205.8	33.6	340.7	329.1	11.65	29.238	
2,800.0	2,795.2	2,775.8	2,771.1	6.6	6.4	-173.86	-212.7	33.6	354.4	342.3	12.11	29.276	
2,900.0	2,895.0	2,874.9	2,869.9	6.9	6.7	-173.74	-219.6	33.7	368.1	355.6	12.56	29.310	
3,000.0	2,994.7	2,973.9	2,968.7	7.1	6.9	-173.63	-226.6	33.7	381.8	368.8	13.01	29.341	
3,100.0	3,094.5	3,073.0	3,067.5	7.4	7.2	-173.52	-233.5	33.7	395.6	382.1	13.47	29.370	
3,200.0	3,194.2	3,172.0	3,166.3	7.6	7.4	-173.43	-240.4	33.8	409.3	395.4	13.92	29.396	
3,300.0	3,294.0	3,271.1	3,265.1	7.9	7.7	-173.33	-247.3	33.8	423.0	408.6	14.38	29.421	
3,400.0	3,393.7	3,370.1	3,364.0	8.2	7.9	-173.25	-254.2	33.8	436.7	421.9	14.83	29.443	
3,500.0	3,493.5	3,469.2	3,462.8	8.4	8.2	-173.17	-261.1	33.9	450.4	435.1	15.29	29.464	
3,600.0	3,593.3	3,568.2	3,561.6	8.7	8.5	-173.09	-268.0	33.9	464.1	448.4	15.74	29.483	
3,700.0	3,693.0	3,667.3	3,660.4	8.9	8.7	-173.02	-274.9	33.9	477.9	461.7	16.20	29.501	
3,800.0	3,792.8	3,766.3	3,759.2	9.2	9.0	-172.95	-281.8	33.9	491.6	474.9	16.65	29.517	
3,900.0	3,892.5	3,865.4	3,858.0	9.4	9.2	-172.89	-288.7	34.0	505.3	488.2	17.11	29.533	
4,000.0	3,992.3	3,964.5	3,956.8	9.7	9.5	-172.83	-295.7	34.0	519.0	501.5	17.57	29.547	
4,100.0	4,092.0	4,063.5	4,055.6	9.9	9.8	-172.77	-302.6	34.0	532.7	514.7	18.02	29.561	
4,200.0	4,191.8	4,162.6	4,154.4	10.2	10.0	-172.71	-309.5	34.1	546.5	528.0	18.48	29.574	
4,300.0	4,291.6	4,261.6	4,253.3	10.5	10.3	-172.66	-316.4	34.1	560.2	541.3	18.93	29.586	
4,400.0	4,391.3	4,360.7	4,352.1	10.7	10.5	-172.61	-323.3	34.1	573.9	554.5	19.39	29.597	
4,500.0	4,491.1	4,459.7	4,450.9	11.0	10.8	-172.57	-330.2	34.2	587.6	567.8	19.85	29.608	
4,600.0	4,590.8	4,558.8	4,549.7	11.2	11.1	-172.52	-337.1	34.2	601.4	581.1	20.30	29.618	
4,700.0	4,690.6	4,657.8	4,648.5	11.5	11.3	-172.48	-344.0	34.2	615.1	594.3	20.76	29.628	
4,800.0	4,790.3	4,756.9	4,747.3	11.7	11.6	-172.44	-350.9	34.2	628.8	607.6	21.22	29.637	
4,900.0	4,890.1	4,855.9	4,846.1	12.0	11.8	-172.40	-357.8	34.3	642.5	620.9	21.67	29.646	
5,000.0	4,989.9	4,955.0	4,944.9	12.3	12.1	-172.36	-364.7	34.3	656.3	634.1	22.13	29.654	
5,100.0	5,089.6	5,054.0	5,043.7	12.5	12.4	-172.32	-371.7	34.3	670.0	647.4	22.59	29.662	

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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.4	5,153.1	5,142.6	12.8	12.6	-172.29	-378.6	34.4	683.7	660.7	23.04	29.669	
5,300.0	5,289.1	5,252.1	5,241.4	13.0	12.9	-172.25	-385.5	34.4	697.4	673.9	23.50	29.676	
5,400.0	5,388.9	5,351.2	5,340.2	13.3	13.2	-172.22	-392.4	34.4	711.2	687.2	23.96	29.683	
5,500.0	5,488.6	5,443.8	5,432.5	13.5	13.4	-172.19	-398.9	34.5	724.9	700.5	24.40	29.709	
5,600.0	5,588.0	5,484.6	5,473.1	13.8	13.5	-171.93	-403.7	34.5	746.7	722.3	24.41	30.585	
5,700.0	5,683.9	5,521.0	5,508.8	14.2	13.7	-171.11	-410.6	34.5	791.7	768.1	23.58	33.577	
5,800.0	5,772.8	5,550.0	5,536.9	14.8	13.8	-169.56	-417.9	34.5	857.5	835.5	22.01	38.957	
5,900.0	5,851.4	5,571.8	5,557.7	15.6	13.9	-166.46	-424.5	34.6	939.0	919.0	19.97	47.030	
6,000.0	5,916.8	5,600.0	5,584.1	16.6	14.0	-159.50	-434.2	34.6	1,031.5	1,013.0	18.50	55.750	
6,100.0	5,966.6	5,600.0	5,584.1	17.8	14.0	-129.08	-434.2	34.6	1,129.1	1,103.1	26.04	43.356	
6,200.0	5,998.9	5,600.0	5,584.1	19.1	14.0	-38.52	-434.2	34.6	1,228.6	1,206.1	22.48	54.655	
6,300.0	6,012.6	5,600.0	5,584.1	20.6	14.0	-16.15	-434.2	34.6	1,326.1	1,313.5	12.56	105.557	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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	138.58	-74.9	66.1	99.9				
100.0	100.0	100.0	100.0	0.1	0.1	138.58	-74.9	66.1	99.9	99.7	0.19	534.211	
200.0	200.0	200.0	200.0	0.3	0.3	138.58	-74.9	66.1	99.9	99.3	0.64	156.943	
300.0	300.0	300.0	300.0	0.5	0.5	138.58	-74.9	66.1	99.9	98.8	1.09	91.983	
400.0	400.0	400.0	400.0	0.8	0.8	138.58	-74.9	66.1	99.9	98.4	1.54	65.056	
500.0	500.0	500.0	500.0	1.0	1.0	138.58	-74.9	66.1	99.9	97.9	1.99	50.324	
600.0	600.0	600.0	600.0	1.2	1.2	138.58	-74.9	66.1	99.9	97.5	2.43	41.032	
700.0	700.0	700.0	700.0	1.4	1.4	138.58	-74.9	66.1	99.9	97.0	2.88	34.637	CC, ES
800.0	800.0	800.0	800.0	1.7	1.7	157.97	-74.9	66.1	101.5	98.2	3.33	30.454	
900.0	899.8	896.5	896.5	1.9	1.9	159.30	-76.5	66.5	107.9	104.2	3.75	28.777	
1,000.0	999.6	992.3	992.2	2.1	2.0	161.39	-81.1	67.8	119.1	115.0	4.15	28.685	SF
1,100.0	1,099.4	1,091.0	1,090.7	2.4	2.2	163.47	-87.7	69.7	132.3	127.7	4.57	28.965	
1,200.0	1,199.1	1,190.1	1,189.4	2.6	2.4	165.18	-94.4	71.6	145.6	140.6	4.98	29.208	
1,300.0	1,298.9	1,289.1	1,288.2	2.8	2.6	166.60	-101.0	73.5	159.0	153.6	5.41	29.399	
1,400.0	1,398.6	1,388.1	1,387.0	3.1	2.9	167.79	-107.7	75.3	172.4	166.6	5.84	29.552	
1,500.0	1,498.4	1,487.2	1,485.8	3.3	3.1	168.82	-114.3	77.2	186.0	179.7	6.27	29.675	
1,600.0	1,598.1	1,586.2	1,584.6	3.6	3.3	169.71	-121.0	79.1	199.6	192.9	6.70	29.776	
1,700.0	1,697.9	1,685.2	1,683.4	3.8	3.6	170.48	-127.6	81.0	213.2	206.1	7.14	29.858	
1,800.0	1,797.6	1,784.2	1,782.2	4.1	3.8	171.16	-134.3	82.8	226.9	219.3	7.58	29.928	
1,900.0	1,897.4	1,883.3	1,881.0	4.3	4.1	171.76	-140.9	84.7	240.6	232.6	8.02	29.987	
2,000.0	1,997.2	1,982.3	1,979.7	4.6	4.3	172.30	-147.6	86.6	254.3	245.8	8.47	30.038	
2,100.0	2,096.9	2,081.3	2,078.5	4.8	4.5	172.78	-154.2	88.5	268.0	259.1	8.91	30.081	
2,200.0	2,196.7	2,180.3	2,177.3	5.1	4.8	173.22	-160.9	90.3	281.8	272.4	9.36	30.118	
2,300.0	2,296.4	2,279.4	2,276.1	5.4	5.1	173.61	-167.5	92.2	295.6	285.8	9.80	30.151	
2,400.0	2,396.2	2,378.4	2,374.9	5.6	5.3	173.97	-174.2	94.1	309.4	299.1	10.25	30.179	
2,500.0	2,495.9	2,477.4	2,473.7	5.9	5.6	174.30	-180.8	96.0	323.2	312.5	10.70	30.204	
2,600.0	2,595.7	2,576.5	2,572.5	6.1	5.8	174.60	-187.5	97.8	337.0	325.8	11.15	30.227	
2,700.0	2,695.5	2,675.5	2,671.2	6.4	6.1	174.88	-194.1	99.7	350.8	339.2	11.60	30.246	
2,800.0	2,795.2	2,774.5	2,770.0	6.6	6.3	175.14	-200.8	101.6	364.6	352.5	12.05	30.264	
2,900.0	2,895.0	2,873.5	2,868.8	6.9	6.6	175.38	-207.4	103.5	378.4	365.9	12.50	30.280	
3,000.0	2,994.7	2,972.6	2,967.6	7.1	6.8	175.60	-214.1	105.3	392.3	379.3	12.95	30.294	
3,100.0	3,094.5	3,071.6	3,066.4	7.4	7.1	175.80	-220.7	107.2	406.1	392.7	13.40	30.307	
3,200.0	3,194.2	3,170.6	3,165.2	7.6	7.3	176.00	-227.4	109.1	419.9	406.1	13.85	30.319	
3,300.0	3,294.0	3,269.7	3,264.0	7.9	7.6	176.18	-234.0	111.0	433.8	419.5	14.30	30.329	
3,400.0	3,393.7	3,368.7	3,362.7	8.2	7.9	176.35	-240.7	112.8	447.6	432.9	14.75	30.339	
3,500.0	3,493.5	3,467.7	3,461.5	8.4	8.1	176.51	-247.3	114.7	461.5	446.3	15.21	30.348	
3,600.0	3,593.3	3,566.7	3,560.3	8.7	8.4	176.66	-254.0	116.6	475.3	459.7	15.66	30.356	
3,700.0	3,693.0	3,665.8	3,659.1	8.9	8.6	176.80	-260.6	118.5	489.2	473.1	16.11	30.363	
3,800.0	3,792.8	3,764.8	3,757.9	9.2	8.9	176.93	-267.3	120.3	503.1	486.5	16.56	30.370	
3,900.0	3,892.5	3,863.8	3,856.7	9.4	9.2	177.06	-273.9	122.2	516.9	499.9	17.02	30.377	
4,000.0	3,992.3	3,962.8	3,955.5	9.7	9.4	177.18	-280.6	124.1	530.8	513.3	17.47	30.382	
4,100.0	4,092.0	4,061.9	4,054.3	9.9	9.7	177.29	-287.2	126.0	544.7	526.8	17.92	30.388	
4,200.0	4,191.8	4,160.9	4,153.0	10.2	9.9	177.40	-293.8	127.8	558.6	540.2	18.38	30.393	
4,300.0	4,291.6	4,259.9	4,251.8	10.5	10.2	177.50	-300.5	129.7	572.4	553.6	18.83	30.398	
4,400.0	4,391.3	4,359.0	4,350.6	10.7	10.4	177.60	-307.1	131.6	586.3	567.0	19.29	30.402	
4,500.0	4,491.1	4,458.0	4,449.4	11.0	10.7	177.69	-313.8	133.5	600.2	580.4	19.74	30.406	
4,600.0	4,590.8	4,557.0	4,548.2	11.2	11.0	177.78	-320.4	135.3	614.1	593.9	20.19	30.410	
4,700.0	4,690.6	4,656.0	4,647.0	11.5	11.2	177.87	-327.1	137.2	627.9	607.3	20.65	30.413	
4,800.0	4,790.3	4,755.1	4,745.8	11.7	11.5	177.95	-333.7	139.1	641.8	620.7	21.10	30.417	
4,900.0	4,890.1	4,854.1	4,844.5	12.0	11.7	178.03	-340.4	141.0	655.7	634.2	21.56	30.420	
5,000.0	4,989.9	4,953.1	4,943.3	12.3	12.0	178.10	-347.0	142.8	669.6	647.6	22.01	30.423	
5,100.0	5,089.6	5,052.1	5,042.1	12.5	12.3	178.18	-353.7	144.7	683.5	661.0	22.46	30.426	

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-0202B
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-0202B	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

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

Offset Site Error: 0.0 ft

Survey Program: 0-ISCWSA MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,189.4	5,151.2	5,140.9	12.8	12.5	178.25	-360.3	146.6	697.4	674.5	22.92	30.428	
5,300.0	5,289.1	5,250.2	5,239.7	13.0	12.8	178.31	-367.0	148.5	711.3	687.9	23.37	30.431	
5,400.0	5,388.9	5,349.2	5,338.5	13.3	13.1	178.38	-373.6	150.3	725.1	701.3	23.83	30.433	
5,500.0	5,488.6	5,448.3	5,437.3	13.5	13.3	178.44	-380.3	152.2	739.0	714.8	24.28	30.435	
5,600.0	5,588.0	5,540.0	5,528.8	13.8	13.6	178.46	-386.4	153.9	756.4	732.0	24.40	31.005	
5,700.0	5,683.9	5,579.9	5,568.4	14.2	13.7	178.39	-390.6	155.1	794.4	770.9	23.53	33.765	
5,800.0	5,772.8	5,600.0	5,588.3	14.8	13.7	178.18	-393.8	156.0	854.9	833.1	21.84	39.149	
5,900.0	5,851.4	5,633.9	5,621.3	15.6	13.9	177.83	-400.8	158.0	932.5	913.0	19.49	47.849	
6,000.0	5,916.8	5,650.0	5,636.9	16.6	13.9	176.90	-404.9	159.1	1,022.4	1,005.8	16.58	61.677	
6,100.0	5,966.6	5,650.0	5,636.9	17.8	13.9	172.56	-404.9	159.1	1,119.5	1,105.7	13.76	81.334	
6,200.0	5,998.9	5,650.0	5,636.9	19.1	13.9	12.67	-404.9	159.1	1,219.3	1,207.0	12.27	99.385	
6,300.0	6,012.6	5,650.0	5,636.9	20.6	13.9	3.29	-404.9	159.1	1,317.9	1,309.4	8.48	155.348	

Company:	Whiting Petroleum Corporation	**Local Co-ordinate Reference:**	Well Razor #11E-0202B
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-0202B	**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-0202B
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.07°