

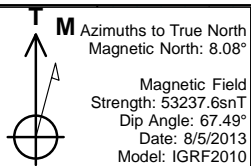


Project: Weld County, CO
Site: S12-T10N-R58W
Well: Razor Federal #12H-1313A
Wellbore: HZ
Design: Plan #1



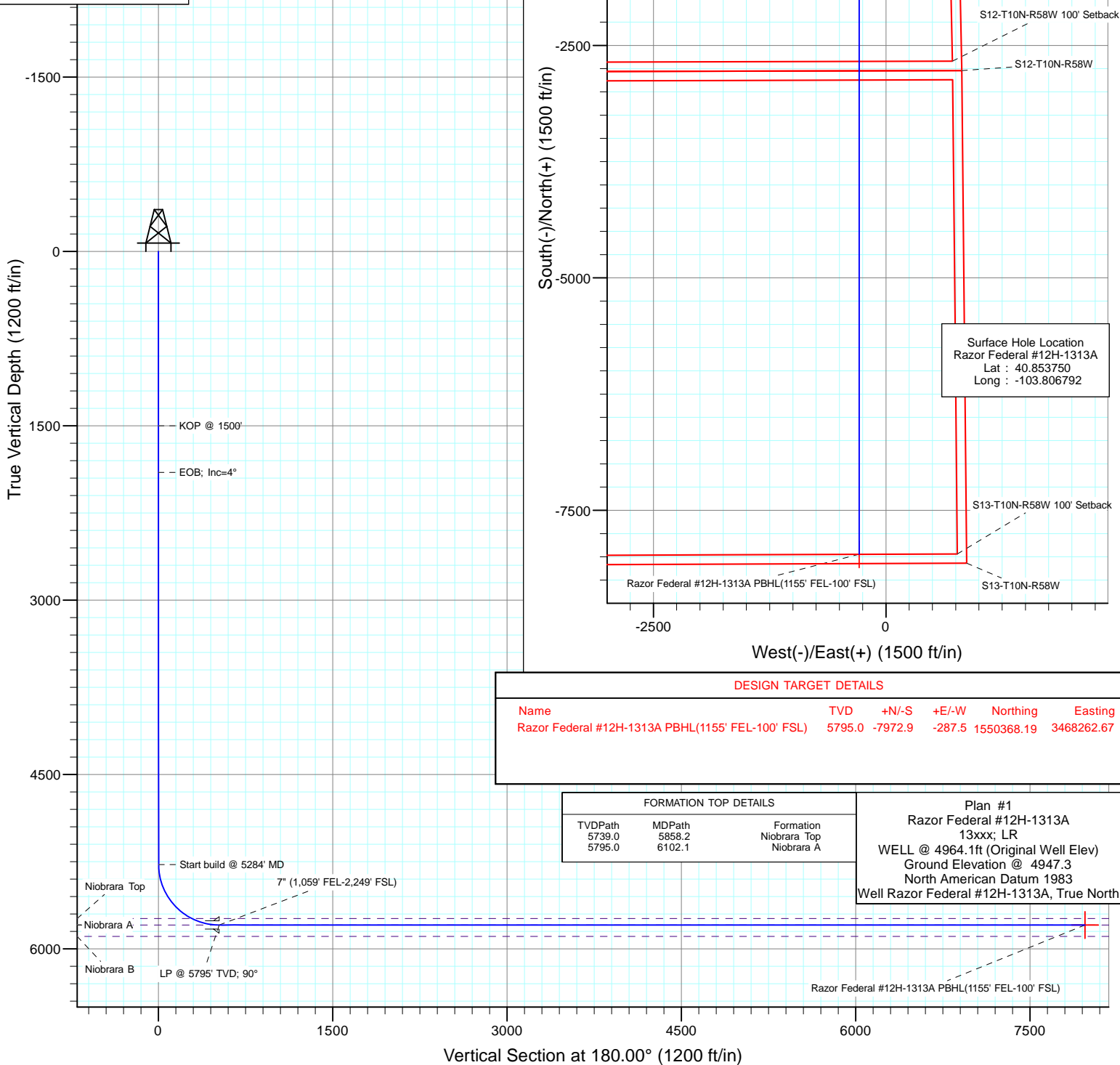
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	KOP @ 1500'
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	EOB; Inc=4°
3	1901.7	4.02	269.53	1901.4	-0.1	-14.1	1.00	269.53	0.1	Start build @ 5284' MD
4	5284.3	4.02	269.53	5275.7	-2.0	-251.1	0.00	0.00	2.0	LP @ 5795' TVD; 90°
5	6102.2	90.00	180.00	5795.0	-522.9	-287.5	11.00	-89.54	522.9	TD at 13552.2
6	13552.2	90.00	180.00	5795.0	-7972.9	-287.5	0.00	0.00	7972.9	



M Azimuths to True North
Magnetic North: 8.08°

Magnetic Field
Strength: 53237.6snT
Dip Angle: 67.49°
Date: 8/5/2013
Model: IGRF2010



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Razor Federal #12H-1313A PBHL(1155' FEL-100' FSL)	5795.0	-7972.9	-287.5	1550368.19	3468262.67

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5739.0	5858.2	Niobrara Top
5795.0	6102.1	Niobrara A

Plan #1
Razor Federal #12H-1313A
13xxx; LR
WELL @ 4964.1ft (Original Well Elev)
Ground Elevation @ 4947.3
North American Datum 1983
Well Razor Federal #12H-1313A, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site:	S12-T10N-R58W	North Reference:	True
Well:	Razor Federal #12H-1313A	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		S12-T10N-R58W			
Site Position:		Northing:	1,558,541.09 ft	Latitude:	40.854456
From:	Lat/Long	Easting:	3,465,183.08 ft	Longitude:	-103.818397
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	1.09 °

Well	Razor Federal #12H-1313A					
Well Position	+N/-S	0.0 ft	Northing:	1,558,345.14 ft	Latitude:	40.853750
	+E/-W	0.0 ft	Easting:	3,468,397.92 ft	Longitude:	-103.806792
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,947.3 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	8/5/2013	8.08	67.49	53,238

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	180.00

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,901.7	4.02	269.53	1,901.4	-0.1	-14.1	1.00	1.00	0.00	269.53	
5,284.3	4.02	269.53	5,275.7	-2.0	-251.1	0.00	0.00	0.00	0.00	
6,102.2	90.00	180.00	5,795.0	-522.9	-287.5	11.00	10.51	-10.95	-89.54	
13,552.2	90.00	180.00	5,795.0	-7,972.9	-287.5	0.00	0.00	0.00	0.00	Razor Federal #12H-

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site:	S12-T10N-R58W	North Reference:	True
Well:	Razor Federal #12H-1313A	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 1500'
1,600.0	1.00	269.53	1,600.0	0.0	-0.9	0.0	1.00	1.00	
1,700.0	2.00	269.53	1,700.0	0.0	-3.5	0.0	1.00	1.00	
1,800.0	3.00	269.53	1,799.9	-0.1	-7.9	0.1	1.00	1.00	
1,901.7	4.02	269.53	1,901.4	-0.1	-14.1	0.1	1.00	1.00	EOB; Inc=4°
2,000.0	4.02	269.53	1,999.4	-0.2	-21.0	0.2	0.00	0.00	
2,100.0	4.02	269.53	2,099.2	-0.2	-28.0	0.2	0.00	0.00	
2,200.0	4.02	269.53	2,198.9	-0.3	-35.0	0.3	0.00	0.00	
2,300.0	4.02	269.53	2,298.7	-0.3	-42.0	0.3	0.00	0.00	
2,400.0	4.02	269.53	2,398.4	-0.4	-49.0	0.4	0.00	0.00	
2,500.0	4.02	269.53	2,498.2	-0.5	-56.0	0.5	0.00	0.00	
2,600.0	4.02	269.53	2,598.0	-0.5	-63.0	0.5	0.00	0.00	
2,700.0	4.02	269.53	2,697.7	-0.6	-70.0	0.6	0.00	0.00	
2,800.0	4.02	269.53	2,797.5	-0.6	-77.0	0.6	0.00	0.00	
2,900.0	4.02	269.53	2,897.2	-0.7	-84.0	0.7	0.00	0.00	
3,000.0	4.02	269.53	2,997.0	-0.7	-91.0	0.7	0.00	0.00	
3,100.0	4.02	269.53	3,096.7	-0.8	-98.0	0.8	0.00	0.00	
3,200.0	4.02	269.53	3,196.5	-0.9	-105.0	0.9	0.00	0.00	
3,300.0	4.02	269.53	3,296.2	-0.9	-112.0	0.9	0.00	0.00	
3,400.0	4.02	269.53	3,396.0	-1.0	-119.0	1.0	0.00	0.00	
3,500.0	4.02	269.53	3,495.7	-1.0	-126.0	1.0	0.00	0.00	
3,600.0	4.02	269.53	3,595.5	-1.1	-133.1	1.1	0.00	0.00	
3,700.0	4.02	269.53	3,695.3	-1.1	-140.1	1.1	0.00	0.00	
3,800.0	4.02	269.53	3,795.0	-1.2	-147.1	1.2	0.00	0.00	
3,900.0	4.02	269.53	3,894.8	-1.3	-154.1	1.3	0.00	0.00	
4,000.0	4.02	269.53	3,994.5	-1.3	-161.1	1.3	0.00	0.00	
4,100.0	4.02	269.53	4,094.3	-1.4	-168.1	1.4	0.00	0.00	
4,200.0	4.02	269.53	4,194.0	-1.4	-175.1	1.4	0.00	0.00	
4,300.0	4.02	269.53	4,293.8	-1.5	-182.1	1.5	0.00	0.00	
4,400.0	4.02	269.53	4,393.5	-1.5	-189.1	1.5	0.00	0.00	
4,500.0	4.02	269.53	4,493.3	-1.6	-196.1	1.6	0.00	0.00	
4,600.0	4.02	269.53	4,593.0	-1.7	-203.1	1.7	0.00	0.00	
4,700.0	4.02	269.53	4,692.8	-1.7	-210.1	1.7	0.00	0.00	
4,800.0	4.02	269.53	4,792.5	-1.8	-217.1	1.8	0.00	0.00	
4,900.0	4.02	269.53	4,892.3	-1.8	-224.1	1.8	0.00	0.00	
5,000.0	4.02	269.53	4,992.1	-1.9	-231.1	1.9	0.00	0.00	
5,100.0	4.02	269.53	5,091.8	-1.9	-238.1	1.9	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site:	S12-T10N-R58W	North Reference:	True
Well:	Razor Federal #12H-1313A	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	4.02	269.53	5,191.6	-2.0	-245.1	2.0	0.00	0.00	
5,284.3	4.02	269.53	5,275.7	-2.0	-251.1	2.0	0.00	0.00	Start build @ 5284' MD
5,300.0	4.38	246.38	5,291.3	-2.3	-252.2	2.3	11.00	2.34	
5,350.0	8.29	208.83	5,341.0	-6.2	-255.6	6.2	11.00	7.81	
5,400.0	13.36	197.20	5,390.1	-14.9	-259.1	14.9	11.00	10.15	
5,450.0	18.68	191.99	5,438.2	-28.3	-262.5	28.3	11.00	10.63	
5,500.0	24.07	189.04	5,484.7	-46.2	-265.7	46.2	11.00	10.79	
5,550.0	29.50	187.13	5,529.3	-68.5	-268.9	68.5	11.00	10.86	
5,600.0	34.96	185.77	5,571.6	-95.0	-271.8	95.0	11.00	10.90	
5,650.0	40.42	184.73	5,611.2	-125.4	-274.6	125.4	11.00	10.93	
5,700.0	45.89	183.90	5,647.6	-159.5	-277.2	159.5	11.00	10.94	
5,750.0	51.37	183.22	5,680.7	-196.9	-279.5	196.9	11.00	10.95	
5,800.0	56.85	182.63	5,710.0	-237.4	-281.6	237.4	11.00	10.96	
5,850.0	62.33	182.11	5,735.3	-280.4	-283.3	280.4	11.00	10.96	
5,858.2	63.23	182.03	5,739.0	-287.7	-283.6	287.7	11.00	10.97	Niobrara Top
5,900.0	67.81	181.64	5,756.3	-325.7	-284.8	325.7	11.00	10.97	
5,950.0	73.30	181.21	5,773.0	-372.8	-286.0	372.8	11.00	10.97	
6,000.0	78.78	180.80	5,785.0	-421.3	-286.8	421.3	11.00	10.97	
6,050.0	84.27	180.40	5,792.4	-470.8	-287.3	470.8	11.00	10.97	
6,102.1	89.98	180.00	5,795.0	-522.7	-287.5	522.7	11.00	10.97	Niobrara A
6,102.2	90.00	180.00	5,795.0	-522.9	-287.5	522.9	11.00	10.97	LP @ 5795' TVD; 90° - 7" (1,059' FEL-2,249' FS
6,200.0	90.00	180.00	5,795.0	-620.7	-287.5	620.7	0.00	0.00	
6,300.0	90.00	180.00	5,795.0	-720.7	-287.5	720.7	0.00	0.00	
6,400.0	90.00	180.00	5,795.0	-820.7	-287.5	820.7	0.00	0.00	
6,500.0	90.00	180.00	5,795.0	-920.7	-287.5	920.7	0.00	0.00	
6,600.0	90.00	180.00	5,795.0	-1,020.7	-287.5	1,020.7	0.00	0.00	
6,700.0	90.00	180.00	5,795.0	-1,120.7	-287.5	1,120.7	0.00	0.00	
6,800.0	90.00	180.00	5,795.0	-1,220.7	-287.5	1,220.7	0.00	0.00	
6,900.0	90.00	180.00	5,795.0	-1,320.7	-287.5	1,320.7	0.00	0.00	
7,000.0	90.00	180.00	5,795.0	-1,420.7	-287.5	1,420.7	0.00	0.00	
7,100.0	90.00	180.00	5,795.0	-1,520.7	-287.5	1,520.7	0.00	0.00	
7,200.0	90.00	180.00	5,795.0	-1,620.7	-287.5	1,620.7	0.00	0.00	
7,300.0	90.00	180.00	5,795.0	-1,720.7	-287.5	1,720.7	0.00	0.00	
7,400.0	90.00	180.00	5,795.0	-1,820.7	-287.5	1,820.7	0.00	0.00	
7,500.0	90.00	180.00	5,795.0	-1,920.7	-287.5	1,920.7	0.00	0.00	
7,600.0	90.00	180.00	5,795.0	-2,020.7	-287.5	2,020.7	0.00	0.00	
7,700.0	90.00	180.00	5,795.0	-2,120.7	-287.5	2,120.7	0.00	0.00	
7,800.0	90.00	180.00	5,795.0	-2,220.7	-287.5	2,220.7	0.00	0.00	
7,900.0	90.00	180.00	5,795.0	-2,320.7	-287.5	2,320.7	0.00	0.00	
8,000.0	90.00	180.00	5,795.0	-2,420.7	-287.5	2,420.7	0.00	0.00	
8,100.0	90.00	180.00	5,795.0	-2,520.7	-287.5	2,520.7	0.00	0.00	
8,200.0	90.00	180.00	5,795.0	-2,620.7	-287.5	2,620.7	0.00	0.00	
8,300.0	90.00	180.00	5,795.0	-2,720.7	-287.5	2,720.7	0.00	0.00	
8,400.0	90.00	180.00	5,795.0	-2,820.7	-287.5	2,820.7	0.00	0.00	
8,500.0	90.00	180.00	5,795.0	-2,920.7	-287.5	2,920.7	0.00	0.00	
8,600.0	90.00	180.00	5,795.0	-3,020.7	-287.5	3,020.7	0.00	0.00	
8,700.0	90.00	180.00	5,795.0	-3,120.7	-287.5	3,120.7	0.00	0.00	
8,800.0	90.00	180.00	5,795.0	-3,220.7	-287.5	3,220.7	0.00	0.00	
8,900.0	90.00	180.00	5,795.0	-3,320.7	-287.5	3,320.7	0.00	0.00	
9,000.0	90.00	180.00	5,795.0	-3,420.7	-287.5	3,420.7	0.00	0.00	
9,100.0	90.00	180.00	5,795.0	-3,520.7	-287.5	3,520.7	0.00	0.00	
9,200.0	90.00	180.00	5,795.0	-3,620.7	-287.5	3,620.7	0.00	0.00	

Cathedral Energy Services

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Site:	S12-T10N-R58W	North Reference:	True
Well:	Razor Federal #12H-1313A	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,300.0	90.00	180.00	5,795.0	-3,720.7	-287.5	3,720.7	0.00	0.00	
9,400.0	90.00	180.00	5,795.0	-3,820.7	-287.5	3,820.7	0.00	0.00	
9,500.0	90.00	180.00	5,795.0	-3,920.7	-287.5	3,920.7	0.00	0.00	
9,600.0	90.00	180.00	5,795.0	-4,020.7	-287.5	4,020.7	0.00	0.00	
9,700.0	90.00	180.00	5,795.0	-4,120.7	-287.5	4,120.7	0.00	0.00	
9,800.0	90.00	180.00	5,795.0	-4,220.7	-287.5	4,220.7	0.00	0.00	
9,900.0	90.00	180.00	5,795.0	-4,320.7	-287.5	4,320.7	0.00	0.00	
10,000.0	90.00	180.00	5,795.0	-4,420.7	-287.5	4,420.7	0.00	0.00	
10,100.0	90.00	180.00	5,795.0	-4,520.7	-287.5	4,520.7	0.00	0.00	
10,200.0	90.00	180.00	5,795.0	-4,620.7	-287.5	4,620.7	0.00	0.00	
10,300.0	90.00	180.00	5,795.0	-4,720.7	-287.5	4,720.7	0.00	0.00	
10,400.0	90.00	180.00	5,795.0	-4,820.7	-287.5	4,820.7	0.00	0.00	
10,500.0	90.00	180.00	5,795.0	-4,920.7	-287.5	4,920.7	0.00	0.00	
10,600.0	90.00	180.00	5,795.0	-5,020.7	-287.5	5,020.7	0.00	0.00	
10,700.0	90.00	180.00	5,795.0	-5,120.7	-287.5	5,120.7	0.00	0.00	
10,800.0	90.00	180.00	5,795.0	-5,220.7	-287.5	5,220.7	0.00	0.00	
10,900.0	90.00	180.00	5,795.0	-5,320.7	-287.5	5,320.7	0.00	0.00	
11,000.0	90.00	180.00	5,795.0	-5,420.7	-287.5	5,420.7	0.00	0.00	
11,100.0	90.00	180.00	5,795.0	-5,520.7	-287.5	5,520.7	0.00	0.00	
11,200.0	90.00	180.00	5,795.0	-5,620.7	-287.5	5,620.7	0.00	0.00	
11,300.0	90.00	180.00	5,795.0	-5,720.7	-287.5	5,720.7	0.00	0.00	
11,400.0	90.00	180.00	5,795.0	-5,820.7	-287.5	5,820.7	0.00	0.00	
11,500.0	90.00	180.00	5,795.0	-5,920.7	-287.5	5,920.7	0.00	0.00	
11,600.0	90.00	180.00	5,795.0	-6,020.7	-287.5	6,020.7	0.00	0.00	
11,700.0	90.00	180.00	5,795.0	-6,120.7	-287.5	6,120.7	0.00	0.00	
11,800.0	90.00	180.00	5,795.0	-6,220.7	-287.5	6,220.7	0.00	0.00	
11,900.0	90.00	180.00	5,795.0	-6,320.7	-287.5	6,320.7	0.00	0.00	
12,000.0	90.00	180.00	5,795.0	-6,420.7	-287.5	6,420.7	0.00	0.00	
12,100.0	90.00	180.00	5,795.0	-6,520.7	-287.5	6,520.7	0.00	0.00	
12,200.0	90.00	180.00	5,795.0	-6,620.7	-287.5	6,620.7	0.00	0.00	
12,300.0	90.00	180.00	5,795.0	-6,720.7	-287.5	6,720.7	0.00	0.00	
12,400.0	90.00	180.00	5,795.0	-6,820.7	-287.5	6,820.7	0.00	0.00	
12,500.0	90.00	180.00	5,795.0	-6,920.7	-287.5	6,920.7	0.00	0.00	
12,600.0	90.00	180.00	5,795.0	-7,020.7	-287.5	7,020.7	0.00	0.00	
12,700.0	90.00	180.00	5,795.0	-7,120.7	-287.5	7,120.7	0.00	0.00	
12,800.0	90.00	180.00	5,795.0	-7,220.7	-287.5	7,220.7	0.00	0.00	
12,900.0	90.00	180.00	5,795.0	-7,320.7	-287.5	7,320.7	0.00	0.00	
13,000.0	90.00	180.00	5,795.0	-7,420.7	-287.5	7,420.7	0.00	0.00	
13,100.0	90.00	180.00	5,795.0	-7,520.7	-287.5	7,520.7	0.00	0.00	
13,200.0	90.00	180.00	5,795.0	-7,620.7	-287.5	7,620.7	0.00	0.00	
13,300.0	90.00	180.00	5,795.0	-7,720.7	-287.5	7,720.7	0.00	0.00	
13,400.0	90.00	180.00	5,795.0	-7,820.7	-287.5	7,820.7	0.00	0.00	
13,500.0	90.00	180.00	5,795.0	-7,920.7	-287.5	7,920.7	0.00	0.00	
13,552.2	90.00	180.00	5,795.0	-7,972.9	-287.5	7,972.9	0.00	0.00	TD at 13552.2

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site:	S12-T10N-R58W	North Reference:	True
Well:	Razor Federal #12H-1313A	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Razor Federal #12H-131	0.00	0.00	5,795.0	-7,972.9	-287.5	1,550,368.19	3,468,262.67	40.831867	-103.807831
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)	Name		(in)	(in)
6,102.2	5,795.0	7" (1,059' FEL-2,249' FSL)		0.000	0.000

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(ft)	(ft)	Name	Lithology	(°)	(°)
5,858.2	5,739.0	Niobrara Top		0.00	
6,102.1	5,795.0	Niobrara A		0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,500.0	1,500.0	0.0	0.0	KOP @ 1500'	
1,901.7	1,901.4	-0.1	-14.1	EOB; Inc=4°	
5,284.3	5,275.7	-2.0	-251.1	Start build @ 5284' MD	
6,102.2	5,795.0	-522.9	-287.5	LP @ 5795' TVD; 90°	
13,552.2	5,795.0	-7,972.9	-287.5	TD at 13552.2	

Whiting Petroleum Corporation

Weld County, CO

S12-T10N-R58W

Razor Federal #12H-1313A

Hz

Plan #1

Anticollision Report

07 August, 2013

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	8/7/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	13,552.2	Plan #1 (Hz)	ISCWSA MWD	MWD - ISCWSA	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S12-T10N-R58W						
ALLAN 1 (EXISTING) - DAVIS OIL WELL - NO SURVEY						Out of range
Razor #12G-1309A - HZ - Plan #1						Out of range
Razor #12G-1310B - HZ - Plan #1						Out of range
Razor #12G-1311A - HZ - Plan #1						Out of range
Razor #12G-1312B - HZ - Plan #1	7,376.7	7,258.1	347.3	278.7	5.065	CC
Razor #12G-1312B - HZ - Plan #1	13,552.2	13,433.6	347.5	56.7	1.195	Level 2, ES, SF
Razor #12H-0113A - Hz - Plan #1	500.0	500.0	75.1	73.1	37.809	CC
Razor #12H-0113A - Hz - Plan #1	800.0	799.7	75.5	72.2	22.944	ES
Razor #12H-0113A - Hz - Plan #1	5,300.0	5,295.2	172.3	148.0	7.079	SF
Razor #12H-0115A - Hz - Plan #1	1,500.0	1,500.0	82.1	75.6	12.664	CC
Razor #12H-0115A - Hz - Plan #1	1,600.0	1,600.0	82.4	75.5	11.919	ES
Razor #12H-0115A - Hz - Plan #1	2,200.0	2,198.9	101.6	92.1	10.678	SF
Razor #12H-0116B - Hz - Plan #1	500.0	500.0	100.0	98.1	50.393	CC, ES
Razor #12H-0116B - Hz - Plan #1	1,500.0	1,490.5	152.8	146.2	23.312	SF
RAZOR 12-0141H (EXISTING) - WHTING WELL - SURV	1,002.2	1,002.6	159.7	155.5	38.491	CC
RAZOR 12-0141H (EXISTING) - WHTING WELL - SURV	1,300.0	1,300.0	159.9	154.5	29.432	ES
RAZOR 12-0141H (EXISTING) - WHTING WELL - SURV	5,100.0	5,092.8	347.4	325.7	15.985	SF
Razor Federal #12H-1314B - Hz - Plan #1	1,500.0	1,500.0	33.2	26.7	5.123	CC, ES
Razor Federal #12H-1314B - Hz - Plan #1	13,552.2	13,641.6	344.1	48.0	1.162	Level 2, SF
Razor Federal #12H-1315A - Hz - Plan #1	1,200.0	1,200.0	66.1	61.0	12.884	CC, ES
Razor Federal #12H-1315A - Hz - Plan #1	1,500.0	1,496.3	73.9	67.5	11.510	SF
Razor Federal #12H-1316B - Hz - Plan #1	500.0	500.0	99.3	97.3	50.030	CC, ES
Razor Federal #12H-1316B - Hz - Plan #1	1,500.0	1,485.3	171.8	165.1	25.858	SF

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor #12G-1312B - HZ - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
6,600.0	5,795.0	6,616.4	5,910.8	23.7	27.4	104.28	-1,166.8	-718.3	467.9	421.3	46.61	10.040	
6,700.0	5,795.0	6,700.0	5,910.8	25.3	28.7	105.12	-1,246.5	-693.2	438.7	389.4	49.28	8.902	
6,800.0	5,795.0	6,773.3	5,910.8	26.9	29.9	105.83	-1,317.3	-674.1	413.2	361.4	51.87	7.967	
6,900.0	5,795.0	6,854.4	5,910.8	28.6	31.3	106.56	-1,396.3	-656.1	391.9	337.3	54.60	7.177	
7,000.0	5,795.0	6,936.9	5,910.8	30.3	32.6	107.22	-1,477.5	-641.2	374.6	317.3	57.39	6.528	
7,100.0	5,795.0	7,020.6	5,910.8	32.0	34.0	107.76	-1,560.4	-629.8	361.6	301.3	60.25	6.001	
7,200.0	5,795.0	7,100.0	5,910.8	33.8	35.2	108.13	-1,639.4	-622.3	352.7	289.6	63.10	5.590	
7,300.0	5,795.0	7,190.2	5,910.8	35.6	36.6	108.36	-1,729.5	-617.8	348.1	281.9	66.18	5.260	
7,376.7	5,795.0	7,258.1	5,910.8	36.9	37.7	108.40	-1,797.4	-617.1	347.3	278.7	68.57	5.065 CC	
7,400.0	5,795.0	7,281.4	5,910.8	37.4	38.1	108.40	-1,820.7	-617.1	347.3	278.0	69.35	5.008	
7,500.0	5,795.0	7,381.4	5,910.8	39.1	39.7	108.40	-1,920.7	-617.1	347.3	274.6	72.72	4.776	
7,600.0	5,795.0	7,481.4	5,910.8	41.0	41.3	108.40	-2,020.7	-617.1	347.3	271.2	76.12	4.562	
7,700.0	5,795.0	7,581.4	5,910.8	42.8	43.0	108.40	-2,120.7	-617.1	347.3	267.8	79.55	4.366	
7,800.0	5,795.0	7,681.4	5,910.8	44.6	44.6	108.40	-2,220.7	-617.1	347.3	264.3	83.00	4.185	
7,900.0	5,795.0	7,781.4	5,910.9	46.4	46.3	108.40	-2,320.7	-617.1	347.3	260.9	86.47	4.017	
8,000.0	5,795.0	7,881.4	5,910.9	48.3	48.1	108.40	-2,420.7	-617.1	347.3	257.4	89.95	3.861	
8,100.0	5,795.0	7,981.4	5,910.9	50.1	49.8	108.40	-2,520.7	-617.1	347.3	253.9	93.45	3.717	
8,200.0	5,795.0	8,081.4	5,910.9	52.0	51.5	108.40	-2,620.7	-617.1	347.3	250.4	96.96	3.582	
8,300.0	5,795.0	8,181.4	5,910.9	53.8	53.3	108.40	-2,720.7	-617.1	347.3	246.8	100.49	3.456	
8,400.0	5,795.0	8,281.4	5,910.9	55.7	55.0	108.40	-2,820.7	-617.1	347.3	243.3	104.02	3.339	
8,500.0	5,795.0	8,381.4	5,910.9	57.6	56.8	108.40	-2,920.7	-617.1	347.3	239.8	107.57	3.229	
8,600.0	5,795.0	8,481.4	5,910.9	59.4	58.6	108.40	-3,020.7	-617.1	347.3	236.2	111.12	3.126	
8,700.0	5,795.0	8,581.4	5,910.9	61.3	60.4	108.40	-3,120.7	-617.1	347.3	232.7	114.68	3.029	
8,800.0	5,795.0	8,681.4	5,910.9	63.2	62.2	108.41	-3,220.7	-617.1	347.3	229.1	118.25	2.937	
8,900.0	5,795.0	8,781.4	5,910.9	65.1	64.0	108.41	-3,320.7	-617.1	347.3	225.5	121.82	2.851	
9,000.0	5,795.0	8,881.4	5,910.9	66.9	65.8	108.41	-3,420.7	-617.1	347.3	221.9	125.40	2.770	
9,100.0	5,795.0	8,981.4	5,910.9	68.8	67.6	108.41	-3,520.7	-617.1	347.3	218.4	128.99	2.693	
9,200.0	5,795.0	9,081.4	5,910.9	70.7	69.5	108.41	-3,620.7	-617.1	347.4	214.8	132.58	2.620	
9,300.0	5,795.0	9,181.4	5,910.9	72.6	71.3	108.41	-3,720.7	-617.1	347.4	211.2	136.17	2.551	
9,400.0	5,795.0	9,281.4	5,910.9	74.5	73.1	108.41	-3,820.7	-617.1	347.4	207.6	139.77	2.485	
9,500.0	5,795.0	9,381.4	5,910.9	76.4	75.0	108.41	-3,920.7	-617.1	347.4	204.0	143.37	2.423	
9,600.0	5,795.0	9,481.4	5,910.9	78.3	76.8	108.41	-4,020.7	-617.1	347.4	200.4	146.98	2.363	
9,700.0	5,795.0	9,581.4	5,910.9	80.2	78.7	108.41	-4,120.7	-617.1	347.4	196.8	150.59	2.307	
9,800.0	5,795.0	9,681.4	5,910.9	82.1	80.5	108.41	-4,220.7	-617.1	347.4	193.2	154.20	2.253	
9,900.0	5,795.0	9,781.4	5,910.9	83.9	82.4	108.41	-4,320.7	-617.1	347.4	189.5	157.82	2.201	
10,000.0	5,795.0	9,881.4	5,910.9	85.8	84.2	108.41	-4,420.7	-617.1	347.4	185.9	161.44	2.152	
10,100.0	5,795.0	9,981.4	5,910.9	87.7	86.1	108.41	-4,520.7	-617.1	347.4	182.3	165.06	2.105	
10,200.0	5,795.0	10,081.4	5,910.9	89.6	87.9	108.41	-4,620.7	-617.1	347.4	178.7	168.68	2.059	
10,300.0	5,795.0	10,181.4	5,910.9	91.5	89.8	108.41	-4,720.7	-617.1	347.4	175.1	172.31	2.016	
10,400.0	5,795.0	10,281.4	5,910.9	93.4	91.7	108.41	-4,820.7	-617.1	347.4	171.4	175.94	1.974	
10,500.0	5,795.0	10,381.4	5,910.9	95.3	93.5	108.41	-4,920.7	-617.1	347.4	167.8	179.57	1.935	
10,600.0	5,795.0	10,481.4	5,910.9	97.2	95.4	108.41	-5,020.7	-617.1	347.4	164.2	183.20	1.896	
10,700.0	5,795.0	10,581.4	5,910.9	99.2	97.3	108.41	-5,120.7	-617.1	347.4	160.6	186.83	1.859	
10,800.0	5,795.0	10,681.4	5,910.9	101.1	99.2	108.41	-5,220.7	-617.1	347.4	156.9	190.47	1.824	
10,900.0	5,795.0	10,781.4	5,910.9	103.0	101.0	108.41	-5,320.7	-617.1	347.4	153.3	194.11	1.790	
11,000.0	5,795.0	10,881.4	5,910.9	104.9	102.9	108.41	-5,420.7	-617.1	347.4	149.7	197.74	1.757	
11,100.0	5,795.0	10,981.4	5,910.9	106.8	104.8	108.41	-5,520.7	-617.1	347.4	146.0	201.38	1.725	
11,200.0	5,795.0	11,081.4	5,910.9	108.7	106.7	108.41	-5,620.7	-617.1	347.4	142.4	205.03	1.694	
11,300.0	5,795.0	11,181.4	5,910.9	110.6	108.6	108.41	-5,720.7	-617.1	347.4	138.7	208.67	1.665	
11,400.0	5,795.0	11,281.4	5,911.0	112.5	110.4	108.41	-5,820.7	-617.1	347.4	135.1	212.31	1.636	
11,500.0	5,795.0	11,381.4	5,911.0	114.4	112.3	108.41	-5,920.7	-617.1	347.4	131.5	215.96	1.609	
11,600.0	5,795.0	11,481.4	5,911.0	116.3	114.2	108.42	-6,020.7	-617.2	347.4	127.8	219.60	1.582	

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor #12G-1312B - HZ - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
11,700.0	5,795.0	11,581.4	5,911.0	118.2	116.1	108.42	-6,120.7	-617.2	347.4	124.2	223.25	1.556		
11,800.0	5,795.0	11,681.4	5,911.0	120.1	118.0	108.42	-6,220.7	-617.2	347.4	120.5	226.89	1.531		
11,900.0	5,795.0	11,781.4	5,911.0	122.0	119.9	108.42	-6,320.7	-617.2	347.4	116.9	230.54	1.507		
12,000.0	5,795.0	11,881.4	5,911.0	123.9	121.8	108.42	-6,420.7	-617.2	347.4	113.2	234.19	1.483	Level 3	
12,100.0	5,795.0	11,981.4	5,911.0	125.9	123.7	108.42	-6,520.7	-617.2	347.4	109.6	237.84	1.461	Level 3	
12,200.0	5,795.0	12,081.4	5,911.0	127.8	125.6	108.42	-6,620.7	-617.2	347.4	105.9	241.49	1.439	Level 3	
12,300.0	5,795.0	12,181.4	5,911.0	129.7	127.5	108.42	-6,720.7	-617.2	347.4	102.3	245.14	1.417	Level 3	
12,400.0	5,795.0	12,281.4	5,911.0	131.6	129.4	108.42	-6,820.7	-617.2	347.4	98.6	248.80	1.396	Level 3	
12,500.0	5,795.0	12,381.4	5,911.0	133.5	131.2	108.42	-6,920.7	-617.2	347.4	95.0	252.45	1.376	Level 3	
12,600.0	5,795.0	12,481.4	5,911.0	135.4	133.1	108.42	-7,020.7	-617.2	347.4	91.3	256.10	1.357	Level 3	
12,700.0	5,795.0	12,581.4	5,911.0	137.3	135.0	108.42	-7,120.7	-617.2	347.4	87.7	259.76	1.338	Level 3	
12,800.0	5,795.0	12,681.4	5,911.0	139.2	136.9	108.42	-7,220.7	-617.2	347.4	84.0	263.41	1.319	Level 3	
12,900.0	5,795.0	12,781.4	5,911.0	141.2	138.8	108.42	-7,320.7	-617.2	347.4	80.4	267.07	1.301	Level 3	
13,000.0	5,795.0	12,881.4	5,911.0	143.1	140.7	108.42	-7,420.7	-617.2	347.4	76.7	270.72	1.283	Level 3	
13,100.0	5,795.0	12,981.4	5,911.0	145.0	142.6	108.42	-7,520.7	-617.2	347.4	73.1	274.38	1.266	Level 3	
13,200.0	5,795.0	13,081.4	5,911.0	146.9	144.5	108.42	-7,620.7	-617.2	347.5	69.4	278.04	1.250	Level 2	
13,300.0	5,795.0	13,181.4	5,911.0	148.8	146.4	108.42	-7,720.7	-617.2	347.5	65.8	281.70	1.233	Level 2	
13,400.0	5,795.0	13,281.4	5,911.0	150.7	148.3	108.42	-7,820.7	-617.2	347.5	62.1	285.35	1.218	Level 2	
13,500.0	5,795.0	13,381.4	5,911.0	152.6	150.2	108.42	-7,920.7	-617.2	347.5	58.4	289.01	1.202	Level 2	
13,552.2	5,795.0	13,433.6	5,911.0	153.6	151.1	108.42	-7,972.9	-617.2	347.5	56.7	290.81	1.195	Level 2, ES, SF	

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor #12H-0113A - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	0.00	75.1	0.0	75.1					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	75.1	0.0	75.1	74.9	0.19	401.352		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	75.1	0.0	75.1	74.4	0.64	117.912		
300.0	300.0	300.0	300.0	0.5	0.5	0.00	75.1	0.0	75.1	74.0	1.09	69.107		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	75.1	0.0	75.1	73.5	1.54	48.877		
500.0	500.0	500.0	500.0	1.0	1.0	0.00	75.1	0.0	75.1	73.1	1.99	37.809 CC		
519.5	519.5	519.5	519.5	1.0	1.0	-0.03	75.1	0.0	75.1	73.0	2.07	36.253		
600.0	600.0	600.0	600.0	1.2	1.2	-0.67	75.1	-0.9	75.1	72.6	2.42	30.997		
700.0	700.0	699.9	699.9	1.4	1.4	-2.66	75.1	-3.5	75.1	72.3	2.85	26.344		
800.0	800.0	799.7	799.6	1.7	1.6	-5.96	75.1	-7.8	75.5	72.2	3.29	22.944 ES		
900.0	900.0	899.3	899.0	1.9	1.9	-10.50	75.1	-13.9	76.4	72.6	3.73	20.460		
1,000.0	1,000.0	998.7	998.1	2.1	2.1	-16.11	75.1	-21.7	78.2	74.0	4.18	18.702		
1,100.0	1,100.0	1,098.3	1,097.3	2.3	2.3	-22.15	75.1	-30.6	81.1	76.5	4.64	17.502		
1,200.0	1,200.0	1,197.9	1,196.5	2.6	2.6	-27.71	75.1	-39.5	84.9	79.8	5.10	16.662		
1,300.0	1,300.0	1,297.5	1,295.7	2.8	2.9	-32.76	75.1	-48.3	89.4	83.9	5.57	16.068		
1,400.0	1,400.0	1,397.1	1,394.9	3.0	3.1	-37.30	75.1	-57.2	94.6	88.6	6.04	15.649		
1,500.0	1,500.0	1,496.7	1,494.1	3.2	3.4	-41.35	75.2	-66.1	100.3	93.8	6.53	15.357		
1,600.0	1,600.0	1,596.4	1,593.3	3.5	3.7	-45.81	75.2	-75.0	105.8	98.8	7.01	15.092		
1,700.0	1,700.0	1,696.2	1,692.7	3.7	3.9	-43.46	75.2	-83.9	110.4	102.9	7.45	14.816		
1,800.0	1,799.9	1,796.0	1,792.2	3.9	4.2	-41.89	75.2	-92.9	113.8	105.9	7.89	14.415		
1,900.0	1,899.7	1,896.0	1,891.8	4.1	4.5	-40.97	75.2	-101.8	116.0	107.6	8.34	13.896		
2,000.0	1,999.4	1,996.0	1,991.4	4.3	4.8	-40.39	75.2	-110.7	117.5	108.7	8.80	13.342		
2,100.0	2,099.2	2,096.0	2,091.0	4.5	5.0	-39.82	75.2	-119.6	119.0	109.7	9.27	12.841		
2,200.0	2,198.9	2,195.9	2,190.5	4.7	5.3	-39.26	75.2	-128.6	120.5	110.8	9.73	12.385		
2,300.0	2,298.7	2,295.9	2,290.1	5.0	5.6	-38.72	75.3	-137.5	122.1	111.9	10.20	11.970		
2,400.0	2,398.4	2,395.9	2,389.7	5.2	5.9	-38.19	75.3	-146.4	123.7	113.0	10.67	11.590		
2,500.0	2,498.2	2,495.9	2,489.3	5.4	6.2	-37.68	75.3	-155.3	125.2	114.1	11.14	11.243		
2,600.0	2,598.0	2,595.9	2,588.9	5.7	6.4	-37.18	75.3	-164.3	126.8	115.2	11.61	10.923		
2,700.0	2,697.7	2,695.9	2,688.5	5.9	6.7	-36.69	75.3	-173.2	128.4	116.3	12.08	10.629		
2,800.0	2,797.5	2,795.8	2,788.0	6.2	7.0	-36.21	75.3	-182.1	130.0	117.5	12.55	10.357		
2,900.0	2,897.2	2,895.8	2,887.6	6.4	7.3	-35.75	75.3	-191.0	131.6	118.6	13.02	10.105		
3,000.0	2,997.0	2,995.8	2,987.2	6.7	7.5	-35.29	75.3	-200.0	133.2	119.7	13.50	9.872		
3,100.0	3,096.7	3,095.8	3,086.8	6.9	7.8	-34.85	75.4	-208.9	134.9	120.9	13.97	9.654		
3,200.0	3,196.5	3,195.8	3,186.4	7.1	8.1	-34.41	75.4	-217.8	136.5	122.1	14.44	9.451		
3,300.0	3,296.2	3,295.7	3,285.9	7.4	8.4	-33.99	75.4	-226.7	138.1	123.2	14.92	9.261		
3,400.0	3,396.0	3,395.7	3,385.5	7.6	8.7	-33.58	75.4	-235.7	139.8	124.4	15.39	9.083		
3,500.0	3,495.7	3,495.7	3,485.1	7.9	9.0	-33.18	75.4	-244.6	141.4	125.6	15.86	8.917		
3,600.0	3,595.5	3,595.7	3,584.7	8.1	9.2	-32.78	75.4	-253.5	143.1	126.8	16.34	8.760		
3,700.0	3,695.3	3,695.7	3,684.3	8.4	9.5	-32.40	75.4	-262.4	144.8	128.0	16.81	8.613		
3,800.0	3,795.0	3,795.7	3,783.9	8.7	9.8	-32.02	75.4	-271.4	146.5	129.2	17.28	8.474		
3,900.0	3,894.8	3,895.6	3,883.4	8.9	10.1	-31.66	75.5	-280.3	148.1	130.4	17.75	8.343		
4,000.0	3,994.5	3,995.6	3,983.0	9.2	10.4	-31.30	75.5	-289.2	149.8	131.6	18.23	8.220		
4,100.0	4,094.3	4,095.6	4,082.6	9.4	10.6	-30.95	75.5	-298.1	151.5	132.8	18.70	8.103		
4,200.0	4,194.0	4,195.6	4,182.2	9.7	10.9	-30.60	75.5	-307.1	153.2	134.0	19.17	7.992		
4,300.0	4,293.8	4,295.6	4,281.8	9.9	11.2	-30.27	75.5	-316.0	154.9	135.3	19.64	7.887		
4,400.0	4,393.5	4,395.5	4,381.3	10.2	11.5	-29.94	75.5	-324.9	156.6	136.5	20.11	7.787		
4,500.0	4,493.3	4,495.5	4,480.9	10.4	11.8	-29.62	75.5	-333.8	158.3	137.8	20.59	7.692		
4,600.0	4,593.0	4,595.5	4,580.5	10.7	12.0	-29.30	75.5	-342.8	160.1	139.0	21.06	7.602		
4,700.0	4,692.8	4,695.5	4,680.1	10.9	12.3	-29.00	75.6	-351.7	161.8	140.3	21.53	7.516		
4,800.0	4,792.5	4,795.5	4,779.7	11.2	12.6	-28.70	75.6	-360.6	163.5	141.5	22.00	7.433		
4,900.0	4,892.3	4,895.4	4,879.3	11.5	12.9	-28.40	75.6	-369.6	165.3	142.8	22.47	7.355		
5,000.0	4,992.1	4,995.4	4,978.8	11.7	13.2	-28.11	75.6	-378.5	167.0	144.1	22.94	7.280		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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													S12-T10N-R58W - Razor #12H-0113A - Hz - Plan #1		Offset Site Error:		0.0 ft	
Survey Program:													0-ISCSWA MWD		Offset Well Error:		0.0 ft	
Reference				Offset		Semi Major Axis		Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)								
5,100.0	5,091.8	5,095.4	5,078.4	12.0	13.5	27.83	75.6	-387.4	168.7	145.3	23.41	7.208						
5,200.0	5,191.6	5,195.4	5,178.0	12.2	13.7	27.55	75.6	-396.3	170.5	146.6	23.88	7.140						
5,300.0	5,291.3	5,295.2	5,277.4	12.5	14.0	50.40	75.6	-405.2	172.3	148.0	24.35	7.079 SF						
5,400.0	5,390.1	5,378.8	5,360.3	12.7	14.2	102.68	82.5	-412.7	184.3	159.6	24.74	7.449						
5,500.0	5,484.7	5,450.0	5,429.3	13.0	14.4	116.34	98.8	-418.9	218.0	193.2	24.82	8.784						
5,600.0	5,571.6	5,500.0	5,476.1	13.3	14.5	121.39	115.9	-423.0	276.5	252.1	24.35	11.355						
5,700.0	5,647.6	5,524.6	5,498.5	13.6	14.6	116.73	125.9	-425.1	354.3	330.2	24.12	14.686						
5,800.0	5,710.0	5,537.5	5,510.0	14.1	14.6	100.71	131.5	-426.1	443.8	418.4	25.34	17.511						

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor #12H-0115A - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	23.86	75.1	33.2	82.1					
100.0	100.0	100.0	100.0	0.1	0.1	23.86	75.1	33.2	82.1	81.9	0.19	438.860		
200.0	200.0	200.0	200.0	0.3	0.3	23.86	75.1	33.2	82.1	81.4	0.64	128.931		
300.0	300.0	300.0	300.0	0.5	0.5	23.86	75.1	33.2	82.1	81.0	1.09	75.565		
400.0	400.0	400.0	400.0	0.8	0.8	23.86	75.1	33.2	82.1	80.5	1.54	53.444		
500.0	500.0	500.0	500.0	1.0	1.0	23.86	75.1	33.2	82.1	80.1	1.99	41.342		
600.0	600.0	600.0	600.0	1.2	1.2	23.86	75.1	33.2	82.1	79.6	2.43	33.709		
700.0	700.0	700.0	700.0	1.4	1.4	23.86	75.1	33.2	82.1	79.2	2.88	28.455		
800.0	800.0	800.0	800.0	1.7	1.7	23.86	75.1	33.2	82.1	78.7	3.33	24.618		
900.0	900.0	900.0	900.0	1.9	1.9	23.86	75.1	33.2	82.1	78.3	3.78	21.693		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	23.86	75.1	33.2	82.1	77.8	4.23	19.389		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	23.86	75.1	33.2	82.1	77.4	4.68	17.527		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	23.86	75.1	33.2	82.1	76.9	5.13	15.992		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	23.86	75.1	33.2	82.1	76.5	5.58	14.704		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	23.86	75.1	33.2	82.1	76.0	6.03	13.608		
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	23.86	75.1	33.2	82.1	75.6	6.48	12.664 CC		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	114.88	75.1	33.2	82.4	75.5	6.92	11.919 ES		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	116.49	75.1	33.2	83.6	76.2	7.34	11.385		
1,800.0	1,799.9	1,799.9	1,799.9	3.9	3.9	119.09	75.1	33.2	85.6	77.8	7.77	11.019		
1,900.0	1,899.7	1,899.7	1,899.7	4.1	4.1	122.50	75.1	33.2	88.7	80.5	8.20	10.821		
2,000.0	1,999.4	1,999.4	1,999.4	4.3	4.4	126.15	75.1	33.2	92.7	84.1	8.64	10.733		
2,100.0	2,099.2	2,099.2	2,099.2	4.5	4.6	129.49	75.1	33.2	97.0	87.9	9.07	10.689		
2,200.0	2,198.9	2,198.9	2,198.9	4.7	4.8	132.54	75.1	33.2	101.6	92.1	9.51	10.678 SF		
2,300.0	2,298.7	2,298.7	2,298.7	5.0	5.0	135.31	75.1	33.2	106.5	96.5	9.96	10.694		
2,400.0	2,398.4	2,398.4	2,398.4	5.2	5.3	137.84	75.1	33.2	111.6	101.2	10.40	10.730		
2,500.0	2,498.2	2,498.2	2,498.2	5.4	5.5	140.14	75.1	33.2	116.9	106.0	10.84	10.781		
2,600.0	2,598.0	2,598.0	2,598.0	5.7	5.7	142.25	75.1	33.2	122.3	111.0	11.28	10.842		
2,700.0	2,697.7	2,697.7	2,697.7	5.9	5.9	144.17	75.1	33.2	127.9	116.2	11.73	10.911		
2,800.0	2,797.5	2,797.5	2,797.5	6.2	6.2	145.92	75.1	33.2	133.7	121.5	12.17	10.986		
2,900.0	2,897.2	2,897.2	2,897.2	6.4	6.4	147.53	75.1	33.2	139.6	126.9	12.61	11.064		
3,000.0	2,997.0	2,997.0	2,997.0	6.7	6.6	149.01	75.1	33.2	145.5	132.5	13.06	11.144		
3,100.0	3,096.7	3,096.7	3,096.7	6.9	6.8	150.38	75.1	33.2	151.6	138.1	13.50	11.225		
3,200.0	3,196.5	3,196.5	3,196.5	7.1	7.1	151.63	75.1	33.2	157.7	143.8	13.95	11.307		
3,300.0	3,296.2	3,296.2	3,296.2	7.4	7.3	152.80	75.1	33.2	163.9	149.5	14.39	11.388		
3,400.0	3,396.0	3,396.0	3,396.0	7.6	7.5	153.87	75.1	33.2	170.2	155.3	14.84	11.468		
3,500.0	3,495.7	3,495.7	3,495.7	7.9	7.7	154.88	75.1	33.2	176.5	161.2	15.28	11.547		
3,600.0	3,595.5	3,595.5	3,595.5	8.1	8.0	155.81	75.1	33.2	182.9	167.1	15.73	11.624		
3,700.0	3,695.3	3,695.3	3,695.3	8.4	8.2	156.68	75.1	33.2	189.3	173.1	16.18	11.700		
3,800.0	3,795.0	3,795.0	3,795.0	8.7	8.4	157.49	75.1	33.2	195.7	179.1	16.62	11.774		
3,900.0	3,894.8	3,894.8	3,894.8	8.9	8.6	158.25	75.1	33.2	202.2	185.1	17.07	11.846		
4,000.0	3,994.5	3,994.5	3,994.5	9.2	8.8	158.96	75.1	33.2	208.7	191.2	17.52	11.916		
4,100.0	4,094.3	4,088.1	4,088.0	9.4	9.0	159.72	75.0	34.6	216.7	198.7	17.94	12.077		
4,200.0	4,194.0	4,180.7	4,180.5	9.7	9.2	160.68	75.0	38.9	227.6	209.3	18.35	12.408		
4,300.0	4,293.8	4,272.4	4,272.0	9.9	9.4	161.79	75.0	46.1	241.7	222.9	18.75	12.891		
4,400.0	4,393.5	4,368.4	4,367.4	10.2	9.6	162.98	75.0	56.1	258.2	239.0	19.16	13.476		
4,500.0	4,493.3	4,466.8	4,465.3	10.4	9.8	164.08	74.9	66.6	275.0	255.4	19.58	14.046		
4,600.0	4,593.0	4,565.3	4,563.2	10.7	10.1	165.04	74.9	77.0	291.9	271.9	20.00	14.596		
4,700.0	4,692.8	4,663.7	4,661.1	10.9	10.3	165.91	74.8	87.4	308.9	288.4	20.42	15.125		
4,800.0	4,792.5	4,762.2	4,759.0	11.2	10.5	166.68	74.8	97.9	325.9	305.0	20.84	15.635		
4,900.0	4,892.3	4,860.6	4,856.9	11.5	10.7	167.38	74.7	108.3	343.0	321.7	21.27	16.125		
5,000.0	4,992.1	4,959.1	4,954.8	11.7	11.0	168.00	74.7	118.7	360.1	338.4	21.70	16.597		
5,100.0	5,091.8	5,057.5	5,052.7	12.0	11.2	168.58	74.7	129.2	377.2	355.1	22.12	17.051		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor #12H-0115A - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,191.6	5,156.0	5,150.6	12.2	11.4	169.10	74.6	139.6	394.4	371.9	22.55	17.489		
5,300.0	5,291.3	5,254.4	5,248.5	12.5	11.7	-167.06	74.6	150.0	411.7	388.7	22.97	17.921		
5,400.0	5,390.1	5,341.6	5,335.0	12.7	11.9	-117.50	77.8	159.2	432.0	408.7	23.29	18.552		
5,500.0	5,484.7	5,412.0	5,403.9	13.0	12.1	-110.58	90.4	166.6	460.5	437.0	23.53	19.576		

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor #12H-0116B - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	41.37	75.1	66.1	100.0					
100.0	100.0	100.0	100.0	0.1	0.1	41.37	75.1	66.1	100.0	99.8	0.19	534.938		
200.0	200.0	200.0	200.0	0.3	0.3	41.37	75.1	66.1	100.0	99.4	0.64	157.157		
300.0	300.0	300.0	300.0	0.5	0.5	41.37	75.1	66.1	100.0	99.0	1.09	92.109		
400.0	400.0	400.0	400.0	0.8	0.8	41.37	75.1	66.1	100.0	98.5	1.54	65.145		
500.0	500.0	500.0	500.0	1.0	1.0	41.37	75.1	66.1	100.0	98.1	1.99	50.393 CC, ES		
600.0	600.0	598.9	598.9	1.2	1.2	41.74	75.1	67.0	100.6	98.2	2.42	41.588		
700.0	700.0	697.7	697.6	1.4	1.4	42.82	75.0	69.5	102.3	99.5	2.85	35.943		
800.0	800.0	796.4	796.2	1.7	1.6	44.53	75.0	73.8	105.3	102.0	3.28	32.077		
900.0	900.0	894.9	894.6	1.9	1.8	46.77	74.9	79.7	109.5	105.8	3.72	29.416		
1,000.0	1,000.0	993.1	992.5	2.1	2.1	49.40	74.9	87.3	115.3	111.1	4.17	27.610		
1,100.0	1,100.0	1,092.2	1,091.2	2.3	2.3	52.18	74.8	96.3	122.2	117.6	4.64	26.363		
1,200.0	1,200.0	1,191.8	1,190.4	2.6	2.6	54.70	74.7	105.5	129.6	124.5	5.11	25.369		
1,300.0	1,300.0	1,291.4	1,289.5	2.8	2.8	56.95	74.6	114.6	137.1	131.5	5.58	24.555		
1,400.0	1,400.0	1,390.9	1,388.7	3.0	3.1	58.96	74.5	123.7	144.9	138.8	6.07	23.879		
1,500.0	1,500.0	1,490.5	1,487.8	3.2	3.4	60.76	74.4	132.9	152.8	146.2	6.55	23.312 SF		
1,600.0	1,600.0	1,590.0	1,586.9	3.5	3.6	152.95	74.3	142.0	161.6	154.6	6.91	23.382		
1,700.0	1,700.0	1,689.3	1,685.8	3.7	3.9	154.74	74.2	151.1	172.1	164.7	7.34	23.458		
1,800.0	1,799.9	1,788.4	1,784.4	3.9	4.2	156.53	74.1	160.2	184.3	176.6	7.76	23.753		
1,900.0	1,899.7	1,887.2	1,882.9	4.1	4.5	158.27	74.0	169.3	198.4	190.2	8.18	24.240		
2,000.0	1,999.4	1,985.9	1,981.1	4.3	4.7	159.91	73.9	178.3	213.4	204.8	8.61	24.774		
2,100.0	2,099.2	2,084.6	2,079.4	4.5	5.0	161.34	73.8	187.4	228.6	219.5	9.05	25.267		
2,200.0	2,198.9	2,183.3	2,177.7	4.7	5.3	162.59	73.7	196.4	243.9	234.4	9.48	25.722		
2,300.0	2,298.7	2,282.0	2,276.0	5.0	5.6	163.69	73.6	205.5	259.3	249.4	9.92	26.142		
2,400.0	2,398.4	2,380.7	2,374.2	5.2	5.8	164.67	73.5	214.5	274.8	264.4	10.36	26.531		
2,500.0	2,498.2	2,479.4	2,472.5	5.4	6.1	165.54	73.4	223.6	290.3	279.5	10.80	26.890		
2,600.0	2,598.0	2,578.1	2,570.8	5.7	6.4	166.32	73.3	232.7	305.9	294.7	11.24	27.224		
2,700.0	2,697.7	2,676.8	2,669.1	5.9	6.7	167.03	73.2	241.7	321.6	309.9	11.68	27.534		
2,800.0	2,797.5	2,775.5	2,767.3	6.2	6.9	167.67	73.1	250.8	337.3	325.2	12.12	27.823		
2,900.0	2,897.2	2,874.1	2,865.6	6.4	7.2	168.26	73.1	259.8	353.1	340.5	12.57	28.092		
3,000.0	2,997.0	2,972.8	2,963.9	6.7	7.5	168.80	73.0	268.9	368.8	355.8	13.01	28.343		
3,100.0	3,096.7	3,071.5	3,062.2	6.9	7.8	169.29	72.9	277.9	384.7	371.2	13.46	28.578		
3,200.0	3,196.5	3,170.2	3,160.4	7.1	8.1	169.74	72.8	287.0	400.5	386.6	13.91	28.798		
3,300.0	3,296.2	3,268.9	3,258.7	7.4	8.3	170.16	72.7	296.0	416.4	402.0	14.35	29.005		
3,400.0	3,396.0	3,367.6	3,357.0	7.6	8.6	170.55	72.6	305.1	432.2	417.4	14.80	29.199		
3,500.0	3,495.7	3,466.3	3,455.3	7.9	8.9	170.91	72.5	314.1	448.1	432.9	15.25	29.382		
3,600.0	3,595.5	3,565.0	3,553.5	8.1	9.2	171.24	72.4	323.2	464.0	448.3	15.70	29.554		
3,700.0	3,695.3	3,663.7	3,651.8	8.4	9.4	171.55	72.3	332.3	480.0	463.8	16.15	29.717		
3,800.0	3,795.0	3,762.4	3,750.1	8.7	9.7	171.85	72.2	341.3	495.9	479.3	16.60	29.871		

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - RAZOR 12-0141H (EXISTING) - WHTING WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 109-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.3	0.3	0.0	0.0	36.00	135.6	98.5	167.6					
100.0	100.0	101.9	101.9	0.1	0.1	36.03	135.1	98.3	167.1	166.9	0.19	872.768		
200.0	200.0	201.9	201.9	0.3	0.3	36.13	134.1	97.9	166.1	165.4	0.62	266.792		
300.0	300.0	302.3	302.3	0.5	0.5	36.32	132.9	97.7	165.0	163.9	1.07	154.501		
400.0	400.0	402.3	402.2	0.8	0.7	36.60	131.5	97.6	163.8	162.3	1.51	108.389		
500.0	500.0	502.8	502.8	1.0	1.0	36.98	129.7	97.7	162.4	160.5	1.96	82.968		
600.0	600.0	602.5	602.4	1.2	1.2	37.47	127.7	97.9	160.9	158.5	2.40	67.007		
700.0	700.0	701.3	701.3	1.4	1.4	38.00	126.0	98.5	159.9	157.1	2.83	56.486		
786.8	786.8	787.2	787.1	1.6	1.6	38.48	125.1	99.4	159.7	156.5	3.20	49.877		
800.0	800.0	800.4	800.3	1.7	1.6	38.56	124.9	99.6	159.7	156.5	3.26	48.990		
900.0	900.0	900.5	900.4	1.9	1.8	39.24	123.7	101.1	159.8	156.1	3.70	43.151		
1,000.0	1,000.0	1,000.4	1,000.3	2.1	2.0	40.03	122.3	102.7	159.7	155.5	4.14	38.576		
1,002.2	1,002.2	1,002.6	1,002.5	2.1	2.0	40.04	122.3	102.7	159.7	155.5	4.15	38.491 CC		
1,100.0	1,100.0	1,100.2	1,100.1	2.3	2.2	40.37	121.7	103.5	159.8	155.2	4.57	34.995		
1,200.0	1,200.0	1,200.4	1,200.3	2.6	2.4	40.61	121.3	104.0	159.8	154.8	5.00	31.974		
1,300.0	1,300.0	1,300.0	1,299.8	2.8	2.7	40.90	120.9	104.7	159.9	154.5	5.43	29.432 ES		
1,400.0	1,400.0	1,399.5	1,399.3	3.0	2.9	41.37	120.4	106.0	160.4	154.5	5.88	27.300		
1,500.0	1,500.0	1,499.6	1,499.4	3.2	3.1	41.96	119.7	107.7	161.0	154.7	6.31	25.525		
1,600.0	1,600.0	1,599.9	1,599.7	3.5	3.3	133.10	119.2	108.9	162.1	155.4	6.73	24.075		
1,700.0	1,700.0	1,700.2	1,700.0	3.7	3.5	134.11	118.7	109.9	164.2	157.0	7.13	23.020		
1,800.0	1,799.9	1,799.7	1,799.6	3.9	3.7	135.57	118.0	110.9	167.5	159.9	7.54	22.198		
1,900.0	1,899.7	1,901.0	1,900.8	4.1	3.9	137.37	117.3	111.8	172.1	164.1	7.95	21.630		
2,000.0	1,999.4	2,002.6	2,002.4	4.3	4.1	139.16	116.1	111.5	176.2	167.9	8.37	21.046		
2,100.0	2,099.2	2,105.2	2,104.9	4.5	4.3	140.98	113.8	110.4	179.3	170.5	8.80	20.379		
2,200.0	2,198.9	2,203.1	2,202.8	4.7	4.5	142.47	111.8	108.6	182.1	172.9	9.22	19.765		
2,300.0	2,298.7	2,297.1	2,296.8	5.0	4.7	143.37	112.4	107.6	187.4	177.7	9.63	19.466		
2,400.0	2,398.4	2,393.7	2,393.4	5.2	4.9	143.94	115.3	108.0	195.1	185.1	10.04	19.427		
2,500.0	2,498.2	2,493.7	2,493.3	5.4	5.1	144.21	119.6	108.5	203.7	193.2	10.47	19.455		
2,600.0	2,598.0	2,596.0	2,595.6	5.7	5.3	145.09	121.3	109.2	211.0	200.1	10.90	19.355		
2,700.0	2,697.7	2,694.6	2,694.1	5.9	5.5	145.57	124.0	109.3	218.4	207.0	11.33	19.282		
2,800.0	2,797.5	2,795.6	2,795.0	6.2	5.7	145.92	127.1	109.2	225.8	214.1	11.76	19.211		
2,900.0	2,897.2	2,895.7	2,895.2	6.4	6.0	146.89	127.6	109.9	232.5	220.3	12.19	19.078		
3,000.0	2,997.0	2,994.2	2,993.6	6.7	6.2	147.65	128.8	110.7	239.7	227.1	12.62	19.004		
3,100.0	3,096.7	3,093.9	3,093.3	6.9	6.4	148.43	130.0	111.8	247.2	234.2	13.05	18.949		
3,200.0	3,196.5	3,193.2	3,192.6	7.1	6.6	149.09	131.4	112.7	254.8	241.3	13.48	18.901		
3,300.0	3,296.2	3,295.9	3,295.3	7.4	6.8	149.98	131.8	114.0	262.1	248.2	13.92	18.832		
3,400.0	3,396.0	3,397.7	3,397.1	7.6	7.0	151.17	130.0	114.9	268.1	253.8	14.35	18.683		
3,500.0	3,495.7	3,497.3	3,496.7	7.9	7.2	152.24	128.3	115.5	274.0	259.2	14.78	18.535		
3,600.0	3,595.5	3,597.8	3,597.2	8.1	7.4	153.35	126.3	116.2	279.9	264.7	15.22	18.393		
3,700.0	3,695.3	3,702.6	3,701.9	8.4	7.6	154.47	123.6	116.0	284.9	269.2	15.66	18.195		
3,800.0	3,795.0	3,811.5	3,810.7	8.7	7.9	155.37	120.6	112.6	287.2	271.1	16.11	17.834		
3,900.0	3,894.8	3,909.1	3,908.2	8.9	8.1	155.95	118.4	108.0	288.4	271.9	16.53	17.445		
4,000.0	3,994.5	3,999.4	3,998.4	9.2	8.3	156.18	118.7	105.2	292.1	275.2	16.94	17.238		
4,100.0	4,094.3	4,101.0	4,100.0	9.4	8.5	156.46	119.3	103.3	297.1	279.7	17.38	17.087		
4,200.0	4,194.0	4,203.7	4,202.6	9.7	8.7	156.95	118.6	100.9	301.1	283.2	17.82	16.891		
4,300.0	4,293.8	4,302.2	4,301.1	9.9	8.9	157.32	118.2	98.2	304.9	286.6	18.26	16.702		
4,400.0	4,393.5	4,399.0	4,397.9	10.2	9.1	157.50	119.1	96.0	309.6	290.9	18.68	16.571		
4,500.0	4,493.3	4,498.3	4,497.1	10.4	9.3	157.50	121.2	94.0	315.0	295.9	19.12	16.477		
4,600.0	4,593.0	4,599.4	4,598.2	10.7	9.5	157.61	122.5	91.8	320.1	300.5	19.56	16.366		
4,700.0	4,692.8	4,698.4	4,697.2	10.9	9.7	157.79	123.5	89.9	325.1	305.1	19.99	16.259		
4,800.0	4,792.5	4,797.4	4,796.2	11.2	9.9	158.08	123.9	88.6	330.5	310.1	20.43	16.178		
4,900.0	4,892.3	4,897.8	4,896.6	11.5	10.1	158.55	123.4	87.6	336.0	315.1	20.87	16.099		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - RAZOR 12-0141H (EXISTING) - WHITING WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 109-ISCWSA MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,000.0	4,992.1	4,996.8	4,995.6	11.7	10.3	159.06	122.5	86.7	341.3	320.0	21.30	16.021	
5,100.0	5,091.8	5,092.8	5,091.6	12.0	10.6	159.64	121.3	86.6	347.4	325.7	21.73	15.985 SF	
5,200.0	5,191.6	5,181.7	5,180.5	12.2	10.7	160.26	120.2	88.4	355.4	333.2	22.15	16.046	
5,300.0	5,291.3	5,273.0	5,271.7	12.5	10.9	-175.93	120.4	92.9	366.8	344.2	22.55	16.266	
5,400.0	5,390.1	5,379.1	5,377.5	12.7	11.2	-127.32	123.8	97.6	382.9	360.1	22.83	16.774	
5,500.0	5,484.7	5,462.5	5,460.6	13.0	11.3	-121.35	131.5	99.2	406.6	383.7	22.92	17.742	
5,600.0	5,571.6	5,535.4	5,532.7	13.3	11.5	-120.16	141.6	99.7	442.2	419.4	22.85	19.353	
5,700.0	5,647.6	5,583.4	5,580.3	13.6	11.6	-117.14	148.2	101.8	492.8	469.9	22.97	21.456	

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor Federal #12H-1314B - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	33.2	33.2					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	33.2	33.2	33.0	0.19	177.522		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	33.2	33.2	32.6	0.64	52.153		
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	33.2	33.2	32.1	1.09	30.567		
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	33.2	33.2	31.7	1.54	21.619		
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	33.2	33.2	31.2	1.99	16.723		
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	33.2	33.2	30.8	2.43	13.635		
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	33.2	33.2	30.3	2.88	11.510		
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	33.2	33.2	29.9	3.33	9.958		
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	33.2	33.2	29.4	3.78	8.775		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.00	0.0	33.2	33.2	29.0	4.23	7.843		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	90.00	0.0	33.2	33.2	28.5	4.68	7.090		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	90.00	0.0	33.2	33.2	28.1	5.13	6.469		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	90.00	0.0	33.2	33.2	27.6	5.58	5.948		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	90.00	0.0	33.2	33.2	27.2	6.03	5.505		
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	90.00	0.0	33.2	33.2	26.7	6.48	5.123 CC, ES		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-179.55	0.0	33.2	34.1	27.2	6.91	4.927		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-179.58	0.0	33.2	36.7	29.4	7.34	5.001		
1,800.0	1,799.9	1,799.9	1,799.9	3.9	3.9	-179.62	0.0	33.2	41.0	33.3	7.76	5.292		
1,900.0	1,899.7	1,899.7	1,899.7	4.1	4.1	-179.67	0.0	33.2	47.2	39.0	8.18	5.765		
2,000.0	1,999.4	1,999.4	1,999.4	4.3	4.4	-179.71	0.0	33.2	54.2	45.6	8.61	6.291		
2,100.0	2,099.2	2,099.2	2,099.2	4.5	4.6	-179.75	0.0	33.2	61.2	52.1	9.04	6.765		
2,200.0	2,198.9	2,198.9	2,198.9	4.7	4.8	-179.77	0.0	33.2	68.2	58.7	9.48	7.194		
2,300.0	2,298.7	2,298.7	2,298.7	5.0	5.0	-179.79	0.0	33.2	75.2	65.3	9.91	7.584		
2,400.0	2,398.4	2,398.4	2,398.4	5.2	5.3	-179.81	0.0	33.2	82.2	71.8	10.35	7.940		
2,500.0	2,498.2	2,498.2	2,498.2	5.4	5.5	-179.83	0.0	33.2	89.2	78.4	10.79	8.266		
2,600.0	2,598.0	2,598.0	2,598.0	5.7	5.7	-179.84	0.0	33.2	96.2	85.0	11.23	8.566		
2,700.0	2,697.7	2,697.7	2,697.7	5.9	5.9	-179.85	0.0	33.2	103.2	91.5	11.67	8.842		
2,800.0	2,797.5	2,797.5	2,797.5	6.2	6.2	-179.86	0.0	33.2	110.2	98.1	12.11	9.097		
2,900.0	2,897.2	2,897.2	2,897.2	6.4	6.4	-179.87	0.0	33.2	117.2	104.7	12.56	9.334		
3,000.0	2,997.0	2,997.0	2,997.0	6.7	6.6	-179.88	0.0	33.2	124.2	111.2	13.00	9.554		
3,100.0	3,096.7	3,096.7	3,096.7	6.9	6.8	-179.88	0.0	33.2	131.2	117.8	13.45	9.759		
3,200.0	3,196.5	3,196.5	3,196.5	7.1	7.1	-179.89	0.0	33.2	138.2	124.3	13.89	9.951		
3,300.0	3,296.2	3,296.2	3,296.2	7.4	7.3	-179.89	0.0	33.2	145.2	130.9	14.34	10.130		
3,400.0	3,396.0	3,396.0	3,396.0	7.6	7.5	-179.90	0.0	33.2	152.2	137.5	14.78	10.298		
3,500.0	3,495.7	3,495.7	3,495.7	7.9	7.7	-179.90	0.0	33.2	159.3	144.0	15.23	10.456		
3,600.0	3,595.5	3,595.5	3,595.5	8.1	8.0	-179.91	0.0	33.2	166.3	150.6	15.68	10.605		
3,700.0	3,695.3	3,695.3	3,695.3	8.4	8.2	-179.91	0.0	33.2	173.3	157.1	16.13	10.745		
3,800.0	3,795.0	3,795.0	3,795.0	8.7	8.4	-179.91	0.0	33.2	180.3	163.7	16.57	10.877		
3,900.0	3,894.8	3,894.8	3,894.8	8.9	8.6	-179.92	0.0	33.2	187.3	170.3	17.02	11.002		
4,000.0	3,994.5	3,994.5	3,994.5	9.2	8.8	-179.92	0.0	33.2	194.3	176.8	17.47	11.121		
4,100.0	4,094.3	4,094.3	4,094.3	9.4	9.1	-179.92	0.0	33.2	201.3	183.4	17.92	11.233		
4,200.0	4,194.0	4,194.0	4,194.0	9.7	9.3	-179.93	0.0	33.2	208.3	189.9	18.37	11.340		
4,300.0	4,293.8	4,293.8	4,293.8	9.9	9.5	-179.93	0.0	33.2	215.3	196.5	18.82	11.441		
4,400.0	4,393.5	4,393.5	4,393.5	10.2	9.7	-179.93	0.0	33.2	222.3	203.0	19.27	11.538		
4,500.0	4,493.3	4,493.3	4,493.3	10.4	10.0	-179.93	0.0	33.2	229.3	209.6	19.72	11.630		
4,600.0	4,593.0	4,593.0	4,593.0	10.7	10.2	-179.93	0.0	33.2	236.3	216.2	20.17	11.718		
4,700.0	4,692.8	4,692.8	4,692.8	10.9	10.4	-179.94	0.0	33.2	243.3	222.7	20.62	11.802		
4,800.0	4,792.5	4,792.5	4,792.5	11.2	10.6	-179.94	0.0	33.2	250.3	229.3	21.07	11.882		
4,900.0	4,892.3	4,892.3	4,892.3	11.5	10.9	-179.94	0.0	33.2	257.3	235.8	21.52	11.959		
5,000.0	4,992.1	4,992.1	4,992.1	11.7	11.1	-179.94	0.0	33.2	264.3	242.4	21.97	12.033		
5,100.0	5,091.8	5,091.8	5,091.8	12.0	11.3	-179.94	0.0	33.2	271.3	248.9	22.42	12.103		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor Federal #12H-1314B - Hz - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,191.6	5,191.6	5,191.6	12.2	11.5	-179.94	0.0	33.2	278.4	255.5	22.87	12.171		
5,300.0	5,291.3	5,291.3	5,291.3	12.5	11.8	-156.78	0.0	33.2	285.4	262.0	23.32	12.238		
5,400.0	5,390.1	5,390.6	5,390.6	12.7	12.0	-109.57	-0.3	33.2	292.7	268.9	23.72	12.339		
5,500.0	5,484.7	5,493.3	5,492.2	13.0	12.2	-104.48	-14.0	33.2	300.8	276.7	24.04	12.511		
5,600.0	5,571.6	5,600.1	5,592.9	13.3	12.4	-104.03	-49.1	33.3	309.3	284.9	24.37	12.691		
5,700.0	5,647.6	5,711.1	5,687.7	13.6	12.6	-104.70	-106.5	33.3	317.5	292.7	24.82	12.796		
5,800.0	5,710.0	5,826.3	5,770.9	14.1	13.0	-105.59	-185.8	33.4	324.9	299.4	25.55	12.718		
5,900.0	5,756.3	5,945.1	5,836.3	14.8	13.7	-106.36	-284.6	33.5	330.8	304.1	26.75	12.367		
6,000.0	5,785.0	6,066.7	5,878.4	15.7	14.7	-106.84	-398.4	33.7	334.6	306.0	28.55	11.721		
6,100.0	5,795.0	6,189.6	5,893.0	16.7	16.0	-106.96	-520.2	33.8	335.9	305.0	30.92	10.865		
6,200.0	5,795.0	6,289.8	5,893.0	17.9	17.2	-106.96	-620.3	33.9	336.0	302.7	33.31	10.087		
6,300.0	5,795.0	6,389.8	5,893.0	19.2	18.6	-106.95	-720.3	34.0	336.2	300.2	35.92	9.358		
6,400.0	5,795.0	6,489.8	5,893.0	20.7	20.0	-106.94	-820.3	34.1	336.3	297.6	38.71	8.688		
6,500.0	5,795.0	6,589.8	5,893.0	22.1	21.5	-106.94	-920.3	34.3	336.4	294.7	41.63	8.079		
6,600.0	5,795.0	6,689.8	5,893.0	23.7	23.1	-106.93	-1,020.3	34.4	336.5	291.8	44.68	7.531		
6,700.0	5,795.0	6,789.8	5,893.0	25.3	24.7	-106.93	-1,120.3	34.5	336.6	288.8	47.82	7.039		
6,800.0	5,795.0	6,889.8	5,893.0	26.9	26.3	-106.92	-1,220.3	34.6	336.7	285.7	51.03	6.598		
6,900.0	5,795.0	6,989.8	5,893.0	28.6	28.0	-106.92	-1,320.3	34.7	336.8	282.5	54.30	6.202		
7,000.0	5,795.0	7,089.8	5,893.0	30.3	29.8	-106.91	-1,420.3	34.8	336.9	279.3	57.63	5.846		
7,100.0	5,795.0	7,189.8	5,893.0	32.0	31.5	-106.90	-1,520.3	34.9	337.0	276.0	61.00	5.525		
7,200.0	5,795.0	7,289.8	5,893.0	33.8	33.3	-106.90	-1,620.3	35.1	337.1	272.7	64.41	5.234		
7,300.0	5,795.0	7,389.8	5,893.0	35.6	35.0	-106.89	-1,720.3	35.2	337.3	269.4	67.85	4.971		
7,400.0	5,795.0	7,489.8	5,893.0	37.4	36.8	-106.89	-1,820.3	35.3	337.4	266.0	71.32	4.731		
7,500.0	5,795.0	7,589.8	5,893.0	39.1	38.6	-106.88	-1,920.3	35.4	337.5	262.7	74.80	4.511		
7,600.0	5,795.0	7,689.8	5,893.0	41.0	40.5	-106.88	-2,020.3	35.5	337.6	259.3	78.31	4.311		
7,700.0	5,795.0	7,789.8	5,893.0	42.8	42.3	-106.87	-2,120.3	35.6	337.7	255.9	81.84	4.126		
7,800.0	5,795.0	7,889.8	5,893.0	44.6	44.1	-106.86	-2,220.3	35.7	337.8	252.4	85.38	3.956		
7,900.0	5,795.0	7,989.8	5,893.0	46.4	46.0	-106.86	-2,320.3	35.9	337.9	249.0	88.93	3.800		
8,000.0	5,795.0	8,089.8	5,893.0	48.3	47.8	-106.85	-2,420.3	36.0	338.0	245.5	92.50	3.654		
8,100.0	5,795.0	8,189.8	5,893.0	50.1	49.7	-106.85	-2,520.3	36.1	338.1	242.1	96.08	3.519		
8,200.0	5,795.0	8,289.8	5,893.0	52.0	51.5	-106.84	-2,620.3	36.2	338.2	238.6	99.66	3.394		
8,300.0	5,795.0	8,389.8	5,893.0	53.8	53.4	-106.84	-2,720.3	36.3	338.4	235.1	103.26	3.277		
8,400.0	5,795.0	8,489.8	5,893.0	55.7	55.3	-106.83	-2,820.3	36.4	338.5	231.6	106.86	3.167		
8,500.0	5,795.0	8,589.8	5,893.0	57.6	57.1	-106.83	-2,920.3	36.5	338.6	228.1	110.47	3.065		
8,600.0	5,795.0	8,689.8	5,893.0	59.4	59.0	-106.82	-3,020.3	36.7	338.7	224.6	114.09	2.969		
8,700.0	5,795.0	8,789.8	5,893.0	61.3	60.9	-106.81	-3,120.3	36.8	338.8	221.1	117.71	2.878		
8,800.0	5,795.0	8,889.8	5,893.0	63.2	62.8	-106.81	-3,220.3	36.9	338.9	217.6	121.34	2.793		
8,900.0	5,795.0	8,989.8	5,893.0	65.1	64.6	-106.80	-3,320.3	37.0	339.0	214.0	124.97	2.713		
9,000.0	5,795.0	9,089.8	5,893.0	66.9	66.5	-106.80	-3,420.3	37.1	339.1	210.5	128.60	2.637		
9,100.0	5,795.0	9,189.7	5,893.0	68.8	68.4	-106.79	-3,520.3	37.2	339.2	207.0	132.24	2.565		
9,200.0	5,795.0	9,289.7	5,893.0	70.7	70.3	-106.79	-3,620.3	37.3	339.3	203.4	135.89	2.497		
9,300.0	5,795.0	9,389.7	5,893.0	72.6	72.2	-106.78	-3,720.3	37.5	339.4	199.9	139.54	2.433		
9,400.0	5,795.0	9,489.7	5,893.0	74.5	74.1	-106.77	-3,820.3	37.6	339.6	196.4	143.19	2.371		
9,500.0	5,795.0	9,589.7	5,893.0	76.4	76.0	-106.77	-3,920.3	37.7	339.7	192.8	146.84	2.313		
9,600.0	5,795.0	9,689.7	5,893.0	78.3	77.9	-106.76	-4,020.3	37.8	339.8	189.3	150.50	2.258		
9,700.0	5,795.0	9,789.7	5,893.0	80.2	79.8	-106.76	-4,120.3	37.9	339.9	185.7	154.16	2.205		
9,800.0	5,795.0	9,889.7	5,893.0	82.1	81.7	-106.75	-4,220.3	38.0	340.0	182.2	157.82	2.154		
9,900.0	5,795.0	9,989.7	5,893.0	83.9	83.6	-106.75	-4,320.3	38.2	340.1	178.6	161.48	2.106		
10,000.0	5,795.0	10,089.7	5,893.0	85.8	85.5	-106.74	-4,420.3	38.3	340.2	175.1	165.15	2.060		
10,100.0	5,795.0	10,189.7	5,893.0	87.7	87.4	-106.74	-4,520.3	38.4	340.3	171.5	168.82	2.016		
10,200.0	5,795.0	10,289.7	5,893.0	89.6	89.3	-106.73	-4,620.3	38.5	340.4	167.9	172.49	1.974		
10,300.0	5,795.0	10,389.7	5,893.0	91.5	91.2	-106.72	-4,720.3	38.6	340.5	164.4	176.16	1.933		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor Federal #12H-1314B - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
10,400.0	5,795.0	10,489.7	5,893.0	93.4	93.1	-106.72	-4,820.3	38.7	340.7	160.8	179.83	1.894		
10,500.0	5,795.0	10,589.7	5,893.0	95.3	95.0	-106.71	-4,920.3	38.8	340.8	157.3	183.51	1.857		
10,600.0	5,795.0	10,689.7	5,893.0	97.2	96.9	-106.71	-5,020.3	39.0	340.9	153.7	187.18	1.821		
10,700.0	5,795.0	10,789.7	5,893.0	99.2	98.8	-106.70	-5,120.3	39.1	341.0	150.1	190.86	1.787		
10,800.0	5,795.0	10,889.7	5,893.0	101.1	100.7	-106.70	-5,220.3	39.2	341.1	146.6	194.54	1.753		
10,900.0	5,795.0	10,989.7	5,893.0	103.0	102.6	-106.69	-5,320.3	39.3	341.2	143.0	198.22	1.721		
11,000.0	5,795.0	11,089.7	5,893.0	104.9	104.5	-106.69	-5,420.3	39.4	341.3	139.4	201.90	1.690		
11,100.0	5,795.0	11,189.7	5,893.0	106.8	106.4	-106.68	-5,520.3	39.5	341.4	135.8	205.59	1.661		
11,200.0	5,795.0	11,289.7	5,893.0	108.7	108.3	-106.67	-5,620.3	39.6	341.5	132.3	209.27	1.632		
11,300.0	5,795.0	11,389.7	5,893.0	110.6	110.2	-106.67	-5,720.3	39.8	341.6	128.7	212.96	1.604		
11,400.0	5,795.0	11,489.7	5,893.0	112.5	112.1	-106.66	-5,820.3	39.9	341.8	125.1	216.64	1.578		
11,500.0	5,795.0	11,589.7	5,893.0	114.4	114.1	-106.66	-5,920.3	40.0	341.9	121.5	220.33	1.552		
11,600.0	5,795.0	11,689.7	5,893.0	116.3	116.0	-106.65	-6,020.3	40.1	342.0	118.0	224.02	1.527		
11,700.0	5,795.0	11,789.7	5,893.0	118.2	117.9	-106.65	-6,120.3	40.2	342.1	114.4	227.71	1.502		
11,800.0	5,795.0	11,889.7	5,893.0	120.1	119.8	-106.64	-6,220.3	40.3	342.2	110.8	231.40	1.479 Level 3		
11,900.0	5,795.0	11,989.7	5,893.0	122.0	121.7	-106.64	-6,320.3	40.4	342.3	107.2	235.09	1.456 Level 3		
12,000.0	5,795.0	12,089.7	5,893.0	123.9	123.6	-106.63	-6,420.3	40.6	342.4	103.6	238.78	1.434 Level 3		
12,100.0	5,795.0	12,189.7	5,893.0	125.9	125.5	-106.63	-6,520.3	40.7	342.5	100.1	242.47	1.413 Level 3		
12,200.0	5,795.0	12,289.7	5,893.0	127.8	127.4	-106.62	-6,620.3	40.8	342.6	96.5	246.17	1.392 Level 3		
12,300.0	5,795.0	12,389.7	5,893.0	129.7	129.3	-106.61	-6,720.3	40.9	342.7	92.9	249.86	1.372 Level 3		
12,400.0	5,795.0	12,489.7	5,893.0	131.6	131.3	-106.61	-6,820.3	41.0	342.9	89.3	253.55	1.352 Level 3		
12,500.0	5,795.0	12,589.7	5,893.0	133.5	133.2	-106.60	-6,920.3	41.1	343.0	85.7	257.25	1.333 Level 3		
12,600.0	5,795.0	12,689.7	5,893.0	135.4	135.1	-106.60	-7,020.3	41.2	343.1	82.1	260.95	1.315 Level 3		
12,700.0	5,795.0	12,789.7	5,893.0	137.3	137.0	-106.59	-7,120.3	41.4	343.2	78.5	264.64	1.297 Level 3		
12,800.0	5,795.0	12,889.7	5,893.0	139.2	138.9	-106.59	-7,220.3	41.5	343.3	75.0	268.34	1.279 Level 3		
12,900.0	5,795.0	12,989.7	5,893.0	141.2	140.8	-106.58	-7,320.3	41.6	343.4	71.4	272.04	1.262 Level 3		
13,000.0	5,795.0	13,089.7	5,893.0	143.1	142.7	-106.58	-7,420.3	41.7	343.5	67.8	275.74	1.246 Level 2		
13,100.0	5,795.0	13,189.7	5,893.0	145.0	144.7	-106.57	-7,520.3	41.8	343.6	64.2	279.44	1.230 Level 2		
13,200.0	5,795.0	13,289.7	5,893.0	146.9	146.6	-106.57	-7,620.3	41.9	343.7	60.6	283.13	1.214 Level 2		
13,300.0	5,795.0	13,389.7	5,893.0	148.8	148.5	-106.56	-7,720.3	42.1	343.8	57.0	286.83	1.199 Level 2		
13,400.0	5,795.0	13,489.7	5,893.0	150.7	150.4	-106.55	-7,820.3	42.2	344.0	53.4	290.54	1.184 Level 2		
13,500.0	5,795.0	13,589.7	5,893.0	152.6	152.3	-106.55	-7,920.3	42.3	344.1	49.8	294.24	1.169 Level 2		
13,552.2	5,795.0	13,641.6	5,893.0	153.6	153.3	-106.55	-7,972.2	42.3	344.1	48.0	296.16	1.162 Level 2, SF		

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor Federal #12H-1315A - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	66.1	66.1					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	66.1	66.1	65.9	0.19	353.565		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	66.1	66.1	65.5	0.64	103.872		
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	66.1	66.1	65.0	1.09	60.879		
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	66.1	66.1	64.6	1.54	43.057		
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	66.1	66.1	64.1	1.99	33.307		
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	66.1	66.1	63.7	2.43	27.157		
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	66.1	66.1	63.2	2.88	22.924		
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	66.1	66.1	62.8	3.33	19.833		
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	66.1	66.1	62.3	3.78	17.477		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.00	0.0	66.1	66.1	61.9	4.23	15.621		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	90.00	0.0	66.1	66.1	61.4	4.68	14.121		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	90.00	0.0	66.1	66.1	61.0	5.13	12.884 CC, ES		
1,300.0	1,300.0	1,298.8	1,298.8	2.8	2.8	90.00	0.0	67.0	67.0	61.4	5.57	12.035		
1,400.0	1,400.0	1,397.6	1,397.6	3.0	3.0	90.00	0.0	69.5	69.6	63.6	5.99	11.616		
1,500.0	1,500.0	1,496.3	1,496.2	3.2	3.2	90.00	0.0	73.8	73.9	67.5	6.42	11.510 SF		
1,600.0	1,600.0	1,594.7	1,594.4	3.5	3.4	-179.53	0.0	79.7	80.8	73.9	6.83	11.830		
1,700.0	1,700.0	1,694.2	1,693.7	3.7	3.6	-179.54	0.0	86.6	90.3	83.1	7.23	12.488		
1,800.0	1,799.9	1,793.6	1,792.8	3.9	3.8	-179.56	0.0	93.5	101.6	94.0	7.64	13.302		
1,900.0	1,899.7	1,892.7	1,891.7	4.1	4.1	-179.57	0.0	100.4	114.6	106.6	8.05	14.246		
2,000.0	1,999.4	1,991.8	1,990.5	4.3	4.3	-179.59	0.0	107.3	128.6	120.1	8.46	15.188		
2,100.0	2,099.2	2,090.8	2,089.3	4.5	4.5	-179.61	0.0	114.2	142.5	133.6	8.89	16.035		
2,200.0	2,198.9	2,189.8	2,188.1	4.7	4.8	-179.62	0.0	121.0	156.4	147.1	9.31	16.799		
2,300.0	2,298.7	2,288.9	2,286.9	5.0	5.0	-179.63	0.0	127.9	170.3	160.6	9.74	17.491		
2,400.0	2,398.4	2,387.9	2,385.6	5.2	5.2	-179.64	-0.1	134.8	184.2	174.1	10.17	18.121		
2,500.0	2,498.2	2,486.9	2,484.4	5.4	5.5	-179.65	-0.1	141.7	198.2	187.6	10.60	18.696		
2,600.0	2,598.0	2,585.9	2,583.2	5.7	5.7	-179.65	-0.1	148.6	212.1	201.0	11.03	19.222		
2,700.0	2,697.7	2,685.0	2,682.0	5.9	6.0	-179.66	-0.1	155.4	226.0	214.5	11.47	19.706		
2,800.0	2,797.5	2,784.0	2,780.8	6.2	6.2	-179.66	-0.1	162.3	239.9	228.0	11.91	20.151		
2,900.0	2,897.2	2,883.0	2,879.6	6.4	6.5	-179.67	-0.1	169.2	253.8	241.5	12.34	20.563		
3,000.0	2,997.0	2,982.0	2,978.4	6.7	6.7	-179.67	-0.1	176.1	267.7	255.0	12.78	20.945		
3,100.0	3,096.7	3,081.1	3,077.2	6.9	7.0	-179.68	-0.1	183.0	281.7	268.4	13.22	21.299		
3,200.0	3,196.5	3,180.1	3,176.0	7.1	7.2	-179.68	-0.1	189.8	295.6	281.9	13.67	21.629		
3,300.0	3,296.2	3,279.1	3,274.7	7.4	7.5	-179.68	-0.1	196.7	309.5	295.4	14.11	21.936		
3,400.0	3,396.0	3,378.1	3,373.5	7.6	7.7	-179.68	-0.1	203.6	323.4	308.9	14.55	22.224		
3,500.0	3,495.7	3,477.2	3,472.3	7.9	8.0	-179.69	-0.1	210.5	337.3	322.3	15.00	22.494		
3,600.0	3,595.5	3,576.2	3,571.1	8.1	8.2	-179.69	-0.1	217.3	351.2	335.8	15.44	22.747		
3,700.0	3,695.3	3,675.2	3,669.9	8.4	8.5	-179.69	-0.1	224.2	365.2	349.3	15.89	22.985		
3,800.0	3,795.0	3,774.3	3,768.7	8.7	8.7	-179.69	-0.1	231.1	379.1	362.8	16.33	23.209		
3,900.0	3,894.8	3,873.3	3,867.5	8.9	9.0	-179.69	-0.1	238.0	393.0	376.2	16.78	23.421		
4,000.0	3,994.5	3,972.3	3,966.3	9.2	9.2	-179.70	-0.1	244.9	406.9	389.7	17.23	23.621		
4,100.0	4,094.3	4,071.3	4,065.0	9.4	9.5	-179.70	-0.1	251.7	420.8	403.2	17.67	23.810		
4,200.0	4,194.0	4,170.4	4,163.8	9.7	9.7	-179.70	-0.2	258.6	434.8	416.6	18.12	23.989		
4,300.0	4,293.8	4,269.4	4,262.6	9.9	10.0	-179.70	-0.2	265.5	448.7	430.1	18.57	24.159		
4,400.0	4,393.5	4,368.4	4,361.4	10.2	10.2	-179.70	-0.2	272.4	462.6	443.6	19.02	24.321		
4,500.0	4,493.3	4,467.4	4,460.2	10.4	10.5	-179.70	-0.2	279.2	476.5	457.0	19.47	24.475		
4,600.0	4,593.0	4,566.5	4,559.0	10.7	10.7	-179.70	-0.2	286.1	490.4	470.5	19.92	24.621		

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

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 S12-T10N-R58W - Razor Federal #12H-1316B - Hz - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	89.99	0.0	99.3	99.3					
100.0	100.0	100.0	100.0	0.1	0.1	89.99	0.0	99.3	99.3	99.1	0.19	531.087		
200.0	200.0	200.0	200.0	0.3	0.3	89.99	0.0	99.3	99.3	98.7	0.64	156.026		
300.0	300.0	300.0	300.0	0.5	0.5	89.99	0.0	99.3	99.3	98.2	1.09	91.445		
400.0	400.0	400.0	400.0	0.8	0.8	89.99	0.0	99.3	99.3	97.8	1.54	64.676		
500.0	500.0	500.0	500.0	1.0	1.0	89.99	0.0	99.3	99.3	97.3	1.99	50.030 CC, ES		
600.0	600.0	598.3	598.3	1.2	1.2	89.99	0.0	100.2	100.2	97.8	2.42	41.427		
700.0	700.0	696.5	696.5	1.4	1.4	90.00	0.0	102.7	102.7	99.9	2.85	36.106		
800.0	800.0	794.6	794.5	1.7	1.6	90.02	0.0	106.9	107.0	103.7	3.28	32.610		
900.0	900.0	892.6	892.3	1.9	1.8	90.03	-0.1	112.8	113.0	109.3	3.73	30.315		
1,000.0	1,000.0	990.3	989.7	2.1	2.1	90.05	-0.1	120.3	120.7	116.5	4.19	28.839		
1,100.0	1,100.0	1,087.7	1,086.7	2.3	2.3	90.07	-0.2	129.4	130.1	125.5	4.66	27.940		
1,200.0	1,200.0	1,186.9	1,185.4	2.6	2.6	90.09	-0.2	139.8	140.5	135.4	5.14	27.315		
1,300.0	1,300.0	1,286.4	1,284.3	2.8	2.8	90.11	-0.3	150.1	150.9	145.3	5.64	26.765		
1,400.0	1,400.0	1,385.8	1,383.2	3.0	3.1	90.13	-0.4	160.5	161.4	155.2	6.14	26.282		
1,500.0	1,500.0	1,485.3	1,482.1	3.2	3.4	90.14	-0.4	170.9	171.8	165.1	6.64	25.858 SF		
1,600.0	1,600.0	1,584.6	1,580.9	3.5	3.7	-179.38	-0.5	181.2	183.1	176.3	6.83	26.811		
1,700.0	1,700.0	1,683.8	1,679.5	3.7	4.0	-179.38	-0.5	191.5	196.1	188.9	7.25	27.047		
1,800.0	1,799.9	1,782.7	1,777.9	3.9	4.3	-179.38	-0.6	201.9	210.9	203.2	7.67	27.481		
1,900.0	1,899.7	1,881.3	1,876.0	4.1	4.5	-179.39	-0.7	212.1	227.3	219.2	8.09	28.084		
2,000.0	1,999.4	1,979.8	1,973.9	4.3	4.8	-179.40	-0.7	222.4	244.7	236.2	8.53	28.699		
2,100.0	2,099.2	2,078.3	2,071.9	4.5	5.1	-179.40	-0.8	232.7	262.1	253.1	8.96	29.245		
2,200.0	2,198.9	2,176.8	2,169.8	4.7	5.4	-179.41	-0.9	242.9	279.4	270.0	9.40	29.733		
2,300.0	2,298.7	2,275.3	2,267.8	5.0	5.7	-179.42	-0.9	253.2	296.8	286.9	9.84	30.172		
2,400.0	2,398.4	2,373.7	2,365.7	5.2	6.0	-179.42	-1.0	263.5	314.1	303.9	10.28	30.567		
2,500.0	2,498.2	2,472.2	2,463.7	5.4	6.3	-179.43	-1.0	273.7	331.5	320.8	10.72	30.925		
2,600.0	2,598.0	2,570.7	2,561.6	5.7	6.6	-179.43	-1.1	284.0	348.9	337.7	11.16	31.251		
2,700.0	2,697.7	2,669.2	2,659.5	5.9	6.8	-179.43	-1.2	294.2	366.2	354.6	11.61	31.548		
2,800.0	2,797.5	2,767.7	2,757.5	6.2	7.1	-179.44	-1.2	304.5	383.6	371.5	12.06	31.821		
2,900.0	2,897.2	2,866.1	2,855.4	6.4	7.4	-179.44	-1.3	314.8	401.0	388.5	12.50	32.071		
3,000.0	2,997.0	2,964.6	2,953.4	6.7	7.7	-179.44	-1.4	325.0	418.3	405.4	12.95	32.302		
3,100.0	3,096.7	3,063.1	3,051.3	6.9	8.0	-179.45	-1.4	335.3	435.7	422.3	13.40	32.516		
3,200.0	3,196.5	3,161.6	3,149.3	7.1	8.3	-179.45	-1.5	345.6	453.1	439.2	13.85	32.713		
3,300.0	3,296.2	3,260.1	3,247.2	7.4	8.6	-179.45	-1.5	355.8	470.4	456.1	14.30	32.897		
3,400.0	3,396.0	3,358.5	3,345.2	7.6	8.9	-179.45	-1.6	366.1	487.8	473.0	14.75	33.069		

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor Federal #12H-1313A
Project:	Weld County, CO	TVD Reference:	WELL @ 4964.1ft (Original Well Elev)
Reference Site:	S12-T10N-R58W	MD Reference:	WELL @ 4964.1ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor Federal #12H-1313A	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 @ 4964.1ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Razor Federal #12H-1313A
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 1.09°

