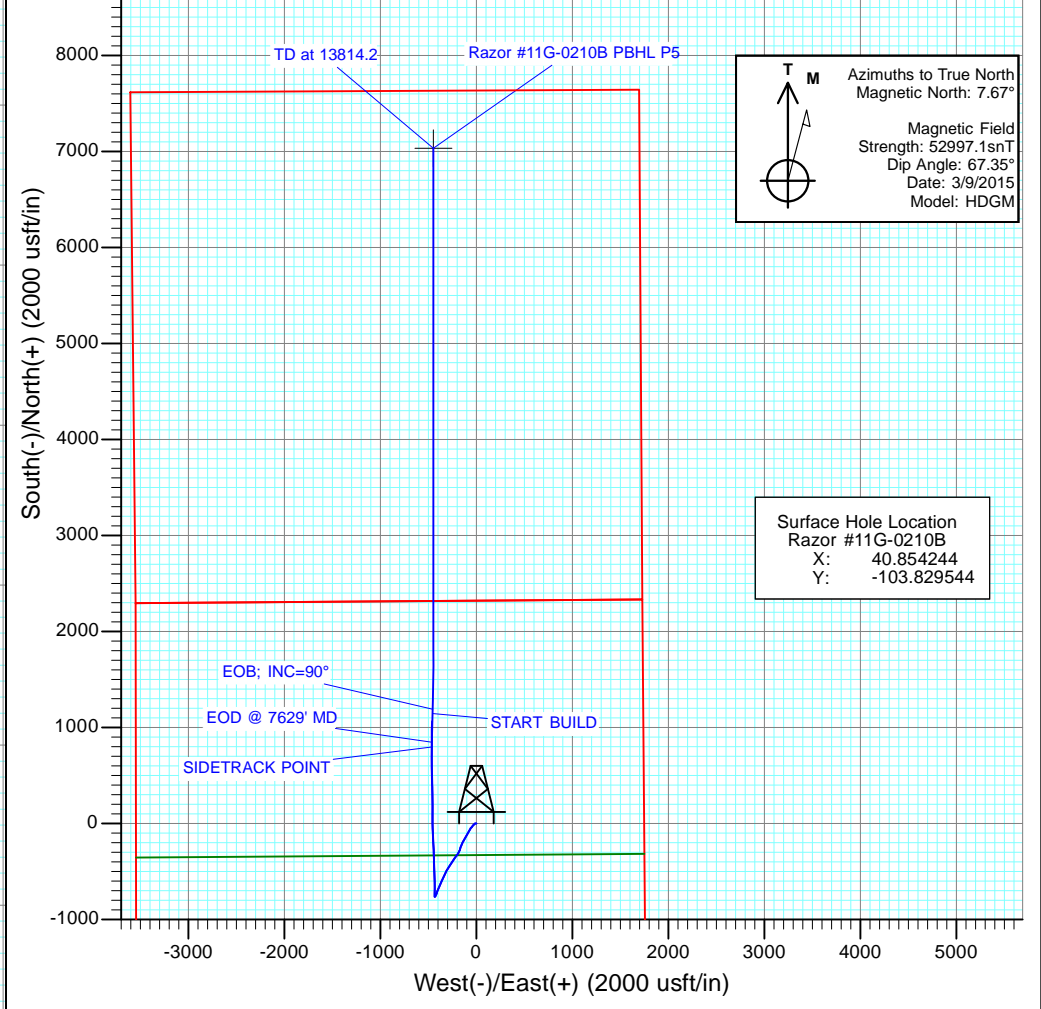



Plan #1
 Razor #11G-0210B
 WELL @ 4989.7usft (Xtreme 18)
 Ground Elevation @ 4972.9
 North American Datum 1983
 Well Razor #11G-0210B, True North

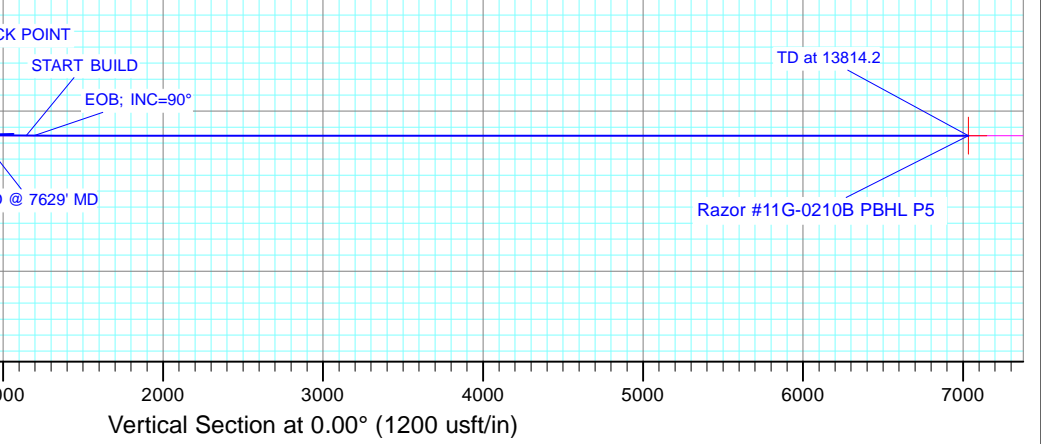
SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1	7579.0	90.97	0.04	6147.7	798.0	-464.8	0.00	0.00	798.0
2	7629.0	89.05	1.65	6147.7	847.9	-464.1	5.00	140.00	847.9
3	7926.0	89.05	1.65	6152.6	1144.8	-455.5	0.00	0.00	1144.8
4	7973.1	90.00	1.60	6153.0	1191.9	-454.2	2.00	-2.70	1191.9
5	8479.2	90.00	0.00	6153.0	1697.9	-447.1	0.32	-89.84	1697.9
6	13814.2	90.00	0.00	6153.0	7032.9	-447.1	0.00	0.00	7032.9




 Azimuths to True North
 Magnetic North: 7.67°
 Magnetic Field
 Strength: 52997.1snT
 Dip Angle: 67.35°
 Date: 3/9/2015
 Model: HDGM

Surface Hole Location
 Razor #11G-0210B
 X: 40.854244
 Y: -103.829544

DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Razor #11G-0210B PBHL P5	6153.0	7032.9	-447.1	40.873547	-103.831161



Planning Report

Database: USA EDM 5000 Multi Users DB	Local Co-ordinate Reference: Well Razor #11G-0210B
Company: Whiting Petroleum Corporation	TVD Reference: WELL @ 4989.7usft (Xtreme 18)
Project: Weld County, CO	MD Reference: WELL @ 4989.7usft (Xtreme 18)
Site: S11-T10N-R58W	North Reference: True
Well: Razor #11G-0210B	Survey Calculation Method: Minimum Curvature
Wellbore: STK	
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: 1,558,620.57 usft	Latitude: 40.854775		
From: Lat/Long	Easting: 3,463,389.92 usft	Longitude: -103.824847		
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16"	Grid Convergence: 1.08 °		

Well Razor #11G-0210B				
Well Position	+N/-S 0.0 usft	Northing: 1,558,402.76 usft	Latitude: 40.854244	
	+E/-W 0.0 usft	Easting: 3,462,094.35 usft	Longitude: -103.829544	
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 4,972.9 usft	

Wellbore STK					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	3/9/2015	7.67	67.35	52,997

Design Plan #1				
Audit Notes:				
Version:	Phase: PLAN	Tie On Depth: 7,579.0		
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
7,579.0	90.97	0.04	6,147.7	798.0	-464.8	0.00	0.00	0.00	0.00	
7,629.0	89.05	1.65	6,147.7	847.9	-464.1	5.00	-3.83	3.21	140.00	
7,926.0	89.05	1.65	6,152.6	1,144.8	-455.5	0.00	0.00	0.00	0.00	
7,973.1	90.00	1.60	6,153.0	1,191.9	-454.2	2.00	2.00	-0.09	-2.70	
8,479.2	90.00	0.00	6,153.0	1,697.9	-447.1	0.32	0.00	-0.32	-89.84	
13,814.2	90.00	0.00	6,153.0	7,032.9	-447.1	0.00	0.00	0.00	0.00	Razor #11G-0210B PI

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #11G-0210B
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4989.7usft (Xtreme 18)
Project:	Weld County, CO	MD Reference:	WELL @ 4989.7usft (Xtreme 18)
Site:	S11-T10N-R58W	North Reference:	True
Well:	Razor #11G-0210B	Survey Calculation Method:	Minimum Curvature
Wellbore:	STK		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
7,579.0	90.97	0.04	6,147.7	798.0	-464.8	798.0	0.00	0.00	SIDETRACK POINT
7,600.0	90.17	0.71	6,147.5	818.9	-464.7	818.9	5.00	-3.83	
7,629.0	89.05	1.65	6,147.7	847.9	-464.1	847.9	5.00	-3.83	EOD @ 7629' MD
7,700.0	89.05	1.65	6,148.9	918.9	-462.0	918.9	0.00	0.00	
7,800.0	89.05	1.65	6,150.5	1,018.8	-459.1	1,018.8	0.00	0.00	
7,900.0	89.05	1.65	6,152.2	1,118.8	-456.3	1,118.8	0.00	0.00	
7,926.0	89.05	1.65	6,152.6	1,144.8	-455.5	1,144.8	0.00	0.00	START BUILD
7,973.1	90.00	1.60	6,153.0	1,191.9	-454.2	1,191.9	2.00	2.00	EOB; INC=90°
8,000.0	90.00	1.52	6,153.0	1,218.7	-453.5	1,218.7	0.32	0.00	
8,100.0	90.00	1.20	6,153.0	1,318.7	-451.1	1,318.7	0.32	0.00	
8,200.0	90.00	0.88	6,153.0	1,418.7	-449.3	1,418.7	0.32	0.00	
8,226.2	90.00	1.60	6,153.0	1,444.8	-447.1	1,444.8	2.74	-0.01	TARGET LINE
8,300.0	90.00	0.57	6,153.0	1,518.7	-448.0	1,518.7	1.40	0.00	
8,400.0	90.00	0.25	6,153.0	1,618.7	-447.3	1,618.7	0.32	0.00	
8,479.2	90.00	0.00	6,153.0	1,697.9	-447.1	1,697.9	0.32	0.00	
8,500.0	90.00	0.00	6,153.0	1,718.7	-447.1	1,718.7	0.00	0.00	
8,600.0	90.00	0.00	6,153.0	1,818.7	-447.1	1,818.7	0.00	0.00	
8,700.0	90.00	0.00	6,153.0	1,918.7	-447.1	1,918.7	0.00	0.00	
8,800.0	90.00	0.00	6,153.0	2,018.7	-447.1	2,018.7	0.00	0.00	
8,900.0	90.00	0.00	6,153.0	2,118.7	-447.1	2,118.7	0.00	0.00	
9,000.0	90.00	0.00	6,153.0	2,218.7	-447.1	2,218.7	0.00	0.00	
9,100.0	90.00	0.00	6,153.0	2,318.7	-447.1	2,318.7	0.00	0.00	
9,200.0	90.00	0.00	6,153.0	2,418.7	-447.1	2,418.7	0.00	0.00	
9,300.0	90.00	0.00	6,153.0	2,518.7	-447.1	2,518.7	0.00	0.00	
9,400.0	90.00	0.00	6,153.0	2,618.7	-447.1	2,618.7	0.00	0.00	
9,500.0	90.00	0.00	6,153.0	2,718.7	-447.1	2,718.7	0.00	0.00	
9,600.0	90.00	0.00	6,153.0	2,818.7	-447.1	2,818.7	0.00	0.00	
9,700.0	90.00	0.00	6,153.0	2,918.7	-447.1	2,918.7	0.00	0.00	
9,800.0	90.00	0.00	6,153.0	3,018.7	-447.1	3,018.7	0.00	0.00	
9,900.0	90.00	0.00	6,153.0	3,118.7	-447.1	3,118.7	0.00	0.00	
10,000.0	90.00	0.00	6,153.0	3,218.7	-447.1	3,218.7	0.00	0.00	
10,100.0	90.00	0.00	6,153.0	3,318.7	-447.1	3,318.7	0.00	0.00	
10,200.0	90.00	0.00	6,153.0	3,418.7	-447.1	3,418.7	0.00	0.00	
10,300.0	90.00	0.00	6,153.0	3,518.7	-447.1	3,518.7	0.00	0.00	
10,400.0	90.00	0.00	6,153.0	3,618.7	-447.1	3,618.7	0.00	0.00	
10,500.0	90.00	0.00	6,153.0	3,718.7	-447.1	3,718.7	0.00	0.00	
10,600.0	90.00	0.00	6,153.0	3,818.7	-447.1	3,818.7	0.00	0.00	
10,700.0	90.00	0.00	6,153.0	3,918.7	-447.1	3,918.7	0.00	0.00	
10,800.0	90.00	0.00	6,153.0	4,018.7	-447.1	4,018.7	0.00	0.00	
10,900.0	90.00	0.00	6,153.0	4,118.7	-447.1	4,118.7	0.00	0.00	
11,000.0	90.00	0.00	6,153.0	4,218.7	-447.1	4,218.7	0.00	0.00	
11,100.0	90.00	0.00	6,153.0	4,318.7	-447.1	4,318.7	0.00	0.00	
11,200.0	90.00	0.00	6,153.0	4,418.7	-447.1	4,418.7	0.00	0.00	
11,300.0	90.00	0.00	6,153.0	4,518.7	-447.1	4,518.7	0.00	0.00	
11,400.0	90.00	0.00	6,153.0	4,618.7	-447.1	4,618.7	0.00	0.00	
11,500.0	90.00	0.00	6,153.0	4,718.7	-447.1	4,718.7	0.00	0.00	
11,600.0	90.00	0.00	6,153.0	4,818.7	-447.1	4,818.7	0.00	0.00	
11,700.0	90.00	0.00	6,153.0	4,918.7	-447.1	4,918.7	0.00	0.00	
11,800.0	90.00	0.00	6,153.0	5,018.7	-447.1	5,018.7	0.00	0.00	
11,900.0	90.00	0.00	6,153.0	5,118.7	-447.1	5,118.7	0.00	0.00	
12,000.0	90.00	0.00	6,153.0	5,218.7	-447.1	5,218.7	0.00	0.00	
12,100.0	90.00	0.00	6,153.0	5,318.7	-447.1	5,318.7	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #11G-0210B
Company:	Whiting Petroleum Corporation	TVD Reference:	WELL @ 4989.7usft (Xtreme 18)
Project:	Weld County, CO	MD Reference:	WELL @ 4989.7usft (Xtreme 18)
Site:	S11-T10N-R58W	North Reference:	True
Well:	Razor #11G-0210B	Survey Calculation Method:	Minimum Curvature
Wellbore:	STK		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
12,200.0	90.00	0.00	6,153.0	5,418.7	-447.1	5,418.7	0.00	0.00	
12,300.0	90.00	0.00	6,153.0	5,518.7	-447.1	5,518.7	0.00	0.00	
12,400.0	90.00	0.00	6,153.0	5,618.7	-447.1	5,618.7	0.00	0.00	
12,500.0	90.00	0.00	6,153.0	5,718.7	-447.1	5,718.7	0.00	0.00	
12,600.0	90.00	0.00	6,153.0	5,818.7	-447.1	5,818.7	0.00	0.00	
12,700.0	90.00	0.00	6,153.0	5,918.7	-447.1	5,918.7	0.00	0.00	
12,800.0	90.00	0.00	6,153.0	6,018.7	-447.1	6,018.7	0.00	0.00	
12,900.0	90.00	0.00	6,153.0	6,118.7	-447.1	6,118.7	0.00	0.00	
13,000.0	90.00	0.00	6,153.0	6,218.7	-447.1	6,218.7	0.00	0.00	
13,100.0	90.00	0.00	6,153.0	6,318.7	-447.1	6,318.7	0.00	0.00	
13,200.0	90.00	0.00	6,153.0	6,418.7	-447.1	6,418.7	0.00	0.00	
13,300.0	90.00	0.00	6,153.0	6,518.7	-447.1	6,518.7	0.00	0.00	
13,400.0	90.00	0.00	6,153.0	6,618.7	-447.1	6,618.7	0.00	0.00	
13,500.0	90.00	0.00	6,153.0	6,718.7	-447.1	6,718.7	0.00	0.00	
13,600.0	90.00	0.00	6,153.0	6,818.7	-447.1	6,818.7	0.00	0.00	
13,700.0	90.00	0.00	6,153.0	6,918.7	-447.1	6,918.7	0.00	0.00	
13,800.0	90.00	0.00	6,153.0	7,018.7	-447.1	7,018.7	0.00	0.00	
13,814.2	90.00	0.00	6,153.0	7,032.9	-447.1	7,032.9	0.00	0.00	TD at 13814.2 - Razor #11G-0210B PBHL P5

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Razor #11G-0210B PBH - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	6,153.0	7,032.9	-447.1	1,565,426.01	3,461,514.83	40.873547	-103.831161

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
8,226.2	6,153.0	TARGET LINE		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
7,579.0	6,147.7	798.0	-464.8	SIDETRACK POINT	
7,629.0	6,147.7	847.9	-464.1	EOD @ 7629' MD	
7,926.0	6,152.6	1,144.8	-455.5	START BUILD	
7,973.1	6,153.0	1,191.9	-454.2	EOB; INC=90°	
13,814.2	6,153.0	7,032.9	-447.1	TD at 13814.2	

Whiting Petroleum Corporation

Weld County, CO

S11-T10N-R58W

Razor #11G-0210B

STK

Plan #1

Anticollision Report

09 March, 2015

Anticollision Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #11G-0210B
Project:	Weld County, CO	TVD Reference:	WELL @ 4989.7usft (Xtreme 18)
Reference Site:	S11-T10N-R58W	MD Reference:	WELL @ 4989.7usft (Xtreme 18)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Razor #11G-0210B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	STK	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:	Stations	Error Model:	Systematic Ellipse
Depth Range:	7,579.0 to 9,999,999.0usft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	3/9/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
165.0	7,579.0	Survey #1 (HZ)	ISCWSA MWD	MWD - ISCWSA
7,579.0	13,814.1	Plan #1 (STK)	ISCWSA MWD	MWD - ISCWSA

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S11-T10N-R58W						
Razor #11G-0210B - HZ - SURVEYS	7,579.0	7,579.0	0.0	0.0	0.000	Level 1, CC, SF
Razor #11G-0210B - HZ - SURVEYS	7,600.0	7,600.0	0.2	-0.2	0.511	Level 1, ES

Offset Design													Offset Site Error:	0.0 usft
S11-T10N-R58W - Razor #11G-0210B - HZ - SURVEYS													Offset Well Error:	0.0 usft
Survey Program: 165-ISCWSA MWD														
		Offset		Semi Major Axis			Distance				Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Factor		
7,579.0	6,147.7	7,579.0	6,147.7	0.0	0.0	0.00	798.0	-464.8	0.0	0.0	0.00	0.000	Level 1, CC, SF	
7,587.4	6,147.6	7,587.4	6,147.6	0.1	0.1	-42.53	806.4	-464.8	0.0	-0.1	0.17	0.199	Level 1	
7,600.0	6,147.5	7,600.0	6,147.3	0.3	0.3	-42.52	819.0	-464.8	0.2	-0.2	0.40	0.511	Level 1, ES	
7,629.0	6,147.7	7,629.0	6,146.8	0.5	0.7	-42.53	847.9	-464.9	1.2	0.3	0.90	1.305	Level 3	
7,700.0	6,148.9	7,699.9	6,145.5	1.3	1.7	-41.91	918.9	-465.0	4.5	2.4	2.12	2.125		
7,800.0	6,150.5	7,799.8	6,143.3	2.4	3.1	-28.78	1,018.7	-463.1	8.2	5.0	3.17	2.580		
7,900.0	6,152.2	7,846.0	6,141.6	3.6	3.8	-23.22	1,064.8	-462.0	55.3	51.6	3.73	14.824		
7,926.0	6,152.6	7,846.0	6,141.6	3.9	3.8	-23.22	1,064.8	-462.0	81.0	77.1	3.86	20.962		
7,973.1	6,153.0	7,846.0	6,141.6	4.5	3.8	-20.39	1,064.8	-462.0	127.8	123.9	3.86	33.085		
8,000.0	6,153.0	7,846.0	6,141.6	4.9	3.8	-21.31	1,064.8	-462.0	154.6	150.5	4.09	37.785		
8,100.0	6,153.0	7,846.0	6,141.6	6.2	3.8	-26.08	1,064.8	-462.0	254.4	249.2	5.22	48.775		
8,200.0	6,153.0	7,846.0	6,141.6	7.5	3.8	-32.51	1,064.8	-462.0	354.3	347.5	6.81	52.025		
8,300.0	6,153.0	7,846.0	6,141.6	9.0	3.8	-39.82	1,064.8	-462.0	454.2	445.4	8.80	51.603		
8,400.0	6,153.0	7,846.0	6,141.6	10.5	3.8	-47.16	1,064.8	-462.0	554.2	543.1	11.03	50.244		
8,479.2	6,153.0	7,846.0	6,141.6	11.7	3.8	-52.56	1,064.8	-462.0	633.4	620.5	12.85	49.289		
8,500.0	6,153.0	7,846.0	6,141.6	12.0	3.8	-52.56	1,064.8	-462.0	654.1	641.0	13.12	49.854		
8,600.0	6,153.0	7,846.0	6,141.6	13.6	3.8	-52.56	1,064.8	-462.0	754.1	739.7	14.43	52.248		
8,700.0	6,153.0	7,846.0	6,141.6	15.2	3.8	-52.56	1,064.8	-462.0	854.1	838.3	15.78	54.135		
8,800.0	6,153.0	7,846.0	6,141.6	16.8	3.8	-52.56	1,064.8	-462.0	954.1	936.9	17.15	55.637		

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 #11G-0210B
Project:	Weld County, CO	TVD Reference:	WELL @ 4989.7usft (Xtreme 18)
Reference Site:	S11-T10N-R58W	MD Reference:	WELL @ 4989.7usft (Xtreme 18)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Razor #11G-0210B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	STK	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4989.7usft (Xtreme 18)	Coordinates are relative to: Razor #11G-0210B
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 1.08°

