



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_NRC 20-8 PAD**

**P\_NRC 23-8**

**P\_NRC 23-8**

**Plan: PLAN #1 1-5-10 RHS**

## **Standard Planning Report**

**05 January, 2010**





Azimuths to True North  
Magnetic North: 9.07°  
  
Magnetic Field  
Strength: 53106.6nT  
Dip Angle: 66.81°  
Date: 1/5/2010  
Model: IGRF200510

#### WELL DETAILS: P\_NRC 23-8

+N/-S	+E/-W	Northing	Ground Level:	5056.00	Longitude	Slot
0.00	0.00	1265676.45	Easting	3165100.01	40° 3' 40.190 N	104° 54' 36.529 W

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3273.00	3341.05	PARKMAN
4748.00	4876.90	SUSSEX
5218.00	5366.29	SHANNON
7388.00	7562.34	NIO A
7728.00	7902.34	CODELL
8178.00	8352.34	JSAND

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1085.00	0.00	0.00	1085.00	0.00	0.00	0.00	0.00	0.00	
1894.14	16.18	282.80	1883.42	25.15	-110.69	2.00	282.80	113.51	
5753.20	16.18	282.80	5589.58	263.41	-1159.49	0.00	0.00	1189.04	
6562.34	0.00	0.00	6388.00	288.55	-1270.18	2.00	180.00	1302.55	
8487.34	0.00	0.00	8313.00	288.55	-1270.18	0.00	0.00	1302.55	PBHL_NRC 23-8(1320 FSL 2590 FWL)50'TGT RAD

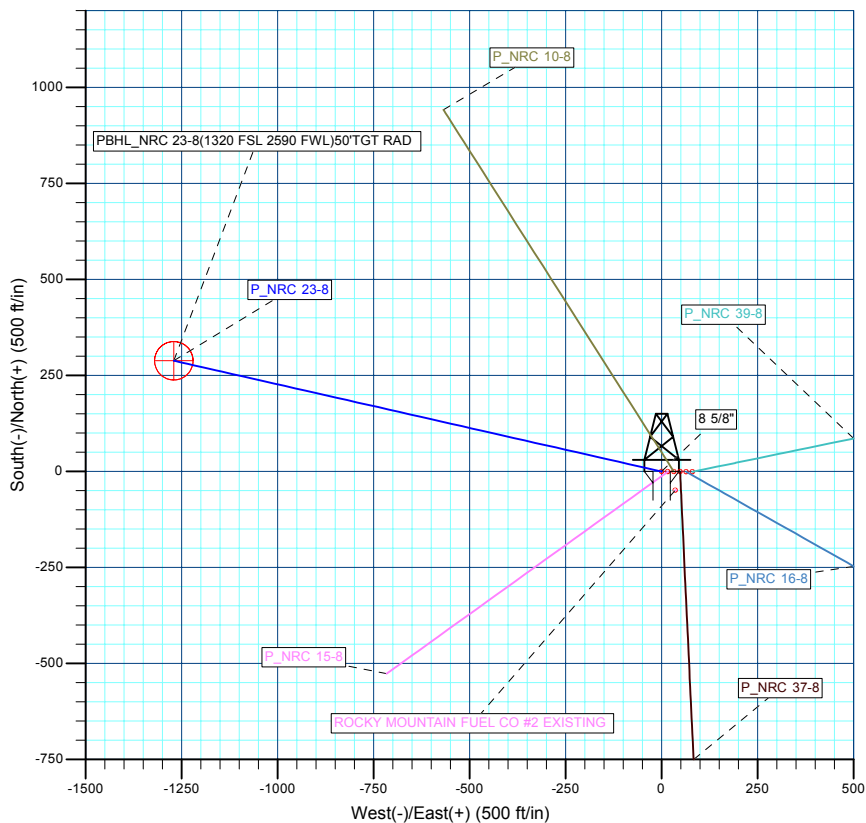
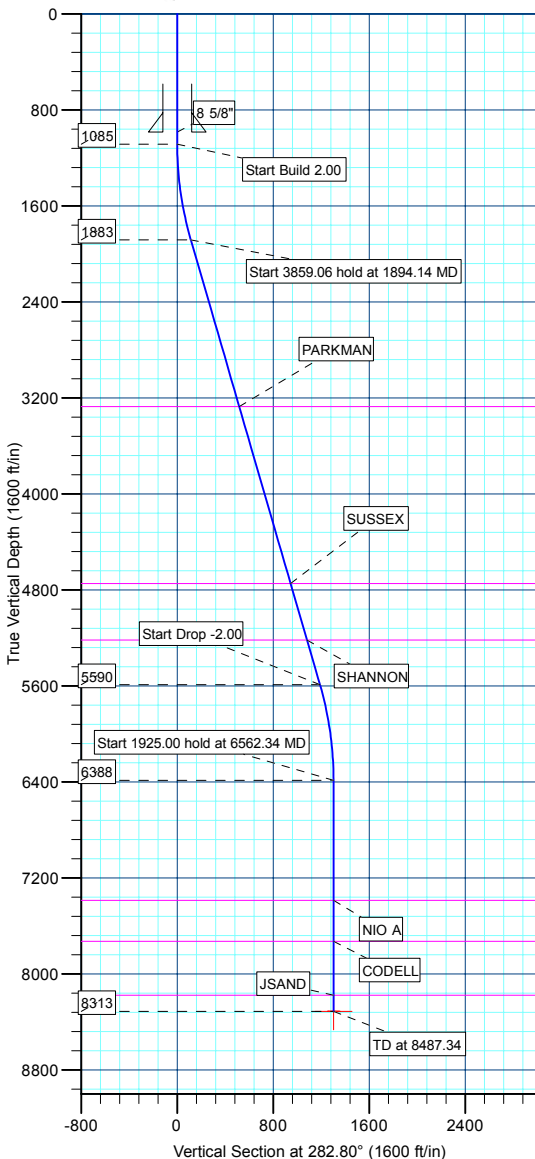
#### CASING DETAILS

TVD	MD	Name	Size
985.00	985.00	8 5/8"	8.62



KB ELEV: WELL @ 5071.00ft (Original Well Elev)

GRD ELEV: 5056.00



#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBH	8313.00	288.55	-1270.18	1265956.55	3163827.94	40° 3' 43.042 N	104° 54' 52.866 W	Circle (Radius: 50.00)

Plan: PLAN #1 1-5-10 RHS (P\_NRC 23-8/P\_NRC 23-8)

Created By: Robert H. Scott

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-8 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 23-8		
<b>Design:</b>	PLAN #1 1-5-10 RHS		

<b>Project</b>	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WELD_NRC 20-8 PAD, SECTION 8 T1N R67W			
Site Position:		Northing:	1,265,676.31 ft	Latitude:	40° 3' 40.187 N
From:	Lat/Long	Easting:	3,165,132.20 ft	Longitude:	104° 54' 36.115 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.38 °

Well	P_NRC 23-8,					
Well Position	+N/-S	0.35 ft	Northing:	1,265,676.45 ft	Latitude:	40° 3' 40.190 N
	+E/-W	-32.19 ft	Easting:	3,165,100.01 ft	Longitude:	104° 54' 36.529 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,056.00 ft

<b>Wellbore</b>	P_NRC 23-8				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	1/5/2010	9.07	66.81	53,107

<b>Design</b>	PLAN #1 1-5-10 RHS			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	282.80

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,085.00	0.00	0.00	1,085.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,894.14	16.18	282.80	1,883.42	25.15	-110.69	2.00	2.00	0.00	282.80	
5,753.20	16.18	282.80	5,589.58	263.41	-1,159.49	0.00	0.00	0.00	0.00	
6,562.34	0.00	0.00	6,388.00	288.55	-1,270.18	2.00	-2.00	0.00	180.00	
8,487.34	0.00	0.00	8,313.00	288.55	-1,270.18	0.00	0.00	0.00	0.00	PBHL_NRC 23-8(1:

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-8 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 23-8		
<b>Design:</b>	PLAN #1 1-5-10 RHS		

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)	Turn Rate (°/100ft)
<b>Start Build 2.00</b>									
1,085.00	0.00	0.00	1,085.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.30	282.80	1,100.00	0.01	-0.04	0.04	2.00	2.00	0.00
1,200.00	2.30	282.80	1,199.97	0.51	-2.25	2.31	2.00	2.00	0.00
1,300.00	4.30	282.80	1,299.80	1.79	-7.86	8.06	2.00	2.00	0.00
1,400.00	6.30	282.80	1,399.37	3.83	-16.87	17.30	2.00	2.00	0.00
1,500.00	8.30	282.80	1,498.55	6.65	-29.26	30.01	2.00	2.00	0.00
1,600.00	10.30	282.80	1,597.23	10.23	-45.02	46.17	2.00	2.00	0.00
1,700.00	12.30	282.80	1,695.29	14.57	-64.13	65.76	2.00	2.00	0.00
1,800.00	14.30	282.80	1,792.60	19.66	-86.56	88.76	2.00	2.00	0.00
<b>Start 3859.06 hold at 1894.14 MD</b>									
1,894.14	16.18	282.80	1,883.42	25.15	-110.69	113.51	2.00	2.00	0.00
1,900.00	16.18	282.80	1,889.05	25.51	-112.28	115.14	0.00	0.00	0.00
2,000.00	16.18	282.80	1,985.09	31.68	-139.46	143.01	0.00	0.00	0.00
2,100.00	16.18	282.80	2,081.13	37.86	-166.64	170.88	0.00	0.00	0.00
2,200.00	16.18	282.80	2,177.17	44.03	-193.82	198.75	0.00	0.00	0.00
2,300.00	16.18	282.80	2,273.20	50.20	-220.99	226.62	0.00	0.00	0.00
2,400.00	16.18	282.80	2,369.24	56.38	-248.17	254.49	0.00	0.00	0.00
2,500.00	16.18	282.80	2,465.28	62.55	-275.35	282.36	0.00	0.00	0.00
2,600.00	16.18	282.80	2,561.32	68.73	-302.53	310.24	0.00	0.00	0.00
2,700.00	16.18	282.80	2,657.35	74.90	-329.70	338.11	0.00	0.00	0.00
2,800.00	16.18	282.80	2,753.39	81.07	-356.88	365.98	0.00	0.00	0.00
2,900.00	16.18	282.80	2,849.43	87.25	-384.06	393.85	0.00	0.00	0.00
3,000.00	16.18	282.80	2,945.47	93.42	-411.24	421.72	0.00	0.00	0.00
3,100.00	16.18	282.80	3,041.51	99.60	-438.42	449.59	0.00	0.00	0.00
3,200.00	16.18	282.80	3,137.54	105.77	-465.59	477.46	0.00	0.00	0.00
3,300.00	16.18	282.80	3,233.58	111.94	-492.77	505.33	0.00	0.00	0.00
<b>PARKMAN</b>									
3,341.05	16.18	282.80	3,273.00	114.48	-503.93	516.77	0.00	0.00	0.00
3,400.00	16.18	282.80	3,329.62	118.12	-519.95	533.20	0.00	0.00	0.00
3,500.00	16.18	282.80	3,425.66	124.29	-547.13	561.07	0.00	0.00	0.00
3,600.00	16.18	282.80	3,521.69	130.47	-574.30	588.94	0.00	0.00	0.00
3,700.00	16.18	282.80	3,617.73	136.64	-601.48	616.81	0.00	0.00	0.00
3,800.00	16.18	282.80	3,713.77	142.81	-628.66	644.68	0.00	0.00	0.00
3,900.00	16.18	282.80	3,809.81	148.99	-655.84	672.55	0.00	0.00	0.00
4,000.00	16.18	282.80	3,905.85	155.16	-683.02	700.42	0.00	0.00	0.00
4,100.00	16.18	282.80	4,001.88	161.34	-710.19	728.29	0.00	0.00	0.00
4,200.00	16.18	282.80	4,097.92	167.51	-737.37	756.16	0.00	0.00	0.00
4,300.00	16.18	282.80	4,193.96	173.69	-764.55	784.03	0.00	0.00	0.00
4,400.00	16.18	282.80	4,290.00	179.86	-791.73	811.90	0.00	0.00	0.00
4,500.00	16.18	282.80	4,386.03	186.03	-818.90	839.77	0.00	0.00	0.00
4,600.00	16.18	282.80	4,482.07	192.21	-846.08	867.64	0.00	0.00	0.00
4,700.00	16.18	282.80	4,578.11	198.38	-873.26	895.51	0.00	0.00	0.00
4,800.00	16.18	282.80	4,674.15	204.56	-900.44	923.38	0.00	0.00	0.00
<b>SUSSEX</b>									
4,876.90	16.18	282.80	4,748.00	209.30	-921.34	944.81	0.00	0.00	0.00
4,900.00	16.18	282.80	4,770.19	210.73	-927.62	951.25	0.00	0.00	0.00
5,000.00	16.18	282.80	4,866.22	216.90	-954.79	979.12	0.00	0.00	0.00
5,100.00	16.18	282.80	4,962.26	223.08	-981.97	1,006.99	0.00	0.00	0.00
5,200.00	16.18	282.80	5,058.30	229.25	-1,009.15	1,034.86	0.00	0.00	0.00
5,300.00	16.18	282.80	5,154.34	235.43	-1,036.33	1,062.73	0.00	0.00	0.00
<b>SHANNON</b>									
5,366.29	16.18	282.80	5,218.00	239.52	-1,054.34	1,081.21	0.00	0.00	0.00

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-8 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 23-8		
<b>Design:</b>	PLAN #1 1-5-10 RHS		

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)	Turn Rate (°/100ft)
5,400.00	16.18	282.80	5,250.37	241.60	-1,063.50	1,090.60	0.00	0.00	0.00
5,500.00	16.18	282.80	5,346.41	247.77	-1,090.68	1,118.47	0.00	0.00	0.00
5,600.00	16.18	282.80	5,442.45	253.95	-1,117.86	1,146.34	0.00	0.00	0.00
5,700.00	16.18	282.80	5,538.49	260.12	-1,145.04	1,174.21	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,753.20	16.18	282.80	5,589.58	263.41	-1,159.49	1,189.04	0.00	0.00	0.00
5,800.00	15.25	282.80	5,634.63	266.21	-1,171.86	1,201.71	2.00	-2.00	0.00
5,900.00	13.25	282.80	5,731.55	271.67	-1,195.85	1,226.32	2.00	-2.00	0.00
6,000.00	11.25	282.80	5,829.27	276.37	-1,216.54	1,247.53	2.00	-2.00	0.00
6,100.00	9.25	282.80	5,927.67	280.31	-1,233.88	1,265.32	2.00	-2.00	0.00
6,200.00	7.25	282.80	6,026.63	283.48	-1,247.87	1,279.66	2.00	-2.00	0.00
6,300.00	5.25	282.80	6,126.03	285.89	-1,258.48	1,290.55	2.00	-2.00	0.00
6,400.00	3.25	282.80	6,225.75	287.53	-1,265.70	1,297.95	2.00	-2.00	0.00
6,500.00	1.25	282.80	6,325.67	288.40	-1,269.52	1,301.87	2.00	-2.00	0.00
<b>Start 1925.00 hold at 6562.34 MD</b>									
6,562.34	0.00	0.00	6,388.00	288.55	-1,270.18	1,302.55	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,425.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
6,700.00	0.00	0.00	6,525.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
6,800.00	0.00	0.00	6,625.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
6,900.00	0.00	0.00	6,725.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,000.00	0.00	0.00	6,825.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,100.00	0.00	0.00	6,925.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,200.00	0.00	0.00	7,025.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,300.00	0.00	0.00	7,125.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,400.00	0.00	0.00	7,225.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,500.00	0.00	0.00	7,325.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
<b>NIO A</b>									
7,562.34	0.00	0.00	7,388.00	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,600.00	0.00	0.00	7,425.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,700.00	0.00	0.00	7,525.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,800.00	0.00	0.00	7,625.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
7,900.00	0.00	0.00	7,725.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
<b>CODELL</b>									
7,902.34	0.00	0.00	7,728.00	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
8,000.00	0.00	0.00	7,825.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
8,100.00	0.00	0.00	7,925.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
8,200.00	0.00	0.00	8,025.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
8,300.00	0.00	0.00	8,125.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
<b>JSAND</b>									
8,352.34	0.00	0.00	8,178.00	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
8,400.00	0.00	0.00	8,225.66	288.55	-1,270.18	1,302.55	0.00	0.00	0.00
<b>PBHL_NRC 23-8(1320 FSL 2590 FWL)50'TGT RAD</b>									
8,487.34	0.00	0.00	8,313.00	288.55	-1,270.18	1,302.55	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-8 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 23-8		
<b>Design:</b>	PLAN #1 1-5-10 RHS		

Design 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)		
PBHL_NRC 23-8(132	0.00	0.00	8,313.00	288.55	-1,270.18	1,265,956.55	3,163,827.94	40° 3' 43.042 N	104° 54' 52.866 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(in)	(in)
	985.00	985.00	8 5/8"	8.62	11.00

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(ft)	(ft)	Name	Lithology	(°)	(°)
	3,341.05	3,273.00	PARKMAN			
	4,876.90	4,748.00	SUSSEX			
	5,366.29	5,218.00	SHANNON			
	7,562.34	7,388.00	NIO A			
	7,902.34	7,728.00	CODELL			
	8,352.34	8,178.00	JSAND			

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(ft)	(ft)	+N/-S	+E/-W	Comment
	(ft)	(ft)	(ft)	(ft)	
	1,085.00	1,085.00	0.00	0.00	Start Build 2.00
	1,894.14	1,883.42	25.15	-110.69	Start 3859.06 hold at 1894.14 MD
	5,753.20	5,589.58	263.41	-1,159.49	Start Drop -2.00
	6,562.34	6,388.00	288.55	-1,270.18	Start 1925.00 hold at 6562.34 MD
	8,487.34	8,313.00	288.55	-1,270.18	TD at 8487.34



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_NRC 20-8 PAD  
P\_NRC 23-8**

**P\_NRC 23-8  
PLAN #1 1-5-10 RHS**

## **Anticollision Report**

**05 January, 2010**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 1-5-10 RHS		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	0.00 to 20,000.00ft	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 1/5/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,487.34	PLAN #1 1-5-10 RHS (P_NRC 23-8)	MWD	MWD - Standard

<b>Summary</b>						
Site Name	Reference	Offset	Distance		Separation	Warning
Offset Well - Wellbore - Design	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)	Factor	
WELD_NRC 20-8 PAD						
P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	32.19	27.57	6.969 CC	
P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS	1,100.00	1,100.09	32.21	27.52	6.875 ES	
P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS	1,200.00	1,200.68	33.21	28.10	6.504 SF	
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	16.24	11.62	3.516 CC	
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,100.00	1,100.07	16.25	11.56	3.470 ES	
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,200.00	1,200.49	16.75	11.69	3.308 SF	
P_NRC 16-8 - P_NRC 16-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	64.10	59.48	13.878 CC, ES	
P_NRC 16-8 - P_NRC 16-8 - PLAN #1 1-5-10 RHS	1,200.00	1,197.61	68.36	63.30	13.505 SF	
P_NRC 37-8 - P_NRC 37-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	48.14	43.53	10.423 CC	
P_NRC 37-8 - P_NRC 37-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.99	48.19	43.51	10.296 ES	
P_NRC 37-8 - P_NRC 37-8 - PLAN #1 1-5-10 RHS	1,200.00	1,199.78	50.60	45.55	10.020 SF	
P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	80.06	75.44	17.332 CC, ES	
P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS	1,200.00	1,196.78	84.50	79.42	16.636 SF	
ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY I	1,085.00	1,067.00	60.39	17.40	1.405 Level 3, CC	
ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY I	1,200.00	1,181.97	62.15	14.34	1.300 Level 3, ES	
ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY I	1,300.00	1,281.80	66.67	14.72	1.283 Level 3, SF	

<b>Offset Design</b>	WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS											<b>Offset Site Error:</b>	0.00 ft
<b>Survey Program:</b>	0-MWD											<b>Offset Well Error:</b>	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	90.63	-0.35	32.19	32.19				
100.00	100.00	100.00	100.00	0.10	0.10	90.63	-0.35	32.19	32.19	32.00	0.19	168.493	
200.00	200.00	200.00	200.00	0.32	0.32	90.63	-0.35	32.19	32.19	31.55	0.64	50.252	
300.00	300.00	300.00	300.00	0.55	0.55	90.63	-0.35	32.19	32.19	31.10	1.09	29.530	
400.00	400.00	400.00	400.00	0.77	0.77	90.63	-0.35	32.19	32.19	30.65	1.54	20.908	
500.00	500.00	500.00	500.00	0.99	0.99	90.63	-0.35	32.19	32.19	30.20	1.99	16.183	
600.00	600.00	600.00	600.00	1.22	1.22	90.63	-0.35	32.19	32.19	29.75	2.44	13.200	
700.00	700.00	700.00	700.00	1.44	1.44	90.63	-0.35	32.19	32.19	29.30	2.89	11.145	
800.00	800.00	800.00	800.00	1.67	1.67	90.63	-0.35	32.19	32.19	28.85	3.34	9.644	
900.00	900.00	900.00	900.00	1.89	1.89	90.63	-0.35	32.19	32.19	28.40	3.79	8.500	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	90.63	-0.35	32.19	32.19	27.95	4.24	7.598	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	90.63	-0.35	32.19	32.19	27.57	4.62	6.969 CC	

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



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<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS												<b>Offset Site Error:</b>	0.00 ft
<b>Survey Program:</b> 0-MWD												<b>Offset Well Error:</b>	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
1,100.00	1,100.00	1,100.09	1,100.09	2.34	2.34	167.78	-0.32	32.17	32.21	27.52	4.68	6.875 ES	
1,200.00	1,199.97	1,200.68	1,200.65	2.55	2.57	165.29	1.62	30.93	33.21	28.10	5.11	6.504 SF	
1,300.00	1,299.80	1,301.15	1,300.94	2.76	2.79	159.63	6.52	27.81	36.01	30.48	5.53	6.514	
1,400.00	1,399.37	1,401.39	1,400.74	2.99	3.02	152.29	14.37	22.81	41.08	35.12	5.96	6.893	
1,500.00	1,498.55	1,501.29	1,499.83	3.24	3.27	144.83	25.12	15.97	48.87	42.45	6.42	7.611	
1,600.00	1,597.23	1,600.76	1,597.98	3.51	3.55	138.27	38.70	7.32	59.59	52.66	6.93	8.597	
1,700.00	1,695.29	1,699.69	1,694.99	3.83	3.85	132.93	55.06	-3.10	73.24	65.73	7.51	9.754	
1,800.00	1,792.60	1,798.01	1,790.67	4.20	4.20	128.72	74.10	-15.23	89.75	81.59	8.17	10.988	
1,894.14	1,883.42	1,889.91	1,879.36	4.59	4.58	125.60	94.40	-28.15	107.82	98.94	8.88	12.147	
1,900.00	1,889.05	1,895.61	1,884.84	4.62	4.60	125.44	95.74	-29.00	109.02	100.10	8.92	12.218	
2,000.00	1,985.09	1,992.55	1,977.44	5.09	5.05	122.47	119.89	-44.38	129.92	120.12	9.79	13.265	
2,100.00	2,081.13	2,088.74	2,068.33	5.58	5.55	119.11	146.46	-61.30	151.83	141.08	10.75	14.123	
2,200.00	2,177.17	2,183.99	2,157.23	6.08	6.12	115.60	175.28	-79.66	175.09	163.31	11.78	14.865	
2,300.00	2,273.20	2,278.10	2,243.91	6.60	6.74	112.06	206.20	-99.35	199.98	187.12	12.86	15.552	
2,400.00	2,369.24	2,371.95	2,329.18	7.14	7.41	108.61	239.25	-120.40	226.66	212.68	13.97	16.220	
2,500.00	2,465.28	2,467.33	2,415.58	7.68	8.12	105.70	273.35	-142.11	254.28	239.17	15.11	16.826	
2,600.00	2,561.32	2,562.72	2,501.97	8.22	8.86	103.36	307.44	-163.82	282.39	266.14	16.25	17.379	
2,700.00	2,657.35	2,658.10	2,588.36	8.78	9.60	101.44	341.53	-185.53	310.87	293.48	17.39	17.880	
2,800.00	2,753.39	2,753.48	2,674.76	9.33	10.36	99.84	375.63	-207.24	339.61	321.09	18.52	18.333	
2,900.00	2,849.43	2,848.86	2,761.15	9.89	11.13	98.49	409.72	-228.96	368.56	348.90	19.66	18.743	
3,000.00	2,945.47	2,944.24	2,847.55	10.46	11.90	97.33	443.81	-250.67	397.68	376.87	20.80	19.115	
3,100.00	3,041.51	3,039.62	2,933.94	11.02	12.68	96.33	477.91	-272.38	426.92	404.97	21.95	19.454	
3,200.00	3,137.54	3,135.00	3,020.33	11.59	13.46	95.46	512.00	-294.09	456.26	433.18	23.09	19.762	
3,300.00	3,233.58	3,230.39	3,106.73	12.16	14.24	94.70	546.10	-315.80	485.69	461.46	24.23	20.044	
3,400.00	3,329.62	3,325.77	3,193.12	12.74	15.03	94.02	580.19	-337.51	515.19	489.82	25.38	20.302	
3,500.00	3,425.66	3,421.15	3,279.51	13.31	15.82	93.41	614.28	-359.22	544.75	518.23	26.52	20.540	
3,600.00	3,521.69	3,516.53	3,365.91	13.89	16.62	92.87	648.38	-380.94	574.36	546.69	27.67	20.759	
3,700.00	3,617.73	3,611.91	3,452.30	14.46	17.41	92.38	682.47	-402.65	604.01	575.20	28.82	20.961	
3,800.00	3,713.77	3,708.17	3,539.49	15.04	18.21	91.94	716.87	-424.56	633.70	603.73	29.96	21.148	
3,900.00	3,809.81	3,820.66	3,642.38	15.62	19.01	91.63	755.20	-448.96	662.06	630.93	31.12	21.272	
4,000.00	3,905.85	3,934.90	3,748.62	16.20	19.68	91.64	790.60	-471.51	687.92	655.69	32.23	21.343	
4,100.00	4,001.88	4,050.56	3,857.80	16.78	20.31	91.94	822.78	-492.00	711.25	677.90	33.35	21.327	
4,200.00	4,097.92	4,167.28	3,969.46	17.36	20.89	92.50	851.46	-510.27	732.03	697.56	34.47	21.236	
4,300.00	4,193.96	4,284.69	4,083.07	17.94	21.41	93.32	876.42	-526.16	750.30	714.72	35.59	21.084	
4,400.00	4,290.00	4,402.40	4,198.10	18.52	21.86	94.38	897.47	-539.56	766.16	729.47	36.69	20.884	
4,500.00	4,386.03	4,520.02	4,313.96	19.10	22.24	95.67	914.51	-550.42	779.72	741.96	37.76	20.652	
4,600.00	4,482.07	4,637.14	4,430.05	19.69	22.55	97.17	927.48	-558.67	791.16	752.37	38.79	20.396	
4,700.00	4,578.11	4,753.38	4,545.81	20.27	22.79	98.89	936.38	-564.34	800.70	760.92	39.78	20.129	
4,800.00	4,674.15	4,868.37	4,660.65	20.85	22.97	100.81	941.28	-567.46	808.59	767.88	40.71	19.863	
4,900.00	4,770.19	4,977.92	4,770.19	21.44	23.09	102.85	942.40	-568.18	815.19	773.63	41.56	19.614	
5,000.00	4,866.22	5,073.96	4,866.22	22.02	23.18	104.68	942.40	-568.18	822.08	779.74	42.34	19.415	
5,100.00	4,962.26	5,170.00	4,962.26	22.61	23.27	106.47	942.40	-568.18	829.85	786.76	43.09	19.257	
5,200.00	5,058.30	5,266.04	5,058.30	23.19	23.37	108.23	942.40	-568.18	838.47	794.67	43.81	19.140	
5,300.00	5,154.34	5,362.08	5,154.34	23.78	23.47	109.96	942.40	-568.18	847.93	803.44	44.49	19.059	
5,400.00	5,250.37	5,458.11	5,250.37	24.36	23.56	111.65	942.40	-568.18	858.18	813.04	45.14	19.012	
5,500.00	5,346.41	5,554.15	5,346.41	24.95	23.66	113.30	942.40	-568.18	869.21	823.45	45.76	18.997	
5,600.00	5,442.45	5,650.19	5,442.45	25.53	23.76	114.91	942.40	-568.18	880.98	834.63	46.34	19.010	
5,700.00	5,538.49	5,746.23	5,538.49	26.12	23.87	116.48	942.40	-568.18	893.46	846.56	46.90	19.050	
5,753.20	5,589.58	5,797.32	5,589.58	26.43	23.92	117.30	942.40	-568.18	900.38	853.20	47.19	19.082	
5,800.00	5,634.63	5,842.37	5,634.63	26.67	23.97	118.10	942.40	-568.18	906.45	859.02	47.43	19.111	
5,900.00	5,731.55	5,939.29	5,731.55	27.07	24.08	119.63	942.40	-568.18	918.62	870.76	47.86	19.194	
6,000.00	5,829.27	6,037.01	5,829.27	27.43	24.19	120.94	942.40	-568.18	929.50	881.26	48.25	19.266	

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

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<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
6,100.00	5,927.67	6,135.41	5,927.67	27.74	24.30	122.02	942.40	-568.18	938.90	890.31	48.59	19.321	
6,200.00	6,026.63	6,234.37	6,026.63	28.01	24.41	122.88	942.40	-568.18	946.65	897.75	48.91	19.356	
6,300.00	6,126.03	6,333.77	6,126.03	28.23	24.53	123.53	942.40	-568.18	952.64	903.45	49.19	19.366	
6,400.00	6,225.75	6,433.49	6,225.75	28.41	24.64	123.96	942.40	-568.18	956.76	907.31	49.45	19.349	
6,500.00	6,325.67	6,533.41	6,325.67	28.55	24.76	124.20	942.40	-568.18	958.96	909.28	49.68	19.302	
6,562.34	6,388.00	6,595.74	6,388.00	28.61	24.84	47.03	942.40	-568.18	959.34	909.53	49.81	19.258	
6,600.00	6,425.66	6,633.40	6,425.66	28.65	24.88	47.03	942.40	-568.18	959.34	909.44	49.90	19.224	
6,700.00	6,525.66	6,733.40	6,525.66	28.76	25.00	47.03	942.40	-568.18	959.34	909.20	50.14	19.131	
6,800.00	6,625.66	6,833.40	6,625.66	28.87	25.13	47.03	942.40	-568.18	959.34	908.95	50.39	19.038	
6,900.00	6,725.66	6,933.40	6,725.66	28.98	25.25	47.03	942.40	-568.18	959.34	908.70	50.64	18.945	
7,000.00	6,825.66	7,033.40	6,825.66	29.09	25.38	47.03	942.40	-568.18	959.34	908.45	50.89	18.852	
7,100.00	6,925.66	7,133.40	6,925.66	29.20	25.51	47.03	942.40	-568.18	959.34	908.20	51.14	18.758	
7,200.00	7,025.66	7,233.40	7,025.66	29.32	25.63	47.03	942.40	-568.18	959.34	907.94	51.40	18.665	
7,300.00	7,125.66	7,333.40	7,125.66	29.43	25.76	47.03	942.40	-568.18	959.34	907.68	51.66	18.571	
7,400.00	7,225.66	7,433.40	7,225.66	29.55	25.90	47.03	942.40	-568.18	959.34	907.42	51.92	18.478	
7,500.00	7,325.66	7,533.40	7,325.66	29.67	26.03	47.03	942.40	-568.18	959.34	907.16	52.18	18.385	
7,600.00	7,425.66	7,633.40	7,425.66	29.79	26.16	47.03	942.40	-568.18	959.34	906.89	52.45	18.291	
7,700.00	7,525.66	7,733.40	7,525.66	29.91	26.30	47.03	942.40	-568.18	959.34	906.62	52.72	18.198	
7,800.00	7,625.66	7,833.40	7,625.66	30.03	26.43	47.03	942.40	-568.18	959.34	906.35	52.99	18.105	
7,900.00	7,725.66	7,933.40	7,725.66	30.15	26.57	47.03	942.40	-568.18	959.34	906.08	53.26	18.012	
8,000.00	7,825.66	8,033.40	7,825.66	30.28	26.71	47.03	942.40	-568.18	959.34	905.80	53.54	17.919	
8,100.00	7,925.66	8,133.40	7,925.66	30.40	26.85	47.03	942.40	-568.18	959.34	905.52	53.82	17.826	
8,200.00	8,025.66	8,233.40	8,025.66	30.53	26.99	47.03	942.40	-568.18	959.34	905.24	54.10	17.733	
8,300.00	8,125.66	8,333.40	8,125.66	30.66	27.13	47.03	942.40	-568.18	959.34	904.96	54.38	17.641	
8,400.00	8,225.66	8,433.40	8,225.66	30.78	27.28	47.03	942.40	-568.18	959.34	904.67	54.67	17.549	
8,487.34	8,313.00	8,520.74	8,313.00	30.90	27.40	47.03	942.40	-568.18	959.34	904.42	54.92	17.469	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	91.29	-0.36	16.23	16.24				
100.00	100.00	100.00	100.00	0.10	0.10	91.29	-0.36	16.23	16.24	16.05	0.19	84.995	
200.00	200.00	200.00	200.00	0.32	0.32	91.29	-0.36	16.23	16.24	15.60	0.64	25.349	
300.00	300.00	300.00	300.00	0.55	0.55	91.29	-0.36	16.23	16.24	15.15	1.09	14.896	
400.00	400.00	400.00	400.00	0.77	0.77	91.29	-0.36	16.23	16.24	14.70	1.54	10.547	
500.00	500.00	500.00	500.00	0.99	0.99	91.29	-0.36	16.23	16.24	14.25	1.99	8.163	
600.00	600.00	600.00	600.00	1.22	1.22	91.29	-0.36	16.23	16.24	13.80	2.44	6.659	
700.00	700.00	700.00	700.00	1.44	1.44	91.29	-0.36	16.23	16.24	13.35	2.89	5.622	
800.00	800.00	800.00	800.00	1.67	1.67	91.29	-0.36	16.23	16.24	12.90	3.34	4.865	
900.00	900.00	900.00	900.00	1.89	1.89	91.29	-0.36	16.23	16.24	12.45	3.79	4.288	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	91.29	-0.36	16.23	16.24	12.00	4.24	3.833	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	91.29	-0.36	16.23	16.24	11.62	4.62	3.516	CC
1,100.00	1,100.00	1,100.07	1,100.07	2.34	2.34	168.60	-0.39	16.20	16.25	11.56	4.68	3.470	ES
1,200.00	1,199.97	1,200.49	1,200.46	2.55	2.52	174.87	-1.72	14.34	16.75	11.69	5.06	3.308	SF
1,300.00	1,299.80	1,300.77	1,300.57	2.76	2.72	-171.32	-5.10	9.64	18.82	13.37	5.45	3.451	
1,400.00	1,399.37	1,400.79	1,400.15	2.99	2.93	-155.69	-10.51	2.11	23.80	17.94	5.87	4.056	
1,500.00	1,498.55	1,500.41	1,498.96	3.24	3.16	-143.22	-17.91	-8.18	32.36	26.03	6.33	5.114	
1,600.00	1,597.23	1,599.54	1,596.77	3.51	3.42	-134.70	-27.25	-21.19	44.41	37.57	6.85	6.488	
1,700.00	1,695.29	1,698.05	1,693.38	3.83	3.73	-129.06	-38.49	-36.84	59.69	52.26	7.43	8.031	
1,800.00	1,792.60	1,795.83	1,788.56	4.20	4.08	-125.22	-51.55	-55.02	77.99	69.89	8.10	9.627	
1,894.14	1,883.42	1,887.14	1,876.70	4.59	4.46	-122.63	-65.45	-74.38	97.84	89.02	8.82	11.099	
1,900.00	1,889.05	1,892.80	1,882.14	4.62	4.49	-122.51	-66.37	-75.65	99.15	90.29	8.86	11.188	
2,000.00	1,985.09	1,989.02	1,974.09	5.09	4.95	-120.10	-82.89	-98.65	122.12	112.39	9.73	12.550	
2,100.00	2,081.13	2,085.97	2,066.21	5.58	5.46	-117.76	-100.53	-123.21	145.81	135.14	10.67	13.670	
2,200.00	2,177.17	2,182.98	2,158.38	6.08	5.99	-116.07	-118.18	-147.78	169.66	158.03	11.63	14.584	
2,300.00	2,273.20	2,279.99	2,250.55	6.60	6.55	-114.79	-135.83	-172.35	193.62	180.99	12.63	15.336	
2,400.00	2,369.24	2,376.99	2,342.72	7.14	7.11	-113.80	-153.48	-196.92	217.65	204.01	13.64	15.960	
2,500.00	2,465.28	2,474.00	2,434.89	7.68	7.69	-113.00	-171.13	-221.49	241.73	227.06	14.66	16.483	
2,600.00	2,561.32	2,571.01	2,527.06	8.22	8.27	-112.35	-188.78	-246.07	265.84	250.14	15.71	16.927	
2,700.00	2,657.35	2,668.02	2,619.23	8.78	8.87	-111.81	-206.43	-270.64	289.98	273.23	16.76	17.306	
2,800.00	2,753.39	2,765.03	2,711.40	9.33	9.46	-111.35	-224.08	-295.21	314.15	296.33	17.82	17.633	
2,900.00	2,849.43	2,862.04	2,803.57	9.89	10.07	-110.96	-241.73	-319.78	338.33	319.44	18.88	17.917	
3,000.00	2,945.47	2,959.04	2,895.74	10.46	10.67	-110.61	-259.38	-344.35	362.52	342.56	19.96	18.166	
3,100.00	3,041.51	3,056.05	2,987.91	11.02	11.28	-110.32	-277.03	-368.92	386.72	365.69	21.03	18.386	
3,200.00	3,137.54	3,153.06	3,080.08	11.59	11.89	-110.05	-294.69	-393.49	410.93	388.82	22.12	18.581	
3,300.00	3,233.58	3,250.07	3,172.25	12.16	12.51	-109.82	-312.34	-418.07	435.15	411.95	23.20	18.755	
3,400.00	3,329.62	3,347.08	3,264.42	12.74	13.12	-109.61	-329.99	-442.64	459.38	435.08	24.29	18.911	
3,500.00	3,425.66	3,444.09	3,356.59	13.31	13.74	-109.42	-347.64	-467.21	483.61	458.22	25.38	19.052	
3,600.00	3,521.69	3,541.10	3,448.76	13.89	14.36	-109.25	-365.29	-491.78	507.84	481.36	26.48	19.179	
3,700.00	3,617.73	3,638.10	3,540.93	14.46	14.98	-109.09	-382.94	-516.35	532.08	504.50	27.58	19.295	
3,800.00	3,713.77	3,735.11	3,633.10	15.04	15.60	-108.95	-400.59	-540.92	556.32	527.65	28.68	19.401	
3,900.00	3,809.81	3,832.12	3,725.27	15.62	16.22	-108.82	-418.24	-565.49	580.57	550.79	29.78	19.498	
4,000.00	3,905.85	3,929.13	3,817.44	16.20	16.84	-108.70	-435.89	-590.07	604.81	573.93	30.88	19.587	
4,100.00	4,001.88	4,032.80	3,916.16	16.78	17.42	-108.65	-454.35	-615.76	628.76	596.81	31.95	19.682	
4,200.00	4,097.92	4,141.62	4,020.87	17.36	17.89	-108.89	-471.62	-639.81	651.11	618.17	32.94	19.764	
4,300.00	4,193.96	4,250.99	4,127.16	17.94	18.32	-109.44	-486.64	-660.71	671.77	637.85	33.91	19.808	
4,400.00	4,290.00	4,360.60	4,234.59	18.52	18.70	-110.26	-499.30	-678.34	690.78	655.93	34.85	19.822	
4,500.00	4,386.03	4,470.13	4,342.70	19.10	19.02	-111.35	-509.55	-692.60	708.28	672.54	35.74	19.819	
4,600.00	4,482.07	4,579.26	4,451.00	19.69	19.30	-112.67	-517.35	-703.47	724.41	687.84	36.57	19.808	
4,700.00	4,578.11	4,687.67	4,559.01	20.27	19.52	-114.22	-522.72	-710.94	739.39	702.05	37.34	19.802	
4,800.00	4,674.15	4,795.07	4,666.29	20.85	19.69	-115.97	-525.68	-715.06	753.44	715.40	38.03	19.810	
4,900.00	4,770.19	4,898.98	4,770.19	21.44	19.81	-117.85	-526.36	-716.01	766.86	728.22	38.64	19.844	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,866.22	4,995.02	4,866.22	22.02	19.91	-119.60	-526.36	-716.01	780.68	741.47	39.21	19.911	
5,100.00	4,962.26	5,091.06	4,962.26	22.61	20.01	-121.30	-526.36	-716.01	795.23	755.48	39.75	20.008	
5,200.00	5,058.30	5,187.09	5,058.30	23.19	20.12	-122.94	-526.36	-716.01	810.48	770.22	40.26	20.133	
5,300.00	5,154.34	5,283.13	5,154.34	23.78	20.22	-124.52	-526.36	-716.01	826.39	785.64	40.74	20.283	
5,400.00	5,250.37	5,379.17	5,250.37	24.36	20.33	-126.04	-526.36	-716.01	842.92	801.71	41.21	20.455	
5,500.00	5,346.41	5,475.21	5,346.41	24.95	20.44	-127.50	-526.36	-716.01	860.03	818.38	41.65	20.647	
5,600.00	5,442.45	5,571.24	5,442.45	25.53	20.55	-128.91	-526.36	-716.01	877.70	835.62	42.08	20.857	
5,700.00	5,538.49	5,667.28	5,538.49	26.12	20.67	-130.27	-526.36	-716.01	895.89	853.39	42.49	21.082	
5,753.20	5,589.58	5,718.37	5,589.58	26.43	20.73	-130.97	-526.36	-716.01	905.76	863.06	42.71	21.208	
5,800.00	5,634.63	5,763.43	5,634.63	26.67	20.78	-131.68	-526.36	-716.01	914.31	871.42	42.89	21.318	
5,900.00	5,731.55	5,860.34	5,731.55	27.07	20.90	-133.05	-526.36	-716.01	931.18	887.98	43.20	21.555	
6,000.00	5,829.27	5,958.06	5,829.27	27.43	21.02	-134.19	-526.36	-716.01	945.99	902.50	43.49	21.753	
6,100.00	5,927.67	6,056.46	5,927.67	27.74	21.14	-135.12	-526.36	-716.01	958.59	914.84	43.76	21.907	
6,200.00	6,026.63	6,155.43	6,026.63	28.01	21.27	-135.86	-526.36	-716.01	968.87	924.87	44.01	22.016	
6,300.00	6,126.03	6,254.83	6,126.03	28.23	21.39	-136.42	-526.36	-716.01	976.74	932.50	44.24	22.078	
6,400.00	6,225.75	6,354.55	6,225.75	28.41	21.52	-136.79	-526.36	-716.01	982.13	937.67	44.46	22.092	
6,500.00	6,325.67	6,454.46	6,325.67	28.55	21.66	-136.98	-526.36	-716.01	984.99	940.33	44.66	22.056	
6,562.34	6,388.00	6,516.80	6,388.00	28.61	21.74	145.78	-526.36	-716.01	985.49	940.71	44.78	22.007	
6,600.00	6,425.66	6,554.46	6,425.66	28.65	21.79	145.78	-526.36	-716.01	985.49	940.61	44.88	21.961	
6,700.00	6,525.66	6,654.46	6,525.66	28.76	21.92	145.78	-526.36	-716.01	985.49	940.35	45.14	21.833	
6,800.00	6,625.66	6,754.46	6,625.66	28.87	22.06	145.78	-526.36	-716.01	985.49	940.08	45.40	21.704	
6,900.00	6,725.66	6,854.46	6,725.66	28.98	22.19	145.78	-526.36	-716.01	985.49	939.82	45.67	21.576	
7,000.00	6,825.66	6,954.46	6,825.66	29.09	22.33	145.78	-526.36	-716.01	985.49	939.54	45.95	21.449	
7,100.00	6,925.66	7,054.46	6,925.66	29.20	22.47	145.78	-526.36	-716.01	985.49	939.27	46.22	21.321	
7,200.00	7,025.66	7,154.46	7,025.66	29.32	22.61	145.78	-526.36	-716.01	985.49	938.99	46.50	21.194	
7,300.00	7,125.66	7,254.46	7,125.66	29.43	22.76	145.78	-526.36	-716.01	985.49	938.71	46.78	21.067	
7,400.00	7,225.66	7,354.46	7,225.66	29.55	22.90	145.78	-526.36	-716.01	985.49	938.43	47.06	20.940	
7,500.00	7,325.66	7,454.46	7,325.66	29.67	23.05	145.78	-526.36	-716.01	985.49	938.14	47.35	20.814	
7,600.00	7,425.66	7,554.46	7,425.66	29.79	23.19	145.78	-526.36	-716.01	985.49	937.85	47.64	20.688	
7,700.00	7,525.66	7,654.46	7,525.66	29.91	23.34	145.78	-526.36	-716.01	985.49	937.56	47.93	20.563	
7,800.00	7,625.66	7,754.46	7,625.66	30.03	23.49	145.78	-526.36	-716.01	985.49	937.27	48.22	20.438	
7,900.00	7,725.66	7,854.46	7,725.66	30.15	23.64	145.78	-526.36	-716.01	985.49	936.98	48.51	20.313	
8,000.00	7,825.66	7,954.46	7,825.66	30.28	23.79	145.78	-526.36	-716.01	985.49	936.68	48.81	20.189	
8,100.00	7,925.66	8,054.46	7,925.66	30.40	23.94	145.78	-526.36	-716.01	985.49	936.38	49.11	20.066	
8,200.00	8,025.66	8,154.46	8,025.66	30.53	24.10	145.78	-526.36	-716.01	985.49	936.08	49.41	19.943	
8,300.00	8,125.66	8,254.46	8,125.66	30.66	24.25	145.78	-526.36	-716.01	985.49	935.77	49.72	19.821	
8,400.00	8,225.66	8,354.46	8,225.66	30.78	24.41	145.78	-526.36	-716.01	985.49	935.46	50.03	19.700	
8,487.34	8,313.00	8,441.80	8,313.00	30.90	24.55	145.78	-526.36	-716.01	985.49	935.19	50.30	19.594	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	90.65	-0.73	64.10	64.10				
100.00	100.00	100.00	100.00	0.10	0.10	90.65	-0.73	64.10	64.10	63.91	0.19	335.522	
200.00	200.00	200.00	200.00	0.32	0.32	90.65	-0.73	64.10	64.10	63.46	0.64	100.068	
300.00	300.00	300.00	300.00	0.55	0.55	90.65	-0.73	64.10	64.10	63.01	1.09	58.803	
400.00	400.00	400.00	400.00	0.77	0.77	90.65	-0.73	64.10	64.10	62.56	1.54	41.634	
500.00	500.00	500.00	500.00	0.99	0.99	90.65	-0.73	64.10	64.10	62.11	1.99	32.225	
600.00	600.00	600.00	600.00	1.22	1.22	90.65	-0.73	64.10	64.10	61.66	2.44	26.285	
700.00	700.00	700.00	700.00	1.44	1.44	90.65	-0.73	64.10	64.10	61.21	2.89	22.194	
800.00	800.00	800.00	800.00	1.67	1.67	90.65	-0.73	64.10	64.10	60.76	3.34	19.205	
900.00	900.00	900.00	900.00	1.89	1.89	90.65	-0.73	64.10	64.10	60.31	3.79	16.925	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	90.65	-0.73	64.10	64.10	59.87	4.24	15.130	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	90.65	-0.73	64.10	64.10	59.48	4.62	13.878 CC, ES	
1,100.00	1,100.00	1,099.71	1,099.71	2.34	2.34	167.88	-0.75	64.13	64.17	59.49	4.68	13.710	
1,200.00	1,199.97	1,197.61	1,197.58	2.55	2.52	169.13	-1.82	66.03	68.36	63.30	5.06	13.505 SF	
1,300.00	1,299.80	1,294.73	1,294.55	2.76	2.71	171.71	-4.50	70.78	79.07	73.63	5.44	14.526	
1,400.00	1,399.37	1,390.41	1,389.84	2.99	2.92	174.63	-8.72	78.27	96.43	90.61	5.82	16.560	
1,500.00	1,498.55	1,484.04	1,482.75	3.24	3.13	177.25	-14.35	88.27	120.43	114.23	6.20	19.427	
1,600.00	1,597.23	1,575.04	1,572.66	3.51	3.37	179.38	-21.26	100.52	150.92	144.35	6.57	22.974	
1,700.00	1,695.29	1,662.93	1,659.02	3.83	3.64	-178.96	-29.26	114.71	187.67	180.73	6.93	27.069	
1,800.00	1,792.60	1,747.29	1,741.41	4.20	3.92	-177.68	-38.15	130.50	230.38	223.09	7.29	31.608	
1,894.14	1,883.42	1,823.16	1,815.02	4.59	4.21	-176.73	-47.16	146.49	275.77	268.16	7.61	36.216	
1,900.00	1,889.05	1,827.77	1,819.48	4.62	4.23	-176.68	-47.74	147.52	278.75	271.11	7.64	36.492	
2,000.00	1,985.09	1,911.84	1,900.62	5.09	4.59	-175.92	-58.54	166.67	330.14	322.07	8.07	40.899	
2,100.00	2,081.13	1,997.52	1,983.31	5.58	4.97	-175.34	-69.56	186.24	381.61	373.09	8.52	44.796	
2,200.00	2,177.17	2,083.20	2,065.99	6.08	5.37	-174.90	-80.59	205.80	433.11	424.13	8.98	48.250	
2,300.00	2,273.20	2,168.88	2,148.68	6.60	5.79	-174.56	-91.61	225.37	484.62	475.18	9.44	51.327	
2,400.00	2,369.24	2,254.56	2,231.36	7.14	6.21	-174.28	-102.64	244.93	536.14	526.23	9.91	54.080	
2,500.00	2,465.28	2,340.24	2,314.04	7.68	6.64	-174.05	-113.66	264.50	587.67	577.28	10.39	56.552	
2,600.00	2,561.32	2,425.92	2,396.73	8.22	7.08	-173.85	-124.69	284.06	639.21	628.33	10.87	58.778	
2,700.00	2,657.35	2,511.60	2,479.41	8.78	7.52	-173.69	-135.71	303.63	690.75	679.38	11.36	60.791	
2,800.00	2,753.39	2,597.28	2,562.10	9.33	7.97	-173.55	-146.74	323.19	742.29	730.43	11.85	62.617	
2,900.00	2,849.43	2,682.96	2,644.78	9.89	8.42	-173.42	-157.76	342.76	793.83	781.48	12.35	64.277	
3,000.00	2,945.47	2,768.64	2,727.46	10.46	8.87	-173.31	-168.79	362.32	845.38	832.53	12.85	65.794	
3,100.00	3,041.51	2,854.32	2,810.15	11.02	9.33	-173.22	-179.81	381.89	896.93	883.58	13.35	67.184	
3,200.00	3,137.54	2,940.00	2,892.83	11.59	9.79	-173.13	-190.84	401.45	948.49	934.63	13.85	68.461	
3,300.00	3,233.58	3,025.68	2,975.52	12.16	10.25	-173.06	-201.86	421.02	1,000.04	985.68	14.36	69.639	
3,400.00	3,329.62	3,111.36	3,058.20	12.74	10.71	-172.99	-212.89	440.58	1,051.59	1,036.73	14.87	70.726	
3,500.00	3,425.66	3,197.04	3,140.88	13.31	11.18	-172.93	-223.91	460.14	1,103.15	1,087.77	15.38	71.734	
3,600.00	3,521.69	3,282.72	3,223.57	13.89	11.64	-172.87	-234.94	479.71	1,154.71	1,138.82	15.89	72.668	
3,700.00	3,617.73	3,368.40	3,306.25	14.46	12.11	-172.82	-245.96	499.27	1,206.26	1,189.86	16.40	73.538	
3,800.00	3,713.77	3,454.08	3,388.94	15.04	12.58	-172.77	-256.99	518.84	1,257.82	1,240.90	16.92	74.350	
3,900.00	3,809.81	3,539.76	3,471.62	15.62	13.05	-172.72	-268.02	538.40	1,309.38	1,291.95	17.43	75.108	
4,000.00	3,905.85	3,625.44	3,554.31	16.20	13.52	-172.68	-279.04	557.97	1,360.94	1,342.99	17.95	75.818	
4,100.00	4,001.88	3,711.12	3,636.99	16.78	13.99	-172.65	-290.07	577.53	1,412.50	1,394.03	18.47	76.485	
4,200.00	4,097.92	3,796.80	3,719.67	17.36	14.46	-172.61	-301.09	597.10	1,464.06	1,445.07	18.99	77.111	
4,300.00	4,193.96	3,882.47	3,802.36	17.94	14.93	-172.58	-312.12	616.66	1,515.62	1,496.11	19.51	77.700	
4,400.00	4,290.00	3,968.15	3,885.04	18.52	15.41	-172.55	-323.14	636.23	1,567.18	1,547.15	20.03	78.255	
4,500.00	4,386.03	4,053.83	3,967.73	19.10	15.88	-172.52	-334.17	655.79	1,618.74	1,598.19	20.55	78.780	
4,600.00	4,482.07	4,191.75	4,101.18	19.69	16.36	-172.49	-351.23	686.07	1,669.70	1,648.51	21.18	78.817	
4,700.00	4,578.11	4,404.93	4,310.23	20.27	17.29	-172.52	-371.63	722.28	1,715.35	1,693.42	21.93	78.203	
4,800.00	4,674.15	4,633.72	4,537.33	20.85	17.85	-172.65	-384.98	745.96	1,754.11	1,731.44	22.67	77.360	
4,900.00	4,770.19	4,866.81	4,770.19	21.44	18.20	-172.88	-389.39	753.79	1,785.29	1,761.91	23.38	76.368	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 16-8 - P_NRC 16-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,866.22	4,962.85	4,866.22	22.02	18.31	-172.99	-389.39	753.79	1,812.97	1,789.12	23.84	76.039	
5,100.00	4,962.26	5,058.89	4,962.26	22.61	18.43	-173.09	-389.39	753.79	1,840.65	1,816.34	24.31	75.721	
5,200.00	5,058.30	5,154.93	5,058.30	23.19	18.54	-173.19	-389.39	753.79	1,868.33	1,843.56	24.77	75.412	
5,300.00	5,154.34	5,250.96	5,154.34	23.78	18.66	-173.29	-389.39	753.79	1,896.02	1,870.78	25.24	75.111	
5,400.00	5,250.37	5,347.00	5,250.37	24.36	18.78	-173.39	-389.39	753.79	1,923.72	1,898.01	25.71	74.817	
5,500.00	5,346.41	5,443.04	5,346.41	24.95	18.90	-173.49	-389.39	753.79	1,951.42	1,925.24	26.18	74.531	
5,600.00	5,442.45	5,539.08	5,442.45	25.53	19.03	-173.58	-389.39	753.79	1,979.13	1,952.48	26.65	74.252	
5,700.00	5,538.49	5,635.11	5,538.49	26.12	19.15	-173.67	-389.39	753.79	2,006.84	1,979.71	27.13	73.981	
5,753.20	5,589.58	5,686.20	5,589.58	26.43	19.22	-173.71	-389.39	753.79	2,021.58	1,994.21	27.38	73.839	
5,800.00	5,634.63	5,731.26	5,634.63	26.67	19.28	-173.78	-389.39	753.79	2,034.19	2,006.51	27.68	73.482	
5,900.00	5,731.55	5,828.18	5,731.55	27.07	19.41	-173.91	-389.39	753.79	2,058.67	2,030.38	28.28	72.790	
6,000.00	5,829.27	5,925.90	5,829.27	27.43	19.54	-174.02	-389.39	753.79	2,079.76	2,050.92	28.84	72.110	
6,100.00	5,927.67	6,024.30	5,927.67	27.74	19.67	-174.10	-389.39	753.79	2,097.46	2,068.10	29.36	71.442	
6,200.00	6,026.63	6,123.26	6,026.63	28.01	19.81	-174.17	-389.39	753.79	2,111.73	2,081.90	29.83	70.785	
6,300.00	6,126.03	6,222.66	6,126.03	28.23	19.95	-174.22	-389.39	753.79	2,122.55	2,092.29	30.26	70.137	
6,400.00	6,225.75	6,322.38	6,225.75	28.41	20.09	-174.26	-389.39	753.79	2,129.92	2,099.27	30.65	69.499	
6,500.00	6,325.67	6,422.30	6,325.67	28.55	20.23	-174.28	-389.39	753.79	2,133.82	2,102.84	30.98	68.870	
6,562.34	6,388.00	6,484.63	6,388.00	28.61	20.32	108.52	-389.39	753.79	2,134.50	2,103.32	31.17	68.475	
6,600.00	6,425.66	6,522.29	6,425.66	28.65	20.38	108.52	-389.39	753.79	2,134.50	2,103.19	31.31	68.181	
6,700.00	6,525.66	6,622.29	6,525.66	28.76	20.52	108.52	-389.39	753.79	2,134.50	2,102.82	31.67	67.393	
6,800.00	6,625.66	6,722.29	6,625.66	28.87	20.67	108.52	-389.39	753.79	2,134.50	2,102.46	32.04	66.619	
6,900.00	6,725.66	6,822.29	6,725.66	28.98	20.82	108.52	-389.39	753.79	2,134.50	2,102.09	32.41	65.859	
7,000.00	6,825.66	6,922.29	6,825.66	29.09	20.97	108.52	-389.39	753.79	2,134.50	2,101.71	32.78	65.112	
7,100.00	6,925.66	7,022.29	6,925.66	29.20	21.12	108.52	-389.39	753.79	2,134.50	2,101.34	33.16	64.378	
7,200.00	7,025.66	7,122.29	7,025.66	29.32	21.27	108.52	-389.39	753.79	2,134.50	2,100.97	33.53	63.657	
7,300.00	7,125.66	7,222.29	7,125.66	29.43	21.42	108.52	-389.39	753.79	2,134.50	2,100.59	33.91	62.948	
7,400.00	7,225.66	7,322.29	7,225.66	29.55	21.58	108.52	-389.39	753.79	2,134.50	2,100.21	34.29	62.252	
7,500.00	7,325.66	7,422.29	7,325.66	29.67	21.74	108.52	-389.39	753.79	2,134.50	2,099.83	34.67	61.569	
7,600.00	7,425.66	7,522.29	7,425.66	29.79	21.89	108.52	-389.39	753.79	2,134.50	2,099.45	35.05	60.897	
7,700.00	7,525.66	7,622.29	7,525.66	29.91	22.05	108.52	-389.39	753.79	2,134.50	2,099.06	35.43	60.237	
7,800.00	7,625.66	7,722.29	7,625.66	30.03	22.21	108.52	-389.39	753.79	2,134.50	2,098.68	35.82	59.589	
7,900.00	7,725.66	7,822.29	7,725.66	30.15	22.37	108.52	-389.39	753.79	2,134.50	2,098.29	36.21	58.952	
8,000.00	7,825.66	7,922.29	7,825.66	30.28	22.53	108.52	-389.39	753.79	2,134.50	2,097.90	36.60	58.327	
8,100.00	7,925.66	8,022.29	7,925.66	30.40	22.70	108.52	-389.39	753.79	2,134.50	2,097.51	36.99	57.712	
8,200.00	8,025.66	8,122.29	8,025.66	30.53	22.86	108.52	-389.39	753.79	2,134.50	2,097.12	37.38	57.109	
8,300.00	8,125.66	8,222.29	8,125.66	30.66	23.03	108.52	-389.39	753.79	2,134.50	2,096.73	37.77	56.515	
8,400.00	8,225.66	8,322.29	8,225.66	30.78	23.19	108.52	-389.39	753.79	2,134.50	2,096.33	38.16	55.933	
8,487.34	8,313.00	8,409.63	8,313.00	30.90	23.34	108.52	-389.39	753.79	2,134.50	2,095.99	38.51	55.432	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 37-8 - P_NRC 37-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	90.43	-0.36	48.14	48.14				
100.00	100.00	100.00	100.00	0.10	0.10	90.43	-0.36	48.14	48.14	47.95	0.19	251.999	
200.00	200.00	200.00	200.00	0.32	0.32	90.43	-0.36	48.14	48.14	47.50	0.64	75.158	
300.00	300.00	300.00	300.00	0.55	0.55	90.43	-0.36	48.14	48.14	47.05	1.09	44.165	
400.00	400.00	400.00	400.00	0.77	0.77	90.43	-0.36	48.14	48.14	46.61	1.54	31.270	
500.00	500.00	500.00	500.00	0.99	0.99	90.43	-0.36	48.14	48.14	46.16	1.99	24.203	
600.00	600.00	600.00	600.00	1.22	1.22	90.43	-0.36	48.14	48.14	45.71	2.44	19.742	
700.00	700.00	700.00	700.00	1.44	1.44	90.43	-0.36	48.14	48.14	45.26	2.89	16.669	
800.00	800.00	800.00	800.00	1.67	1.67	90.43	-0.36	48.14	48.14	44.81	3.34	14.424	
900.00	900.00	900.00	900.00	1.89	1.89	90.43	-0.36	48.14	48.14	44.36	3.79	12.712	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	90.43	-0.36	48.14	48.14	43.91	4.24	11.363	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	90.43	-0.36	48.14	48.14	43.53	4.62	10.423 CC	
1,100.00	1,100.00	1,099.99	1,099.99	2.34	2.34	167.69	-0.40	48.15	48.19	43.51	4.68	10.296 ES	
1,200.00	1,199.97	1,199.78	1,199.75	2.55	2.51	170.79	-2.66	48.25	50.60	45.55	5.05	10.020 SF	
1,300.00	1,299.80	1,299.04	1,298.84	2.76	2.69	177.38	-8.35	48.52	57.29	51.87	5.43	10.560	
1,400.00	1,399.37	1,397.33	1,396.71	2.99	2.88	-174.90	-17.35	48.94	69.19	63.38	5.81	11.909	
1,500.00	1,498.55	1,494.21	1,492.82	3.24	3.09	-167.91	-29.51	49.51	86.87	80.66	6.21	13.990	
1,600.00	1,597.23	1,589.30	1,586.70	3.51	3.33	-162.31	-44.59	50.22	110.39	103.77	6.63	16.655	
1,700.00	1,695.29	1,682.30	1,677.99	3.83	3.60	-158.04	-62.34	51.06	139.58	132.51	7.07	19.743	
1,800.00	1,792.60	1,776.27	1,769.94	4.20	3.91	-155.14	-81.66	51.97	173.12	165.57	7.54	22.945	
1,894.14	1,883.42	1,863.78	1,855.58	4.59	4.21	-153.56	-99.66	52.82	207.57	199.56	8.01	25.907	
1,900.00	1,889.05	1,869.20	1,860.88	4.62	4.23	-153.51	-100.77	52.87	209.80	201.75	8.05	26.077	
2,000.00	1,985.09	1,961.65	1,951.35	5.09	4.56	-152.76	-119.79	53.76	247.82	239.20	8.63	28.731	
2,100.00	2,081.13	2,054.10	2,041.81	5.58	4.91	-152.21	-138.80	54.66	285.87	276.65	9.23	30.984	
2,200.00	2,177.17	2,146.54	2,132.28	6.08	5.27	-151.79	-157.81	55.55	323.94	314.10	9.84	32.906	
2,300.00	2,273.20	2,238.99	2,222.75	6.60	5.64	-151.46	-176.82	56.45	362.02	351.55	10.48	34.558	
2,400.00	2,369.24	2,331.44	2,313.22	7.14	6.02	-151.19	-195.83	57.34	400.11	388.99	11.12	35.986	
2,500.00	2,465.28	2,423.89	2,403.68	7.68	6.40	-150.97	-214.85	58.24	438.21	426.43	11.77	37.229	
2,600.00	2,561.32	2,516.34	2,494.15	8.22	6.78	-150.78	-233.86	59.13	476.30	463.87	12.43	38.319	
2,700.00	2,657.35	2,608.78	2,584.62	8.78	7.17	-150.63	-252.87	60.03	514.41	501.31	13.10	39.279	
2,800.00	2,753.39	2,701.23	2,675.08	9.33	7.56	-150.49	-271.88	60.92	552.51	538.75	13.77	40.132	
2,900.00	2,849.43	2,793.68	2,765.55	9.89	7.96	-150.37	-290.90	61.82	590.62	576.18	14.44	40.892	
3,000.00	2,945.47	2,886.13	2,856.02	10.46	8.36	-150.26	-309.91	62.71	628.73	613.61	15.12	41.574	
3,100.00	3,041.51	2,978.57	2,946.49	11.02	8.76	-150.17	-328.92	63.60	666.84	651.04	15.81	42.189	
3,200.00	3,137.54	3,071.02	3,036.95	11.59	9.16	-150.09	-347.93	64.50	704.96	688.46	16.49	42.747	
3,300.00	3,233.58	3,163.47	3,127.42	12.16	9.56	-150.01	-366.95	65.39	743.07	725.89	17.18	43.254	
3,400.00	3,329.62	3,255.92	3,217.89	12.74	9.96	-149.95	-385.96	66.29	781.19	763.32	17.87	43.718	
3,500.00	3,425.66	3,348.36	3,308.35	13.31	10.37	-149.89	-404.97	67.18	819.30	800.74	18.56	44.143	
3,600.00	3,521.69	3,440.81	3,398.82	13.89	10.78	-149.83	-423.98	68.08	857.42	838.17	19.25	44.536	
3,700.00	3,617.73	3,533.26	3,489.29	14.46	11.19	-149.78	-442.99	68.97	895.54	875.59	19.95	44.898	
3,800.00	3,713.77	3,625.71	3,579.75	15.04	11.59	-149.73	-462.01	69.87	933.65	913.01	20.64	45.234	
3,900.00	3,809.81	3,718.15	3,670.22	15.62	12.00	-149.69	-481.02	70.76	971.77	950.44	21.34	45.547	
4,000.00	3,905.85	3,810.60	3,760.69	16.20	12.41	-149.65	-500.03	71.66	1,009.89	987.85	22.04	45.821	
4,100.00	4,001.88	3,903.05	3,851.16	16.78	12.82	-149.61	-519.04	72.55	1,048.01	1,025.26	22.75	46.075	
4,200.00	4,097.92	3,995.50	3,941.62	17.36	13.24	-149.58	-538.06	73.45	1,086.13	1,062.68	23.45	46.311	
4,300.00	4,193.96	4,087.94	4,032.09	17.94	13.65	-149.55	-557.07	74.34	1,124.25	1,100.09	24.16	46.532	
4,400.00	4,290.00	4,180.39	4,122.56	18.52	14.06	-149.52	-576.08	75.24	1,162.37	1,137.50	24.87	46.738	
4,500.00	4,386.03	4,272.84	4,213.02	19.10	14.47	-149.49	-595.09	76.13	1,200.49	1,174.91	25.58	46.931	
4,600.00	4,482.07	4,365.29	4,303.49	19.69	14.89	-149.46	-614.10	77.02	1,238.61	1,212.32	26.29	47.112	
4,700.00	4,578.11	4,457.73	4,393.96	20.27	15.30	-149.44	-633.12	77.92	1,276.73	1,249.73	27.00	47.283	
4,800.00	4,674.15	4,550.18	4,484.42	20.85	15.71	-149.42	-652.13	78.81	1,314.85	1,287.14	27.71	47.443	
4,900.00	4,770.19	4,642.63	4,574.89	21.44	16.13	-149.39	-671.14	79.71	1,352.97	1,324.55	28.43	47.595	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 37-8 - P_NRC 37-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,866.22	4,735.08	4,665.36	22.02	16.54	-149.37	-690.15	80.60	1,391.09	1,361.95	29.14	47.738	
5,100.00	4,962.26	4,827.52	4,755.83	22.61	16.96	-149.35	-709.17	81.50	1,429.22	1,399.36	29.85	47.873	
5,200.00	5,058.30	4,919.97	4,846.29	23.19	17.37	-149.34	-728.18	82.39	1,467.34	1,436.77	30.57	48.001	
5,300.00	5,154.34	5,012.42	4,936.76	23.78	17.79	-149.32	-747.19	83.29	1,505.46	1,474.18	31.28	48.123	
5,400.00	5,250.37	5,104.87	5,027.23	24.36	18.20	-149.30	-766.20	84.18	1,543.58	1,511.58	32.00	48.238	
5,500.00	5,346.41	5,197.32	5,117.69	24.95	18.62	-149.29	-785.22	85.08	1,581.70	1,548.99	32.71	48.348	
5,600.00	5,442.45	5,289.76	5,208.16	25.53	19.04	-149.27	-804.23	85.97	1,619.83	1,586.39	33.43	48.453	
5,700.00	5,538.49	5,382.21	5,298.63	26.12	19.45	-149.26	-823.24	86.87	1,657.95	1,623.80	34.15	48.552	
5,753.20	5,589.58	5,431.39	5,346.75	26.43	19.67	-149.25	-833.35	87.34	1,678.23	1,643.70	34.53	48.603	
5,800.00	5,634.63	5,474.78	5,389.22	26.67	19.87	-149.43	-842.28	87.76	1,695.77	1,660.85	34.91	48.570	
5,900.00	5,731.55	5,568.27	5,480.70	27.07	20.29	-149.74	-861.50	88.67	1,731.18	1,695.51	35.67	48.536	
6,000.00	5,829.27	5,662.73	5,573.14	27.43	20.72	-149.95	-880.93	89.58	1,763.77	1,727.38	36.39	48.469	
6,100.00	5,927.67	5,758.04	5,666.41	27.74	21.14	-150.08	-900.53	90.50	1,793.50	1,756.42	37.07	48.376	
6,200.00	6,026.63	5,854.10	5,760.40	28.01	21.58	-150.12	-920.29	91.43	1,820.35	1,782.63	37.72	48.260	
6,300.00	6,126.03	5,952.74	5,866.46	28.23	22.10	-150.00	-945.91	92.64	1,843.98	1,805.57	38.41	48.012	
6,400.00	6,225.75	6,165.57	6,067.17	28.41	22.59	-149.78	-973.41	93.93	1,861.11	1,822.05	39.06	47.653	
6,500.00	6,325.67	6,352.18	6,253.05	28.55	22.96	-149.64	-989.55	94.69	1,870.70	1,831.13	39.56	47.283	
6,562.34	6,388.00	6,469.51	6,370.30	28.61	23.14	133.20	-993.49	94.88	1,872.79	1,832.97	39.82	47.032	
6,600.00	6,425.66	6,524.87	6,425.66	28.65	23.21	133.21	-993.73	94.89	1,872.88	1,832.93	39.95	46.876	
6,700.00	6,525.66	6,624.87	6,525.66	28.76	23.33	133.21	-993.73	94.89	1,872.88	1,832.65	40.24	46.547	
6,800.00	6,625.66	6,724.87	6,625.66	28.87	23.44	133.21	-993.73	94.89	1,872.88	1,832.37	40.51	46.232	
6,900.00	6,725.66	6,824.87	6,725.66	28.98	23.55	133.21	-993.73	94.89	1,872.88	1,832.09	40.79	45.919	
7,000.00	6,825.66	6,924.87	6,825.66	29.09	23.66	133.21	-993.73	94.89	1,872.88	1,831.81	41.07	45.605	
7,100.00	6,925.66	7,024.87	6,925.66	29.20	23.77	133.21	-993.73	94.89	1,872.88	1,831.53	41.35	45.293	
7,200.00	7,025.66	7,124.87	7,025.66	29.32	23.88	133.21	-993.73	94.89	1,872.88	1,831.25	41.64	44.982	
7,300.00	7,125.66	7,224.87	7,125.66	29.43	24.00	133.21	-993.73	94.89	1,872.88	1,830.96	41.92	44.672	
7,400.00	7,225.66	7,324.87	7,225.66	29.55	24.12	133.21	-993.73	94.89	1,872.88	1,830.67	42.22	44.364	
7,500.00	7,325.66	7,424.87	7,325.66	29.67	24.24	133.21	-993.73	94.89	1,872.88	1,830.37	42.51	44.056	
7,600.00	7,425.66	7,524.87	7,425.66	29.79	24.36	133.21	-993.73	94.89	1,872.88	1,830.07	42.81	43.751	
7,700.00	7,525.66	7,624.87	7,525.66	29.91	24.48	133.21	-993.73	94.89	1,872.88	1,829.77	43.11	43.446	
7,800.00	7,625.66	7,724.87	7,625.66	30.03	24.60	133.21	-993.73	94.89	1,872.88	1,829.47	43.41	43.144	
7,900.00	7,725.66	7,824.87	7,725.66	30.15	24.72	133.21	-993.73	94.89	1,872.88	1,829.17	43.71	42.843	
8,000.00	7,825.66	7,924.87	7,825.66	30.28	24.85	133.21	-993.73	94.89	1,872.88	1,828.86	44.02	42.544	
8,100.00	7,925.66	8,024.87	7,925.66	30.40	24.98	133.21	-993.73	94.89	1,872.88	1,828.55	44.33	42.247	
8,200.00	8,025.66	8,124.87	8,025.66	30.53	25.11	133.21	-993.73	94.89	1,872.88	1,828.24	44.64	41.951	
8,300.00	8,125.66	8,224.87	8,125.66	30.66	25.24	133.21	-993.73	94.89	1,872.88	1,827.92	44.96	41.658	
8,400.00	8,225.66	8,324.87	8,225.66	30.78	25.37	133.21	-993.73	94.89	1,872.88	1,827.61	45.28	41.366	
8,487.34	8,313.00	8,412.20	8,313.00	30.90	25.48	133.21	-993.73	94.89	1,872.88	1,827.33	45.55	41.114	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	90.52	-0.72	80.05	80.06				
100.00	100.00	100.00	100.00	0.10	0.10	90.52	-0.72	80.05	80.06	79.86	0.19	419.026	
200.00	200.00	200.00	200.00	0.32	0.32	90.52	-0.72	80.05	80.06	79.41	0.64	124.973	
300.00	300.00	300.00	300.00	0.55	0.55	90.52	-0.72	80.05	80.06	78.97	1.09	73.438	
400.00	400.00	400.00	400.00	0.77	0.77	90.52	-0.72	80.05	80.06	78.52	1.54	51.996	
500.00	500.00	500.00	500.00	0.99	0.99	90.52	-0.72	80.05	80.06	78.07	1.99	40.245	
600.00	600.00	600.00	600.00	1.22	1.22	90.52	-0.72	80.05	80.06	77.62	2.44	32.827	
700.00	700.00	700.00	700.00	1.44	1.44	90.52	-0.72	80.05	80.06	77.17	2.89	27.718	
800.00	800.00	800.00	800.00	1.67	1.67	90.52	-0.72	80.05	80.06	76.72	3.34	23.985	
900.00	900.00	900.00	900.00	1.89	1.89	90.52	-0.72	80.05	80.06	76.27	3.79	21.138	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	90.52	-0.72	80.05	80.06	75.82	4.24	18.895	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	90.52	-0.72	80.05	80.06	75.44	4.62	17.332 CC, ES	
1,100.00	1,100.00	1,099.60	1,099.60	2.34	2.34	167.72	-0.72	80.09	80.13	75.45	4.68	17.115	
1,200.00	1,199.97	1,196.78	1,196.75	2.55	2.54	167.71	-0.28	82.19	84.50	79.42	5.08	16.636 SF	
1,300.00	1,299.80	1,293.20	1,293.02	2.76	2.74	167.69	0.81	87.46	95.57	90.09	5.48	17.454	
1,400.00	1,399.37	1,388.24	1,387.68	2.99	2.96	167.65	2.53	95.75	113.24	107.37	5.87	19.303	
1,500.00	1,498.55	1,481.31	1,480.04	3.24	3.19	167.60	4.82	106.85	137.38	131.13	6.25	21.976	
1,600.00	1,597.23	1,571.85	1,569.51	3.51	3.43	167.53	7.64	120.46	167.81	161.18	6.63	25.313	
1,700.00	1,695.29	1,659.40	1,655.56	3.83	3.69	167.44	10.91	136.25	204.31	197.31	7.00	29.186	
1,800.00	1,792.60	1,743.54	1,737.75	4.20	3.98	167.33	14.55	153.84	246.63	239.27	7.36	33.490	
1,894.14	1,883.42	1,819.33	1,811.31	4.59	4.26	167.20	18.25	171.71	291.54	283.84	7.70	37.860	
1,900.00	1,889.05	1,823.93	1,815.77	4.62	4.28	167.21	18.49	172.86	294.49	286.76	7.73	38.120	
2,000.00	1,985.09	1,901.83	1,890.81	5.09	4.61	167.25	22.73	193.31	345.98	337.83	8.15	42.444	
2,100.00	2,081.13	1,986.96	1,972.55	5.58	5.00	167.25	27.55	216.60	398.45	389.85	8.61	46.301	
2,200.00	2,177.17	2,072.09	2,054.29	6.08	5.41	167.25	32.37	239.89	450.92	441.85	9.07	49.715	
2,300.00	2,273.20	2,157.22	2,136.03	6.60	5.84	167.25	37.19	263.17	503.39	493.85	9.54	52.750	
2,400.00	2,369.24	2,242.35	2,217.77	7.14	6.27	167.25	42.01	286.46	555.86	545.84	10.02	55.457	
2,500.00	2,465.28	2,327.47	2,299.51	7.68	6.71	167.25	46.83	309.75	608.33	597.82	10.51	57.882	
2,600.00	2,561.32	2,412.60	2,381.25	8.22	7.16	167.25	51.66	333.04	660.80	649.80	11.00	60.062	
2,700.00	2,657.35	2,497.73	2,462.98	8.78	7.62	167.25	56.48	356.33	713.27	701.77	11.50	62.028	
2,800.00	2,753.39	2,582.86	2,544.72	9.33	8.08	167.25	61.30	379.61	765.74	753.74	12.00	63.807	
2,900.00	2,849.43	2,667.99	2,626.46	9.89	8.55	167.25	66.12	402.90	818.21	805.71	12.51	65.424	
3,000.00	2,945.47	2,753.12	2,708.20	10.46	9.02	167.25	70.94	426.19	870.68	857.67	13.01	66.899	
3,100.00	3,041.51	2,838.25	2,789.94	11.02	9.49	167.25	75.77	449.48	923.15	909.63	13.53	68.248	
3,200.00	3,137.54	2,923.38	2,871.68	11.59	9.96	167.25	80.59	472.77	975.62	961.58	14.04	69.486	
3,300.00	3,233.58	3,008.50	2,953.42	12.16	10.44	167.25	85.41	496.06	1,028.09	1,013.54	14.56	70.625	
3,400.00	3,329.62	3,093.63	3,035.16	12.74	10.92	167.25	90.23	519.34	1,080.56	1,065.49	15.08	71.675	
3,500.00	3,425.66	3,178.76	3,116.90	13.31	11.40	167.25	95.05	542.63	1,133.03	1,117.44	15.60	72.647	
3,600.00	3,521.69	3,263.89	3,198.64	13.89	11.88	167.25	99.87	565.92	1,185.50	1,169.38	16.12	73.548	
3,700.00	3,617.73	3,349.02	3,280.38	14.46	12.37	167.25	104.70	589.21	1,237.97	1,221.33	16.64	74.386	
3,800.00	3,713.77	3,434.15	3,362.12	15.04	12.85	167.25	109.52	612.50	1,290.44	1,273.27	17.17	75.166	
3,900.00	3,809.81	3,519.28	3,443.86	15.62	13.34	167.25	114.34	635.79	1,342.91	1,325.22	17.69	75.895	
4,000.00	3,905.85	3,604.41	3,525.59	16.20	13.82	167.25	119.16	659.07	1,395.38	1,377.16	18.22	76.576	
4,100.00	4,001.88	3,689.53	3,607.33	16.78	14.31	167.25	123.98	682.36	1,447.85	1,429.10	18.75	77.215	
4,200.00	4,097.92	3,774.66	3,689.07	17.36	14.80	167.25	128.81	705.65	1,500.32	1,481.04	19.28	77.814	
4,300.00	4,193.96	3,859.79	3,770.81	17.94	15.29	167.25	133.63	728.94	1,552.79	1,532.98	19.81	78.378	
4,400.00	4,290.00	3,944.92	3,852.55	18.52	15.78	167.25	138.45	752.23	1,605.26	1,584.92	20.34	78.909	
4,500.00	4,386.03	4,030.05	3,934.29	19.10	16.27	167.25	143.27	775.52	1,657.73	1,636.86	20.88	79.411	
4,600.00	4,482.07	4,115.18	4,016.03	19.69	16.76	167.25	148.09	798.80	1,710.20	1,688.79	21.41	79.884	
4,700.00	4,578.11	4,200.31	4,097.77	20.27	17.25	167.25	152.92	822.09	1,762.67	1,740.73	21.94	80.333	
4,800.00	4,674.15	4,285.44	4,179.51	20.85	17.74	167.25	157.74	845.38	1,815.14	1,792.67	22.48	80.757	
4,900.00	4,770.19	4,370.56	4,261.25	21.44	18.23	167.25	162.56	868.67	1,867.61	1,844.60	23.01	81.160	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 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)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,866.22	4,455.69	4,342.99	22.02	18.73	167.25	167.38	891.96	1,920.08	1,896.54	23.55	81.543	
5,100.00	4,962.26	4,540.82	4,424.73	22.61	19.22	167.25	172.20	915.25	1,972.55	1,948.47	24.08	81.906	
5,200.00	5,058.30	4,625.95	4,506.47	23.19	19.71	167.25	177.02	938.53	2,025.02	2,000.40	24.62	82.253	
5,300.00	5,154.34	4,711.08	4,588.21	23.78	20.20	167.25	181.85	961.82	2,077.49	2,052.34	25.16	82.583	
5,400.00	5,250.37	4,796.21	4,669.94	24.36	20.70	167.25	186.67	985.11	2,129.96	2,104.27	25.69	82.899	
5,500.00	5,346.41	4,881.34	4,751.68	24.95	21.19	167.25	191.49	1,008.40	2,182.43	2,156.20	26.23	83.200	
5,600.00	5,442.45	4,966.47	4,833.42	25.53	21.69	167.25	196.31	1,031.69	2,234.90	2,208.13	26.77	83.487	
5,700.00	5,538.49	5,051.59	4,915.16	26.12	22.18	167.25	201.13	1,054.98	2,287.37	2,260.06	27.31	83.763	
5,753.20	5,589.58	5,096.88	4,958.65	26.43	22.44	167.25	203.70	1,067.36	2,315.28	2,287.69	27.59	83.904	
5,800.00	5,634.63	5,136.92	4,997.09	26.67	22.68	167.37	205.97	1,078.32	2,339.52	2,311.58	27.94	83.728	
5,900.00	5,731.55	5,223.72	5,080.44	27.07	23.18	167.60	210.88	1,102.06	2,389.16	2,360.51	28.64	83.409	
6,000.00	5,829.27	5,312.16	5,165.35	27.43	23.69	167.78	215.89	1,126.26	2,435.80	2,406.49	29.31	83.094	
6,100.00	5,927.67	5,402.12	5,251.73	27.74	24.22	167.93	220.99	1,150.87	2,479.40	2,449.45	29.95	82.785	
6,200.00	6,026.63	5,493.49	5,339.47	28.01	24.75	168.04	226.16	1,175.86	2,519.91	2,489.36	30.55	82.487	
6,300.00	6,126.03	5,586.17	5,428.45	28.23	25.29	168.12	231.41	1,201.22	2,557.28	2,526.17	31.11	82.200	
6,400.00	6,225.75	5,680.04	5,518.58	28.41	25.83	168.16	236.73	1,226.90	2,591.47	2,559.84	31.63	81.926	
6,500.00	6,325.67	5,782.65	5,661.45	28.55	26.63	168.11	245.02	1,266.96	2,622.37	2,590.12	32.25	81.307	
6,562.34	6,388.00	5,822.56	5,724.86	28.61	28.35	90.54	264.00	1,358.61	2,632.70	2,599.06	33.64	78.266	
6,600.00	6,425.66	6,601.44	6,425.66	28.65	28.57	90.52	264.88	1,362.83	2,633.12	2,599.14	33.99	77.474	
6,700.00	6,525.66	6,701.44	6,525.66	28.76	28.68	90.52	264.88	1,362.83	2,633.12	2,598.80	34.32	76.718	
6,800.00	6,625.66	6,801.44	6,625.66	28.87	28.79	90.52	264.88	1,362.83	2,633.12	2,598.46	34.66	75.971	
6,900.00	6,725.66	6,901.44	6,725.66	28.98	28.90	90.52	264.88	1,362.83	2,633.12	2,598.12	35.00	75.232	
7,000.00	6,825.66	7,001.44	6,825.66	29.09	29.01	90.52	264.88	1,362.83	2,633.12	2,597.78	35.34	74.503	
7,100.00	6,925.66	7,101.44	6,925.66	29.20	29.12	90.52	264.88	1,362.83	2,633.12	2,597.44	35.69	73.783	
7,200.00	7,025.66	7,201.44	7,025.66	29.32	29.24	90.52	264.88	1,362.83	2,633.12	2,597.09	36.03	73.072	
7,300.00	7,125.66	7,301.44	7,125.66	29.43	29.35	90.52	264.88	1,362.83	2,633.12	2,596.74	36.38	72.370	
7,400.00	7,225.66	7,401.44	7,225.66	29.55	29.47	90.52	264.88	1,362.83	2,633.12	2,596.39	36.74	71.678	
7,500.00	7,325.66	7,501.44	7,325.66	29.67	29.59	90.52	264.88	1,362.83	2,633.12	2,596.04	37.09	70.994	
7,600.00	7,425.66	7,601.44	7,425.66	29.79	29.71	90.52	264.88	1,362.83	2,633.12	2,595.68	37.45	70.319	
7,700.00	7,525.66	7,701.44	7,525.66	29.91	29.83	90.52	264.88	1,362.83	2,633.12	2,595.32	37.80	69.654	
7,800.00	7,625.66	7,801.44	7,625.66	30.03	29.95	90.52	264.88	1,362.83	2,633.12	2,594.96	38.16	68.997	
7,900.00	7,725.66	7,901.44	7,725.66	30.15	30.07	90.52	264.88	1,362.83	2,633.12	2,594.60	38.52	68.350	
8,000.00	7,825.66	8,001.44	7,825.66	30.28	30.19	90.52	264.88	1,362.83	2,633.12	2,594.24	38.89	67.711	
8,100.00	7,925.66	8,101.44	7,925.66	30.40	30.32	90.52	264.88	1,362.83	2,633.12	2,593.87	39.25	67.081	
8,200.00	8,025.66	8,201.44	8,025.66	30.53	30.45	90.52	264.88	1,362.83	2,633.12	2,593.50	39.62	66.459	
8,300.00	8,125.66	8,301.44	8,125.66	30.66	30.57	90.52	264.88	1,362.83	2,633.12	2,593.14	39.99	65.847	
8,400.00	8,225.66	8,401.44	8,225.66	30.78	30.70	90.52	264.88	1,362.83	2,633.12	2,592.77	40.36	65.243	
8,487.34	8,313.00	8,488.78	8,313.00	30.90	30.81	90.52	264.88	1,362.83	2,633.12	2,592.44	40.68	64.722	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design										WELD_NRC 20-8 PAD - ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY MOUNTAIN FUEL CO				Offset Site Error:		0.00 ft
Survey Program: 0-UNKNOWN														Offset Well Error:		0.00 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	Minimum Separation	Separation Factor	Warning			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
0.00	0.00	0.00	0.00	0.00	0.00	143.94	-48.82	35.55	63.01							
100.00	100.00	82.00	82.00	0.10	1.64	143.94	-48.82	35.55	60.39	58.65	1.74	34.795				
200.00	200.00	182.00	182.00	0.32	5.28	143.94	-48.82	35.55	60.39	54.79	5.60	10.783				
300.00	300.00	282.00	282.00	0.55	9.28	143.94	-48.82	35.55	60.39	50.56	9.83	6.146				
400.00	400.00	382.00	382.00	0.77	13.28	143.94	-48.82	35.55	60.39	46.34	14.05	4.298				
500.00	500.00	482.00	482.00	0.99	17.28	143.94	-48.82	35.55	60.39	42.11	18.27	3.305				
600.00	600.00	582.00	582.00	1.22	21.28	143.94	-48.82	35.55	60.39	37.89	22.50	2.684				
700.00	700.00	682.00	682.00	1.44	25.28	143.94	-48.82	35.55	60.39	33.66	26.72	2.260				
800.00	800.00	782.00	782.00	1.67	29.28	143.94	-48.82	35.55	60.39	29.44	30.95	1.951				
900.00	900.00	882.00	882.00	1.89	33.28	143.94	-48.82	35.55	60.39	25.21	35.17	1.717				
1,000.00	1,000.00	982.00	982.00	2.12	37.28	143.94	-48.82	35.55	60.39	20.99	39.40	1.533				
1,085.00	1,085.00	1,067.00	1,067.00	2.31	40.68	143.94	-48.82	35.55	60.39	17.40	42.99	1.405	Level 3, CC			
1,100.00	1,100.00	1,082.00	1,082.00	2.34	41.28	-138.88	-48.82	35.55	60.42	16.80	43.62	1.385	Level 3			
1,200.00	1,199.97	1,181.97	1,181.97	2.55	45.28	-140.24	-48.82	35.55	62.15	14.34	47.81	1.300	Level 3, ES			
1,300.00	1,299.80	1,281.80	1,281.80	2.76	49.27	-143.35	-48.82	35.55	66.67	14.72	51.95	1.283	Level 3, SF			
1,400.00	1,399.37	1,381.37	1,381.37	2.99	53.25	-147.52	-48.82	35.55	74.29	18.28	56.01	1.326	Level 3			
1,500.00	1,498.55	1,480.55	1,480.55	3.24	57.22	-151.99	-48.82	35.55	85.30	25.33	59.97	1.422	Level 3			
1,600.00	1,597.23	1,579.23	1,579.23	3.51	61.17	-156.22	-48.82	35.55	99.89	36.10	63.79	1.566				
1,700.00	1,695.29	1,677.29	1,677.29	3.83	65.09	-159.92	-48.82	35.55	118.12	50.67	67.45	1.751				
1,800.00	1,792.60	1,774.60	1,774.60	4.20	68.98	-163.02	-48.82	35.55	140.00	69.05	70.95	1.973				
1,894.14	1,883.42	1,865.42	1,865.42	4.59	72.62	-165.42	-48.82	35.55	163.88	89.80	74.07	2.212				
1,900.00	1,889.05	1,871.05	1,871.05	4.62	72.84	-165.56	-48.82	35.55	165.46	91.16	74.30	2.227				
2,000.00	1,985.09	1,967.09	1,967.09	5.09	76.68	-167.62	-48.82	35.55	192.63	114.42	78.21	2.463				
2,100.00	2,081.13	2,063.13	2,063.13	5.58	80.53	-169.18	-48.82	35.55	219.98	137.85	82.14	2.678				
2,200.00	2,177.17	2,159.17	2,159.17	6.08	84.37	-170.39	-48.82	35.55	247.44	161.37	86.07	2.875				
2,300.00	2,273.20	2,255.20	2,255.20	6.60	88.21	-171.36	-48.82	35.55	274.99	184.97	90.02	3.055				
2,400.00	2,369.24	2,351.24	2,351.24	7.14	92.05	-172.15	-48.82	35.55	302.59	208.63	93.97	3.220				
2,500.00	2,465.28	2,447.28	2,447.28	7.68	95.89	-172.81	-48.82	35.55	330.24	232.32	97.92	3.373				
2,600.00	2,561.32	2,543.32	2,543.32	8.22	99.73	-173.37	-48.82	35.55	357.93	256.05	101.88	3.513				
2,700.00	2,657.35	2,639.35	2,639.35	8.78	103.57	-173.84	-48.82	35.55	385.64	279.79	105.84	3.644				
2,800.00	2,753.39	2,735.39	2,735.39	9.33	107.42	-174.26	-48.82	35.55	413.37	303.56	109.81	3.765				
2,900.00	2,849.43	2,831.43	2,831.43	9.89	111.26	-174.62	-48.82	35.55	441.12	327.34	113.77	3.877				
3,000.00	2,945.47	2,927.47	2,927.47	10.46	115.10	-174.94	-48.82	35.55	468.88	351.14	117.74	3.982				
3,100.00	3,041.51	3,023.51	3,023.51	11.02	118.94	-175.22	-48.82	35.55	496.66	374.94	121.71	4.081				
3,200.00	3,137.54	3,119.54	3,119.54	11.59	122.78	-175.48	-48.82	35.55	524.44	398.76	125.69	4.173				
3,300.00	3,233.58	3,215.58	3,215.58	12.16	126.62	-175.70	-48.82	35.55	552.24	422.58	129.66	4.259				
3,400.00	3,329.62	3,311.62	3,311.62	12.74	130.46	-175.91	-48.82	35.55	580.04	446.40	133.63	4.340				
3,500.00	3,425.66	3,407.66	3,407.66	13.31	134.31	-176.10	-48.82	35.55	607.85	470.23	137.61	4.417				
3,600.00	3,521.69	3,503.69	3,503.69	13.89	138.15	-176.27	-48.82	35.55	635.66	494.07	141.59	4.490				
3,700.00	3,617.73	3,599.73	3,599.73	14.46	141.99	-176.43	-48.82	35.55	663.48	517.91	145.57	4.558				
3,800.00	3,713.77	3,695.77	3,695.77	15.04	145.83	-176.57	-48.82	35.55	691.30	541.76	149.54	4.623				
3,900.00	3,809.81	3,791.81	3,791.81	15.62	149.67	-176.70	-48.82	35.55	719.13	565.60	153.52	4.684				
4,000.00	3,905.85	3,887.85	3,887.85	16.20	153.51	-176.83	-48.82	35.55	746.95	589.45	157.50	4.742				
4,100.00	4,001.88	3,983.88	3,983.88	16.78	157.36	-176.94	-48.82	35.55	774.79	613.30	161.48	4.798				
4,200.00	4,097.92	4,079.92	4,079.92	17.36	161.20	-177.05	-48.82	35.55	802.62	637.16	165.46	4.851				
4,300.00	4,193.96	4,175.96	4,175.96	17.94	165.04	-177.14	-48.82	35.55	830.46	661.01	169.44	4.901				
4,400.00	4,290.00	4,272.00	4,272.00	18.52	168.88	-177.24	-48.82	35.55	858.30	684.87	173.43	4.949				
4,500.00	4,386.03	4,368.03	4,368.03	19.10	172.72	-177.32	-48.82	35.55	886.14	708.73	177.41	4.995				
4,600.00	4,482.07	4,464.07	4,464.07	19.69	176.56	-177.41	-48.82	35.55	913.98	732.59	181.39	5.039				
4,700.00	4,578.11	4,560.11	4,560.11	20.27	180.40	-177.48	-48.82	35.55	941.83	756.45	185.37	5.081				
4,800.00	4,674.15	4,656.15	4,656.15	20.85	184.25	-177.56	-48.82	35.55	969.67	780.32	189.36	5.121				
4,900.00	4,770.19	4,752.19	4,752.19	21.44	188.09	-177.62	-48.82	35.55	997.52	804.18	193.34	5.159				

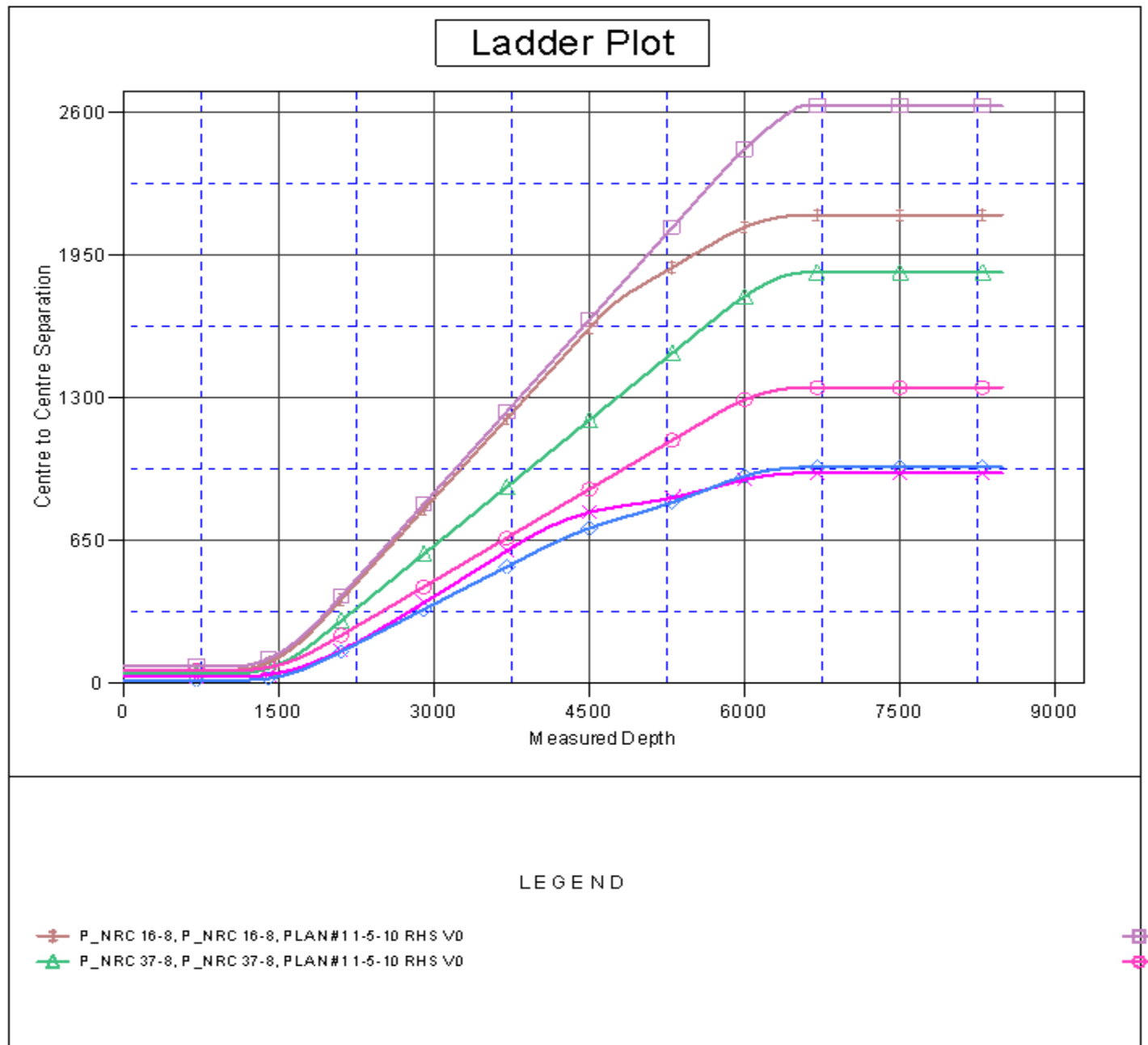
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-8 PAD - ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY MOUNTAIN FUEL CO													Offset Site Error: 0.00 ft
Survey Program: 0-UNKNOWN													Offset Well Error: 0.00 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)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,866.22	4,848.22	4,848.22	22.02	191.93	-177.69	-48.82	35.55	1,025.37	828.05	197.32	5.196	
5,100.00	4,962.26	4,944.26	4,944.26	22.61	195.77	-177.75	-48.82	35.55	1,053.22	851.91	201.31	5.232	
5,200.00	5,058.30	5,040.30	5,040.30	23.19	199.61	-177.81	-48.82	35.55	1,081.07	875.78	205.29	5.266	
5,300.00	5,154.34	5,136.34	5,136.34	23.78	203.45	-177.86	-48.82	35.55	1,108.92	899.65	209.28	5.299	
5,400.00	5,250.37	5,232.37	5,232.37	24.36	207.29	-177.91	-48.82	35.55	1,136.77	923.51	213.26	5.330	
5,500.00	5,346.41	5,328.41	5,328.41	24.95	211.14	-177.96	-48.82	35.55	1,164.63	947.38	217.24	5.361	
5,600.00	5,442.45	5,424.45	5,424.45	25.53	214.98	-178.01	-48.82	35.55	1,192.48	971.25	221.23	5.390	
5,700.00	5,538.49	5,520.49	5,520.49	26.12	218.82	-178.06	-48.82	35.55	1,220.34	995.12	225.21	5.419	
5,753.20	5,589.58	5,571.58	5,571.58	26.43	220.86	-178.08	-48.82	35.55	1,235.16	1,007.82	227.33	5.433	
5,800.00	5,634.63	5,616.63	5,616.63	26.67	222.67	-178.11	-48.82	35.55	1,247.83	1,017.71	230.11	5.423	
5,900.00	5,731.55	5,713.55	5,713.55	27.07	226.54	-178.16	-48.82	35.55	1,272.42	1,036.45	235.97	5.392	
6,000.00	5,829.27	5,811.27	5,811.27	27.43	230.45	-178.21	-48.82	35.55	1,293.62	1,051.92	241.70	5.352	
6,100.00	5,927.67	5,909.67	5,909.67	27.74	234.39	-178.24	-48.82	35.55	1,311.40	1,064.20	247.20	5.305	
6,200.00	6,026.63	6,008.63	6,008.63	28.01	238.35	-178.27	-48.82	35.55	1,325.74	1,073.28	252.46	5.251	
6,300.00	6,126.03	6,108.03	6,108.03	28.23	242.32	-178.29	-48.82	35.55	1,336.61	1,079.17	257.44	5.192	
6,400.00	6,225.75	6,207.75	6,207.75	28.41	246.31	-178.30	-48.82	35.55	1,344.02	1,081.87	262.15	5.127	
6,500.00	6,325.67	6,307.67	6,307.67	28.55	250.31	-178.31	-48.82	35.55	1,347.93	1,081.40	266.54	5.057	
6,562.34	6,388.00	6,370.00	6,370.00	28.61	252.80	104.49	-48.82	35.55	1,348.61	1,079.50	269.11	5.011	
6,600.00	6,425.66	6,407.66	6,407.66	28.65	254.31	104.49	-48.82	35.55	1,348.61	1,077.93	270.68	4.982	
6,700.00	6,525.66	6,507.66	6,507.66	28.76	258.31	104.49	-48.82	35.55	1,348.61	1,073.75	274.86	4.907	
6,800.00	6,625.66	6,607.66	6,607.66	28.87	262.31	104.49	-48.82	35.55	1,348.61	1,069.58	279.03	4.833	
6,900.00	6,725.66	6,707.66	6,707.66	28.98	266.31	104.49	-48.82	35.55	1,348.61	1,065.40	283.21	4.762	
7,000.00	6,825.66	6,807.66	6,807.66	29.09	270.31	104.49	-48.82	35.55	1,348.61	1,061.23	287.39	4.693	
7,100.00	6,925.66	6,907.66	6,907.66	29.20	274.31	104.49	-48.82	35.55	1,348.61	1,057.05	291.57	4.625	
7,200.00	7,025.66	7,007.66	7,007.66	29.32	278.31	104.49	-48.82	35.55	1,348.61	1,052.87	295.75	4.560	
7,300.00	7,125.66	7,107.66	7,107.66	29.43	282.31	104.49	-48.82	35.55	1,348.61	1,048.69	299.93	4.496	
7,400.00	7,225.66	7,207.66	7,207.66	29.55	286.31	104.49	-48.82	35.55	1,348.61	1,044.50	304.11	4.435	
7,500.00	7,325.66	7,307.66	7,307.66	29.67	290.31	104.49	-48.82	35.55	1,348.61	1,040.32	308.29	4.374	
7,600.00	7,425.66	7,407.66	7,407.66	29.79	294.31	104.49	-48.82	35.55	1,348.61	1,036.14	312.47	4.316	
7,700.00	7,525.66	7,507.66	7,507.66	29.91	298.31	104.49	-48.82	35.55	1,348.61	1,031.95	316.66	4.259	
7,800.00	7,625.66	7,607.66	7,607.66	30.03	302.31	104.49	-48.82	35.55	1,348.61	1,027.77	320.84	4.203	
7,900.00	7,725.66	7,707.66	7,707.66	30.15	306.31	104.49	-48.82	35.55	1,348.61	1,023.58	325.03	4.149	
8,000.00	7,825.66	7,807.66	7,807.66	30.28	310.31	104.49	-48.82	35.55	1,348.61	1,019.39	329.22	4.096	
8,100.00	7,925.66	7,907.66	7,907.66	30.40	314.31	104.49	-48.82	35.55	1,348.61	1,015.21	333.41	4.045	
8,200.00	8,025.66	8,007.66	8,007.66	30.53	318.31	104.49	-48.82	35.55	1,348.61	1,011.02	337.60	3.995	
8,300.00	8,125.66	8,107.66	8,107.66	30.66	322.31	104.49	-48.82	35.55	1,348.61	1,006.83	341.78	3.946	
8,400.00	8,225.66	8,207.66	8,207.66	30.78	326.31	104.49	-48.82	35.55	1,348.61	1,002.64	345.98	3.898	
8,487.34	8,313.00	8,295.00	8,295.00	30.90	329.80	104.49	-48.82	35.55	1,348.61	998.98	349.64	3.857	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

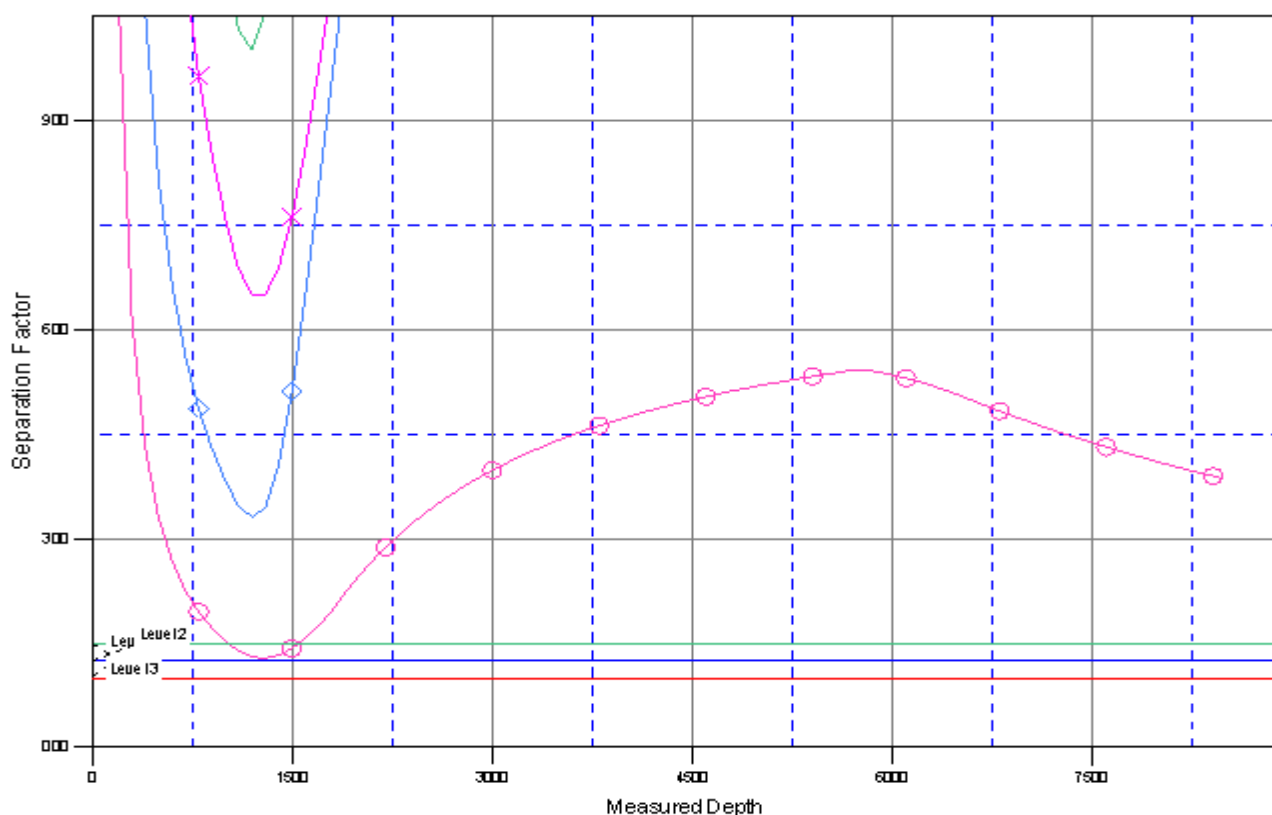
Reference Depths are relative to WELL @ 5071.00ft (Original Well Elev) Coordinates are relative to: P\_NRC 23-8  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W °  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.38°





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 23-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-8 PAD	<b>MD Reference:</b>	WELL @ 5071.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 23-8	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-5-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5071.00ft (Original Well Elev) Coordinates are relative to: P\_NRC 23-8  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.38°

## Separation Factor Plot



### LEGEND

-  P\_NRC 16-8, P\_NRC 16-8, PLAN#1 1-5-10 RHS V0
-  P\_NRC 37-8, P\_NRC 37-8, PLAN#1 1-5-10 RHS V0

