



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_NRC 5 PAD**

**P\_NRC 24-8**

**P\_NRC 24-8**

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

## **Standard Planning Report**

**12 March, 2010**





Azimuths to True North  
Magnetic North: 9.07°  
  
Magnetic Field  
Strength: 53110.8nT  
Dip Angle: 66.81°  
Date: 1/5/2010  
Model: IGRF200510

#### WELL DETAILS: P\_NRC 24-8

+N/-S	+E/-W	Northing	Ground Level: Easting	5008.00 Latitude	Longitude	Slot
0.00	0.00	1268344.06	3164984.31	40° 4' 6.560 N	104° 54' 37.789 W	

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3215.00	3257.87	PARKMAN
4690.00	4769.93	SUSSEX
5160.00	5251.74	SHANNON
7330.00	7440.49	NIO A
7670.00	7780.49	CODELL
8120.00	8230.49	JSAND

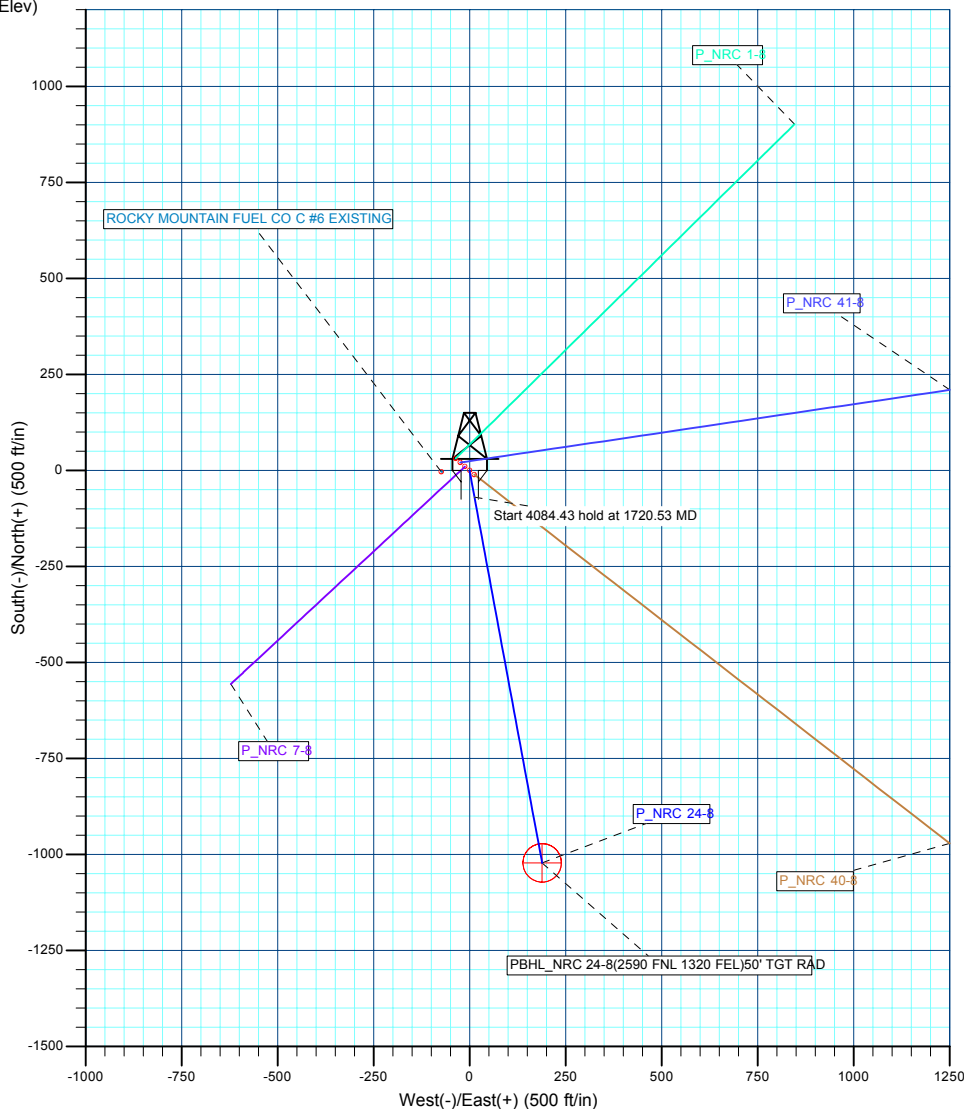
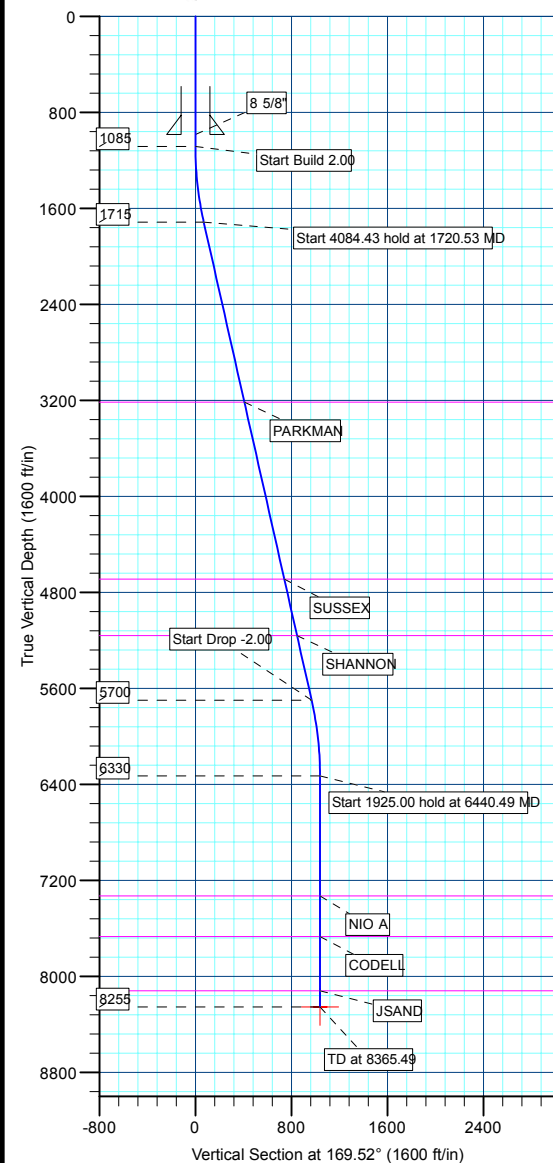
#### SECTION DETAILS

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	
1720.53	12.71	169.52	1715.33	-69.03	12.76	2.00	169.52	70.20	
5804.96	12.71	169.52	5699.67	-952.74	176.16	0.00	0.00	968.89	
6440.49	0.00	0.00	6330.00	-1021.78	188.92	2.00	180.00	1039.09	
8365.49	0.00	0.00	8255.00	-1021.78	188.92	0.00	0.00	1039.09	PBHL_NRC 24-8(2590 FNL 1320 FEL)50' TGT RAD



B ELEV:WELL @ 5023.00ft (Original Well Elev)

GRD ELEV: 5008.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8255.00	-1021.78	188.92	1267323.56	3165180.02	40° 3' 56.462 N	104° 54' 35.359 W	Circle (Radius: 50.00)

Plan: PLAN #1 1-5-10 RHS (P\_NRC 24-8/P\_NRC 24-8)

Created By: Robert H. Scott

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 24-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 24-8		
<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 5 PAD, SECTION 8 T1N R67W											
Site Position:						Northing:			1,268,375.16 ft			Latitude:			40° 4' 6.870 N		
From:			Lat/Long			Easting:			3,164,947.72 ft			Longitude:			104° 54' 38.257 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.38 °		

Well	P_NRC 24-8,					
Well Position	+N/-S	-31.35 ft	Northing:	1,268,344.06 ft	Latitude:	40° 4' 6.560 N
	+E/-W	36.38 ft	Easting:	3,164,984.31 ft	Longitude:	104° 54' 37.789 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,008.00 ft

<b>Wellbore</b>	P_NRC 24-8				
<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	53,111

<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	169.52

<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	
1,720.53	12.71	169.52	1,715.33	-69.03	12.76	2.00	2.00	0.00	169.52	
5,804.96	12.71	169.52	5,699.67	-952.74	176.16	0.00	0.00	0.00	0.00	
6,440.49	0.00	0.00	6,330.00	-1,021.78	188.92	2.00	-2.00	0.00	180.00	
8,365.49	0.00	0.00	8,255.00	-1,021.78	188.92	0.00	0.00	0.00	0.00	PBHL_NRC 24-8(2)

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 24-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 24-8		
<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	169.52	1,100.00	-0.04	0.01	0.04	2.00	2.00	0.00
1,200.00	2.30	169.52	1,199.97	-2.27	0.42	2.31	2.00	2.00	0.00
1,300.00	4.30	169.52	1,299.80	-7.93	1.47	8.06	2.00	2.00	0.00
1,400.00	6.30	169.52	1,399.37	-17.01	3.15	17.30	2.00	2.00	0.00
1,500.00	8.30	169.52	1,498.55	-29.51	5.46	30.01	2.00	2.00	0.00
1,600.00	10.30	169.52	1,597.23	-45.40	8.39	46.17	2.00	2.00	0.00
1,700.00	12.30	169.52	1,695.29	-64.66	11.96	65.76	2.00	2.00	0.00
<b>Start 4084.43 hold at 1720.53 MD</b>									
1,720.53	12.71	169.52	1,715.33	-69.03	12.76	70.20	2.00	2.00	0.00
1,800.00	12.71	169.52	1,792.85	-86.23	15.94	87.69	0.00	0.00	0.00
1,900.00	12.71	169.52	1,890.40	-107.86	19.94	109.69	0.00	0.00	0.00
2,000.00	12.71	169.52	1,987.95	-129.50	23.94	131.70	0.00	0.00	0.00
2,100.00	12.71	169.52	2,085.50	-151.14	27.94	153.70	0.00	0.00	0.00
2,200.00	12.71	169.52	2,183.05	-172.77	31.94	175.70	0.00	0.00	0.00
2,300.00	12.71	169.52	2,280.60	-194.41	35.95	197.70	0.00	0.00	0.00
2,400.00	12.71	169.52	2,378.15	-216.04	39.95	219.71	0.00	0.00	0.00
2,500.00	12.71	169.52	2,475.70	-237.68	43.95	241.71	0.00	0.00	0.00
2,600.00	12.71	169.52	2,573.25	-259.32	47.95	263.71	0.00	0.00	0.00
2,700.00	12.71	169.52	2,670.80	-280.95	51.95	285.71	0.00	0.00	0.00
2,800.00	12.71	169.52	2,768.35	-302.59	55.95	307.72	0.00	0.00	0.00
2,900.00	12.71	169.52	2,865.90	-324.22	59.95	329.72	0.00	0.00	0.00
3,000.00	12.71	169.52	2,963.45	-345.86	63.95	351.72	0.00	0.00	0.00
3,100.00	12.71	169.52	3,060.99	-367.50	67.95	373.73	0.00	0.00	0.00
3,200.00	12.71	169.52	3,158.54	-389.13	71.95	395.73	0.00	0.00	0.00
<b>PARKMAN</b>									
3,257.87	12.71	169.52	3,215.00	-401.65	74.26	408.46	0.00	0.00	0.00
3,300.00	12.71	169.52	3,256.09	-410.77	75.95	417.73	0.00	0.00	0.00
3,400.00	12.71	169.52	3,353.64	-432.40	79.95	439.73	0.00	0.00	0.00
3,500.00	12.71	169.52	3,451.19	-454.04	83.95	461.74	0.00	0.00	0.00
3,600.00	12.71	169.52	3,548.74	-475.68	87.95	483.74	0.00	0.00	0.00
3,700.00	12.71	169.52	3,646.29	-497.31	91.95	505.74	0.00	0.00	0.00
3,800.00	12.71	169.52	3,743.84	-518.95	95.95	527.74	0.00	0.00	0.00
3,900.00	12.71	169.52	3,841.39	-540.58	99.95	549.75	0.00	0.00	0.00
4,000.00	12.71	169.52	3,938.94	-562.22	103.95	571.75	0.00	0.00	0.00
4,100.00	12.71	169.52	4,036.49	-583.86	107.95	593.75	0.00	0.00	0.00
4,200.00	12.71	169.52	4,134.04	-605.49	111.95	615.75	0.00	0.00	0.00
4,300.00	12.71	169.52	4,231.59	-627.13	115.95	637.76	0.00	0.00	0.00
4,400.00	12.71	169.52	4,329.14	-648.76	119.95	659.76	0.00	0.00	0.00
4,500.00	12.71	169.52	4,426.69	-670.40	123.95	681.76	0.00	0.00	0.00
4,600.00	12.71	169.52	4,524.24	-692.04	127.95	703.77	0.00	0.00	0.00
4,700.00	12.71	169.52	4,621.78	-713.67	131.95	725.77	0.00	0.00	0.00
<b>SUSSEX</b>									
4,769.93	12.71	169.52	4,690.00	-728.80	134.75	741.15	0.00	0.00	0.00
4,800.00	12.71	169.52	4,719.33	-735.31	135.96	747.77	0.00	0.00	0.00
4,900.00	12.71	169.52	4,816.88	-756.94	139.96	769.77	0.00	0.00	0.00
5,000.00	12.71	169.52	4,914.43	-778.58	143.96	791.78	0.00	0.00	0.00
5,100.00	12.71	169.52	5,011.98	-800.22	147.96	813.78	0.00	0.00	0.00
5,200.00	12.71	169.52	5,109.53	-821.85	151.96	835.78	0.00	0.00	0.00
<b>SHANNON</b>									
5,251.74	12.71	169.52	5,160.00	-833.05	154.03	847.16	0.00	0.00	0.00
5,300.00	12.71	169.52	5,207.08	-843.49	155.96	857.78	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 24-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 24-8		
<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	12.71	169.52	5,304.63	-865.12	159.96	879.79	0.00	0.00	0.00
5,500.00	12.71	169.52	5,402.18	-886.76	163.96	901.79	0.00	0.00	0.00
5,600.00	12.71	169.52	5,499.73	-908.40	167.96	923.79	0.00	0.00	0.00
5,700.00	12.71	169.52	5,597.28	-930.03	171.96	945.79	0.00	0.00	0.00
5,800.00	12.71	169.52	5,694.83	-951.67	175.96	967.80	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,804.96	12.71	169.52	5,699.67	-952.74	176.16	968.89	0.00	0.00	0.00
5,900.00	10.81	169.52	5,792.71	-971.79	179.68	988.26	2.00	-2.00	0.00
6,000.00	8.81	169.52	5,891.24	-988.54	182.78	1,005.30	2.00	-2.00	0.00
6,100.00	6.81	169.52	5,990.31	-1,001.90	185.25	1,018.88	2.00	-2.00	0.00
6,200.00	4.81	169.52	6,089.79	-1,011.86	187.09	1,029.01	2.00	-2.00	0.00
6,300.00	2.81	169.52	6,189.56	-1,018.39	188.30	1,035.65	2.00	-2.00	0.00
6,400.00	0.81	169.52	6,289.51	-1,021.49	188.87	1,038.81	2.00	-2.00	0.00
<b>Start 1925.00 hold at 6440.49 MD</b>									
6,440.49	0.00	0.00	6,330.00	-1,021.78	188.92	1,039.09	2.00	-2.00	0.00
6,500.00	0.00	0.00	6,389.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
6,600.00	0.00	0.00	6,489.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
6,700.00	0.00	0.00	6,589.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
6,800.00	0.00	0.00	6,689.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
6,900.00	0.00	0.00	6,789.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,000.00	0.00	0.00	6,889.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,100.00	0.00	0.00	6,989.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,200.00	0.00	0.00	7,089.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,300.00	0.00	0.00	7,189.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,400.00	0.00	0.00	7,289.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
<b>NIO A</b>									
7,440.49	0.00	0.00	7,330.00	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,500.00	0.00	0.00	7,389.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,600.00	0.00	0.00	7,489.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,700.00	0.00	0.00	7,589.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
<b>CODELL</b>									
7,780.49	0.00	0.00	7,670.00	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,800.00	0.00	0.00	7,689.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
7,900.00	0.00	0.00	7,789.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
8,000.00	0.00	0.00	7,889.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
8,100.00	0.00	0.00	7,989.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
8,200.00	0.00	0.00	8,089.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
<b>JSAND</b>									
8,230.49	0.00	0.00	8,120.00	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
8,300.00	0.00	0.00	8,189.51	-1,021.78	188.92	1,039.09	0.00	0.00	0.00
<b>PBHL_NRC 24-8(2590 FNL 1320 FEL)50' TGT RAD</b>									
8,365.49	0.00	0.00	8,255.00	-1,021.78	188.92	1,039.09	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_NRC 24-8(2590 FNL 1320 FEL)50' TGT RAD	0.00	0.00	8,255.00	-1,021.78	188.92	1,267,323.56	3,165,180.02	40° 3' 56.462 N	104° 54' 35.359 W
- plan hits target center									
- Circle (radius 50.00)									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 5 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 24-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 24-8		
<b>Design:</b>	PLAN #1 1-5-10 RHS		

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

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,257.87	3,215.00	PARKMAN				
4,769.93	4,690.00	SUSSEX				
5,251.74	5,160.00	SHANNON				
7,440.49	7,330.00	NIO A				
7,780.49	7,670.00	CODELL				
8,230.49	8,120.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,085.00	1,085.00	0.00	0.00	Start Build 2.00	
1,720.53	1,715.33	-69.03	12.76	Start 4084.43 hold at 1720.53 MD	
5,804.96	5,699.67	-952.74	176.16	Start Drop -2.00	
6,440.49	6,330.00	-1,021.78	188.92	Start 1925.00 hold at 6440.49 MD	
8,365.49	8,255.00	-1,021.78	188.92	TD at 8365.49	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_NRC 5 PAD  
P\_NRC 24-8**

**P\_NRC 24-8  
PLAN #1 1-5-10 RHS**

## **Anticollision Report**

**12 March, 2010**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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> 3/12/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,365.49	PLAN #1 1-5-10 RHS (P_NRC 24-8)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_NRC 5 PAD						
P_NRC 1-8 - P_NRC 1-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	48.03	43.41	10.398	CC
P_NRC 1-8 - P_NRC 1-8 - PLAN #1 1-5-10 RHS	1,100.00	1,100.02	48.05	43.37	10.265	ES
P_NRC 1-8 - P_NRC 1-8 - PLAN #1 1-5-10 RHS	1,200.00	1,200.01	49.78	44.71	9.826	SF
P_NRC 40-8 - P_NRC 40-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	16.22	11.60	3.511	CC
P_NRC 40-8 - P_NRC 40-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.92	16.23	11.55	3.469	ES
P_NRC 40-8 - P_NRC 40-8 - PLAN #1 1-5-10 RHS	1,200.00	1,199.33	16.79	11.76	3.339	SF
P_NRC 41-8 - P_NRC 41-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	32.00	27.38	6.929	CC
P_NRC 41-8 - P_NRC 41-8 - PLAN #1 1-5-10 RHS	1,100.00	1,100.11	32.01	27.33	6.839	ES
P_NRC 41-8 - P_NRC 41-8 - PLAN #1 1-5-10 RHS	1,300.00	1,301.00	34.79	29.35	6.401	SF
P_NRC 7-8 - P_NRC 7-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	15.78	11.16	3.417	CC
P_NRC 7-8 - P_NRC 7-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.99	15.82	11.14	3.381	ES, SF
ROCKY MOUNTAIN FUEL CO C #6 EXISTING - ROCK	1,085.00	1,067.00	73.68	30.69	1.714	CC
ROCKY MOUNTAIN FUEL CO C #6 EXISTING - ROCK	1,400.00	1,381.37	77.97	21.86	1.390	Level 3, ES
ROCKY MOUNTAIN FUEL CO C #6 EXISTING - ROCK	1,500.00	1,480.55	83.30	23.10	1.384	Level 3, SF

<b>Offset Design</b>	WELD_NRC 5 PAD - P_NRC 1-8 - P_NRC 1-8 - 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 Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-49.25	31.35	-36.38	48.03				
100.00	100.00	100.00	100.00	0.10	0.10	-49.25	31.35	-36.38	48.03	47.84	0.19	251.378	
200.00	200.00	200.00	200.00	0.32	0.32	-49.25	31.35	-36.38	48.03	47.39	0.64	74.972	
300.00	300.00	300.00	300.00	0.55	0.55	-49.25	31.35	-36.38	48.03	46.94	1.09	44.056	
400.00	400.00	400.00	400.00	0.77	0.77	-49.25	31.35	-36.38	48.03	46.49	1.54	31.193	
500.00	500.00	500.00	500.00	0.99	0.99	-49.25	31.35	-36.38	48.03	46.04	1.99	24.144	
600.00	600.00	600.00	600.00	1.22	1.22	-49.25	31.35	-36.38	48.03	45.59	2.44	19.693	
700.00	700.00	700.00	700.00	1.44	1.44	-49.25	31.35	-36.38	48.03	45.14	2.89	16.628	
800.00	800.00	800.00	800.00	1.67	1.67	-49.25	31.35	-36.38	48.03	44.69	3.34	14.389	
900.00	900.00	900.00	900.00	1.89	1.89	-49.25	31.35	-36.38	48.03	44.24	3.79	12.681	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-49.25	31.35	-36.38	48.03	43.79	4.24	11.335	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-49.25	31.35	-36.38	48.03	43.41	4.62	10.398	CC
1,100.00	1,100.00	1,100.02	1,100.02	2.34	2.34	141.30	31.38	-36.36	48.05	43.37	4.68	10.265	ES
1,200.00	1,199.97	1,200.01	1,199.98	2.51	2.56	145.52	32.97	-34.74	49.78	44.71	5.07	9.826	SF

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 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - P_NRC 1-8 - P_NRC 1-8 - 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	
1,300.00	1,299.80	1,299.35	1,299.15	2.69	2.78	154.80	36.98	-30.68	55.23	49.77	5.46	10.122	
1,400.00	1,399.37	1,397.48	1,396.86	2.89	3.01	165.90	43.30	-24.26	66.30	60.45	5.85	11.332	
1,500.00	1,498.55	1,493.89	1,492.50	3.11	3.24	175.84	51.80	-15.64	84.22	77.97	6.25	13.479	
1,600.00	1,597.23	1,588.09	1,585.51	3.36	3.50	-176.50	62.29	-5.01	109.15	102.50	6.65	16.414	
1,700.00	1,695.29	1,679.65	1,675.39	3.66	3.78	-170.92	74.53	7.40	140.68	133.63	7.06	19.935	
1,720.53	1,715.33	1,698.08	1,693.41	3.73	3.84	-169.98	77.24	10.15	147.93	140.79	7.14	20.719	
1,800.00	1,792.85	1,768.56	1,762.09	4.00	4.08	-166.92	88.34	21.40	177.34	169.83	7.52	23.594	
1,900.00	1,890.40	1,855.39	1,846.14	4.37	4.41	-163.82	103.65	36.92	216.76	208.76	8.00	27.088	
2,000.00	1,987.95	1,945.49	1,932.92	4.76	4.80	-161.33	120.65	54.16	257.90	249.38	8.52	30.263	
2,100.00	2,085.50	2,036.12	2,020.22	5.16	5.20	-159.50	137.76	71.51	299.36	290.31	9.06	33.054	
2,200.00	2,183.05	2,126.76	2,107.53	5.57	5.62	-158.11	154.87	88.86	341.01	331.41	9.60	35.508	
2,300.00	2,280.60	2,217.40	2,194.83	6.00	6.06	-157.03	171.98	106.21	382.79	372.63	10.16	37.672	
2,400.00	2,378.15	2,308.04	2,282.13	6.43	6.50	-156.15	189.09	123.55	424.67	413.94	10.73	39.585	
2,500.00	2,475.70	2,398.68	2,369.43	6.87	6.95	-155.44	206.20	140.90	466.61	455.30	11.30	41.284	
2,600.00	2,573.25	2,489.32	2,456.74	7.31	7.41	-154.84	223.31	158.25	508.60	496.71	11.88	42.798	
2,700.00	2,670.80	2,579.96	2,544.04	7.76	7.87	-154.33	240.42	175.60	550.62	538.15	12.47	44.155	
2,800.00	2,768.35	2,670.60	2,631.34	8.21	8.34	-153.90	257.53	192.95	592.68	579.62	13.06	45.375	
2,900.00	2,865.90	2,761.24	2,718.65	8.66	8.81	-153.52	274.64	210.30	634.77	621.11	13.66	46.477	
3,000.00	2,963.45	2,851.88	2,805.95	9.12	9.28	-153.19	291.75	227.65	676.87	662.61	14.26	47.476	
3,100.00	3,060.99	2,942.52	2,893.25	9.58	9.76	-152.90	308.86	245.00	718.99	704.13	14.86	48.385	
3,200.00	3,158.54	3,033.16	2,980.55	10.04	10.24	-152.64	325.97	262.35	761.12	745.66	15.47	49.214	
3,300.00	3,256.09	3,123.80	3,067.86	10.50	10.72	-152.41	343.08	279.70	803.27	787.19	16.07	49.974	
3,400.00	3,353.64	3,214.44	3,155.16	10.97	11.20	-152.20	360.19	297.04	845.42	828.74	16.68	50.673	
3,500.00	3,451.19	3,305.08	3,242.46	11.43	11.69	-152.01	377.30	314.39	887.58	870.29	17.30	51.316	
3,600.00	3,548.74	3,395.72	3,329.77	11.90	12.18	-151.83	394.41	331.74	929.75	911.84	17.91	51.910	
3,700.00	3,646.29	3,486.36	3,417.07	12.37	12.66	-151.68	411.52	349.09	971.93	953.40	18.53	52.461	
3,800.00	3,743.84	3,577.00	3,504.37	12.83	13.15	-151.53	428.63	366.44	1,014.11	994.97	19.14	52.972	
3,900.00	3,841.39	3,667.64	3,591.67	13.30	13.64	-151.40	445.75	383.79	1,056.30	1,036.54	19.76	53.448	
4,000.00	3,938.94	3,758.28	3,678.98	13.77	14.13	-151.28	462.86	401.14	1,098.49	1,078.11	20.38	53.892	
4,100.00	4,036.49	3,848.92	3,766.28	14.24	14.62	-151.16	479.97	418.49	1,140.69	1,119.68	21.00	54.307	
4,200.00	4,134.04	3,939.56	3,853.58	14.71	15.12	-151.06	497.08	435.84	1,182.88	1,161.26	21.63	54.696	
4,300.00	4,231.59	4,030.20	3,940.89	15.19	15.61	-150.96	514.19	453.19	1,225.08	1,202.84	22.25	55.060	
4,400.00	4,329.14	4,120.84	4,028.19	15.66	16.10	-150.87	531.30	470.54	1,267.29	1,244.42	22.87	55.404	
4,500.00	4,426.69	4,211.47	4,115.49	16.13	16.60	-150.78	548.41	487.88	1,309.50	1,286.00	23.50	55.727	
4,600.00	4,524.24	4,302.11	4,202.79	16.60	17.09	-150.70	565.52	505.23	1,351.70	1,327.58	24.12	56.031	
4,700.00	4,621.78	4,392.75	4,290.10	17.07	17.58	-150.63	582.63	522.58	1,393.92	1,369.17	24.75	56.319	
4,800.00	4,719.33	4,483.39	4,377.40	17.55	18.08	-150.56	599.74	539.93	1,436.13	1,410.75	25.38	56.592	
4,900.00	4,816.88	4,574.03	4,464.70	18.02	18.58	-150.49	616.85	557.28	1,478.34	1,452.34	26.00	56.849	
5,000.00	4,914.43	4,664.67	4,552.00	18.50	19.07	-150.43	633.96	574.63	1,520.56	1,493.93	26.63	57.094	
5,100.00	5,011.98	4,755.31	4,639.31	18.97	19.57	-150.37	651.07	591.98	1,562.78	1,535.52	27.26	57.327	
5,200.00	5,109.53	4,845.95	4,726.61	19.44	20.06	-150.31	668.18	609.33	1,605.00	1,577.11	27.89	57.548	
5,300.00	5,207.08	4,936.59	4,813.91	19.92	20.56	-150.26	685.29	626.68	1,647.22	1,618.70	28.52	57.758	
5,400.00	5,304.63	5,027.23	4,901.22	20.39	21.06	-150.20	702.40	644.03	1,689.44	1,660.29	29.15	57.959	
5,500.00	5,402.18	5,117.87	4,988.52	20.87	21.55	-150.16	719.51	661.37	1,731.66	1,701.88	29.78	58.150	
5,600.00	5,499.73	5,208.51	5,075.82	21.34	22.05	-150.11	736.62	678.72	1,773.88	1,743.47	30.41	58.333	
5,700.00	5,597.28	5,299.15	5,163.12	21.82	22.55	-150.07	753.73	696.07	1,816.11	1,785.07	31.04	58.508	
5,804.96	5,699.67	5,394.29	5,254.76	22.32	23.07	-150.02	771.69	714.28	1,860.43	1,828.73	31.70	58.683	
5,900.00	5,792.71	5,480.98	5,338.26	22.69	23.55	-150.38	788.06	730.88	1,899.31	1,866.86	32.45	58.830	
6,000.00	5,891.24	5,573.32	5,427.20	22.98	24.06	-150.67	805.49	748.55	1,937.52	1,904.35	33.17	58.940	
6,100.00	5,990.31	5,666.69	5,517.13	23.23	24.57	-150.87	823.12	766.42	1,972.90	1,939.05	33.85	58.978	
6,200.00	6,089.79	5,768.88	5,623.05	23.44	25.04	-150.79	840.95	784.75	2,003.36	1,968.63	34.53	59.000	
6,300.00	6,189.56	5,872.31	5,733.01	23.62	25.44	-150.68	858.48	802.69	2,033.38	1,997.81	35.21	59.010	

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 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - P_NRC 1-8 - P_NRC 1-8 - 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
6,400.00	6,289.51	6,413.93	6,253.91	23.75	26.71	-150.66	901.24	845.63	2,032.12	1,995.89	36.23	56.093	
6,440.49	6,330.00	6,490.02	6,330.00	23.80	26.79	18.86	901.62	846.02	2,032.55	1,996.14	36.41	55.829	
6,500.00	6,389.51	6,549.52	6,389.51	23.87	26.86	18.86	901.62	846.02	2,032.55	1,995.95	36.59	55.546	
6,600.00	6,489.51	6,649.52	6,489.51	23.97	26.97	18.86	901.62	846.02	2,032.55	1,995.65	36.90	55.086	
6,700.00	6,589.51	6,749.52	6,589.51	24.08	27.09	18.86	901.62	846.02	2,032.55	1,995.34	37.21	54.630	
6,800.00	6,689.51	6,849.52	6,689.51	24.19	27.20	18.86	901.62	846.02	2,032.55	1,995.03	37.52	54.178	
6,900.00	6,789.51	6,949.52	6,789.51	24.30	27.32	18.86	901.62	846.02	2,032.55	1,994.72	37.83	53.729	
7,000.00	6,889.51	7,049.52	6,889.51	24.41	27.43	18.86	901.62	846.02	2,032.55	1,994.40	38.15	53.283	
7,100.00	6,989.51	7,149.52	6,989.51	24.52	27.55	18.86	901.62	846.02	2,032.55	1,994.08	38.47	52.841	
7,200.00	7,089.51	7,249.52	7,089.51	24.63	27.67	18.86	901.62	846.02	2,032.55	1,993.76	38.79	52.403	
7,300.00	7,189.51	7,349.52	7,189.51	24.74	27.80	18.86	901.62	846.02	2,032.55	1,993.44	39.11	51.969	
7,400.00	7,289.51	7,449.52	7,289.51	24.86	27.92	18.86	901.62	846.02	2,032.55	1,993.11	39.44	51.538	
7,500.00	7,389.51	7,549.52	7,389.51	24.98	28.04	18.86	901.62	846.02	2,032.55	1,992.78	39.77	51.112	
7,600.00	7,489.51	7,649.52	7,489.51	25.10	28.17	18.86	901.62	846.02	2,032.55	1,992.45	40.10	50.689	
7,700.00	7,589.51	7,749.52	7,589.51	25.22	28.30	18.86	901.62	846.02	2,032.55	1,992.11	40.43	50.271	
7,800.00	7,689.51	7,849.52	7,689.51	25.34	28.42	18.86	901.62	846.02	2,032.55	1,991.78	40.77	49.857	
7,900.00	7,789.51	7,949.52	7,789.51	25.46	28.55	18.86	901.62	846.02	2,032.55	1,991.44	41.11	49.447	
8,000.00	7,889.51	8,049.52	7,889.51	25.59	28.68	18.86	901.62	846.02	2,032.55	1,991.10	41.45	49.041	
8,100.00	7,989.51	8,149.52	7,989.51	25.71	28.81	18.86	901.62	846.02	2,032.55	1,990.76	41.79	48.639	
8,200.00	8,089.51	8,249.52	8,089.51	25.84	28.95	18.86	901.62	846.02	2,032.55	1,990.41	42.13	48.242	
8,300.00	8,189.51	8,349.52	8,189.51	25.97	29.08	18.86	901.62	846.02	2,032.55	1,990.07	42.48	47.849	
8,334.06	8,223.57	8,383.59	8,223.57	26.02	29.13	18.86	901.62	846.02	2,032.55	1,989.95	42.60	47.716	
8,365.49	8,255.00	8,395.02	8,235.00	26.06	29.14	18.86	901.62	846.02	2,032.65	1,989.97	42.67	47.636	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - P_NRC 40-8 - P_NRC 40-8 - 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		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.00	0.00	0.00	0.00	0.00	0.00	130.60	-10.56	12.31	16.22				
100.00	100.00	100.00	100.00	0.10	0.10	130.60	-10.56	12.31	16.22	16.03	0.19	84.895	
200.00	200.00	200.00	200.00	0.32	0.32	130.60	-10.56	12.31	16.22	15.58	0.64	25.320	
300.00	300.00	300.00	300.00	0.55	0.55	130.60	-10.56	12.31	16.22	15.13	1.09	14.879	
400.00	400.00	400.00	400.00	0.77	0.77	130.60	-10.56	12.31	16.22	14.68	1.54	10.534	
500.00	500.00	500.00	500.00	0.99	0.99	130.60	-10.56	12.31	16.22	14.23	1.99	8.154	
600.00	600.00	600.00	600.00	1.22	1.22	130.60	-10.56	12.31	16.22	13.78	2.44	6.651	
700.00	700.00	700.00	700.00	1.44	1.44	130.60	-10.56	12.31	16.22	13.33	2.89	5.616	
800.00	800.00	800.00	800.00	1.67	1.67	130.60	-10.56	12.31	16.22	12.88	3.34	4.859	
900.00	900.00	900.00	900.00	1.89	1.89	130.60	-10.56	12.31	16.22	12.43	3.79	4.283	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	130.60	-10.56	12.31	16.22	11.98	4.24	3.828	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	130.60	-10.56	12.31	16.22	11.60	4.62	3.511 CC	
1,100.00	1,100.00	1,099.92	1,099.92	2.34	2.34	-39.02	-10.58	12.35	16.23	11.55	4.68	3.469 ES	
1,200.00	1,199.97	1,199.33	1,199.30	2.51	2.52	-44.22	-11.95	14.12	16.79	11.76	5.03	3.339 SF	
1,300.00	1,299.80	1,298.64	1,298.44	2.69	2.71	-55.69	-15.44	18.60	18.76	13.37	5.39	3.480	
1,400.00	1,399.37	1,397.76	1,397.14	2.89	2.92	-69.05	-21.01	25.79	23.10	17.32	5.78	3.996	
1,500.00	1,498.55	1,496.59	1,495.18	3.11	3.15	-80.33	-28.65	35.63	30.38	24.16	6.22	4.886	
1,600.00	1,597.23	1,595.06	1,592.37	3.36	3.41	-88.40	-38.32	48.09	40.62	33.90	6.71	6.049	
1,700.00	1,695.29	1,693.08	1,688.52	3.66	3.71	-93.87	-49.97	63.11	53.65	46.36	7.29	7.361	
1,720.53	1,715.33	1,713.14	1,708.11	3.73	3.78	-94.75	-52.60	66.50	56.65	49.24	7.42	7.637	
1,800.00	1,792.85	1,790.61	1,783.50	4.00	4.06	-96.92	-63.56	80.62	69.17	61.22	7.95	8.704	
1,900.00	1,890.40	1,887.62	1,877.16	4.37	4.47	-97.04	-79.03	100.56	86.64	77.97	8.67	9.993	
2,000.00	1,987.95	1,983.89	1,969.21	4.76	4.93	-95.63	-96.30	122.82	105.97	96.52	9.45	11.216	
2,100.00	2,085.50	2,079.20	2,059.37	5.16	5.45	-93.47	-115.26	147.25	127.29	117.02	10.27	12.397	
2,200.00	2,183.05	2,173.38	2,147.39	5.57	6.03	-90.98	-135.79	173.70	150.78	139.66	11.12	13.562	
2,300.00	2,280.60	2,266.23	2,233.05	6.00	6.67	-88.40	-157.75	202.00	176.58	164.59	11.99	14.732	
2,400.00	2,378.15	2,360.05	2,318.56	6.43	7.37	-85.90	-181.40	232.48	204.50	191.64	12.86	15.897	
2,500.00	2,475.70	2,455.64	2,405.56	6.87	8.11	-83.90	-205.69	263.77	232.96	219.19	13.76	16.924	
2,600.00	2,573.25	2,551.23	2,492.55	7.31	8.87	-82.33	-229.97	295.07	261.61	246.94	14.67	17.832	
2,700.00	2,670.80	2,646.81	2,579.54	7.76	9.64	-81.08	-254.25	326.36	290.42	274.83	15.58	18.636	
2,800.00	2,768.35	2,742.40	2,666.54	8.21	10.42	-80.05	-278.53	357.65	319.32	302.82	16.50	19.352	
2,900.00	2,865.90	2,837.99	2,753.53	8.66	11.21	-79.19	-302.81	388.94	348.31	330.89	17.42	19.992	
3,000.00	2,963.45	2,933.57	2,840.53	9.12	12.01	-78.46	-327.10	420.23	377.36	359.01	18.35	20.566	
3,100.00	3,060.99	3,029.16	2,927.52	9.58	12.81	-77.84	-351.38	451.52	406.45	387.18	19.28	21.084	
3,200.00	3,158.54	3,124.74	3,014.52	10.04	13.62	-77.30	-375.66	482.82	435.59	415.38	20.21	21.553	
3,300.00	3,256.09	3,220.33	3,101.51	10.50	14.43	-76.82	-399.94	514.11	464.75	443.61	21.14	21.980	
3,400.00	3,353.64	3,315.92	3,188.50	10.97	15.24	-76.41	-424.22	545.40	493.94	471.86	22.08	22.369	
3,500.00	3,451.19	3,411.50	3,275.50	11.43	16.05	-76.04	-448.51	576.69	523.16	500.14	23.02	22.726	
3,600.00	3,548.74	3,507.09	3,362.49	11.90	16.87	-75.70	-472.79	607.98	552.39	528.43	23.96	23.054	
3,700.00	3,646.29	3,602.68	3,449.49	12.37	17.69	-75.41	-497.07	639.27	581.63	556.73	24.90	23.356	
3,800.00	3,743.84	3,698.26	3,536.48	12.83	18.51	-75.14	-521.35	670.57	610.89	585.04	25.85	23.637	
3,900.00	3,841.39	3,793.85	3,623.48	13.30	19.33	-74.89	-545.63	701.86	640.16	613.37	26.79	23.896	
4,000.00	3,938.94	3,889.44	3,710.47	13.77	20.15	-74.67	-569.92	733.15	669.44	641.70	27.73	24.138	
4,100.00	4,036.49	3,985.02	3,797.46	14.24	20.97	-74.46	-594.20	764.44	698.73	670.05	28.68	24.364	
4,200.00	4,134.04	4,080.61	3,884.46	14.71	21.80	-74.28	-618.48	795.73	728.02	698.40	29.62	24.575	
4,300.00	4,231.59	4,176.20	3,971.45	15.19	22.62	-74.10	-642.76	827.02	757.32	726.75	30.57	24.773	
4,400.00	4,329.14	4,271.78	4,058.45	15.66	23.45	-73.94	-667.05	858.32	786.63	755.11	31.52	24.959	
4,500.00	4,426.69	4,367.37	4,145.44	16.13	24.28	-73.79	-691.33	889.61	815.94	783.48	32.46	25.134	
4,600.00	4,524.24	4,462.96	4,232.43	16.60	25.10	-73.65	-715.61	920.90	845.26	811.85	33.41	25.299	
4,700.00	4,621.78	4,558.54	4,319.43	17.07	25.93	-73.52	-739.89	952.19	874.58	840.22	34.36	25.455	
4,800.00	4,719.33	4,654.13	4,406.42	17.55	26.76	-73.40	-764.17	983.48	903.91	868.60	35.30	25.603	
4,900.00	4,816.88	4,749.71	4,493.42	18.02	27.59	-73.29	-788.46	1,014.77	933.24	896.99	36.25	25.743	

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 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - P_NRC 40-8 - P_NRC 40-8 - 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
5,000.00	4,914.43	4,845.30	4,580.41	18.50	28.42	-73.18	-812.74	1,046.07	962.57	925.37	37.20	25.877	
5,100.00	5,011.98	4,940.89	4,667.41	18.97	29.25	-73.08	-837.02	1,077.36	991.90	953.76	38.15	26.003	
5,200.00	5,109.53	5,036.47	4,754.40	19.44	30.08	-72.99	-861.30	1,108.65	1,021.24	982.15	39.09	26.124	
5,300.00	5,207.08	5,132.06	4,841.39	19.92	30.91	-72.90	-885.58	1,139.94	1,050.58	1,010.54	40.04	26.239	
5,400.00	5,304.63	5,227.65	4,928.39	20.39	31.74	-72.81	-909.87	1,171.23	1,079.93	1,038.94	40.98	26.349	
5,500.00	5,402.18	5,323.23	5,015.38	20.87	32.57	-72.73	-934.15	1,202.52	1,109.27	1,067.34	41.93	26.455	
5,600.00	5,499.73	5,418.82	5,102.38	21.34	33.40	-72.66	-958.43	1,233.82	1,138.62	1,095.74	42.88	26.555	
5,700.00	5,597.28	5,529.61	5,203.35	21.82	34.28	-72.58	-986.38	1,269.84	1,167.77	1,123.91	43.86	26.624	
5,804.96	5,699.67	5,684.99	5,347.36	22.32	35.25	-72.65	-1,022.13	1,315.90	1,194.97	1,149.97	45.00	26.554	
5,900.00	5,792.71	5,828.51	5,483.00	22.69	36.03	-73.20	-1,050.84	1,352.91	1,215.99	1,169.92	46.07	26.397	
6,000.00	5,891.24	5,981.93	5,630.40	22.98	36.75	-73.67	-1,076.89	1,386.48	1,234.80	1,187.81	46.99	26.278	
6,100.00	5,990.31	6,137.47	5,781.94	23.23	37.35	-74.03	-1,098.33	1,414.10	1,250.12	1,202.35	47.77	26.167	
6,200.00	6,089.79	6,294.74	5,936.86	23.44	37.83	-74.29	-1,114.84	1,435.38	1,261.84	1,213.42	48.42	26.063	
6,300.00	6,189.56	6,453.30	6,094.32	23.62	38.19	-74.45	-1,126.19	1,450.01	1,269.89	1,220.98	48.91	25.966	
6,400.00	6,289.51	6,612.70	6,253.39	23.75	38.43	-74.52	-1,132.20	1,457.76	1,274.22	1,224.97	49.25	25.871	
6,440.49	6,330.00	6,677.37	6,318.05	23.80	38.49	95.01	-1,133.09	1,458.90	1,274.91	1,225.55	49.36	25.828	
6,500.00	6,389.51	6,748.83	6,389.51	23.87	38.54	95.01	-1,133.20	1,459.04	1,275.00	1,225.49	49.51	25.755	
6,600.00	6,489.51	6,848.83	6,489.51	23.97	38.62	95.01	-1,133.20	1,459.04	1,275.00	1,225.29	49.71	25.647	
6,700.00	6,589.51	6,948.83	6,589.51	24.08	38.69	95.01	-1,133.20	1,459.04	1,275.00	1,225.08	49.92	25.540	
6,800.00	6,689.51	7,048.83	6,689.51	24.19	38.77	95.01	-1,133.20	1,459.04	1,275.00	1,224.87	50.13	25.433	
6,900.00	6,789.51	7,148.83	6,789.51	24.30	38.84	95.01	-1,133.20	1,459.04	1,275.00	1,224.65	50.35	25.324	
7,000.00	6,889.51	7,248.83	6,889.51	24.41	38.92	95.01	-1,133.20	1,459.04	1,275.00	1,224.44	50.56	25.215	
7,100.00	6,989.51	7,348.83	6,989.51	24.52	39.00	95.01	-1,133.20	1,459.04	1,275.00	1,224.21	50.78	25.106	
7,200.00	7,089.51	7,448.83	7,089.51	24.63	39.08	95.01	-1,133.20	1,459.04	1,275.00	1,223.99	51.01	24.996	
7,300.00	7,189.51	7,548.83	7,189.51	24.74	39.16	95.01	-1,133.20	1,459.04	1,275.00	1,223.76	51.23	24.885	
7,400.00	7,289.51	7,648.83	7,289.51	24.86	39.24	95.01	-1,133.20	1,459.04	1,275.00	1,223.54	51.46	24.774	
7,500.00	7,389.51	7,748.83	7,389.51	24.98	39.33	95.01	-1,133.20	1,459.04	1,275.00	1,223.30	51.70	24.663	
7,600.00	7,489.51	7,848.83	7,489.51	25.10	39.41	95.01	-1,133.20	1,459.04	1,275.00	1,223.07	51.93	24.551	
7,700.00	7,589.51	7,948.83	7,589.51	25.22	39.49	95.01	-1,133.20	1,459.04	1,275.00	1,222.83	52.17	24.439	
7,800.00	7,689.51	8,048.83	7,689.51	25.34	39.58	95.01	-1,133.20	1,459.04	1,275.00	1,222.59	52.41	24.327	
7,900.00	7,789.51	8,148.83	7,789.51	25.46	39.67	95.01	-1,133.20	1,459.04	1,275.00	1,222.34	52.65	24.214	
8,000.00	7,889.51	8,248.83	7,889.51	25.59	39.76	95.01	-1,133.20	1,459.04	1,275.00	1,222.10	52.90	24.102	
8,100.00	7,989.51	8,348.83	7,989.51	25.71	39.85	95.01	-1,133.20	1,459.04	1,275.00	1,221.85	53.15	23.989	
8,200.00	8,089.51	8,448.83	8,089.51	25.84	39.94	95.01	-1,133.20	1,459.04	1,275.00	1,221.60	53.40	23.876	
8,300.00	8,189.51	8,548.83	8,189.51	25.97	40.03	95.01	-1,133.20	1,459.04	1,275.00	1,221.34	53.66	23.762	
8,365.49	8,255.00	8,614.32	8,255.00	26.06	40.09	95.01	-1,133.20	1,459.04	1,275.00	1,221.18	53.82	23.688	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - P_NRC 41-8 - P_NRC 41-8 - 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						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	-49.54	20.77	-24.35	32.00				
100.00	100.00	100.00	100.00	0.10	0.10	-49.54	20.77	-24.35	32.00	31.81	0.19	167.509	
200.00	200.00	200.00	200.00	0.32	0.32	-49.54	20.77	-24.35	32.00	31.36	0.64	49.959	
300.00	300.00	300.00	300.00	0.55	0.55	-49.54	20.77	-24.35	32.00	30.91	1.09	29.357	
400.00	400.00	400.00	400.00	0.77	0.77	-49.54	20.77	-24.35	32.00	30.46	1.54	20.786	
500.00	500.00	500.00	500.00	0.99	0.99	-49.54	20.77	-24.35	32.00	30.01	1.99	16.088	
600.00	600.00	600.00	600.00	1.22	1.22	-49.54	20.77	-24.35	32.00	29.56	2.44	13.123	
700.00	700.00	700.00	700.00	1.44	1.44	-49.54	20.77	-24.35	32.00	29.11	2.89	11.080	
800.00	800.00	800.00	800.00	1.67	1.67	-49.54	20.77	-24.35	32.00	28.67	3.34	9.588	
900.00	900.00	900.00	900.00	1.89	1.89	-49.54	20.77	-24.35	32.00	28.22	3.79	8.450	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-49.54	20.77	-24.35	32.00	27.77	4.24	7.553	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-49.54	20.77	-24.35	32.00	27.38	4.62	6.929 CC	
1,100.00	1,100.00	1,100.11	1,100.11	2.34	2.34	141.04	20.77	-24.31	32.01	27.33	4.68	6.839 ES	
1,200.00	1,199.97	1,200.76	1,200.73	2.51	2.55	146.64	21.11	-22.04	32.43	27.37	5.05	6.418	
1,300.00	1,299.80	1,301.00	1,300.79	2.69	2.76	159.74	21.96	-16.30	34.79	29.35	5.43	6.401 SF	
1,400.00	1,399.37	1,400.48	1,399.84	2.89	2.98	176.09	23.31	-7.18	41.63	35.80	5.83	7.142	
1,500.00	1,498.55	1,498.86	1,497.42	3.11	3.22	-169.69	25.15	5.17	54.67	48.42	6.24	8.756	
1,600.00	1,597.23	1,595.83	1,593.13	3.36	3.49	-159.52	27.43	20.58	73.96	67.27	6.69	11.060	
1,700.00	1,695.29	1,691.10	1,686.59	3.66	3.79	-152.66	30.14	38.84	98.92	91.76	7.17	13.800	
1,720.53	1,715.33	1,710.42	1,705.47	3.73	3.86	-151.55	30.74	42.91	104.70	97.43	7.27	14.396	
1,800.00	1,792.85	1,784.62	1,777.69	4.00	4.12	-147.95	33.24	59.74	128.14	120.42	7.73	16.585	
1,900.00	1,890.40	1,876.69	1,866.65	4.37	4.50	-144.11	36.72	83.17	159.58	151.24	8.34	19.135	
2,000.00	1,987.95	1,967.15	1,953.28	4.76	4.92	-140.80	40.54	108.94	193.24	184.24	9.00	21.482	
2,100.00	2,085.50	2,056.04	2,037.55	5.16	5.38	-137.90	44.68	136.89	229.16	219.47	9.68	23.669	
2,200.00	2,183.05	2,148.33	2,124.63	5.57	5.91	-135.45	49.17	167.14	266.37	255.95	10.42	25.565	
2,300.00	2,280.60	2,240.63	2,211.71	6.00	6.45	-133.60	53.66	197.40	303.90	292.73	11.17	27.213	
2,400.00	2,378.15	2,332.92	2,298.78	6.43	7.01	-132.16	58.15	227.66	341.64	329.71	11.93	28.644	
2,500.00	2,475.70	2,425.22	2,385.86	6.87	7.58	-131.00	62.64	257.92	379.54	366.84	12.70	29.894	
2,600.00	2,573.25	2,517.51	2,472.94	7.31	8.16	-130.05	67.12	288.18	417.54	404.07	13.47	30.991	
2,700.00	2,670.80	2,609.81	2,560.02	7.76	8.75	-129.26	71.61	318.44	455.63	441.37	14.26	31.959	
2,800.00	2,768.35	2,702.10	2,647.09	8.21	9.35	-128.59	76.10	348.70	493.77	478.73	15.05	32.819	
2,900.00	2,865.90	2,794.40	2,734.17	8.66	9.95	-128.01	80.59	378.96	531.97	516.13	15.84	33.587	
3,000.00	2,963.45	2,886.69	2,821.25	9.12	10.56	-127.52	85.08	409.22	570.21	553.58	16.64	34.275	
3,100.00	3,060.99	2,978.98	2,908.33	9.58	11.17	-127.08	89.57	439.48	608.48	591.04	17.44	34.897	
3,200.00	3,158.54	3,071.28	2,995.41	10.04	11.78	-126.70	94.05	469.74	646.78	628.54	18.24	35.460	
3,300.00	3,256.09	3,163.57	3,082.48	10.50	12.39	-126.36	98.54	500.00	685.10	666.05	19.05	35.972	
3,400.00	3,353.64	3,255.87	3,169.56	10.97	13.01	-126.05	103.03	530.26	723.43	703.58	19.85	36.441	
3,500.00	3,451.19	3,348.16	3,256.64	11.43	13.63	-125.78	107.52	560.52	761.79	741.12	20.67	36.862	
3,600.00	3,548.74	3,440.46	3,343.72	11.90	14.25	-125.53	112.01	590.78	800.15	778.67	21.48	37.243	
3,700.00	3,646.29	3,532.75	3,430.79	12.37	14.87	-125.31	116.49	621.04	838.53	816.22	22.31	37.592	
3,800.00	3,743.84	3,625.05	3,517.87	12.83	15.49	-125.10	120.98	651.30	876.92	853.79	23.13	37.915	
3,900.00	3,841.39	3,717.34	3,604.95	13.30	16.12	-124.92	125.47	681.56	915.31	891.36	23.95	38.213	
4,000.00	3,938.94	3,809.64	3,692.03	13.77	16.74	-124.74	129.96	711.82	953.72	928.94	24.78	38.489	
4,100.00	4,036.49	3,901.93	3,779.10	14.24	17.37	-124.58	134.45	742.08	992.13	966.52	25.61	38.746	
4,200.00	4,134.04	3,994.23	3,866.18	14.71	18.00	-124.44	138.94	772.34	1,030.55	1,004.11	26.43	38.985	
4,300.00	4,231.59	4,086.52	3,953.26	15.19	18.62	-124.30	143.42	802.60	1,068.97	1,041.71	27.26	39.209	
4,400.00	4,329.14	4,178.82	4,040.34	15.66	19.25	-124.17	147.91	832.86	1,107.40	1,079.30	28.09	39.418	
4,500.00	4,426.69	4,271.11	4,127.42	16.13	19.88	-124.05	152.40	863.12	1,145.83	1,116.90	28.93	39.614	
4,600.00	4,524.24	4,363.41	4,214.49	16.60	20.51	-123.94	156.89	893.38	1,184.27	1,154.51	29.76	39.798	
4,700.00	4,621.78	4,455.70	4,301.57	17.07	21.14	-123.84	161.38	923.64	1,222.71	1,192.12	30.59	39.971	
4,800.00	4,719.33	4,548.00	4,388.65	17.55	21.77	-123.74	165.87	953.90	1,261.15	1,229.72	31.42	40.134	
4,900.00	4,816.88	4,640.29	4,475.73	18.02	22.40	-123.65	170.35	984.16	1,299.59	1,267.34	32.26	40.289	

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 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - P_NRC 41-8 - P_NRC 41-8 - 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	4,914.43	4,732.58	4,562.80	18.50	23.03	-123.56	174.84	1,014.42	1,338.04	1,304.95	33.09	40.434	
5,100.00	5,011.98	4,824.88	4,649.88	18.97	23.67	-123.48	179.33	1,044.68	1,376.49	1,342.57	33.93	40.572	
5,200.00	5,109.53	4,917.17	4,736.96	19.44	24.30	-123.40	183.82	1,074.94	1,414.95	1,380.18	34.76	40.703	
5,300.00	5,207.08	5,009.47	4,824.04	19.92	24.93	-123.33	188.31	1,105.19	1,453.40	1,417.80	35.60	40.828	
5,400.00	5,304.63	5,101.76	4,911.12	20.39	25.56	-123.26	192.79	1,135.45	1,491.86	1,455.42	36.44	40.946	
5,500.00	5,402.18	5,194.06	4,998.19	20.87	26.20	-123.19	197.28	1,165.71	1,530.32	1,493.04	37.27	41.058	
5,600.00	5,499.73	5,286.35	5,085.27	21.34	26.83	-123.13	201.77	1,195.97	1,568.78	1,530.67	38.11	41.165	
5,700.00	5,597.28	5,378.65	5,172.35	21.82	27.46	-123.07	206.26	1,226.23	1,607.24	1,568.29	38.95	41.267	
5,804.96	5,699.67	5,475.52	5,263.75	22.32	28.13	-123.01	210.97	1,258.00	1,647.61	1,607.79	39.83	41.370	
5,900.00	5,792.71	5,563.53	5,346.78	22.69	28.73	-123.55	215.25	1,286.85	1,683.37	1,642.61	40.76	41.302	
6,000.00	5,891.24	5,714.74	5,490.25	22.98	29.56	-123.89	222.25	1,334.04	1,718.20	1,676.44	41.76	41.149	
6,100.00	5,990.31	5,900.68	5,669.75	23.23	30.37	-124.10	229.35	1,381.88	1,746.62	1,703.90	42.71	40.894	
6,200.00	6,089.79	6,093.10	5,858.41	23.44	31.03	-124.24	234.88	1,419.16	1,768.02	1,724.49	43.53	40.616	
6,300.00	6,189.56	6,290.33	6,053.96	23.62	31.52	-124.34	238.60	1,444.29	1,782.12	1,737.92	44.20	40.323	
6,400.00	6,289.51	6,490.45	6,253.68	23.75	31.84	-124.39	240.36	1,456.13	1,788.71	1,744.01	44.70	40.018	
6,440.49	6,330.00	6,566.78	6,330.00	23.80	31.91	45.13	240.49	1,457.00	1,789.23	1,744.37	44.86	39.889	
6,500.00	6,389.51	6,626.28	6,389.51	23.87	31.97	45.13	240.49	1,457.00	1,789.23	1,744.23	45.00	39.758	
6,600.00	6,489.51	6,726.28	6,489.51	23.97	32.06	45.13	240.49	1,457.00	1,789.23	1,743.98	45.24	39.546	
6,700.00	6,589.51	6,826.28	6,589.51	24.08	32.16	45.13	240.49	1,457.00	1,789.23	1,743.74	45.49	39.333	
6,800.00	6,689.51	6,926.28	6,689.51	24.19	32.26	45.13	240.49	1,457.00	1,789.23	1,743.49	45.74	39.119	
6,900.00	6,789.51	7,026.28	6,789.51	24.30	32.36	45.13	240.49	1,457.00	1,789.23	1,743.24	45.99	38.906	
7,000.00	6,889.51	7,126.28	6,889.51	24.41	32.46	45.13	240.49	1,457.00	1,789.23	1,742.99	46.24	38.692	
7,100.00	6,989.51	7,226.28	6,989.51	24.52	32.56	45.13	240.49	1,457.00	1,789.23	1,742.73	46.50	38.478	
7,200.00	7,089.51	7,326.28	7,089.51	24.63	32.66	45.13	240.49	1,457.00	1,789.23	1,742.47	46.76	38.264	
7,300.00	7,189.51	7,426.28	7,189.51	24.74	32.77	45.13	240.49	1,457.00	1,789.23	1,742.21	47.02	38.050	
7,400.00	7,289.51	7,526.28	7,289.51	24.86	32.87	45.13	240.49	1,457.00	1,789.23	1,741.94	47.29	37.836	
7,500.00	7,389.51	7,626.28	7,389.51	24.98	32.98	45.13	240.49	1,457.00	1,789.23	1,741.67	47.56	37.622	
7,600.00	7,489.51	7,726.28	7,489.51	25.10	33.09	45.13	240.49	1,457.00	1,789.23	1,741.40	47.83	37.409	
7,700.00	7,589.51	7,826.28	7,589.51	25.22	33.20	45.13	240.49	1,457.00	1,789.23	1,741.13	48.10	37.196	
7,800.00	7,689.51	7,926.28	7,689.51	25.34	33.31	45.13	240.49	1,457.00	1,789.23	1,740.85	48.38	36.983	
7,900.00	7,789.51	8,026.28	7,789.51	25.46	33.42	45.13	240.49	1,457.00	1,789.23	1,740.57	48.66	36.771	
8,000.00	7,889.51	8,126.28	7,889.51	25.59	33.53	45.13	240.49	1,457.00	1,789.23	1,740.29	48.94	36.559	
8,100.00	7,989.51	8,226.28	7,989.51	25.71	33.64	45.13	240.49	1,457.00	1,789.23	1,740.00	49.23	36.348	
8,200.00	8,089.51	8,326.28	8,089.51	25.84	33.76	45.13	240.49	1,457.00	1,789.23	1,739.72	49.51	36.138	
8,300.00	8,189.51	8,426.28	8,189.51	25.97	33.87	45.13	240.49	1,457.00	1,789.23	1,739.43	49.80	35.928	
8,341.86	8,231.36	8,468.14	8,231.36	26.03	33.92	45.13	240.49	1,457.00	1,789.23	1,739.31	49.92	35.840	
8,365.49	8,255.00	8,486.78	8,250.00	26.06	33.95	45.13	240.49	1,457.00	1,789.24	1,739.25	49.98	35.796	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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	-49.69	10.21	-12.03	15.78				
100.00	100.00	100.00	100.00	0.10	0.10	-49.69	10.21	-12.03	15.78	15.59	0.19	82.600	
200.00	200.00	200.00	200.00	0.32	0.32	-49.69	10.21	-12.03	15.78	15.14	0.64	24.635	
300.00	300.00	300.00	300.00	0.55	0.55	-49.69	10.21	-12.03	15.78	14.69	1.09	14.476	
400.00	400.00	400.00	400.00	0.77	0.77	-49.69	10.21	-12.03	15.78	14.24	1.54	10.250	
500.00	500.00	500.00	500.00	0.99	0.99	-49.69	10.21	-12.03	15.78	13.79	1.99	7.933	
600.00	600.00	600.00	600.00	1.22	1.22	-49.69	10.21	-12.03	15.78	13.34	2.44	6.471	
700.00	700.00	700.00	700.00	1.44	1.44	-49.69	10.21	-12.03	15.78	12.89	2.89	5.464	
800.00	800.00	800.00	800.00	1.67	1.67	-49.69	10.21	-12.03	15.78	12.44	3.34	4.728	
900.00	900.00	900.00	900.00	1.89	1.89	-49.69	10.21	-12.03	15.78	11.99	3.79	4.167	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-49.69	10.21	-12.03	15.78	11.54	4.24	3.725	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-49.69	10.21	-12.03	15.78	11.16	4.62	3.417 CC	
1,100.00	1,100.00	1,099.99	1,099.99	2.34	2.34	140.73	10.18	-12.06	15.82	11.14	4.68	3.381 ES, SF	
1,200.00	1,199.97	1,199.88	1,199.85	2.51	2.52	138.09	8.64	-13.72	17.86	12.84	5.03	3.554	
1,300.00	1,299.80	1,299.58	1,299.38	2.69	2.71	133.51	4.74	-17.92	23.16	17.77	5.39	4.298	
1,400.00	1,399.37	1,398.92	1,398.29	2.89	2.91	129.35	-1.48	-24.62	31.83	26.06	5.78	5.510	
1,500.00	1,498.55	1,497.73	1,496.31	3.11	3.14	126.29	-9.99	-33.78	43.88	37.68	6.20	7.072	
1,600.00	1,597.23	1,595.99	1,593.29	3.36	3.40	124.17	-20.70	-45.31	59.24	52.56	6.68	8.862	
1,700.00	1,695.29	1,694.39	1,690.21	3.66	3.69	124.13	-32.24	-57.73	77.03	69.81	7.22	10.670	
1,720.53	1,715.33	1,714.54	1,710.07	3.73	3.75	124.36	-34.60	-60.28	80.92	73.59	7.34	11.033	
1,800.00	1,792.85	1,792.52	1,786.88	4.00	3.99	125.42	-43.75	-70.12	96.17	88.36	7.81	12.314	
1,900.00	1,890.40	1,890.64	1,883.53	4.37	4.31	126.36	-55.25	-82.51	115.38	106.95	8.44	13.676	
2,000.00	1,987.95	1,988.76	1,980.19	4.76	4.64	127.03	-66.76	-94.90	134.62	125.53	9.09	14.810	
2,100.00	2,085.50	2,086.88	2,076.84	5.16	4.98	127.53	-78.27	-107.29	153.86	144.10	9.76	15.761	
2,200.00	2,183.05	2,185.01	2,173.49	5.57	5.33	127.92	-89.78	-119.68	173.12	162.67	10.45	16.563	
2,300.00	2,280.60	2,283.13	2,270.15	6.00	5.68	128.23	-101.28	-132.07	192.38	181.23	11.16	17.246	
2,400.00	2,378.15	2,381.25	2,366.80	6.43	6.04	128.49	-112.79	-144.46	211.65	199.78	11.87	17.833	
2,500.00	2,475.70	2,479.37	2,463.46	6.87	6.41	128.70	-124.30	-156.85	230.92	218.33	12.59	18.340	
2,600.00	2,573.25	2,577.49	2,560.11	7.31	6.77	128.88	-135.81	-169.24	250.20	236.88	13.32	18.782	
2,700.00	2,670.80	2,675.62	2,656.77	7.76	7.14	129.04	-147.31	-181.63	269.47	255.42	14.06	19.170	
2,800.00	2,768.35	2,773.74	2,753.42	8.21	7.52	129.17	-158.82	-194.02	288.75	273.95	14.80	19.513	
2,900.00	2,865.90	2,871.86	2,850.07	8.66	7.89	129.29	-170.33	-206.41	308.03	292.49	15.54	19.818	
3,000.00	2,963.45	2,969.98	2,946.73	9.12	8.27	129.39	-181.84	-218.80	327.31	311.02	16.29	20.090	
3,100.00	3,060.99	3,068.11	3,043.38	9.58	8.65	129.48	-193.34	-231.19	346.59	329.55	17.04	20.335	
3,200.00	3,158.54	3,166.23	3,140.04	10.04	9.03	129.56	-204.85	-243.58	365.87	348.07	17.80	20.556	
3,300.00	3,256.09	3,264.35	3,236.69	10.50	9.41	129.64	-216.36	-255.97	385.15	366.60	18.56	20.757	
3,400.00	3,353.64	3,362.47	3,333.35	10.97	9.79	129.70	-227.87	-268.36	404.44	385.12	19.31	20.940	
3,500.00	3,451.19	3,460.59	3,430.00	11.43	10.17	129.76	-239.37	-280.75	423.72	403.64	20.07	21.107	
3,600.00	3,548.74	3,558.72	3,526.65	11.90	10.56	129.82	-250.88	-293.14	443.00	422.17	20.84	21.261	
3,700.00	3,646.29	3,656.84	3,623.31	12.37	10.94	129.87	-262.39	-305.53	462.29	440.69	21.60	21.402	
3,800.00	3,743.84	3,754.96	3,719.96	12.83	11.33	129.92	-273.90	-317.92	481.57	459.21	22.36	21.533	
3,900.00	3,841.39	3,853.08	3,816.62	13.30	11.72	129.96	-285.40	-330.31	500.85	477.73	23.13	21.655	
4,000.00	3,938.94	3,951.21	3,913.27	13.77	12.10	130.00	-296.91	-342.70	520.14	496.24	23.89	21.768	
4,100.00	4,036.49	4,049.33	4,009.93	14.24	12.49	130.04	-308.42	-355.09	539.42	514.76	24.66	21.874	
4,200.00	4,134.04	4,147.45	4,106.58	14.71	12.88	130.07	-319.93	-367.48	558.71	533.28	25.43	21.973	
4,300.00	4,231.59	4,245.57	4,203.23	15.19	13.27	130.10	-331.43	-379.87	577.99	551.80	26.19	22.065	
4,400.00	4,329.14	4,343.70	4,299.89	15.66	13.66	130.13	-342.94	-392.26	597.28	570.32	26.96	22.152	
4,500.00	4,426.69	4,441.82	4,396.54	16.13	14.05	130.16	-354.45	-404.65	616.57	588.84	27.73	22.234	
4,600.00	4,524.24	4,539.94	4,493.20	16.60	14.44	130.19	-365.96	-417.04	635.85	607.35	28.50	22.312	
4,700.00	4,621.78	4,638.06	4,589.85	17.07	14.83	130.21	-377.46	-429.43	655.14	625.87	29.27	22.385	
4,800.00	4,719.33	4,736.18	4,686.51	17.55	15.22	130.24	-388.97	-441.82	674.42	644.39	30.04	22.454	
4,900.00	4,816.88	4,834.31	4,783.16	18.02	15.61	130.26	-400.48	-454.21	693.71	662.91	30.80	22.520	

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 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - P_NRC 7-8 - P_NRC 7-8 - 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
5,000.00	4,914.43	4,932.43	4,879.81	18.50	16.00	130.28	-411.99	-466.60	713.00	681.42	31.57	22.583	
5,100.00	5,011.98	5,030.55	4,976.47	18.97	16.39	130.30	-423.49	-478.99	732.28	699.94	32.34	22.642	
5,200.00	5,109.53	5,128.67	5,073.12	19.44	16.78	130.32	-435.00	-491.38	751.57	718.46	33.11	22.699	
5,300.00	5,207.08	5,226.80	5,169.78	19.92	17.17	130.34	-446.51	-503.77	770.86	736.98	33.88	22.754	
5,400.00	5,304.63	5,324.92	5,266.43	20.39	17.56	130.35	-458.02	-516.16	790.14	755.49	34.66	22.800	
5,500.00	5,402.18	5,423.04	5,363.09	20.87	17.96	130.37	-469.52	-528.54	809.43	773.99	35.43	22.843	
5,600.00	5,499.73	5,521.16	5,459.74	21.34	18.35	130.39	-481.03	-540.93	828.71	792.50	36.21	22.884	
5,700.00	5,597.28	5,619.28	5,556.39	21.82	18.74	130.40	-492.54	-553.32	848.00	811.01	36.99	22.924	
5,804.96	5,699.67	5,722.28	5,657.85	22.32	19.15	130.42	-504.62	-566.33	868.25	830.44	37.81	22.963	
5,900.00	5,792.71	5,815.71	5,749.88	22.69	19.53	130.62	-515.57	-578.13	885.57	847.02	38.55	22.974	
6,000.00	5,891.24	5,914.42	5,847.11	22.98	19.92	130.63	-527.15	-590.59	901.62	862.38	39.25	22.973	
6,100.00	5,990.31	6,023.34	5,954.74	23.23	20.26	130.53	-538.51	-602.82	914.90	875.04	39.86	22.951	
6,200.00	6,089.79	6,133.03	6,063.69	23.44	20.51	130.45	-547.13	-612.10	924.85	884.50	40.35	22.920	
6,300.00	6,189.56	6,243.28	6,173.60	23.62	20.72	130.39	-552.93	-618.35	931.44	890.69	40.75	22.856	
6,400.00	6,289.51	6,353.87	6,284.10	23.75	20.90	130.35	-555.85	-621.49	934.63	893.56	41.07	22.755	
6,440.49	6,330.00	6,398.70	6,328.93	23.80	20.97	-60.14	-556.21	-621.88	934.96	893.77	41.19	22.698	
6,500.00	6,389.51	6,459.28	6,389.51	23.87	21.05	-60.14	-556.22	-621.89	934.96	893.61	41.35	22.609	
6,600.00	6,489.51	6,559.28	6,489.51	23.97	21.18	-60.14	-556.22	-621.89	934.96	893.36	41.60	22.473	
6,700.00	6,589.51	6,659.28	6,589.51	24.08	21.30	-60.14	-556.22	-621.89	934.96	893.11	41.85	22.340	
6,800.00	6,689.51	6,759.28	6,689.51	24.19	21.43	-60.14	-556.22	-621.89	934.96	892.86	42.10	22.206	
6,900.00	6,789.51	6,859.28	6,789.51	24.30	21.56	-60.14	-556.22	-621.89	934.96	892.60	42.36	22.071	
7,000.00	6,889.51	6,959.28	6,889.51	24.41	21.69	-60.14	-556.22	-621.89	934.96	892.34	42.62	21.937	
7,100.00	6,989.51	7,059.28	6,989.51	24.52	21.83	-60.14	-556.22	-621.89	934.96	892.08	42.88	21.803	
7,200.00	7,089.51	7,159.28	7,089.51	24.63	21.96	-60.14	-556.22	-621.89	934.96	891.82	43.15	21.669	
7,300.00	7,189.51	7,259.28	7,189.51	24.74	22.10	-60.14	-556.22	-621.89	934.96	891.55	43.42	21.535	
7,400.00	7,289.51	7,359.28	7,289.51	24.86	22.24	-60.14	-556.22	-621.89	934.96	891.28	43.69	21.402	
7,500.00	7,389.51	7,459.28	7,389.51	24.98	22.38	-60.14	-556.22	-621.89	934.96	891.00	43.96	21.268	
7,600.00	7,489.51	7,559.28	7,489.51	25.10	22.52	-60.14	-556.22	-621.89	934.96	890.73	44.24	21.135	
7,700.00	7,589.51	7,659.28	7,589.51	25.22	22.66	-60.14	-556.22	-621.89	934.96	890.45	44.52	21.002	
7,800.00	7,689.51	7,759.28	7,689.51	25.34	22.80	-60.14	-556.22	-621.89	934.96	890.16	44.80	20.870	
7,900.00	7,789.51	7,859.28	7,789.51	25.46	22.95	-60.14	-556.22	-621.89	934.96	889.88	45.09	20.738	
8,000.00	7,889.51	7,959.28	7,889.51	25.59	23.09	-60.14	-556.22	-621.89	934.96	889.59	45.37	20.606	
8,100.00	7,989.51	8,059.28	7,989.51	25.71	23.24	-60.14	-556.22	-621.89	934.96	889.30	45.66	20.475	
8,200.00	8,089.51	8,159.28	8,089.51	25.84	23.39	-60.14	-556.22	-621.89	934.96	889.01	45.96	20.344	
8,300.00	8,189.51	8,259.28	8,189.51	25.97	23.54	-60.14	-556.22	-621.89	934.96	888.71	46.25	20.214	
8,365.49	8,255.00	8,324.77	8,255.00	26.06	23.64	-60.14	-556.22	-621.89	934.96	888.52	46.45	20.129	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 5 PAD - ROCKY MOUNTAIN FUEL CO C #6 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	
0.00	0.00	0.00	0.00	0.00	0.00	-92.54	-3.27	-73.61	75.85				
100.00	100.00	82.00	82.00	0.10	1.64	-92.54	-3.27	-73.61	73.68	71.94	1.74	42.453	
200.00	200.00	182.00	182.00	0.32	5.28	-92.54	-3.27	-73.61	73.68	68.08	5.60	13.156	
300.00	300.00	282.00	282.00	0.55	9.28	-92.54	-3.27	-73.61	73.68	63.85	9.83	7.499	
400.00	400.00	382.00	382.00	0.77	13.28	-92.54	-3.27	-73.61	73.68	59.63	14.05	5.244	
500.00	500.00	482.00	482.00	0.99	17.28	-92.54	-3.27	-73.61	73.68	55.40	18.27	4.032	
600.00	600.00	582.00	582.00	1.22	21.28	-92.54	-3.27	-73.61	73.68	51.18	22.50	3.275	
700.00	700.00	682.00	682.00	1.44	25.28	-92.54	-3.27	-73.61	73.68	46.96	26.72	2.757	
800.00	800.00	782.00	782.00	1.67	29.28	-92.54	-3.27	-73.61	73.68	42.73	30.95	2.381	
900.00	900.00	882.00	882.00	1.89	33.28	-92.54	-3.27	-73.61	73.68	38.51	35.17	2.095	
1,000.00	1,000.00	982.00	982.00	2.12	37.28	-92.54	-3.27	-73.61	73.68	34.28	39.40	1.870	
1,085.00	1,085.00	1,067.00	1,067.00	2.31	40.68	-92.54	-3.27	-73.61	73.68	30.69	42.99	1.714 CC	
1,100.00	1,100.00	1,082.00	1,082.00	2.34	41.28	97.96	-3.27	-73.61	73.68	30.07	43.62	1.689	
1,200.00	1,199.97	1,181.97	1,181.97	2.51	45.28	99.69	-3.27	-73.61	74.03	26.24	47.79	1.549	
1,300.00	1,299.80	1,281.80	1,281.80	2.69	49.27	103.99	-3.27	-73.61	75.22	23.26	51.96	1.448 Level 3	
1,400.00	1,399.37	1,381.37	1,381.37	2.89	53.25	110.51	-3.27	-73.61	77.97	21.86	56.11	1.390 Level 3, ES	
1,500.00	1,498.55	1,480.55	1,480.55	3.11	57.22	118.58	-3.27	-73.61	83.30	23.10	60.20	1.384 Level 3, SF	
1,600.00	1,597.23	1,579.23	1,579.23	3.36	61.17	127.22	-3.27	-73.61	92.19	28.03	64.16	1.437 Level 3	
1,700.00	1,695.29	1,677.29	1,677.29	3.66	65.09	135.47	-3.27	-73.61	105.31	37.38	67.93	1.550	
1,720.53	1,715.33	1,697.33	1,697.33	3.73	65.89	137.05	-3.27	-73.61	108.56	39.88	68.68	1.581	
1,800.00	1,792.85	1,774.85	1,774.85	4.00	68.99	142.60	-3.27	-73.61	122.07	50.30	71.77	1.701	
1,900.00	1,890.40	1,872.40	1,872.40	4.37	72.90	148.03	-3.27	-73.61	140.33	64.63	75.70	1.854	
2,000.00	1,987.95	1,969.95	1,969.95	4.76	76.80	152.20	-3.27	-73.61	159.53	79.88	79.65	2.003	
2,100.00	2,085.50	2,067.50	2,067.50	5.16	80.70	155.46	-3.27	-73.61	179.38	95.74	83.64	2.145	
2,200.00	2,183.05	2,165.05	2,165.05	5.57	84.60	158.08	-3.27	-73.61	199.68	112.05	87.63	2.279	
2,300.00	2,280.60	2,262.60	2,262.60	6.00	88.50	160.21	-3.27	-73.61	220.31	128.66	91.64	2.404	
2,400.00	2,378.15	2,360.15	2,360.15	6.43	92.41	161.97	-3.27	-73.61	241.18	145.51	95.67	2.521	
2,500.00	2,475.70	2,457.70	2,457.70	6.87	96.31	163.46	-3.27	-73.61	262.23	162.54	99.69	2.630	
2,600.00	2,573.25	2,555.25	2,555.25	7.31	100.21	164.72	-3.27	-73.61	283.43	179.70	103.73	2.732	
2,700.00	2,670.80	2,652.80	2,652.80	7.76	104.11	165.81	-3.27	-73.61	304.75	196.98	107.77	2.828	
2,800.00	2,768.35	2,750.35	2,750.35	8.21	108.01	166.76	-3.27	-73.61	326.15	214.34	111.82	2.917	
2,900.00	2,865.90	2,847.90	2,847.90	8.66	111.92	167.59	-3.27	-73.61	347.63	231.77	115.87	3.000	
3,000.00	2,963.45	2,945.45	2,945.45	9.12	115.82	168.32	-3.27	-73.61	369.17	249.26	119.92	3.079	
3,100.00	3,060.99	3,042.99	3,042.99	9.58	119.72	168.97	-3.27	-73.61	390.77	266.79	123.97	3.152	
3,200.00	3,158.54	3,140.54	3,140.54	10.04	123.62	169.56	-3.27	-73.61	412.40	284.37	128.03	3.221	
3,300.00	3,256.09	3,238.09	3,238.09	10.50	127.52	170.08	-3.27	-73.61	434.08	301.99	132.09	3.286	
3,400.00	3,353.64	3,335.64	3,335.64	10.97	131.43	170.56	-3.27	-73.61	455.78	319.63	136.15	3.348	
3,500.00	3,451.19	3,433.19	3,433.19	11.43	135.33	170.99	-3.27	-73.61	477.51	337.30	140.21	3.406	
3,600.00	3,548.74	3,530.74	3,530.74	11.90	139.23	171.39	-3.27	-73.61	499.27	354.99	144.28	3.460	
3,700.00	3,646.29	3,628.29	3,628.29	12.37	143.13	171.75	-3.27	-73.61	521.04	372.70	148.34	3.512	
3,800.00	3,743.84	3,725.84	3,725.84	12.83	147.03	172.08	-3.27	-73.61	542.84	390.43	152.41	3.562	
3,900.00	3,841.39	3,823.39	3,823.39	13.30	150.94	172.39	-3.27	-73.61	564.65	408.18	156.47	3.609	
4,000.00	3,938.94	3,920.94	3,920.94	13.77	154.84	172.67	-3.27	-73.61	586.47	425.93	160.54	3.653	
4,100.00	4,036.49	4,018.49	4,018.49	14.24	158.74	172.94	-3.27	-73.61	608.31	443.70	164.61	3.695	
4,200.00	4,134.04	4,116.04	4,116.04	14.71	162.64	173.18	-3.27	-73.61	630.16	461.48	168.68	3.736	
4,300.00	4,231.59	4,213.59	4,213.59	15.19	166.54	173.41	-3.27	-73.61	652.02	479.27	172.75	3.774	
4,400.00	4,329.14	4,311.14	4,311.14	15.66	170.45	173.63	-3.27	-73.61	673.89	497.07	176.82	3.811	
4,500.00	4,426.69	4,408.69	4,408.69	16.13	174.35	173.83	-3.27	-73.61	695.77	514.88	180.89	3.846	
4,600.00	4,524.24	4,506.24	4,506.24	16.60	178.25	174.02	-3.27	-73.61	717.65	532.69	184.96	3.880	
4,700.00	4,621.78	4,603.78	4,603.78	17.07	182.15	174.20	-3.27	-73.61	739.54	550.51	189.03	3.912	
4,800.00	4,719.33	4,701.33	4,701.33	17.55	186.05	174.36	-3.27	-73.61	761.44	568.34	193.11	3.943	
4,900.00	4,816.88	4,798.88	4,798.88	18.02	189.96	174.52	-3.27	-73.61	783.35	586.17	197.18	3.973	

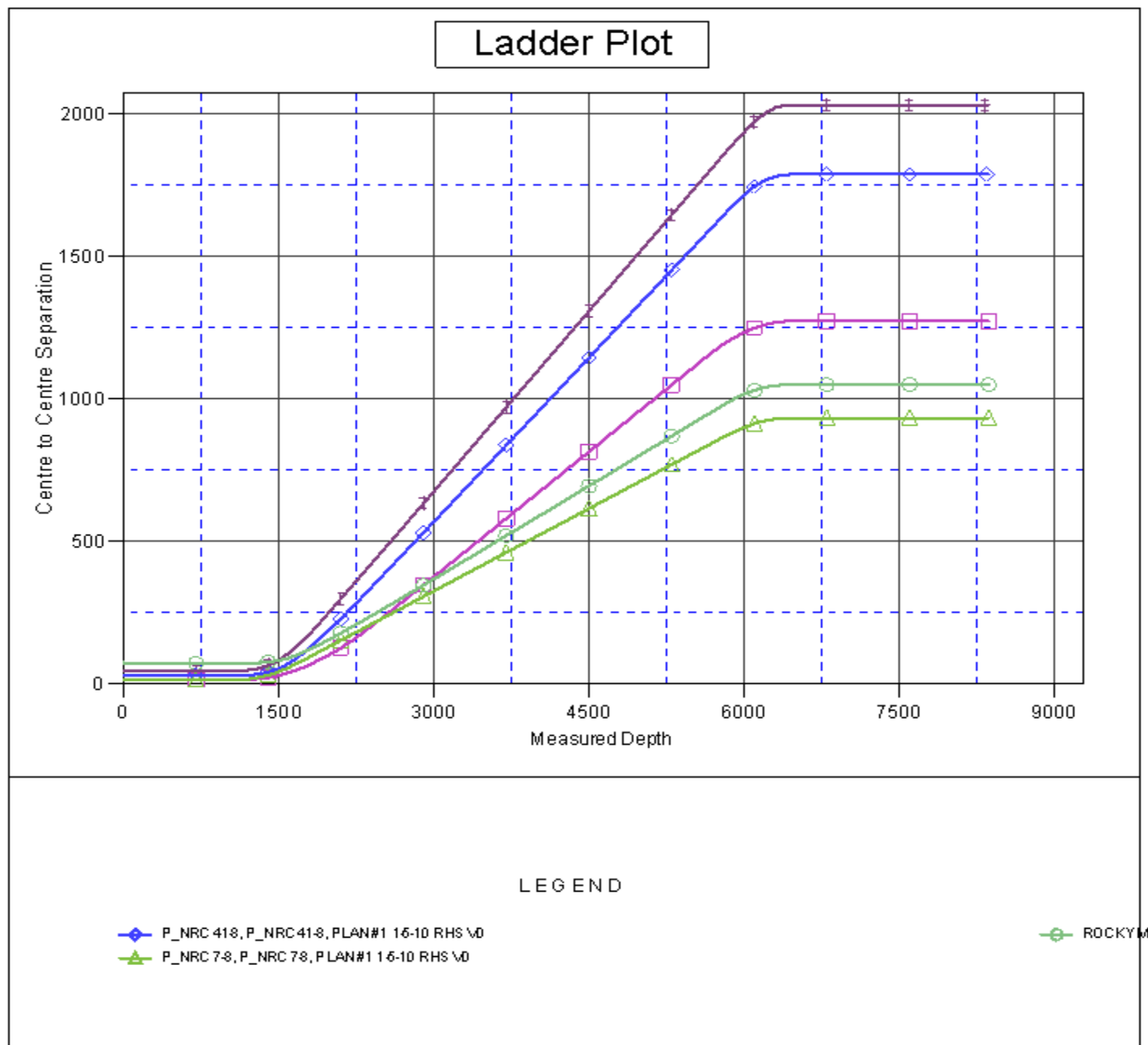
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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-UNKNOWN												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	4,914.43	4,896.43	4,896.43	18.50	193.86	174.67	-3.27	-73.61	805.26	604.00	201.25	4.001	
5,100.00	5,011.98	4,993.98	4,993.98	18.97	197.76	174.81	-3.27	-73.61	827.17	621.85	205.33	4.029	
5,200.00	5,109.53	5,091.53	5,091.53	19.44	201.66	174.95	-3.27	-73.61	849.09	639.69	209.40	4.055	
5,300.00	5,207.08	5,189.08	5,189.08	19.92	205.56	175.07	-3.27	-73.61	871.01	657.54	213.47	4.080	
5,400.00	5,304.63	5,286.63	5,286.63	20.39	209.47	175.20	-3.27	-73.61	892.94	675.39	217.55	4.105	
5,500.00	5,402.18	5,384.18	5,384.18	20.87	213.37	175.31	-3.27	-73.61	914.87	693.25	221.62	4.128	
5,600.00	5,499.73	5,481.73	5,481.73	21.34	217.27	175.42	-3.27	-73.61	936.81	711.11	225.70	4.151	
5,700.00	5,597.28	5,579.28	5,579.28	21.82	221.17	175.53	-3.27	-73.61	958.74	728.97	229.77	4.173	
5,804.96	5,699.67	5,681.67	5,681.67	22.32	225.27	175.63	-3.27	-73.61	981.77	747.72	234.05	4.195	
5,900.00	5,792.71	5,774.71	5,774.71	22.69	228.99	175.74	-3.27	-73.61	1,001.09	761.72	239.37	4.182	
6,000.00	5,891.24	5,873.24	5,873.24	22.98	232.93	175.84	-3.27	-73.61	1,018.08	773.25	244.83	4.158	
6,100.00	5,990.31	5,972.31	5,972.31	23.23	236.89	175.91	-3.27	-73.61	1,031.64	781.59	250.05	4.126	
6,200.00	6,089.79	6,071.79	6,071.79	23.44	240.87	175.97	-3.27	-73.61	1,041.73	786.73	255.00	4.085	
6,300.00	6,189.56	6,171.56	6,171.56	23.62	244.86	176.00	-3.27	-73.61	1,048.36	788.69	259.67	4.037	
6,400.00	6,289.51	6,271.51	6,271.51	23.75	248.86	176.02	-3.27	-73.61	1,051.51	787.48	264.04	3.982	
6,440.49	6,330.00	6,312.00	6,312.00	23.80	250.48	-14.45	-3.27	-73.61	1,051.80	786.08	265.72	3.958	
6,500.00	6,389.51	6,371.51	6,371.51	23.87	252.86	-14.45	-3.27	-73.61	1,051.80	783.59	268.20	3.922	
6,600.00	6,489.51	6,471.51	6,471.51	23.97	256.86	-14.45	-3.27	-73.61	1,051.80	779.43	272.37	3.862	
6,700.00	6,589.51	6,571.51	6,571.51	24.08	260.86	-14.45	-3.27	-73.61	1,051.80	775.26	276.54	3.803	
6,800.00	6,689.51	6,671.51	6,671.51	24.19	264.86	-14.45	-3.27	-73.61	1,051.80	771.09	280.70	3.747	
6,900.00	6,789.51	6,771.51	6,771.51	24.30	268.86	-14.45	-3.27	-73.61	1,051.80	766.92	284.87	3.692	
7,000.00	6,889.51	6,871.51	6,871.51	24.41	272.86	-14.45	-3.27	-73.61	1,051.80	762.75	289.05	3.639	
7,100.00	6,989.51	6,971.51	6,971.51	24.52	276.86	-14.45	-3.27	-73.61	1,051.80	758.58	293.22	3.587	
7,200.00	7,089.51	7,071.51	7,071.51	24.63	280.86	-14.45	-3.27	-73.61	1,051.80	754.40	297.39	3.537	
7,300.00	7,189.51	7,171.51	7,171.51	24.74	284.86	-14.45	-3.27	-73.61	1,051.80	750.23	301.57	3.488	
7,400.00	7,289.51	7,271.51	7,271.51	24.86	288.86	-14.45	-3.27	-73.61	1,051.80	746.05	305.74	3.440	
7,500.00	7,389.51	7,371.51	7,371.51	24.98	292.86	-14.45	-3.27	-73.61	1,051.80	741.88	309.92	3.394	
7,600.00	7,489.51	7,471.51	7,471.51	25.10	296.86	-14.45	-3.27	-73.61	1,051.80	737.70	314.10	3.349	
7,700.00	7,589.51	7,571.51	7,571.51	25.22	300.86	-14.45	-3.27	-73.61	1,051.80	733.52	318.28	3.305	
7,800.00	7,689.51	7,671.51	7,671.51	25.34	304.86	-14.45	-3.27	-73.61	1,051.80	729.34	322.46	3.262	
7,900.00	7,789.51	7,771.51	7,771.51	25.46	308.86	-14.45	-3.27	-73.61	1,051.80	725.15	326.64	3.220	
8,000.00	7,889.51	7,871.51	7,871.51	25.59	312.86	-14.45	-3.27	-73.61	1,051.80	720.97	330.82	3.179	
8,100.00	7,989.51	7,971.51	7,971.51	25.71	316.86	-14.45	-3.27	-73.61	1,051.80	716.79	335.01	3.140	
8,200.00	8,089.51	8,071.51	8,071.51	25.84	320.86	-14.45	-3.27	-73.61	1,051.80	712.60	339.19	3.101	
8,300.00	8,189.51	8,171.51	8,171.51	25.97	324.86	-14.45	-3.27	-73.61	1,051.80	708.42	343.38	3.063	
8,365.49	8,255.00	8,237.00	8,237.00	26.06	327.48	-14.45	-3.27	-73.61	1,051.80	705.68	346.12	3.039	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
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<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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

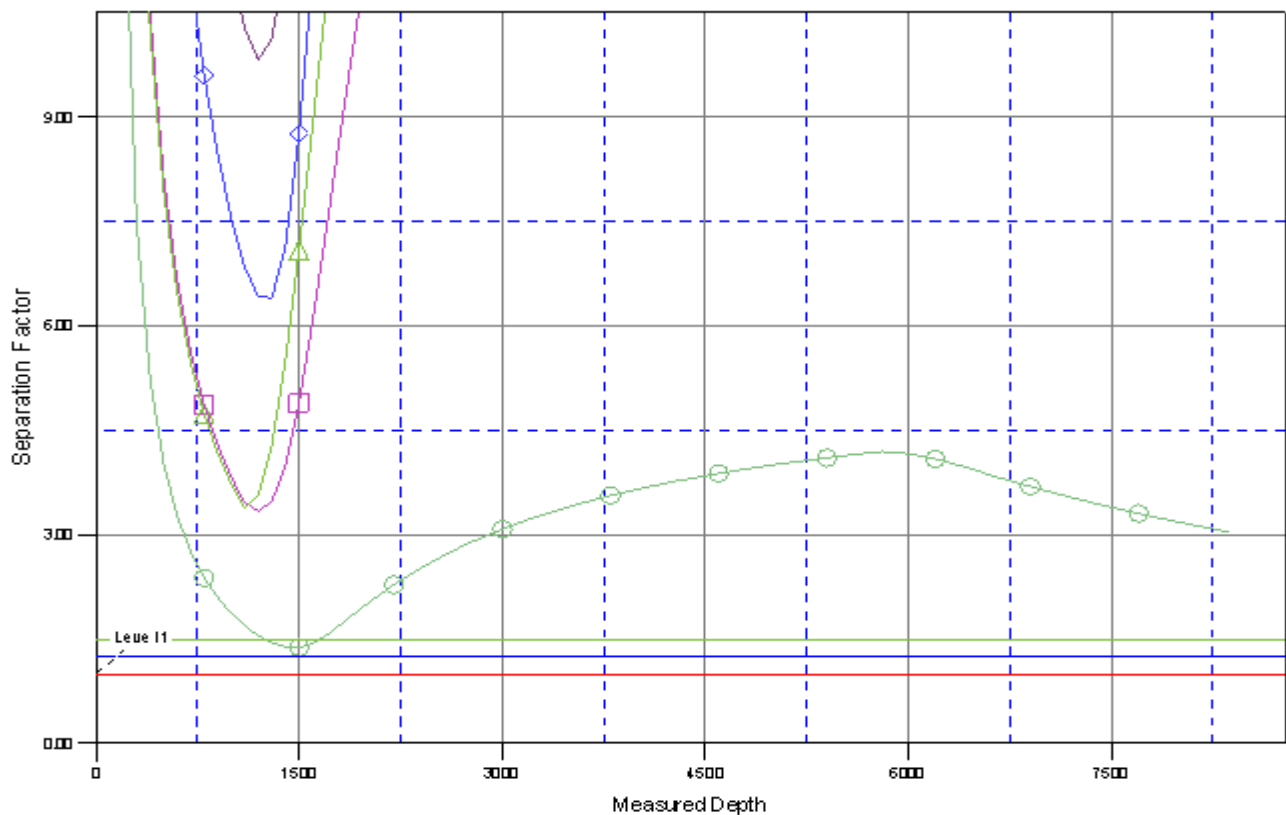
Reference Depths are relative to WELL @ 5023.00ft (Original Well Elev) Coordinates are relative to: P\_NRC 24-8  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.38°





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 24-8
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 5 PAD	<b>MD Reference:</b>	WELL @ 5023.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 24-8	<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 24-8	<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 @ 5023.00ft (Original Well Elev) Coordinates are relative to: P\_NRC 24-8  
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 41-8, P\_NRC 41-8, PLAN#1 1-5-10 RHS \0  
 P\_NRC 7-8, P\_NRC 7-8, PLAN#1 1-5-10 RHS \0

 ROCKY MOUNTAIN