



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_NRC 20-8 PAD

P_NRC 16-8

P_NRC 16-8

Plan: PLAN #1 1-5-10 RHS

Standard Planning Report

04 February, 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 16-8

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.00	0.00	1265676.14	5056.00	3165164.11	40° 3' 40.183 N	104° 54' 35.705 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3289.00	3350.52	PARKMAN
4764.00	4860.63	SUSSEX
5234.00	5330.63	SHANNON
7404.00	7500.63	NIO A
7744.00	7840.63	CODELL
8194.00	8290.63	JSAND
8364.00	8460.63	DAKOTA

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	
1844.76	15.20	119.40	1835.89	-49.17	87.26	2.00	119.40	100.16	
4100.86	15.20	119.40	4013.11	-339.49	602.43	0.00	0.00	691.50	
4860.63	0.00	0.00	4764.00	-388.66	689.69	2.00	180.00	791.66	
8680.63	0.00	0.00	8584.00	-388.66	689.69	0.00	0.00	791.66	PBHL_NRC 16-8(660 FSL 660 FEL)50°TGT RAD

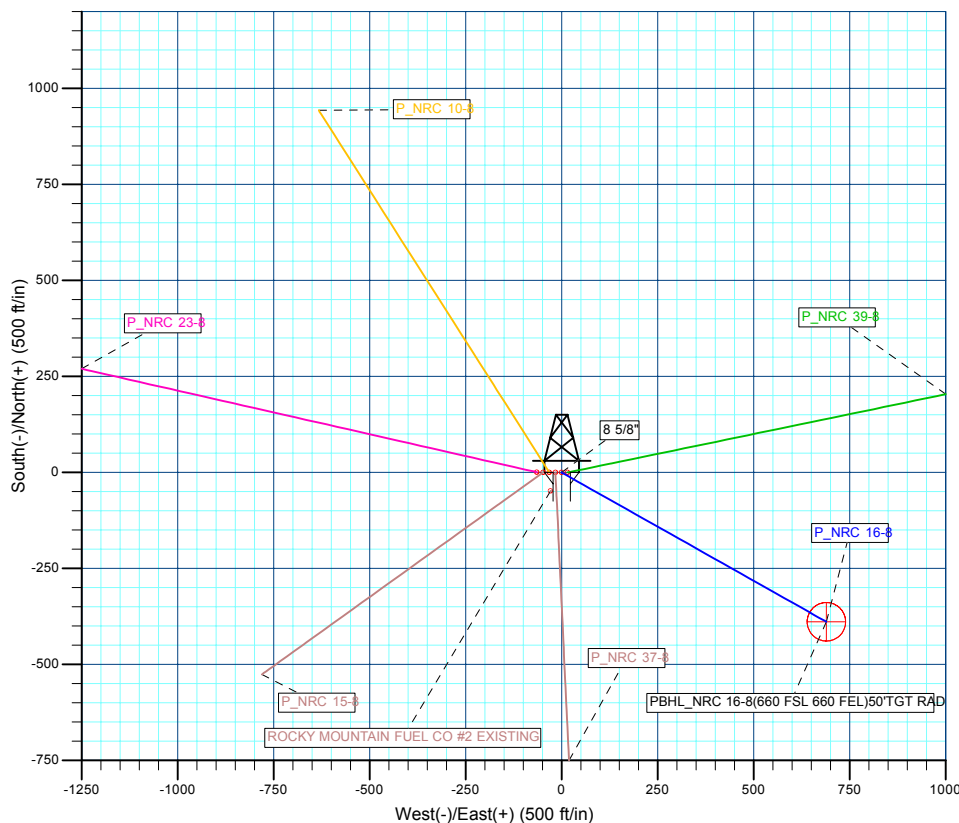
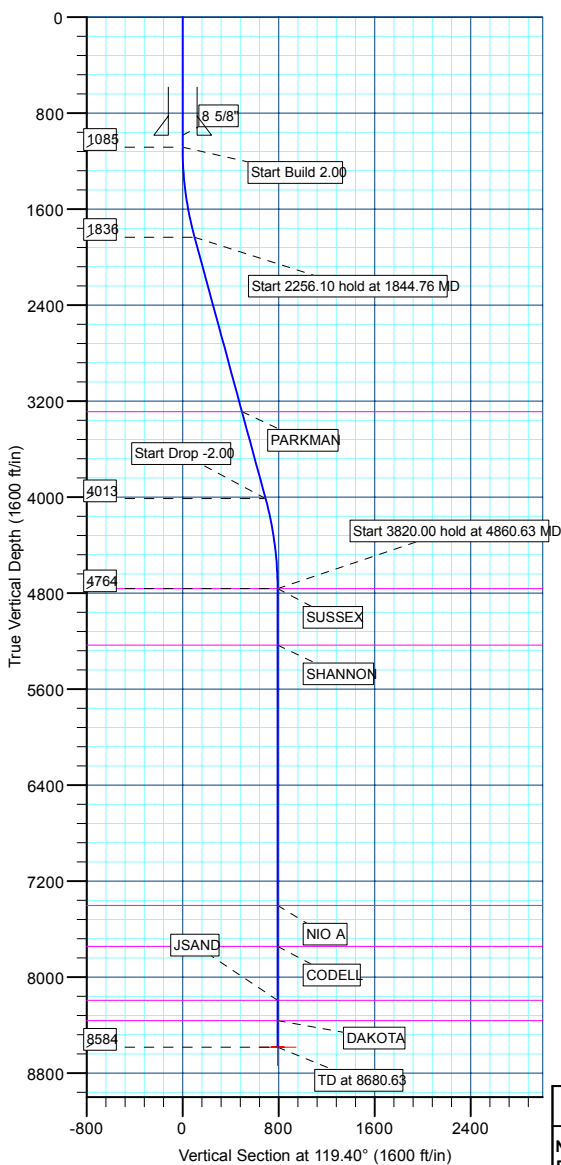
CASING DETAILS

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



B 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
PBHL	8584.00	-388.66	689.69	1265292.08	3165856.37	40° 3' 36.342 N	104° 54' 26.834 W	Circle (Radius: 50.00)

Plan: PLAN #1 1-5-10 RHS (P_NRC 16-8/P_NRC 16-8)

Created By: Robert H. Scott

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 16-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 16-8		
Design:	PLAN #1 1-5-10 RHS		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 16-8					
Well Position	+N/-S	-0.38 ft	Northing:	1,265,676.14 ft	Latitude:	40° 3' 40.183 N
	+E/-W	31.91 ft	Easting:	3,165,164.11 ft	Longitude:	104° 54' 35.705 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,056.00 ft

Wellbore	P_NRC 16-8				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/5/2010	9.07	66.81	53,107

Design	PLAN #1 1-5-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	119.40

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	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	
1,844.76	15.20	119.40	1,835.89	-49.17	87.26	2.00	2.00	0.00	119.40	
4,100.86	15.20	119.40	4,013.11	-339.49	602.43	0.00	0.00	0.00	0.00	
4,860.63	0.00	0.00	4,764.00	-388.66	689.69	2.00	-2.00	0.00	180.00	
8,680.63	0.00	0.00	8,584.00	-388.66	689.69	0.00	0.00	0.00	0.00	PBHL_NRC 16-8(6)

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 16-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 16-8		
Design:	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)
Start Build 2.00									
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	119.40	1,100.00	-0.02	0.03	0.04	2.00	2.00	0.00
1,200.00	2.30	119.40	1,199.97	-1.13	2.01	2.31	2.00	2.00	0.00
1,300.00	4.30	119.40	1,299.80	-3.96	7.03	8.06	2.00	2.00	0.00
1,400.00	6.30	119.40	1,399.37	-8.49	15.07	17.30	2.00	2.00	0.00
1,500.00	8.30	119.40	1,498.55	-14.73	26.14	30.01	2.00	2.00	0.00
1,600.00	10.30	119.40	1,597.23	-22.66	40.22	46.17	2.00	2.00	0.00
1,700.00	12.30	119.40	1,695.29	-32.28	57.29	65.76	2.00	2.00	0.00
1,800.00	14.30	119.40	1,792.60	-43.58	77.33	88.76	2.00	2.00	0.00
Start 2256.10 hold at 1844.76 MD									
1,844.76	15.20	119.40	1,835.89	-49.17	87.26	100.16	2.00	2.00	0.00
1,900.00	15.20	119.40	1,889.19	-56.28	99.87	114.64	0.00	0.00	0.00
2,000.00	15.20	119.40	1,985.70	-69.15	122.71	140.85	0.00	0.00	0.00
2,100.00	15.20	119.40	2,082.20	-82.02	145.54	167.06	0.00	0.00	0.00
2,200.00	15.20	119.40	2,178.71	-94.88	168.38	193.27	0.00	0.00	0.00
2,300.00	15.20	119.40	2,275.21	-107.75	191.21	219.48	0.00	0.00	0.00
2,400.00	15.20	119.40	2,371.71	-120.62	214.04	245.69	0.00	0.00	0.00
2,500.00	15.20	119.40	2,468.22	-133.49	236.88	271.90	0.00	0.00	0.00
2,600.00	15.20	119.40	2,564.72	-146.36	259.71	298.11	0.00	0.00	0.00
2,700.00	15.20	119.40	2,661.22	-159.22	282.55	324.32	0.00	0.00	0.00
2,800.00	15.20	119.40	2,757.73	-172.09	305.38	350.53	0.00	0.00	0.00
2,900.00	15.20	119.40	2,854.23	-184.96	328.22	376.75	0.00	0.00	0.00
3,000.00	15.20	119.40	2,950.74	-197.83	351.05	402.96	0.00	0.00	0.00
3,100.00	15.20	119.40	3,047.24	-210.69	373.89	429.17	0.00	0.00	0.00
3,200.00	15.20	119.40	3,143.74	-223.56	396.72	455.38	0.00	0.00	0.00
3,300.00	15.20	119.40	3,240.25	-236.43	419.56	481.59	0.00	0.00	0.00
PARKMAN									
3,350.52	15.20	119.40	3,289.00	-242.93	431.09	494.83	0.00	0.00	0.00
3,400.00	15.20	119.40	3,336.75	-249.30	442.39	507.80	0.00	0.00	0.00
3,500.00	15.20	119.40	3,433.25	-262.17	465.23	534.01	0.00	0.00	0.00
3,600.00	15.20	119.40	3,529.76	-275.03	488.06	560.22	0.00	0.00	0.00
3,700.00	15.20	119.40	3,626.26	-287.90	510.90	586.43	0.00	0.00	0.00
3,800.00	15.20	119.40	3,722.77	-300.77	533.73	612.64	0.00	0.00	0.00
3,900.00	15.20	119.40	3,819.27	-313.64	556.57	638.86	0.00	0.00	0.00
4,000.00	15.20	119.40	3,915.77	-326.51	579.40	665.07	0.00	0.00	0.00
4,100.00	15.20	119.40	4,012.28	-339.37	602.24	691.28	0.00	0.00	0.00
Start Drop -2.00									
4,100.86	15.20	119.40	4,013.11	-339.49	602.43	691.50	0.00	0.00	0.00
4,200.00	13.21	119.40	4,109.21	-351.43	623.63	715.83	2.00	-2.00	0.00
4,300.00	11.21	119.40	4,206.94	-361.81	642.05	736.98	2.00	-2.00	0.00
4,400.00	9.21	119.40	4,305.35	-370.52	657.50	754.71	2.00	-2.00	0.00
4,500.00	7.21	119.40	4,404.32	-377.53	669.94	768.99	2.00	-2.00	0.00
4,600.00	5.21	119.40	4,503.73	-382.84	679.37	779.81	2.00	-2.00	0.00
4,700.00	3.21	119.40	4,603.46	-386.45	685.77	787.16	2.00	-2.00	0.00
4,800.00	1.21	119.40	4,703.38	-388.34	689.13	791.02	2.00	-2.00	0.00
Start 3820.00 hold at 4860.63 MD - SUSSEX									
4,860.63	0.00	0.00	4,764.00	-388.66	689.69	791.66	2.00	-2.00	0.00
4,900.00	0.00	0.00	4,803.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,000.00	0.00	0.00	4,903.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,100.00	0.00	0.00	5,003.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,200.00	0.00	0.00	5,103.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,300.00	0.00	0.00	5,203.37	-388.66	689.69	791.66	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 16-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 16-8		
Design:	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)
SHANNON									
5,330.63	0.00	0.00	5,234.00	-388.66	689.69	791.66	0.00	0.00	0.00
5,400.00	0.00	0.00	5,303.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,500.00	0.00	0.00	5,403.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,600.00	0.00	0.00	5,503.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,700.00	0.00	0.00	5,603.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,800.00	0.00	0.00	5,703.37	-388.66	689.69	791.66	0.00	0.00	0.00
5,900.00	0.00	0.00	5,803.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,000.00	0.00	0.00	5,903.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,100.00	0.00	0.00	6,003.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,200.00	0.00	0.00	6,103.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,300.00	0.00	0.00	6,203.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,400.00	0.00	0.00	6,303.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,500.00	0.00	0.00	6,403.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,600.00	0.00	0.00	6,503.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,700.00	0.00	0.00	6,603.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,800.00	0.00	0.00	6,703.37	-388.66	689.69	791.66	0.00	0.00	0.00
6,900.00	0.00	0.00	6,803.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,000.00	0.00	0.00	6,903.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,100.00	0.00	0.00	7,003.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,200.00	0.00	0.00	7,103.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,300.00	0.00	0.00	7,203.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,400.00	0.00	0.00	7,303.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,500.00	0.00	0.00	7,403.37	-388.66	689.69	791.66	0.00	0.00	0.00
NIO A									
7,500.63	0.00	0.00	7,404.00	-388.66	689.69	791.66	0.00	0.00	0.00
7,600.00	0.00	0.00	7,503.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,700.00	0.00	0.00	7,603.37	-388.66	689.69	791.66	0.00	0.00	0.00
7,800.00	0.00	0.00	7,703.37	-388.66	689.69	791.66	0.00	0.00	0.00
CODELL									
7,840.63	0.00	0.00	7,744.00	-388.66	689.69	791.66	0.00	0.00	0.00
7,900.00	0.00	0.00	7,803.37	-388.66	689.69	791.66	0.00	0.00	0.00
8,000.00	0.00	0.00	7,903.37	-388.66	689.69	791.66	0.00	0.00	0.00
8,100.00	0.00	0.00	8,003.37	-388.66	689.69	791.66	0.00	0.00	0.00
8,200.00	0.00	0.00	8,103.37	-388.66	689.69	791.66	0.00	0.00	0.00
JSAND									
8,290.63	0.00	0.00	8,194.00	-388.66	689.69	791.66	0.00	0.00	0.00
8,300.00	0.00	0.00	8,203.37	-388.66	689.69	791.66	0.00	0.00	0.00
8,400.00	0.00	0.00	8,303.37	-388.66	689.69	791.66	0.00	0.00	0.00
DAKOTA									
8,460.63	0.00	0.00	8,364.00	-388.66	689.69	791.66	0.00	0.00	0.00
8,500.00	0.00	0.00	8,403.37	-388.66	689.69	791.66	0.00	0.00	0.00
8,600.00	0.00	0.00	8,503.37	-388.66	689.69	791.66	0.00	0.00	0.00
TD at 8680.63 - PBHL_NRC 16-8(660 FSL 660 FEL)50'TGT RAD									
8,680.63	0.00	0.00	8,584.00	-388.66	689.69	791.66	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 16-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 16-8		
Design:	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 16-8(660 - plan hits target center - Circle (radius 50.00)	0.00	0.00	8,584.00	-388.66	689.69	1,265,292.08	3,165,856.37	40° 3' 36.342 N	104° 54' 26.834 W

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	(°)	(°)
	3,350.52	3,289.00	PARKMAN			
	4,860.63	4,764.00	SUSSEX			
	5,330.63	5,234.00	SHANNON			
	7,500.63	7,404.00	NIO A			
	7,840.63	7,744.00	CODELL			
	8,290.63	8,194.00	JSAND			
	8,460.63	8,364.00	DAKOTA		0.00	

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
	1,844.76	1,835.89	-49.17	87.26	Start 2256.10 hold at 1844.76 MD
	4,100.86	4,013.11	-339.49	602.43	Start Drop -2.00
	4,860.63	4,764.00	-388.66	689.69	Start 3820.00 hold at 4860.63 MD
	8,680.63	8,584.00	-388.66	689.69	TD at 8680.63



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_NRC 20-8 PAD
P_NRC 16-8**

**P_NRC 16-8
PLAN #1 1-5-10 RHS**

Anticollision Report

04 February, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date 2/4/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,680.63	PLAN #1 1-5-10 RHS (P_NRC 16-8)	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 20-8 PAD						
P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	31.91	27.29	6.909	CC
P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.91	31.97	27.28	6.827	ES, SF
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	47.86	43.25	10.363	CC, ES
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.80	47.93	43.25	10.243	SF
P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	64.10	59.48	13.878	CC, ES
P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS	1,200.00	1,197.37	68.35	63.29	13.504	SF
P_NRC 37-8 - P_NRC 37-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	15.96	11.34	3.455	CC
P_NRC 37-8 - P_NRC 37-8 - PLAN #1 1-5-10 RHS	1,100.00	1,100.01	15.99	11.31	3.418	ES, SF
P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	15.95	11.34	3.454	CC
P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS	1,200.00	1,199.35	16.27	11.21	3.212	ES, SF
ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY M	1,085.00	1,067.00	55.92	12.93	1.301	Level 3, CC
ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY M	1,400.00	1,381.37	58.91	2.74	1.049	Level 2, ES, SF

Offset Design WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - 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	-89.32	0.38	-31.91	31.91				
100.00	100.00	100.00	100.00	0.10	0.10	-89.32	0.38	-31.91	31.91	31.72	0.19	167.029	
200.00	200.00	200.00	200.00	0.32	0.32	-89.32	0.38	-31.91	31.91	31.27	0.64	49.816	
300.00	300.00	300.00	300.00	0.55	0.55	-89.32	0.38	-31.91	31.91	30.82	1.09	29.273	
400.00	400.00	400.00	400.00	0.77	0.77	-89.32	0.38	-31.91	31.91	30.37	1.54	20.726	
500.00	500.00	500.00	500.00	0.99	0.99	-89.32	0.38	-31.91	31.91	29.92	1.99	16.042	
600.00	600.00	600.00	600.00	1.22	1.22	-89.32	0.38	-31.91	31.91	29.47	2.44	13.085	
700.00	700.00	700.00	700.00	1.44	1.44	-89.32	0.38	-31.91	31.91	29.02	2.89	11.049	
800.00	800.00	800.00	800.00	1.67	1.67	-89.32	0.38	-31.91	31.91	28.57	3.34	9.561	
900.00	900.00	900.00	900.00	1.89	1.89	-89.32	0.38	-31.91	31.91	28.12	3.79	8.426	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.32	0.38	-31.91	31.91	27.67	4.24	7.532	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-89.32	0.38	-31.91	31.91	27.29	4.62	6.909	CC
1,100.00	1,100.00	1,099.91	1,099.91	2.34	2.34	151.37	0.41	-31.93	31.97	27.28	4.68	6.827	ES, SF
1,200.00	1,199.97	1,199.13	1,199.10	2.53	2.56	156.14	2.30	-33.13	35.32	30.24	5.08	6.950	
1,300.00	1,299.80	1,297.58	1,297.39	2.72	2.78	164.78	7.03	-36.14	44.61	39.13	5.48	8.142	
1,400.00	1,399.37	1,394.60	1,394.00	2.94	3.01	172.80	14.48	-40.89	60.73	54.86	5.87	10.343	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWMD												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
1,500.00	1,498.55	1,489.59	1,488.25	3.17	3.24	178.66	24.44	-47.23	83.81	77.55	6.26	13.391	
1,600.00	1,597.23	1,581.99	1,579.50	3.44	3.49	-177.37	36.65	-55.01	113.58	106.94	6.64	17.108	
1,700.00	1,695.29	1,671.30	1,667.21	3.75	3.76	-174.65	50.81	-64.02	149.70	142.68	7.01	21.345	
1,800.00	1,792.60	1,757.10	1,750.96	4.12	4.06	-172.74	66.58	-74.06	191.80	184.42	7.38	25.986	
1,844.76	1,835.89	1,794.29	1,787.06	4.30	4.19	-172.06	74.07	-78.83	212.50	204.96	7.54	28.177	
1,900.00	1,889.19	1,839.30	1,830.62	4.53	4.37	-171.41	83.66	-84.94	239.10	231.32	7.78	30.730	
2,000.00	1,985.70	1,918.87	1,907.15	4.98	4.70	-170.40	102.03	-96.64	289.11	280.89	8.21	35.196	
2,100.00	2,082.20	2,000.00	1,984.52	5.45	5.08	-169.51	122.59	-109.73	341.42	332.76	8.66	39.415	
2,200.00	2,178.71	2,070.56	2,051.23	5.94	5.46	-168.83	141.97	-122.08	395.87	386.77	9.10	43.500	
2,300.00	2,275.21	2,142.71	2,118.84	6.44	5.87	-168.21	163.22	-135.61	452.42	442.87	9.55	47.373	
2,400.00	2,371.71	2,212.43	2,183.55	6.94	6.30	-167.65	185.10	-149.54	510.95	500.95	10.00	51.094	
2,500.00	2,468.22	2,279.77	2,245.43	7.46	6.75	-167.15	207.50	-163.81	571.36	560.91	10.45	54.652	
2,600.00	2,564.72	2,346.08	2,305.75	7.98	7.21	-166.70	230.74	-178.61	633.55	622.64	10.91	58.064	
2,700.00	2,661.22	2,423.70	2,376.05	8.51	7.79	-166.23	258.48	-196.27	696.47	685.06	11.41	61.050	
2,800.00	2,757.73	2,501.31	2,446.35	9.04	8.38	-165.84	286.22	-213.94	759.41	747.50	11.91	63.772	
2,900.00	2,854.23	2,578.92	2,516.65	9.57	8.98	-165.51	313.97	-231.61	822.37	809.95	12.42	66.230	
3,000.00	2,950.74	2,656.54	2,586.95	10.11	9.59	-165.23	341.71	-249.27	885.34	872.41	12.93	68.475	
3,100.00	3,047.24	2,734.15	2,657.25	10.65	10.21	-164.99	369.45	-266.94	948.33	934.88	13.45	70.530	
3,200.00	3,143.74	2,811.76	2,727.55	11.19	10.83	-164.77	397.19	-284.61	1,011.32	997.35	13.97	72.416	
3,300.00	3,240.25	2,889.37	2,797.85	11.74	11.45	-164.58	424.94	-302.28	1,074.32	1,059.83	14.49	74.146	
3,400.00	3,336.75	2,966.99	2,868.15	12.28	12.08	-164.41	452.68	-319.94	1,137.33	1,122.31	15.02	75.737	
3,500.00	3,433.25	3,044.60	2,938.45	12.83	12.72	-164.26	480.42	-337.61	1,200.34	1,184.79	15.55	77.209	
3,600.00	3,529.76	3,122.21	3,008.75	13.38	13.35	-164.13	508.16	-355.28	1,263.36	1,247.28	16.08	78.573	
3,700.00	3,626.26	3,199.83	3,079.05	13.93	13.99	-164.00	535.90	-372.94	1,326.38	1,309.76	16.61	79.840	
3,800.00	3,722.77	3,277.44	3,149.35	14.48	14.63	-163.89	563.65	-390.61	1,389.40	1,372.25	17.15	81.014	
3,900.00	3,819.27	3,355.05	3,219.64	15.03	15.27	-163.79	591.39	-408.28	1,452.43	1,434.74	17.69	82.109	
4,000.00	3,915.77	3,432.66	3,289.94	15.58	15.92	-163.70	619.13	-425.94	1,515.46	1,497.23	18.23	83.133	
4,100.86	4,013.11	3,510.95	3,360.85	16.14	16.57	-163.61	647.11	-443.76	1,579.03	1,560.26	18.78	84.099	
4,200.00	4,109.21	3,588.90	3,431.46	16.60	17.22	-163.94	674.98	-461.51	1,640.23	1,620.77	19.47	84.262	
4,300.00	4,206.94	3,669.52	3,504.48	16.96	17.89	-164.21	703.79	-479.86	1,699.31	1,679.18	20.13	84.408	
4,400.00	4,305.35	3,826.26	3,647.56	17.27	19.04	-164.29	757.75	-514.22	1,754.60	1,733.60	20.99	83.586	
4,500.00	4,404.32	4,050.63	3,857.87	17.55	20.31	-164.25	823.53	-556.11	1,801.21	1,779.24	21.97	81.982	
4,600.00	4,503.73	4,295.95	4,094.03	17.78	21.45	-164.22	879.33	-591.65	1,837.51	1,814.57	22.93	80.133	
4,700.00	4,603.46	4,558.34	4,351.88	17.97	22.35	-164.19	919.93	-617.50	1,862.36	1,838.55	23.81	78.204	
4,800.00	4,703.38	4,831.93	4,624.23	18.12	22.92	-164.18	940.88	-630.84	1,874.95	1,850.37	24.58	76.292	
4,860.63	4,764.00	4,971.74	4,764.00	18.20	23.09	-44.79	943.14	-632.28	1,876.51	1,851.58	24.93	75.278	
4,900.00	4,803.37	5,011.11	4,803.37	18.24	23.12	-44.79	943.14	-632.28	1,876.51	1,851.45	25.06	74.892	
5,000.00	4,903.37	5,111.11	4,903.37	18.36	23.22	-44.79	943.14	-632.28	1,876.51	1,851.12	25.39	73.901	
5,100.00	5,003.37	5,211.11	5,003.37	18.48	23.31	-44.79	943.14	-632.28	1,876.51	1,850.78	25.73	72.927	
5,200.00	5,103.37	5,311.11	5,103.37	18.60	23.41	-44.79	943.14	-632.28	1,876.51	1,850.43	26.07	71.968	
5,300.00	5,203.37	5,411.11	5,203.37	18.72	23.52	-44.79	943.14	-632.28	1,876.51	1,850.09	26.42	71.026	
5,400.00	5,303.37	5,511.11	5,303.37	18.85	23.62	-44.79	943.14	-632.28	1,876.51	1,849.74	26.77	70.100	
5,500.00	5,403.37	5,611.11	5,403.37	18.98	23.72	-44.79	943.14	-632.28	1,876.51	1,849.39	27.12	69.190	
5,600.00	5,503.37	5,711.11	5,503.37	19.11	23.83	-44.79	943.14	-632.28	1,876.51	1,849.03	27.48	68.297	
5,700.00	5,603.37	5,811.11	5,603.37	19.24	23.94	-44.79	943.14	-632.28	1,876.51	1,848.67	27.83	67.419	
5,800.00	5,703.37	5,911.11	5,703.37	19.37	24.05	-44.79	943.14	-632.28	1,876.51	1,848.31	28.19	66.558	
5,900.00	5,803.37	6,011.11	5,803.37	19.50	24.16	-44.79	943.14	-632.28	1,876.51	1,847.95	28.56	65.713	
6,000.00	5,903.37	6,111.11	5,903.37	19.64	24.27	-44.79	943.14	-632.28	1,876.51	1,847.59	28.92	64.883	
6,100.00	6,003.37	6,211.11	6,003.37	19.78	24.38	-44.79	943.14	-632.28	1,876.51	1,847.22	29.29	64.069	
6,200.00	6,103.37	6,311.11	6,103.37	19.92	24.50	-44.79	943.14	-632.28	1,876.51	1,846.85	29.66	63.270	
6,300.00	6,203.37	6,411.11	6,203.37	20.06	24.62	-44.79	943.14	-632.28	1,876.51	1,846.48	30.03	62.487	
6,400.00	6,303.37	6,511.11	6,303.37	20.20	24.74	-44.79	943.14	-632.28	1,876.51	1,846.10	30.40	61.718	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - 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
6,500.00	6,403.37	6,611.11	6,403.37	20.34	24.86	-44.79	943.14	-632.28	1,876.51	1,845.73	30.78	60.964	
6,600.00	6,503.37	6,711.11	6,503.37	20.49	24.98	-44.79	943.14	-632.28	1,876.51	1,845.35	31.16	60.225	
6,700.00	6,603.37	6,811.11	6,603.37	20.64	25.10	-44.79	943.14	-632.28	1,876.51	1,844.97	31.54	59.500	
6,800.00	6,703.37	6,911.11	6,703.37	20.78	25.22	-44.79	943.14	-632.28	1,876.51	1,844.59	31.92	58.788	
6,900.00	6,803.37	7,011.11	6,803.37	20.93	25.35	-44.79	943.14	-632.28	1,876.51	1,844.20	32.30	58.091	
7,000.00	6,903.37	7,111.11	6,903.37	21.08	25.48	-44.79	943.14	-632.28	1,876.51	1,843.82	32.69	57.406	
7,100.00	7,003.37	7,211.11	7,003.37	21.24	25.61	-44.79	943.14	-632.28	1,876.51	1,843.43	33.07	56.735	
7,200.00	7,103.37	7,311.11	7,103.37	21.39	25.74	-44.79	943.14	-632.28	1,876.51	1,843.04	33.46	56.077	
7,300.00	7,203.37	7,411.11	7,203.37	21.54	25.87	-44.79	943.14	-632.28	1,876.51	1,842.65	33.85	55.432	
7,400.00	7,303.37	7,511.11	7,303.37	21.70	26.00	-44.79	943.14	-632.28	1,876.51	1,842.26	34.24	54.798	
7,500.00	7,403.37	7,611.11	7,403.37	21.86	26.13	-44.79	943.14	-632.28	1,876.51	1,841.87	34.64	54.177	
7,600.00	7,503.37	7,711.11	7,503.37	22.02	26.27	-44.79	943.14	-632.28	1,876.51	1,841.48	35.03	53.568	
7,700.00	7,603.37	7,811.11	7,603.37	22.17	26.40	-44.79	943.14	-632.28	1,876.51	1,841.08	35.43	52.970	
7,800.00	7,703.37	7,911.11	7,703.37	22.34	26.54	-44.79	943.14	-632.28	1,876.51	1,840.68	35.82	52.384	
7,900.00	7,803.37	8,011.11	7,803.37	22.50	26.68	-44.79	943.14	-632.28	1,876.51	1,840.29	36.22	51.808	
8,000.00	7,903.37	8,111.11	7,903.37	22.66	26.82	-44.79	943.14	-632.28	1,876.51	1,839.89	36.62	51.244	
8,100.00	8,003.37	8,211.11	8,003.37	22.82	26.96	-44.79	943.14	-632.28	1,876.51	1,839.49	37.02	50.690	
8,200.00	8,103.37	8,311.11	8,103.37	22.99	27.10	-44.79	943.14	-632.28	1,876.51	1,839.09	37.42	50.146	
8,300.00	8,203.37	8,411.11	8,203.37	23.15	27.25	-44.79	943.14	-632.28	1,876.51	1,838.68	37.82	49.613	
8,400.00	8,303.37	8,511.11	8,303.37	23.32	27.39	-44.79	943.14	-632.28	1,876.51	1,838.28	38.23	49.089	
8,500.00	8,403.37	8,611.11	8,403.37	23.49	27.54	-44.79	943.14	-632.28	1,876.51	1,837.88	38.63	48.575	
8,600.00	8,503.37	8,711.11	8,503.37	23.66	27.68	-44.79	943.14	-632.28	1,876.51	1,837.47	39.04	48.071	
8,647.10	8,550.47	8,758.21	8,550.47	23.74	27.75	-44.79	943.14	-632.28	1,876.51	1,837.28	39.23	47.836	
8,680.63	8,584.00	8,775.74	8,584.00	23.79	27.78	-44.79	943.14	-632.28	1,876.58	1,837.24	39.33	47.712	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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	-89.56	0.37	-47.86	47.86				
100.00	100.00	100.00	100.00	0.10	0.10	-89.56	0.37	-47.86	47.86	47.67	0.19	250.534	
200.00	200.00	200.00	200.00	0.32	0.32	-89.56	0.37	-47.86	47.86	47.22	0.64	74.721	
300.00	300.00	300.00	300.00	0.55	0.55	-89.56	0.37	-47.86	47.86	46.77	1.09	43.908	
400.00	400.00	400.00	400.00	0.77	0.77	-89.56	0.37	-47.86	47.86	46.33	1.54	31.088	
500.00	500.00	500.00	500.00	0.99	0.99	-89.56	0.37	-47.86	47.86	45.88	1.99	24.063	
600.00	600.00	600.00	600.00	1.22	1.22	-89.56	0.37	-47.86	47.86	45.43	2.44	19.627	
700.00	700.00	700.00	700.00	1.44	1.44	-89.56	0.37	-47.86	47.86	44.98	2.89	16.572	
800.00	800.00	800.00	800.00	1.67	1.67	-89.56	0.37	-47.86	47.86	44.53	3.34	14.340	
900.00	900.00	900.00	900.00	1.89	1.89	-89.56	0.37	-47.86	47.86	44.08	3.79	12.638	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.56	0.37	-47.86	47.86	43.63	4.24	11.297	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-89.56	0.37	-47.86	47.86	43.25	4.62	10.363 CC, ES	
1,100.00	1,100.00	1,099.80	1,099.80	2.34	2.34	151.03	0.35	-47.89	47.93	43.25	4.68	10.243 SF	
1,200.00	1,199.97	1,198.34	1,198.31	2.53	2.52	150.76	-0.94	-49.68	51.72	46.68	5.04	10.262	
1,300.00	1,299.80	1,296.31	1,296.12	2.72	2.71	150.20	-4.18	-54.19	61.33	55.92	5.41	11.339	
1,400.00	1,399.37	1,393.21	1,392.61	2.94	2.91	149.56	-9.29	-61.32	76.69	70.90	5.79	13.256	
1,500.00	1,498.55	1,488.58	1,487.25	3.17	3.13	148.97	-16.19	-70.91	97.72	91.55	6.17	15.829	
1,600.00	1,597.23	1,582.00	1,579.51	3.44	3.38	148.45	-24.72	-82.79	124.30	117.72	6.58	18.899	
1,700.00	1,695.29	1,673.07	1,668.95	3.75	3.65	147.98	-34.72	-96.71	156.26	149.25	7.00	22.307	
1,800.00	1,792.60	1,761.45	1,755.18	4.12	3.96	147.54	-46.01	-112.42	193.43	185.97	7.46	25.929	
1,844.76	1,835.89	1,800.00	1,792.60	4.30	4.10	147.35	-51.42	-119.95	211.70	204.03	7.67	27.601	
1,900.00	1,889.19	1,847.01	1,838.06	4.53	4.29	147.32	-58.41	-129.69	235.20	227.23	7.97	29.512	
2,000.00	1,985.70	1,930.48	1,918.26	4.98	4.66	147.04	-71.89	-148.46	279.44	270.91	8.53	32.769	
2,100.00	2,082.20	2,013.62	1,997.47	5.45	5.07	146.57	-86.63	-168.98	325.77	316.65	9.12	35.735	
2,200.00	2,178.71	2,101.87	2,081.32	5.94	5.54	146.13	-102.69	-191.33	372.74	363.00	9.74	38.250	
2,300.00	2,275.21	2,190.12	2,165.16	6.44	6.03	145.78	-118.75	-213.69	419.73	409.34	10.39	40.388	
2,400.00	2,371.71	2,278.37	2,249.01	6.94	6.54	145.50	-134.80	-236.04	466.73	455.67	11.05	42.223	
2,500.00	2,468.22	2,366.62	2,332.86	7.46	7.05	145.28	-150.86	-258.39	513.73	502.00	11.73	43.808	
2,600.00	2,564.72	2,454.86	2,416.70	7.98	7.57	145.09	-166.92	-280.74	560.74	548.33	12.41	45.187	
2,700.00	2,661.22	2,543.11	2,500.55	8.51	8.11	144.93	-182.97	-303.10	607.75	594.65	13.10	46.393	
2,800.00	2,757.73	2,631.36	2,584.40	9.04	8.64	144.79	-199.03	-325.45	654.77	640.97	13.80	47.456	
2,900.00	2,854.23	2,719.61	2,668.24	9.57	9.18	144.67	-215.09	-347.80	701.79	687.29	14.50	48.398	
3,000.00	2,950.74	2,807.86	2,752.09	10.11	9.73	144.57	-231.14	-370.15	748.81	733.60	15.21	49.238	
3,100.00	3,047.24	2,896.11	2,835.94	10.65	10.28	144.48	-247.20	-392.51	795.83	779.91	15.92	49.990	
3,200.00	3,143.74	2,984.35	2,919.78	11.19	10.83	144.40	-263.26	-414.86	842.85	826.22	16.64	50.667	
3,300.00	3,240.25	3,072.60	3,003.63	11.74	11.38	144.33	-279.31	-437.21	889.88	872.52	17.35	51.280	
3,400.00	3,336.75	3,160.85	3,087.48	12.28	11.94	144.26	-295.37	-459.56	936.90	918.83	18.07	51.838	
3,500.00	3,433.25	3,249.10	3,171.32	12.83	12.50	144.20	-311.43	-481.92	983.93	965.13	18.80	52.347	
3,600.00	3,529.76	3,337.35	3,255.17	13.38	13.06	144.15	-327.48	-504.27	1,030.96	1,011.44	19.52	52.815	
3,700.00	3,626.26	3,425.59	3,339.02	13.93	13.62	144.10	-343.54	-526.62	1,077.99	1,057.74	20.25	53.245	
3,800.00	3,722.77	3,513.84	3,422.86	14.48	14.18	144.06	-359.60	-548.97	1,125.01	1,104.04	20.97	53.642	
3,900.00	3,819.27	3,602.09	3,506.71	15.03	14.75	144.01	-375.65	-571.33	1,172.04	1,150.34	21.70	54.011	
4,000.00	3,915.77	3,690.34	3,590.56	15.58	15.31	143.98	-391.71	-593.68	1,219.07	1,196.64	22.43	54.353	
4,100.86	4,013.11	3,779.35	3,675.13	16.14	15.88	143.94	-407.90	-616.23	1,266.51	1,243.35	23.16	54.676	
4,200.00	4,109.21	3,867.46	3,758.85	16.60	16.45	144.46	-423.94	-638.54	1,311.90	1,287.94	23.96	54.750	
4,300.00	4,206.94	3,957.54	3,844.43	16.96	17.03	144.84	-440.33	-661.36	1,355.16	1,330.47	24.70	54.875	
4,400.00	4,305.35	4,106.66	3,987.10	17.27	17.75	144.99	-465.59	-696.54	1,394.18	1,368.68	25.50	54.676	
4,500.00	4,404.32	4,270.91	4,146.62	17.55	18.39	145.09	-488.38	-728.26	1,426.07	1,399.83	26.24	54.343	
4,600.00	4,503.73	4,441.75	4,314.63	17.78	18.94	145.17	-506.39	-753.33	1,450.40	1,423.49	26.91	53.897	
4,700.00	4,603.46	4,617.57	4,489.13	17.97	19.38	145.22	-518.79	-770.59	1,466.82	1,439.33	27.49	53.355	
4,800.00	4,703.38	4,796.49	4,667.70	18.12	19.69	145.26	-524.97	-779.19	1,475.10	1,447.12	27.98	52.727	
4,860.63	4,764.00	4,892.80	4,764.00	18.20	19.80	-95.32	-525.62	-780.10	1,476.16	1,447.95	28.22	52.314	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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	
4,900.00	4,803.37	4,932.17	4,803.37	18.24	19.84	-95.32	-525.62	-780.10	1,476.16	1,447.83	28.33	52.105	
5,000.00	4,903.37	5,032.17	4,903.37	18.36	19.95	-95.32	-525.62	-780.10	1,476.16	1,447.55	28.62	51.584	
5,100.00	5,003.37	5,132.17	5,003.37	18.48	20.06	-95.32	-525.62	-780.10	1,476.16	1,447.26	28.91	51.065	
5,200.00	5,103.37	5,232.17	5,103.37	18.60	20.17	-95.32	-525.62	-780.10	1,476.16	1,446.96	29.20	50.549	
5,300.00	5,203.37	5,332.17	5,203.37	18.72	20.28	-95.32	-525.62	-780.10	1,476.16	1,446.66	29.50	50.038	
5,400.00	5,303.37	5,432.17	5,303.37	18.85	20.39	-95.32	-525.62	-780.10	1,476.16	1,446.36	29.80	49.530	
5,500.00	5,403.37	5,532.17	5,403.37	18.98	20.51	-95.32	-525.62	-780.10	1,476.16	1,446.05	30.11	49.026	
5,600.00	5,503.37	5,632.17	5,503.37	19.11	20.62	-95.32	-525.62	-780.10	1,476.16	1,445.75	30.42	48.527	
5,700.00	5,603.37	5,732.17	5,603.37	19.24	20.74	-95.32	-525.62	-780.10	1,476.16	1,445.43	30.73	48.033	
5,800.00	5,703.37	5,832.17	5,703.37	19.37	20.86	-95.32	-525.62	-780.10	1,476.16	1,445.12	31.05	47.543	
5,900.00	5,803.37	5,932.17	5,803.37	19.50	20.99	-95.32	-525.62	-780.10	1,476.16	1,444.80	31.37	47.059	
6,000.00	5,903.37	6,032.17	5,903.37	19.64	21.11	-95.32	-525.62	-780.10	1,476.16	1,444.47	31.69	46.579	
6,100.00	6,003.37	6,132.17	6,003.37	19.78	21.24	-95.32	-525.62	-780.10	1,476.16	1,444.15	32.02	46.105	
6,200.00	6,103.37	6,232.17	6,103.37	19.92	21.37	-95.32	-525.62	-780.10	1,476.16	1,443.82	32.35	45.636	
6,300.00	6,203.37	6,332.17	6,203.37	20.06	21.49	-95.32	-525.62	-780.10	1,476.16	1,443.49	32.68	45.173	
6,400.00	6,303.37	6,432.17	6,303.37	20.20	21.63	-95.32	-525.62	-780.10	1,476.16	1,443.15	33.01	44.715	
6,500.00	6,403.37	6,532.17	6,403.37	20.34	21.76	-95.32	-525.62	-780.10	1,476.16	1,442.81	33.35	44.263	
6,600.00	6,503.37	6,632.17	6,503.37	20.49	21.89	-95.32	-525.62	-780.10	1,476.16	1,442.47	33.69	43.817	
6,700.00	6,603.37	6,732.17	6,603.37	20.64	22.03	-95.32	-525.62	-780.10	1,476.16	1,442.13	34.03	43.376	
6,800.00	6,703.37	6,832.17	6,703.37	20.78	22.16	-95.32	-525.62	-780.10	1,476.16	1,441.79	34.38	42.941	
6,900.00	6,803.37	6,932.17	6,803.37	20.93	22.30	-95.32	-525.62	-780.10	1,476.16	1,441.44	34.72	42.511	
7,000.00	6,903.37	7,032.17	6,903.37	21.08	22.44	-95.32	-525.62	-780.10	1,476.16	1,441.09	35.07	42.087	
7,100.00	7,003.37	7,132.17	7,003.37	21.24	22.58	-95.32	-525.62	-780.10	1,476.16	1,440.74	35.43	41.669	
7,200.00	7,103.37	7,232.17	7,103.37	21.39	22.73	-95.32	-525.62	-780.10	1,476.16	1,440.38	35.78	41.257	
7,300.00	7,203.37	7,332.17	7,203.37	21.54	22.87	-95.32	-525.62	-780.10	1,476.16	1,440.03	36.14	40.850	
7,400.00	7,303.37	7,432.17	7,303.37	21.70	23.01	-95.32	-525.62	-780.10	1,476.16	1,439.67	36.49	40.449	
7,500.00	7,403.37	7,532.17	7,403.37	21.86	23.16	-95.32	-525.62	-780.10	1,476.16	1,439.31	36.85	40.054	
7,600.00	7,503.37	7,632.17	7,503.37	22.02	23.31	-95.32	-525.62	-780.10	1,476.16	1,438.95	37.22	39.664	
7,700.00	7,603.37	7,732.17	7,603.37	22.17	23.46	-95.32	-525.62	-780.10	1,476.16	1,438.58	37.58	39.280	
7,800.00	7,703.37	7,832.17	7,703.37	22.34	23.61	-95.32	-525.62	-780.10	1,476.16	1,438.22	37.95	38.901	
7,900.00	7,803.37	7,932.17	7,803.37	22.50	23.76	-95.32	-525.62	-780.10	1,476.16	1,437.85	38.31	38.528	
8,000.00	7,903.37	8,032.17	7,903.37	22.66	23.91	-95.32	-525.62	-780.10	1,476.16	1,437.48	38.68	38.160	
8,100.00	8,003.37	8,132.17	8,003.37	22.82	24.06	-95.32	-525.62	-780.10	1,476.16	1,437.11	39.05	37.798	
8,200.00	8,103.37	8,232.17	8,103.37	22.99	24.22	-95.32	-525.62	-780.10	1,476.16	1,436.74	39.43	37.440	
8,300.00	8,203.37	8,332.17	8,203.37	23.15	24.37	-95.32	-525.62	-780.10	1,476.16	1,436.36	39.80	37.088	
8,400.00	8,303.37	8,432.17	8,303.37	23.32	24.53	-95.32	-525.62	-780.10	1,476.16	1,435.99	40.18	36.741	
8,500.00	8,403.37	8,532.17	8,403.37	23.49	24.69	-95.32	-525.62	-780.10	1,476.16	1,435.61	40.55	36.399	
8,600.00	8,503.37	8,632.17	8,503.37	23.66	24.85	-95.32	-525.62	-780.10	1,476.16	1,435.23	40.93	36.063	
8,647.10	8,550.47	8,679.27	8,550.47	23.74	24.92	-95.32	-525.62	-780.10	1,476.16	1,435.05	41.11	35.906	
8,680.63	8,584.00	8,696.80	8,584.00	23.79	24.95	-95.32	-525.62	-780.10	1,476.25	1,435.04	41.21	35.823	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
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	-89.34	0.73	-64.10	64.10				
100.00	100.00	100.00	100.00	0.10	0.10	-89.34	0.73	-64.10	64.10	63.91	0.19	335.522	
200.00	200.00	200.00	200.00	0.32	0.32	-89.34	0.73	-64.10	64.10	63.46	0.64	100.068	
300.00	300.00	300.00	300.00	0.55	0.55	-89.34	0.73	-64.10	64.10	63.01	1.09	58.803	
400.00	400.00	400.00	400.00	0.77	0.77	-89.34	0.73	-64.10	64.10	62.56	1.54	41.634	
500.00	500.00	500.00	500.00	0.99	0.99	-89.34	0.73	-64.10	64.10	62.11	1.99	32.225	
600.00	600.00	600.00	600.00	1.22	1.22	-89.34	0.73	-64.10	64.10	61.66	2.44	26.285	
700.00	700.00	700.00	700.00	1.44	1.44	-89.34	0.73	-64.10	64.10	61.21	2.89	22.194	
800.00	800.00	800.00	800.00	1.67	1.67	-89.34	0.73	-64.10	64.10	60.76	3.34	19.205	
900.00	900.00	900.00	900.00	1.89	1.89	-89.34	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	-89.34	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	-89.34	0.73	-64.10	64.10	59.48	4.62	13.878 CC, ES	
1,100.00	1,100.00	1,099.68	1,099.68	2.34	2.34	151.28	0.74	-64.13	64.17	59.49	4.68	13.711	
1,200.00	1,199.97	1,197.37	1,197.34	2.53	2.54	152.51	1.22	-66.25	68.35	63.29	5.06	13.504 SF	
1,300.00	1,299.80	1,294.27	1,294.09	2.72	2.75	155.05	2.43	-71.55	79.04	73.60	5.44	14.519	
1,400.00	1,399.37	1,389.75	1,389.17	2.94	2.96	157.91	4.32	-79.89	96.36	90.54	5.82	16.544	
1,500.00	1,498.55	1,483.18	1,481.90	3.17	3.19	160.46	6.85	-91.04	120.31	114.11	6.20	19.399	
1,600.00	1,597.23	1,574.00	1,571.63	3.44	3.44	162.49	9.96	-104.70	150.73	144.16	6.57	22.930	
1,700.00	1,695.29	1,661.72	1,657.83	3.75	3.71	164.02	13.55	-120.51	187.40	180.46	6.94	27.007	
1,800.00	1,792.60	1,745.92	1,740.07	4.12	4.00	165.14	17.55	-138.11	230.02	222.73	7.30	31.519	
1,844.76	1,835.89	1,782.38	1,775.51	4.30	4.13	165.54	19.44	-146.46	250.96	243.50	7.46	33.657	
1,900.00	1,889.19	1,826.50	1,818.25	4.53	4.31	166.09	21.87	-157.15	277.85	270.17	7.69	36.154	
2,000.00	1,985.70	1,905.64	1,894.47	4.98	4.65	166.83	26.59	-177.91	328.42	320.31	8.11	40.516	
2,100.00	2,082.20	1,991.32	1,976.76	5.45	5.05	167.41	31.88	-201.20	379.89	371.34	8.55	44.425	
2,200.00	2,178.71	2,077.00	2,059.04	5.94	5.46	167.85	37.17	-224.49	431.39	422.38	9.01	47.897	
2,300.00	2,275.21	2,162.68	2,141.33	6.44	5.89	168.20	42.46	-247.77	482.90	473.43	9.47	50.995	
2,400.00	2,371.71	2,248.36	2,223.61	6.94	6.33	168.48	47.75	-271.06	534.42	524.48	9.94	53.767	
2,500.00	2,468.22	2,334.04	2,305.89	7.46	6.78	168.71	53.04	-294.34	585.95	575.53	10.42	56.258	
2,600.00	2,564.72	2,419.72	2,388.18	7.98	7.24	168.91	58.33	-317.63	637.48	626.59	10.90	58.504	
2,700.00	2,661.22	2,505.40	2,470.46	8.51	7.71	169.07	63.62	-340.91	689.02	677.64	11.38	60.537	
2,800.00	2,757.73	2,591.08	2,552.75	9.04	8.17	169.21	68.91	-364.20	740.57	728.70	11.87	62.380	
2,900.00	2,854.23	2,676.76	2,635.03	9.57	8.65	169.34	74.20	-387.49	792.11	779.75	12.37	64.060	
3,000.00	2,950.74	2,762.44	2,717.32	10.11	9.12	169.45	79.49	-410.77	843.66	830.80	12.86	65.594	
3,100.00	3,047.24	2,848.12	2,799.60	10.65	9.60	169.54	84.78	-434.06	895.21	881.85	13.36	67.002	
3,200.00	3,143.74	2,933.80	2,881.89	11.19	10.08	169.63	90.07	-457.34	946.76	932.90	13.86	68.296	
3,300.00	3,240.25	3,019.48	2,964.17	11.74	10.57	169.70	95.36	-480.63	998.32	983.95	14.37	69.489	
3,400.00	3,336.75	3,105.16	3,046.46	12.28	11.05	169.77	100.65	-503.91	1,049.87	1,035.00	14.87	70.592	
3,500.00	3,433.25	3,190.84	3,128.74	12.83	11.54	169.84	105.94	-527.20	1,101.43	1,086.05	15.38	71.613	
3,600.00	3,529.76	3,276.52	3,211.03	13.38	12.03	169.89	111.23	-550.49	1,152.98	1,137.09	15.89	72.562	
3,700.00	3,626.26	3,362.20	3,293.31	13.93	12.52	169.95	116.52	-573.77	1,204.54	1,188.14	16.40	73.445	
3,800.00	3,722.77	3,447.87	3,375.60	14.48	13.01	169.99	121.81	-597.06	1,256.10	1,239.19	16.91	74.269	
3,900.00	3,819.27	3,533.55	3,457.88	15.03	13.50	170.04	127.10	-620.34	1,307.66	1,290.23	17.43	75.039	
4,000.00	3,915.77	3,619.23	3,540.17	15.58	14.00	170.08	132.39	-643.63	1,359.22	1,341.28	17.94	75.761	
4,100.86	4,013.11	3,705.65	3,623.16	16.14	14.50	170.12	137.72	-667.12	1,411.22	1,392.76	18.46	76.444	
4,200.00	4,109.21	3,791.45	3,705.56	16.60	14.99	170.33	143.02	-690.43	1,460.88	1,441.78	19.09	76.511	
4,300.00	4,206.94	3,879.66	3,790.27	16.96	15.50	170.51	148.47	-714.41	1,507.97	1,488.28	19.69	76.570	
4,400.00	4,305.35	3,969.44	3,876.49	17.27	16.02	170.64	154.01	-738.81	1,552.00	1,531.73	20.27	76.549	
4,500.00	4,404.32	4,060.67	3,964.11	17.55	16.55	170.73	159.64	-763.60	1,592.92	1,572.09	20.83	76.460	
4,600.00	4,503.73	4,153.25	4,053.02	17.78	17.09	170.80	165.36	-788.76	1,630.67	1,609.30	21.37	76.313	
4,700.00	4,603.46	4,247.06	4,143.12	17.97	17.63	170.83	171.15	-814.26	1,665.21	1,643.33	21.88	76.115	
4,800.00	4,703.38	4,341.99	4,234.29	18.12	18.18	170.83	177.01	-840.06	1,696.50	1,674.14	22.36	75.874	
4,860.63	4,764.00	4,400.04	4,290.04	18.20	18.52	-69.78	180.59	-855.84	1,713.87	1,691.23	22.64	75.697	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 23-8 - P_NRC 23-8 - 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	
4,900.00	4,803.37	4,437.85	4,326.35	18.24	18.74	-69.83	182.93	-866.11	1,724.76	1,701.94	22.82	75.581	
5,000.00	4,903.37	4,533.89	4,418.58	18.36	19.30	-69.94	188.86	-892.21	1,752.42	1,729.14	23.27	75.297	
5,100.00	5,003.37	4,629.93	4,510.81	18.48	19.86	-70.06	194.79	-918.31	1,780.08	1,756.36	23.73	75.020	
5,200.00	5,103.37	4,725.97	4,603.05	18.60	20.42	-70.17	200.72	-944.41	1,807.76	1,783.57	24.18	74.749	
5,300.00	5,203.37	4,822.00	4,695.28	18.72	20.98	-70.27	206.65	-970.52	1,835.44	1,810.80	24.64	74.484	
5,400.00	5,303.37	4,918.04	4,787.51	18.85	21.54	-70.38	212.58	-996.62	1,863.12	1,838.02	25.10	74.225	
5,500.00	5,403.37	5,014.08	4,879.74	18.98	22.10	-70.48	218.51	-1,022.72	1,890.81	1,865.25	25.56	73.972	
5,600.00	5,503.37	5,110.12	4,971.98	19.11	22.66	-70.57	224.44	-1,048.82	1,918.51	1,892.49	26.02	73.725	
5,700.00	5,603.37	5,206.15	5,064.21	19.24	23.23	-70.67	230.36	-1,074.92	1,946.21	1,919.73	26.48	73.484	
5,800.00	5,703.37	5,302.19	5,156.44	19.37	23.79	-70.76	236.29	-1,101.02	1,973.92	1,946.97	26.95	73.248	
5,900.00	5,803.37	5,398.23	5,248.67	19.50	24.35	-70.85	242.22	-1,127.12	2,001.63	1,974.21	27.41	73.017	
6,000.00	5,903.37	5,494.27	5,340.91	19.64	24.91	-70.94	248.15	-1,153.22	2,029.34	2,001.46	27.88	72.792	
6,100.00	6,003.37	5,590.31	5,433.14	19.78	25.47	-71.02	254.08	-1,179.32	2,057.06	2,028.71	28.35	72.572	
6,200.00	6,103.37	5,686.34	5,525.37	19.92	26.04	-71.10	260.01	-1,205.42	2,084.78	2,055.97	28.81	72.356	
6,300.00	6,203.37	5,782.72	5,619.31	20.06	26.62	-71.24	270.45	-1,251.39	2,111.95	2,082.49	29.47	71.671	
6,400.00	6,303.37	5,878.53	5,712.90	20.20	27.20	-71.33	280.89	-1,297.36	2,139.00	2,109.54	30.13	70.925	
6,500.00	6,403.37	5,974.31	5,806.37	20.34	27.76	-71.42	289.29	-1,343.28	2,166.05	2,136.59	30.80	70.179	
6,600.00	6,503.37	6,070.09	5,900.37	20.49	28.32	-71.51	289.29	-1,389.30	2,193.10	2,163.64	31.47	69.433	
6,700.00	6,603.37	6,165.87	5,994.37	20.64	28.88	-71.60	289.29	-1,435.32	2,220.15	2,190.69	32.14	68.687	
6,800.00	6,703.37	6,261.65	6,088.37	20.78	29.44	-71.69	289.29	-1,481.34	2,247.20	2,217.74	32.81	67.941	
6,900.00	6,803.37	6,357.43	6,182.37	20.93	30.00	-71.78	289.29	-1,527.36	2,274.25	2,244.79	33.48	67.195	
7,000.00	6,903.37	6,453.21	6,276.37	21.08	30.56	-71.87	289.29	-1,573.38	2,301.30	2,271.84	34.15	66.449	
7,100.00	7,003.37	6,549.00	6,370.37	21.24	31.12	-71.96	289.29	-1,619.40	2,328.35	2,298.89	34.82	65.703	
7,200.00	7,103.37	6,644.78	6,464.37	21.39	31.68	-72.05	289.29	-1,665.42	2,355.40	2,325.94	35.49	64.957	
7,300.00	7,203.37	6,740.56	6,558.37	21.54	32.24	-72.14	289.29	-1,711.44	2,382.45	2,353.00	36.16	64.211	
7,400.00	7,303.37	6,836.34	6,652.37	21.70	32.80	-72.23	289.29	-1,757.46	2,409.50	2,380.05	36.83	63.465	
7,500.00	7,403.37	6,932.12	6,746.37	21.86	33.36	-72.32	289.29	-1,803.48	2,436.55	2,407.10	37.50	62.719	
7,600.00	7,503.37	7,027.90	6,840.37	22.02	33.92	-72.41	289.29	-1,849.50	2,463.60	2,434.15	38.17	61.973	
7,700.00	7,603.37	7,123.68	6,934.37	22.17	34.48	-72.50	289.29	-1,895.52	2,490.65	2,461.20	38.84	61.227	
7,800.00	7,703.37	7,219.46	7,028.37	22.34	35.04	-72.59	289.29	-1,941.54	2,517.70	2,488.25	39.51	60.481	
7,900.00	7,803.37	7,315.24	7,122.37	22.50	35.60	-72.68	289.29	-1,987.56	2,544.75	2,515.30	40.18	59.735	
8,000.00	7,903.37	7,411.02	7,216.37	22.66	36.16	-72.77	289.29	-2,033.58	2,571.80	2,542.35	40.85	58.989	
8,100.00	8,003.37	7,506.80	7,310.37	22.82	36.72	-72.86	289.29	-2,079.60	2,598.85	2,569.40	41.52	58.243	
8,200.00	8,103.37	7,602.58	7,404.37	22.99	37.28	-72.95	289.29	-2,125.62	2,625.90	2,596.45	42.19	57.497	
8,300.00	8,203.37	7,698.36	7,498.37	23.15	37.84	-73.04	289.29	-2,171.64	2,652.95	2,623.50	42.86	56.751	
8,400.00	8,303.37	7,794.14	7,592.37	23.32	38.40	-73.13	289.29	-2,217.66	2,680.00	2,650.55	43.53	56.005	
8,500.00	8,403.37	7,889.92	7,686.37	23.49	38.96	-73.22	289.29	-2,263.68	2,707.05	2,677.60	44.20	55.259	
8,600.00	8,503.37	7,985.70	7,780.37	23.66	39.52	-73.31	289.29	-2,309.70	2,734.10	2,704.65	44.87	54.513	
8,680.63	8,584.00	8,071.48	7,874.37	23.79	40.08	-73.40	289.29	-2,355.72	2,761.15	2,731.70	45.54	53.767	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis 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	-88.68	0.37	-15.95	15.96				
100.00	100.00	100.00	100.00	0.10	0.10	-88.68	0.37	-15.95	15.96	15.77	0.19	83.531	
200.00	200.00	200.00	200.00	0.32	0.32	-88.68	0.37	-15.95	15.96	15.32	0.64	24.913	
300.00	300.00	300.00	300.00	0.55	0.55	-88.68	0.37	-15.95	15.96	14.87	1.09	14.639	
400.00	400.00	400.00	400.00	0.77	0.77	-88.68	0.37	-15.95	15.96	14.42	1.54	10.365	
500.00	500.00	500.00	500.00	0.99	0.99	-88.68	0.37	-15.95	15.96	13.97	1.99	8.023	
600.00	600.00	600.00	600.00	1.22	1.22	-88.68	0.37	-15.95	15.96	13.52	2.44	6.544	
700.00	700.00	700.00	700.00	1.44	1.44	-88.68	0.37	-15.95	15.96	13.07	2.89	5.525	
800.00	800.00	800.00	800.00	1.67	1.67	-88.68	0.37	-15.95	15.96	12.62	3.34	4.781	
900.00	900.00	900.00	900.00	1.89	1.89	-88.68	0.37	-15.95	15.96	12.17	3.79	4.214	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-88.68	0.37	-15.95	15.96	11.72	4.24	3.767	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-88.68	0.37	-15.95	15.96	11.34	4.62	3.455 CC	
1,100.00	1,100.00	1,100.01	1,100.01	2.34	2.34	151.85	0.33	-15.95	15.99	11.31	4.68	3.418 ES, SF	
1,200.00	1,199.97	1,200.00	1,199.97	2.53	2.51	148.00	-1.94	-15.85	17.87	12.84	5.03	3.553	
1,300.00	1,299.80	1,299.80	1,299.60	2.72	2.69	141.17	-7.67	-15.58	22.91	17.51	5.40	4.244	
1,400.00	1,399.37	1,399.23	1,398.61	2.94	2.88	134.89	-16.83	-15.15	31.36	25.57	5.79	5.416	
1,500.00	1,498.55	1,498.14	1,496.71	3.17	3.10	130.29	-29.34	-14.56	43.28	37.06	6.22	6.960	
1,600.00	1,597.23	1,596.36	1,593.65	3.44	3.35	127.10	-45.10	-13.81	58.62	51.92	6.70	8.748	
1,700.00	1,695.29	1,693.89	1,689.32	3.75	3.63	124.88	-63.99	-12.93	77.27	70.02	7.25	10.657	
1,800.00	1,792.60	1,791.63	1,784.97	4.12	3.96	124.43	-84.09	-11.98	98.36	90.50	7.87	12.503	
1,844.76	1,835.89	1,835.24	1,827.64	4.30	4.11	124.73	-93.06	-11.56	108.44	100.27	8.16	13.285	
1,900.00	1,889.19	1,888.98	1,880.24	4.53	4.30	125.37	-104.11	-11.04	121.11	112.57	8.55	14.171	
2,000.00	1,985.70	1,986.29	1,975.46	4.98	4.65	126.25	-124.12	-10.10	144.09	134.82	9.27	15.541	
2,100.00	2,082.20	2,083.59	2,070.68	5.45	5.03	126.89	-144.13	-9.15	167.10	157.07	10.03	16.668	
2,200.00	2,178.71	2,180.90	2,165.90	5.94	5.41	127.37	-164.14	-8.21	190.12	179.32	10.80	17.602	
2,300.00	2,275.21	2,278.20	2,261.12	6.44	5.80	127.75	-184.15	-7.27	213.14	201.55	11.59	18.383	
2,400.00	2,371.71	2,375.50	2,356.33	6.94	6.20	128.05	-204.16	-6.33	236.18	223.78	12.40	19.044	
2,500.00	2,468.22	2,472.81	2,451.55	7.46	6.60	128.30	-224.17	-5.39	259.22	246.00	13.22	19.607	
2,600.00	2,564.72	2,570.11	2,546.77	7.98	7.01	128.51	-244.19	-4.45	282.27	268.22	14.05	20.092	
2,700.00	2,661.22	2,667.41	2,641.99	8.51	7.42	128.69	-264.20	-3.50	305.31	290.43	14.88	20.512	
2,800.00	2,757.73	2,764.72	2,737.21	9.04	7.83	128.84	-284.21	-2.56	328.36	312.64	15.73	20.879	
2,900.00	2,854.23	2,862.02	2,832.43	9.57	8.25	128.98	-304.22	-1.62	351.42	334.84	16.57	21.203	
3,000.00	2,950.74	2,959.33	2,927.65	10.11	8.67	129.09	-324.23	-0.68	374.47	357.04	17.43	21.489	
3,100.00	3,047.24	3,056.63	3,022.87	10.65	9.09	129.20	-344.24	0.26	397.52	379.24	18.28	21.745	
3,200.00	3,143.74	3,153.93	3,118.09	11.19	9.52	129.29	-364.25	1.20	420.58	401.44	19.14	21.974	
3,300.00	3,240.25	3,251.24	3,213.31	11.74	9.94	129.37	-384.26	2.15	443.64	423.64	20.00	22.180	
3,400.00	3,336.75	3,348.54	3,308.53	12.28	10.37	129.45	-404.27	3.09	466.69	445.83	20.86	22.367	
3,500.00	3,433.25	3,445.84	3,403.75	12.83	10.80	129.51	-424.28	4.03	489.75	468.02	21.73	22.538	
3,600.00	3,529.76	3,543.15	3,498.96	13.38	11.23	129.57	-444.30	4.97	512.81	490.21	22.60	22.693	
3,700.00	3,626.26	3,640.45	3,594.18	13.93	11.66	129.63	-464.31	5.91	535.87	512.40	23.47	22.836	
3,800.00	3,722.77	3,737.76	3,689.40	14.48	12.09	129.68	-484.32	6.85	558.93	534.60	24.34	22.967	
3,900.00	3,819.27	3,835.06	3,784.62	15.03	12.52	129.73	-504.33	7.80	581.99	556.78	25.21	23.089	
4,000.00	3,915.77	3,932.36	3,879.84	15.58	12.96	129.77	-524.34	8.74	605.05	578.97	26.08	23.202	
4,100.86	4,013.11	4,030.51	3,975.88	16.14	13.39	129.81	-544.52	9.69	628.31	601.35	26.96	23.307	
4,200.00	4,109.21	4,127.21	4,070.51	16.60	13.82	130.07	-564.41	10.62	650.10	622.31	27.80	23.389	
4,300.00	4,206.94	4,225.16	4,166.37	16.96	14.26	130.07	-584.55	11.57	669.90	641.34	28.56	23.452	
4,400.00	4,305.35	4,323.40	4,262.51	17.27	14.70	129.83	-604.76	12.52	687.53	658.22	29.31	23.455	
4,500.00	4,404.32	4,421.82	4,358.81	17.55	15.14	129.36	-625.00	13.47	703.04	673.00	30.04	23.407	
4,600.00	4,503.73	4,520.28	4,455.16	17.78	15.58	128.67	-645.25	14.43	716.50	685.77	30.73	23.317	
4,700.00	4,603.46	4,618.67	4,551.45	17.97	16.02	127.77	-665.48	15.38	728.00	696.61	31.39	23.193	
4,800.00	4,703.38	4,716.87	4,647.54	18.12	16.46	126.68	-685.68	16.33	737.69	705.68	32.01	23.044	
4,860.63	4,764.00	4,776.27	4,705.67	18.20	16.73	-114.69	-697.89	16.90	742.75	710.37	32.38	22.942	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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
4,900.00	4,803.37	4,814.80	4,743.37	18.24	16.90	-115.25	-705.82	17.28	745.88	713.26	32.61	22.871	
5,000.00	4,903.37	4,912.65	4,839.13	18.36	17.34	-116.67	-725.94	18.22	754.16	720.95	33.20	22.712	
5,100.00	5,003.37	5,010.51	4,934.89	18.48	17.78	-118.06	-746.07	19.17	762.91	729.13	33.78	22.584	
5,200.00	5,103.37	5,108.37	5,030.65	18.60	18.22	-119.42	-766.19	20.12	772.11	737.77	34.34	22.484	
5,300.00	5,203.37	5,206.23	5,126.41	18.72	18.66	-120.74	-786.32	21.07	781.74	746.86	34.88	22.410	
5,400.00	5,303.37	5,304.08	5,222.18	18.85	19.10	-122.04	-806.44	22.01	791.79	756.38	35.41	22.359	
5,500.00	5,403.37	5,401.94	5,317.94	18.98	19.54	-123.30	-826.56	22.96	802.24	766.32	35.93	22.330	
5,600.00	5,503.37	5,499.80	5,413.70	19.11	19.98	-124.53	-846.69	23.91	813.08	776.66	36.43	22.321	
5,700.00	5,603.37	5,597.66	5,509.46	19.24	20.42	-125.72	-866.81	24.85	824.30	787.38	36.91	22.330	
5,800.00	5,703.37	5,695.51	5,605.22	19.37	20.86	-126.89	-886.94	25.80	835.87	798.48	37.39	22.355	
5,900.00	5,803.37	5,793.37	5,700.98	19.50	21.30	-128.02	-907.06	26.75	847.78	809.92	37.85	22.397	
6,000.00	5,903.37	5,891.23	5,796.74	19.64	21.75	-129.13	-927.19	27.69	860.02	821.71	38.31	22.452	
6,100.00	6,003.37	6,006.63	5,909.97	19.78	22.18	-130.31	-949.43	28.74	871.81	833.06	38.74	22.502	
6,200.00	6,103.37	6,128.68	6,030.58	19.92	22.51	-131.28	-968.06	29.62	881.31	842.20	39.11	22.533	
6,300.00	6,203.37	6,252.12	6,153.26	20.06	22.78	-131.96	-981.67	30.26	888.27	848.80	39.47	22.506	
6,400.00	6,303.37	6,376.53	6,277.37	20.20	23.00	-132.38	-990.03	30.65	892.55	852.75	39.80	22.424	
6,500.00	6,403.37	6,501.42	6,402.22	20.34	23.18	-132.53	-993.00	30.79	894.08	853.95	40.13	22.279	
6,600.00	6,503.37	6,602.58	6,503.37	20.49	23.31	-132.53	-993.00	30.79	894.08	853.66	40.42	22.121	
6,700.00	6,603.37	6,702.58	6,603.37	20.64	23.41	-132.53	-993.00	30.79	894.08	853.39	40.69	21.973	
6,800.00	6,703.37	6,802.58	6,703.37	20.78	23.52	-132.53	-993.00	30.79	894.08	853.11	40.97	21.824	
6,900.00	6,803.37	6,902.58	6,803.37	20.93	23.63	-132.53	-993.00	30.79	894.08	852.84	41.25	21.676	
7,000.00	6,903.37	7,002.58	6,903.37	21.08	23.75	-132.53	-993.00	30.79	894.08	852.55	41.53	21.529	
7,100.00	7,003.37	7,102.58	7,003.37	21.24	23.86	-132.53	-993.00	30.79	894.08	852.27	41.82	21.382	
7,200.00	7,103.37	7,202.58	7,103.37	21.39	23.97	-132.53	-993.00	30.79	894.08	851.98	42.10	21.235	
7,300.00	7,203.37	7,302.58	7,203.37	21.54	24.09	-132.53	-993.00	30.79	894.08	851.69	42.39	21.090	
7,400.00	7,303.37	7,402.58	7,303.37	21.70	24.21	-132.53	-993.00	30.79	894.08	851.39	42.69	20.944	
7,500.00	7,403.37	7,502.58	7,403.37	21.86	24.33	-132.53	-993.00	30.79	894.08	851.10	42.99	20.800	
7,600.00	7,503.37	7,602.58	7,503.37	22.02	24.45	-132.53	-993.00	30.79	894.08	850.80	43.28	20.656	
7,700.00	7,603.37	7,702.58	7,603.37	22.17	24.57	-132.53	-993.00	30.79	894.08	850.50	43.59	20.513	
7,800.00	7,703.37	7,802.58	7,703.37	22.34	24.70	-132.53	-993.00	30.79	894.08	850.19	43.89	20.371	
7,900.00	7,803.37	7,902.58	7,803.37	22.50	24.82	-132.53	-993.00	30.79	894.08	849.88	44.20	20.229	
8,000.00	7,903.37	8,002.58	7,903.37	22.66	24.95	-132.53	-993.00	30.79	894.08	849.58	44.51	20.089	
8,100.00	8,003.37	8,102.58	8,003.37	22.82	25.08	-132.53	-993.00	30.79	894.08	849.26	44.82	19.949	
8,200.00	8,103.37	8,202.58	8,103.37	22.99	25.21	-132.53	-993.00	30.79	894.08	848.95	45.13	19.811	
8,300.00	8,203.37	8,302.58	8,203.37	23.15	25.34	-132.53	-993.00	30.79	894.08	848.63	45.45	19.673	
8,400.00	8,303.37	8,402.58	8,303.37	23.32	25.47	-132.53	-993.00	30.79	894.08	848.32	45.77	19.536	
8,500.00	8,403.37	8,432.20	8,333.00	23.49	25.51	-132.53	-993.00	30.79	896.85	850.87	45.98	19.505	
8,600.00	8,503.37	8,432.20	8,333.00	23.66	25.51	-132.53	-993.00	30.79	910.17	864.02	46.15	19.722	
8,680.63	8,584.00	8,432.20	8,333.00	23.79	25.51	-132.53	-993.00	30.79	928.65	882.36	46.29	20.062	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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
0.00	0.00	0.00	0.00	0.00	0.00	89.97	0.01	15.95	15.95				
100.00	100.00	100.00	100.00	0.10	0.10	89.97	0.01	15.95	15.95	15.76	0.19	83.509	
200.00	200.00	200.00	200.00	0.32	0.32	89.97	0.01	15.95	15.95	15.31	0.64	24.906	
300.00	300.00	300.00	300.00	0.55	0.55	89.97	0.01	15.95	15.95	14.86	1.09	14.636	
400.00	400.00	400.00	400.00	0.77	0.77	89.97	0.01	15.95	15.95	14.41	1.54	10.362	
500.00	500.00	500.00	500.00	0.99	0.99	89.97	0.01	15.95	15.95	13.97	1.99	8.021	
600.00	600.00	600.00	600.00	1.22	1.22	89.97	0.01	15.95	15.95	13.52	2.44	6.542	
700.00	700.00	700.00	700.00	1.44	1.44	89.97	0.01	15.95	15.95	13.07	2.89	5.524	
800.00	800.00	800.00	800.00	1.67	1.67	89.97	0.01	15.95	15.95	12.62	3.34	4.780	
900.00	900.00	900.00	900.00	1.89	1.89	89.97	0.01	15.95	15.95	12.17	3.79	4.213	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	89.97	0.01	15.95	15.95	11.72	4.24	3.766	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	89.97	0.01	15.95	15.95	11.34	4.62	3.454 CC	
1,100.00	1,100.00	1,099.92	1,099.92	2.34	2.34	-29.53	0.02	15.99	15.96	11.28	4.68	3.409	
1,200.00	1,199.97	1,199.35	1,199.32	2.53	2.55	-35.03	0.47	18.19	16.27	11.21	5.07	3.212 ES, SF	
1,300.00	1,299.80	1,298.69	1,298.49	2.72	2.76	-47.70	1.62	23.75	17.68	12.22	5.46	3.238	
1,400.00	1,399.37	1,397.83	1,397.21	2.94	2.98	-63.19	3.47	32.66	21.38	15.50	5.89	3.632	
1,500.00	1,498.55	1,496.70	1,495.29	3.17	3.22	-76.49	6.00	44.87	28.13	21.77	6.36	4.424	
1,600.00	1,597.23	1,595.22	1,592.52	3.44	3.49	-85.91	9.20	60.33	37.97	31.08	6.89	5.512	
1,700.00	1,695.29	1,693.29	1,688.73	3.75	3.80	-92.18	13.05	78.96	50.67	43.19	7.49	6.768	
1,800.00	1,792.60	1,790.85	1,783.73	4.12	4.15	-96.33	17.55	100.68	66.03	57.86	8.17	8.083	
1,844.76	1,835.89	1,834.34	1,825.82	4.30	4.33	-97.72	19.77	111.38	73.72	65.22	8.51	8.665	
1,900.00	1,889.19	1,887.86	1,877.39	4.53	4.55	-98.98	22.67	125.40	83.81	74.87	8.94	9.371	
2,000.00	1,985.70	1,985.92	1,971.55	4.98	5.00	-100.06	28.22	152.21	102.72	92.93	9.79	10.496	
2,100.00	2,082.20	2,084.10	2,065.82	5.45	5.47	-100.80	33.78	179.07	121.66	110.99	10.67	11.399	
2,200.00	2,178.71	2,182.27	2,160.09	5.94	5.96	-101.34	39.34	205.93	140.62	129.03	11.59	12.131	
2,300.00	2,275.21	2,280.45	2,254.36	6.44	6.47	-101.75	44.90	232.79	159.58	147.05	12.54	12.731	
2,400.00	2,371.71	2,378.63	2,348.63	6.94	6.98	-102.07	50.46	259.65	178.56	165.06	13.50	13.228	
2,500.00	2,468.22	2,476.81	2,442.90	7.46	7.51	-102.33	56.03	286.51	197.53	183.05	14.48	13.644	
2,600.00	2,564.72	2,574.99	2,537.17	7.98	8.04	-102.55	61.59	313.36	216.51	201.04	15.47	13.995	
2,700.00	2,661.22	2,673.17	2,631.44	8.51	8.58	-102.73	67.15	340.22	235.49	219.02	16.47	14.296	
2,800.00	2,757.73	2,771.35	2,725.71	9.04	9.12	-102.89	72.71	367.08	254.48	236.99	17.48	14.554	
2,900.00	2,854.23	2,869.53	2,819.98	9.57	9.66	-103.02	78.27	393.94	273.46	254.96	18.50	14.779	
3,000.00	2,950.74	2,967.71	2,914.25	10.11	10.21	-103.13	83.83	420.80	292.45	272.92	19.53	14.975	
3,100.00	3,047.24	3,065.89	3,008.52	10.65	10.76	-103.23	89.39	447.66	311.44	290.88	20.56	15.149	
3,200.00	3,143.74	3,164.07	3,102.79	11.19	11.32	-103.32	94.95	474.52	330.43	308.83	21.59	15.302	
3,300.00	3,240.25	3,262.25	3,197.06	11.74	11.87	-103.40	100.51	501.37	349.42	326.78	22.63	15.439	
3,400.00	3,336.75	3,360.43	3,291.33	12.28	12.43	-103.48	106.08	528.23	368.41	344.73	23.67	15.561	
3,500.00	3,433.25	3,458.61	3,385.60	12.83	12.99	-103.54	111.64	555.09	387.40	362.68	24.72	15.672	
3,600.00	3,529.76	3,556.79	3,479.87	13.38	13.55	-103.60	117.20	581.95	406.39	380.62	25.77	15.772	
3,700.00	3,626.26	3,654.97	3,574.14	13.93	14.11	-103.65	122.76	608.81	425.38	398.56	26.82	15.863	
3,800.00	3,722.77	3,753.14	3,668.41	14.48	14.68	-103.70	128.32	635.67	444.37	416.50	27.87	15.945	
3,900.00	3,819.27	3,851.32	3,762.68	15.03	15.24	-103.75	133.88	662.53	463.36	434.44	28.92	16.021	
4,000.00	3,915.77	3,949.50	3,856.95	15.58	15.80	-103.79	139.44	689.38	482.35	452.38	29.98	16.091	
4,100.86	4,013.11	4,048.53	3,952.04	16.14	16.38	-103.83	145.05	716.47	501.51	470.47	31.04	16.156	
4,200.00	4,109.21	4,145.93	4,045.55	16.60	16.94	-104.04	150.57	743.12	519.93	487.90	32.04	16.229	
4,300.00	4,206.94	4,244.22	4,139.93	16.96	17.50	-103.88	156.14	770.01	537.71	504.78	32.93	16.330	
4,400.00	4,305.35	4,342.44	4,234.25	17.27	18.07	-103.39	161.70	796.88	554.74	520.98	33.76	16.431	
4,500.00	4,404.32	4,440.48	4,328.38	17.55	18.64	-102.60	167.25	823.70	571.13	536.60	34.54	16.538	
4,600.00	4,503.73	4,538.21	4,422.22	17.78	19.20	-101.53	172.79	850.43	587.05	551.81	35.24	16.660	
4,700.00	4,603.46	4,635.51	4,515.64	17.97	19.77	-100.21	178.30	877.05	602.69	566.83	35.86	16.806	
4,800.00	4,703.38	4,732.26	4,608.55	18.12	20.33	-98.67	183.78	903.52	618.29	581.88	36.40	16.985	
4,860.63	4,764.00	4,790.61	4,664.57	18.20	20.67	21.76	187.08	919.48	627.83	591.14	36.69	17.113	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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	
4,900.00	4,803.37	4,828.41	4,700.87	18.24	20.88	22.56	189.22	929.82	634.13	597.28	36.85	17.209	
5,000.00	4,903.37	4,924.43	4,793.06	18.36	21.44	24.55	194.66	956.09	650.69	613.45	37.24	17.474	
5,100.00	5,003.37	5,020.45	4,885.26	18.48	22.00	26.43	200.10	982.36	668.01	630.41	37.60	17.765	
5,200.00	5,103.37	5,116.47	4,977.45	18.60	22.56	28.22	205.54	1,008.63	686.04	648.09	37.95	18.079	
5,300.00	5,203.37	5,212.49	5,069.65	18.72	23.11	29.93	210.98	1,034.89	704.71	666.43	38.27	18.413	
5,400.00	5,303.37	5,308.50	5,161.84	18.85	23.67	31.55	216.42	1,061.16	723.97	685.39	38.58	18.764	
5,500.00	5,403.37	5,404.52	5,254.04	18.98	24.23	33.08	221.86	1,087.43	743.79	704.91	38.88	19.129	
5,600.00	5,503.37	5,500.54	5,346.23	19.11	24.79	34.54	227.30	1,113.69	764.11	724.94	39.17	19.507	
5,700.00	5,603.37	5,596.56	5,438.43	19.24	25.35	35.93	232.73	1,139.96	784.91	745.45	39.46	19.893	
5,800.00	5,703.37	5,692.58	5,530.63	19.37	25.91	37.24	238.17	1,166.23	806.13	766.40	39.73	20.288	
5,900.00	5,803.37	5,794.41	5,628.43	19.50	26.48	38.56	243.92	1,193.98	827.68	787.68	40.01	20.689	
6,000.00	5,903.37	5,920.17	5,750.20	19.64	27.00	39.94	250.28	1,224.70	847.31	807.11	40.21	21.074	
6,100.00	6,003.37	6,048.57	5,875.83	19.78	27.45	41.04	255.65	1,250.65	863.75	823.33	40.43	21.367	
6,200.00	6,103.37	6,179.16	6,004.69	19.92	27.84	41.89	259.94	1,271.35	876.78	836.11	40.66	21.561	
6,300.00	6,203.37	6,311.45	6,136.07	20.06	28.15	42.48	263.06	1,286.44	886.21	845.29	40.92	21.656	
6,400.00	6,303.37	6,444.90	6,269.17	20.20	28.39	42.83	264.96	1,295.63	891.94	850.74	41.19	21.653	
6,500.00	6,403.37	6,578.93	6,403.16	20.34	28.55	42.95	265.61	1,298.74	893.87	852.38	41.49	21.545	
6,600.00	6,503.37	6,679.15	6,503.37	20.49	28.66	42.95	265.61	1,298.74	893.87	852.10	41.77	21.400	
6,700.00	6,603.37	6,779.15	6,603.37	20.64	28.77	42.95	265.61	1,298.74	893.87	851.81	42.06	21.254	
6,800.00	6,703.37	6,879.15	6,703.37	20.78	28.88	42.95	265.61	1,298.74	893.87	851.52	42.35	21.109	
6,900.00	6,803.37	6,979.15	6,803.37	20.93	28.99	42.95	265.61	1,298.74	893.87	851.23	42.64	20.964	
7,000.00	6,903.37	7,079.15	6,903.37	21.08	29.10	42.95	265.61	1,298.74	893.87	850.93	42.93	20.820	
7,100.00	7,003.37	7,179.15	7,003.37	21.24	29.21	42.95	265.61	1,298.74	893.87	850.64	43.23	20.677	
7,200.00	7,103.37	7,279.15	7,103.37	21.39	29.33	42.95	265.61	1,298.74	893.87	850.34	43.53	20.534	
7,300.00	7,203.37	7,379.15	7,203.37	21.54	29.44	42.95	265.61	1,298.74	893.87	850.03	43.83	20.392	
7,400.00	7,303.37	7,479.15	7,303.37	21.70	29.56	42.95	265.61	1,298.74	893.87	849.73	44.14	20.251	
7,500.00	7,403.37	7,579.15	7,403.37	21.86	29.68	42.95	265.61	1,298.74	893.87	849.42	44.45	20.111	
7,600.00	7,503.37	7,679.15	7,503.37	22.02	29.80	42.95	265.61	1,298.74	893.87	849.11	44.76	19.972	
7,700.00	7,603.37	7,779.15	7,603.37	22.17	29.92	42.95	265.61	1,298.74	893.87	848.80	45.07	19.833	
7,800.00	7,703.37	7,879.15	7,703.37	22.34	30.04	42.95	265.61	1,298.74	893.87	848.48	45.38	19.696	
7,900.00	7,803.37	7,979.15	7,803.37	22.50	30.17	42.95	265.61	1,298.74	893.87	848.17	45.70	19.559	
8,000.00	7,903.37	8,079.15	7,903.37	22.66	30.29	42.95	265.61	1,298.74	893.87	847.85	46.02	19.423	
8,100.00	8,003.37	8,179.15	8,003.37	22.82	30.42	42.95	265.61	1,298.74	893.87	847.52	46.34	19.288	
8,200.00	8,103.37	8,279.15	8,103.37	22.99	30.54	42.95	265.61	1,298.74	893.87	847.20	46.67	19.155	
8,300.00	8,203.37	8,379.15	8,203.37	23.15	30.67	42.95	265.61	1,298.74	893.87	846.88	46.99	19.022	
8,400.00	8,303.37	8,479.15	8,303.37	23.32	30.80	42.95	265.61	1,298.74	893.87	846.55	47.32	18.890	
8,500.00	8,403.37	8,504.78	8,329.00	23.49	30.84	42.95	265.61	1,298.74	896.96	849.43	47.53	18.872	
8,600.00	8,503.37	8,504.78	8,329.00	23.66	30.84	42.95	265.61	1,298.74	910.72	863.02	47.70	19.093	
8,680.63	8,584.00	8,504.78	8,329.00	23.79	30.84	42.95	265.61	1,298.74	929.53	881.69	47.84	19.432	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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	
0.00	0.00	0.00	0.00	0.00	0.00	-149.30	-48.08	-28.55	58.75				
100.00	100.00	82.00	82.00	0.10	1.64	-149.30	-48.08	-28.55	55.92	54.19	1.74	32.221	
200.00	200.00	182.00	182.00	0.32	5.28	-149.30	-48.08	-28.55	55.92	50.32	5.60	9.985	
300.00	300.00	282.00	282.00	0.55	9.28	-149.30	-48.08	-28.55	55.92	46.10	9.83	5.692	
400.00	400.00	382.00	382.00	0.77	13.28	-149.30	-48.08	-28.55	55.92	41.87	14.05	3.980	
500.00	500.00	482.00	482.00	0.99	17.28	-149.30	-48.08	-28.55	55.92	37.65	18.27	3.060	
600.00	600.00	582.00	582.00	1.22	21.28	-149.30	-48.08	-28.55	55.92	33.42	22.50	2.485	
700.00	700.00	682.00	682.00	1.44	25.28	-149.30	-48.08	-28.55	55.92	29.20	26.72	2.093	
800.00	800.00	782.00	782.00	1.67	29.28	-149.30	-48.08	-28.55	55.92	24.97	30.95	1.807	
900.00	900.00	882.00	882.00	1.89	33.28	-149.30	-48.08	-28.55	55.92	20.75	35.17	1.590	
1,000.00	1,000.00	982.00	982.00	2.12	37.28	-149.30	-48.08	-28.55	55.92	16.52	39.40	1.419 Level 3	
1,085.00	1,085.00	1,067.00	1,067.00	2.31	40.68	-149.30	-48.08	-28.55	55.92	12.93	42.99	1.301 Level 3, CC	
1,100.00	1,100.00	1,082.00	1,082.00	2.34	41.28	91.34	-48.08	-28.55	55.92	12.30	43.62	1.282 Level 3	
1,200.00	1,199.97	1,181.97	1,181.97	2.53	45.28	93.65	-48.08	-28.55	56.02	8.22	47.81	1.172 Level 2	
1,300.00	1,299.80	1,281.80	1,281.80	2.72	49.27	99.45	-48.08	-28.55	56.68	4.69	51.99	1.090 Level 2	
1,400.00	1,399.37	1,381.37	1,381.37	2.94	53.25	108.27	-48.08	-28.55	58.91	2.74	56.17	1.049 Level 2, ES, SF	
1,500.00	1,498.55	1,480.55	1,480.55	3.17	57.22	118.96	-48.08	-28.55	64.06	3.80	60.26	1.063 Level 2	
1,600.00	1,597.23	1,579.23	1,579.23	3.44	61.17	129.85	-48.08	-28.55	73.32	9.12	64.19	1.142 Level 2	
1,700.00	1,695.29	1,677.29	1,677.29	3.75	65.09	139.51	-48.08	-28.55	87.28	19.38	67.91	1.285 Level 3	
1,800.00	1,792.60	1,774.60	1,774.60	4.12	68.98	147.35	-48.08	-28.55	105.98	34.58	71.40	1.484 Level 3	
1,844.76	1,835.89	1,817.89	1,817.89	4.30	70.72	150.27	-48.08	-28.55	115.81	42.92	72.89	1.589	
1,900.00	1,889.19	1,871.19	1,871.19	4.53	72.85	153.44	-48.08	-28.55	128.68	53.70	74.99	1.716	
2,000.00	1,985.70	1,967.70	1,967.70	4.98	76.71	157.82	-48.08	-28.55	152.72	73.88	78.83	1.937	
2,100.00	2,082.20	2,064.20	2,064.20	5.45	80.57	161.01	-48.08	-28.55	177.37	94.64	82.73	2.144	
2,200.00	2,178.71	2,160.71	2,160.71	5.94	84.43	163.42	-48.08	-28.55	202.41	115.76	86.65	2.336	
2,300.00	2,275.21	2,257.21	2,257.21	6.44	88.29	165.29	-48.08	-28.55	227.72	137.13	90.59	2.514	
2,400.00	2,371.71	2,353.71	2,353.71	6.94	92.15	166.80	-48.08	-28.55	253.21	158.66	94.54	2.678	
2,500.00	2,468.22	2,450.22	2,450.22	7.46	96.01	168.03	-48.08	-28.55	278.83	180.32	98.51	2.831	
2,600.00	2,564.72	2,546.72	2,546.72	7.98	99.87	169.05	-48.08	-28.55	304.55	202.07	102.48	2.972	
2,700.00	2,661.22	2,643.22	2,643.22	8.51	103.73	169.91	-48.08	-28.55	330.36	223.90	106.46	3.103	
2,800.00	2,757.73	2,739.73	2,739.73	9.04	107.59	170.65	-48.08	-28.55	356.22	245.77	110.44	3.225	
2,900.00	2,854.23	2,836.23	2,836.23	9.57	111.45	171.29	-48.08	-28.55	382.12	267.69	114.43	3.339	
3,000.00	2,950.74	2,932.74	2,932.74	10.11	115.31	171.84	-48.08	-28.55	408.07	289.65	118.42	3.446	
3,100.00	3,047.24	3,029.24	3,029.24	10.65	119.17	172.33	-48.08	-28.55	434.05	311.64	122.41	3.546	
3,200.00	3,143.74	3,125.74	3,125.74	11.19	123.03	172.77	-48.08	-28.55	460.05	333.65	126.41	3.639	
3,300.00	3,240.25	3,222.25	3,222.25	11.74	126.89	173.16	-48.08	-28.55	486.08	355.68	130.41	3.727	
3,400.00	3,336.75	3,318.75	3,318.75	12.28	130.75	173.51	-48.08	-28.55	512.13	377.72	134.40	3.810	
3,500.00	3,433.25	3,415.25	3,415.25	12.83	134.61	173.82	-48.08	-28.55	538.19	399.78	138.40	3.889	
3,600.00	3,529.76	3,511.76	3,511.76	13.38	138.47	174.11	-48.08	-28.55	564.27	421.86	142.41	3.962	
3,700.00	3,626.26	3,608.26	3,608.26	13.93	142.33	174.37	-48.08	-28.55	590.35	443.94	146.41	4.032	
3,800.00	3,722.77	3,704.77	3,704.77	14.48	146.19	174.61	-48.08	-28.55	616.45	466.04	150.41	4.098	
3,900.00	3,819.27	3,801.27	3,801.27	15.03	150.05	174.83	-48.08	-28.55	642.56	488.14	154.42	4.161	
4,000.00	3,915.77	3,897.77	3,897.77	15.58	153.91	175.03	-48.08	-28.55	668.67	510.25	158.42	4.221	
4,100.86	4,013.11	3,995.11	3,995.11	16.14	157.80	175.22	-48.08	-28.55	695.02	532.56	162.47	4.278	
4,200.00	4,109.21	4,091.21	4,091.21	16.60	161.65	175.42	-48.08	-28.55	719.27	551.54	167.73	4.288	
4,300.00	4,206.94	4,188.94	4,188.94	16.96	165.56	175.59	-48.08	-28.55	740.36	567.45	172.91	4.282	
4,400.00	4,305.35	4,287.35	4,287.35	17.27	169.49	175.72	-48.08	-28.55	758.04	580.01	178.03	4.258	
4,500.00	4,404.32	4,386.32	4,386.32	17.55	173.45	175.82	-48.08	-28.55	772.29	589.30	182.99	4.220	
4,600.00	4,503.73	4,485.73	4,485.73	17.78	177.43	175.89	-48.08	-28.55	783.08	595.31	187.77	4.170	
4,700.00	4,603.46	4,585.46	4,585.46	17.97	181.42	175.94	-48.08	-28.55	790.41	598.06	192.35	4.109	
4,800.00	4,703.38	4,685.38	4,685.38	18.12	185.42	175.96	-48.08	-28.55	794.26	597.55	196.71	4.038	
4,860.63	4,764.00	4,746.00	4,746.00	18.20	187.84	-64.63	-48.08	-28.55	794.90	595.65	199.24	3.990	

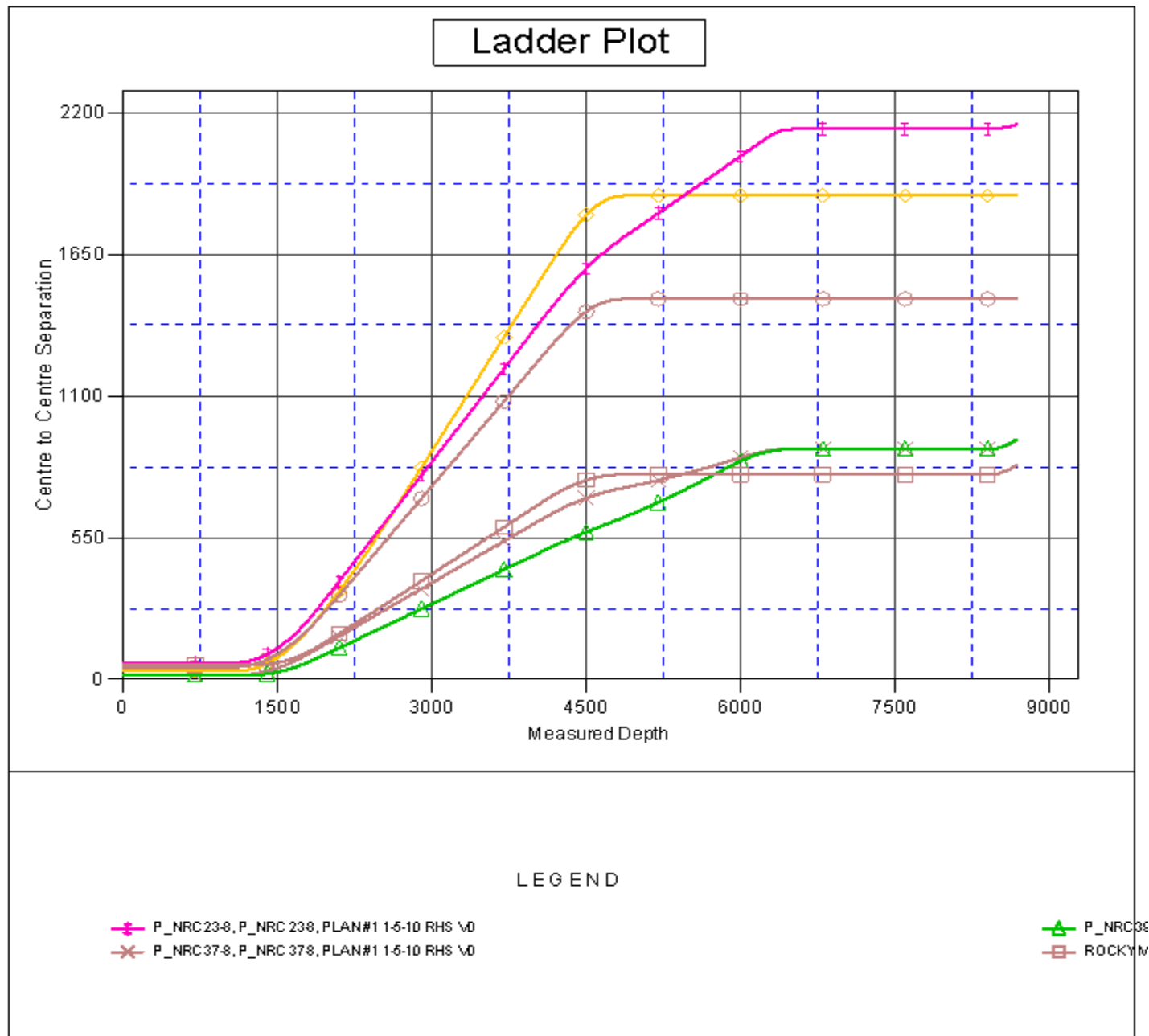
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	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
4,900.00	4,803.37	4,785.37	4,785.37	18.24	189.41	-64.63	-48.08	-28.55	794.90	594.01	200.89	3.957	
5,000.00	4,903.37	4,885.37	4,885.37	18.36	193.41	-64.63	-48.08	-28.55	794.90	589.83	205.07	3.876	
5,100.00	5,003.37	4,985.37	4,985.37	18.48	197.41	-64.63	-48.08	-28.55	794.90	585.65	209.24	3.799	
5,200.00	5,103.37	5,085.37	5,085.37	18.60	201.41	-64.63	-48.08	-28.55	794.90	581.47	213.43	3.724	
5,300.00	5,203.37	5,185.37	5,185.37	18.72	205.41	-64.63	-48.08	-28.55	794.90	577.29	217.61	3.653	
5,400.00	5,303.37	5,285.37	5,285.37	18.85	209.41	-64.63	-48.08	-28.55	794.90	573.10	221.79	3.584	
5,500.00	5,403.37	5,385.37	5,385.37	18.98	213.41	-64.63	-48.08	-28.55	794.90	568.92	225.98	3.518	
5,600.00	5,503.37	5,485.37	5,485.37	19.11	217.41	-64.63	-48.08	-28.55	794.90	564.73	230.16	3.454	
5,700.00	5,603.37	5,585.37	5,585.37	19.24	221.41	-64.63	-48.08	-28.55	794.90	560.55	234.35	3.392	
5,800.00	5,703.37	5,685.37	5,685.37	19.37	225.41	-64.63	-48.08	-28.55	794.90	556.36	238.54	3.332	
5,900.00	5,803.37	5,785.37	5,785.37	19.50	229.41	-64.63	-48.08	-28.55	794.90	552.17	242.73	3.275	
6,000.00	5,903.37	5,885.37	5,885.37	19.64	233.41	-64.63	-48.08	-28.55	794.90	547.98	246.92	3.219	
6,100.00	6,003.37	5,985.37	5,985.37	19.78	237.41	-64.63	-48.08	-28.55	794.90	543.78	251.11	3.165	
6,200.00	6,103.37	6,085.37	6,085.37	19.92	241.41	-64.63	-48.08	-28.55	794.90	539.59	255.31	3.114	
6,300.00	6,203.37	6,185.37	6,185.37	20.06	245.41	-64.63	-48.08	-28.55	794.90	535.40	259.50	3.063	
6,400.00	6,303.37	6,285.37	6,285.37	20.20	249.41	-64.63	-48.08	-28.55	794.90	531.20	263.69	3.014	
6,500.00	6,403.37	6,385.37	6,385.37	20.34	253.41	-64.63	-48.08	-28.55	794.90	527.01	267.89	2.967	
6,600.00	6,503.37	6,485.37	6,485.37	20.49	257.41	-64.63	-48.08	-28.55	794.90	522.81	272.09	2.921	
6,700.00	6,603.37	6,585.37	6,585.37	20.64	261.41	-64.63	-48.08	-28.55	794.90	518.61	276.28	2.877	
6,800.00	6,703.37	6,685.37	6,685.37	20.78	265.41	-64.63	-48.08	-28.55	794.90	514.41	280.48	2.834	
6,900.00	6,803.37	6,785.37	6,785.37	20.93	269.41	-64.63	-48.08	-28.55	794.90	510.22	284.68	2.792	
7,000.00	6,903.37	6,885.37	6,885.37	21.08	273.41	-64.63	-48.08	-28.55	794.90	506.02	288.88	2.752	
7,100.00	7,003.37	6,985.37	6,985.37	21.24	277.41	-64.63	-48.08	-28.55	794.90	501.82	293.08	2.712	
7,200.00	7,103.37	7,085.37	7,085.37	21.39	281.41	-64.63	-48.08	-28.55	794.90	497.62	297.28	2.674	
7,300.00	7,203.37	7,185.37	7,185.37	21.54	285.41	-64.63	-48.08	-28.55	794.90	493.41	301.48	2.637	
7,400.00	7,303.37	7,285.37	7,285.37	21.70	289.41	-64.63	-48.08	-28.55	794.90	489.21	305.68	2.600	
7,500.00	7,403.37	7,385.37	7,385.37	21.86	293.41	-64.63	-48.08	-28.55	794.90	485.01	309.89	2.565	
7,600.00	7,503.37	7,485.37	7,485.37	22.02	297.41	-64.63	-48.08	-28.55	794.90	480.81	314.09	2.531	
7,700.00	7,603.37	7,585.37	7,585.37	22.17	301.41	-64.63	-48.08	-28.55	794.90	476.60	318.29	2.497	
7,800.00	7,703.37	7,685.37	7,685.37	22.34	305.41	-64.63	-48.08	-28.55	794.90	472.40	322.50	2.465	
7,900.00	7,803.37	7,785.37	7,785.37	22.50	309.41	-64.63	-48.08	-28.55	794.90	468.19	326.70	2.433	
8,000.00	7,903.37	7,885.37	7,885.37	22.66	313.41	-64.63	-48.08	-28.55	794.90	463.99	330.91	2.402	
8,100.00	8,003.37	7,985.37	7,985.37	22.82	317.41	-64.63	-48.08	-28.55	794.90	459.78	335.11	2.372	
8,200.00	8,103.37	8,085.37	8,085.37	22.99	321.41	-64.63	-48.08	-28.55	794.90	455.58	339.32	2.343	
8,300.00	8,203.37	8,185.37	8,185.37	23.15	325.41	-64.63	-48.08	-28.55	794.90	451.37	343.53	2.314	
8,400.00	8,303.37	8,285.37	8,285.37	23.32	329.41	-64.63	-48.08	-28.55	794.90	447.16	347.74	2.286	
8,500.00	8,403.37	8,318.00	8,318.00	23.49	330.72	-64.63	-48.08	-28.55	797.75	448.50	349.25	2.284	
8,600.00	8,503.37	8,318.00	8,318.00	23.66	330.72	-64.63	-48.08	-28.55	812.33	462.87	349.46	2.325	
8,680.63	8,584.00	8,318.00	8,318.00	23.79	330.72	-64.63	-48.08	-28.55	832.69	483.06	349.62	2.382	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5071.00ft (Original Well Elev) Coordinates are relative to: P_NRC 16-8
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°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 16-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 16-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 16-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5071.00ft (Original Well Elev) Coordinates are relative to: P_NRC 16-8
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°

