



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_NRC 19-8 PAD

P_NRC 11-8

P_NRC 11-8

Plan: PLAN #1 1-20-10 RHS

Standard Planning Report

04 February, 2010





Azimuths to True North
Magnetic North: 9.10°

Magnetic Field
Strength: 53082.4nT
Dip Angle: 66.80°
Date: 1/20/2010
Model: IGRF2010

WELL DETAILS: P_NRC 11-8

+N/-S	+E/-W	Northing	Ground Level: Easting	5024.00 Latitude	Longitude	Slot
0.00	0.00	1266268.78	3162169.70	40° 3' 46.235 N	104° 55' 14.167 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3226.00	3363.68	PARKMAN
4676.00	4876.08	SUSSEX
5151.00	5351.08	SHANNON
7366.00	7566.08	NIO A
7706.00	7906.08	CODELL
8156.00	8356.08	JSAND
8326.00	8526.08	DAKOTA

SECTION DETAILS

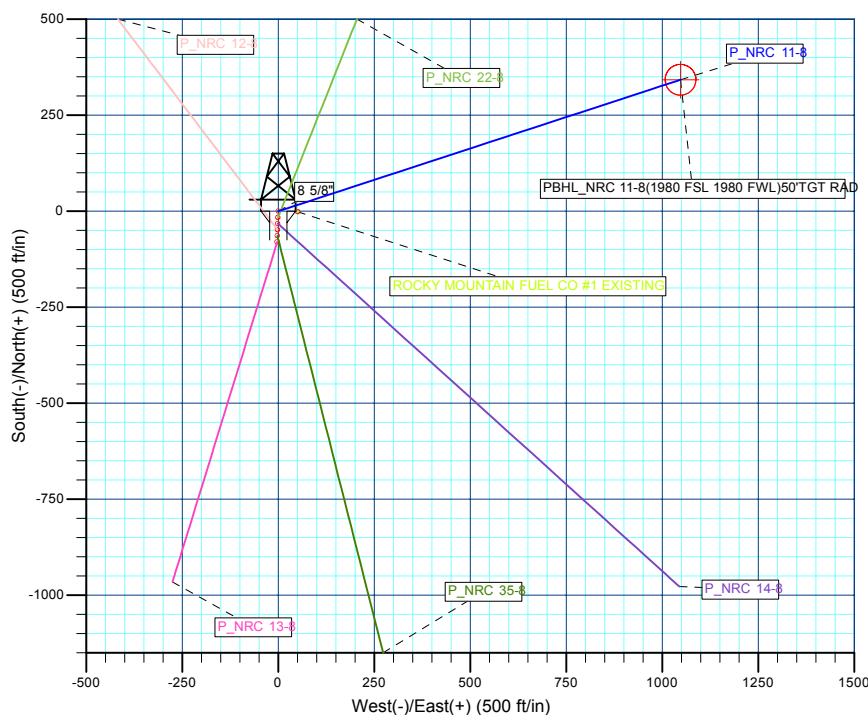
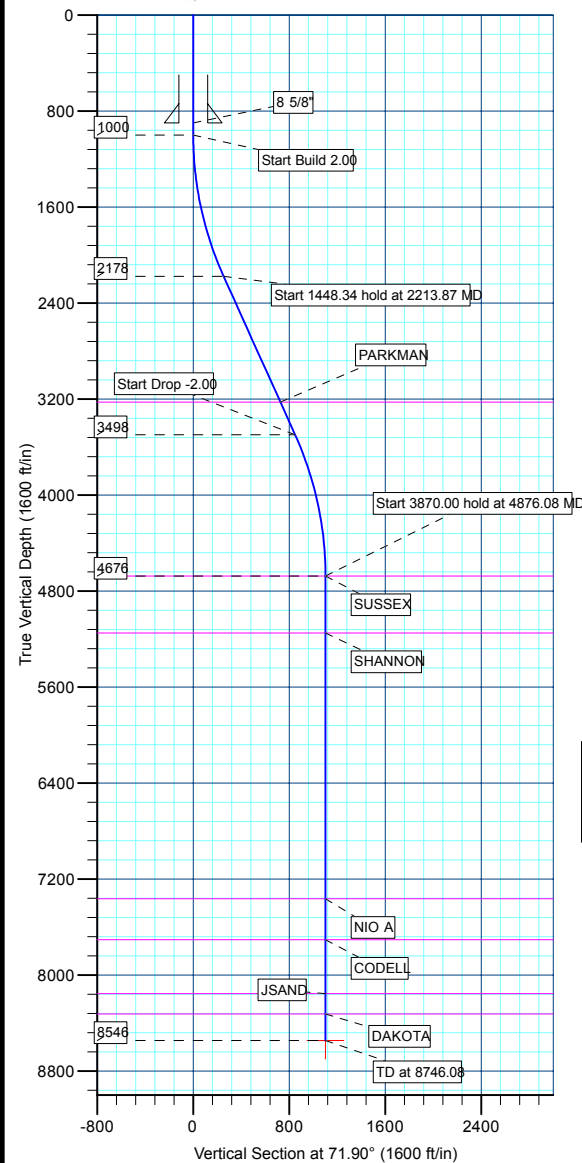
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
2213.87	24.28	71.90	2177.87	78.71	240.81	2.00	71.90	253.35	
3662.21	24.28	71.90	3498.13	263.73	806.83	0.00	0.00	848.84	
4876.08	0.00	0.00	4676.00	342.44	1047.64	2.00	180.00	1102.18	
8746.08	0.00	0.00	8546.00	342.44	1047.64	0.00	0.00	1102.18	PBHL_NRC 11-8(1980 FSL 1980 FWL)50'TGT RAD

CASING DETAILS

TVD	MD	Name	Size
900.00	900.00	8 5/8"	8.62



KB ELEV: WELL @ 5039.00ft (Original Well Elev)
IRD ELEV: 5024.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8546.00	342.44	1047.64	1266618.06	3163215.07	40° 3' 49.619 N	104° 55' 0.692 W	Circle (Radius: 40.00)

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 11-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site:	WELD_NRC 19-8 PAD	North Reference:	True
Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 11-8		
Design:	PLAN #1 1-20-10 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 19-8 PAD, SECTION 8 T1N R67W			
Site Position:		Northing:	1,266,268.78 ft	Latitude:	40° 3' 46.235 N
From:	Lat/Long	Easting:	3,162,169.70 ft	Longitude:	104° 55' 14.167 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.37 °

Well	P_NRC 11-8					
Well Position	+N/-S	0.00 ft	Northing:	1,266,268.78 ft	Latitude:	40° 3' 46.235 N
	+E/-W	0.00 ft	Easting:	3,162,169.70 ft	Longitude:	104° 55' 14.167 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,024.00 ft

Wellbore	P_NRC 11-8				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/20/2010	9.10	66.80	53,082

Design	PLAN #1 1-20-10 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	71.90

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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,213.87	24.28	71.90	2,177.87	78.71	240.81	2.00	2.00	0.00	71.90	
3,662.21	24.28	71.90	3,498.13	263.73	806.83	0.00	0.00	0.00	0.00	
4,876.08	0.00	0.00	4,676.00	342.44	1,047.64	2.00	-2.00	0.00	180.00	
8,746.08	0.00	0.00	8,546.00	342.44	1,047.64	0.00	0.00	0.00	0.00	PBHL_NRC 11-8(1'

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 11-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site:	WELD_NRC 19-8 PAD	North Reference:	True
Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 11-8		
Design:	PLAN #1 1-20-10 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									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	2.00	71.90	1,099.98	0.54	1.66	1.75	2.00	2.00	0.00
1,200.00	4.00	71.90	1,199.84	2.17	6.63	6.98	2.00	2.00	0.00
1,300.00	6.00	71.90	1,299.45	4.88	14.92	15.69	2.00	2.00	0.00
1,400.00	8.00	71.90	1,398.70	8.66	26.50	27.88	2.00	2.00	0.00
1,500.00	10.00	71.90	1,497.47	13.52	41.37	43.52	2.00	2.00	0.00
1,600.00	12.00	71.90	1,595.62	19.45	59.50	62.60	2.00	2.00	0.00
1,700.00	14.00	71.90	1,693.06	26.44	80.89	85.10	2.00	2.00	0.00
1,800.00	16.00	71.90	1,789.64	34.48	105.48	110.98	2.00	2.00	0.00
1,900.00	18.00	71.90	1,885.27	43.56	133.27	140.21	2.00	2.00	0.00
2,000.00	20.00	71.90	1,979.82	53.68	164.22	172.77	2.00	2.00	0.00
2,100.00	22.00	71.90	2,073.17	64.81	198.28	208.60	2.00	2.00	0.00
2,200.00	24.00	71.90	2,165.21	76.95	235.42	247.67	2.00	2.00	0.00
Start 1448.34 hold at 2213.87 MD									
2,213.87	24.28	71.90	2,177.87	78.71	240.81	253.35	2.00	2.00	0.00
2,300.00	24.28	71.90	2,256.38	89.72	274.47	288.76	0.00	0.00	0.00
2,400.00	24.28	71.90	2,347.54	102.49	313.55	329.87	0.00	0.00	0.00
2,500.00	24.28	71.90	2,438.70	115.26	352.63	370.99	0.00	0.00	0.00
2,600.00	24.28	71.90	2,529.85	128.04	391.71	412.11	0.00	0.00	0.00
2,700.00	24.28	71.90	2,621.01	140.81	430.79	453.22	0.00	0.00	0.00
2,800.00	24.28	71.90	2,712.17	153.59	469.87	494.34	0.00	0.00	0.00
2,900.00	24.28	71.90	2,803.32	166.36	508.95	535.45	0.00	0.00	0.00
3,000.00	24.28	71.90	2,894.48	179.14	548.03	576.57	0.00	0.00	0.00
3,100.00	24.28	71.90	2,985.64	191.91	587.11	617.68	0.00	0.00	0.00
3,200.00	24.28	71.90	3,076.79	204.69	626.19	658.80	0.00	0.00	0.00
3,300.00	24.28	71.90	3,167.95	217.46	665.27	699.91	0.00	0.00	0.00
PARKMAN									
3,363.68	24.28	71.90	3,226.00	225.59	690.16	726.10	0.00	0.00	0.00
3,400.00	24.28	71.90	3,259.11	230.23	704.36	741.03	0.00	0.00	0.00
3,500.00	24.28	71.90	3,350.26	243.01	743.44	782.14	0.00	0.00	0.00
3,600.00	24.28	71.90	3,441.42	255.78	782.52	823.26	0.00	0.00	0.00
Start Drop -2.00									
3,662.21	24.28	71.90	3,498.13	263.73	806.83	848.84	0.00	0.00	0.00
3,700.00	23.52	71.90	3,532.68	268.49	821.38	864.15	2.00	-2.00	0.00
3,800.00	21.52	71.90	3,625.05	280.39	857.79	902.45	2.00	-2.00	0.00
3,900.00	19.52	71.90	3,718.70	291.28	891.11	937.50	2.00	-2.00	0.00
4,000.00	17.52	71.90	3,813.51	301.15	921.30	969.27	2.00	-2.00	0.00
4,100.00	15.52	71.90	3,909.38	309.98	948.33	997.70	2.00	-2.00	0.00
4,200.00	13.52	71.90	4,006.18	317.77	972.16	1,022.78	2.00	-2.00	0.00
4,300.00	11.52	71.90	4,103.80	324.51	992.77	1,044.46	2.00	-2.00	0.00
4,400.00	9.52	71.90	4,202.11	330.18	1,010.12	1,062.72	2.00	-2.00	0.00
4,500.00	7.52	71.90	4,301.00	334.78	1,024.21	1,077.53	2.00	-2.00	0.00
4,600.00	5.52	71.90	4,400.35	338.31	1,035.00	1,088.89	2.00	-2.00	0.00
4,700.00	3.52	71.90	4,500.03	340.76	1,042.49	1,096.77	2.00	-2.00	0.00
4,800.00	1.52	71.90	4,599.93	342.13	1,046.68	1,101.17	2.00	-2.00	0.00
Start 3870.00 hold at 4876.08 MD - SUSSEX									
4,876.08	0.00	0.00	4,676.00	342.44	1,047.64	1,102.18	2.00	-2.00	0.00
4,900.00	0.00	0.00	4,699.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,000.00	0.00	0.00	4,799.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,100.00	0.00	0.00	4,899.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,200.00	0.00	0.00	4,999.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,300.00	0.00	0.00	5,099.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 11-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site:	WELD_NRC 19-8 PAD	North Reference:	True
Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 11-8		
Design:	PLAN #1 1-20-10 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									
5,351.08	0.00	0.00	5,151.00	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,400.00	0.00	0.00	5,199.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,500.00	0.00	0.00	5,299.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,600.00	0.00	0.00	5,399.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,700.00	0.00	0.00	5,499.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,800.00	0.00	0.00	5,599.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
5,900.00	0.00	0.00	5,699.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,000.00	0.00	0.00	5,799.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,100.00	0.00	0.00	5,899.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,200.00	0.00	0.00	5,999.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,300.00	0.00	0.00	6,099.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,400.00	0.00	0.00	6,199.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,500.00	0.00	0.00	6,299.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,600.00	0.00	0.00	6,399.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,700.00	0.00	0.00	6,499.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,800.00	0.00	0.00	6,599.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
6,900.00	0.00	0.00	6,699.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,000.00	0.00	0.00	6,799.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,100.00	0.00	0.00	6,899.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,200.00	0.00	0.00	6,999.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,300.00	0.00	0.00	7,099.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,400.00	0.00	0.00	7,199.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,500.00	0.00	0.00	7,299.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
NIO A									
7,566.08	0.00	0.00	7,366.00	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,600.00	0.00	0.00	7,399.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,700.00	0.00	0.00	7,499.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,800.00	0.00	0.00	7,599.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
7,900.00	0.00	0.00	7,699.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
CODELL									
7,906.08	0.00	0.00	7,706.00	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,000.00	0.00	0.00	7,799.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,100.00	0.00	0.00	7,899.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,200.00	0.00	0.00	7,999.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,300.00	0.00	0.00	8,099.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
JSAND									
8,356.08	0.00	0.00	8,156.00	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,400.00	0.00	0.00	8,199.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,500.00	0.00	0.00	8,299.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
DAKOTA									
8,526.08	0.00	0.00	8,326.00	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,600.00	0.00	0.00	8,399.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
8,700.00	0.00	0.00	8,499.92	342.44	1,047.64	1,102.18	0.00	0.00	0.00
TD at 8746.08 - PBHL_NRC 11-8(1980 FSL 1980 FWL)50'TGT RAD									
8,746.08	0.00	0.00	8,546.00	342.44	1,047.64	1,102.18	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 11-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site:	WELD_NRC 19-8 PAD	North Reference:	True
Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 11-8		
Design:	PLAN #1 1-20-10 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 11-8(198 - plan hits target center - Circle (radius 40.00)	0.00	0.00	8,546.00	342.44	1,047.64	1,266,618.06	3,163,215.07	40° 3' 49.619 N	104° 55' 0.692 W

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
900.00	900.00	8 5/8"		8.62	11.00

Formations						
Measured Depth	Vertical Depth		Name	Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
3,363.68	3,226.00		PARKMAN			
4,876.08	4,676.00		SUSSEX			
5,351.08	5,151.00		SHANNON			
7,566.08	7,366.00		NIO A			
7,906.08	7,706.00		CODELL			
8,356.08	8,156.00		JSAND			
8,526.08	8,326.00		DAKOTA		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
2,213.87	2,177.87	78.71	240.81	Start 1448.34 hold at 2213.87 MD
3,662.21	3,498.13	263.73	806.83	Start Drop -2.00
4,876.08	4,676.00	342.44	1,047.64	Start 3870.00 hold at 4876.08 MD
8,746.08	8,546.00	342.44	1,047.64	TD at 8746.08



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_NRC 19-8 PAD
P_NRC 11-8**

**P_NRC 11-8
PLAN #1 1-20-10 RHS**

Anticollision Report

04 February, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 1-20-10 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	8,746.08	PLAN #1 1-20-10 RHS (P_NRC 11-8)	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 19-8 PAD						
P_NRC 12-8 - P_NRC 12-8 - PLAN #1 1-20-10 RHS	1,212.11	1,214.11	46.36	41.19	8.969	CC, ES
P_NRC 12-8 - P_NRC 12-8 - PLAN #1 1-20-10 RHS	1,300.00	1,301.73	48.11	42.56	8.671	SF
P_NRC 13-8 - P_NRC 13-8 - PLAN #1 1-20-10 RHS	1,000.00	1,000.00	79.82	75.59	18.841	CC, ES
P_NRC 13-8 - P_NRC 13-8 - PLAN #1 1-20-10 RHS	1,100.00	1,097.29	82.08	77.44	17.674	SF
P_NRC 14-8 - P_NRC 14-8 - PLAN #1 1-20-10 RHS	200.00	200.00	32.09	31.45	50.093	CC, ES
P_NRC 14-8 - P_NRC 14-8 - PLAN #1 1-20-10 RHS	600.00	594.62	54.15	51.71	22.208	SF
P_NRC 22-8 - P_NRC 22-8 - PLAN #1 1-20-10 RHS	1,276.53	1,277.52	11.34	5.91	2.088	CC, ES
P_NRC 22-8 - P_NRC 22-8 - PLAN #1 1-20-10 RHS	1,300.00	1,300.99	11.52	6.00	2.085	SF
P_NRC 35-8 - P_NRC 35-8 - PLAN #1 1-20-10 RHS	1,000.00	1,000.00	63.80	59.56	15.057	CC, ES
P_NRC 35-8 - P_NRC 35-8 - PLAN #1 1-20-10 RHS	1,100.00	1,097.84	66.05	61.40	14.218	SF
ROCKY MOUNTAIN FUEL CO #1 EXISTING - ROCKY M	1,525.59	1,505.64	16.87	-44.77	0.274	Level 1, CC, ES, SF

Offset Design	WELD_NRC 19-8 PAD - P_NRC 12-8 - P_NRC 12-8 - PLAN #1 1-20-10 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	-178.00	-48.09	-1.68	48.12					
100.00	100.00	100.00	100.00	0.10	0.10	-178.00	-48.09	-1.68	48.12	47.93	0.19	251.881		
200.00	200.00	200.00	200.00	0.32	0.32	-178.00	-48.09	-1.68	48.12	47.48	0.64	75.123		
300.00	300.00	300.00	300.00	0.55	0.55	-178.00	-48.09	-1.68	48.12	47.03	1.09	44.144		
400.00	400.00	400.00	400.00	0.77	0.77	-178.00	-48.09	-1.68	48.12	46.58	1.54	31.255		
500.00	500.00	500.00	500.00	0.99	0.99	-178.00	-48.09	-1.68	48.12	46.13	1.99	24.192		
600.00	600.00	600.00	600.00	1.22	1.22	-178.00	-48.09	-1.68	48.12	45.68	2.44	19.733		
700.00	700.00	700.00	700.00	1.44	1.44	-178.00	-48.09	-1.68	48.12	45.23	2.89	16.661		
800.00	800.00	800.00	800.00	1.67	1.67	-178.00	-48.09	-1.68	48.12	44.78	3.34	14.417		
900.00	900.00	900.00	900.00	1.89	1.89	-178.00	-48.09	-1.68	48.12	44.33	3.79	12.706		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-178.00	-48.09	-1.68	48.12	43.89	4.24	11.358		
1,100.00	1,099.98	1,101.24	1,101.22	2.33	2.34	113.48	-46.67	-2.76	47.43	42.75	4.68	10.139		
1,200.00	1,199.84	1,201.98	1,201.81	2.55	2.57	123.97	-42.42	-5.98	46.38	41.27	5.11	9.073		
1,212.11	1,211.91	1,214.11	1,213.92	2.57	2.60	125.73	-41.72	-6.51	46.36	41.19	5.17	8.969	CC, ES	
1,300.00	1,299.45	1,301.73	1,301.18	2.77	2.80	141.09	-35.44	-11.27	48.11	42.56	5.55	8.671	SF	
1,400.00	1,398.70	1,400.04	1,398.75	3.02	3.04	160.44	-25.87	-18.53	56.75	50.77	5.98	9.497		

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 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 12-8 - P_NRC 12-8 - PLAN #1 1-20-10 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	
1,500.00	1,497.47	1,496.48	1,493.99	3.29	3.31	176.34	-13.90	-27.61	74.31	67.91	6.40	11.615	
1,600.00	1,595.62	1,590.63	1,586.46	3.60	3.60	-172.70	0.25	-38.34	100.13	93.30	6.83	14.661	
1,700.00	1,693.06	1,683.10	1,676.70	3.96	3.92	-165.46	16.31	-50.51	132.80	125.51	7.28	18.237	
1,800.00	1,789.64	1,775.36	1,766.62	4.38	4.26	-161.11	32.74	-62.97	170.03	162.27	7.76	21.917	
1,900.00	1,885.27	1,866.43	1,855.39	4.85	4.62	-158.52	48.96	-75.26	210.74	202.49	8.25	25.543	
2,000.00	1,979.82	1,956.21	1,942.90	5.40	4.98	-156.94	64.94	-87.39	254.55	245.79	8.76	29.060	
2,100.00	2,073.17	2,044.58	2,029.04	6.01	5.35	-155.97	80.68	-99.32	301.27	291.99	9.28	32.449	
2,200.00	2,165.21	2,131.45	2,113.71	6.70	5.71	-155.36	96.15	-111.05	350.80	340.98	9.82	35.705	
2,213.87	2,177.87	2,143.37	2,125.33	6.80	5.76	-155.29	98.28	-112.66	357.89	347.99	9.90	36.146	
2,300.00	2,256.38	2,217.31	2,197.40	7.44	6.08	-155.34	111.44	-122.64	402.06	391.59	10.47	38.411	
2,400.00	2,347.54	2,303.16	2,281.08	8.21	6.46	-155.37	126.73	-134.24	453.34	442.20	11.14	40.695	
2,500.00	2,438.70	2,389.01	2,364.75	8.99	6.83	-155.41	142.02	-145.83	504.62	492.80	11.83	42.670	
2,600.00	2,529.85	2,474.86	2,448.43	9.79	7.22	-155.43	157.31	-157.42	555.91	543.38	12.52	44.390	
2,700.00	2,621.01	2,560.71	2,532.11	10.59	7.60	-155.45	172.60	-169.01	607.19	593.96	13.23	45.896	
2,800.00	2,712.17	2,646.56	2,615.79	11.40	7.99	-155.47	187.89	-180.61	658.47	644.53	13.94	47.225	
2,900.00	2,803.32	2,732.40	2,699.46	12.22	8.38	-155.48	203.18	-192.20	709.76	695.09	14.66	48.402	
3,000.00	2,894.48	2,818.25	2,783.14	13.04	8.77	-155.50	218.47	-203.79	761.04	745.65	15.39	49.452	
3,100.00	2,985.64	2,904.10	2,866.82	13.87	9.16	-155.51	233.75	-215.38	812.32	796.20	16.12	50.392	
3,200.00	3,076.79	2,989.95	2,950.49	14.69	9.56	-155.52	249.04	-226.98	863.61	846.75	16.85	51.238	
3,300.00	3,167.95	3,075.80	3,034.17	15.53	9.95	-155.53	264.33	-238.57	914.89	897.30	17.59	52.002	
3,400.00	3,259.11	3,161.65	3,117.85	16.36	10.35	-155.54	279.62	-250.16	966.17	947.84	18.33	52.696	
3,500.00	3,350.26	3,247.50	3,201.53	17.19	10.74	-155.54	294.91	-261.75	1,017.46	998.38	19.08	53.329	
3,600.00	3,441.42	3,333.34	3,285.20	18.03	11.14	-155.55	310.20	-273.34	1,068.74	1,048.92	19.83	53.907	
3,662.21	3,498.13	3,386.75	3,337.26	18.55	11.39	-155.55	319.71	-280.56	1,100.64	1,080.35	20.29	54.243	
3,700.00	3,532.68	3,419.31	3,368.99	18.84	11.54	-155.73	325.51	-284.95	1,119.83	1,099.21	20.61	54.323	
3,800.00	3,625.05	3,506.54	3,454.02	19.47	11.95	-156.12	341.04	-296.73	1,168.69	1,147.26	21.44	54.521	
3,900.00	3,718.70	3,595.27	3,540.50	20.05	12.36	-156.40	356.84	-308.71	1,214.75	1,192.51	22.24	54.614	
4,000.00	3,813.51	3,685.36	3,628.32	20.60	12.78	-156.59	372.89	-320.88	1,257.95	1,234.92	23.03	54.620	
4,100.00	3,909.38	3,776.73	3,717.37	21.09	13.21	-156.69	389.16	-333.22	1,298.26	1,274.47	23.80	54.555	
4,200.00	4,006.18	3,869.25	3,807.55	21.53	13.64	-156.70	405.64	-345.71	1,335.65	1,311.11	24.54	54.431	
4,300.00	4,103.80	3,962.81	3,898.75	21.92	14.08	-156.65	422.30	-358.34	1,370.07	1,344.82	25.25	54.258	
4,400.00	4,202.11	4,057.31	3,990.85	22.26	14.53	-156.52	439.13	-371.10	1,401.53	1,375.59	25.93	54.043	
4,500.00	4,301.00	4,175.27	4,106.00	22.55	15.03	-156.25	459.53	-386.57	1,429.64	1,403.00	26.64	53.658	
4,600.00	4,400.35	4,323.12	4,251.54	22.79	15.51	-155.93	480.19	-402.24	1,451.87	1,424.56	27.31	53.161	
4,700.00	4,500.03	4,474.62	4,401.86	22.98	15.90	-155.71	495.12	-413.56	1,467.50	1,439.63	27.87	52.664	
4,800.00	4,599.93	4,628.54	4,555.38	23.12	16.19	-155.58	503.79	-420.13	1,476.36	1,448.05	28.31	52.158	
4,876.08	4,676.00	4,746.45	4,673.24	23.20	16.36	-83.65	505.98	-421.79	1,478.50	1,449.94	28.56	51.763	
4,900.00	4,699.92	4,773.12	4,699.92	23.22	16.40	-83.65	505.98	-421.79	1,478.50	1,449.87	28.63	51.636	
5,000.00	4,799.92	4,873.12	4,799.92	23.32	16.53	-83.65	505.98	-421.79	1,478.50	1,449.58	28.93	51.112	
5,100.00	4,899.92	4,973.12	4,899.92	23.41	16.67	-83.65	505.98	-421.79	1,478.50	1,449.28	29.23	50.586	
5,200.00	4,999.92	5,073.12	4,999.92	23.51	16.81	-83.65	505.98	-421.79	1,478.50	1,448.97	29.53	50.065	
5,300.00	5,099.92	5,173.12	5,099.92	23.61	16.95	-83.65	505.98	-421.79	1,478.50	1,448.66	29.84	49.549	
5,400.00	5,199.92	5,273.12	5,199.92	23.71	17.09	-83.65	505.98	-421.79	1,478.50	1,448.35	30.15	49.037	
5,500.00	5,299.92	5,373.12	5,299.92	23.82	17.24	-83.65	505.98	-421.79	1,478.50	1,448.04	30.47	48.531	
5,600.00	5,399.92	5,473.12	5,399.92	23.92	17.39	-83.65	505.98	-421.79	1,478.50	1,447.72	30.78	48.029	
5,700.00	5,499.92	5,573.12	5,499.92	24.03	17.54	-83.65	505.98	-421.79	1,478.50	1,447.40	31.10	47.533	
5,800.00	5,599.92	5,673.12	5,599.92	24.14	17.69	-83.65	505.98	-421.79	1,478.50	1,447.07	31.43	47.042	
5,900.00	5,699.92	5,773.12	5,699.92	24.25	17.84	-83.65	505.98	-421.79	1,478.50	1,446.75	31.76	46.557	
6,000.00	5,799.92	5,873.12	5,799.92	24.36	17.99	-83.65	505.98	-421.79	1,478.50	1,446.42	32.09	46.077	
6,100.00	5,899.92	5,973.12	5,899.92	24.47	18.15	-83.65	505.98	-421.79	1,478.50	1,446.08	32.42	45.604	
6,200.00	5,999.92	6,073.12	5,999.92	24.59	18.30	-83.65	505.98	-421.79	1,478.50	1,445.75	32.76	45.136	
6,300.00	6,099.92	6,173.12	6,099.92	24.71	18.46	-83.65	505.98	-421.79	1,478.50	1,445.41	33.10	44.674	

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 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 12-8 - P_NRC 12-8 - PLAN #1 1-20-10 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
6,400.00	6,199.92	6,273.12	6,199.92	24.82	18.62	-83.65	505.98	-421.79	1,478.50	1,445.07	33.44	44.217	
6,500.00	6,299.92	6,373.12	6,299.92	24.94	18.78	-83.65	505.98	-421.79	1,478.50	1,444.72	33.78	43.767	
6,600.00	6,399.92	6,473.12	6,399.92	25.06	18.94	-83.65	505.98	-421.79	1,478.50	1,444.38	34.13	43.323	
6,700.00	6,499.92	6,573.12	6,499.92	25.19	19.11	-83.65	505.98	-421.79	1,478.50	1,444.03	34.48	42.885	
6,800.00	6,599.92	6,673.12	6,599.92	25.31	19.27	-83.65	505.98	-421.79	1,478.50	1,443.68	34.83	42.452	
6,900.00	6,699.92	6,773.12	6,699.92	25.43	19.44	-83.65	505.98	-421.79	1,478.50	1,443.32	35.18	42.026	
7,000.00	6,799.92	6,873.12	6,799.92	25.56	19.60	-83.65	505.98	-421.79	1,478.50	1,442.97	35.54	41.606	
7,100.00	6,899.92	6,973.12	6,899.92	25.69	19.77	-83.65	505.98	-421.79	1,478.50	1,442.61	35.89	41.191	
7,200.00	6,999.92	7,073.12	6,999.92	25.82	19.94	-83.65	505.98	-421.79	1,478.50	1,442.25	36.25	40.783	
7,300.00	7,099.92	7,173.12	7,099.92	25.95	20.11	-83.65	505.98	-421.79	1,478.50	1,441.89	36.61	40.380	
7,400.00	7,199.92	7,273.12	7,199.92	26.08	20.28	-83.65	505.98	-421.79	1,478.50	1,441.53	36.98	39.983	
7,500.00	7,299.92	7,373.12	7,299.92	26.21	20.45	-83.65	505.98	-421.79	1,478.50	1,441.16	37.34	39.592	
7,600.00	7,399.92	7,473.12	7,399.92	26.35	20.63	-83.65	505.98	-421.79	1,478.50	1,440.79	37.71	39.206	
7,700.00	7,499.92	7,573.12	7,499.92	26.48	20.80	-83.65	505.98	-421.79	1,478.50	1,440.42	38.08	38.826	
7,800.00	7,599.92	7,673.12	7,599.92	26.62	20.98	-83.65	505.98	-421.79	1,478.50	1,440.05	38.45	38.452	
7,900.00	7,699.92	7,773.12	7,699.92	26.76	21.15	-83.65	505.98	-421.79	1,478.50	1,439.68	38.82	38.083	
8,000.00	7,799.92	7,873.12	7,799.92	26.90	21.33	-83.65	505.98	-421.79	1,478.50	1,439.31	39.20	37.720	
8,053.10	7,853.02	7,926.23	7,853.02	26.97	21.42	-83.65	505.98	-421.79	1,478.50	1,439.11	39.40	37.529	
8,100.00	7,899.92	7,944.20	7,871.00	27.04	21.46	-83.65	505.98	-421.79	1,478.79	1,439.27	39.52	37.421	
8,200.00	7,999.92	7,944.20	7,871.00	27.18	21.46	-83.65	505.98	-421.79	1,484.11	1,444.41	39.70	37.381	
8,300.00	8,099.92	7,944.20	7,871.00	27.32	21.46	-83.65	505.98	-421.79	1,496.12	1,456.23	39.89	37.509	
8,400.00	8,199.92	7,944.20	7,871.00	27.46	21.46	-83.65	505.98	-421.79	1,514.65	1,474.58	40.07	37.797	
8,500.00	8,299.92	7,944.20	7,871.00	27.61	21.46	-83.65	505.98	-421.79	1,539.46	1,499.20	40.26	38.237	
8,600.00	8,399.92	7,944.20	7,871.00	27.75	21.46	-83.65	505.98	-421.79	1,570.26	1,529.82	40.45	38.821	
8,700.00	8,499.92	7,944.20	7,871.00	27.90	21.46	-83.65	505.98	-421.79	1,606.71	1,566.07	40.64	39.538	
8,746.08	8,546.00	7,944.20	7,871.00	27.97	21.46	-83.65	505.98	-421.79	1,625.30	1,584.58	40.72	39.910	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 13-8 - P_NRC 13-8 - PLAN #1 1-20-10 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	-178.19	-79.79	-2.52	79.82				
100.00	100.00	100.00	100.00	0.10	0.10	-178.19	-79.79	-2.52	79.82	79.63	0.19	417.819	
200.00	200.00	200.00	200.00	0.32	0.32	-178.19	-79.79	-2.52	79.82	79.18	0.64	124.613	
300.00	300.00	300.00	300.00	0.55	0.55	-178.19	-79.79	-2.52	79.82	78.73	1.09	73.226	
400.00	400.00	400.00	400.00	0.77	0.77	-178.19	-79.79	-2.52	79.82	78.29	1.54	51.846	
500.00	500.00	500.00	500.00	0.99	0.99	-178.19	-79.79	-2.52	79.82	77.84	1.99	40.130	
600.00	600.00	600.00	600.00	1.22	1.22	-178.19	-79.79	-2.52	79.82	77.39	2.44	32.732	
700.00	700.00	700.00	700.00	1.44	1.44	-178.19	-79.79	-2.52	79.82	76.94	2.89	27.638	
800.00	800.00	800.00	800.00	1.67	1.67	-178.19	-79.79	-2.52	79.82	76.49	3.34	23.916	
900.00	900.00	900.00	900.00	1.89	1.89	-178.19	-79.79	-2.52	79.82	76.04	3.79	21.077	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-178.19	-79.79	-2.52	79.82	75.59	4.24	18.841 CC, ES	
1,100.00	1,099.98	1,097.29	1,097.27	2.33	2.31	111.29	-81.36	-3.01	82.08	77.44	4.64	17.674 SF	
1,200.00	1,199.84	1,194.04	1,193.90	2.55	2.48	114.97	-86.06	-4.45	89.12	84.10	5.03	17.732	
1,300.00	1,299.45	1,289.73	1,289.23	2.77	2.66	119.87	-93.77	-6.83	101.53	96.11	5.42	18.735	
1,400.00	1,398.70	1,383.84	1,382.70	3.02	2.87	124.89	-104.32	-10.08	119.83	114.01	5.82	20.577	
1,500.00	1,497.47	1,475.92	1,473.73	3.29	3.09	129.34	-117.48	-14.13	144.24	138.00	6.24	23.119	
1,600.00	1,595.62	1,565.54	1,561.87	3.60	3.34	132.95	-132.96	-18.90	174.69	168.02	6.67	26.206	
1,700.00	1,693.06	1,652.33	1,646.71	3.96	3.63	135.76	-150.46	-24.29	210.96	203.84	7.11	29.664	
1,800.00	1,789.64	1,735.97	1,727.90	4.38	3.94	137.87	-169.64	-30.20	252.75	245.18	7.58	33.356	
1,900.00	1,885.27	1,816.21	1,805.21	4.85	4.27	139.42	-190.16	-36.52	299.77	291.70	8.07	37.159	
2,000.00	1,979.82	1,892.83	1,878.45	5.40	4.63	140.53	-211.68	-43.15	351.69	343.11	8.59	40.963	
2,100.00	2,073.17	1,969.70	1,951.36	6.01	5.02	141.36	-234.95	-50.32	408.04	398.90	9.14	44.632	
2,200.00	2,165.21	2,049.66	2,027.08	6.70	5.46	142.13	-259.46	-57.87	467.20	457.45	9.74	47.965	
2,213.87	2,177.87	2,060.59	2,037.44	6.80	5.52	142.22	-262.82	-58.90	475.59	465.77	9.83	48.403	
2,300.00	2,256.38	2,128.41	2,101.67	7.44	5.90	143.47	-283.61	-65.31	527.97	517.57	10.40	50.781	
2,400.00	2,347.54	2,207.14	2,176.25	8.21	6.35	144.65	-307.74	-72.74	588.94	577.87	11.07	53.182	
2,500.00	2,438.70	2,285.87	2,250.82	8.99	6.81	145.60	-331.88	-80.18	650.04	638.28	11.76	55.254	
2,600.00	2,529.85	2,364.60	2,325.39	9.79	7.27	146.40	-356.02	-87.61	711.24	698.78	12.47	57.056	
2,700.00	2,621.01	2,443.34	2,399.96	10.59	7.75	147.07	-380.15	-95.05	772.51	759.34	13.17	58.636	
2,800.00	2,712.17	2,522.07	2,474.53	11.40	8.22	147.64	-404.29	-102.48	833.84	819.95	13.89	60.029	
2,900.00	2,803.32	2,600.80	2,549.10	12.22	8.70	148.13	-428.42	-109.92	895.21	880.60	14.61	61.265	
3,000.00	2,894.48	2,679.53	2,623.68	13.04	9.19	148.56	-452.56	-117.35	956.62	941.28	15.34	62.363	
3,100.00	2,985.64	2,758.27	2,698.25	13.87	9.68	148.94	-476.70	-124.79	1,018.06	1,001.98	16.07	63.349	
3,200.00	3,076.79	2,837.00	2,772.82	14.69	10.17	149.28	-500.83	-132.23	1,079.52	1,062.71	16.81	64.238	
3,300.00	3,167.95	2,915.73	2,847.39	15.53	10.66	149.58	-524.97	-139.66	1,141.00	1,123.46	17.54	65.042	
3,400.00	3,259.11	2,994.46	2,921.96	16.36	11.15	149.85	-549.11	-147.10	1,202.50	1,184.22	18.28	65.773	
3,500.00	3,350.26	3,073.19	2,996.53	17.19	11.65	150.09	-573.24	-154.53	1,264.02	1,244.99	19.02	66.441	
3,600.00	3,441.42	3,151.93	3,071.11	18.03	12.14	150.31	-597.38	-161.97	1,325.54	1,305.78	19.77	67.053	
3,662.21	3,498.13	3,200.91	3,117.50	18.55	12.45	150.44	-612.40	-166.59	1,363.83	1,343.60	20.23	67.410	
3,700.00	3,532.68	3,230.80	3,145.81	18.84	12.64	150.79	-621.56	-169.42	1,386.91	1,366.39	20.52	67.582	
3,800.00	3,625.05	3,311.20	3,221.96	19.47	13.15	151.62	-646.21	-177.01	1,446.32	1,425.09	21.24	68.099	
3,900.00	3,718.70	3,393.41	3,299.83	20.05	13.67	152.29	-671.41	-184.77	1,503.24	1,481.29	21.95	68.489	
4,000.00	3,813.51	3,477.34	3,379.32	20.60	14.21	152.84	-697.14	-192.70	1,557.59	1,534.94	22.65	68.775	
4,100.00	3,909.38	3,562.88	3,460.34	21.09	14.75	153.27	-723.36	-200.78	1,609.31	1,585.98	23.33	68.977	
4,200.00	4,006.18	3,649.93	3,542.79	21.53	15.31	153.61	-750.05	-209.00	1,658.34	1,634.33	24.01	69.062	
4,300.00	4,103.80	3,738.37	3,626.56	21.92	15.87	153.85	-777.16	-217.35	1,704.65	1,679.94	24.71	68.995	
4,400.00	4,202.11	3,828.11	3,711.56	22.26	16.45	154.01	-804.68	-225.82	1,748.17	1,722.80	25.38	68.891	
4,500.00	4,301.00	3,964.59	3,841.19	22.55	17.17	153.96	-845.42	-238.38	1,788.41	1,762.27	26.14	68.416	
4,600.00	4,400.35	4,175.65	4,045.08	22.79	18.02	153.73	-897.39	-254.39	1,820.91	1,793.89	27.01	67.407	
4,700.00	4,500.03	4,397.83	4,263.41	22.98	18.74	153.56	-936.45	-266.42	1,844.05	1,816.26	27.79	66.356	
4,800.00	4,599.93	4,627.70	4,491.93	23.12	19.26	153.46	-959.73	-273.59	1,857.31	1,828.88	28.43	65.332	
4,876.08	4,676.00	4,805.22	4,669.31	23.20	19.51	-134.67	-965.67	-275.42	1,860.56	1,831.75	28.81	64.578	

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 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 13-8 - P_NRC 13-8 - PLAN #1 1-20-10 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	4,699.92	4,835.83	4,699.92	23.22	19.54	-134.68	-965.70	-275.43	1,860.57	1,831.69	28.89	64.409	
5,000.00	4,799.92	4,935.83	4,799.92	23.32	19.65	-134.68	-965.70	-275.43	1,860.57	1,831.40	29.17	63.783	
5,100.00	4,899.92	5,035.83	4,899.92	23.41	19.75	-134.68	-965.70	-275.43	1,860.57	1,831.12	29.45	63.170	
5,200.00	4,999.92	5,135.83	4,999.92	23.51	19.85	-134.68	-965.70	-275.43	1,860.57	1,830.83	29.74	62.559	
5,300.00	5,099.92	5,235.83	5,099.92	23.61	19.95	-134.68	-965.70	-275.43	1,860.57	1,830.54	30.03	61.952	
5,400.00	5,199.92	5,335.83	5,199.92	23.71	20.06	-134.68	-965.70	-275.43	1,860.57	1,830.24	30.33	61.349	
5,500.00	5,299.92	5,435.83	5,299.92	23.82	20.17	-134.68	-965.70	-275.43	1,860.57	1,829.95	30.63	60.750	
5,600.00	5,399.92	5,535.83	5,399.92	23.92	20.28	-134.68	-965.70	-275.43	1,860.57	1,829.64	30.93	60.156	
5,700.00	5,499.92	5,635.83	5,499.92	24.03	20.39	-134.68	-965.70	-275.43	1,860.57	1,829.34	31.24	59.566	
5,800.00	5,599.92	5,735.83	5,599.92	24.14	20.50	-134.68	-965.70	-275.43	1,860.57	1,829.03	31.55	58.981	
5,900.00	5,699.92	5,835.83	5,699.92	24.25	20.62	-134.68	-965.70	-275.43	1,860.57	1,828.71	31.86	58.402	
6,000.00	5,799.92	5,935.83	5,799.92	24.36	20.73	-134.68	-965.70	-275.43	1,860.57	1,828.40	32.17	57.828	
6,100.00	5,899.92	6,035.83	5,899.92	24.47	20.85	-134.68	-965.70	-275.43	1,860.57	1,828.08	32.49	57.259	
6,200.00	5,999.92	6,135.83	5,999.92	24.59	20.97	-134.68	-965.70	-275.43	1,860.57	1,827.76	32.82	56.697	
6,300.00	6,099.92	6,235.83	6,099.92	24.71	21.10	-134.68	-965.70	-275.43	1,860.57	1,827.43	33.14	56.140	
6,400.00	6,199.92	6,335.83	6,199.92	24.82	21.22	-134.68	-965.70	-275.43	1,860.57	1,827.10	33.47	55.589	
6,500.00	6,299.92	6,435.83	6,299.92	24.94	21.35	-134.68	-965.70	-275.43	1,860.57	1,826.77	33.80	55.045	
6,600.00	6,399.92	6,535.83	6,399.92	25.06	21.47	-134.68	-965.70	-275.43	1,860.57	1,826.44	34.13	54.507	
6,700.00	6,499.92	6,635.83	6,499.92	25.19	21.60	-134.68	-965.70	-275.43	1,860.57	1,826.10	34.47	53.975	
6,800.00	6,599.92	6,735.83	6,599.92	25.31	21.73	-134.68	-965.70	-275.43	1,860.57	1,825.76	34.81	53.449	
6,900.00	6,699.92	6,835.83	6,699.92	25.43	21.86	-134.68	-965.70	-275.43	1,860.57	1,825.42	35.15	52.930	
7,000.00	6,799.92	6,935.83	6,799.92	25.56	22.00	-134.68	-965.70	-275.43	1,860.57	1,825.08	35.50	52.417	
7,100.00	6,899.92	7,035.83	6,899.92	25.69	22.13	-134.68	-965.70	-275.43	1,860.57	1,824.73	35.84	51.911	
7,200.00	6,999.92	7,135.83	6,999.92	25.82	22.27	-134.68	-965.70	-275.43	1,860.57	1,824.38	36.19	51.411	
7,300.00	7,099.92	7,235.83	7,099.92	25.95	22.41	-134.68	-965.70	-275.43	1,860.57	1,824.03	36.54	50.917	
7,400.00	7,199.92	7,335.83	7,199.92	26.08	22.55	-134.68	-965.70	-275.43	1,860.57	1,823.68	36.89	50.431	
7,500.00	7,299.92	7,435.83	7,299.92	26.21	22.69	-134.68	-965.70	-275.43	1,860.57	1,823.32	37.25	49.950	
7,600.00	7,399.92	7,535.83	7,399.92	26.35	22.83	-134.68	-965.70	-275.43	1,860.57	1,822.97	37.61	49.476	
7,700.00	7,499.92	7,635.83	7,499.92	26.48	22.97	-134.68	-965.70	-275.43	1,860.57	1,822.61	37.96	49.008	
7,800.00	7,599.92	7,735.83	7,599.92	26.62	23.12	-134.68	-965.70	-275.43	1,860.57	1,822.25	38.33	48.547	
7,900.00	7,699.92	7,835.83	7,699.92	26.76	23.26	-134.68	-965.70	-275.43	1,860.57	1,821.88	38.69	48.092	
8,000.00	7,799.92	7,935.83	7,799.92	26.90	23.41	-134.68	-965.70	-275.43	1,860.57	1,821.52	39.05	47.643	
8,100.00	7,899.92	8,035.83	7,899.92	27.04	23.56	-134.68	-965.70	-275.43	1,860.57	1,821.15	39.42	47.200	
8,200.00	7,999.92	8,135.83	7,999.92	27.18	23.71	-134.68	-965.70	-275.43	1,860.57	1,820.79	39.79	46.764	
8,300.00	8,099.92	8,235.83	8,099.92	27.32	23.86	-134.68	-965.70	-275.43	1,860.57	1,820.42	40.16	46.333	
8,400.00	8,199.92	8,335.83	8,199.92	27.46	24.01	-134.68	-965.70	-275.43	1,860.57	1,820.04	40.53	45.909	
8,500.00	8,299.92	8,435.83	8,299.92	27.61	24.16	-134.68	-965.70	-275.43	1,860.57	1,819.67	40.90	45.490	
8,600.00	8,399.92	8,535.83	8,399.92	27.75	24.32	-134.68	-965.70	-275.43	1,860.57	1,819.30	41.27	45.078	
8,700.00	8,499.92	8,635.83	8,499.92	27.90	24.47	-134.68	-965.70	-275.43	1,860.57	1,818.92	41.65	44.671	
8,746.08	8,546.00	8,681.91	8,546.00	27.97	24.55	-134.68	-965.70	-275.43	1,860.57	1,818.75	41.82	44.486	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 14-8 - P_NRC 14-8 - PLAN #1 1-20-10 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	-178.00	-32.07	-1.12	32.09				
100.00	100.00	100.00	100.00	0.10	0.10	-178.00	-32.07	-1.12	32.09	31.90	0.19	167.958	
200.00	200.00	200.00	200.00	0.32	0.32	-178.00	-32.07	-1.12	32.09	31.45	0.64	50.093 CC, ES	
300.00	300.00	299.24	299.22	0.55	0.52	179.73	-33.22	0.16	33.23	32.16	1.07	31.098	
400.00	400.00	398.25	398.09	0.77	0.74	173.82	-36.67	3.97	36.93	35.43	1.50	24.663	
500.00	500.00	496.78	496.25	0.99	0.98	166.37	-42.37	10.27	43.76	41.81	1.95	22.431	
600.00	600.00	594.62	593.37	1.22	1.26	159.28	-50.27	19.01	54.15	51.71	2.44	22.208 SF	
700.00	700.00	691.54	689.13	1.44	1.59	153.47	-60.28	30.09	68.24	65.27	2.97	22.970	
800.00	800.00	787.33	783.23	1.67	1.96	149.03	-72.30	43.39	85.97	82.42	3.55	24.186	
900.00	900.00	881.81	875.39	1.89	2.38	145.71	-86.22	58.79	107.22	103.02	4.19	25.577	
1,000.00	1,000.00	974.81	965.40	2.12	2.84	143.23	-101.90	76.14	131.83	126.94	4.88	27.002	
1,100.00	1,099.98	1,066.38	1,053.24	2.33	3.36	69.51	-119.25	95.33	159.09	154.39	4.70	33.864	
1,200.00	1,199.84	1,156.65	1,138.97	2.55	3.91	68.87	-138.19	116.28	188.22	183.05	5.17	36.419	
1,300.00	1,299.45	1,245.50	1,222.45	2.77	4.52	68.93	-158.59	138.84	219.11	213.44	5.66	38.709	
1,400.00	1,398.70	1,332.86	1,303.56	3.02	5.16	69.39	-180.32	162.89	251.73	245.55	6.18	40.727	
1,500.00	1,497.47	1,424.40	1,387.76	3.29	5.88	70.22	-204.42	189.55	285.47	278.70	6.76	42.204	
1,600.00	1,595.62	1,518.36	1,474.13	3.60	6.63	71.38	-229.23	217.00	318.45	311.03	7.41	42.954	
1,700.00	1,693.06	1,612.32	1,560.49	3.96	7.38	72.78	-254.04	244.45	350.71	342.57	8.14	43.105	
1,800.00	1,789.64	1,706.17	1,646.76	4.38	8.14	74.36	-278.83	271.86	382.44	373.49	8.94	42.757	
1,900.00	1,885.27	1,799.79	1,732.81	4.85	8.90	76.08	-303.55	299.21	413.84	403.99	9.85	42.015	
2,000.00	1,979.82	1,893.06	1,818.55	5.40	9.66	77.90	-328.18	326.46	445.14	434.28	10.86	40.987	
2,100.00	2,073.17	1,985.88	1,903.87	6.01	10.42	79.81	-352.69	353.58	476.54	464.56	11.98	39.775	
2,200.00	2,165.21	2,078.13	1,988.67	6.70	11.17	81.77	-377.05	380.53	508.28	495.07	13.21	38.472	
2,213.87	2,177.87	2,090.88	2,000.38	6.80	11.27	82.04	-380.42	384.25	512.72	499.33	13.39	38.289	
2,300.00	2,256.38	2,169.98	2,073.09	7.44	11.92	84.22	-401.30	407.36	540.70	526.14	14.56	37.125	
2,400.00	2,347.54	2,261.81	2,157.50	8.21	12.67	86.49	-425.55	434.19	574.02	558.06	15.96	35.966	
2,500.00	2,438.70	2,353.64	2,241.92	8.99	13.43	88.52	-449.81	461.02	608.09	590.71	17.38	34.988	
2,600.00	2,529.85	2,445.48	2,326.33	9.79	14.18	90.34	-474.06	487.84	642.79	623.98	18.82	34.163	
2,700.00	2,621.01	2,537.31	2,410.74	10.59	14.94	91.98	-498.31	514.67	678.03	657.77	20.26	33.464	
2,800.00	2,712.17	2,629.15	2,495.16	11.40	15.69	93.46	-522.56	541.50	713.72	692.01	21.71	32.870	
2,900.00	2,803.32	2,720.98	2,579.57	12.22	16.45	94.81	-546.81	568.33	749.80	726.63	23.17	32.362	
3,000.00	2,894.48	2,812.82	2,663.98	13.04	17.20	96.03	-571.06	595.16	786.22	761.59	24.63	31.926	
3,100.00	2,985.64	2,904.65	2,748.40	13.87	17.96	97.15	-595.31	621.99	822.93	796.85	26.08	31.549	
3,200.00	3,076.79	2,996.49	2,832.81	14.69	18.71	98.17	-619.56	648.81	859.90	832.35	27.54	31.221	
3,300.00	3,167.95	3,088.32	2,917.23	15.53	19.47	99.11	-643.81	675.64	897.08	868.08	29.00	30.936	
3,400.00	3,259.11	3,180.15	3,001.64	16.36	20.23	99.98	-668.06	702.47	934.47	904.01	30.45	30.686	
3,500.00	3,350.26	3,271.99	3,086.05	17.19	20.98	100.79	-692.31	729.30	972.02	940.12	31.91	30.465	
3,600.00	3,441.42	3,363.82	3,170.47	18.03	21.74	101.53	-716.56	756.13	1,009.74	976.38	33.36	30.270	
3,662.21	3,498.13	3,420.95	3,222.98	18.55	22.21	101.96	-731.65	772.82	1,033.27	999.01	34.26	30.160	
3,700.00	3,532.68	3,455.71	3,254.93	18.84	22.50	102.51	-740.83	782.97	1,047.54	1,012.71	34.83	30.074	
3,800.00	3,625.05	3,548.10	3,339.86	19.47	23.26	103.77	-765.23	809.96	1,084.86	1,048.64	36.22	29.950	
3,900.00	3,718.70	3,641.04	3,425.29	20.05	24.03	104.79	-789.77	837.11	1,121.46	1,083.90	37.55	29.862	
4,000.00	3,813.51	3,734.41	3,511.11	20.60	24.80	105.60	-814.43	864.39	1,157.23	1,118.41	38.82	29.807	
4,100.00	3,909.38	3,852.78	3,620.45	21.09	25.61	106.21	-844.82	898.02	1,191.46	1,151.38	40.08	29.729	
4,200.00	4,006.18	3,985.02	3,744.64	21.53	26.36	106.71	-875.27	931.70	1,222.04	1,180.81	41.23	29.637	
4,300.00	4,103.80	4,120.22	3,873.63	21.92	27.02	107.13	-902.39	961.71	1,248.69	1,206.41	42.28	29.536	
4,400.00	4,202.11	4,258.06	4,006.96	22.26	27.61	107.48	-925.81	987.61	1,271.26	1,228.06	43.20	29.428	
4,500.00	4,301.00	4,398.16	4,144.04	22.55	28.12	107.75	-945.18	1,009.04	1,289.64	1,245.64	44.00	29.311	
4,600.00	4,400.35	4,540.10	4,284.18	22.79	28.51	107.96	-960.19	1,025.65	1,303.73	1,259.07	44.65	29.197	
4,700.00	4,500.03	4,683.40	4,426.63	22.98	28.82	108.11	-970.62	1,037.18	1,313.44	1,268.26	45.18	29.074	
4,800.00	4,599.93	4,827.57	4,570.53	23.12	29.02	108.20	-976.27	1,043.43	1,318.73	1,273.17	45.56	28.947	
4,876.08	4,676.00	4,933.05	4,676.00	23.20	29.12	-179.87	-977.33	1,044.61	1,319.78	1,274.02	45.75	28.845	

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 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 14-8 - P_NRC 14-8 - PLAN #1 1-20-10 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	4,699.92	4,956.97	4,699.92	23.22	29.13	-179.87	-977.33	1,044.61	1,319.78	1,273.98	45.80	28.818	
5,000.00	4,799.92	5,056.97	4,799.92	23.32	29.20	-179.87	-977.33	1,044.61	1,319.78	1,273.80	45.98	28.703	
5,100.00	4,899.92	5,156.97	4,899.92	23.41	29.27	-179.87	-977.33	1,044.61	1,319.78	1,273.61	46.17	28.585	
5,200.00	4,999.92	5,256.97	4,999.92	23.51	29.34	-179.87	-977.33	1,044.61	1,319.78	1,273.42	46.36	28.467	
5,300.00	5,099.92	5,356.97	5,099.92	23.61	29.42	-179.87	-977.33	1,044.61	1,319.78	1,273.22	46.56	28.347	
5,400.00	5,199.92	5,456.97	5,199.92	23.71	29.49	-179.87	-977.33	1,044.61	1,319.78	1,273.02	46.76	28.227	
5,500.00	5,299.92	5,556.97	5,299.92	23.82	29.57	-179.87	-977.33	1,044.61	1,319.78	1,272.82	46.96	28.105	
5,600.00	5,399.92	5,656.97	5,399.92	23.92	29.65	-179.87	-977.33	1,044.61	1,319.78	1,272.61	47.16	27.982	
5,700.00	5,499.92	5,756.97	5,499.92	24.03	29.73	-179.87	-977.33	1,044.61	1,319.78	1,272.41	47.37	27.859	
5,800.00	5,599.92	5,856.97	5,599.92	24.14	29.81	-179.87	-977.33	1,044.61	1,319.78	1,272.19	47.59	27.734	
5,900.00	5,699.92	5,956.97	5,699.92	24.25	29.89	-179.87	-977.33	1,044.61	1,319.78	1,271.98	47.80	27.609	
6,000.00	5,799.92	6,056.97	5,799.92	24.36	29.97	-179.87	-977.33	1,044.61	1,319.78	1,271.76	48.02	27.483	
6,100.00	5,899.92	6,156.97	5,899.92	24.47	30.06	-179.87	-977.33	1,044.61	1,319.78	1,271.54	48.24	27.356	
6,200.00	5,999.92	6,256.97	5,999.92	24.59	30.14	-179.87	-977.33	1,044.61	1,319.78	1,271.31	48.47	27.229	
6,300.00	6,099.92	6,356.97	6,099.92	24.71	30.23	-179.87	-977.33	1,044.61	1,319.78	1,271.08	48.70	27.101	
6,400.00	6,199.92	6,456.97	6,199.92	24.82	30.32	-179.87	-977.33	1,044.61	1,319.78	1,270.85	48.93	26.973	
6,500.00	6,299.92	6,556.97	6,299.92	24.94	30.41	-179.87	-977.33	1,044.61	1,319.78	1,270.61	49.16	26.844	
6,600.00	6,399.92	6,656.97	6,399.92	25.06	30.51	-179.87	-977.33	1,044.61	1,319.78	1,270.38	49.40	26.715	
6,700.00	6,499.92	6,756.97	6,499.92	25.19	30.60	-179.87	-977.33	1,044.61	1,319.78	1,270.14	49.64	26.586	
6,800.00	6,599.92	6,856.97	6,599.92	25.31	30.69	-179.87	-977.33	1,044.61	1,319.78	1,269.89	49.89	26.456	
6,900.00	6,699.92	6,956.97	6,699.92	25.43	30.79	-179.87	-977.33	1,044.61	1,319.78	1,269.65	50.13	26.326	
7,000.00	6,799.92	7,056.97	6,799.92	25.56	30.89	-179.87	-977.33	1,044.61	1,319.78	1,269.40	50.38	26.196	
7,100.00	6,899.92	7,156.97	6,899.92	25.69	30.99	-179.87	-977.33	1,044.61	1,319.78	1,269.15	50.63	26.065	
7,200.00	6,999.92	7,256.97	6,999.92	25.82	31.09	-179.87	-977.33	1,044.61	1,319.78	1,268.89	50.89	25.935	
7,300.00	7,099.92	7,356.97	7,099.92	25.95	31.19	-179.87	-977.33	1,044.61	1,319.78	1,268.63	51.15	25.805	
7,400.00	7,199.92	7,456.97	7,199.92	26.08	31.29	-179.87	-977.33	1,044.61	1,319.78	1,268.37	51.40	25.674	
7,500.00	7,299.92	7,556.97	7,299.92	26.21	31.40	-179.87	-977.33	1,044.61	1,319.78	1,268.11	51.67	25.544	
7,600.00	7,399.92	7,656.97	7,399.92	26.35	31.50	-179.87	-977.33	1,044.61	1,319.78	1,267.85	51.93	25.413	
7,700.00	7,499.92	7,756.97	7,499.92	26.48	31.61	-179.87	-977.33	1,044.61	1,319.78	1,267.58	52.20	25.283	
7,800.00	7,599.92	7,856.97	7,599.92	26.62	31.72	-179.87	-977.33	1,044.61	1,319.78	1,267.31	52.47	25.153	
7,900.00	7,699.92	7,956.97	7,699.92	26.76	31.83	-179.87	-977.33	1,044.61	1,319.78	1,267.04	52.74	25.023	
8,000.00	7,799.92	8,056.97	7,799.92	26.90	31.94	-179.87	-977.33	1,044.61	1,319.78	1,266.76	53.02	24.893	
8,100.00	7,899.92	8,156.97	7,899.92	27.04	32.05	-179.87	-977.33	1,044.61	1,319.78	1,266.48	53.29	24.764	
8,200.00	7,999.92	8,256.97	7,999.92	27.18	32.16	-179.87	-977.33	1,044.61	1,319.78	1,266.20	53.57	24.634	
8,300.00	8,099.92	8,356.97	8,099.92	27.32	32.27	-179.87	-977.33	1,044.61	1,319.78	1,265.92	53.86	24.506	
8,400.00	8,199.92	8,456.97	8,199.92	27.46	32.39	-179.87	-977.33	1,044.61	1,319.78	1,265.64	54.14	24.377	
8,500.00	8,299.92	8,556.97	8,299.92	27.61	32.51	-179.87	-977.33	1,044.61	1,319.78	1,265.35	54.43	24.249	
8,600.00	8,399.92	8,656.97	8,399.92	27.75	32.62	-179.87	-977.33	1,044.61	1,319.78	1,265.06	54.72	24.121	
8,700.00	8,499.92	8,756.97	8,499.92	27.90	32.74	-179.87	-977.33	1,044.61	1,319.78	1,264.77	55.01	23.993	
8,726.46	8,526.38	8,783.44	8,526.38	27.94	32.77	-179.87	-977.33	1,044.61	1,319.78	1,264.70	55.08	23.960	
8,746.08	8,546.00	8,793.05	8,536.00	27.97	32.78	-179.87	-977.33	1,044.61	1,319.82	1,264.69	55.13	23.942	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 22-8 - P_NRC 22-8 - PLAN #1 1-20-10 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	-178.00	-16.04	-0.56	16.05				
100.00	100.00	100.00	100.00	0.10	0.10	-178.00	-16.04	-0.56	16.05	15.86	0.19	84.012	
200.00	200.00	200.00	200.00	0.32	0.32	-178.00	-16.04	-0.56	16.05	15.41	0.64	25.056	
300.00	300.00	300.00	300.00	0.55	0.55	-178.00	-16.04	-0.56	16.05	14.96	1.09	14.724	
400.00	400.00	400.00	400.00	0.77	0.77	-178.00	-16.04	-0.56	16.05	14.51	1.54	10.425	
500.00	500.00	500.00	500.00	0.99	0.99	-178.00	-16.04	-0.56	16.05	14.06	1.99	8.069	
600.00	600.00	600.00	600.00	1.22	1.22	-178.00	-16.04	-0.56	16.05	13.61	2.44	6.582	
700.00	700.00	700.00	700.00	1.44	1.44	-178.00	-16.04	-0.56	16.05	13.16	2.89	5.557	
800.00	800.00	800.00	800.00	1.67	1.67	-178.00	-16.04	-0.56	16.05	12.71	3.34	4.809	
900.00	900.00	900.00	900.00	1.89	1.89	-178.00	-16.04	-0.56	16.05	12.26	3.79	4.238	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-178.00	-16.04	-0.56	16.05	11.81	4.24	3.788	
1,100.00	1,099.98	1,100.51	1,100.49	2.33	2.34	114.13	-14.40	0.09	15.04	10.36	4.68	3.214	
1,200.00	1,199.84	1,200.88	1,200.72	2.55	2.57	129.72	-9.50	2.04	12.57	7.46	5.11	2.459	
1,276.53	1,276.10	1,277.52	1,277.09	2.72	2.74	155.22	-3.56	4.41	11.34	5.91	5.43	2.088 CC, ES	
1,300.00	1,299.45	1,300.99	1,300.44	2.77	2.80	165.23	-1.36	5.28	11.52	6.00	5.53	2.085 SF	
1,400.00	1,398.70	1,400.71	1,399.40	3.02	3.04	-157.41	9.95	9.79	16.78	10.81	5.96	2.813	
1,500.00	1,497.47	1,499.90	1,497.37	3.29	3.31	-138.65	24.38	15.53	28.03	21.55	6.48	4.324	
1,600.00	1,595.62	1,598.46	1,594.12	3.60	3.61	-129.81	41.83	22.47	43.29	36.23	7.06	6.133	
1,700.00	1,693.06	1,696.62	1,689.96	3.96	3.94	-125.74	61.53	30.31	61.63	53.93	7.70	8.008	
1,800.00	1,789.64	1,794.50	1,785.49	4.38	4.30	-125.32	81.31	38.19	82.09	73.72	8.37	9.803	
1,900.00	1,885.27	1,891.90	1,880.57	4.85	4.66	-126.50	101.00	46.02	104.56	95.47	9.09	11.503	
2,000.00	1,979.82	1,988.72	1,975.06	5.40	5.04	-128.36	120.57	53.81	129.17	119.34	9.84	13.134	
2,100.00	2,073.17	2,084.83	2,068.87	6.01	5.43	-130.48	139.99	61.54	156.10	145.50	10.60	14.722	
2,200.00	2,165.21	2,180.11	2,161.87	6.70	5.82	-132.64	159.25	69.21	185.50	174.11	11.39	16.290	
2,213.87	2,177.87	2,193.25	2,174.70	6.80	5.88	-132.94	161.91	70.27	189.78	178.28	11.50	16.508	
2,300.00	2,256.38	2,274.82	2,254.31	7.44	6.22	-134.92	178.40	76.83	216.63	204.41	12.22	17.730	
2,400.00	2,347.54	2,369.52	2,346.74	8.21	6.62	-136.68	197.54	84.45	248.04	234.96	13.07	18.975	
2,500.00	2,438.70	2,464.22	2,439.17	8.99	7.02	-138.04	216.68	92.07	279.60	265.67	13.94	20.062	
2,600.00	2,529.85	2,558.92	2,531.60	9.79	7.43	-139.13	235.82	99.68	311.29	296.47	14.81	21.014	
2,700.00	2,621.01	2,653.62	2,624.04	10.59	7.84	-140.01	254.96	107.30	343.05	327.35	15.70	21.853	
2,800.00	2,712.17	2,748.32	2,716.47	11.40	8.25	-140.75	274.10	114.92	374.88	358.29	16.59	22.597	
2,900.00	2,803.32	2,843.02	2,808.90	12.22	8.67	-141.37	293.24	122.54	406.75	389.26	17.49	23.260	
3,000.00	2,894.48	2,937.72	2,901.33	13.04	9.08	-141.90	312.38	130.16	438.66	420.27	18.39	23.854	
3,100.00	2,985.64	3,032.41	2,993.76	13.87	9.50	-142.36	331.52	137.78	470.60	451.30	19.30	24.388	
3,200.00	3,076.79	3,127.11	3,086.19	14.69	9.92	-142.76	350.67	145.40	502.56	482.35	20.21	24.871	
3,300.00	3,167.95	3,221.81	3,178.62	15.53	10.34	-143.12	369.81	153.01	534.54	513.42	21.12	25.310	
3,400.00	3,259.11	3,316.51	3,271.06	16.36	10.77	-143.43	388.95	160.63	566.54	544.50	22.04	25.709	
3,500.00	3,350.26	3,411.21	3,363.49	17.19	11.19	-143.71	408.09	168.25	598.55	575.60	22.96	26.075	
3,600.00	3,441.42	3,505.91	3,455.92	18.03	11.61	-143.96	427.23	175.87	630.58	606.70	23.88	26.410	
3,662.21	3,498.13	3,564.82	3,513.42	18.55	11.88	-144.11	439.14	180.61	650.50	626.05	24.45	26.606	
3,700.00	3,532.68	3,600.68	3,548.41	18.84	12.04	-144.32	446.38	183.49	662.42	637.61	24.81	26.704	
3,800.00	3,625.05	3,696.17	3,641.62	19.47	12.47	-144.73	465.69	191.18	692.08	666.37	25.71	26.916	
3,900.00	3,718.70	3,792.46	3,735.60	20.05	12.90	-144.94	485.15	198.92	719.02	692.40	26.62	27.007	
4,000.00	3,813.51	3,889.43	3,830.25	20.60	13.34	-144.95	504.75	206.72	743.20	715.67	27.53	26.993	
4,100.00	3,909.38	3,986.96	3,925.44	21.09	13.78	-144.80	524.46	214.57	764.63	736.19	28.44	26.888	
4,200.00	4,006.18	4,084.93	4,021.07	21.53	14.22	-144.48	544.26	222.45	783.32	753.98	29.33	26.703	
4,300.00	4,103.80	4,183.23	4,117.01	21.92	14.67	-144.01	564.13	230.36	799.29	769.07	30.22	26.449	
4,400.00	4,202.11	4,281.73	4,213.16	22.26	15.11	-143.39	584.04	238.28	812.59	781.50	31.09	26.134	
4,500.00	4,301.00	4,380.32	4,309.38	22.55	15.56	-142.62	603.97	246.21	823.29	791.34	31.95	25.767	
4,600.00	4,400.35	4,478.87	4,405.57	22.79	16.01	-141.70	623.89	254.14	831.46	798.66	32.79	25.354	
4,700.00	4,500.03	4,577.26	4,501.61	22.98	16.45	-140.63	643.78	262.06	837.20	803.58	33.62	24.903	
4,800.00	4,599.93	4,675.38	4,597.38	23.12	16.90	-139.40	663.61	269.95	840.63	806.20	34.42	24.420	

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 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 22-8 - P_NRC 22-8 - PLAN #1 1-20-10 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
4,876.08	4,676.00	4,749.77	4,669.98	23.20	17.24	-66.46	678.64	275.94	841.78	806.76	35.02	24.036	
4,900.00	4,699.92	4,773.12	4,692.77	23.22	17.34	-66.11	683.36	277.81	841.96	806.75	35.22	23.907	
5,000.00	4,799.92	4,870.72	4,788.04	23.32	17.79	-64.67	703.09	285.67	843.09	807.05	36.04	23.393	
5,100.00	4,899.92	4,968.33	4,883.31	23.41	18.23	-63.23	722.82	293.52	844.78	807.93	36.85	22.925	
5,200.00	4,999.92	5,065.93	4,978.57	23.51	18.68	-61.80	742.55	301.37	847.03	809.38	37.65	22.500	
5,300.00	5,099.92	5,163.54	5,073.84	23.61	19.12	-60.38	762.28	309.22	849.82	811.39	38.43	22.114	
5,400.00	5,199.92	5,261.14	5,169.11	23.71	19.56	-58.97	782.01	317.08	853.16	813.96	39.20	21.765	
5,500.00	5,299.92	5,358.75	5,264.38	23.82	20.01	-57.56	801.73	324.93	857.04	817.09	39.95	21.452	
5,600.00	5,399.92	5,456.35	5,359.64	23.92	20.45	-56.17	821.46	332.78	861.45	820.76	40.69	21.172	
5,700.00	5,499.92	5,553.96	5,454.91	24.03	20.90	-54.80	841.19	340.63	866.39	824.98	41.41	20.923	
5,800.00	5,599.92	5,651.56	5,550.18	24.14	21.34	-53.44	860.92	348.49	871.84	829.73	42.11	20.703	
5,900.00	5,699.92	5,749.17	5,645.45	24.25	21.79	-52.10	880.65	356.34	877.80	835.00	42.80	20.510	
6,000.00	5,799.92	5,847.09	5,741.02	24.36	22.23	-50.77	900.44	364.21	884.25	840.78	43.47	20.342	
6,100.00	5,899.92	5,955.82	5,847.60	24.47	22.62	-49.45	920.43	372.17	890.54	846.47	44.07	20.209	
6,200.00	5,999.92	6,066.08	5,956.43	24.59	22.95	-48.38	936.84	378.70	895.92	851.34	44.57	20.099	
6,300.00	6,099.92	6,177.56	6,067.07	24.71	23.23	-47.56	949.47	383.73	900.18	855.17	45.02	19.996	
6,400.00	6,199.92	6,289.95	6,179.06	24.82	23.46	-47.01	958.14	387.18	903.17	857.77	45.40	19.893	
6,500.00	6,299.92	6,402.89	6,291.89	24.94	23.65	-46.72	962.74	389.01	904.78	859.05	45.72	19.789	
6,600.00	6,399.92	6,510.93	6,399.92	25.06	23.78	-46.67	963.52	389.32	905.05	859.06	45.99	19.681	
6,700.00	6,499.92	6,610.93	6,499.92	25.19	23.90	-46.67	963.52	389.32	905.05	858.80	46.25	19.569	
6,800.00	6,599.92	6,710.93	6,599.92	25.31	24.03	-46.67	963.52	389.32	905.05	858.53	46.52	19.457	
6,900.00	6,699.92	6,810.93	6,699.92	25.43	24.16	-46.67	963.52	389.32	905.05	858.26	46.78	19.345	
7,000.00	6,799.92	6,910.93	6,799.92	25.56	24.29	-46.67	963.52	389.32	905.05	857.99	47.06	19.234	
7,100.00	6,899.92	7,010.93	6,899.92	25.69	24.42	-46.67	963.52	389.32	905.05	857.72	47.33	19.122	
7,200.00	6,999.92	7,110.93	6,999.92	25.82	24.56	-46.67	963.52	389.32	905.05	857.44	47.61	19.011	
7,300.00	7,099.92	7,210.93	7,099.92	25.95	24.69	-46.67	963.52	389.32	905.05	857.16	47.88	18.901	
7,400.00	7,199.92	7,310.93	7,199.92	26.08	24.83	-46.67	963.52	389.32	905.05	856.88	48.17	18.790	
7,500.00	7,299.92	7,410.93	7,299.92	26.21	24.96	-46.67	963.52	389.32	905.05	856.60	48.45	18.680	
7,600.00	7,399.92	7,510.93	7,399.92	26.35	25.10	-46.67	963.52	389.32	905.05	856.31	48.74	18.570	
7,700.00	7,499.92	7,610.93	7,499.92	26.48	25.24	-46.67	963.52	389.32	905.05	856.02	49.03	18.460	
7,800.00	7,599.92	7,710.93	7,599.92	26.62	25.38	-46.67	963.52	389.32	905.05	855.73	49.32	18.351	
7,900.00	7,699.92	7,810.93	7,699.92	26.76	25.52	-46.67	963.52	389.32	905.05	855.44	49.61	18.242	
8,000.00	7,799.92	7,910.93	7,799.92	26.90	25.67	-46.67	963.52	389.32	905.05	855.14	49.91	18.134	
8,100.00	7,899.92	8,010.93	7,899.92	27.04	25.81	-46.67	963.52	389.32	905.05	854.84	50.21	18.026	
8,200.00	7,999.92	8,110.93	7,999.92	27.18	25.96	-46.67	963.52	389.32	905.05	854.54	50.51	17.919	
8,300.00	8,099.92	8,210.93	8,099.92	27.32	26.10	-46.67	963.52	389.32	905.05	854.24	50.81	17.812	
8,400.00	8,199.92	8,310.93	8,199.92	27.46	26.25	-46.67	963.52	389.32	905.05	853.93	51.12	17.706	
8,461.28	8,261.20	8,372.21	8,261.20	27.55	26.34	-46.67	963.52	389.32	905.05	853.74	51.30	17.641	
8,500.00	8,299.92	8,397.01	8,286.00	27.61	26.38	-46.67	963.52	389.32	905.16	853.75	51.40	17.609	
8,600.00	8,399.92	8,397.01	8,286.00	27.75	26.38	-46.67	963.52	389.32	912.19	860.63	51.56	17.693	
8,700.00	8,499.92	8,397.01	8,286.00	27.90	26.38	-46.67	963.52	389.32	929.99	878.28	51.71	17.984	
8,746.08	8,546.00	8,397.01	8,286.00	27.97	26.38	-46.67	963.52	389.32	941.65	889.87	51.78	18.185	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 35-8 - P_NRC 35-8 - PLAN #1 1-20-10 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	-177.99	-63.76	-2.24	63.80				
100.00	100.00	100.00	100.00	0.10	0.10	-177.99	-63.76	-2.24	63.80	63.61	0.19	333.922	
200.00	200.00	200.00	200.00	0.32	0.32	-177.99	-63.76	-2.24	63.80	63.16	0.64	99.591	
300.00	300.00	300.00	300.00	0.55	0.55	-177.99	-63.76	-2.24	63.80	62.71	1.09	58.522	
400.00	400.00	400.00	400.00	0.77	0.77	-177.99	-63.76	-2.24	63.80	62.26	1.54	41.436	
500.00	500.00	500.00	500.00	0.99	0.99	-177.99	-63.76	-2.24	63.80	61.81	1.99	32.072	
600.00	600.00	600.00	600.00	1.22	1.22	-177.99	-63.76	-2.24	63.80	61.36	2.44	26.160	
700.00	700.00	700.00	700.00	1.44	1.44	-177.99	-63.76	-2.24	63.80	60.91	2.89	22.088	
800.00	800.00	800.00	800.00	1.67	1.67	-177.99	-63.76	-2.24	63.80	60.46	3.34	19.113	
900.00	900.00	900.00	900.00	1.89	1.89	-177.99	-63.76	-2.24	63.80	60.01	3.79	16.845	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-177.99	-63.76	-2.24	63.80	59.56	4.24	15.057 CC, ES	
1,100.00	1,099.98	1,097.84	1,097.83	2.33	2.31	111.06	-65.38	-1.83	66.05	61.40	4.65	14.218 SF	
1,200.00	1,199.84	1,195.32	1,195.17	2.55	2.48	113.52	-70.21	-0.60	72.89	67.86	5.03	14.494	
1,300.00	1,299.45	1,292.06	1,291.56	2.77	2.67	116.70	-78.18	1.42	84.51	79.08	5.43	15.571	
1,400.00	1,398.70	1,387.72	1,386.54	3.02	2.88	119.86	-89.15	4.20	101.06	95.21	5.85	17.285	
1,500.00	1,497.47	1,481.96	1,479.69	3.29	3.11	122.58	-102.96	7.70	122.55	116.26	6.29	19.477	
1,600.00	1,595.62	1,574.49	1,570.64	3.60	3.37	124.75	-119.41	11.87	148.91	142.14	6.77	21.993	
1,700.00	1,693.06	1,665.01	1,659.05	3.96	3.67	126.39	-138.24	16.65	180.00	172.71	7.29	24.693	
1,800.00	1,789.64	1,753.28	1,744.63	4.38	4.01	127.59	-159.20	21.96	215.67	207.82	7.86	27.445	
1,900.00	1,885.27	1,839.09	1,827.15	4.85	4.39	128.42	-182.02	27.75	255.74	247.26	8.48	30.158	
2,000.00	1,979.82	1,922.26	1,906.41	5.40	4.79	128.96	-206.41	33.93	300.02	290.86	9.16	32.760	
2,100.00	2,073.17	2,004.07	1,983.66	6.01	5.23	129.29	-232.53	40.55	348.28	338.38	9.90	35.181	
2,200.00	2,165.21	2,089.82	2,064.37	6.70	5.73	129.68	-260.60	47.67	399.20	388.48	10.72	37.254	
2,213.87	2,177.87	2,101.60	2,075.46	6.80	5.80	129.74	-264.46	48.65	406.42	395.59	10.83	37.518	
2,300.00	2,256.38	2,174.69	2,144.25	7.44	6.24	130.81	-288.39	54.72	451.47	439.87	11.60	38.907	
2,400.00	2,347.54	2,259.56	2,224.13	8.21	6.76	131.81	-316.17	61.76	503.89	491.37	12.52	40.247	
2,500.00	2,438.70	2,344.42	2,304.00	8.99	7.29	132.63	-343.95	68.81	556.40	542.94	13.45	41.354	
2,600.00	2,529.85	2,429.28	2,383.88	9.79	7.82	133.30	-371.74	75.85	608.97	594.57	14.40	42.281	
2,700.00	2,621.01	2,514.14	2,463.76	10.59	8.37	133.87	-399.52	82.90	661.60	646.24	15.36	43.064	
2,800.00	2,712.17	2,599.00	2,543.63	11.40	8.92	134.35	-427.30	89.94	714.27	697.94	16.33	43.732	
2,900.00	2,803.32	2,683.87	2,623.51	12.22	9.47	134.77	-455.08	96.98	766.97	749.66	17.31	44.307	
3,000.00	2,894.48	2,768.73	2,703.38	13.04	10.03	135.14	-482.86	104.03	819.70	801.40	18.29	44.807	
3,100.00	2,985.64	2,853.59	2,783.26	13.87	10.58	135.46	-510.65	111.07	872.44	853.16	19.28	45.245	
3,200.00	3,076.79	2,938.45	2,863.13	14.69	11.15	135.74	-538.43	118.12	925.21	904.93	20.28	45.632	
3,300.00	3,167.95	3,023.31	2,943.01	15.53	11.71	135.99	-566.21	125.16	977.99	956.72	21.27	45.976	
3,400.00	3,259.11	3,108.18	3,022.89	16.36	12.28	136.22	-593.99	132.21	1,030.78	1,008.51	22.27	46.284	
3,500.00	3,350.26	3,193.04	3,102.76	17.19	12.84	136.43	-621.77	139.25	1,083.58	1,060.31	23.27	46.561	
3,600.00	3,441.42	3,277.90	3,182.64	18.03	13.41	136.61	-649.56	146.29	1,136.39	1,112.12	24.28	46.812	
3,662.21	3,498.13	3,330.69	3,232.33	18.55	13.77	136.72	-666.84	150.68	1,169.25	1,144.35	24.90	46.957	
3,700.00	3,532.68	3,362.86	3,262.61	18.84	13.98	137.09	-677.37	153.35	1,189.06	1,163.78	25.28	47.037	
3,800.00	3,625.05	3,448.93	3,343.62	19.47	14.56	137.93	-705.55	160.49	1,239.96	1,213.75	26.21	47.311	
3,900.00	3,718.70	3,536.28	3,425.83	20.05	15.15	138.59	-734.14	167.74	1,288.61	1,261.49	27.12	47.512	
4,000.00	3,813.51	3,624.80	3,509.15	20.60	15.75	139.10	-763.12	175.09	1,334.97	1,306.95	28.02	47.651	
4,100.00	3,909.38	3,714.38	3,593.47	21.09	16.36	139.46	-792.45	182.53	1,378.99	1,350.10	28.88	47.741	
4,200.00	4,006.18	3,804.92	3,678.69	21.53	16.97	139.69	-822.09	190.04	1,420.65	1,390.92	29.73	47.777	
4,300.00	4,103.80	3,896.31	3,764.71	21.92	17.59	139.80	-852.01	197.63	1,459.94	1,429.34	30.60	47.707	
4,400.00	4,202.11	3,988.43	3,851.41	22.26	18.21	139.81	-882.17	205.27	1,496.85	1,465.41	31.43	47.618	
4,500.00	4,301.00	4,081.17	3,938.71	22.55	18.84	139.71	-912.53	212.97	1,531.39	1,499.16	32.23	47.516	
4,600.00	4,400.35	4,174.42	4,026.48	22.79	19.48	139.52	-943.06	220.71	1,563.57	1,530.59	32.98	47.408	
4,700.00	4,500.03	4,268.07	4,114.62	22.98	20.12	139.24	-973.72	228.49	1,593.43	1,559.74	33.69	47.299	
4,800.00	4,599.93	4,362.00	4,203.03	23.12	20.76	138.88	-1,004.47	236.28	1,620.98	1,586.64	34.35	47.195	
4,876.08	4,676.00	4,433.57	4,270.40	23.20	21.24	-149.56	-1,027.90	242.23	1,640.44	1,605.62	34.81	47.122	

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 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - P_NRC 35-8 - P_NRC 35-8 - PLAN #1 1-20-10 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	4,699.92	4,456.09	4,291.59	23.22	21.40	-149.75	-1,035.27	244.09	1,646.36	1,611.40	34.96	47.092	
5,000.00	4,799.92	4,550.21	4,380.19	23.32	22.04	-150.54	-1,066.09	251.91	1,671.32	1,635.74	35.58	46.977	
5,100.00	4,899.92	4,644.34	4,468.78	23.41	22.68	-151.30	-1,096.90	259.72	1,696.58	1,660.40	36.18	46.887	
5,200.00	4,999.92	4,738.46	4,557.37	23.51	23.32	-152.05	-1,127.71	267.53	1,722.14	1,685.36	36.78	46.821	
5,300.00	5,099.92	4,832.58	4,645.97	23.61	23.97	-152.77	-1,158.53	275.35	1,747.98	1,710.61	37.37	46.777	
5,400.00	5,199.92	4,926.71	4,734.56	23.71	24.61	-153.48	-1,189.34	283.16	1,774.08	1,736.13	37.95	46.752	
5,500.00	5,299.92	5,020.83	4,823.15	23.82	25.25	-154.16	-1,220.16	290.97	1,800.43	1,761.92	38.52	46.745	
5,600.00	5,399.92	5,114.96	4,911.75	23.92	25.90	-154.83	-1,250.97	298.79	1,827.03	1,787.96	39.08	46.754	
5,700.00	5,499.92	5,209.08	5,000.34	24.03	26.54	-155.48	-1,281.79	306.60	1,853.87	1,814.24	39.63	46.778	
5,800.00	5,599.92	5,303.20	5,088.93	24.14	27.18	-156.11	-1,312.60	314.41	1,880.93	1,840.75	40.18	46.816	
5,900.00	5,699.92	5,397.33	5,177.53	24.25	27.83	-156.72	-1,343.41	322.23	1,908.20	1,867.48	40.72	46.866	
6,000.00	5,799.92	5,491.45	5,266.12	24.36	28.47	-157.31	-1,374.23	330.04	1,935.68	1,894.43	41.25	46.927	
6,100.00	5,899.92	5,585.58	5,354.71	24.47	29.12	-157.89	-1,405.04	337.85	1,963.35	1,921.58	41.78	46.998	
6,200.00	5,999.92	5,751.37	5,511.64	24.59	30.05	-158.83	-1,456.83	350.98	1,990.26	1,947.77	42.49	46.846	
6,300.00	6,099.92	5,981.13	5,733.57	24.71	30.97	-159.83	-1,514.27	365.55	2,011.67	1,968.45	43.23	46.538	
6,400.00	6,199.92	6,219.46	5,968.01	24.82	31.69	-160.51	-1,555.44	375.99	2,026.53	1,982.66	43.88	46.187	
6,500.00	6,299.92	6,463.39	6,210.77	24.94	32.17	-160.87	-1,577.87	381.67	2,034.46	1,990.04	44.42	45.802	
6,600.00	6,399.92	6,652.61	6,399.92	25.06	32.37	-160.93	-1,581.69	382.64	2,035.80	1,991.01	44.80	45.447	
6,700.00	6,499.92	6,752.61	6,499.92	25.19	32.45	-160.93	-1,581.69	382.64	2,035.80	1,990.75	45.05	45.190	
6,800.00	6,599.92	6,852.61	6,599.92	25.31	32.53	-160.93	-1,581.69	382.64	2,035.80	1,990.50	45.30	44.937	
6,900.00	6,699.92	6,952.61	6,699.92	25.43	32.61	-160.93	-1,581.69	382.64	2,035.80	1,990.24	45.56	44.683	
7,000.00	6,799.92	7,052.61	6,799.92	25.56	32.69	-160.93	-1,581.69	382.64	2,035.80	1,989.98	45.82	44.429	
7,100.00	6,899.92	7,152.61	6,899.92	25.69	32.77	-160.93	-1,581.69	382.64	2,035.80	1,989.72	46.08	44.175	
7,200.00	6,999.92	7,252.61	6,999.92	25.82	32.86	-160.93	-1,581.69	382.64	2,035.80	1,989.45	46.35	43.922	
7,300.00	7,099.92	7,352.61	7,099.92	25.95	32.94	-160.93	-1,581.69	382.64	2,035.80	1,989.18	46.62	43.668	
7,400.00	7,199.92	7,452.61	7,199.92	26.08	33.03	-160.93	-1,581.69	382.64	2,035.80	1,988.91	46.89	43.415	
7,500.00	7,299.92	7,552.61	7,299.92	26.21	33.11	-160.93	-1,581.69	382.64	2,035.80	1,988.64	47.17	43.163	
7,600.00	7,399.92	7,652.61	7,399.92	26.35	33.20	-160.93	-1,581.69	382.64	2,035.80	1,988.36	47.44	42.911	
7,700.00	7,499.92	7,752.61	7,499.92	26.48	33.29	-160.93	-1,581.69	382.64	2,035.80	1,988.08	47.72	42.660	
7,800.00	7,599.92	7,852.61	7,599.92	26.62	33.39	-160.93	-1,581.69	382.64	2,035.80	1,987.80	48.00	42.409	
7,900.00	7,699.92	7,952.61	7,699.92	26.76	33.48	-160.93	-1,581.69	382.64	2,035.80	1,987.51	48.29	42.159	
8,000.00	7,799.92	8,052.61	7,799.92	26.90	33.57	-160.93	-1,581.69	382.64	2,035.80	1,987.23	48.58	41.910	
8,100.00	7,899.92	8,152.61	7,899.92	27.04	33.67	-160.93	-1,581.69	382.64	2,035.80	1,986.94	48.87	41.661	
8,200.00	7,999.92	8,252.61	7,999.92	27.18	33.76	-160.93	-1,581.69	382.64	2,035.80	1,986.65	49.16	41.414	
8,300.00	8,099.92	8,352.61	8,099.92	27.32	33.86	-160.93	-1,581.69	382.64	2,035.80	1,986.35	49.45	41.167	
8,400.00	8,199.92	8,452.61	8,199.92	27.46	33.96	-160.93	-1,581.69	382.64	2,035.80	1,986.05	49.75	40.922	
8,461.28	8,261.20	8,513.89	8,261.20	27.55	34.02	-160.93	-1,581.69	382.64	2,035.80	1,985.87	49.93	40.772	
8,500.00	8,299.92	8,538.69	8,286.00	27.61	34.05	-160.93	-1,581.69	382.64	2,035.85	1,985.82	50.03	40.694	
8,600.00	8,399.92	8,538.69	8,286.00	27.75	34.05	-160.93	-1,581.69	382.64	2,038.99	1,988.80	50.19	40.627	
8,700.00	8,499.92	8,538.69	8,286.00	27.90	34.05	-160.93	-1,581.69	382.64	2,047.01	1,996.66	50.35	40.656	
8,746.08	8,546.00	8,538.69	8,286.00	27.97	34.05	-160.93	-1,581.69	382.64	2,052.34	2,001.91	50.42	40.702	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 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
0.00	0.00	0.00	0.00	0.00	0.00	91.24	-1.10	50.94	53.71				
100.00	100.00	83.00	83.00	0.10	1.66	91.24	-1.10	50.94	50.95	49.20	1.76	29.024	
200.00	200.00	183.00	183.00	0.32	5.32	91.24	-1.10	50.94	50.95	45.31	5.64	9.034	
300.00	300.00	283.00	283.00	0.55	9.32	91.24	-1.10	50.94	50.95	41.09	9.87	5.165	
400.00	400.00	383.00	383.00	0.77	13.32	91.24	-1.10	50.94	50.95	36.86	14.09	3.616	
500.00	500.00	483.00	483.00	0.99	17.32	91.24	-1.10	50.94	50.95	32.64	18.31	2.782	
600.00	600.00	583.00	583.00	1.22	21.32	91.24	-1.10	50.94	50.95	28.41	22.54	2.261	
700.00	700.00	683.00	683.00	1.44	25.32	91.24	-1.10	50.94	50.95	24.19	26.76	1.904	
800.00	800.00	783.00	783.00	1.67	29.32	91.24	-1.10	50.94	50.95	19.96	30.99	1.644	
900.00	900.00	883.00	883.00	1.89	33.32	91.24	-1.10	50.94	50.95	15.74	35.21	1.447 Level 3	
1,000.00	1,000.00	983.00	983.00	2.12	37.32	91.24	-1.10	50.94	50.95	11.51	39.44	1.292 Level 3	
1,100.00	1,099.98	1,082.98	1,082.98	2.33	41.32	20.02	-1.10	50.94	49.31	5.68	43.63	1.130 Level 2	
1,200.00	1,199.84	1,182.84	1,182.84	2.55	45.31	22.37	-1.10	50.94	44.43	-3.33	47.76	0.930 Level 1	
1,300.00	1,299.45	1,282.45	1,282.45	2.77	49.30	27.65	-1.10	50.94	36.52	-15.31	51.83	0.705 Level 1	
1,400.00	1,398.70	1,381.70	1,381.70	3.02	53.27	40.15	-1.10	50.94	26.32	-29.61	55.93	0.471 Level 1	
1,500.00	1,497.47	1,480.47	1,480.47	3.29	57.22	75.11	-1.10	50.94	17.48	-42.97	60.45	0.289 Level 1	
1,525.59	1,522.64	1,505.64	1,505.64	3.37	58.23	90.00	-1.10	50.94	16.87	-44.77	61.64	0.274 Level 1, CC, ES, SF	
1,600.00	1,595.62	1,578.62	1,578.62	3.60	61.14	130.10	-1.10	50.94	22.26	-41.92	64.18	0.347 Level 1	
1,700.00	1,693.06	1,676.06	1,676.06	3.96	65.04	154.84	-1.10	50.94	40.68	-26.53	67.22	0.605 Level 1	
1,800.00	1,789.64	1,772.64	1,772.64	4.38	68.91	164.41	-1.10	50.94	65.12	-5.27	70.39	0.925 Level 1	
1,900.00	1,885.27	1,868.27	1,868.27	4.85	72.73	169.10	-1.10	50.94	93.67	20.18	73.49	1.275 Level 3	
2,000.00	1,979.82	1,962.82	1,962.82	5.40	76.51	171.81	-1.10	50.94	125.83	49.40	76.43	1.646	
2,100.00	2,073.17	2,056.17	2,056.17	6.01	80.25	173.53	-1.10	50.94	161.41	82.24	79.17	2.039	
2,200.00	2,165.21	2,148.21	2,148.21	6.70	83.93	174.71	-1.10	50.94	200.31	118.61	81.70	2.452	
2,213.87	2,177.87	2,160.87	2,160.87	6.80	84.43	174.85	-1.10	50.94	205.96	123.93	82.03	2.511	
2,300.00	2,256.38	2,239.38	2,239.38	7.44	87.58	175.60	-1.10	50.94	241.27	156.13	85.14	2.834	
2,400.00	2,347.54	2,330.54	2,330.54	8.21	91.22	176.24	-1.10	50.94	282.30	193.53	88.77	3.180	
2,500.00	2,438.70	2,421.70	2,421.70	8.99	94.87	176.72	-1.10	50.94	323.35	230.95	92.40	3.499	
2,600.00	2,529.85	2,512.85	2,512.85	9.79	98.51	177.09	-1.10	50.94	364.42	268.37	96.05	3.794	
2,700.00	2,621.01	2,604.01	2,604.01	10.59	102.16	177.38	-1.10	50.94	405.49	305.80	99.70	4.067	
2,800.00	2,712.17	2,695.17	2,695.17	11.40	105.81	177.62	-1.10	50.94	446.58	343.22	103.35	4.321	
2,900.00	2,803.32	2,786.32	2,786.32	12.22	109.45	177.82	-1.10	50.94	487.67	380.65	107.01	4.557	
3,000.00	2,894.48	2,877.48	2,877.48	13.04	113.10	177.99	-1.10	50.94	528.76	418.08	110.68	4.778	
3,100.00	2,985.64	2,968.64	2,968.64	13.87	116.75	178.14	-1.10	50.94	569.85	455.51	114.34	4.984	
3,200.00	3,076.79	3,059.79	3,059.79	14.69	120.39	178.26	-1.10	50.94	610.95	492.94	118.01	5.177	
3,300.00	3,167.95	3,150.95	3,150.95	15.53	124.04	178.37	-1.10	50.94	652.05	530.37	121.68	5.359	
3,400.00	3,259.11	3,242.11	3,242.11	16.36	127.68	178.47	-1.10	50.94	693.16	567.80	125.35	5.530	
3,500.00	3,350.26	3,333.26	3,333.26	17.19	131.33	178.56	-1.10	50.94	734.26	605.23	129.03	5.691	
3,600.00	3,441.42	3,424.42	3,424.42	18.03	134.98	178.63	-1.10	50.94	775.37	642.66	132.70	5.843	
3,662.21	3,498.13	3,481.13	3,481.13	18.55	137.25	178.68	-1.10	50.94	800.94	665.95	134.99	5.933	
3,700.00	3,532.68	3,515.68	3,515.68	18.84	138.63	178.71	-1.10	50.94	816.24	679.14	137.11	5.953	
3,800.00	3,625.05	3,608.05	3,608.05	19.47	142.32	178.78	-1.10	50.94	854.54	711.87	142.67	5.990	
3,900.00	3,718.70	3,701.70	3,701.70	20.05	146.07	178.85	-1.10	50.94	889.59	741.40	148.19	6.003	
4,000.00	3,813.51	3,796.51	3,796.51	20.60	149.86	178.90	-1.10	50.94	921.34	767.66	153.68	5.995	
4,100.00	3,909.38	3,892.38	3,892.38	21.09	153.70	178.94	-1.10	50.94	949.78	790.65	159.13	5.969	
4,200.00	4,006.18	3,989.18	3,989.18	21.53	157.57	178.98	-1.10	50.94	974.85	810.37	164.47	5.927	
4,300.00	4,103.80	4,086.80	4,086.80	21.92	161.47	179.01	-1.10	50.94	996.52	826.82	169.70	5.872	
4,400.00	4,202.11	4,185.11	4,185.11	22.26	165.40	179.03	-1.10	50.94	1,014.78	839.99	174.79	5.806	
4,500.00	4,301.00	4,284.00	4,284.00	22.55	169.36	179.05	-1.10	50.94	1,029.59	849.88	179.72	5.729	
4,600.00	4,400.35	4,383.35	4,383.35	22.79	173.33	179.07	-1.10	50.94	1,040.95	856.48	184.47	5.643	
4,700.00	4,500.03	4,483.03	4,483.03	22.98	177.32	179.08	-1.10	50.94	1,048.83	859.81	189.02	5.549	
4,800.00	4,599.93	4,582.93	4,582.93	23.12	181.32	179.08	-1.10	50.94	1,053.23	859.87	193.36	5.447	

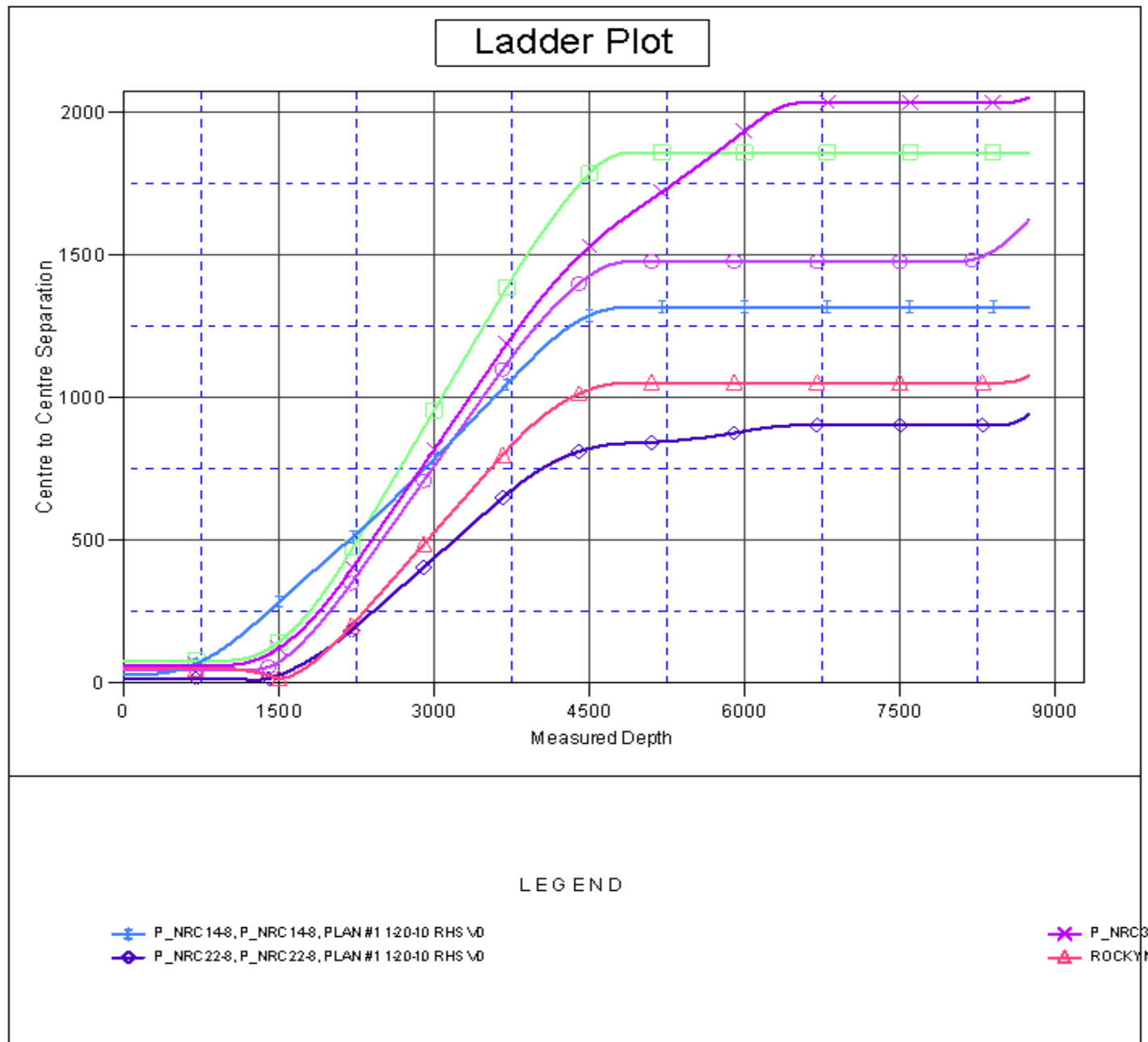
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 19-8 PAD - ROCKY MOUNTAIN FUEL CO #1 EXISTING - ROCKY MOUNTAIN FUEL CO												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (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
4,876.08	4,676.00	4,659.00	4,659.00	23.20	184.36	-109.02	-1.10	50.94	1,054.24	857.74	196.50	5.365	
4,900.00	4,699.92	4,682.92	4,682.92	23.22	185.32	-109.02	-1.10	50.94	1,054.24	856.75	197.49	5.338	
5,000.00	4,799.92	4,782.92	4,782.92	23.32	189.32	-109.02	-1.10	50.94	1,054.24	852.58	201.66	5.228	
5,100.00	4,899.92	4,882.92	4,882.92	23.41	193.32	-109.02	-1.10	50.94	1,054.24	848.41	205.83	5.122	
5,200.00	4,999.92	4,982.92	4,982.92	23.51	197.32	-109.02	-1.10	50.94	1,054.24	844.24	210.01	5.020	
5,300.00	5,099.92	5,082.92	5,082.92	23.61	201.32	-109.02	-1.10	50.94	1,054.24	840.06	214.18	4.922	
5,400.00	5,199.92	5,182.92	5,182.92	23.71	205.32	-109.02	-1.10	50.94	1,054.24	835.89	218.35	4.828	
5,500.00	5,299.92	5,282.92	5,282.92	23.82	209.32	-109.02	-1.10	50.94	1,054.24	831.71	222.53	4.737	
5,600.00	5,399.92	5,382.92	5,382.92	23.92	213.32	-109.02	-1.10	50.94	1,054.24	827.53	226.71	4.650	
5,700.00	5,499.92	5,482.92	5,482.92	24.03	217.32	-109.02	-1.10	50.94	1,054.24	823.35	230.89	4.566	
5,800.00	5,599.92	5,582.92	5,582.92	24.14	221.32	-109.02	-1.10	50.94	1,054.24	819.17	235.07	4.485	
5,900.00	5,699.92	5,682.92	5,682.92	24.25	225.32	-109.02	-1.10	50.94	1,054.24	814.99	239.25	4.406	
6,000.00	5,799.92	5,782.92	5,782.92	24.36	229.32	-109.02	-1.10	50.94	1,054.24	810.80	243.44	4.331	
6,100.00	5,899.92	5,882.92	5,882.92	24.47	233.32	-109.02	-1.10	50.94	1,054.24	806.62	247.62	4.257	
6,200.00	5,999.92	5,982.92	5,982.92	24.59	237.32	-109.02	-1.10	50.94	1,054.24	802.43	251.81	4.187	
6,300.00	6,099.92	6,082.92	6,082.92	24.71	241.32	-109.02	-1.10	50.94	1,054.24	798.25	255.99	4.118	
6,400.00	6,199.92	6,182.92	6,182.92	24.82	245.32	-109.02	-1.10	50.94	1,054.24	794.06	260.18	4.052	
6,500.00	6,299.92	6,282.92	6,282.92	24.94	249.32	-109.02	-1.10	50.94	1,054.24	789.87	264.37	3.988	
6,600.00	6,399.92	6,382.92	6,382.92	25.06	253.32	-109.02	-1.10	50.94	1,054.24	785.68	268.56	3.926	
6,700.00	6,499.92	6,482.92	6,482.92	25.19	257.32	-109.02	-1.10	50.94	1,054.24	781.49	272.75	3.865	
6,800.00	6,599.92	6,582.92	6,582.92	25.31	261.32	-109.02	-1.10	50.94	1,054.24	777.30	276.94	3.807	
6,900.00	6,699.92	6,682.92	6,682.92	25.43	265.32	-109.02	-1.10	50.94	1,054.24	773.10	281.14	3.750	
7,000.00	6,799.92	6,782.92	6,782.92	25.56	269.32	-109.02	-1.10	50.94	1,054.24	768.91	285.33	3.695	
7,100.00	6,899.92	6,882.92	6,882.92	25.69	273.32	-109.02	-1.10	50.94	1,054.24	764.72	289.52	3.641	
7,200.00	6,999.92	6,982.92	6,982.92	25.82	277.32	-109.02	-1.10	50.94	1,054.24	760.52	293.72	3.589	
7,300.00	7,099.92	7,082.92	7,082.92	25.95	281.32	-109.02	-1.10	50.94	1,054.24	756.32	297.92	3.539	
7,400.00	7,199.92	7,182.92	7,182.92	26.08	285.32	-109.02	-1.10	50.94	1,054.24	752.13	302.11	3.490	
7,500.00	7,299.92	7,282.92	7,282.92	26.21	289.32	-109.02	-1.10	50.94	1,054.24	747.93	306.31	3.442	
7,600.00	7,399.92	7,382.92	7,382.92	26.35	293.32	-109.02	-1.10	50.94	1,054.24	743.73	310.51	3.395	
7,700.00	7,499.92	7,482.92	7,482.92	26.48	297.32	-109.02	-1.10	50.94	1,054.24	739.53	314.71	3.350	
7,800.00	7,599.92	7,582.92	7,582.92	26.62	301.32	-109.02	-1.10	50.94	1,054.24	735.34	318.91	3.306	
7,900.00	7,699.92	7,682.92	7,682.92	26.76	305.32	-109.02	-1.10	50.94	1,054.24	731.14	323.11	3.263	
8,000.00	7,799.92	7,782.92	7,782.92	26.90	309.32	-109.02	-1.10	50.94	1,054.24	726.93	327.31	3.221	
8,100.00	7,899.92	7,882.92	7,882.92	27.04	313.32	-109.02	-1.10	50.94	1,054.24	722.73	331.51	3.180	
8,200.00	7,999.92	7,982.92	7,982.92	27.18	317.32	-109.02	-1.10	50.94	1,054.24	718.53	335.71	3.140	
8,300.00	8,099.92	8,082.92	8,082.92	27.32	321.32	-109.02	-1.10	50.94	1,054.24	714.33	339.91	3.102	
8,400.00	8,199.92	8,182.92	8,182.92	27.46	325.32	-109.02	-1.10	50.94	1,054.24	710.13	344.11	3.064	
8,500.00	8,299.92	8,282.92	8,282.92	27.61	329.32	-109.02	-1.10	50.94	1,054.24	705.92	348.32	3.027	
8,600.00	8,399.92	8,302.00	8,302.00	27.75	330.08	-109.02	-1.10	50.94	1,057.34	708.06	349.28	3.027	
8,700.00	8,499.92	8,302.00	8,302.00	27.90	330.08	-109.02	-1.10	50.94	1,069.65	720.17	349.49	3.061	
8,746.08	8,546.00	8,302.00	8,302.00	27.97	330.08	-109.02	-1.10	50.94	1,078.40	728.82	349.58	3.085	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum

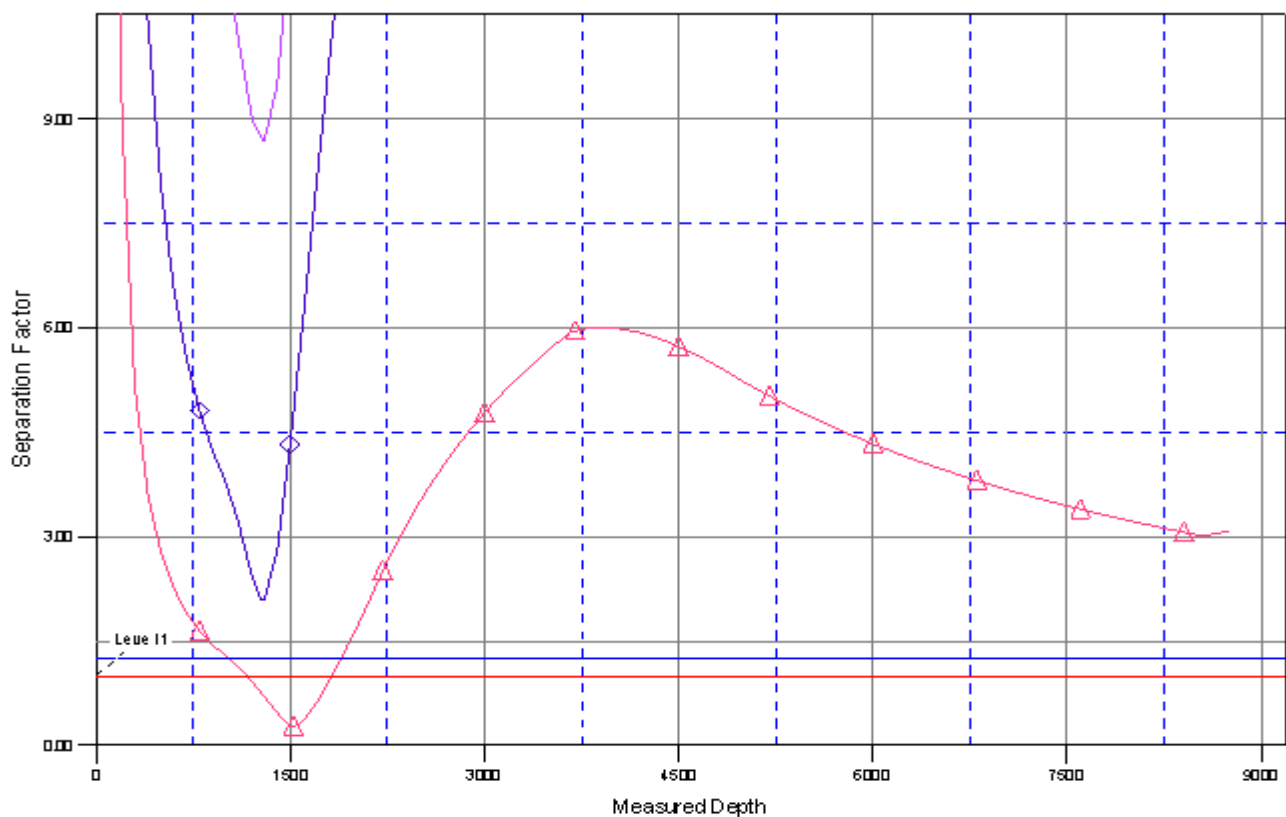
Reference Depths are relative to WELL @ 5039.00ft (Original Well Elev) Coordinates are relative to: P_NRC 11-8
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.37°





Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 11-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5039.00ft (Original Well Elev)
Reference Site:	WELD_NRC 19-8 PAD	MD Reference:	WELL @ 5039.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 11-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 11-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-20-10 RHS	Offset TVD Reference:	Offset Datum



Reference Depths are relative to WELL @ 5039.00ft (Original Well Elev) Coordinates are relative to: P_NRC 11-8
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: 0.37°

Separation Factor Plot



LEGEND

 P_NRC 148, P_NRC 14-8, PLAN #1 1-20-10 RHS \0
 P_NRC 22-8, P_NRC 22-8, PLAN #1 1-20-10 RHS \0

 P_NRC 34
 ROCKY M