



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_NRC 17-9 PAD

P_NRC 8-9

P_NRC 8-9

Plan: PLAN #1 1-5-10 RHS

Standard Planning Report

04 February, 2010





Azimuths to True North
Magnetic North: 9.06°

Magnetic Field
Strength: 53112.6nT
Dip Angle: 66.82°
Date: 1/5/2010
Model: IGRF200510

WELL DETAILS: P_NRC 8-9

+N/-S	+E/-W	Northing	Ground Level: Easting	4993.00 Latitude	Longitude	Slot
0.00	0.00	1268209.24	3170052.16	40° 4' 4.890 N	104° 53' 32.615 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3204.00	3249.59	PARKMAN
4679.00	4764.64	SUSSEX
5149.00	5247.40	SHANNON
7319.00	7437.23	NIO A
7659.00	7777.23	CODELL
8109.00	8227.23	JSAND
8304.00	8419.23	DAKOTA

SECTION DETAILS

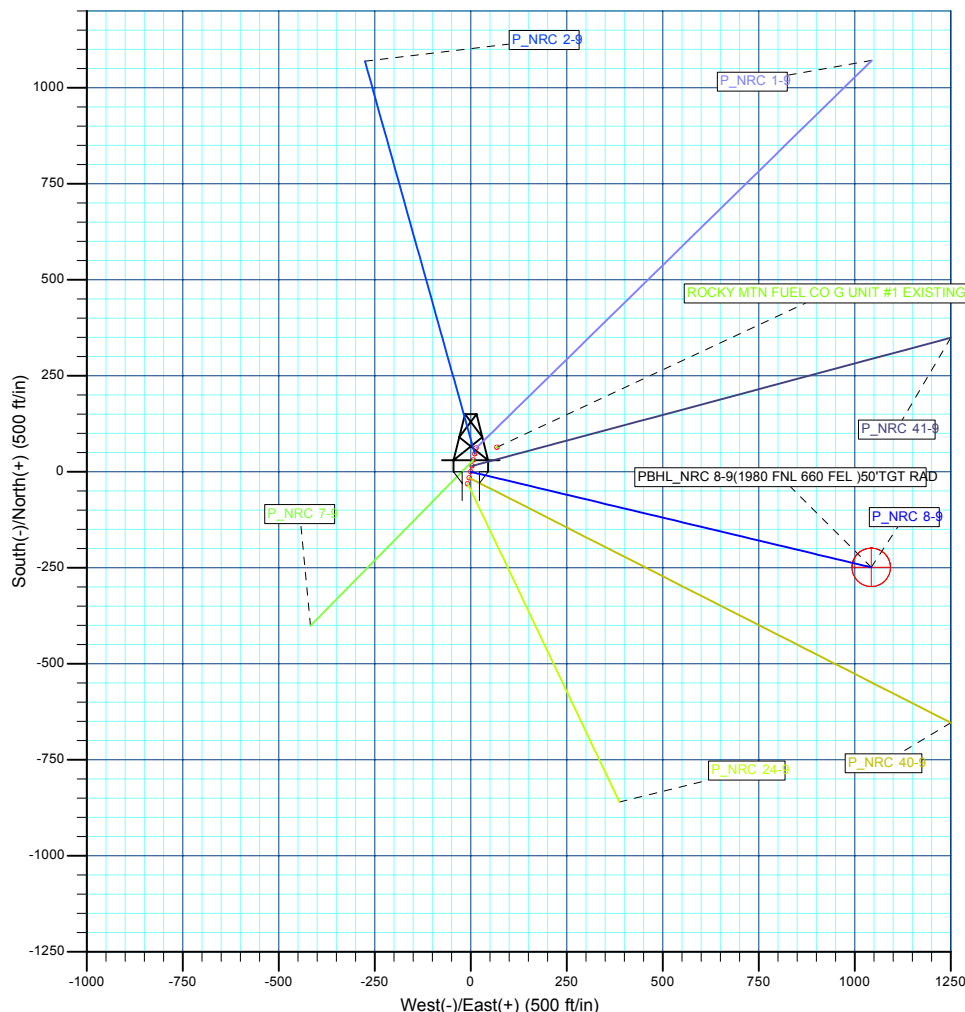
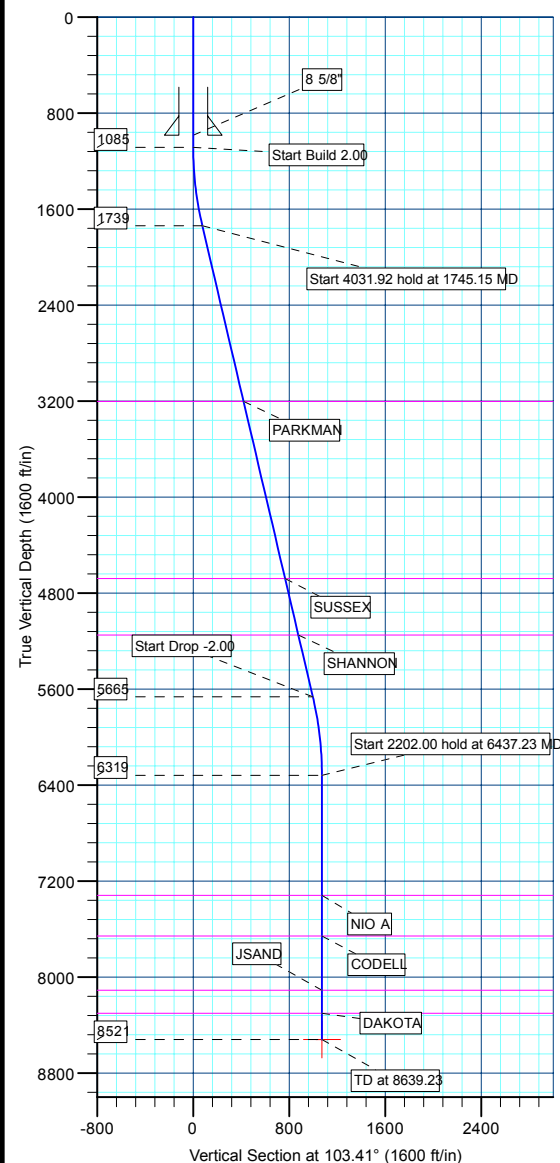
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1085.00	0.00	0.00	1085.00	0.00	0.00	0.00	0.00	0.00	
1745.15	13.20	103.41	1739.33	-17.57	73.66	2.00	103.41	75.73	
5777.08	13.20	103.41	5664.67	-231.20	969.44	0.00	0.00	996.63	
6437.23	0.00	0.00	6319.00	-248.77	1043.10	2.00	180.00	1072.36	
8639.23	0.00	0.00	8521.00	-248.77	1043.10	0.00	0.00	1072.36	PBHL_NRC 8-9(1980 FNL 660 FEL)50'TGT RAD

CASING DETAILS

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



KB ELEV: WELL @ 5012.00ft (Original Well Elev)
GRD ELEV: 4993.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8521.00	-248.77	1043.10	1267967.63	3171096.94	40° 4' 2.431 N	104° 53' 19.198 W	Circle (Radius: 50.00)

Plan: PLAN #1 1-5-10 RHS (P_NRC 8-9/P_NRC 8-9)

Created By: Robert H. Scott

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 8-9
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site:	WELD_NRC 17-9 PAD	North Reference:	True
Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 8-9		
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 17-9 PAD, SECTION 9 T1N R67W											
Site Position:						Northing:			1,268,271.65 ft			Latitude:			40° 4' 5.506 N		
From:			Lat/Long			Easting:			3,170,066.29 ft			Longitude:			104° 53' 32.428 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.39 °		

Well	P_NRC 8-9					
Well Position	+N/-S	-62.30 ft	Northing:	1,268,209.24 ft	Latitude:	40° 4' 4.890 N
	+E/-W	-14.55 ft	Easting:	3,170,052.16 ft	Longitude:	104° 53' 32.615 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,993.00 ft

Wellbore	P_NRC 8-9				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/5/2010	9.06	66.82	53,113

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	103.41

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	
1,745.15	13.20	103.41	1,739.33	-17.57	73.66	2.00	2.00	0.00	103.41	
5,777.08	13.20	103.41	5,664.67	-231.20	969.44	0.00	0.00	0.00	0.00	
6,437.23	0.00	0.00	6,319.00	-248.77	1,043.10	2.00	-2.00	0.00	180.00	
8,639.23	0.00	0.00	8,521.00	-248.77	1,043.10	0.00	0.00	0.00	0.00	PBHL_NRC 8-9(19)

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 8-9
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site:	WELD_NRC 17-9 PAD	North Reference:	True
Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 8-9		
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	103.41	1,100.00	-0.01	0.04	0.04	2.00	2.00	0.00
1,200.00	2.30	103.41	1,199.97	-0.54	2.24	2.31	2.00	2.00	0.00
1,300.00	4.30	103.41	1,299.80	-1.87	7.84	8.06	2.00	2.00	0.00
1,400.00	6.30	103.41	1,399.37	-4.01	16.83	17.30	2.00	2.00	0.00
1,500.00	8.30	103.41	1,498.55	-6.96	29.19	30.01	2.00	2.00	0.00
1,600.00	10.30	103.41	1,597.23	-10.71	44.91	46.17	2.00	2.00	0.00
1,700.00	12.30	103.41	1,695.29	-15.25	63.97	65.76	2.00	2.00	0.00
Start 4031.92 hold at 1745.15 MD									
1,745.15	13.20	103.41	1,739.33	-17.57	73.66	75.73	2.00	2.00	0.00
1,800.00	13.20	103.41	1,792.72	-20.47	85.85	88.25	0.00	0.00	0.00
1,900.00	13.20	103.41	1,890.08	-25.77	108.06	111.09	0.00	0.00	0.00
2,000.00	13.20	103.41	1,987.44	-31.07	130.28	133.93	0.00	0.00	0.00
2,100.00	13.20	103.41	2,084.79	-36.37	152.50	156.77	0.00	0.00	0.00
2,200.00	13.20	103.41	2,182.15	-41.67	174.71	179.61	0.00	0.00	0.00
2,300.00	13.20	103.41	2,279.51	-46.97	196.93	202.45	0.00	0.00	0.00
2,400.00	13.20	103.41	2,376.86	-52.26	219.15	225.30	0.00	0.00	0.00
2,500.00	13.20	103.41	2,474.22	-57.56	241.37	248.14	0.00	0.00	0.00
2,600.00	13.20	103.41	2,571.58	-62.86	263.58	270.98	0.00	0.00	0.00
2,700.00	13.20	103.41	2,668.93	-68.16	285.80	293.82	0.00	0.00	0.00
2,800.00	13.20	103.41	2,766.29	-73.46	308.02	316.66	0.00	0.00	0.00
2,900.00	13.20	103.41	2,863.65	-78.76	330.24	339.50	0.00	0.00	0.00
3,000.00	13.20	103.41	2,961.00	-84.06	352.45	362.34	0.00	0.00	0.00
3,100.00	13.20	103.41	3,058.36	-89.35	374.67	385.18	0.00	0.00	0.00
3,200.00	13.20	103.41	3,155.72	-94.65	396.89	408.02	0.00	0.00	0.00
PARKMAN									
3,249.59	13.20	103.41	3,204.00	-97.28	407.91	419.35	0.00	0.00	0.00
3,300.00	13.20	103.41	3,253.07	-99.95	419.10	430.86	0.00	0.00	0.00
3,400.00	13.20	103.41	3,350.43	-105.25	441.32	453.70	0.00	0.00	0.00
3,500.00	13.20	103.41	3,447.79	-110.55	463.54	476.54	0.00	0.00	0.00
3,600.00	13.20	103.41	3,545.14	-115.85	485.76	499.38	0.00	0.00	0.00
3,700.00	13.20	103.41	3,642.50	-121.15	507.97	522.22	0.00	0.00	0.00
3,800.00	13.20	103.41	3,739.86	-126.44	530.19	545.06	0.00	0.00	0.00
3,900.00	13.20	103.41	3,837.21	-131.74	552.41	567.90	0.00	0.00	0.00
4,000.00	13.20	103.41	3,934.57	-137.04	574.63	590.74	0.00	0.00	0.00
4,100.00	13.20	103.41	4,031.93	-142.34	596.84	613.58	0.00	0.00	0.00
4,200.00	13.20	103.41	4,129.28	-147.64	619.06	636.42	0.00	0.00	0.00
4,300.00	13.20	103.41	4,226.64	-152.94	641.28	659.26	0.00	0.00	0.00
4,400.00	13.20	103.41	4,324.00	-158.23	663.49	682.10	0.00	0.00	0.00
4,500.00	13.20	103.41	4,421.35	-163.53	685.71	704.94	0.00	0.00	0.00
4,600.00	13.20	103.41	4,518.71	-168.83	707.93	727.78	0.00	0.00	0.00
4,700.00	13.20	103.41	4,616.07	-174.13	730.15	750.62	0.00	0.00	0.00
SUSSEX									
4,764.64	13.20	103.41	4,679.00	-177.56	744.51	765.39	0.00	0.00	0.00
4,800.00	13.20	103.41	4,713.42	-179.43	752.36	773.46	0.00	0.00	0.00
4,900.00	13.20	103.41	4,810.78	-184.73	774.58	796.30	0.00	0.00	0.00
5,000.00	13.20	103.41	4,908.14	-190.03	796.80	819.14	0.00	0.00	0.00
5,100.00	13.20	103.41	5,005.49	-195.32	819.02	841.98	0.00	0.00	0.00
5,200.00	13.20	103.41	5,102.85	-200.62	841.23	864.82	0.00	0.00	0.00
SHANNON									
5,247.40	13.20	103.41	5,149.00	-203.13	851.76	875.65	0.00	0.00	0.00
5,300.00	13.20	103.41	5,200.21	-205.92	863.45	887.66	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 8-9
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site:	WELD_NRC 17-9 PAD	North Reference:	True
Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 8-9		
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)
5,400.00	13.20	103.41	5,297.56	-211.22	885.67	910.51	0.00	0.00	0.00
5,500.00	13.20	103.41	5,394.92	-216.52	907.88	933.35	0.00	0.00	0.00
5,600.00	13.20	103.41	5,492.28	-221.82	930.10	956.19	0.00	0.00	0.00
5,700.00	13.20	103.41	5,589.63	-227.12	952.32	979.03	0.00	0.00	0.00
Start Drop -2.00									
5,777.08	13.20	103.41	5,664.67	-231.20	969.44	996.63	0.00	0.00	0.00
5,800.00	12.74	103.41	5,687.01	-232.39	974.45	1,001.78	2.00	-2.00	0.00
5,900.00	10.74	103.41	5,784.91	-237.12	994.25	1,022.13	2.00	-2.00	0.00
6,000.00	8.74	103.41	5,883.46	-241.04	1,010.71	1,039.06	2.00	-2.00	0.00
6,100.00	6.74	103.41	5,982.55	-244.17	1,023.82	1,052.53	2.00	-2.00	0.00
6,200.00	4.74	103.41	6,082.04	-246.49	1,033.55	1,062.54	2.00	-2.00	0.00
6,300.00	2.74	103.41	6,181.82	-248.00	1,039.91	1,069.07	2.00	-2.00	0.00
6,400.00	0.74	103.41	6,281.77	-248.71	1,042.87	1,072.12	2.00	-2.00	0.00
Start 2202.00 hold at 6437.23 MD									
6,437.23	0.00	0.00	6,319.00	-248.77	1,043.10	1,072.36	2.00	-2.00	0.00
6,500.00	0.00	0.00	6,381.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
6,600.00	0.00	0.00	6,481.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
6,700.00	0.00	0.00	6,581.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
6,800.00	0.00	0.00	6,681.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
6,900.00	0.00	0.00	6,781.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,000.00	0.00	0.00	6,881.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,100.00	0.00	0.00	6,981.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,200.00	0.00	0.00	7,081.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,300.00	0.00	0.00	7,181.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,400.00	0.00	0.00	7,281.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
NIO A									
7,437.23	0.00	0.00	7,319.00	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,500.00	0.00	0.00	7,381.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,600.00	0.00	0.00	7,481.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,700.00	0.00	0.00	7,581.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
CODELL									
7,777.23	0.00	0.00	7,659.00	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,800.00	0.00	0.00	7,681.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
7,900.00	0.00	0.00	7,781.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
8,000.00	0.00	0.00	7,881.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
8,100.00	0.00	0.00	7,981.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
8,200.00	0.00	0.00	8,081.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
JSAND									
8,227.23	0.00	0.00	8,109.00	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
8,300.00	0.00	0.00	8,181.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
8,400.00	0.00	0.00	8,281.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
DAKOTA									
8,419.23	0.00	0.00	8,301.00	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
8,500.00	0.00	0.00	8,381.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
8,600.00	0.00	0.00	8,481.77	-248.77	1,043.10	1,072.36	0.00	0.00	0.00
TD at 8639.23 - PBHL_NRC 8-9(1980 FNL 660 FEL)50'TGT RAD									
8,639.23	0.00	0.00	8,521.00	-248.77	1,043.10	1,072.36	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 8-9
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site:	WELD_NRC 17-9 PAD	North Reference:	True
Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 8-9		
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 8-9(1980	0.00	0.00	8,521.00	-248.77	1,043.10	1,267,967.63	3,171,096.94	40° 4' 2.431 N	104° 53' 19.198 W
- plan hits target center									
- Circle (radius 50.00)									

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

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(ft)	(ft)	Name	Lithology	(°)	(°)
	3,249.59	3,204.00	PARKMAN			
	4,764.64	4,679.00	SUSSEX			
	5,247.40	5,149.00	SHANNON			
	7,437.23	7,319.00	NIO A			
	7,777.23	7,659.00	CODELL			
	8,227.23	8,109.00	JSAND			
	8,419.23	8,301.00	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
	1,745.15	1,739.33	-17.57	73.66	Start 4031.92 hold at 1745.15 MD
	5,777.08	5,664.67	-231.20	969.44	Start Drop -2.00
	6,437.23	6,319.00	-248.77	1,043.10	Start 2202.00 hold at 6437.23 MD
	8,639.23	8,521.00	-248.77	1,043.10	TD at 8639.23



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_NRC 17-9 PAD
P_NRC 8-9**

**P_NRC 8-9
PLAN #1 1-5-10 RHS**

Anticollision Report

04 February, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	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	8,639.23	PLAN #1 1-5-10 RHS (P_NRC 8-9)	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 17-9 PAD						
P_NRC 1-9 - P_NRC 1-9 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	63.98	59.37	13.865	CC
P_NRC 1-9 - P_NRC 1-9 - PLAN #1 1-5-10 RHS	1,100.00	1,099.72	64.01	59.34	13.684	ES
P_NRC 1-9 - P_NRC 1-9 - PLAN #1 1-5-10 RHS	1,300.00	1,295.75	70.79	65.29	12.863	SF
P_NRC 24-9 - P_NRC 24-9 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	32.23	27.62	6.986	CC
P_NRC 24-9 - P_NRC 24-9 - PLAN #1 1-5-10 RHS	1,100.00	1,099.87	32.26	27.59	6.902	ES
P_NRC 24-9 - P_NRC 24-9 - PLAN #1 1-5-10 RHS	1,200.00	1,198.97	34.03	28.99	6.751	SF
P_NRC 2-9 - P_NRC 2-9 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	47.89	43.27	10.378	CC
P_NRC 2-9 - P_NRC 2-9 - PLAN #1 1-5-10 RHS	1,100.00	1,099.78	47.92	43.24	10.243	ES
P_NRC 2-9 - P_NRC 2-9 - PLAN #1 1-5-10 RHS	1,200.00	1,198.21	50.00	44.91	9.819	SF
P_NRC 40-9 - P_NRC 40-9 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	16.15	11.54	3.500	CC
P_NRC 40-9 - P_NRC 40-9 - PLAN #1 1-5-10 RHS	1,100.00	1,099.98	16.16	11.48	3.456	ES
P_NRC 40-9 - P_NRC 40-9 - PLAN #1 1-5-10 RHS	1,200.00	1,199.85	16.69	11.63	3.301	SF
P_NRC 41-9 - P_NRC 41-9 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	15.73	11.11	3.408	CC
P_NRC 41-9 - P_NRC 41-9 - PLAN #1 1-5-10 RHS	1,100.00	1,099.96	15.74	11.07	3.366	ES
P_NRC 41-9 - P_NRC 41-9 - PLAN #1 1-5-10 RHS	1,200.00	1,199.69	16.82	11.75	3.314	SF
P_NRC 7-9 - P_NRC 7-9 - Design #1	1,310.97	1,312.05	27.72	22.24	5.055	CC, ES, SF
ROCKY MTN FUEL CO G UNIT #1 EXISTING - ROCKY	1,628.31	1,606.06	77.79	11.99	1.182	Level 2, CC
ROCKY MTN FUEL CO G UNIT #1 EXISTING - ROCKY	1,700.00	1,676.29	79.11	10.33	1.150	Level 2, ES, SF

Offset Design WELD_NRC 17-9 PAD - P_NRC 1-9 - P_NRC 1-9 - PLAN #1 1-5-10 RHS												
Survey Program: 0-MWD												
Reference												
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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
0.00	0.00	0.00	0.00	0.00	0.00	13.15	62.30	14.55	63.98			
100.00	100.00	100.00	100.00	0.09	0.10	13.15	62.30	14.55	63.98	63.79	0.19	342.960
200.00	200.00	200.00	200.00	0.32	0.32	13.15	62.30	14.55	63.98	63.35	0.64	100.585
300.00	300.00	300.00	300.00	0.54	0.55	13.15	62.30	14.55	63.98	62.90	1.09	58.935
400.00	400.00	400.00	400.00	0.77	0.77	13.15	62.30	14.55	63.98	62.45	1.54	41.677
500.00	500.00	500.00	500.00	0.99	0.99	13.15	62.30	14.55	63.98	62.00	1.98	32.237
600.00	600.00	600.00	600.00	1.21	1.22	13.15	62.30	14.55	63.98	61.55	2.43	26.284
700.00	700.00	700.00	700.00	1.44	1.44	13.15	62.30	14.55	63.98	61.10	2.88	22.187
800.00	800.00	800.00	800.00	1.66	1.67	13.15	62.30	14.55	63.98	60.65	3.33	19.195
900.00	900.00	900.00	900.00	1.89	1.89	13.15	62.30	14.55	63.98	60.20	3.78	16.914

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 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 1-9 - P_NRC 1-9 - 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
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.12	13.15	62.30	14.55	63.98	59.75	4.23	15.117	
1,085.00	1,085.00	1,085.00	1,085.00	2.30	2.31	13.15	62.30	14.55	63.98	59.37	4.61	13.865 CC	
1,100.00	1,100.00	1,099.72	1,099.72	2.34	2.34	-90.28	62.33	14.58	64.01	59.34	4.68	13.684 ES	
1,200.00	1,199.97	1,197.83	1,197.80	2.53	2.56	-91.16	63.86	16.14	65.91	60.83	5.08	12.963	
1,300.00	1,299.80	1,295.75	1,295.56	2.73	2.77	-93.17	67.73	20.09	70.79	65.29	5.50	12.863 SF	
1,400.00	1,399.37	1,393.33	1,392.74	2.95	3.00	-95.85	73.90	26.40	78.78	72.84	5.94	13.259	
1,500.00	1,498.55	1,490.41	1,489.05	3.19	3.23	-98.71	82.34	35.01	90.00	83.59	6.41	14.042	
1,600.00	1,597.23	1,586.83	1,584.27	3.47	3.50	-101.42	92.98	45.87	104.50	97.58	6.92	15.107	
1,700.00	1,695.29	1,682.46	1,678.14	3.78	3.79	-103.78	105.74	58.90	122.31	114.83	7.48	16.351	
1,745.15	1,739.33	1,725.34	1,720.02	3.94	3.93	-104.72	112.17	65.47	131.42	123.67	7.76	16.945	
1,800.00	1,792.72	1,777.21	1,770.49	4.14	4.11	-105.78	120.54	74.01	143.24	135.13	8.11	17.665	
1,900.00	1,890.08	1,871.19	1,861.36	4.53	4.48	-106.66	137.32	91.14	166.46	157.67	8.79	18.931	
2,000.00	1,987.44	1,964.24	1,950.51	4.94	4.90	-106.59	155.98	110.19	191.71	182.19	9.53	20.125	
2,100.00	2,084.79	2,058.82	2,040.34	5.36	5.37	-106.01	176.65	131.30	218.63	208.33	10.31	21.215	
2,200.00	2,182.15	2,155.05	2,131.68	5.79	5.87	-105.49	197.86	152.96	245.75	234.63	11.12	22.094	
2,300.00	2,279.51	2,251.28	2,223.01	6.24	6.40	-105.08	219.07	174.62	272.89	260.92	11.96	22.813	
2,400.00	2,376.86	2,347.51	2,314.34	6.69	6.94	-104.74	240.29	196.27	300.03	287.21	12.82	23.408	
2,500.00	2,474.22	2,443.74	2,405.67	7.14	7.49	-104.45	261.50	217.93	327.18	313.50	13.69	23.904	
2,600.00	2,571.58	2,539.97	2,497.00	7.61	8.05	-104.21	282.71	239.59	354.34	339.77	14.57	24.322	
2,700.00	2,668.93	2,636.21	2,588.33	8.07	8.62	-104.01	303.93	261.25	381.51	366.05	15.46	24.678	
2,800.00	2,766.29	2,732.44	2,679.66	8.54	9.19	-103.83	325.14	282.91	408.67	392.32	16.36	24.983	
2,900.00	2,863.65	2,828.67	2,771.00	9.01	9.77	-103.67	346.35	304.57	435.84	418.58	17.26	25.247	
3,000.00	2,961.00	2,924.90	2,862.33	9.49	10.35	-103.54	367.57	326.23	463.02	444.84	18.17	25.477	
3,100.00	3,058.36	3,021.13	2,953.66	9.97	10.94	-103.41	388.78	347.89	490.19	471.10	19.09	25.678	
3,200.00	3,155.72	3,117.36	3,044.99	10.44	11.53	-103.30	409.99	369.54	517.37	497.36	20.01	25.856	
3,300.00	3,253.07	3,213.60	3,136.32	10.92	12.12	-103.21	431.20	391.20	544.55	523.62	20.93	26.014	
3,400.00	3,350.43	3,309.83	3,227.65	11.41	12.72	-103.12	452.42	412.86	571.73	549.87	21.86	26.155	
3,500.00	3,447.79	3,406.06	3,318.98	11.89	13.31	-103.04	473.63	434.52	598.91	576.12	22.79	26.281	
3,600.00	3,545.14	3,502.29	3,410.31	12.37	13.91	-102.96	494.84	456.18	626.10	602.38	23.72	26.394	
3,700.00	3,642.50	3,598.52	3,501.65	12.86	14.51	-102.89	516.06	477.84	653.28	628.62	24.65	26.497	
3,800.00	3,739.86	3,694.75	3,592.98	13.34	15.11	-102.83	537.27	499.50	680.46	654.87	25.59	26.590	
3,900.00	3,837.21	3,790.98	3,684.31	13.83	15.71	-102.77	558.48	521.16	707.65	681.12	26.53	26.675	
4,000.00	3,934.57	3,887.22	3,775.64	14.32	16.31	-102.72	579.70	542.81	734.83	707.37	27.47	26.753	
4,100.00	4,031.93	3,983.45	3,866.97	14.80	16.91	-102.67	600.91	564.47	762.02	733.61	28.41	26.824	
4,200.00	4,129.28	4,079.68	3,958.30	15.29	17.52	-102.62	622.12	586.13	789.21	759.86	29.35	26.889	
4,300.00	4,226.64	4,175.91	4,049.63	15.78	18.12	-102.58	643.34	607.79	816.40	786.10	30.29	26.950	
4,400.00	4,324.00	4,272.14	4,140.97	16.27	18.73	-102.54	664.55	629.45	843.58	812.35	31.24	27.006	
4,500.00	4,421.35	4,368.37	4,232.30	16.76	19.33	-102.50	685.76	651.11	870.77	838.59	32.18	27.058	
4,600.00	4,518.71	4,464.61	4,323.63	17.25	19.94	-102.47	706.97	672.77	897.96	864.83	33.13	27.106	
4,700.00	4,616.07	4,560.84	4,414.96	17.74	20.55	-102.43	728.19	694.43	925.15	891.07	34.07	27.151	
4,800.00	4,713.42	4,657.07	4,506.29	18.23	21.15	-102.40	749.40	716.08	952.34	917.31	35.02	27.193	
4,900.00	4,810.78	4,753.30	4,597.62	18.72	21.76	-102.37	770.61	737.74	979.53	943.56	35.97	27.232	
5,000.00	4,908.14	4,849.53	4,688.95	19.21	22.37	-102.34	791.83	759.40	1,006.71	969.80	36.92	27.269	
5,100.00	5,005.49	4,945.76	4,780.29	19.71	22.98	-102.32	813.04	781.06	1,033.90	996.04	37.87	27.303	
5,200.00	5,102.85	5,042.00	4,871.62	20.20	23.59	-102.29	834.25	802.72	1,061.09	1,022.28	38.82	27.336	
5,300.00	5,200.21	5,138.23	4,962.95	20.69	24.19	-102.27	855.47	824.38	1,088.28	1,048.52	39.77	27.366	
5,400.00	5,297.56	5,234.46	5,054.28	21.18	24.80	-102.24	876.68	846.04	1,115.47	1,074.76	40.72	27.395	
5,500.00	5,394.92	5,330.69	5,145.61	21.67	25.41	-102.22	897.89	867.69	1,142.66	1,101.00	41.67	27.422	
5,600.00	5,492.28	5,426.92	5,236.94	22.17	26.02	-102.20	919.11	889.35	1,169.86	1,127.23	42.62	27.448	
5,700.00	5,589.63	5,523.15	5,328.27	22.66	26.63	-102.18	940.32	911.01	1,197.05	1,153.47	43.57	27.473	
5,777.08	5,664.67	5,597.33	5,398.67	23.04	27.10	-102.17	956.67	927.71	1,218.00	1,173.70	44.31	27.491	
5,800.00	5,687.01	5,619.39	5,419.61	23.14	27.24	-102.29	961.53	932.67	1,224.22	1,179.68	44.54	27.488	

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 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 1-9 - P_NRC 1-9 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,900.00	5,784.91	5,743.03	5,537.38	23.48	27.91	-102.68	987.84	959.54	1,250.20	1,204.71	45.49	27.481	
6,000.00	5,883.46	5,883.52	5,672.98	23.78	28.51	-102.97	1,013.55	985.78	1,272.37	1,226.01	46.35	27.451	
6,100.00	5,982.55	6,026.37	5,812.52	24.04	29.04	-103.18	1,034.88	1,007.56	1,290.40	1,243.30	47.10	27.397	
6,200.00	6,082.04	6,171.13	5,955.30	24.26	29.47	-103.32	1,051.50	1,024.53	1,304.19	1,256.46	47.73	27.322	
6,300.00	6,181.82	6,317.35	6,100.56	24.43	29.82	-103.39	1,063.15	1,036.42	1,313.67	1,265.42	48.25	27.226	
6,400.00	6,281.77	6,464.53	6,247.42	24.57	30.06	-103.39	1,069.62	1,043.03	1,318.78	1,270.14	48.64	27.114	
6,437.23	6,319.00	6,519.46	6,302.33	24.61	30.13	0.04	1,070.68	1,044.12	1,319.56	1,270.80	48.75	27.065	
6,500.00	6,381.77	6,598.90	6,381.77	24.68	30.21	0.06	1,071.01	1,044.45	1,319.78	1,270.87	48.91	26.983	
6,600.00	6,481.77	6,698.90	6,481.77	24.80	30.31	0.06	1,071.01	1,044.45	1,319.78	1,270.62	49.16	26.849	
6,700.00	6,581.77	6,798.90	6,581.77	24.92	30.41	0.06	1,071.01	1,044.45	1,319.78	1,270.37	49.40	26.714	
6,800.00	6,681.77	6,898.90	6,681.77	25.04	30.51	0.06	1,071.01	1,044.45	1,319.78	1,270.12	49.65	26.580	
6,900.00	6,781.77	6,998.90	6,781.77	25.16	30.62	0.06	1,071.01	1,044.45	1,319.78	1,269.87	49.91	26.445	
7,000.00	6,881.77	7,098.90	6,881.77	25.29	30.72	0.06	1,071.01	1,044.45	1,319.78	1,269.62	50.16	26.311	
7,100.00	6,981.77	7,198.90	6,981.77	25.41	30.83	0.06	1,071.01	1,044.45	1,319.78	1,269.36	50.42	26.176	
7,200.00	7,081.77	7,298.90	7,081.77	25.54	30.93	0.06	1,071.01	1,044.45	1,319.78	1,269.10	50.68	26.041	
7,300.00	7,181.77	7,398.90	7,181.77	25.67	31.04	0.06	1,071.01	1,044.45	1,319.78	1,268.83	50.94	25.906	
7,400.00	7,281.77	7,498.90	7,281.77	25.80	31.15	0.06	1,071.01	1,044.45	1,319.78	1,268.57	51.21	25.772	
7,500.00	7,381.77	7,598.90	7,381.77	25.93	31.26	0.06	1,071.01	1,044.45	1,319.78	1,268.30	51.48	25.637	
7,600.00	7,481.77	7,698.90	7,481.77	26.06	31.37	0.06	1,071.01	1,044.45	1,319.78	1,268.03	51.75	25.503	
7,700.00	7,581.77	7,798.90	7,581.77	26.20	31.49	0.06	1,071.01	1,044.45	1,319.78	1,267.75	52.02	25.368	
7,800.00	7,681.77	7,898.90	7,681.77	26.33	31.60	0.06	1,071.01	1,044.45	1,319.78	1,267.48	52.30	25.234	
7,900.00	7,781.77	7,998.90	7,781.77	26.47	31.72	0.06	1,071.01	1,044.45	1,319.78	1,267.20	52.58	25.101	
8,000.00	7,881.77	8,098.90	7,881.77	26.60	31.83	0.06	1,071.01	1,044.45	1,319.78	1,266.92	52.86	24.967	
8,100.00	7,981.77	8,198.90	7,981.77	26.74	31.95	0.06	1,071.01	1,044.45	1,319.78	1,266.63	53.14	24.834	
8,200.00	8,081.77	8,298.90	8,081.77	26.88	32.07	0.06	1,071.01	1,044.45	1,319.78	1,266.35	53.43	24.702	
8,300.00	8,181.77	8,398.90	8,181.77	27.02	32.19	0.06	1,071.01	1,044.45	1,319.78	1,266.06	53.72	24.569	
8,400.00	8,281.77	8,498.90	8,281.77	27.17	32.31	0.06	1,071.01	1,044.45	1,319.78	1,265.77	54.01	24.437	
8,500.00	8,381.77	8,598.90	8,381.77	27.31	32.44	0.06	1,071.01	1,044.45	1,319.78	1,265.48	54.30	24.306	
8,600.00	8,481.77	8,698.90	8,481.77	27.45	32.56	0.06	1,071.01	1,044.45	1,319.78	1,265.18	54.59	24.175	
8,639.23	8,521.00	8,738.13	8,521.00	27.51	32.61	0.06	1,071.01	1,044.45	1,319.78	1,265.07	54.71	24.124	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 24-9 - P_NRC 24-9 - 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	-166.44	-31.34	-7.56	32.23				
100.00	100.00	100.00	100.00	0.09	0.10	-166.44	-31.34	-7.56	32.23	32.05	0.19	172.787	
200.00	200.00	200.00	200.00	0.32	0.32	-166.44	-31.34	-7.56	32.23	31.60	0.64	50.676	
300.00	300.00	300.00	300.00	0.54	0.55	-166.44	-31.34	-7.56	32.23	31.15	1.09	29.692	
400.00	400.00	400.00	400.00	0.77	0.77	-166.44	-31.34	-7.56	32.23	30.70	1.54	20.998	
500.00	500.00	500.00	500.00	0.99	0.99	-166.44	-31.34	-7.56	32.23	30.25	1.98	16.242	
600.00	600.00	600.00	600.00	1.21	1.22	-166.44	-31.34	-7.56	32.23	29.80	2.43	13.242	
700.00	700.00	700.00	700.00	1.44	1.44	-166.44	-31.34	-7.56	32.23	29.35	2.88	11.178	
800.00	800.00	800.00	800.00	1.66	1.67	-166.44	-31.34	-7.56	32.23	28.90	3.33	9.671	
900.00	900.00	900.00	900.00	1.89	1.89	-166.44	-31.34	-7.56	32.23	28.45	3.78	8.521	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.12	-166.44	-31.34	-7.56	32.23	28.00	4.23	7.616	
1,085.00	1,085.00	1,085.00	1,085.00	2.30	2.31	-166.44	-31.34	-7.56	32.23	27.62	4.61	6.986 CC	
1,100.00	1,100.00	1,099.87	1,099.87	2.34	2.34	90.17	-31.37	-7.54	32.26	27.59	4.67	6.902 ES	
1,200.00	1,199.97	1,198.97	1,198.94	2.53	2.51	91.56	-33.38	-6.58	34.03	28.99	5.04	6.751 SF	
1,300.00	1,299.80	1,297.92	1,297.72	2.73	2.69	94.49	-38.48	-4.15	38.58	33.15	5.43	7.110	
1,400.00	1,399.37	1,396.58	1,395.97	2.95	2.89	97.95	-46.62	-0.27	46.03	40.20	5.84	7.888	
1,500.00	1,498.55	1,494.84	1,493.44	3.19	3.11	101.16	-57.75	5.04	56.47	50.19	6.28	8.987	
1,600.00	1,597.23	1,592.56	1,589.91	3.47	3.36	103.79	-71.82	11.74	69.91	63.13	6.79	10.303	
1,700.00	1,695.29	1,690.48	1,686.07	3.78	3.65	106.10	-88.47	19.68	86.06	78.71	7.35	11.702	
1,745.15	1,739.33	1,734.90	1,729.66	3.94	3.79	107.43	-96.19	23.36	93.83	86.20	7.64	12.289	
1,800.00	1,792.72	1,788.81	1,782.57	4.14	3.96	109.15	-105.54	27.82	103.47	95.48	7.99	12.947	
1,900.00	1,890.08	1,887.11	1,879.03	4.53	4.30	111.59	-122.61	35.96	121.24	112.56	8.67	13.980	
2,000.00	1,987.44	1,985.41	1,975.50	4.94	4.65	113.40	-139.67	44.09	139.16	129.78	9.38	14.833	
2,100.00	2,084.79	2,083.71	2,071.96	5.36	5.01	114.80	-156.73	52.23	157.18	147.07	10.11	15.542	
2,200.00	2,182.15	2,182.00	2,168.42	5.79	5.39	115.91	-173.80	60.36	175.28	164.42	10.86	16.136	
2,300.00	2,279.51	2,280.30	2,264.88	6.24	5.77	116.81	-190.86	68.50	193.43	181.80	11.63	16.637	
2,400.00	2,376.86	2,378.60	2,361.35	6.69	6.15	117.56	-207.92	76.63	211.62	199.21	12.40	17.064	
2,500.00	2,474.22	2,476.90	2,457.81	7.14	6.54	118.19	-224.98	84.77	229.83	216.65	13.19	17.430	
2,600.00	2,571.58	2,575.19	2,554.27	7.61	6.94	118.72	-242.05	92.90	248.07	234.09	13.98	17.747	
2,700.00	2,668.93	2,673.49	2,650.74	8.07	7.34	119.19	-259.11	101.04	266.33	251.55	14.78	18.024	
2,800.00	2,766.29	2,771.79	2,747.20	8.54	7.74	119.59	-276.17	109.17	284.60	269.02	15.58	18.267	
2,900.00	2,863.65	2,870.09	2,843.66	9.01	8.15	119.95	-293.24	117.31	302.89	286.50	16.39	18.483	
3,000.00	2,961.00	2,968.39	2,940.13	9.49	8.56	120.26	-310.30	125.44	321.18	303.98	17.20	18.674	
3,100.00	3,058.36	3,066.68	3,036.59	9.97	8.96	120.54	-327.36	133.58	339.48	321.47	18.01	18.846	
3,200.00	3,155.72	3,164.98	3,133.05	10.44	9.38	120.79	-344.43	141.71	357.79	338.96	18.83	19.000	
3,300.00	3,253.07	3,263.28	3,229.52	10.92	9.79	121.02	-361.49	149.85	376.11	356.46	19.65	19.140	
3,400.00	3,350.43	3,361.58	3,325.98	11.41	10.20	121.23	-378.55	157.98	394.43	373.96	20.47	19.266	
3,500.00	3,447.79	3,459.88	3,422.44	11.89	10.62	121.41	-395.62	166.12	412.75	391.46	21.30	19.382	
3,600.00	3,545.14	3,558.17	3,518.91	12.37	11.03	121.59	-412.68	174.25	431.08	408.96	22.12	19.488	
3,700.00	3,642.50	3,656.47	3,615.37	12.86	11.45	121.74	-429.74	182.39	449.42	426.47	22.95	19.586	
3,800.00	3,739.86	3,754.77	3,711.83	13.34	11.87	121.89	-446.80	190.52	467.75	443.98	23.77	19.676	
3,900.00	3,837.21	3,853.07	3,808.30	13.83	12.29	122.02	-463.87	198.66	486.09	461.49	24.60	19.760	
4,000.00	3,934.57	3,951.37	3,904.76	14.32	12.70	122.15	-480.93	206.79	504.43	479.00	25.43	19.837	
4,100.00	4,031.93	4,049.66	4,001.22	14.80	13.12	122.27	-497.99	214.93	522.78	496.52	26.26	19.910	
4,200.00	4,129.28	4,147.96	4,097.69	15.29	13.54	122.37	-515.06	223.06	541.12	514.03	27.09	19.977	
4,300.00	4,226.64	4,246.26	4,194.15	15.78	13.97	122.47	-532.12	231.19	559.47	531.55	27.92	20.038	
4,400.00	4,324.00	4,344.56	4,290.61	16.27	14.39	122.57	-549.18	239.33	577.82	549.06	28.76	20.093	
4,500.00	4,421.35	4,442.86	4,387.08	16.76	14.81	122.66	-566.25	247.46	596.16	566.57	29.60	20.144	
4,600.00	4,518.71	4,541.15	4,483.54	17.25	15.23	122.74	-583.31	255.60	614.52	584.08	30.43	20.191	
4,700.00	4,616.07	4,639.45	4,580.00	17.74	15.65	122.82	-600.37	263.73	632.87	601.59	31.27	20.236	
4,800.00	4,713.42	4,737.75	4,676.47	18.23	16.07	122.89	-617.44	271.87	651.22	619.11	32.11	20.278	
4,900.00	4,810.78	4,836.05	4,772.93	18.72	16.50	122.96	-634.50	280.00	669.58	636.62	32.96	20.318	

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 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 24-9 - P_NRC 24-9 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,908.14	4,934.35	4,869.39	19.21	16.92	123.03	-651.56	288.14	687.93	654.13	33.80	20.355	
5,100.00	5,005.49	5,032.64	4,965.86	19.71	17.34	123.09	-668.62	296.27	706.29	671.65	34.64	20.390	
5,200.00	5,102.85	5,130.94	5,062.32	20.20	17.77	123.15	-685.69	304.41	724.64	689.16	35.48	20.424	
5,300.00	5,200.21	5,229.24	5,158.78	20.69	18.19	123.21	-702.75	312.54	743.00	706.68	36.32	20.455	
5,400.00	5,297.56	5,327.54	5,255.25	21.18	18.61	123.27	-719.81	320.68	761.36	724.19	37.17	20.486	
5,500.00	5,394.92	5,425.84	5,351.71	21.67	19.04	123.32	-736.88	328.81	779.72	741.71	38.01	20.514	
5,600.00	5,492.28	5,524.13	5,448.17	22.17	19.46	123.37	-753.94	336.95	798.08	759.23	38.85	20.541	
5,700.00	5,589.63	5,622.43	5,544.64	22.66	19.89	123.41	-771.00	345.08	816.44	776.74	39.70	20.567	
5,777.08	5,664.67	5,698.20	5,618.99	23.04	20.21	123.45	-784.15	351.35	830.59	790.24	40.35	20.586	
5,800.00	5,687.01	5,720.74	5,641.11	23.14	20.31	123.52	-788.07	353.22	834.75	794.21	40.54	20.592	
5,900.00	5,784.91	5,819.27	5,737.80	23.48	20.74	123.71	-805.17	361.37	851.73	810.43	41.30	20.623	
6,000.00	5,883.46	5,924.11	5,840.84	23.78	21.12	123.70	-822.64	369.70	866.58	824.59	41.99	20.636	
6,100.00	5,982.55	6,033.09	5,948.58	24.04	21.42	123.67	-837.38	376.73	878.51	835.95	42.56	20.643	
6,200.00	6,082.04	6,142.67	6,057.46	24.26	21.67	123.65	-848.46	382.01	887.40	844.37	43.04	20.620	
6,300.00	6,181.82	6,252.70	6,167.18	24.43	21.87	123.63	-855.80	385.51	893.23	849.81	43.43	20.569	
6,400.00	6,281.77	6,362.98	6,277.39	24.57	22.04	123.62	-859.34	387.20	895.98	852.25	43.73	20.487	
6,437.23	6,319.00	6,404.07	6,318.48	24.61	22.10	-132.97	-859.67	387.36	896.22	852.39	43.83	20.446	
6,500.00	6,381.77	6,467.36	6,381.77	24.68	22.18	-132.97	-859.68	387.36	896.22	852.23	43.99	20.372	
6,600.00	6,481.77	6,567.36	6,481.77	24.80	22.30	-132.97	-859.68	387.36	896.22	851.98	44.24	20.257	
6,700.00	6,581.77	6,667.36	6,581.77	24.92	22.42	-132.97	-859.68	387.36	896.22	851.73	44.49	20.143	
6,800.00	6,681.77	6,767.36	6,681.77	25.04	22.53	-132.97	-859.68	387.36	896.22	851.48	44.75	20.029	
6,900.00	6,781.77	6,867.36	6,781.77	25.16	22.65	-132.97	-859.68	387.36	896.22	851.22	45.00	19.916	
7,000.00	6,881.77	6,967.36	6,881.77	25.29	22.77	-132.97	-859.68	387.36	896.22	850.96	45.26	19.802	
7,100.00	6,981.77	7,067.36	6,981.77	25.41	22.90	-132.97	-859.68	387.36	896.22	850.70	45.52	19.688	
7,200.00	7,081.77	7,167.36	7,081.77	25.54	23.02	-132.97	-859.68	387.36	896.22	850.43	45.79	19.574	
7,300.00	7,181.77	7,267.36	7,181.77	25.67	23.15	-132.97	-859.68	387.36	896.22	850.17	46.05	19.460	
7,400.00	7,281.77	7,367.36	7,281.77	25.80	23.27	-132.97	-859.68	387.36	896.22	849.90	46.32	19.347	
7,500.00	7,381.77	7,467.36	7,381.77	25.93	23.40	-132.97	-859.68	387.36	896.22	849.62	46.60	19.233	
7,600.00	7,481.77	7,567.36	7,481.77	26.06	23.53	-132.97	-859.68	387.36	896.22	849.35	46.87	19.120	
7,700.00	7,581.77	7,667.36	7,581.77	26.20	23.66	-132.97	-859.68	387.36	896.22	849.07	47.15	19.007	
7,800.00	7,681.77	7,767.36	7,681.77	26.33	23.80	-132.97	-859.68	387.36	896.22	848.79	47.43	18.895	
7,900.00	7,781.77	7,867.36	7,781.77	26.47	23.93	-132.97	-859.68	387.36	896.22	848.50	47.72	18.782	
8,000.00	7,881.77	7,967.36	7,881.77	26.60	24.07	-132.97	-859.68	387.36	896.22	848.22	48.00	18.670	
8,100.00	7,981.77	8,067.36	7,981.77	26.74	24.20	-132.97	-859.68	387.36	896.22	847.93	48.29	18.559	
8,200.00	8,081.77	8,167.36	8,081.77	26.88	24.34	-132.97	-859.68	387.36	896.22	847.64	48.58	18.447	
8,300.00	8,181.77	8,267.36	8,181.77	27.02	24.48	-132.97	-859.68	387.36	896.22	847.34	48.88	18.337	
8,350.42	8,232.19	8,317.78	8,232.19	27.09	24.55	-132.97	-859.68	387.36	896.22	847.20	49.03	18.281	
8,400.00	8,281.77	8,334.59	8,249.00	27.17	24.57	-132.97	-859.68	387.36	896.82	847.70	49.12	18.256	
8,500.00	8,381.77	8,334.59	8,249.00	27.31	24.57	-132.97	-859.68	387.36	906.00	856.73	49.28	18.386	
8,600.00	8,481.77	8,334.59	8,249.00	27.45	24.57	-132.97	-859.68	387.36	925.96	876.53	49.43	18.733	
8,639.23	8,521.00	8,334.59	8,249.00	27.51	24.57	-132.97	-859.68	387.36	936.59	887.10	49.49	18.925	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 2-9 - P_NRC 2-9 - 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	13.18	46.63	10.92	47.89				
100.00	100.00	100.00	100.00	0.09	0.10	13.18	46.63	10.92	47.89	47.70	0.19	256.695	
200.00	200.00	200.00	200.00	0.32	0.32	13.18	46.63	10.92	47.89	47.25	0.64	75.285	
300.00	300.00	300.00	300.00	0.54	0.55	13.18	46.63	10.92	47.89	46.80	1.09	44.111	
400.00	400.00	400.00	400.00	0.77	0.77	13.18	46.63	10.92	47.89	46.35	1.54	31.194	
500.00	500.00	500.00	500.00	0.99	0.99	13.18	46.63	10.92	47.89	45.90	1.98	24.129	
600.00	600.00	600.00	600.00	1.21	1.22	13.18	46.63	10.92	47.89	45.45	2.43	19.673	
700.00	700.00	700.00	700.00	1.44	1.44	13.18	46.63	10.92	47.89	45.00	2.88	16.606	
800.00	800.00	800.00	800.00	1.66	1.67	13.18	46.63	10.92	47.89	44.55	3.33	14.367	
900.00	900.00	900.00	900.00	1.89	1.89	13.18	46.63	10.92	47.89	44.11	3.78	12.659	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.12	13.18	46.63	10.92	47.89	43.66	4.23	11.315	
1,085.00	1,085.00	1,085.00	1,085.00	2.30	2.31	13.18	46.63	10.92	47.89	43.27	4.61	10.378 CC	
1,100.00	1,100.00	1,099.78	1,099.78	2.34	2.34	-90.31	46.66	10.90	47.92	43.24	4.68	10.243 ES	
1,200.00	1,199.97	1,198.21	1,198.18	2.53	2.56	-94.04	48.78	10.31	50.00	44.91	5.09	9.819 SF	
1,300.00	1,299.80	1,296.03	1,295.84	2.73	2.78	-102.08	54.11	8.82	56.13	50.61	5.51	10.179	
1,400.00	1,399.37	1,392.75	1,392.15	2.95	3.01	-111.52	62.53	6.46	67.73	61.79	5.94	11.399	
1,500.00	1,498.55	1,487.87	1,486.54	3.19	3.24	-119.90	73.86	3.29	85.71	79.34	6.37	13.453	
1,600.00	1,597.23	1,580.96	1,578.48	3.47	3.49	-126.32	87.87	-0.63	110.19	103.39	6.80	16.196	
1,700.00	1,695.29	1,671.60	1,667.51	3.78	3.76	-130.94	104.26	-5.22	140.86	133.62	7.24	19.448	
1,745.15	1,739.33	1,711.64	1,706.65	3.94	3.89	-132.55	112.36	-7.49	156.63	149.19	7.44	21.041	
1,800.00	1,792.72	1,761.27	1,755.04	4.14	4.06	-134.46	122.99	-10.47	176.86	169.15	7.71	22.938	
1,900.00	1,890.08	1,853.67	1,845.10	4.53	4.39	-137.05	142.90	-16.04	214.19	205.97	8.21	26.075	
2,000.00	1,987.44	1,946.08	1,935.16	4.94	4.74	-138.88	162.82	-21.62	251.79	243.05	8.73	28.826	
2,100.00	2,084.79	2,038.48	2,025.22	5.36	5.10	-140.24	182.73	-27.19	289.55	280.28	9.27	31.237	
2,200.00	2,182.15	2,130.89	2,115.29	5.79	5.47	-141.28	202.64	-32.77	327.43	317.61	9.82	33.356	
2,300.00	2,279.51	2,223.29	2,205.35	6.24	5.86	-142.11	222.56	-38.34	365.37	355.00	10.37	35.225	
2,400.00	2,376.86	2,315.70	2,295.41	6.69	6.24	-142.78	242.47	-43.92	403.37	392.43	10.94	36.880	
2,500.00	2,474.22	2,408.10	2,385.47	7.14	6.64	-143.34	262.38	-49.49	441.41	429.90	11.51	38.353	
2,600.00	2,571.58	2,500.51	2,475.53	7.61	7.04	-143.80	282.30	-55.07	479.48	467.39	12.09	39.669	
2,700.00	2,668.93	2,592.92	2,565.59	8.07	7.44	-144.20	302.21	-60.65	517.57	504.90	12.67	40.849	
2,800.00	2,766.29	2,685.32	2,655.66	8.54	7.85	-144.55	322.12	-66.22	555.68	542.42	13.26	41.913	
2,900.00	2,863.65	2,777.73	2,745.72	9.01	8.26	-144.85	342.04	-71.80	593.80	579.95	13.85	42.875	
3,000.00	2,961.00	2,870.13	2,835.78	9.49	8.67	-145.11	361.95	-77.37	631.94	617.50	14.44	43.749	
3,100.00	3,058.36	2,962.54	2,925.84	9.97	9.09	-145.35	381.86	-82.95	670.09	655.05	15.04	44.545	
3,200.00	3,155.72	3,054.94	3,015.90	10.44	9.51	-145.56	401.78	-88.52	708.25	692.60	15.64	45.273	
3,300.00	3,253.07	3,147.35	3,105.96	10.92	9.92	-145.74	421.69	-94.10	746.41	730.16	16.25	45.941	
3,400.00	3,350.43	3,239.75	3,196.03	11.41	10.34	-145.91	441.60	-99.67	784.58	767.73	16.85	46.555	
3,500.00	3,447.79	3,332.16	3,286.09	11.89	10.77	-146.07	461.52	-105.25	822.75	805.29	17.46	47.122	
3,600.00	3,545.14	3,424.56	3,376.15	12.37	11.19	-146.21	481.43	-110.82	860.93	842.86	18.07	47.647	
3,700.00	3,642.50	3,516.97	3,466.21	12.86	11.61	-146.33	501.34	-116.40	899.12	880.44	18.68	48.134	
3,800.00	3,739.86	3,609.37	3,556.27	13.34	12.04	-146.45	521.25	-121.97	937.30	918.01	19.29	48.586	
3,900.00	3,837.21	3,701.78	3,646.33	13.83	12.46	-146.56	541.17	-127.55	975.49	955.59	19.90	49.008	
4,000.00	3,934.57	3,794.18	3,736.40	14.32	12.89	-146.66	561.08	-133.13	1,013.69	993.17	20.52	49.402	
4,100.00	4,031.93	3,886.59	3,826.46	14.80	13.31	-146.75	580.99	-138.70	1,051.88	1,030.75	21.13	49.770	
4,200.00	4,129.28	3,978.99	3,916.52	15.29	13.74	-146.84	600.91	-144.28	1,090.08	1,068.33	21.75	50.115	
4,300.00	4,226.64	4,071.40	4,006.58	15.78	14.17	-146.92	620.82	-149.85	1,128.28	1,105.91	22.37	50.440	
4,400.00	4,324.00	4,163.80	4,096.64	16.27	14.60	-147.00	640.73	-155.43	1,166.48	1,143.49	22.99	50.745	
4,500.00	4,421.35	4,256.21	4,186.70	16.76	15.03	-147.07	660.65	-161.00	1,204.68	1,181.08	23.61	51.033	
4,600.00	4,518.71	4,348.61	4,276.77	17.25	15.46	-147.13	680.56	-166.58	1,242.89	1,218.66	24.23	51.304	
4,700.00	4,616.07	4,441.02	4,366.83	17.74	15.89	-147.19	700.47	-172.15	1,281.09	1,256.25	24.85	51.561	
4,800.00	4,713.42	4,533.42	4,456.89	18.23	16.32	-147.25	720.39	-177.73	1,319.30	1,293.83	25.47	51.804	
4,900.00	4,810.78	4,625.83	4,546.95	18.72	16.75	-147.31	740.30	-183.30	1,357.51	1,331.42	26.09	52.035	

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 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 2-9 - P_NRC 2-9 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,908.14	4,718.23	4,637.01	19.21	17.18	-147.36	760.21	-188.88	1,395.72	1,369.01	26.71	52.253	
5,100.00	5,005.49	4,810.64	4,727.07	19.71	17.61	-147.41	780.13	-194.46	1,433.93	1,406.59	27.33	52.461	
5,200.00	5,102.85	4,903.04	4,817.14	20.20	18.04	-147.46	800.04	-200.03	1,472.14	1,444.18	27.96	52.659	
5,300.00	5,200.21	4,995.45	4,907.20	20.69	18.47	-147.50	819.95	-205.61	1,510.35	1,481.77	28.58	52.848	
5,400.00	5,297.56	5,087.86	4,997.26	21.18	18.90	-147.54	839.87	-211.18	1,548.56	1,519.36	29.20	53.027	
5,500.00	5,394.92	5,180.26	5,087.32	21.67	19.33	-147.58	859.78	-216.76	1,586.77	1,556.95	29.83	53.199	
5,600.00	5,492.28	5,272.67	5,177.38	22.17	19.77	-147.62	879.69	-222.33	1,624.99	1,594.54	30.45	53.363	
5,700.00	5,589.63	5,365.07	5,267.44	22.66	20.20	-147.66	899.60	-227.91	1,663.20	1,632.13	31.08	53.520	
5,777.08	5,664.67	5,436.29	5,336.86	23.04	20.53	-147.69	914.95	-232.21	1,692.66	1,661.10	31.56	53.636	
5,800.00	5,687.01	5,457.51	5,357.53	23.14	20.63	-147.79	919.52	-233.49	1,701.35	1,669.62	31.73	53.620	
5,900.00	5,784.91	5,550.71	5,448.38	23.48	21.07	-148.19	939.61	-239.11	1,737.56	1,705.13	32.43	53.576	
6,000.00	5,883.46	5,644.93	5,540.20	23.78	21.51	-148.49	959.91	-244.79	1,770.99	1,737.89	33.10	53.505	
6,100.00	5,982.55	5,740.03	5,632.89	24.04	21.95	-148.69	980.41	-250.53	1,801.61	1,767.88	33.73	53.414	
6,200.00	6,082.04	5,846.71	5,736.88	24.26	22.44	-148.77	1,003.33	-256.95	1,829.37	1,795.02	34.35	53.261	
6,300.00	6,181.82	6,067.81	5,954.34	24.43	23.17	-148.61	1,041.51	-267.64	1,850.48	1,815.34	35.13	52.670	
6,400.00	6,281.77	6,295.67	6,180.96	24.57	23.69	-148.48	1,063.84	-273.89	1,861.93	1,826.16	35.77	52.047	
6,437.23	6,319.00	6,381.46	6,266.65	24.61	23.82	-45.03	1,067.73	-274.98	1,863.67	1,827.70	35.97	51.808	
6,500.00	6,381.77	6,496.59	6,381.77	24.68	23.97	-45.01	1,069.17	-275.38	1,864.23	1,827.99	36.24	51.443	
6,600.00	6,481.77	6,596.59	6,481.77	24.80	24.10	-45.01	1,069.17	-275.38	1,864.23	1,827.67	36.56	50.991	
6,700.00	6,581.77	6,696.59	6,581.77	24.92	24.22	-45.01	1,069.17	-275.38	1,864.23	1,827.35	36.88	50.543	
6,800.00	6,681.77	6,796.59	6,681.77	25.04	24.35	-45.01	1,069.17	-275.38	1,864.23	1,827.02	37.21	50.099	
6,900.00	6,781.77	6,896.59	6,781.77	25.16	24.48	-45.01	1,069.17	-275.38	1,864.23	1,826.69	37.54	49.660	
7,000.00	6,881.77	6,996.59	6,881.77	25.29	24.61	-45.01	1,069.17	-275.38	1,864.23	1,826.36	37.87	49.225	
7,100.00	6,981.77	7,096.59	6,981.77	25.41	24.74	-45.01	1,069.17	-275.38	1,864.23	1,826.03	38.21	48.794	
7,200.00	7,081.77	7,196.59	7,081.77	25.54	24.88	-45.01	1,069.17	-275.38	1,864.23	1,825.69	38.54	48.368	
7,300.00	7,181.77	7,296.59	7,181.77	25.67	25.01	-45.01	1,069.17	-275.38	1,864.23	1,825.35	38.88	47.947	
7,400.00	7,281.77	7,396.59	7,281.77	25.80	25.15	-45.01	1,069.17	-275.38	1,864.23	1,825.01	39.22	47.530	
7,500.00	7,381.77	7,496.59	7,381.77	25.93	25.29	-45.01	1,069.17	-275.38	1,864.23	1,824.67	39.57	47.118	
7,600.00	7,481.77	7,596.59	7,481.77	26.06	25.43	-45.01	1,069.17	-275.38	1,864.23	1,824.32	39.91	46.710	
7,700.00	7,581.77	7,696.59	7,581.77	26.20	25.57	-45.01	1,069.17	-275.38	1,864.23	1,823.97	40.26	46.307	
7,800.00	7,681.77	7,796.59	7,681.77	26.33	25.71	-45.01	1,069.17	-275.38	1,864.23	1,823.63	40.61	45.909	
7,900.00	7,781.77	7,896.59	7,781.77	26.47	25.85	-45.01	1,069.17	-275.38	1,864.23	1,823.27	40.96	45.515	
8,000.00	7,881.77	7,996.59	7,881.77	26.60	25.99	-45.01	1,069.17	-275.38	1,864.23	1,822.92	41.31	45.126	
8,100.00	7,981.77	8,096.59	7,981.77	26.74	26.14	-45.01	1,069.17	-275.38	1,864.23	1,822.57	41.67	44.742	
8,200.00	8,081.77	8,196.59	8,081.77	26.88	26.28	-45.01	1,069.17	-275.38	1,864.23	1,822.21	42.02	44.362	
8,300.00	8,181.77	8,296.59	8,181.77	27.02	26.43	-45.01	1,069.17	-275.38	1,864.23	1,821.85	42.38	43.986	
8,400.00	8,281.77	8,396.59	8,281.77	27.17	26.58	-45.01	1,069.17	-275.38	1,864.23	1,821.49	42.74	43.616	
8,500.00	8,381.77	8,496.59	8,381.77	27.31	26.73	-45.01	1,069.17	-275.38	1,864.23	1,821.13	43.10	43.249	
8,600.00	8,481.77	8,596.59	8,481.77	27.45	26.88	-45.01	1,069.17	-275.38	1,864.23	1,820.76	43.47	42.887	
8,639.23	8,521.00	8,635.82	8,521.00	27.51	26.94	-45.01	1,069.17	-275.38	1,864.23	1,820.62	43.61	42.747	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 40-9 - P_NRC 40-9 - 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	-165.96	-15.67	-3.92	16.15				
100.00	100.00	100.00	100.00	0.09	0.10	-165.96	-15.67	-3.92	16.15	15.96	0.19	86.573	
200.00	200.00	200.00	200.00	0.32	0.32	-165.96	-15.67	-3.92	16.15	15.51	0.64	25.391	
300.00	300.00	300.00	300.00	0.54	0.55	-165.96	-15.67	-3.92	16.15	15.07	1.09	14.877	
400.00	400.00	400.00	400.00	0.77	0.77	-165.96	-15.67	-3.92	16.15	14.62	1.54	10.521	
500.00	500.00	500.00	500.00	0.99	0.99	-165.96	-15.67	-3.92	16.15	14.17	1.98	8.138	
600.00	600.00	600.00	600.00	1.21	1.22	-165.96	-15.67	-3.92	16.15	13.72	2.43	6.635	
700.00	700.00	700.00	700.00	1.44	1.44	-165.96	-15.67	-3.92	16.15	13.27	2.88	5.601	
800.00	800.00	800.00	800.00	1.66	1.67	-165.96	-15.67	-3.92	16.15	12.82	3.33	4.845	
900.00	900.00	900.00	900.00	1.89	1.89	-165.96	-15.67	-3.92	16.15	12.37	3.78	4.269	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.12	-165.96	-15.67	-3.92	16.15	11.92	4.23	3.816	
1,085.00	1,085.00	1,085.00	1,085.00	2.30	2.31	-165.96	-15.67	-3.92	16.15	11.54	4.61	3.500 CC	
1,100.00	1,100.00	1,099.98	1,099.98	2.34	2.34	90.63	-15.69	-3.88	16.16	11.48	4.68	3.456 ES	
1,200.00	1,199.97	1,199.85	1,199.82	2.53	2.53	90.83	-16.71	-1.87	16.69	11.63	5.06	3.301 SF	
1,300.00	1,299.80	1,299.71	1,299.51	2.73	2.72	91.27	-19.31	3.25	18.04	12.58	5.46	3.306	
1,400.00	1,399.37	1,399.55	1,398.92	2.95	2.94	91.85	-23.49	11.46	20.20	14.32	5.89	3.431	
1,500.00	1,498.55	1,499.36	1,497.92	3.19	3.17	92.47	-29.23	22.75	23.19	16.82	6.37	3.643	
1,600.00	1,597.23	1,599.13	1,596.37	3.47	3.44	93.04	-36.52	37.10	26.98	20.08	6.91	3.907	
1,700.00	1,695.29	1,698.84	1,694.16	3.78	3.75	93.54	-45.36	54.48	31.58	24.06	7.53	4.196	
1,745.15	1,739.33	1,743.85	1,738.06	3.94	3.92	93.74	-49.85	63.32	33.93	26.08	7.85	4.324	
1,800.00	1,792.72	1,798.50	1,791.15	4.14	4.12	93.21	-55.73	74.88	36.96	28.71	8.24	4.483	
1,900.00	1,890.08	1,897.98	1,887.11	4.53	4.54	88.93	-67.60	98.22	43.07	34.04	9.03	4.770	
2,000.00	1,987.44	1,997.05	1,981.72	4.94	5.02	82.00	-80.91	124.41	50.51	40.68	9.84	5.135	
2,100.00	2,084.79	2,095.47	2,074.65	5.36	5.57	74.02	-95.60	153.30	60.10	49.50	10.60	5.668	
2,200.00	2,182.15	2,193.03	2,165.61	5.79	6.18	66.15	-111.58	184.72	72.53	61.24	11.29	6.422	
2,300.00	2,279.51	2,289.51	2,254.34	6.24	6.87	59.09	-128.75	218.50	88.25	76.34	11.91	7.409	
2,400.00	2,376.86	2,385.92	2,341.81	6.69	7.61	53.13	-147.12	254.63	107.17	94.70	12.48	8.590	
2,500.00	2,474.22	2,483.48	2,430.11	7.14	8.40	48.78	-165.92	291.61	127.33	114.27	13.06	9.751	
2,600.00	2,571.58	2,581.04	2,518.41	7.61	9.20	45.62	-184.72	328.59	148.00	134.34	13.66	10.836	
2,700.00	2,668.93	2,678.60	2,606.71	8.07	10.02	43.24	-203.53	365.57	168.99	154.72	14.28	11.837	
2,800.00	2,766.29	2,776.16	2,695.01	8.54	10.85	41.39	-222.33	402.55	190.21	175.30	14.91	12.758	
2,900.00	2,863.65	2,873.72	2,783.31	9.01	11.68	39.91	-241.13	439.53	211.57	196.02	15.55	13.602	
3,000.00	2,961.00	2,971.28	2,871.61	9.49	12.53	38.70	-259.93	476.50	233.05	216.84	16.21	14.377	
3,100.00	3,058.36	3,068.83	2,959.91	9.97	13.37	37.69	-278.73	513.48	254.61	237.73	16.87	15.089	
3,200.00	3,155.72	3,166.39	3,048.21	10.44	14.22	36.85	-297.53	550.46	276.23	258.69	17.54	15.745	
3,300.00	3,253.07	3,263.95	3,136.51	10.92	15.08	36.12	-316.33	587.44	297.90	279.68	18.22	16.349	
3,400.00	3,350.43	3,361.51	3,224.81	11.41	15.94	35.49	-335.13	624.42	319.61	300.71	18.90	16.908	
3,500.00	3,447.79	3,459.07	3,313.11	11.89	16.80	34.95	-353.93	661.40	341.35	321.77	19.59	17.426	
3,600.00	3,545.14	3,556.63	3,401.41	12.37	17.66	34.46	-372.73	698.38	363.12	342.84	20.28	17.907	
3,700.00	3,642.50	3,654.19	3,489.71	12.86	18.53	34.04	-391.53	735.35	384.91	363.94	20.97	18.354	
3,800.00	3,739.86	3,751.75	3,578.00	13.34	19.39	33.66	-410.34	772.33	406.72	385.05	21.67	18.771	
3,900.00	3,837.21	3,849.31	3,666.30	13.83	20.26	33.31	-429.14	809.31	428.55	406.18	22.37	19.161	
4,000.00	3,934.57	3,946.87	3,754.60	14.32	21.13	33.00	-447.94	846.29	450.38	427.32	23.07	19.525	
4,100.00	4,031.93	4,044.43	3,842.90	14.80	22.00	32.72	-466.74	883.27	472.23	448.46	23.77	19.867	
4,200.00	4,129.28	4,141.98	3,931.20	15.29	22.87	32.47	-485.54	920.25	494.09	469.62	24.47	20.188	
4,300.00	4,226.64	4,239.54	4,019.50	15.78	23.74	32.23	-504.34	957.23	515.96	490.78	25.18	20.490	
4,400.00	4,324.00	4,337.10	4,107.80	16.27	24.62	32.02	-523.14	994.20	537.83	511.94	25.89	20.775	
4,500.00	4,421.35	4,434.66	4,196.10	16.76	25.49	31.82	-541.94	1,031.18	559.71	533.12	26.60	21.043	
4,600.00	4,518.71	4,532.22	4,284.40	17.25	26.36	31.63	-560.74	1,068.16	581.60	554.29	27.31	21.297	
4,700.00	4,616.07	4,629.78	4,372.70	17.74	27.24	31.46	-579.54	1,105.14	603.49	575.47	28.02	21.538	
4,800.00	4,713.42	4,727.34	4,461.00	18.23	28.11	31.31	-598.34	1,142.12	625.39	596.66	28.73	21.766	
4,900.00	4,810.78	4,824.90	4,549.30	18.72	28.99	31.16	-617.15	1,179.10	647.29	617.85	29.45	21.982	

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 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 40-9 - P_NRC 40-9 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,908.14	4,922.46	4,637.60	19.21	29.86	31.02	-635.95	1,216.07	669.20	639.04	30.16	22.187	
5,100.00	5,005.49	5,020.02	4,725.90	19.71	30.74	30.89	-654.75	1,253.05	691.11	660.23	30.88	22.383	
5,200.00	5,102.85	5,117.57	4,814.20	20.20	31.62	30.77	-673.55	1,290.03	713.02	681.43	31.59	22.569	
5,300.00	5,200.21	5,215.13	4,902.50	20.69	32.49	30.66	-692.35	1,327.01	734.93	702.62	32.31	22.747	
5,400.00	5,297.56	5,312.69	4,990.80	21.18	33.37	30.55	-711.15	1,363.99	756.85	723.82	33.03	22.916	
5,500.00	5,394.92	5,410.25	5,079.10	21.67	34.25	30.45	-729.95	1,400.97	778.77	745.03	33.74	23.078	
5,600.00	5,492.28	5,534.51	5,192.30	22.17	35.21	30.36	-753.17	1,446.64	799.46	764.92	34.54	23.143	
5,700.00	5,589.63	5,669.45	5,317.57	22.66	36.05	30.41	-775.89	1,491.33	815.91	780.53	35.38	23.061	
5,777.08	5,664.67	5,774.67	5,416.80	23.04	36.65	30.53	-791.74	1,522.49	825.54	789.50	36.04	22.905	
5,800.00	5,687.01	5,806.10	5,446.69	23.14	36.81	30.60	-796.15	1,531.17	827.96	791.74	36.23	22.856	
5,900.00	5,784.91	5,943.76	5,578.76	23.48	37.47	30.89	-813.71	1,565.71	837.58	800.64	36.93	22.677	
6,000.00	5,883.46	6,082.14	5,713.25	23.78	38.03	31.12	-828.45	1,594.70	845.61	808.07	37.55	22.522	
6,100.00	5,982.55	6,221.12	5,849.75	24.04	38.49	31.30	-840.27	1,617.95	852.03	813.98	38.05	22.391	
6,200.00	6,082.04	6,360.57	5,987.83	24.26	38.85	31.44	-849.10	1,635.32	856.82	818.36	38.46	22.281	
6,300.00	6,181.82	6,500.36	6,127.02	24.43	39.12	31.53	-854.89	1,646.70	859.94	821.19	38.76	22.189	
6,400.00	6,281.77	6,640.35	6,266.86	24.57	39.29	31.57	-857.59	1,652.01	861.40	822.46	38.95	22.117	
6,437.23	6,319.00	6,692.49	6,319.00	24.61	39.33	134.99	-857.80	1,652.44	861.52	822.52	39.00	22.092	
6,500.00	6,381.77	6,755.26	6,381.77	24.68	39.38	134.99	-857.80	1,652.44	861.52	822.35	39.17	21.994	
6,600.00	6,481.77	6,855.26	6,481.77	24.80	39.45	134.99	-857.80	1,652.44	861.52	822.07	39.45	21.836	
6,700.00	6,581.77	6,955.26	6,581.77	24.92	39.53	134.99	-857.80	1,652.44	861.52	821.78	39.74	21.679	
6,800.00	6,681.77	7,055.26	6,681.77	25.04	39.60	134.99	-857.80	1,652.44	861.52	821.49	40.03	21.522	
6,900.00	6,781.77	7,155.26	6,781.77	25.16	39.68	134.99	-857.80	1,652.44	861.52	821.20	40.32	21.366	
7,000.00	6,881.77	7,255.26	6,881.77	25.29	39.76	134.99	-857.80	1,652.44	861.52	820.90	40.62	21.211	
7,100.00	6,981.77	7,355.26	6,981.77	25.41	39.84	134.99	-857.80	1,652.44	861.52	820.60	40.92	21.056	
7,200.00	7,081.77	7,455.26	7,081.77	25.54	39.92	134.99	-857.80	1,652.44	861.52	820.30	41.22	20.903	
7,300.00	7,181.77	7,555.26	7,181.77	25.67	40.00	134.99	-857.80	1,652.44	861.52	820.00	41.52	20.750	
7,400.00	7,281.77	7,655.26	7,281.77	25.80	40.08	134.99	-857.80	1,652.44	861.52	819.69	41.83	20.598	
7,500.00	7,381.77	7,755.26	7,381.77	25.93	40.17	134.99	-857.80	1,652.44	861.52	819.39	42.13	20.447	
7,600.00	7,481.77	7,855.26	7,481.77	26.06	40.25	134.99	-857.80	1,652.44	861.52	819.07	42.44	20.297	
7,700.00	7,581.77	7,955.26	7,581.77	26.20	40.34	134.99	-857.80	1,652.44	861.52	818.76	42.76	20.149	
7,800.00	7,681.77	8,055.26	7,681.77	26.33	40.42	134.99	-857.80	1,652.44	861.52	818.45	43.07	20.001	
7,900.00	7,781.77	8,155.26	7,781.77	26.47	40.51	134.99	-857.80	1,652.44	861.52	818.13	43.39	19.854	
8,000.00	7,881.77	8,255.26	7,881.77	26.60	40.60	134.99	-857.80	1,652.44	861.52	817.81	43.71	19.709	
8,100.00	7,981.77	8,355.26	7,981.77	26.74	40.69	134.99	-857.80	1,652.44	861.52	817.48	44.04	19.564	
8,200.00	8,081.77	8,455.26	8,081.77	26.88	40.78	134.99	-857.80	1,652.44	861.52	817.16	44.36	19.421	
8,300.00	8,181.77	8,555.26	8,181.77	27.02	40.88	134.99	-857.80	1,652.44	861.52	816.83	44.69	19.279	
8,346.43	8,228.20	8,601.69	8,228.20	27.09	40.92	134.99	-857.80	1,652.44	861.52	816.68	44.84	19.213	
8,400.00	8,281.77	8,617.49	8,244.00	27.17	40.93	134.99	-857.80	1,652.44	862.35	817.39	44.96	19.181	
8,500.00	8,381.77	8,617.49	8,244.00	27.31	40.93	134.99	-857.80	1,652.44	872.47	827.33	45.13	19.331	
8,600.00	8,481.77	8,617.49	8,244.00	27.45	40.93	134.99	-857.80	1,652.44	893.73	848.42	45.31	19.725	
8,639.23	8,521.00	8,617.49	8,244.00	27.51	40.93	134.99	-857.80	1,652.44	904.96	859.58	45.38	19.942	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 41-9 - P_NRC 41-9 - 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	13.38	15.30	3.64	15.73				
100.00	100.00	100.00	100.00	0.09	0.10	13.38	15.30	3.64	15.73	15.54	0.19	84.298	
200.00	200.00	200.00	200.00	0.32	0.32	13.38	15.30	3.64	15.73	15.09	0.64	24.723	
300.00	300.00	300.00	300.00	0.54	0.55	13.38	15.30	3.64	15.73	14.64	1.09	14.486	
400.00	400.00	400.00	400.00	0.77	0.77	13.38	15.30	3.64	15.73	14.19	1.54	10.244	
500.00	500.00	500.00	500.00	0.99	0.99	13.38	15.30	3.64	15.73	13.74	1.98	7.924	
600.00	600.00	600.00	600.00	1.21	1.22	13.38	15.30	3.64	15.73	13.29	2.43	6.461	
700.00	700.00	700.00	700.00	1.44	1.44	13.38	15.30	3.64	15.73	12.84	2.88	5.453	
800.00	800.00	800.00	800.00	1.66	1.67	13.38	15.30	3.64	15.73	12.39	3.33	4.718	
900.00	900.00	900.00	900.00	1.89	1.89	13.38	15.30	3.64	15.73	11.94	3.78	4.157	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.12	13.38	15.30	3.64	15.73	11.49	4.23	3.716	
1,085.00	1,085.00	1,085.00	1,085.00	2.30	2.31	13.38	15.30	3.64	15.73	11.11	4.61	3.408 CC	
1,100.00	1,100.00	1,099.96	1,099.96	2.34	2.34	-90.05	15.31	3.68	15.74	11.07	4.68	3.366 ES	
1,200.00	1,199.97	1,199.69	1,199.66	2.53	2.55	-90.98	15.89	5.86	16.82	11.75	5.08	3.314 SF	
1,300.00	1,299.80	1,299.37	1,299.17	2.73	2.76	-92.85	17.37	11.38	19.58	14.08	5.49	3.564	
1,400.00	1,399.37	1,398.95	1,398.33	2.95	2.99	-94.94	19.75	20.24	24.03	18.09	5.94	4.048	
1,500.00	1,498.55	1,498.41	1,496.97	3.19	3.23	-96.79	23.00	32.40	30.18	23.76	6.42	4.702	
1,600.00	1,597.23	1,597.68	1,594.95	3.47	3.50	-98.24	27.14	47.83	38.03	31.07	6.96	5.466	
1,700.00	1,695.29	1,696.74	1,692.10	3.78	3.81	-99.32	32.13	66.49	47.56	39.99	7.57	6.284	
1,745.15	1,739.33	1,741.39	1,735.66	3.94	3.97	-99.71	34.67	75.96	52.41	44.54	7.88	6.652	
1,800.00	1,792.72	1,795.55	1,788.29	4.14	4.17	-99.73	37.98	88.32	58.67	50.40	8.27	7.096	
1,900.00	1,890.08	1,894.05	1,883.34	4.53	4.58	-97.72	44.66	113.26	70.94	61.90	9.04	7.844	
2,000.00	1,987.44	1,992.01	1,976.93	4.94	5.05	-94.16	52.14	141.18	84.57	74.69	9.88	8.561	
2,100.00	2,084.79	2,089.22	2,068.78	5.36	5.57	-89.88	60.37	171.92	99.96	89.21	10.75	9.302	
2,200.00	2,182.15	2,185.46	2,158.60	5.79	6.16	-85.39	69.31	205.31	117.50	105.88	11.63	10.107	
2,300.00	2,279.51	2,282.33	2,248.05	6.24	6.81	-81.15	78.92	241.19	137.10	124.60	12.50	10.964	
2,400.00	2,376.86	2,379.91	2,338.10	6.69	7.49	-77.89	88.65	277.52	157.37	143.99	13.38	11.758	
2,500.00	2,474.22	2,477.48	2,428.14	7.14	8.19	-75.39	98.38	313.84	178.03	163.76	14.27	12.477	
2,600.00	2,571.58	2,575.06	2,518.18	7.61	8.90	-73.40	108.11	350.16	198.94	183.78	15.15	13.129	
2,700.00	2,668.93	2,672.64	2,608.23	8.07	9.63	-71.79	117.83	386.48	220.03	204.00	16.04	13.718	
2,800.00	2,766.29	2,770.22	2,698.27	8.54	10.36	-70.46	127.56	422.80	241.27	224.34	16.93	14.253	
2,900.00	2,863.65	2,867.80	2,788.32	9.01	11.10	-69.35	137.29	459.12	262.61	244.79	17.82	14.738	
3,000.00	2,961.00	2,965.38	2,878.36	9.49	11.84	-68.40	147.02	495.45	284.03	265.32	18.71	15.179	
3,100.00	3,058.36	3,062.96	2,968.40	9.97	12.59	-67.59	156.74	531.77	305.51	285.90	19.61	15.582	
3,200.00	3,155.72	3,160.54	3,058.45	10.44	13.34	-66.88	166.47	568.09	327.04	306.54	20.50	15.950	
3,300.00	3,253.07	3,258.12	3,148.49	10.92	14.10	-66.27	176.20	604.41	348.62	327.21	21.41	16.285	
3,400.00	3,350.43	3,355.70	3,238.53	11.41	14.86	-65.72	185.93	640.73	370.23	347.92	22.31	16.594	
3,500.00	3,447.79	3,453.28	3,328.58	11.89	15.62	-65.23	195.66	677.06	391.87	368.65	23.22	16.878	
3,600.00	3,545.14	3,550.86	3,418.62	12.37	16.38	-64.80	205.38	713.38	413.53	389.40	24.13	17.140	
3,700.00	3,642.50	3,648.44	3,508.67	12.86	17.14	-64.40	215.11	749.70	435.21	410.18	25.04	17.383	
3,800.00	3,739.86	3,746.02	3,598.71	13.34	17.91	-64.05	224.84	786.02	456.91	430.97	25.95	17.609	
3,900.00	3,837.21	3,843.60	3,688.75	13.83	18.67	-63.73	234.57	822.34	478.63	451.77	26.86	17.819	
4,000.00	3,934.57	3,941.18	3,778.80	14.32	19.44	-63.43	244.29	858.66	500.36	472.58	27.77	18.015	
4,100.00	4,031.93	4,038.76	3,868.84	14.80	20.21	-63.16	254.02	894.99	522.10	493.41	28.69	18.198	
4,200.00	4,129.28	4,136.34	3,958.89	15.29	20.98	-62.91	263.75	931.31	543.85	514.25	29.61	18.370	
4,300.00	4,226.64	4,233.92	4,048.93	15.78	21.75	-62.68	273.48	967.63	565.61	535.09	30.52	18.531	
4,400.00	4,324.00	4,331.50	4,138.97	16.27	22.52	-62.47	283.21	1,003.95	587.38	555.94	31.44	18.682	
4,500.00	4,421.35	4,429.08	4,229.02	16.76	23.30	-62.27	292.93	1,040.27	609.15	576.79	32.36	18.825	
4,600.00	4,518.71	4,526.66	4,319.06	17.25	24.07	-62.09	302.66	1,076.59	630.94	597.66	33.28	18.959	
4,700.00	4,616.07	4,624.24	4,409.10	17.74	24.84	-61.92	312.39	1,112.92	652.72	618.52	34.20	19.087	
4,800.00	4,713.42	4,721.82	4,499.15	18.23	25.62	-61.76	322.12	1,149.24	674.51	639.40	35.12	19.207	
4,900.00	4,810.78	4,819.40	4,589.19	18.72	26.39	-61.61	331.84	1,185.56	696.31	660.27	36.04	19.321	

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 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 41-9 - P_NRC 41-9 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,908.14	4,916.98	4,679.24	19.21	27.16	-61.47	341.57	1,221.88	718.11	681.15	36.96	19.429	
5,100.00	5,005.49	5,014.56	4,769.28	19.71	27.94	-61.33	351.30	1,258.20	739.92	702.04	37.88	19.532	
5,200.00	5,102.85	5,112.14	4,859.32	20.20	28.71	-61.21	361.03	1,294.52	761.73	722.92	38.81	19.629	
5,300.00	5,200.21	5,209.72	4,949.37	20.69	29.49	-61.09	370.76	1,330.85	783.54	743.81	39.73	19.722	
5,400.00	5,297.56	5,307.30	5,039.41	21.18	30.27	-60.98	380.48	1,367.17	805.36	764.70	40.65	19.811	
5,500.00	5,394.92	5,404.88	5,129.46	21.67	31.04	-60.87	390.21	1,403.49	827.17	785.60	41.58	19.896	
5,600.00	5,492.28	5,502.46	5,219.50	22.17	31.82	-60.77	399.94	1,439.81	848.99	806.49	42.50	19.976	
5,700.00	5,589.63	5,632.91	5,340.97	22.66	32.67	-60.75	412.24	1,485.73	868.98	825.47	43.52	19.970	
5,777.08	5,664.67	5,734.86	5,437.34	23.04	33.23	-60.89	420.84	1,517.87	881.83	837.53	44.30	19.908	
5,800.00	5,687.01	5,765.35	5,466.38	23.14	33.38	-61.01	423.25	1,526.84	885.25	840.73	44.52	19.882	
5,900.00	5,784.91	5,899.00	5,594.79	23.48	34.01	-61.47	432.82	1,562.60	898.88	853.48	45.40	19.799	
6,000.00	5,883.46	6,033.63	5,725.74	23.78	34.54	-61.85	440.89	1,592.73	910.31	864.16	46.15	19.724	
6,100.00	5,982.55	6,169.07	5,858.80	24.04	34.99	-62.14	447.40	1,617.02	919.49	872.70	46.79	19.652	
6,200.00	6,082.04	6,305.14	5,993.55	24.26	35.35	-62.36	452.29	1,635.28	926.39	879.08	47.31	19.583	
6,300.00	6,181.82	6,441.69	6,129.51	24.43	35.61	-62.49	455.53	1,647.36	930.97	883.27	47.70	19.518	
6,400.00	6,281.77	6,578.51	6,266.18	24.57	35.79	-62.55	457.08	1,653.19	933.21	885.24	47.97	19.454	
6,437.23	6,319.00	6,629.48	6,317.15	24.61	35.83	40.86	457.23	1,653.74	933.44	885.40	48.05	19.428	
6,500.00	6,381.77	6,694.10	6,381.77	24.68	35.88	40.86	457.24	1,653.75	933.45	885.26	48.19	19.370	
6,600.00	6,481.77	6,794.10	6,481.77	24.80	35.97	40.86	457.24	1,653.75	933.45	885.02	48.43	19.274	
6,700.00	6,581.77	6,894.10	6,581.77	24.92	36.06	40.86	457.24	1,653.75	933.45	884.78	48.67	19.178	
6,800.00	6,681.77	6,994.10	6,681.77	25.04	36.14	40.86	457.24	1,653.75	933.45	884.53	48.92	19.081	
6,900.00	6,781.77	7,094.10	6,781.77	25.16	36.23	40.86	457.24	1,653.75	933.45	884.28	49.17	18.985	
7,000.00	6,881.77	7,194.10	6,881.77	25.29	36.32	40.86	457.24	1,653.75	933.45	884.03	49.42	18.888	
7,100.00	6,981.77	7,294.10	6,981.77	25.41	36.41	40.86	457.24	1,653.75	933.45	883.77	49.68	18.791	
7,200.00	7,081.77	7,394.10	7,081.77	25.54	36.51	40.86	457.24	1,653.75	933.45	883.52	49.93	18.694	
7,300.00	7,181.77	7,494.10	7,181.77	25.67	36.60	40.86	457.24	1,653.75	933.45	883.25	50.19	18.597	
7,400.00	7,281.77	7,594.10	7,281.77	25.80	36.69	40.86	457.24	1,653.75	933.45	882.99	50.46	18.500	
7,500.00	7,381.77	7,694.10	7,381.77	25.93	36.79	40.86	457.24	1,653.75	933.45	882.73	50.72	18.403	
7,600.00	7,481.77	7,794.10	7,481.77	26.06	36.89	40.86	457.24	1,653.75	933.45	882.46	50.99	18.306	
7,700.00	7,581.77	7,894.10	7,581.77	26.20	36.98	40.86	457.24	1,653.75	933.45	882.19	51.26	18.209	
7,800.00	7,681.77	7,994.10	7,681.77	26.33	37.08	40.86	457.24	1,653.75	933.45	881.91	51.54	18.113	
7,900.00	7,781.77	8,094.10	7,781.77	26.47	37.18	40.86	457.24	1,653.75	933.45	881.64	51.81	18.016	
8,000.00	7,881.77	8,194.10	7,881.77	26.60	37.29	40.86	457.24	1,653.75	933.45	881.36	52.09	17.920	
8,100.00	7,981.77	8,294.10	7,981.77	26.74	37.39	40.86	457.24	1,653.75	933.45	881.08	52.37	17.824	
8,200.00	8,081.77	8,394.10	8,081.77	26.88	37.49	40.86	457.24	1,653.75	933.45	880.80	52.65	17.728	
8,300.00	8,181.77	8,494.10	8,181.77	27.02	37.60	40.86	457.24	1,653.75	933.45	880.51	52.94	17.633	
8,350.42	8,232.19	8,544.52	8,232.19	27.09	37.65	40.86	457.24	1,653.75	933.45	880.37	53.08	17.585	
8,400.00	8,281.77	8,561.33	8,249.00	27.17	37.67	40.86	457.24	1,653.75	934.02	880.84	53.18	17.563	
8,500.00	8,381.77	8,561.33	8,249.00	27.31	37.67	40.86	457.24	1,653.75	942.84	889.52	53.33	17.680	
8,600.00	8,481.77	8,561.33	8,249.00	27.45	37.67	40.86	457.24	1,653.75	962.03	908.56	53.48	17.989	
8,639.23	8,521.00	8,561.33	8,249.00	27.51	37.67	40.86	457.24	1,653.75	972.27	918.73	53.54	18.161	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 7-9 - P_NRC 7-9 - Design #1												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	13.23	30.96	7.28	31.80				
100.00	100.00	100.00	100.00	0.09	0.10	13.23	30.96	7.28	31.80	31.62	0.19	170.474	
200.00	200.00	200.00	200.00	0.32	0.32	13.23	30.96	7.28	31.80	31.17	0.64	49.998	
300.00	300.00	300.00	300.00	0.54	0.55	13.23	30.96	7.28	31.80	30.72	1.09	29.295	
400.00	400.00	400.00	400.00	0.77	0.77	13.23	30.96	7.28	31.80	30.27	1.54	20.717	
500.00	500.00	500.00	500.00	0.99	0.99	13.23	30.96	7.28	31.80	29.82	1.98	16.024	
600.00	600.00	600.00	600.00	1.21	1.22	13.23	30.96	7.28	31.80	29.37	2.43	13.065	
700.00	700.00	700.00	700.00	1.44	1.44	13.23	30.96	7.28	31.80	28.92	2.88	11.028	
800.00	800.00	800.00	800.00	1.66	1.67	13.23	30.96	7.28	31.80	28.47	3.33	9.541	
900.00	900.00	900.00	900.00	1.89	1.89	13.23	30.96	7.28	31.80	28.02	3.78	8.407	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.12	13.23	30.96	7.28	31.80	27.57	4.23	7.514	
1,085.00	1,085.00	1,085.00	1,085.00	2.30	2.31	13.23	30.96	7.28	31.80	27.19	4.61	6.892	
1,100.00	1,100.00	1,100.14	1,100.14	2.34	2.34	-90.30	30.93	7.25	31.77	27.09	4.68	6.795	
1,200.00	1,199.97	1,200.96	1,200.93	2.53	2.52	-97.00	29.29	5.63	30.03	24.98	5.05	5.946	
1,300.00	1,299.80	1,301.13	1,300.92	2.73	2.71	-116.59	25.15	1.56	27.76	22.32	5.44	5.104	
1,310.97	1,310.73	1,312.05	1,311.81	2.76	2.73	-119.61	24.55	0.97	27.72	22.24	5.48	5.055 CC, ES, SF	
1,400.00	1,399.37	1,400.10	1,399.47	2.95	2.91	-147.05	18.61	-4.86	31.34	25.52	5.83	5.380	
1,500.00	1,498.55	1,497.74	1,496.39	3.19	3.14	-171.16	10.22	-13.11	45.70	39.50	6.20	7.370	
1,600.00	1,597.23	1,594.64	1,592.55	3.47	3.37	177.10	1.71	-21.47	67.69	61.11	6.59	10.277	
1,700.00	1,695.29	1,690.70	1,687.89	3.78	3.62	171.44	-6.73	-29.77	94.41	87.43	6.98	13.519	
1,745.15	1,739.33	1,733.77	1,730.63	3.94	3.73	169.90	-10.52	-33.49	107.73	100.56	7.17	15.033	
1,800.00	1,792.72	1,785.97	1,782.42	4.14	3.87	168.56	-15.10	-37.99	124.38	116.96	7.42	16.767	
1,900.00	1,890.08	1,881.13	1,876.86	4.53	4.14	166.85	-23.46	-46.21	154.86	146.97	7.89	19.627	
2,000.00	1,987.44	1,976.29	1,971.30	4.94	4.40	165.71	-31.83	-54.43	185.41	177.04	8.37	22.141	
2,100.00	2,084.79	2,071.45	2,065.74	5.36	4.68	164.89	-40.19	-62.64	216.02	207.15	8.87	24.357	
2,200.00	2,182.15	2,166.62	2,160.17	5.79	4.96	164.27	-48.55	-70.86	246.65	237.28	9.37	26.317	
2,300.00	2,279.51	2,261.78	2,254.61	6.24	5.24	163.79	-56.91	-79.08	277.31	267.42	9.88	28.059	
2,400.00	2,376.86	2,356.94	2,349.05	6.69	5.53	163.40	-65.27	-87.29	307.98	297.58	10.40	29.612	
2,500.00	2,474.22	2,452.10	2,443.49	7.14	5.82	163.09	-73.63	-95.51	338.66	327.73	10.92	31.004	
2,600.00	2,571.58	2,547.27	2,537.92	7.61	6.11	162.82	-81.99	-103.73	369.35	357.89	11.45	32.256	
2,700.00	2,668.93	2,642.43	2,632.36	8.07	6.40	162.60	-90.35	-111.94	400.04	388.06	11.98	33.387	
2,800.00	2,766.29	2,737.59	2,726.80	8.54	6.70	162.41	-98.71	-120.16	430.74	418.22	12.52	34.412	
2,900.00	2,863.65	2,832.75	2,821.24	9.01	6.99	162.24	-107.07	-128.38	461.44	448.38	13.06	35.345	
3,000.00	2,961.00	2,927.91	2,915.67	9.49	7.29	162.10	-115.43	-136.60	492.15	478.55	13.60	36.198	
3,100.00	3,058.36	3,023.08	3,010.11	9.97	7.59	161.97	-123.79	-144.81	522.85	508.71	14.14	36.979	
3,200.00	3,155.72	3,118.24	3,104.55	10.44	7.89	161.86	-132.15	-153.03	553.56	538.88	14.68	37.697	
3,300.00	3,253.07	3,213.40	3,198.99	10.92	8.19	161.75	-140.51	-161.25	584.27	569.04	15.23	38.358	
3,400.00	3,350.43	3,308.56	3,293.42	11.41	8.49	161.66	-148.87	-169.46	614.99	599.21	15.78	38.970	
3,500.00	3,447.79	3,403.73	3,387.86	11.89	8.80	161.58	-157.24	-177.68	645.70	629.37	16.33	39.537	
3,600.00	3,545.14	3,498.89	3,482.30	12.37	9.10	161.50	-165.60	-185.90	676.42	659.53	16.88	40.064	
3,700.00	3,642.50	3,594.05	3,576.74	12.86	9.40	161.44	-173.96	-194.11	707.13	689.70	17.44	40.554	
3,800.00	3,739.86	3,689.21	3,671.17	13.34	9.71	161.37	-182.32	-202.33	737.85	719.86	17.99	41.012	
3,900.00	3,837.21	3,784.38	3,765.61	13.83	10.02	161.31	-190.68	-210.55	768.57	750.02	18.55	41.440	
4,000.00	3,934.57	3,879.54	3,860.05	14.32	10.32	161.26	-199.04	-218.76	799.29	780.19	19.10	41.841	
4,100.00	4,031.93	3,974.70	3,954.49	14.80	10.63	161.21	-207.40	-226.98	830.01	810.35	19.66	42.218	
4,200.00	4,129.28	4,069.86	4,048.92	15.29	10.93	161.17	-215.76	-235.20	860.73	840.51	20.22	42.572	
4,300.00	4,226.64	4,165.02	4,143.36	15.78	11.24	161.12	-224.12	-243.41	891.45	870.67	20.78	42.906	
4,400.00	4,324.00	4,260.19	4,237.80	16.27	11.55	161.08	-232.48	-251.63	922.17	900.83	21.34	43.221	
4,500.00	4,421.35	4,355.35	4,332.24	16.76	11.86	161.05	-240.84	-259.85	952.89	930.99	21.90	43.518	
4,600.00	4,518.71	4,450.51	4,426.68	17.25	12.16	161.01	-249.20	-268.06	983.61	961.15	22.46	43.800	
4,700.00	4,616.07	4,545.67	4,521.11	17.74	12.47	160.98	-257.56	-276.28	1,014.33	991.32	23.02	44.067	
4,800.00	4,713.42	4,640.84	4,615.55	18.23	12.78	160.95	-265.92	-284.50	1,045.06	1,021.48	23.58	44.320	

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 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 17-9 PAD - P_NRC 7-9 - P_NRC 7-9 - Design #1												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	4,810.78	4,736.00	4,709.99	18.72	13.09	160.92	-274.29	-292.71	1,075.78	1,051.64	24.14	44.561	
5,000.00	4,908.14	4,831.16	4,804.43	19.21	13.40	160.89	-282.65	-300.93	1,106.50	1,081.80	24.70	44.790	
5,100.00	5,005.49	4,926.32	4,898.86	19.71	13.71	160.86	-291.01	-309.15	1,137.22	1,111.96	25.27	45.008	
5,200.00	5,102.85	5,021.49	4,993.30	20.20	14.02	160.84	-299.37	-317.36	1,167.95	1,142.12	25.83	45.216	
5,300.00	5,200.21	5,116.65	5,087.74	20.69	14.32	160.81	-307.73	-325.58	1,198.67	1,172.28	26.39	45.414	
5,400.00	5,297.56	5,211.81	5,182.18	21.18	14.63	160.79	-316.09	-333.80	1,229.39	1,202.44	26.96	45.604	
5,500.00	5,394.92	5,306.97	5,276.61	21.67	14.94	160.77	-324.45	-342.02	1,260.12	1,232.59	27.52	45.785	
5,600.00	5,492.28	5,402.14	5,371.05	22.17	15.25	160.75	-332.81	-350.23	1,290.84	1,262.75	28.09	45.959	
5,700.00	5,589.63	5,497.30	5,465.49	22.66	15.56	160.73	-341.17	-358.45	1,321.56	1,292.91	28.65	46.125	
5,777.08	5,664.67	5,570.65	5,538.28	23.04	15.80	160.72	-347.62	-364.78	1,345.25	1,316.16	29.09	46.249	
5,800.00	5,687.01	5,592.49	5,559.95	23.14	15.87	160.76	-349.53	-366.67	1,352.21	1,322.97	29.24	46.247	
5,900.00	5,784.91	5,688.35	5,655.08	23.48	16.19	160.90	-357.96	-374.95	1,380.63	1,350.78	29.85	46.252	
6,000.00	5,883.46	5,785.07	5,751.07	23.78	16.50	160.97	-366.45	-383.30	1,405.89	1,375.46	30.43	46.203	
6,100.00	5,982.55	5,882.54	5,847.80	24.04	16.82	160.97	-375.02	-391.71	1,427.94	1,396.97	30.97	46.106	
6,200.00	6,082.04	5,980.64	5,945.15	24.26	17.14	160.91	-383.64	-400.18	1,446.77	1,415.30	31.48	45.965	
6,300.00	6,181.82	6,129.41	6,093.10	24.43	17.53	160.74	-394.69	-411.05	1,461.05	1,429.03	32.01	45.637	
6,400.00	6,281.77	6,294.00	6,257.46	24.57	17.82	160.64	-400.58	-416.84	1,467.79	1,435.34	32.45	45.233	
6,437.23	6,319.00	6,355.55	6,319.00	24.61	17.92	-95.95	-401.05	-417.30	1,468.32	1,435.72	32.60	45.042	
6,500.00	6,381.77	6,418.32	6,381.77	24.68	18.01	-95.95	-401.05	-417.30	1,468.32	1,435.52	32.81	44.757	
6,600.00	6,481.77	6,518.32	6,481.77	24.80	18.16	-95.95	-401.05	-417.30	1,468.32	1,435.19	33.13	44.319	
6,700.00	6,581.77	6,618.32	6,581.77	24.92	18.30	-95.95	-401.05	-417.30	1,468.32	1,434.86	33.46	43.885	
6,800.00	6,681.77	6,718.32	6,681.77	25.04	18.45	-95.95	-401.05	-417.30	1,468.32	1,434.53	33.79	43.456	
6,900.00	6,781.77	6,818.32	6,781.77	25.16	18.60	-95.95	-401.05	-417.30	1,468.32	1,434.20	34.12	43.032	
7,000.00	6,881.77	6,918.32	6,881.77	25.29	18.76	-95.95	-401.05	-417.30	1,468.32	1,433.87	34.46	42.613	
7,100.00	6,981.77	7,018.32	6,981.77	25.41	18.91	-95.95	-401.05	-417.30	1,468.32	1,433.53	34.80	42.199	
7,200.00	7,081.77	7,118.32	7,081.77	25.54	19.06	-95.95	-401.05	-417.30	1,468.32	1,433.19	35.14	41.790	
7,300.00	7,181.77	7,218.32	7,181.77	25.67	19.22	-95.95	-401.05	-417.30	1,468.32	1,432.84	35.48	41.386	
7,400.00	7,281.77	7,318.32	7,281.77	25.80	19.38	-95.95	-401.05	-417.30	1,468.32	1,432.50	35.82	40.987	
7,500.00	7,381.77	7,418.32	7,381.77	25.93	19.53	-95.95	-401.05	-417.30	1,468.32	1,432.15	36.17	40.593	
7,600.00	7,481.77	7,518.32	7,481.77	26.06	19.69	-95.95	-401.05	-417.30	1,468.32	1,431.80	36.52	40.204	
7,700.00	7,581.77	7,618.32	7,581.77	26.20	19.86	-95.95	-401.05	-417.30	1,468.32	1,431.45	36.87	39.820	
7,800.00	7,681.77	7,718.32	7,681.77	26.33	20.02	-95.95	-401.05	-417.30	1,468.32	1,431.09	37.23	39.441	
7,900.00	7,781.77	7,818.32	7,781.77	26.47	20.18	-95.95	-401.05	-417.30	1,468.32	1,430.74	37.58	39.068	
8,000.00	7,881.77	7,918.32	7,881.77	26.60	20.35	-95.95	-401.05	-417.30	1,468.32	1,430.38	37.94	38.699	
8,100.00	7,981.77	8,018.32	7,981.77	26.74	20.51	-95.95	-401.05	-417.30	1,468.32	1,430.02	38.30	38.335	
8,200.00	8,081.77	8,118.32	8,081.77	26.88	20.68	-95.95	-401.05	-417.30	1,468.32	1,429.66	38.66	37.976	
8,300.00	8,181.77	8,218.32	8,181.77	27.02	20.85	-95.95	-401.05	-417.30	1,468.32	1,429.29	39.03	37.622	
8,400.00	8,281.77	8,318.32	8,281.77	27.17	21.02	-95.95	-401.05	-417.30	1,468.32	1,428.93	39.39	37.273	
8,500.00	8,381.77	8,418.32	8,381.77	27.31	21.19	-95.95	-401.05	-417.30	1,468.32	1,428.56	39.76	36.929	
8,600.00	8,481.77	8,518.32	8,481.77	27.45	21.36	-95.95	-401.05	-417.30	1,468.32	1,428.19	40.13	36.589	
8,609.46	8,491.23	8,527.78	8,491.23	27.47	21.37	-95.95	-401.05	-417.30	1,468.32	1,428.16	40.16	36.557	
8,639.23	8,521.00	8,535.55	8,499.00	27.51	21.39	-95.95	-401.05	-417.30	1,468.49	1,428.25	40.23	36.498	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	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						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	46.85	63.75	68.01	95.13				
100.00	100.00	81.00	81.00	0.09	1.62	46.85	63.75	68.01	93.22	91.50	1.71	54.478	
200.00	200.00	181.00	181.00	0.32	5.24	46.85	63.75	68.01	93.22	87.66	5.56	16.778	
300.00	300.00	281.00	281.00	0.54	9.24	46.85	63.75	68.01	93.22	83.44	9.78	9.531	
400.00	400.00	381.00	381.00	0.77	13.24	46.85	63.75	68.01	93.22	79.21	14.01	6.656	
500.00	500.00	481.00	481.00	0.99	17.24	46.85	63.75	68.01	93.22	74.99	18.23	5.113	
600.00	600.00	581.00	581.00	1.21	21.24	46.85	63.75	68.01	93.22	70.76	22.45	4.151	
700.00	700.00	681.00	681.00	1.44	25.24	46.85	63.75	68.01	93.22	66.54	26.68	3.494	
800.00	800.00	781.00	781.00	1.66	29.24	46.85	63.75	68.01	93.22	62.31	30.90	3.016	
900.00	900.00	881.00	881.00	1.89	33.24	46.85	63.75	68.01	93.22	58.09	35.13	2.654	
1,000.00	1,000.00	981.00	981.00	2.11	37.24	46.85	63.75	68.01	93.22	53.86	39.35	2.369	
1,085.00	1,085.00	1,066.00	1,066.00	2.30	40.64	46.85	63.75	68.01	93.22	50.27	42.94	2.171	
1,100.00	1,100.00	1,081.00	1,081.00	2.34	41.24	-56.58	63.75	68.01	93.19	49.62	43.58	2.139	
1,200.00	1,199.97	1,180.97	1,180.97	2.53	45.24	-57.78	63.75	68.01	91.96	44.21	47.76	1.926	
1,300.00	1,299.80	1,280.80	1,280.80	2.73	49.23	-60.97	63.75	68.01	89.03	37.10	51.93	1.714	
1,400.00	1,399.37	1,380.37	1,380.37	2.95	53.21	-66.48	63.75	68.01	84.92	28.81	56.11	1.513	
1,500.00	1,498.55	1,479.55	1,479.55	3.19	57.18	-74.80	63.75	68.01	80.67	20.34	60.33	1.337	Level 3
1,600.00	1,597.23	1,578.23	1,578.23	3.47	61.13	-86.24	63.75	68.01	77.96	13.37	64.59	1.207	Level 2
1,628.31	1,625.06	1,606.06	1,606.06	3.55	62.24	-90.00	63.75	68.01	77.79	11.99	65.80	1.182	Level 2, CC
1,700.00	1,695.29	1,676.29	1,676.29	3.78	65.05	-100.25	63.75	68.01	79.11	10.33	68.77	1.150	Level 2, ES, SF
1,745.15	1,739.33	1,720.33	1,720.33	3.94	66.81	-106.96	63.75	68.01	81.51	10.94	70.57	1.155	Level 2
1,800.00	1,792.72	1,773.72	1,773.72	4.14	68.95	-114.78	63.75	68.01	86.09	13.39	72.70	1.184	Level 2
1,900.00	1,890.08	1,871.08	1,871.08	4.53	72.84	-126.78	63.75	68.01	98.07	21.59	76.48	1.282	Level 3
2,000.00	1,987.44	1,968.44	1,968.44	4.94	76.74	-135.94	63.75	68.01	113.44	33.18	80.25	1.413	Level 3
2,100.00	2,084.79	2,065.79	2,065.79	5.36	80.63	-142.84	63.75	68.01	131.00	46.94	84.07	1.558	
2,200.00	2,182.15	2,163.15	2,163.15	5.79	84.53	-148.08	63.75	68.01	149.99	62.07	87.93	1.706	
2,300.00	2,279.51	2,260.51	2,260.51	6.24	88.42	-152.13	63.75	68.01	169.94	78.11	91.83	1.851	
2,400.00	2,376.86	2,357.86	2,357.86	6.69	92.31	-155.33	63.75	68.01	190.53	94.76	95.77	1.990	
2,500.00	2,474.22	2,455.22	2,455.22	7.14	96.21	-157.90	63.75	68.01	211.59	111.86	99.73	2.122	
2,600.00	2,571.58	2,552.58	2,552.58	7.61	100.10	-160.01	63.75	68.01	232.98	129.27	103.71	2.246	
2,700.00	2,668.93	2,649.93	2,649.93	8.07	104.00	-161.76	63.75	68.01	254.62	146.92	107.70	2.364	
2,800.00	2,766.29	2,747.29	2,747.29	8.54	107.89	-163.24	63.75	68.01	276.46	164.75	111.71	2.475	
2,900.00	2,863.65	2,844.65	2,844.65	9.01	111.79	-164.50	63.75	68.01	298.45	182.72	115.72	2.579	
3,000.00	2,961.00	2,942.00	2,942.00	9.49	115.68	-165.59	63.75	68.01	320.55	200.81	119.75	2.677	
3,100.00	3,058.36	3,039.36	3,039.36	9.97	119.57	-166.54	63.75	68.01	342.76	218.98	123.77	2.769	
3,200.00	3,155.72	3,136.72	3,136.72	10.44	123.47	-167.37	63.75	68.01	365.04	237.23	127.81	2.856	
3,300.00	3,253.07	3,234.07	3,234.07	10.92	127.36	-168.11	63.75	68.01	387.38	255.54	131.84	2.938	
3,400.00	3,350.43	3,331.43	3,331.43	11.41	131.26	-168.77	63.75	68.01	409.78	273.90	135.88	3.016	
3,500.00	3,447.79	3,428.79	3,428.79	11.89	135.15	-169.36	63.75	68.01	432.23	292.31	139.92	3.089	
3,600.00	3,545.14	3,526.14	3,526.14	12.37	139.05	-169.89	63.75	68.01	454.72	310.75	143.97	3.158	
3,700.00	3,642.50	3,623.50	3,623.50	12.86	142.94	-170.37	63.75	68.01	477.24	329.22	148.01	3.224	
3,800.00	3,739.86	3,720.86	3,720.86	13.34	146.83	-170.81	63.75	68.01	499.78	347.72	152.06	3.287	
3,900.00	3,837.21	3,818.21	3,818.21	13.83	150.73	-171.21	63.75	68.01	522.36	366.25	156.11	3.346	
4,000.00	3,934.57	3,915.57	3,915.57	14.32	154.62	-171.57	63.75	68.01	544.96	384.79	160.16	3.402	
4,100.00	4,031.93	4,012.93	4,012.93	14.80	158.52	-171.91	63.75	68.01	567.57	403.35	164.22	3.456	
4,200.00	4,129.28	4,110.28	4,110.28	15.29	162.41	-172.22	63.75	68.01	590.20	421.93	168.27	3.507	
4,300.00	4,226.64	4,207.64	4,207.64	15.78	166.31	-172.51	63.75	68.01	612.85	440.53	172.33	3.556	
4,400.00	4,324.00	4,305.00	4,305.00	16.27	170.20	-172.78	63.75	68.01	635.51	459.13	176.38	3.603	
4,500.00	4,421.35	4,402.35	4,402.35	16.76	174.09	-173.03	63.75	68.01	658.19	477.75	180.44	3.648	
4,600.00	4,518.71	4,499.71	4,499.71	17.25	177.99	-173.26	63.75	68.01	680.87	496.38	184.50	3.690	
4,700.00	4,616.07	4,597.07	4,597.07	17.74	181.88	-173.48	63.75	68.01	703.57	515.02	188.55	3.731	
4,800.00	4,713.42	4,694.42	4,694.42	18.23	185.78	-173.69	63.75	68.01	726.28	533.66	192.61	3.771	

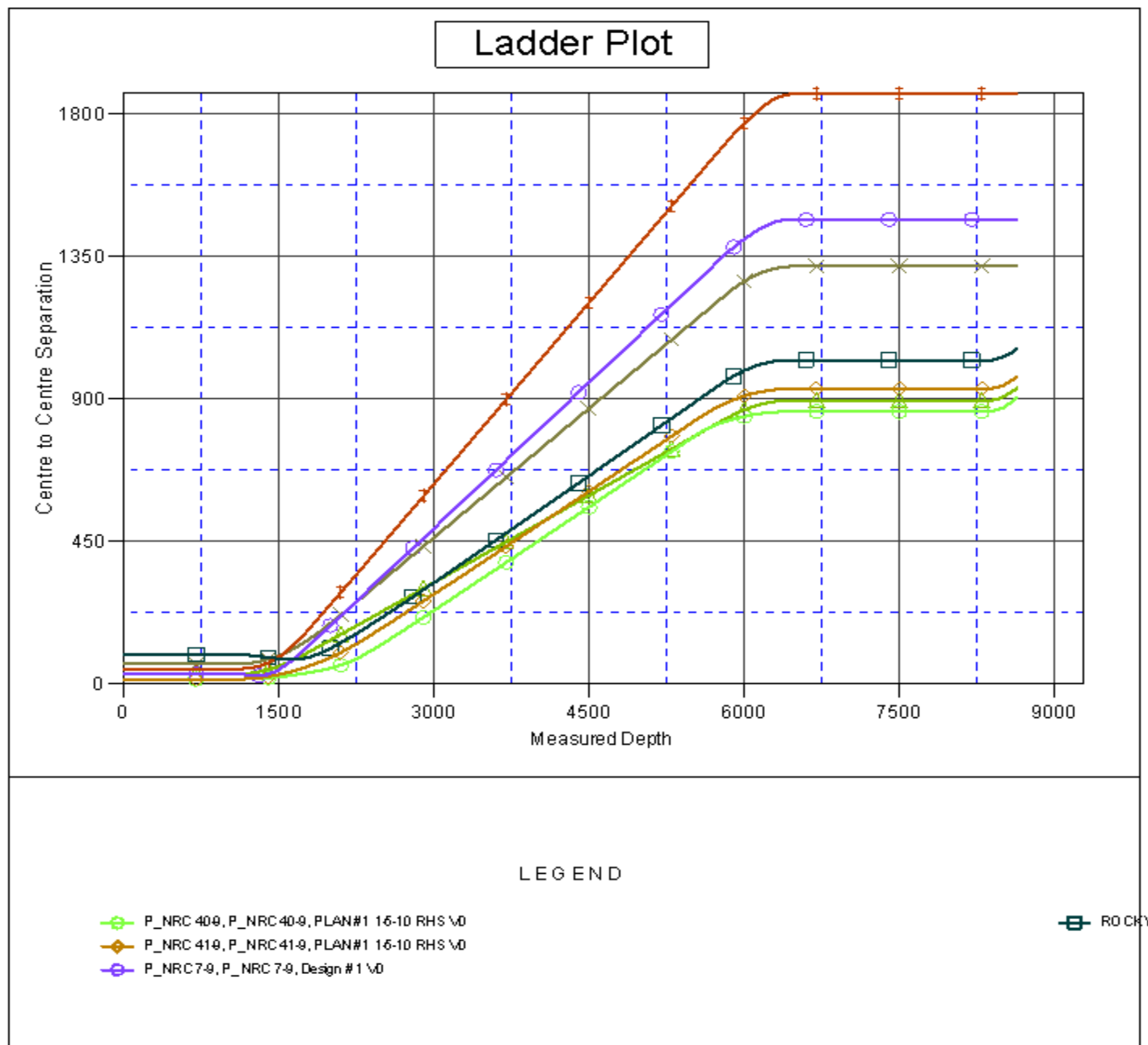
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	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						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	4,810.78	4,791.78	4,791.78	18.72	189.67	-173.88	63.75	68.01	748.99	552.32	196.67	3.808	
5,000.00	4,908.14	4,889.14	4,889.14	19.21	193.57	-174.06	63.75	68.01	771.71	570.98	200.73	3.844	
5,100.00	5,005.49	4,986.49	4,986.49	19.71	197.46	-174.23	63.75	68.01	794.44	589.64	204.79	3.879	
5,200.00	5,102.85	5,083.85	5,083.85	20.20	201.35	-174.39	63.75	68.01	817.17	608.32	208.85	3.913	
5,300.00	5,200.21	5,181.21	5,181.21	20.69	205.25	-174.54	63.75	68.01	839.91	627.00	212.91	3.945	
5,400.00	5,297.56	5,278.56	5,278.56	21.18	209.14	-174.69	63.75	68.01	862.65	645.68	216.98	3.976	
5,500.00	5,394.92	5,375.92	5,375.92	21.67	213.04	-174.82	63.75	68.01	885.40	664.37	221.04	4.006	
5,600.00	5,492.28	5,473.28	5,473.28	22.17	216.93	-174.95	63.75	68.01	908.16	683.06	225.10	4.034	
5,700.00	5,589.63	5,570.63	5,570.63	22.66	220.83	-175.08	63.75	68.01	930.92	701.75	229.16	4.062	
5,777.08	5,664.67	5,645.67	5,645.67	23.04	223.83	-175.17	63.75	68.01	948.46	716.17	232.29	4.083	
5,800.00	5,687.01	5,668.01	5,668.01	23.14	224.72	-175.20	63.75	68.01	953.59	719.96	233.62	4.082	
5,900.00	5,784.91	5,765.91	5,765.91	23.48	228.64	-175.34	63.75	68.01	973.88	734.59	239.29	4.070	
6,000.00	5,883.46	5,864.46	5,864.46	23.78	232.58	-175.44	63.75	68.01	990.75	746.02	244.73	4.048	
6,100.00	5,982.55	5,963.55	5,963.55	24.04	236.54	-175.53	63.75	68.01	1,004.18	754.25	249.93	4.018	
6,200.00	6,082.04	6,063.04	6,063.04	24.26	240.52	-175.59	63.75	68.01	1,014.16	759.29	254.87	3.979	
6,300.00	6,181.82	6,162.82	6,162.82	24.43	244.51	-175.62	63.75	68.01	1,020.67	761.15	259.52	3.933	
6,400.00	6,281.77	6,262.77	6,262.77	24.57	248.51	-175.64	63.75	68.01	1,023.71	759.84	263.87	3.880	
6,437.23	6,319.00	6,300.00	6,300.00	24.61	250.00	-72.23	63.75	68.01	1,023.95	758.55	265.41	3.858	
6,500.00	6,381.77	6,362.77	6,362.77	24.68	252.51	-72.23	63.75	68.01	1,023.95	755.92	268.03	3.820	
6,600.00	6,481.77	6,462.77	6,462.77	24.80	256.51	-72.23	63.75	68.01	1,023.95	751.75	272.20	3.762	
6,700.00	6,581.77	6,562.77	6,562.77	24.92	260.51	-72.23	63.75	68.01	1,023.95	747.57	276.38	3.705	
6,800.00	6,681.77	6,662.77	6,662.77	25.04	264.51	-72.23	63.75	68.01	1,023.95	743.39	280.56	3.650	
6,900.00	6,781.77	6,762.77	6,762.77	25.16	268.51	-72.23	63.75	68.01	1,023.95	739.21	284.74	3.596	
7,000.00	6,881.77	6,862.77	6,862.77	25.29	272.51	-72.23	63.75	68.01	1,023.95	735.03	288.92	3.544	
7,100.00	6,981.77	6,962.77	6,962.77	25.41	276.51	-72.23	63.75	68.01	1,023.95	730.85	293.10	3.493	
7,200.00	7,081.77	7,062.77	7,062.77	25.54	280.51	-72.23	63.75	68.01	1,023.95	726.66	297.29	3.444	
7,300.00	7,181.77	7,162.77	7,162.77	25.67	284.51	-72.23	63.75	68.01	1,023.95	722.48	301.47	3.396	
7,400.00	7,281.77	7,262.77	7,262.77	25.80	288.51	-72.23	63.75	68.01	1,023.95	718.29	305.66	3.350	
7,500.00	7,381.77	7,362.77	7,362.77	25.93	292.51	-72.23	63.75	68.01	1,023.95	714.11	309.85	3.305	
7,600.00	7,481.77	7,462.77	7,462.77	26.06	296.51	-72.23	63.75	68.01	1,023.95	709.92	314.03	3.261	
7,700.00	7,581.77	7,562.77	7,562.77	26.20	300.51	-72.23	63.75	68.01	1,023.95	705.73	318.22	3.218	
7,800.00	7,681.77	7,662.77	7,662.77	26.33	304.51	-72.23	63.75	68.01	1,023.95	701.54	322.41	3.176	
7,900.00	7,781.77	7,762.77	7,762.77	26.47	308.51	-72.23	63.75	68.01	1,023.95	697.35	326.60	3.135	
8,000.00	7,881.77	7,862.77	7,862.77	26.60	312.51	-72.23	63.75	68.01	1,023.95	693.16	330.79	3.095	
8,100.00	7,981.77	7,962.77	7,962.77	26.74	316.51	-72.23	63.75	68.01	1,023.95	688.97	334.98	3.057	
8,200.00	8,081.77	8,062.77	8,062.77	26.88	320.51	-72.23	63.75	68.01	1,023.95	684.78	339.17	3.019	
8,300.00	8,181.77	8,162.77	8,162.77	27.02	324.51	-72.23	63.75	68.01	1,023.95	680.58	343.37	2.982	
8,351.14	8,232.91	8,213.91	8,213.91	27.10	326.56	-72.23	63.75	68.01	1,023.95	678.44	345.51	2.964	
8,400.00	8,281.77	8,262.77	8,262.77	27.17	327.24	-72.23	63.75	68.01	1,024.44	678.15	346.29	2.958	
8,500.00	8,381.77	8,362.77	8,362.77	27.31	327.24	-72.23	63.75	68.01	1,032.39	685.91	346.48	2.980	
8,600.00	8,481.77	8,462.77	8,462.77	27.45	327.24	-72.23	63.75	68.01	1,049.85	703.17	346.68	3.028	
8,639.23	8,521.00	8,502.00	8,502.00	27.51	327.24	-72.23	63.75	68.01	1,059.21	712.45	346.76	3.055	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

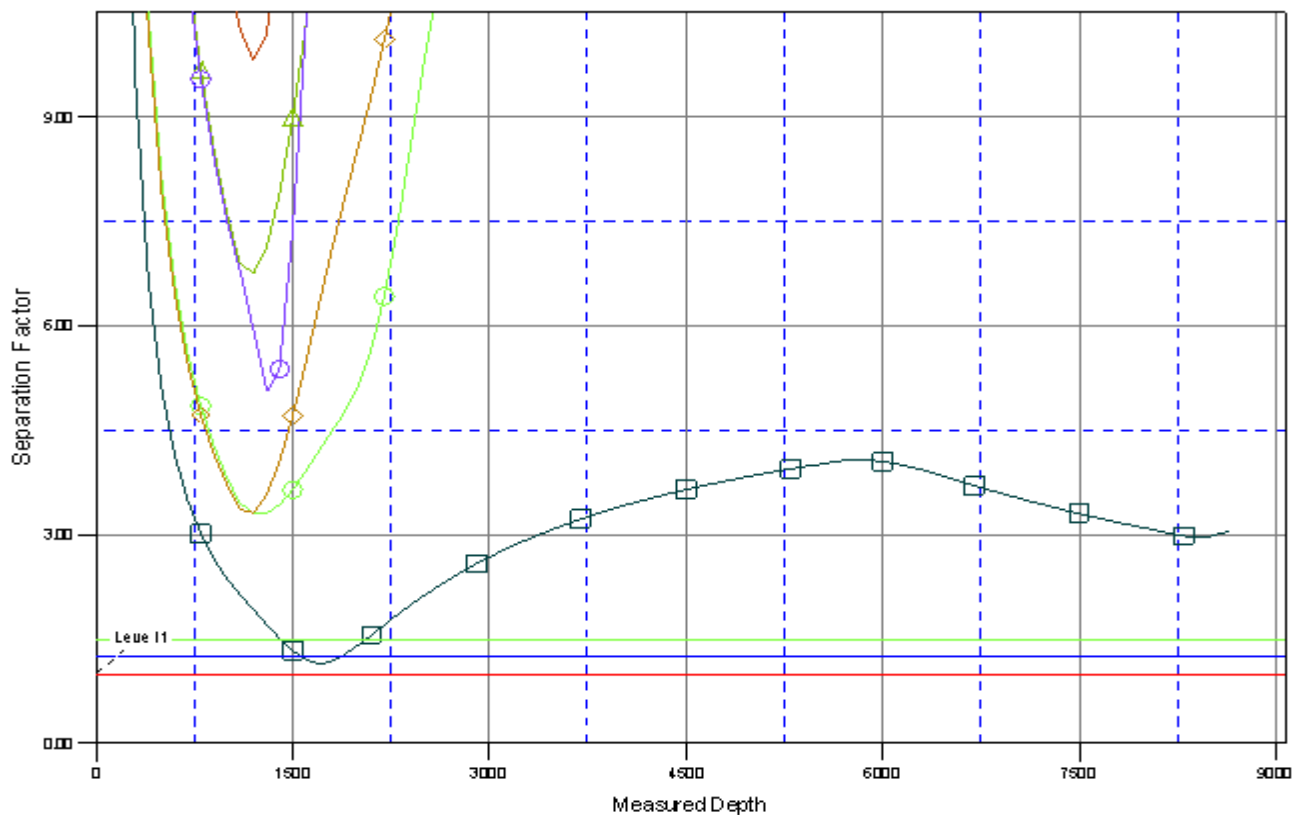
Reference Depths are relative to WELL @ 5012.00ft (Original Well Elev) Coordinates are relative to: P_NRC 8-9
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.39°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 8-9
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5012.00ft (Original Well Elev)
Reference Site:	WELD_NRC 17-9 PAD	MD Reference:	WELL @ 5012.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 8-9	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 8-9	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 @ 5012.00ft (Original Well Elev) Coordinates are relative to: P_NRC 8-9
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: 0.39°

Separation Factor Plot



LEGEND

- P_NRC 40-9, P_NRC 40-9, PLAN #1 1-5-10 RHS \0
- P_NRC 41-9, P_NRC 41-9, PLAN #1 1-5-10 RHS \0
- P_NRC 7-9, P_NRC 7-9, Design #1 \0

ROCKY