



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_NRC 20-8 PAD

P_NRC 37-8

P_NRC 37-8

Plan: PLAN #1 1-5-10 RHS

Standard Planning Report

05 January, 2010





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

WELL DETAILS: P_NRC 37-8

+N/-S	+E/-W	Northing	Ground Level:	5056.00	Longitude	Slot
0.00	0.00	1265676.41	Easting	3165148.16	40° 3' 40.187 N	104° 54' 35.910 W

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3293.00	3332.67	PARKMAN
4768.00	4839.97	SUSSEX
5238.00	5320.25	SHANNON
7408.00	7507.20	NIO A
7748.00	7847.20	CODELL
8198.00	8297.20	JSAND

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1085.00	0.00	0.00	1085.00	0.00	0.00	0.00	0.00	0.00	
1679.06	11.88	177.31	1674.81	-61.31	2.88	2.00	177.31	61.37	
5913.15	11.88	177.31	5818.19	-932.07	43.86	0.00	0.00	933.10	
6507.20	0.00	0.00	6408.00	-993.37	46.75	2.00	180.00	994.47	
8432.20	0.00	0.00	8333.00	-993.37	46.75	0.00	0.00	994.47	PBHL_NRC 37-8(50 FSL 1320 FEL)50°TGT RAD

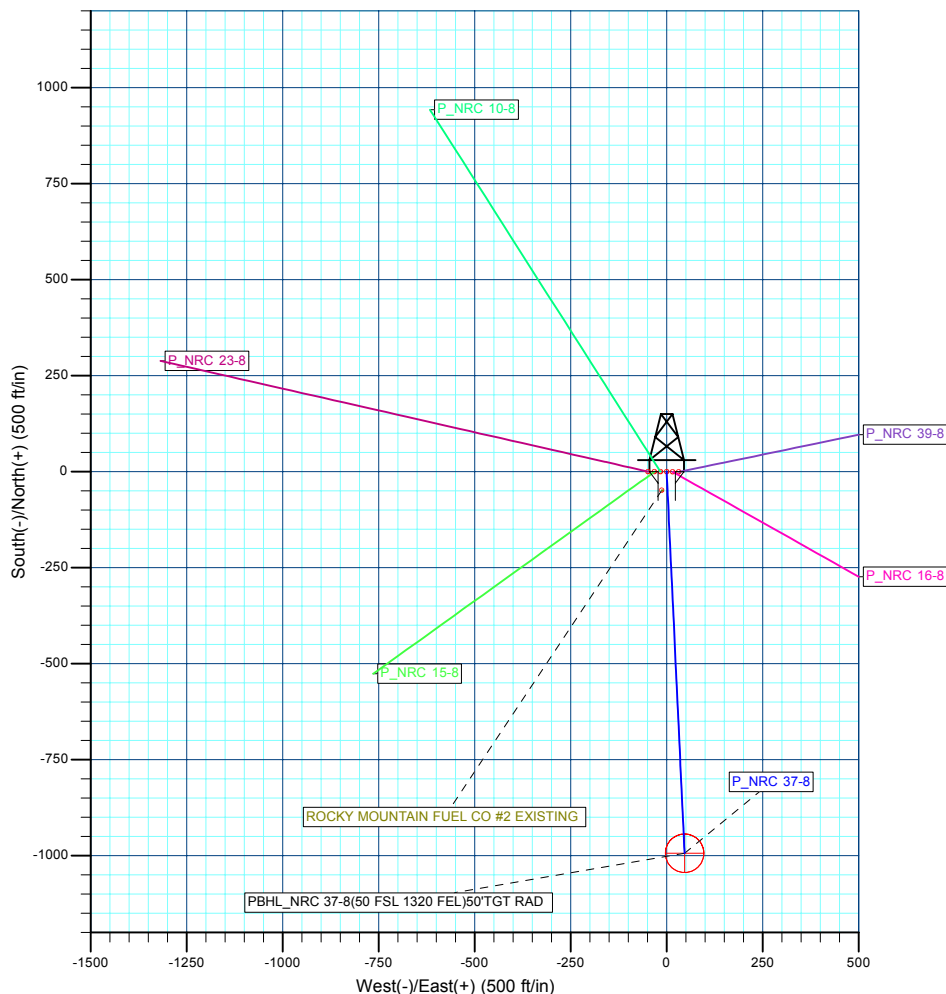
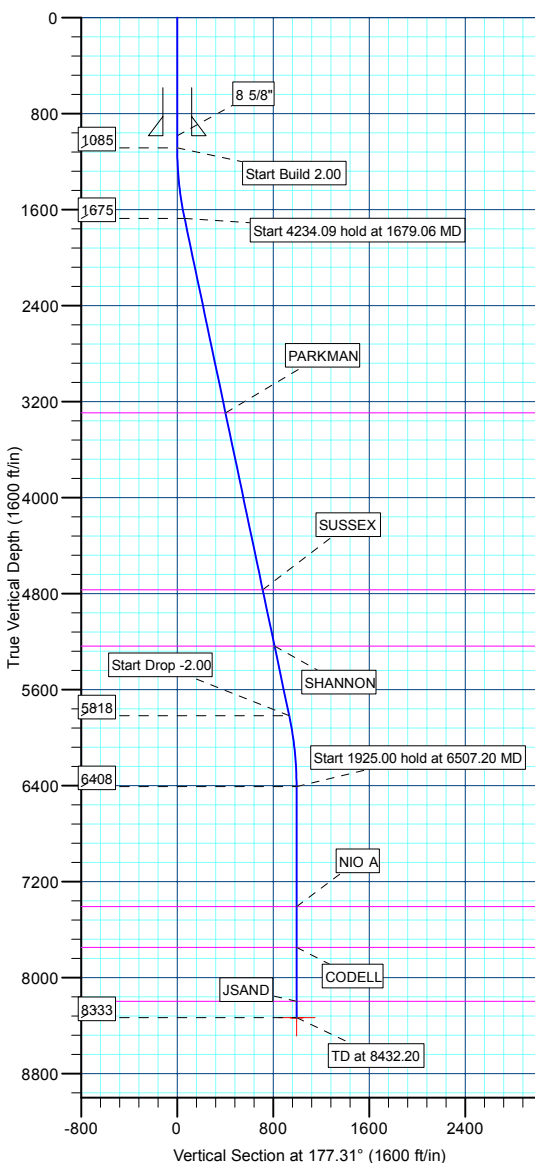
CASING DETAILS

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



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

GRD ELEV: 5056.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8333.00	-993.37	46.75	1264683.37	3165201.51	40° 3' 30.370 N	104° 54' 35.309 W	Circle (Radius: 50.00)

Plan: PLAN #1 1-5-10 RHS (P_NRC 37-8/P_NRC 37-8)

Created By: Robert H. Scott

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 37-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 37-8		
Design:	PLAN #1 1-5-10 RHS		

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

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

Well	P_NRC 37-8					
Well Position	+N/-S	-0.01 ft	Northing:	1,265,676.41 ft	Latitude:	40° 3' 40.187 N
	+E/-W	15.95 ft	Easting:	3,165,148.16 ft	Longitude:	104° 54' 35.910 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,056.00 ft

Wellbore	P_NRC 37-8				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/5/2010	9.07	66.81	53,107

Design	PLAN #1 1-5-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	177.31

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	
1,679.06	11.88	177.31	1,674.81	-61.31	2.88	2.00	2.00	0.00	177.31	
5,913.15	11.88	177.31	5,818.19	-932.07	43.86	0.00	0.00	0.00	0.00	
6,507.20	0.00	0.00	6,408.00	-993.37	46.75	2.00	-2.00	0.00	180.00	
8,432.20	0.00	0.00	8,333.00	-993.37	46.75	0.00	0.00	0.00	0.00	PBHL_NRC 37-8(5)

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 37-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 37-8		
Design:	PLAN #1 1-5-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 2.00									
1,085.00	0.00	0.00	1,085.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.30	177.31	1,100.00	-0.04	0.00	0.04	2.00	2.00	0.00
1,200.00	2.30	177.31	1,199.97	-2.31	0.11	2.31	2.00	2.00	0.00
1,300.00	4.30	177.31	1,299.80	-8.06	0.38	8.06	2.00	2.00	0.00
1,400.00	6.30	177.31	1,399.37	-17.28	0.81	17.30	2.00	2.00	0.00
1,500.00	8.30	177.31	1,498.55	-29.97	1.41	30.01	2.00	2.00	0.00
1,600.00	10.30	177.31	1,597.23	-46.11	2.17	46.17	2.00	2.00	0.00
Start 4234.09 hold at 1679.06 MD									
1,679.06	11.88	177.31	1,674.81	-61.31	2.88	61.37	2.00	2.00	0.00
1,700.00	11.88	177.31	1,695.30	-65.61	3.09	65.68	0.00	0.00	0.00
1,800.00	11.88	177.31	1,793.16	-86.18	4.06	86.27	0.00	0.00	0.00
1,900.00	11.88	177.31	1,891.02	-106.74	5.02	106.86	0.00	0.00	0.00
2,000.00	11.88	177.31	1,988.88	-127.31	5.99	127.45	0.00	0.00	0.00
2,100.00	11.88	177.31	2,086.73	-147.87	6.96	148.04	0.00	0.00	0.00
2,200.00	11.88	177.31	2,184.59	-168.44	7.93	168.63	0.00	0.00	0.00
2,300.00	11.88	177.31	2,282.45	-189.00	8.89	189.21	0.00	0.00	0.00
2,400.00	11.88	177.31	2,380.31	-209.57	9.86	209.80	0.00	0.00	0.00
2,500.00	11.88	177.31	2,478.16	-230.14	10.83	230.39	0.00	0.00	0.00
2,600.00	11.88	177.31	2,576.02	-250.70	11.80	250.98	0.00	0.00	0.00
2,700.00	11.88	177.31	2,673.88	-271.27	12.77	271.57	0.00	0.00	0.00
2,800.00	11.88	177.31	2,771.74	-291.83	13.73	292.16	0.00	0.00	0.00
2,900.00	11.88	177.31	2,869.60	-312.40	14.70	312.74	0.00	0.00	0.00
3,000.00	11.88	177.31	2,967.45	-332.96	15.67	333.33	0.00	0.00	0.00
3,100.00	11.88	177.31	3,065.31	-353.53	16.64	353.92	0.00	0.00	0.00
3,200.00	11.88	177.31	3,163.17	-374.09	17.60	374.51	0.00	0.00	0.00
3,300.00	11.88	177.31	3,261.03	-394.66	18.57	395.10	0.00	0.00	0.00
PARKMAN									
3,332.67	11.88	177.31	3,293.00	-401.38	18.89	401.82	0.00	0.00	0.00
3,400.00	11.88	177.31	3,358.88	-415.22	19.54	415.68	0.00	0.00	0.00
3,500.00	11.88	177.31	3,456.74	-435.79	20.51	436.27	0.00	0.00	0.00
3,600.00	11.88	177.31	3,554.60	-456.36	21.48	456.86	0.00	0.00	0.00
3,700.00	11.88	177.31	3,652.46	-476.92	22.44	477.45	0.00	0.00	0.00
3,800.00	11.88	177.31	3,750.31	-497.49	23.41	498.04	0.00	0.00	0.00
3,900.00	11.88	177.31	3,848.17	-518.05	24.38	518.63	0.00	0.00	0.00
4,000.00	11.88	177.31	3,946.03	-538.62	25.35	539.21	0.00	0.00	0.00
4,100.00	11.88	177.31	4,043.89	-559.18	26.31	559.80	0.00	0.00	0.00
4,200.00	11.88	177.31	4,141.74	-579.75	27.28	580.39	0.00	0.00	0.00
4,300.00	11.88	177.31	4,239.60	-600.31	28.25	600.98	0.00	0.00	0.00
4,400.00	11.88	177.31	4,337.46	-620.88	29.22	621.57	0.00	0.00	0.00
4,500.00	11.88	177.31	4,435.32	-641.45	30.18	642.15	0.00	0.00	0.00
4,600.00	11.88	177.31	4,533.18	-662.01	31.15	662.74	0.00	0.00	0.00
4,700.00	11.88	177.31	4,631.03	-682.58	32.12	683.33	0.00	0.00	0.00
4,800.00	11.88	177.31	4,728.89	-703.14	33.09	703.92	0.00	0.00	0.00
SUSSEX									
4,839.97	11.88	177.31	4,768.00	-711.36	33.47	712.15	0.00	0.00	0.00
4,900.00	11.88	177.31	4,826.75	-723.71	34.06	724.51	0.00	0.00	0.00
5,000.00	11.88	177.31	4,924.61	-744.27	35.02	745.10	0.00	0.00	0.00
5,100.00	11.88	177.31	5,022.46	-764.84	35.99	765.68	0.00	0.00	0.00
5,200.00	11.88	177.31	5,120.32	-785.40	36.96	786.27	0.00	0.00	0.00
5,300.00	11.88	177.31	5,218.18	-805.97	37.93	806.86	0.00	0.00	0.00
SHANNON									
5,320.25	11.88	177.31	5,238.00	-810.13	38.12	811.03	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 37-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 37-8		
Design:	PLAN #1 1-5-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.00	11.88	177.31	5,316.04	-826.53	38.89	827.45	0.00	0.00	0.00
5,500.00	11.88	177.31	5,413.89	-847.10	39.86	848.04	0.00	0.00	0.00
5,600.00	11.88	177.31	5,511.75	-867.67	40.83	868.63	0.00	0.00	0.00
5,700.00	11.88	177.31	5,609.61	-888.23	41.80	889.21	0.00	0.00	0.00
5,800.00	11.88	177.31	5,707.47	-908.80	42.77	909.80	0.00	0.00	0.00
5,900.00	11.88	177.31	5,805.33	-929.36	43.73	930.39	0.00	0.00	0.00
Start Drop -2.00									
5,913.15	11.88	177.31	5,818.19	-932.07	43.86	933.10	0.00	0.00	0.00
6,000.00	10.14	177.31	5,903.44	-948.64	44.64	949.69	2.00	-2.00	0.00
6,100.00	8.14	177.31	6,002.17	-964.51	45.39	965.58	2.00	-2.00	0.00
6,200.00	6.14	177.31	6,101.38	-976.93	45.97	978.01	2.00	-2.00	0.00
6,300.00	4.14	177.31	6,200.98	-985.89	46.39	986.98	2.00	-2.00	0.00
6,400.00	2.14	177.31	6,300.82	-991.37	46.65	992.46	2.00	-2.00	0.00
6,500.00	0.14	177.31	6,400.80	-993.36	46.75	994.46	2.00	-2.00	0.00
Start 1925.00 hold at 6507.20 MD									
6,507.20	0.00	0.00	6,408.00	-993.37	46.75	994.47	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,500.80	-993.37	46.75	994.47	0.00	0.00	0.00
6,700.00	0.00	0.00	6,600.80	-993.37	46.75	994.47	0.00	0.00	0.00
6,800.00	0.00	0.00	6,700.80	-993.37	46.75	994.47	0.00	0.00	0.00
6,900.00	0.00	0.00	6,800.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,000.00	0.00	0.00	6,900.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,100.00	0.00	0.00	7,000.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,200.00	0.00	0.00	7,100.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,300.00	0.00	0.00	7,200.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,400.00	0.00	0.00	7,300.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,500.00	0.00	0.00	7,400.80	-993.37	46.75	994.47	0.00	0.00	0.00
NIO A									
7,507.20	0.00	0.00	7,408.00	-993.37	46.75	994.47	0.00	0.00	0.00
7,600.00	0.00	0.00	7,500.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,700.00	0.00	0.00	7,600.80	-993.37	46.75	994.47	0.00	0.00	0.00
7,800.00	0.00	0.00	7,700.80	-993.37	46.75	994.47	0.00	0.00	0.00
CODELL									
7,847.20	0.00	0.00	7,748.00	-993.37	46.75	994.47	0.00	0.00	0.00
7,900.00	0.00	0.00	7,800.80	-993.37	46.75	994.47	0.00	0.00	0.00
8,000.00	0.00	0.00	7,900.80	-993.37	46.75	994.47	0.00	0.00	0.00
8,100.00	0.00	0.00	8,000.80	-993.37	46.75	994.47	0.00	0.00	0.00
8,200.00	0.00	0.00	8,100.80	-993.37	46.75	994.47	0.00	0.00	0.00
JSAND									
8,297.20	0.00	0.00	8,198.00	-993.37	46.75	994.47	0.00	0.00	0.00
8,300.00	0.00	0.00	8,200.80	-993.37	46.75	994.47	0.00	0.00	0.00
8,400.00	0.00	0.00	8,300.80	-993.37	46.75	994.47	0.00	0.00	0.00
PBHL_NRC 37-8(50 FSL 1320 FEL)50'TGT RAD									
8,432.20	0.00	0.00	8,333.00	-993.37	46.75	994.47	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_NRC 37-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site:	WELD_NRC 20-8 PAD	North Reference:	True
Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NRC 37-8		
Design:	PLAN #1 1-5-10 RHS		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PBHL_NRC 37-8(50 F - plan hits target center - Circle (radius 50.00)	0.00	0.00	8,333.00	-993.37	46.75	1,264,683.37	3,165,201.51	40° 3' 30.370 N	104° 54' 35.309 W

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

Formations						
	Measured Depth	Vertical Depth			Dip	Dip Direction
	(ft)	(ft)	Name	Lithology	(°)	(°)
	3,332.67	3,293.00	PARKMAN			
	4,839.97	4,768.00	SUSSEX			
	5,320.25	5,238.00	SHANNON			
	7,507.20	7,408.00	NIO A			
	7,847.20	7,748.00	CODELL			
	8,297.20	8,198.00	JSAND			

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(ft)	(ft)	+N/-S	+E/-W	Comment
	(ft)	(ft)	(ft)	(ft)	
	1,085.00	1,085.00	0.00	0.00	Start Build 2.00
	1,679.06	1,674.81	-61.31	2.88	Start 4234.09 hold at 1679.06 MD
	5,913.15	5,818.19	-932.07	43.86	Start Drop -2.00
	6,507.20	6,408.00	-993.37	46.75	Start 1925.00 hold at 6507.20 MD
	8,432.20	8,333.00	-993.37	46.75	TD at 8432.20



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_NRC 20-8 PAD
P_NRC 37-8**

**P_NRC 37-8
PLAN #1 1-5-10 RHS**

Anticollision Report

05 January, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	1/5/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,432.20	PLAN #1 1-5-10 RHS (P_NRC 37-8)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_NRC 20-8 PAD						
P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	15.95	11.34	3.454	CC
P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.95	15.98	11.30	3.413	ES, SF
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	31.91	27.29	6.908	CC
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.87	31.94	27.26	6.828	ES
P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS	1,200.00	1,198.93	33.89	28.86	6.740	SF
P_NRC 16-8 - P_NRC 16-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	15.96	11.34	3.455	CC
P_NRC 16-8 - P_NRC 16-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.93	15.99	11.31	3.418	ES, SF
P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	48.14	43.53	10.423	CC
P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.76	48.18	43.50	10.297	ES
P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS	1,200.00	1,198.03	50.56	45.51	10.013	SF
P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS	1,085.00	1,085.00	31.91	27.29	6.909	CC
P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS	1,100.00	1,099.84	31.95	27.27	6.826	ES
P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS	1,200.00	1,198.66	34.12	29.07	6.755	SF
ROCKY MOUNTAIN FUEL CO #2 EXISTING - ROCKY I	1,609.10	1,588.19	14.86	-50.06	0.229	Level 1, CC, ES, SF

Offset Design WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS												Offset Site Error: 0.00 ft	
Survey Program: 0-MWD												Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.00	0.00	0.00	0.00	-89.95	0.01	-15.95	15.95				
100.00	100.00	100.00	100.00	0.10	0.10	-89.95	0.01	-15.95	15.95	15.76	0.19	83.509	
200.00	200.00	200.00	200.00	0.32	0.32	-89.95	0.01	-15.95	15.95	15.31	0.64	24.906	
300.00	300.00	300.00	300.00	0.55	0.55	-89.95	0.01	-15.95	15.95	14.86	1.09	14.636	
400.00	400.00	400.00	400.00	0.77	0.77	-89.95	0.01	-15.95	15.95	14.41	1.54	10.362	
500.00	500.00	500.00	500.00	0.99	0.99	-89.95	0.01	-15.95	15.95	13.97	1.99	8.021	
600.00	600.00	600.00	600.00	1.22	1.22	-89.95	0.01	-15.95	15.95	13.52	2.44	6.542	
700.00	700.00	700.00	700.00	1.44	1.44	-89.95	0.01	-15.95	15.95	13.07	2.89	5.524	
800.00	800.00	800.00	800.00	1.67	1.67	-89.95	0.01	-15.95	15.95	12.62	3.34	4.780	
900.00	900.00	900.00	900.00	1.89	1.89	-89.95	0.01	-15.95	15.95	12.17	3.79	4.213	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.95	0.01	-15.95	15.95	11.72	4.24	3.766	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-89.95	0.01	-15.95	15.95	11.34	4.62	3.454	CC
1,100.00	1,100.00	1,099.95	1,099.95	2.34	2.34	93.00	0.05	-15.98	15.98	11.30	4.68	3.413	ES, SF
1,200.00	1,199.97	1,199.48	1,199.45	2.51	2.56	106.42	1.94	-17.18	17.81	12.74	5.07	3.514	

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 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
1,300.00	1,299.80	1,298.24	1,298.04	2.69	2.78	128.01	6.70	-20.22	25.40	19.94	5.46	4.650	
1,400.00	1,399.37	1,395.58	1,394.97	2.88	3.01	142.78	14.20	-24.99	40.94	35.09	5.85	6.998	
1,500.00	1,498.55	1,490.87	1,489.52	3.10	3.25	150.69	24.22	-31.37	63.98	57.75	6.24	10.261	
1,600.00	1,597.23	1,583.58	1,581.07	3.36	3.50	154.98	36.52	-39.20	93.81	87.19	6.62	14.177	
1,679.06	1,674.81	1,654.72	1,650.97	3.59	3.71	157.04	47.64	-46.28	121.88	114.96	6.92	17.619	
1,700.00	1,695.30	1,673.24	1,669.11	3.65	3.77	157.51	50.77	-48.28	129.89	122.88	7.00	18.543	
1,800.00	1,793.16	1,760.32	1,754.09	3.98	4.07	159.04	66.84	-58.51	169.87	162.44	7.43	22.865	
1,900.00	1,891.02	1,845.13	1,836.24	4.34	4.39	159.85	84.58	-69.81	212.61	204.75	7.86	27.045	
2,000.00	1,988.88	1,927.61	1,915.51	4.71	4.74	160.27	103.78	-82.04	257.94	249.64	8.30	31.081	
2,100.00	2,086.73	2,007.71	1,991.84	5.09	5.12	160.46	124.27	-95.09	305.75	297.01	8.74	34.979	
2,200.00	2,184.59	2,085.43	2,065.22	5.48	5.54	160.52	145.86	-108.84	355.91	346.72	9.19	38.734	
2,300.00	2,282.45	2,160.75	2,135.65	5.89	5.98	160.51	168.38	-123.18	408.31	398.68	9.64	42.358	
2,400.00	2,380.31	2,233.69	2,203.16	6.30	6.44	160.44	191.67	-138.01	462.87	452.77	10.09	45.868	
2,500.00	2,478.16	2,304.27	2,267.79	6.71	6.91	160.33	215.58	-153.23	519.46	508.92	10.54	49.275	
2,600.00	2,576.02	2,379.22	2,335.77	7.13	7.46	160.21	242.22	-170.19	577.76	566.75	11.01	52.456	
2,700.00	2,673.88	2,460.28	2,409.19	7.56	8.07	160.09	271.19	-188.65	636.31	624.80	11.51	55.283	
2,800.00	2,771.74	2,541.35	2,482.62	7.98	8.69	159.99	300.17	-207.10	694.85	682.84	12.01	57.856	
2,900.00	2,869.60	2,622.42	2,556.05	8.42	9.32	159.91	329.14	-225.55	753.40	740.88	12.52	60.199	
3,000.00	2,967.45	2,703.48	2,629.47	8.85	9.96	159.84	358.12	-244.01	811.95	798.92	13.02	62.338	
3,100.00	3,065.31	2,784.55	2,702.90	9.28	10.61	159.77	387.10	-262.46	870.50	856.96	13.54	64.289	
3,200.00	3,163.17	2,865.61	2,776.32	9.72	11.26	159.72	416.07	-280.91	929.04	914.99	14.06	66.081	
3,300.00	3,261.03	2,946.68	2,849.75	10.16	11.92	159.67	445.05	-299.36	987.59	973.01	14.58	67.731	
3,400.00	3,358.88	3,027.74	2,923.18	10.60	12.58	159.63	474.03	-317.82	1,046.14	1,031.04	15.11	69.254	
3,500.00	3,456.74	3,108.81	2,996.60	11.04	13.24	159.59	503.00	-336.27	1,104.69	1,089.06	15.63	70.663	
3,600.00	3,554.60	3,189.87	3,070.03	11.48	13.91	159.56	531.98	-354.72	1,163.24	1,147.08	16.16	71.967	
3,700.00	3,652.46	3,270.94	3,143.46	11.92	14.58	159.53	560.95	-373.18	1,221.79	1,205.10	16.70	73.178	
3,800.00	3,750.31	3,352.00	3,216.88	12.37	15.25	159.50	589.93	-391.63	1,280.34	1,263.11	17.23	74.305	
3,900.00	3,848.17	3,433.07	3,290.31	12.81	15.92	159.48	618.91	-410.08	1,338.90	1,321.13	17.77	75.358	
4,000.00	3,946.03	3,514.13	3,363.74	13.26	16.60	159.45	647.88	-428.53	1,397.45	1,379.14	18.30	76.343	
4,100.00	4,043.89	3,595.20	3,437.16	13.70	17.27	159.43	676.86	-446.99	1,456.00	1,437.15	18.84	77.264	
4,200.00	4,141.74	3,676.26	3,510.59	14.15	17.95	159.41	705.84	-465.44	1,514.55	1,495.16	19.39	78.127	
4,300.00	4,239.60	3,822.10	3,643.72	14.59	19.01	159.40	756.03	-497.41	1,571.96	1,551.87	20.09	78.235	
4,400.00	4,337.46	4,010.76	3,820.07	15.04	20.10	159.47	812.50	-533.36	1,624.42	1,603.56	20.87	77.841	
4,500.00	4,435.32	4,214.42	4,014.93	15.49	21.10	159.63	862.32	-565.09	1,671.04	1,649.38	21.66	77.156	
4,600.00	4,533.18	4,432.64	4,227.80	15.94	21.96	159.88	902.60	-590.74	1,711.14	1,688.70	22.44	76.251	
4,700.00	4,631.03	4,664.23	4,457.00	16.39	22.61	160.24	930.27	-608.36	1,744.07	1,720.87	23.20	75.191	
4,800.00	4,728.89	4,907.20	4,699.46	16.83	23.02	160.72	942.42	-616.10	1,769.24	1,745.34	23.90	74.030	
4,900.00	4,826.75	5,034.49	4,826.75	17.28	23.14	161.00	942.77	-616.32	1,788.89	1,764.50	24.39	73.345	
5,000.00	4,924.61	5,132.35	4,924.61	17.73	23.24	161.21	942.77	-616.32	1,808.41	1,783.57	24.85	72.784	
5,100.00	5,022.46	5,230.20	5,022.46	18.18	23.33	161.42	942.77	-616.32	1,827.96	1,802.66	25.30	72.243	
5,200.00	5,120.32	5,328.06	5,120.32	18.63	23.43	161.62	942.77	-616.32	1,847.53	1,821.77	25.76	71.720	
5,300.00	5,218.18	5,425.92	5,218.18	19.08	23.53	161.82	942.77	-616.32	1,867.12	1,840.90	26.22	71.214	
5,400.00	5,316.04	5,523.78	5,316.04	19.53	23.63	162.01	942.77	-616.32	1,886.73	1,860.05	26.68	70.724	
5,500.00	5,413.89	5,621.63	5,413.89	19.98	23.73	162.20	942.77	-616.32	1,906.36	1,879.22	27.14	70.251	
5,600.00	5,511.75	5,719.49	5,511.75	20.43	23.84	162.39	942.77	-616.32	1,926.01	1,898.42	27.60	69.793	
5,700.00	5,609.61	5,817.35	5,609.61	20.88	23.94	162.57	942.77	-616.32	1,945.68	1,917.63	28.06	69.349	
5,800.00	5,707.47	5,915.21	5,707.47	21.33	24.05	162.75	942.77	-616.32	1,965.37	1,936.86	28.52	68.919	
5,900.00	5,805.33	6,013.06	5,805.33	21.79	24.16	162.93	942.77	-616.32	1,985.08	1,956.10	28.98	68.503	
5,913.15	5,818.19	6,025.93	5,818.19	21.84	24.17	162.95	942.77	-616.32	1,987.67	1,958.63	29.04	68.449	
6,000.00	5,903.44	6,111.18	5,903.44	22.17	24.27	163.18	942.77	-616.32	2,003.57	1,973.97	29.60	67.698	
6,100.00	6,002.17	6,209.90	6,002.17	22.44	24.38	163.40	942.77	-616.32	2,018.81	1,988.63	30.17	66.905	
6,200.00	6,101.38	6,309.12	6,101.38	22.68	24.50	163.57	942.77	-616.32	2,030.74	2,000.03	30.71	66.127	

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 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 10-8 - P_NRC 10-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,300.00	6,200.98	6,408.71	6,200.98	22.88	24.61	163.69	942.77	-616.32	2,039.34	2,008.14	31.20	65.364	
6,400.00	6,300.82	6,508.56	6,300.82	23.04	24.73	163.76	942.77	-616.32	2,044.61	2,012.96	31.64	64.614	
6,507.20	6,408.00	6,615.74	6,408.00	23.19	24.86	-18.90	942.77	-616.32	2,046.53	2,014.45	32.08	63.790	
6,600.00	6,500.80	6,708.53	6,500.80	23.30	24.97	-18.90	942.77	-616.32	2,046.53	2,014.12	32.41	63.138	
6,700.00	6,600.80	6,808.53	6,600.80	23.41	25.10	-18.90	942.77	-616.32	2,046.53	2,013.77	32.76	62.474	
6,800.00	6,700.80	6,908.53	6,700.80	23.52	25.22	-18.90	942.77	-616.32	2,046.53	2,013.43	33.11	61.818	
6,900.00	6,800.80	7,008.53	6,800.80	23.63	25.35	-18.90	942.77	-616.32	2,046.53	2,013.08	33.46	61.172	
7,000.00	6,900.80	7,108.53	6,900.80	23.74	25.47	-18.90	942.77	-616.32	2,046.53	2,012.73	33.81	60.535	
7,100.00	7,000.80	7,208.53	7,000.80	23.86	25.60	-18.90	942.77	-616.32	2,046.53	2,012.37	34.16	59.908	
7,200.00	7,100.80	7,308.53	7,100.80	23.97	25.73	-18.90	942.77	-616.32	2,046.53	2,012.01	34.52	59.289	
7,300.00	7,200.80	7,408.53	7,200.80	24.09	25.86	-18.90	942.77	-616.32	2,046.53	2,011.66	34.88	58.679	
7,400.00	7,300.80	7,508.53	7,300.80	24.21	26.00	-18.90	942.77	-616.32	2,046.53	2,011.30	35.24	58.079	
7,500.00	7,400.80	7,608.53	7,400.80	24.33	26.13	-18.90	942.77	-616.32	2,046.53	2,010.93	35.60	57.487	
7,600.00	7,500.80	7,708.53	7,500.80	24.45	26.26	-18.90	942.77	-616.32	2,046.53	2,010.57	35.96	56.904	
7,700.00	7,600.80	7,808.53	7,600.80	24.57	26.40	-18.90	942.77	-616.32	2,046.53	2,010.20	36.33	56.330	
7,800.00	7,700.80	7,908.53	7,700.80	24.69	26.54	-18.90	942.77	-616.32	2,046.53	2,009.83	36.70	55.764	
7,900.00	7,800.80	8,008.53	7,800.80	24.82	26.68	-18.90	942.77	-616.32	2,046.53	2,009.46	37.07	55.208	
8,000.00	7,900.80	8,108.53	7,900.80	24.95	26.82	-18.90	942.77	-616.32	2,046.53	2,009.09	37.44	54.659	
8,100.00	8,000.80	8,208.53	8,000.80	25.07	26.96	-18.90	942.77	-616.32	2,046.53	2,008.72	37.82	54.119	
8,200.00	8,100.80	8,308.53	8,100.80	25.20	27.10	-18.90	942.77	-616.32	2,046.53	2,008.34	38.19	53.588	
8,300.00	8,200.80	8,408.53	8,200.80	25.33	27.24	-18.90	942.77	-616.32	2,046.53	2,007.97	38.57	53.064	
8,400.00	8,300.80	8,508.53	8,300.80	25.47	27.39	-18.90	942.77	-616.32	2,046.53	2,007.59	38.95	52.549	
8,403.88	8,304.67	8,512.41	8,304.67	25.47	27.39	-18.90	942.77	-616.32	2,046.53	2,007.57	38.96	52.529	
8,432.20	8,333.00	8,520.74	8,313.00	25.51	27.40	-18.90	942.77	-616.32	2,046.63	2,007.60	39.03	52.440	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-31.91	31.91				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-31.91	31.91	31.72	0.19	167.018	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-31.91	31.91	31.27	0.64	49.812	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-31.91	31.91	30.82	1.09	29.271	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-31.91	31.91	30.37	1.54	20.725	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-31.91	31.91	29.92	1.99	16.041	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-31.91	31.91	29.47	2.44	13.084	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-31.91	31.91	29.02	2.89	11.048	
800.00	800.00	800.00	800.00	1.67	1.67	-90.00	0.00	-31.91	31.91	28.57	3.34	9.560	
900.00	900.00	900.00	900.00	1.89	1.89	-90.00	0.00	-31.91	31.91	28.12	3.79	8.425	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.00	0.00	-31.91	31.91	27.67	4.24	7.531	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-90.00	0.00	-31.91	31.91	27.29	4.62	6.908 CC	
1,100.00	1,100.00	1,099.87	1,099.87	2.34	2.34	92.72	-0.02	-31.94	31.94	27.26	4.68	6.828 ES	
1,200.00	1,199.97	1,198.93	1,198.90	2.51	2.52	94.28	-1.32	-33.75	33.89	28.86	5.03	6.740 SF	
1,300.00	1,299.80	1,297.80	1,297.61	2.69	2.71	97.52	-4.61	-38.33	38.92	33.52	5.39	7.214	
1,400.00	1,399.37	1,396.33	1,395.72	2.88	2.92	101.23	-9.86	-45.64	47.18	41.39	5.79	8.154	
1,500.00	1,498.55	1,494.36	1,492.97	3.10	3.15	104.56	-17.03	-55.62	58.75	52.53	6.21	9.453	
1,600.00	1,597.23	1,591.74	1,589.10	3.36	3.40	107.22	-26.08	-68.21	73.63	66.93	6.70	10.995	
1,679.06	1,674.81	1,668.17	1,664.15	3.59	3.64	108.84	-34.51	-79.95	87.71	80.59	7.13	12.309	
1,700.00	1,695.30	1,688.33	1,683.88	3.65	3.70	109.24	-36.93	-83.32	91.76	84.51	7.25	12.663	
1,800.00	1,793.16	1,784.19	1,777.26	3.98	4.04	109.93	-49.53	-100.86	112.26	104.40	7.87	14.273	
1,900.00	1,891.02	1,879.21	1,869.08	4.34	4.43	109.27	-63.82	-120.75	134.70	126.15	8.54	15.767	
2,000.00	1,988.88	1,973.21	1,959.05	4.71	4.87	107.88	-79.69	-142.85	159.09	149.82	9.27	17.162	
2,100.00	2,086.73	2,068.99	2,050.07	5.09	5.37	106.29	-97.08	-167.05	184.94	174.90	10.04	18.413	
2,200.00	2,184.59	2,165.46	2,141.73	5.48	5.90	105.07	-114.63	-191.49	210.94	200.10	10.85	19.449	
2,300.00	2,282.45	2,261.94	2,233.40	5.89	6.44	104.11	-132.18	-215.92	237.02	225.35	11.67	20.318	
2,400.00	2,380.31	2,358.41	2,325.06	6.30	7.00	103.34	-149.74	-240.36	263.14	250.64	12.50	21.052	
2,500.00	2,478.16	2,454.88	2,416.72	6.71	7.57	102.72	-167.29	-264.79	289.30	275.95	13.35	21.678	
2,600.00	2,576.02	2,551.36	2,508.38	7.13	8.16	102.19	-184.84	-289.23	315.48	301.28	14.20	22.217	
2,700.00	2,673.88	2,647.83	2,600.05	7.56	8.74	101.75	-202.40	-313.67	341.69	326.63	15.06	22.684	
2,800.00	2,771.74	2,744.31	2,691.71	7.98	9.34	101.37	-219.95	-338.10	367.91	351.98	15.93	23.092	
2,900.00	2,869.60	2,840.78	2,783.37	8.42	9.93	101.04	-237.50	-362.54	394.15	377.34	16.81	23.452	
3,000.00	2,967.45	2,937.25	2,875.03	8.85	10.54	100.75	-255.06	-386.97	420.40	402.71	17.69	23.770	
3,100.00	3,065.31	3,033.73	2,966.69	9.28	11.14	100.49	-272.61	-411.41	446.65	428.08	18.57	24.054	
3,200.00	3,163.17	3,130.20	3,058.36	9.72	11.75	100.27	-290.16	-435.85	472.91	453.46	19.45	24.309	
3,300.00	3,261.03	3,226.67	3,150.02	10.16	12.36	100.06	-307.71	-460.28	499.18	478.84	20.34	24.539	
3,400.00	3,358.88	3,323.15	3,241.68	10.60	12.97	99.88	-325.27	-484.72	525.46	504.22	21.23	24.747	
3,500.00	3,456.74	3,419.62	3,333.34	11.04	13.58	99.72	-342.82	-509.16	551.74	529.61	22.13	24.936	
3,600.00	3,554.60	3,516.10	3,425.01	11.48	14.20	99.57	-360.37	-533.59	578.02	555.00	23.02	25.109	
3,700.00	3,652.46	3,612.57	3,516.67	11.92	14.81	99.43	-377.93	-558.03	604.30	580.39	23.92	25.268	
3,800.00	3,750.31	3,709.04	3,608.33	12.37	15.43	99.30	-395.48	-582.46	630.59	605.78	24.81	25.415	
3,900.00	3,848.17	3,805.52	3,699.99	12.81	16.05	99.19	-413.03	-606.90	656.88	631.18	25.71	25.550	
4,000.00	3,946.03	3,901.99	3,791.65	13.26	16.67	99.08	-430.59	-631.34	683.18	656.57	26.61	25.676	
4,100.00	4,043.89	4,005.09	3,889.69	13.70	17.29	98.99	-449.21	-657.27	709.33	681.82	27.51	25.781	
4,200.00	4,141.74	4,123.87	4,003.71	14.15	17.82	99.10	-468.60	-684.25	733.27	704.89	28.38	25.838	
4,300.00	4,239.60	4,244.14	4,120.48	14.59	18.29	99.47	-485.40	-707.64	754.28	725.03	29.24	25.792	
4,400.00	4,337.46	4,365.50	4,239.42	15.04	18.71	100.08	-499.44	-727.19	772.34	742.24	30.10	25.658	
4,500.00	4,435.32	4,487.53	4,359.93	15.49	19.07	100.93	-510.59	-742.70	787.51	756.56	30.95	25.448	
4,600.00	4,533.18	4,609.79	4,481.38	15.94	19.37	102.02	-518.74	-754.05	799.85	768.08	31.77	25.178	
4,700.00	4,631.03	4,731.83	4,603.09	16.39	19.59	103.32	-523.85	-761.17	809.50	776.94	32.56	24.862	
4,800.00	4,728.89	4,853.21	4,724.41	16.83	19.76	104.85	-525.94	-764.07	816.63	783.31	33.32	24.507	
4,900.00	4,826.75	4,955.54	4,826.75	17.28	19.87	106.27	-525.99	-764.15	822.33	788.31	34.01	24.176	

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 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 15-8 - P_NRC 15-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,924.61	5,053.40	4,924.61	17.73	19.97	107.61	-525.99	-764.15	828.45	793.77	34.68	23.890	
5,100.00	5,022.46	5,151.26	5,022.46	18.18	20.08	108.93	-525.99	-764.15	835.03	799.70	35.33	23.638	
5,200.00	5,120.32	5,249.12	5,120.32	18.63	20.18	110.23	-525.99	-764.15	842.06	806.11	35.96	23.418	
5,300.00	5,218.18	5,346.97	5,218.18	19.08	20.29	111.51	-525.99	-764.15	849.54	812.96	36.58	23.227	
5,400.00	5,316.04	5,444.83	5,316.04	19.53	20.41	112.77	-525.99	-764.15	857.44	820.26	37.18	23.062	
5,500.00	5,413.89	5,542.69	5,413.89	19.98	20.52	114.00	-525.99	-764.15	865.76	828.00	37.77	22.924	
5,600.00	5,511.75	5,640.55	5,511.75	20.43	20.63	115.21	-525.99	-764.15	874.49	836.15	38.34	22.808	
5,700.00	5,609.61	5,738.41	5,609.61	20.88	20.75	116.40	-525.99	-764.15	883.61	844.71	38.90	22.714	
5,800.00	5,707.47	5,836.26	5,707.47	21.33	20.87	117.56	-525.99	-764.15	893.11	853.67	39.45	22.641	
5,900.00	5,805.33	5,934.12	5,805.33	21.79	20.99	118.70	-525.99	-764.15	902.99	863.01	39.98	22.586	
5,913.15	5,818.19	5,946.99	5,818.19	21.84	21.01	118.85	-525.99	-764.15	904.31	864.26	40.05	22.580	
6,000.00	5,903.44	6,032.24	5,903.44	22.17	21.11	119.89	-525.99	-764.15	912.56	872.07	40.49	22.536	
6,100.00	6,002.17	6,130.96	6,002.17	22.44	21.24	120.88	-525.99	-764.15	920.68	879.77	40.91	22.505	
6,200.00	6,101.38	6,230.18	6,101.38	22.68	21.36	121.65	-525.99	-764.15	927.17	885.88	41.29	22.457	
6,300.00	6,200.98	6,329.77	6,200.98	22.88	21.49	122.20	-525.99	-764.15	931.93	890.30	41.63	22.388	
6,400.00	6,300.82	6,429.62	6,300.82	23.04	21.62	122.53	-525.99	-764.15	934.87	892.94	41.93	22.296	
6,507.20	6,408.00	6,536.80	6,408.00	23.19	21.76	-60.04	-525.99	-764.15	935.95	893.71	42.23	22.161	
6,600.00	6,500.80	6,629.59	6,500.80	23.30	21.89	-60.04	-525.99	-764.15	935.95	893.46	42.48	22.031	
6,700.00	6,600.80	6,729.59	6,600.80	23.41	22.02	-60.04	-525.99	-764.15	935.95	893.21	42.74	21.898	
6,800.00	6,700.80	6,829.59	6,700.80	23.52	22.16	-60.04	-525.99	-764.15	935.95	892.94	43.00	21.766	
6,900.00	6,800.80	6,929.59	6,800.80	23.63	22.30	-60.04	-525.99	-764.15	935.95	892.68	43.26	21.633	
7,000.00	6,900.80	7,029.59	6,900.80	23.74	22.44	-60.04	-525.99	-764.15	935.95	892.41	43.53	21.501	
7,100.00	7,000.80	7,129.59	7,000.80	23.86	22.58	-60.04	-525.99	-764.15	935.95	892.15	43.80	21.368	
7,200.00	7,100.80	7,229.59	7,100.80	23.97	22.72	-60.04	-525.99	-764.15	935.95	891.87	44.07	21.236	
7,300.00	7,200.80	7,329.59	7,200.80	24.09	22.87	-60.04	-525.99	-764.15	935.95	891.60	44.35	21.104	
7,400.00	7,300.80	7,429.59	7,300.80	24.21	23.01	-60.04	-525.99	-764.15	935.95	891.32	44.63	20.973	
7,500.00	7,400.80	7,529.59	7,400.80	24.33	23.16	-60.04	-525.99	-764.15	935.95	891.04	44.91	20.842	
7,600.00	7,500.80	7,629.59	7,500.80	24.45	23.30	-60.04	-525.99	-764.15	935.95	890.75	45.19	20.711	
7,700.00	7,600.80	7,729.59	7,600.80	24.57	23.45	-60.04	-525.99	-764.15	935.95	890.47	45.48	20.580	
7,800.00	7,700.80	7,829.59	7,700.80	24.69	23.60	-60.04	-525.99	-764.15	935.95	890.18	45.77	20.450	
7,900.00	7,800.80	7,929.59	7,800.80	24.82	23.75	-60.04	-525.99	-764.15	935.95	889.89	46.06	20.321	
8,000.00	7,900.80	8,029.59	7,900.80	24.95	23.91	-60.04	-525.99	-764.15	935.95	889.59	46.35	20.192	
8,100.00	8,000.80	8,129.59	8,000.80	25.07	24.06	-60.04	-525.99	-764.15	935.95	889.30	46.65	20.064	
8,200.00	8,100.80	8,229.59	8,100.80	25.20	24.21	-60.04	-525.99	-764.15	935.95	889.00	46.95	19.936	
8,300.00	8,200.80	8,329.59	8,200.80	25.33	24.37	-60.04	-525.99	-764.15	935.95	888.70	47.25	19.809	
8,400.00	8,300.80	8,429.59	8,300.80	25.47	24.53	-60.04	-525.99	-764.15	935.95	888.39	47.55	19.682	
8,403.88	8,304.67	8,433.47	8,304.67	25.47	24.53	-60.04	-525.99	-764.15	935.95	888.38	47.57	19.677	
8,432.20	8,333.00	8,441.80	8,313.00	25.51	24.55	-60.04	-525.99	-764.15	936.16	888.54	47.62	19.659	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 16-8 - P_NRC 16-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						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	91.32	-0.37	15.95	15.96				
100.00	100.00	100.00	100.00	0.10	0.10	91.32	-0.37	15.95	15.96	15.77	0.19	83.531	
200.00	200.00	200.00	200.00	0.32	0.32	91.32	-0.37	15.95	15.96	15.32	0.64	24.913	
300.00	300.00	300.00	300.00	0.55	0.55	91.32	-0.37	15.95	15.96	14.87	1.09	14.639	
400.00	400.00	400.00	400.00	0.77	0.77	91.32	-0.37	15.95	15.96	14.42	1.54	10.365	
500.00	500.00	500.00	500.00	0.99	0.99	91.32	-0.37	15.95	15.96	13.97	1.99	8.023	
600.00	600.00	600.00	600.00	1.22	1.22	91.32	-0.37	15.95	15.96	13.52	2.44	6.544	
700.00	700.00	700.00	700.00	1.44	1.44	91.32	-0.37	15.95	15.96	13.07	2.89	5.525	
800.00	800.00	800.00	800.00	1.67	1.67	91.32	-0.37	15.95	15.96	12.62	3.34	4.781	
900.00	900.00	900.00	900.00	1.89	1.89	91.32	-0.37	15.95	15.96	12.17	3.79	4.214	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	91.32	-0.37	15.95	15.96	11.72	4.24	3.767	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	91.32	-0.37	15.95	15.96	11.34	4.62	3.455 CC	
1,100.00	1,100.00	1,099.93	1,099.93	2.34	2.34	-86.06	-0.39	15.99	15.99	11.31	4.68	3.418 ES, SF	
1,200.00	1,199.97	1,199.39	1,199.36	2.51	2.52	-89.85	-1.49	17.94	17.86	12.83	5.03	3.550	
1,300.00	1,299.80	1,298.67	1,298.47	2.69	2.72	-96.56	-4.28	22.89	22.87	17.46	5.40	4.233	
1,400.00	1,399.37	1,397.58	1,396.96	2.88	2.93	-102.67	-8.73	30.80	31.27	25.47	5.80	5.393	
1,500.00	1,498.55	1,495.98	1,494.57	3.10	3.16	-107.06	-14.82	41.59	43.13	36.90	6.23	6.923	
1,600.00	1,597.23	1,593.69	1,591.02	3.36	3.42	-109.98	-22.48	55.20	58.39	51.67	6.71	8.700	
1,679.06	1,674.81	1,670.36	1,666.30	3.59	3.66	-111.55	-29.63	67.87	72.80	65.66	7.14	10.196	
1,700.00	1,695.30	1,690.59	1,686.09	3.65	3.72	-111.91	-31.68	71.51	76.93	69.67	7.26	10.596	
1,800.00	1,793.16	1,786.72	1,779.72	3.98	4.07	-112.22	-42.35	90.45	97.81	89.93	7.88	12.411	
1,900.00	1,891.02	1,882.91	1,872.70	4.34	4.46	-111.23	-54.45	111.92	120.41	111.85	8.56	14.068	
2,000.00	1,988.88	1,980.21	1,966.60	4.71	4.89	-110.34	-66.97	134.14	143.39	134.10	9.28	15.448	
2,100.00	2,086.73	2,077.51	2,060.50	5.09	5.35	-109.70	-79.49	156.36	166.39	156.36	10.03	16.585	
2,200.00	2,184.59	2,174.82	2,154.40	5.48	5.82	-109.21	-92.01	178.58	189.41	178.60	10.80	17.531	
2,300.00	2,282.45	2,272.12	2,248.30	5.89	6.30	-108.83	-104.53	200.80	212.44	200.84	11.59	18.323	
2,400.00	2,380.31	2,369.42	2,342.21	6.30	6.79	-108.52	-117.05	223.02	235.47	223.07	12.40	18.994	
2,500.00	2,478.16	2,466.73	2,436.11	6.71	7.29	-108.27	-129.57	245.24	258.51	245.30	13.21	19.566	
2,600.00	2,576.02	2,564.03	2,530.01	7.13	7.79	-108.06	-142.10	267.46	281.56	267.52	14.04	20.059	
2,700.00	2,673.88	2,661.34	2,623.91	7.56	8.30	-107.88	-154.62	289.67	304.60	289.74	14.87	20.487	
2,800.00	2,771.74	2,758.64	2,717.81	7.98	8.82	-107.73	-167.14	311.89	327.65	311.95	15.71	20.861	
2,900.00	2,869.60	2,855.94	2,811.72	8.42	9.34	-107.59	-179.66	334.11	350.71	334.16	16.55	21.191	
3,000.00	2,967.45	2,953.25	2,905.62	8.85	9.86	-107.48	-192.18	356.33	373.76	356.36	17.40	21.483	
3,100.00	3,065.31	3,050.55	2,999.52	9.28	10.39	-107.37	-204.70	378.55	396.81	378.56	18.25	21.744	
3,200.00	3,163.17	3,147.85	3,093.42	9.72	10.91	-107.28	-217.22	400.77	419.87	400.76	19.10	21.977	
3,300.00	3,261.03	3,245.16	3,187.32	10.16	11.44	-107.20	-229.74	422.99	442.93	422.96	19.96	22.188	
3,400.00	3,358.88	3,342.46	3,281.22	10.60	11.97	-107.12	-242.26	445.21	465.98	445.16	20.82	22.379	
3,500.00	3,456.74	3,439.77	3,375.13	11.04	12.50	-107.06	-254.78	467.43	489.04	467.36	21.68	22.553	
3,600.00	3,554.60	3,537.07	3,469.03	11.48	13.04	-106.99	-267.31	489.65	512.10	489.55	22.55	22.712	
3,700.00	3,652.46	3,634.37	3,562.93	11.92	13.57	-106.94	-279.83	511.87	535.16	511.75	23.41	22.857	
3,800.00	3,750.31	3,731.68	3,656.83	12.37	14.10	-106.89	-292.35	534.09	558.22	533.94	24.28	22.992	
3,900.00	3,848.17	3,828.98	3,750.73	12.81	14.64	-106.84	-304.87	556.30	581.28	556.13	25.15	23.116	
4,000.00	3,946.03	3,926.28	3,844.64	13.26	15.18	-106.80	-317.39	578.52	604.34	578.33	26.01	23.231	
4,100.00	4,043.89	4,023.59	3,938.54	13.70	15.71	-106.76	-329.91	600.74	627.40	600.52	26.88	23.338	
4,200.00	4,141.74	4,124.30	4,035.76	14.15	16.25	-106.72	-342.82	623.66	650.41	622.66	27.75	23.436	
4,300.00	4,239.60	4,238.93	4,147.17	14.59	16.74	-106.90	-356.04	647.11	671.71	643.11	28.60	23.486	
4,400.00	4,337.46	4,354.54	4,260.54	15.04	17.13	-107.36	-367.14	666.80	690.52	661.13	29.39	23.495	
4,500.00	4,435.32	4,470.76	4,375.33	15.49	17.47	-108.10	-376.02	682.57	706.86	676.71	30.16	23.440	
4,600.00	4,533.18	4,587.21	4,491.00	15.94	17.75	-109.10	-382.63	694.29	720.82	689.93	30.90	23.331	
4,700.00	4,631.03	4,703.52	4,606.97	16.39	17.98	-110.35	-386.91	701.89	732.53	700.93	31.60	23.182	
4,800.00	4,728.89	4,819.29	4,722.67	16.83	18.15	-111.83	-388.88	705.39	742.15	709.89	32.26	23.006	
4,900.00	4,826.75	4,923.38	4,826.75	17.28	18.27	-113.34	-389.03	705.65	750.36	717.49	32.87	22.829	

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 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 16-8 - P_NRC 16-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						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	4,924.61	5,021.23	4,924.61	17.73	18.38	-114.74	-389.03	705.65	758.90	725.45	33.45	22.688	
5,100.00	5,022.46	5,119.09	5,022.46	18.18	18.50	-116.11	-389.03	705.65	767.90	733.89	34.01	22.576	
5,200.00	5,120.32	5,216.95	5,120.32	18.63	18.62	-117.45	-389.03	705.65	777.34	742.78	34.56	22.490	
5,300.00	5,218.18	5,314.81	5,218.18	19.08	18.74	-118.76	-389.03	705.65	787.20	752.11	35.10	22.429	
5,400.00	5,316.04	5,412.66	5,316.04	19.53	18.87	-120.04	-389.03	705.65	797.48	761.86	35.62	22.390	
5,500.00	5,413.89	5,510.52	5,413.89	19.98	18.99	-121.28	-389.03	705.65	808.15	772.02	36.12	22.371	
5,600.00	5,511.75	5,608.38	5,511.75	20.43	19.12	-122.49	-389.03	705.65	819.19	782.58	36.62	22.372	
5,700.00	5,609.61	5,706.24	5,609.61	20.88	19.24	-123.67	-389.03	705.65	830.60	793.50	37.10	22.390	
5,800.00	5,707.47	5,804.10	5,707.47	21.33	19.37	-124.82	-389.03	705.65	842.36	804.79	37.57	22.424	
5,900.00	5,805.33	5,901.95	5,805.33	21.79	19.51	-125.94	-389.03	705.65	854.45	816.43	38.02	22.472	
5,913.15	5,818.19	5,914.82	5,818.19	21.84	19.52	-126.08	-389.03	705.65	856.07	817.99	38.08	22.479	
6,000.00	5,903.44	6,000.07	5,903.44	22.17	19.64	-127.12	-389.03	705.65	866.08	827.60	38.47	22.510	
6,100.00	6,002.17	6,098.79	6,002.17	22.44	19.78	-128.10	-389.03	705.65	875.86	837.00	38.86	22.540	
6,200.00	6,101.38	6,198.01	6,101.38	22.68	19.91	-128.85	-389.03	705.65	883.63	844.42	39.22	22.533	
6,300.00	6,200.98	6,297.60	6,200.98	22.88	20.05	-129.39	-389.03	705.65	889.30	849.76	39.54	22.489	
6,400.00	6,300.82	6,397.45	6,300.82	23.04	20.20	-129.71	-389.03	705.65	892.80	852.96	39.84	22.408	
6,507.20	6,408.00	6,504.63	6,408.00	23.19	20.35	47.47	-389.03	705.65	894.08	853.94	40.15	22.271	
6,600.00	6,500.80	6,597.42	6,500.80	23.30	20.49	47.47	-389.03	705.65	894.08	853.67	40.41	22.125	
6,700.00	6,600.80	6,697.42	6,600.80	23.41	20.63	47.47	-389.03	705.65	894.08	853.40	40.68	21.977	
6,800.00	6,700.80	6,797.42	6,700.80	23.52	20.78	47.47	-389.03	705.65	894.08	853.12	40.96	21.828	
6,900.00	6,800.80	6,897.42	6,800.80	23.63	20.93	47.47	-389.03	705.65	894.08	852.84	41.24	21.680	
7,000.00	6,900.80	6,997.42	6,900.80	23.74	21.08	47.47	-389.03	705.65	894.08	852.56	41.52	21.533	
7,100.00	7,000.80	7,097.42	7,000.80	23.86	21.23	47.47	-389.03	705.65	894.08	852.27	41.81	21.386	
7,200.00	7,100.80	7,197.42	7,100.80	23.97	21.39	47.47	-389.03	705.65	894.08	851.99	42.10	21.239	
7,300.00	7,200.80	7,297.42	7,200.80	24.09	21.54	47.47	-389.03	705.65	894.08	851.69	42.39	21.093	
7,400.00	7,300.80	7,397.42	7,300.80	24.21	21.70	47.47	-389.03	705.65	894.08	851.40	42.68	20.948	
7,500.00	7,400.80	7,497.42	7,400.80	24.33	21.85	47.47	-389.03	705.65	894.08	851.10	42.98	20.804	
7,600.00	7,500.80	7,597.42	7,500.80	24.45	22.01	47.47	-389.03	705.65	894.08	850.81	43.28	20.660	
7,700.00	7,600.80	7,697.42	7,600.80	24.57	22.17	47.47	-389.03	705.65	894.08	850.50	43.58	20.517	
7,800.00	7,700.80	7,797.42	7,700.80	24.69	22.33	47.47	-389.03	705.65	894.08	850.20	43.88	20.374	
7,900.00	7,800.80	7,897.42	7,800.80	24.82	22.49	47.47	-389.03	705.65	894.08	849.89	44.19	20.233	
8,000.00	7,900.80	7,997.42	7,900.80	24.95	22.66	47.47	-389.03	705.65	894.08	849.58	44.50	20.093	
8,100.00	8,000.80	8,097.42	8,000.80	25.07	22.82	47.47	-389.03	705.65	894.08	849.27	44.81	19.953	
8,200.00	8,100.80	8,197.42	8,100.80	25.20	22.98	47.47	-389.03	705.65	894.08	848.96	45.12	19.814	
8,300.00	8,200.80	8,297.42	8,200.80	25.33	23.15	47.47	-389.03	705.65	894.08	848.64	45.44	19.676	
8,400.00	8,300.80	8,397.42	8,300.80	25.47	23.32	47.47	-389.03	705.65	894.08	848.32	45.76	19.539	
8,419.95	8,320.74	8,417.37	8,320.74	25.49	23.35	47.47	-389.03	705.65	894.08	848.26	45.82	19.512	
8,432.20	8,333.00	8,425.63	8,329.00	25.51	23.36	47.47	-389.03	705.65	894.09	848.24	45.85	19.499	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-89.57	0.36	-48.14	48.14				
100.00	100.00	100.00	100.00	0.10	0.10	-89.57	0.36	-48.14	48.14	47.95	0.19	251.999	
200.00	200.00	200.00	200.00	0.32	0.32	-89.57	0.36	-48.14	48.14	47.50	0.64	75.158	
300.00	300.00	300.00	300.00	0.55	0.55	-89.57	0.36	-48.14	48.14	47.05	1.09	44.165	
400.00	400.00	400.00	400.00	0.77	0.77	-89.57	0.36	-48.14	48.14	46.61	1.54	31.270	
500.00	500.00	500.00	500.00	0.99	0.99	-89.57	0.36	-48.14	48.14	46.16	1.99	24.203	
600.00	600.00	600.00	600.00	1.22	1.22	-89.57	0.36	-48.14	48.14	45.71	2.44	19.742	
700.00	700.00	700.00	700.00	1.44	1.44	-89.57	0.36	-48.14	48.14	45.26	2.89	16.669	
800.00	800.00	800.00	800.00	1.67	1.67	-89.57	0.36	-48.14	48.14	44.81	3.34	14.424	
900.00	900.00	900.00	900.00	1.89	1.89	-89.57	0.36	-48.14	48.14	44.36	3.79	12.712	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.57	0.36	-48.14	48.14	43.91	4.24	11.363	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-89.57	0.36	-48.14	48.14	43.53	4.62	10.423 CC	
1,100.00	1,100.00	1,099.76	1,099.76	2.34	2.34	93.18	0.37	-48.18	48.18	43.50	4.68	10.297 ES	
1,200.00	1,199.97	1,198.03	1,198.00	2.51	2.54	96.19	0.86	-50.32	50.56	45.51	5.05	10.013 SF	
1,300.00	1,299.80	1,295.79	1,295.60	2.69	2.75	102.60	2.08	-55.70	57.14	51.71	5.43	10.522	
1,400.00	1,399.37	1,392.61	1,392.02	2.88	2.97	110.08	4.02	-64.23	68.84	63.01	5.83	11.817	
1,500.00	1,498.55	1,488.07	1,486.74	3.10	3.21	116.80	6.64	-75.75	86.22	79.98	6.24	13.827	
1,600.00	1,597.23	1,581.79	1,579.31	3.36	3.46	122.08	9.88	-90.04	109.36	102.70	6.67	16.408	
1,679.06	1,674.81	1,654.42	1,650.67	3.59	3.69	125.26	12.86	-103.15	131.63	124.60	7.02	18.744	
1,700.00	1,695.30	1,673.43	1,669.30	3.65	3.75	126.05	13.70	-106.87	138.05	130.93	7.12	19.382	
1,800.00	1,793.16	1,763.29	1,756.97	3.98	4.06	128.76	18.07	-126.08	170.63	163.01	7.62	22.392	
1,900.00	1,891.02	1,851.47	1,842.36	4.34	4.41	130.23	22.94	-147.54	206.06	197.92	8.14	25.304	
2,000.00	1,988.88	1,941.18	1,928.60	4.71	4.81	131.02	28.41	-171.62	243.78	235.08	8.70	28.027	
2,100.00	2,086.73	2,033.63	2,017.39	5.09	5.25	131.59	34.12	-196.74	281.83	272.54	9.28	30.356	
2,200.00	2,184.59	2,126.08	2,106.17	5.48	5.71	132.02	39.83	-221.87	319.89	310.00	9.89	32.347	
2,300.00	2,282.45	2,218.53	2,194.96	5.89	6.18	132.36	45.54	-246.99	357.97	347.46	10.51	34.062	
2,400.00	2,380.31	2,310.97	2,283.74	6.30	6.66	132.63	51.25	-272.12	396.06	384.92	11.14	35.550	
2,500.00	2,478.16	2,403.42	2,372.53	6.71	7.15	132.86	56.95	-297.24	434.15	422.37	11.78	36.849	
2,600.00	2,576.02	2,495.87	2,461.31	7.13	7.65	133.05	62.66	-322.37	472.25	459.82	12.43	37.989	
2,700.00	2,673.88	2,588.32	2,550.10	7.56	8.16	133.21	68.37	-347.49	510.35	497.27	13.09	38.996	
2,800.00	2,771.74	2,680.76	2,638.88	7.98	8.67	133.35	74.08	-372.62	548.46	534.71	13.75	39.891	
2,900.00	2,869.60	2,773.21	2,727.66	8.42	9.18	133.47	79.78	-397.74	586.57	572.15	14.42	40.690	
3,000.00	2,967.45	2,865.66	2,816.45	8.85	9.70	133.58	85.49	-422.87	624.68	609.59	15.09	41.409	
3,100.00	3,065.31	2,958.11	2,905.23	9.28	10.22	133.67	91.20	-448.00	662.79	647.03	15.76	42.057	
3,200.00	3,163.17	3,050.55	2,994.02	9.72	10.74	133.76	96.91	-473.12	700.90	684.46	16.44	42.639	
3,300.00	3,261.03	3,143.00	3,082.80	10.16	11.27	133.83	102.62	-498.25	739.02	721.89	17.12	43.161	
3,400.00	3,358.88	3,235.45	3,171.59	10.60	11.80	133.90	108.32	-523.37	777.13	759.32	17.81	43.637	
3,500.00	3,456.74	3,327.90	3,260.37	11.04	12.32	133.96	114.03	-548.50	815.25	796.75	18.50	44.071	
3,600.00	3,554.60	3,420.34	3,349.16	11.48	12.85	134.02	119.74	-573.62	853.36	834.17	19.19	44.468	
3,700.00	3,652.46	3,512.79	3,437.94	11.92	13.38	134.07	125.45	-598.75	891.48	871.60	19.88	44.834	
3,800.00	3,750.31	3,605.24	3,526.73	12.37	13.92	134.11	131.15	-623.87	929.60	909.02	20.58	45.171	
3,900.00	3,848.17	3,697.69	3,615.51	12.81	14.45	134.16	136.86	-649.00	967.72	946.44	21.28	45.482	
4,000.00	3,946.03	3,790.13	3,704.29	13.26	14.98	134.20	142.57	-674.12	1,005.84	983.86	21.98	45.771	
4,100.00	4,043.89	3,882.58	3,793.08	13.70	15.52	134.23	148.28	-699.25	1,043.96	1,021.28	22.68	46.038	
4,200.00	4,141.74	3,975.03	3,881.86	14.15	16.05	134.27	153.99	-724.37	1,082.08	1,058.70	23.38	46.288	
4,300.00	4,239.60	4,067.48	3,970.65	14.59	16.59	134.30	159.69	-749.50	1,120.20	1,096.12	24.08	46.521	
4,400.00	4,337.46	4,159.92	4,059.43	15.04	17.13	134.33	165.40	-774.62	1,158.32	1,133.53	24.78	46.738	
4,500.00	4,435.32	4,252.37	4,148.22	15.49	17.66	134.36	171.11	-799.75	1,196.44	1,170.95	25.49	46.942	
4,600.00	4,533.18	4,344.82	4,237.00	15.94	18.20	134.39	176.82	-824.87	1,234.56	1,208.36	26.19	47.134	
4,700.00	4,631.03	4,437.27	4,325.79	16.39	18.74	134.41	182.52	-850.00	1,272.68	1,245.78	26.90	47.314	
4,800.00	4,728.89	4,529.71	4,414.57	16.83	19.28	134.43	188.23	-875.12	1,310.80	1,283.19	27.61	47.483	
4,900.00	4,826.75	4,622.16	4,503.36	17.28	19.82	134.46	193.94	-900.25	1,348.92	1,320.61	28.31	47.643	

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 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 23-8 - P_NRC 23-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
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	4,924.61	4,714.61	4,592.14	17.73	20.35	134.48	199.65	-925.37	1,387.04	1,358.02	29.02	47.795	
5,100.00	5,022.46	4,807.06	4,680.93	18.18	20.89	134.50	205.36	-950.50	1,425.16	1,395.43	29.73	47.938	
5,200.00	5,120.32	4,899.50	4,769.71	18.63	21.43	134.52	211.06	-975.62	1,463.28	1,432.84	30.44	48.073	
5,300.00	5,218.18	4,991.95	4,858.49	19.08	21.97	134.53	216.77	-1,000.75	1,501.41	1,470.26	31.15	48.202	
5,400.00	5,316.04	5,084.40	4,947.28	19.53	22.51	134.55	222.48	-1,025.87	1,539.53	1,507.67	31.86	48.324	
5,500.00	5,413.89	5,176.85	5,036.06	19.98	23.05	134.57	228.19	-1,051.00	1,577.65	1,545.08	32.57	48.440	
5,600.00	5,511.75	5,269.30	5,124.85	20.43	23.60	134.58	233.89	-1,076.12	1,615.77	1,582.49	33.28	48.550	
5,700.00	5,609.61	5,361.74	5,213.63	20.88	24.14	134.60	239.60	-1,101.25	1,653.89	1,619.90	33.99	48.656	
5,800.00	5,707.47	5,454.19	5,302.42	21.33	24.68	134.61	245.31	-1,126.37	1,692.02	1,657.31	34.70	48.756	
5,900.00	5,805.33	5,546.64	5,391.20	21.79	25.22	134.62	251.02	-1,151.50	1,730.14	1,694.72	35.42	48.852	
5,913.15	5,818.19	5,558.79	5,402.87	21.84	25.29	134.62	251.77	-1,154.80	1,735.15	1,699.64	35.51	48.864	
6,000.00	5,903.44	5,639.43	5,480.32	22.17	25.76	135.10	256.75	-1,176.72	1,767.40	1,731.16	36.24	48.770	
6,100.00	6,002.17	5,733.06	5,570.24	22.44	26.31	135.52	262.53	-1,202.17	1,802.38	1,765.38	37.00	48.717	
6,200.00	6,101.38	5,918.59	5,749.66	22.68	27.14	135.69	272.96	-1,248.09	1,833.18	1,795.28	37.90	48.373	
6,300.00	6,200.98	6,137.39	5,964.61	22.88	27.84	135.79	281.95	-1,287.65	1,855.52	1,816.81	38.71	47.934	
6,400.00	6,300.82	6,362.87	6,188.70	23.04	28.35	135.86	287.38	-1,311.56	1,868.82	1,829.45	39.38	47.459	
6,507.20	6,408.00	6,582.34	6,408.00	23.19	28.63	-46.79	288.92	-1,318.33	1,872.88	1,832.98	39.91	46.933	
6,600.00	6,500.80	6,675.13	6,500.80	23.30	28.73	-46.79	288.92	-1,318.33	1,872.88	1,832.71	40.17	46.626	
6,700.00	6,600.80	6,775.13	6,600.80	23.41	28.84	-46.79	288.92	-1,318.33	1,872.88	1,832.44	40.44	46.311	
6,800.00	6,700.80	6,875.13	6,700.80	23.52	28.95	-46.79	288.92	-1,318.33	1,872.88	1,832.16	40.72	45.997	
6,900.00	6,800.80	6,975.13	6,800.80	23.63	29.06	-46.79	288.92	-1,318.33	1,872.88	1,831.88	41.00	45.683	
7,000.00	6,900.80	7,075.13	6,900.80	23.74	29.17	-46.79	288.92	-1,318.33	1,872.88	1,831.60	41.28	45.371	
7,100.00	7,000.80	7,175.13	7,000.80	23.86	29.29	-46.79	288.92	-1,318.33	1,872.88	1,831.32	41.56	45.059	
7,200.00	7,100.80	7,275.13	7,100.80	23.97	29.40	-46.79	288.92	-1,318.33	1,872.88	1,831.03	41.85	44.749	
7,300.00	7,200.80	7,375.13	7,200.80	24.09	29.52	-46.79	288.92	-1,318.33	1,872.88	1,830.74	42.14	44.440	
7,400.00	7,300.80	7,475.13	7,300.80	24.21	29.64	-46.79	288.92	-1,318.33	1,872.88	1,830.44	42.44	44.133	
7,500.00	7,400.80	7,575.13	7,400.80	24.33	29.76	-46.79	288.92	-1,318.33	1,872.88	1,830.15	42.73	43.827	
7,600.00	7,500.80	7,675.13	7,500.80	24.45	29.88	-46.79	288.92	-1,318.33	1,872.88	1,829.85	43.03	43.522	
7,700.00	7,600.80	7,775.13	7,600.80	24.57	30.00	-46.79	288.92	-1,318.33	1,872.88	1,829.55	43.33	43.219	
7,800.00	7,700.80	7,875.13	7,700.80	24.69	30.12	-46.79	288.92	-1,318.33	1,872.88	1,829.24	43.64	42.918	
7,900.00	7,800.80	7,975.13	7,800.80	24.82	30.24	-46.79	288.92	-1,318.33	1,872.88	1,828.94	43.95	42.618	
8,000.00	7,900.80	8,075.13	7,900.80	24.95	30.37	-46.79	288.92	-1,318.33	1,872.88	1,828.63	44.25	42.320	
8,100.00	8,000.80	8,175.13	8,000.80	25.07	30.50	-46.79	288.92	-1,318.33	1,872.88	1,828.32	44.57	42.025	
8,200.00	8,100.80	8,275.13	8,100.80	25.20	30.62	-46.79	288.92	-1,318.33	1,872.88	1,828.00	44.88	41.731	
8,300.00	8,200.80	8,375.13	8,200.80	25.33	30.75	-46.79	288.92	-1,318.33	1,872.88	1,827.69	45.20	41.439	
8,400.00	8,300.80	8,475.13	8,300.80	25.47	30.88	-46.79	288.92	-1,318.33	1,872.88	1,827.37	45.51	41.149	
8,403.88	8,304.67	8,479.01	8,304.67	25.47	30.89	-46.79	288.92	-1,318.33	1,872.88	1,827.35	45.53	41.138	
8,432.20	8,333.00	8,487.34	8,313.00	25.51	30.90	-46.79	288.92	-1,318.33	1,872.99	1,827.40	45.58	41.088	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	90.65	-0.36	31.91	31.91				
100.00	100.00	100.00	100.00	0.10	0.10	90.65	-0.36	31.91	31.91	31.72	0.19	167.028	
200.00	200.00	200.00	200.00	0.32	0.32	90.65	-0.36	31.91	31.91	31.27	0.64	49.815	
300.00	300.00	300.00	300.00	0.55	0.55	90.65	-0.36	31.91	31.91	30.82	1.09	29.273	
400.00	400.00	400.00	400.00	0.77	0.77	90.65	-0.36	31.91	31.91	30.37	1.54	20.726	
500.00	500.00	500.00	500.00	0.99	0.99	90.65	-0.36	31.91	31.91	29.92	1.99	16.042	
600.00	600.00	600.00	600.00	1.22	1.22	90.65	-0.36	31.91	31.91	29.47	2.44	13.085	
700.00	700.00	700.00	700.00	1.44	1.44	90.65	-0.36	31.91	31.91	29.02	2.89	11.049	
800.00	800.00	800.00	800.00	1.67	1.67	90.65	-0.36	31.91	31.91	28.57	3.34	9.561	
900.00	900.00	900.00	900.00	1.89	1.89	90.65	-0.36	31.91	31.91	28.12	3.79	8.426	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	90.65	-0.36	31.91	31.91	27.67	4.24	7.532	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	90.65	-0.36	31.91	31.91	27.29	4.62	6.909 CC	
1,100.00	1,100.00	1,099.84	1,099.84	2.34	2.34	-86.74	-0.35	31.95	31.95	27.27	4.68	6.826 ES	
1,200.00	1,199.97	1,198.66	1,198.63	2.51	2.54	-91.25	0.10	34.12	34.12	29.07	5.05	6.755 SF	
1,300.00	1,299.80	1,297.01	1,296.81	2.69	2.75	-100.29	1.23	39.59	40.40	34.97	5.43	7.436	
1,400.00	1,399.37	1,394.48	1,393.88	2.88	2.97	-109.73	3.03	48.26	51.90	46.07	5.83	8.901	
1,500.00	1,498.55	1,490.70	1,489.35	3.10	3.21	-117.23	5.45	59.99	69.08	62.83	6.25	11.060	
1,600.00	1,597.23	1,585.31	1,582.77	3.36	3.47	-122.50	8.47	74.58	91.83	85.14	6.68	13.739	
1,679.06	1,674.81	1,658.74	1,654.91	3.59	3.69	-125.43	11.25	87.98	113.58	106.53	7.05	16.111	
1,700.00	1,695.30	1,677.98	1,673.76	3.65	3.75	-126.15	12.04	91.79	119.84	112.69	7.15	16.754	
1,800.00	1,793.16	1,768.99	1,762.51	3.98	4.07	-128.36	16.12	111.49	151.48	143.81	7.67	19.756	
1,900.00	1,891.02	1,858.41	1,849.05	4.34	4.43	-129.31	20.68	133.52	185.77	177.55	8.21	22.622	
2,000.00	1,988.88	1,949.40	1,936.49	4.71	4.83	-129.63	25.78	158.18	222.13	213.34	8.79	25.270	
2,100.00	2,086.73	2,042.46	2,025.84	5.09	5.27	-129.83	31.06	183.64	258.73	249.33	9.40	27.529	
2,200.00	2,184.59	2,135.52	2,115.20	5.48	5.73	-129.99	36.33	209.10	295.32	285.29	10.02	29.459	
2,300.00	2,282.45	2,228.58	2,204.55	5.89	6.20	-130.11	41.60	234.55	331.91	321.25	10.67	31.118	
2,400.00	2,380.31	2,321.65	2,293.91	6.30	6.68	-130.20	46.87	260.01	368.51	357.19	11.32	32.552	
2,500.00	2,478.16	2,414.71	2,383.27	6.71	7.18	-130.28	52.14	285.47	405.11	393.12	11.99	33.800	
2,600.00	2,576.02	2,507.77	2,472.62	7.13	7.67	-130.35	57.41	310.93	441.71	429.05	12.66	34.893	
2,700.00	2,673.88	2,600.83	2,561.98	7.56	8.18	-130.40	62.68	336.39	478.30	464.96	13.34	35.854	
2,800.00	2,771.74	2,693.89	2,651.33	7.98	8.69	-130.45	67.95	361.85	514.90	500.88	14.03	36.705	
2,900.00	2,869.60	2,786.95	2,740.69	8.42	9.20	-130.49	73.22	387.30	551.50	536.78	14.72	37.463	
3,000.00	2,967.45	2,880.01	2,830.04	8.85	9.72	-130.53	78.50	412.76	588.10	572.68	15.42	38.140	
3,100.00	3,065.31	2,973.07	2,919.40	9.28	10.24	-130.56	83.77	438.22	624.70	608.58	16.12	38.749	
3,200.00	3,163.17	3,066.14	3,008.76	9.72	10.77	-130.59	89.04	463.68	661.30	644.47	16.83	39.298	
3,300.00	3,261.03	3,159.20	3,098.11	10.16	11.29	-130.61	94.31	489.14	697.90	680.36	17.54	39.796	
3,400.00	3,358.88	3,252.26	3,187.47	10.60	11.82	-130.64	99.58	514.60	734.50	716.25	18.25	40.250	
3,500.00	3,456.74	3,345.32	3,276.82	11.04	12.35	-130.66	104.85	540.05	771.10	752.14	18.96	40.663	
3,600.00	3,554.60	3,438.38	3,366.18	11.48	12.88	-130.68	110.12	565.51	807.70	788.02	19.68	41.042	
3,700.00	3,652.46	3,531.44	3,455.54	11.92	13.41	-130.69	115.39	590.97	844.30	823.90	20.40	41.391	
3,800.00	3,750.31	3,624.50	3,544.89	12.37	13.94	-130.71	120.66	616.43	880.90	859.78	21.12	41.712	
3,900.00	3,848.17	3,717.56	3,634.25	12.81	14.47	-130.72	125.94	641.89	917.50	895.66	21.84	42.009	
4,000.00	3,946.03	3,810.63	3,723.60	13.26	15.01	-130.74	131.21	667.35	954.10	931.53	22.56	42.284	
4,100.00	4,043.89	3,903.69	3,812.96	13.70	15.54	-130.75	136.48	692.80	990.70	967.41	23.29	42.539	
4,200.00	4,141.74	3,996.75	3,902.32	14.15	16.08	-130.76	141.75	718.26	1,027.30	1,003.28	24.02	42.777	
4,300.00	4,239.60	4,089.81	3,991.67	14.59	16.61	-130.77	147.02	743.72	1,063.90	1,039.16	24.74	42.999	
4,400.00	4,337.46	4,182.87	4,081.03	15.04	17.15	-130.78	152.29	769.18	1,100.50	1,075.03	25.47	43.207	
4,500.00	4,435.32	4,275.93	4,170.38	15.49	17.69	-130.79	157.56	794.64	1,137.10	1,110.90	26.20	43.402	
4,600.00	4,533.18	4,368.99	4,259.74	15.94	18.22	-130.80	162.83	820.10	1,173.70	1,146.77	26.93	43.584	
4,700.00	4,631.03	4,462.05	4,349.10	16.39	18.76	-130.81	168.11	845.55	1,210.30	1,182.64	27.66	43.756	
4,800.00	4,728.89	4,555.12	4,438.45	16.83	19.30	-130.82	173.38	871.01	1,246.90	1,218.51	28.39	43.918	
4,900.00	4,826.75	4,648.18	4,527.81	17.28	19.84	-130.82	178.65	896.47	1,283.50	1,254.38	29.12	44.071	

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 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_NRC 20-8 PAD - P_NRC 39-8 - P_NRC 39-8 - PLAN #1 1-5-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,924.61	4,741.24	4,617.16	17.73	20.38	-130.83	183.92	921.93	1,320.10	1,290.24	29.86	44.215	
5,100.00	5,022.46	4,834.30	4,706.52	18.18	20.92	-130.84	189.19	947.39	1,356.70	1,326.11	30.59	44.352	
5,200.00	5,120.32	4,927.36	4,795.88	18.63	21.46	-130.84	194.46	972.85	1,393.30	1,361.98	31.32	44.481	
5,300.00	5,218.18	5,020.42	4,885.23	19.08	22.00	-130.85	199.73	998.31	1,429.90	1,397.84	32.06	44.604	
5,400.00	5,316.04	5,113.48	4,974.59	19.53	22.54	-130.85	205.00	1,023.76	1,466.50	1,433.71	32.79	44.721	
5,500.00	5,413.89	5,206.54	5,063.94	19.98	23.08	-130.86	210.27	1,049.22	1,503.10	1,469.57	33.53	44.832	
5,600.00	5,511.75	5,299.61	5,153.30	20.43	23.62	-130.86	215.55	1,074.68	1,539.70	1,505.44	34.26	44.937	
5,700.00	5,609.61	5,392.67	5,242.66	20.88	24.16	-130.87	220.82	1,100.14	1,576.30	1,541.30	35.00	45.038	
5,800.00	5,707.47	5,485.73	5,332.01	21.33	24.70	-130.87	226.09	1,125.60	1,612.90	1,577.17	35.74	45.134	
5,900.00	5,805.33	5,578.79	5,421.37	21.79	25.24	-130.88	231.36	1,151.06	1,649.50	1,613.03	36.47	45.226	
5,913.15	5,818.19	5,591.02	5,433.11	21.84	25.32	-130.88	232.05	1,154.40	1,654.31	1,617.74	36.57	45.238	
6,000.00	5,903.44	5,672.16	5,511.02	22.17	25.79	-131.35	236.65	1,176.60	1,685.30	1,647.98	37.31	45.168	
6,100.00	6,002.17	5,766.25	5,601.37	22.44	26.33	-131.76	241.98	1,202.34	1,718.95	1,680.87	38.08	45.138	
6,200.00	6,101.38	5,957.23	5,786.34	22.68	27.14	-131.91	251.58	1,248.71	1,747.88	1,708.90	38.98	44.840	
6,300.00	6,200.98	6,158.05	5,983.80	22.88	27.78	-132.01	258.96	1,284.35	1,768.99	1,729.24	39.76	44.496	
6,400.00	6,300.82	6,364.16	6,188.59	23.04	28.25	-132.07	263.60	1,306.75	1,781.96	1,741.56	40.39	44.116	
6,507.20	6,408.00	6,583.78	6,408.00	23.19	28.56	45.21	265.24	1,314.69	1,786.56	1,745.64	40.92	43.662	
6,600.00	6,500.80	6,676.57	6,500.80	23.30	28.65	45.21	265.24	1,314.69	1,786.56	1,745.38	41.18	43.388	
6,700.00	6,600.80	6,776.57	6,600.80	23.41	28.76	45.21	265.24	1,314.69	1,786.56	1,745.11	41.44	43.107	
6,800.00	6,700.80	6,876.57	6,700.80	23.52	28.87	45.21	265.24	1,314.69	1,786.56	1,744.84	41.72	42.826	
6,900.00	6,800.80	6,976.57	6,800.80	23.63	28.98	45.21	265.24	1,314.69	1,786.56	1,744.56	41.99	42.546	
7,000.00	6,900.80	7,076.57	6,900.80	23.74	29.10	45.21	265.24	1,314.69	1,786.56	1,744.29	42.27	42.266	
7,100.00	7,000.80	7,176.57	7,000.80	23.86	29.21	45.21	265.24	1,314.69	1,786.56	1,744.01	42.55	41.987	
7,200.00	7,100.80	7,276.57	7,100.80	23.97	29.32	45.21	265.24	1,314.69	1,786.56	1,743.72	42.83	41.709	
7,300.00	7,200.80	7,376.57	7,200.80	24.09	29.44	45.21	265.24	1,314.69	1,786.56	1,743.44	43.12	41.432	
7,400.00	7,300.80	7,476.57	7,300.80	24.21	29.56	45.21	265.24	1,314.69	1,786.56	1,743.15	43.41	41.156	
7,500.00	7,400.80	7,576.57	7,400.80	24.33	29.68	45.21	265.24	1,314.69	1,786.56	1,742.85	43.70	40.881	
7,600.00	7,500.80	7,676.57	7,500.80	24.45	29.80	45.21	265.24	1,314.69	1,786.56	1,742.56	44.00	40.607	
7,700.00	7,600.80	7,776.57	7,600.80	24.57	29.92	45.21	265.24	1,314.69	1,786.56	1,742.26	44.29	40.335	
7,800.00	7,700.80	7,876.57	7,700.80	24.69	30.04	45.21	265.24	1,314.69	1,786.56	1,741.96	44.59	40.063	
7,900.00	7,800.80	7,976.57	7,800.80	24.82	30.16	45.21	265.24	1,314.69	1,786.56	1,741.66	44.90	39.794	
8,000.00	7,900.80	8,076.57	7,900.80	24.95	30.29	45.21	265.24	1,314.69	1,786.56	1,741.36	45.20	39.525	
8,100.00	8,000.80	8,176.57	8,000.80	25.07	30.41	45.21	265.24	1,314.69	1,786.56	1,741.05	45.51	39.259	
8,200.00	8,100.80	8,276.57	8,100.80	25.20	30.54	45.21	265.24	1,314.69	1,786.56	1,740.74	45.82	38.993	
8,300.00	8,200.80	8,376.57	8,200.80	25.33	30.67	45.21	265.24	1,314.69	1,786.56	1,740.43	46.13	38.730	
8,400.00	8,300.80	8,476.57	8,300.80	25.47	30.80	45.21	265.24	1,314.69	1,786.56	1,740.11	46.44	38.468	
8,419.95	8,320.74	8,496.52	8,320.74	25.49	30.82	45.21	265.24	1,314.69	1,786.56	1,740.05	46.51	38.416	
8,432.20	8,333.00	8,504.78	8,329.00	25.51	30.84	45.21	265.24	1,314.69	1,786.56	1,740.02	46.54	38.389	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-165.43	-48.45	-12.60	53.20				
100.00	100.00	82.00	82.00	0.10	1.64	-165.43	-48.45	-12.60	50.06	48.33	1.74	28.846	
200.00	200.00	182.00	182.00	0.32	5.28	-165.43	-48.45	-12.60	50.06	44.46	5.60	8.939	
300.00	300.00	282.00	282.00	0.55	9.28	-165.43	-48.45	-12.60	50.06	40.24	9.83	5.095	
400.00	400.00	382.00	382.00	0.77	13.28	-165.43	-48.45	-12.60	50.06	36.01	14.05	3.563	
500.00	500.00	482.00	482.00	0.99	17.28	-165.43	-48.45	-12.60	50.06	31.79	18.27	2.740	
600.00	600.00	582.00	582.00	1.22	21.28	-165.43	-48.45	-12.60	50.06	27.56	22.50	2.225	
700.00	700.00	682.00	682.00	1.44	25.28	-165.43	-48.45	-12.60	50.06	23.34	26.72	1.873	
800.00	800.00	782.00	782.00	1.67	29.28	-165.43	-48.45	-12.60	50.06	19.11	30.95	1.618	
900.00	900.00	882.00	882.00	1.89	33.28	-165.43	-48.45	-12.60	50.06	14.89	35.17	1.423	Level 3
1,000.00	1,000.00	982.00	982.00	2.12	37.28	-165.43	-48.45	-12.60	50.06	10.67	39.40	1.271	Level 3
1,085.00	1,085.00	1,067.00	1,067.00	2.31	40.68	-165.43	-48.45	-12.60	50.06	7.07	42.99	1.165	Level 2
1,100.00	1,100.00	1,082.00	1,082.00	2.34	41.28	17.28	-48.45	-12.60	50.03	6.41	43.62	1.147	Level 2
1,200.00	1,199.97	1,181.97	1,181.97	2.51	45.28	18.10	-48.45	-12.60	47.86	0.11	47.75	1.002	Level 2
1,300.00	1,299.80	1,281.80	1,281.80	2.69	49.27	20.55	-48.45	-12.60	42.43	-9.40	51.83	0.819	Level 1
1,400.00	1,399.37	1,381.37	1,381.37	2.88	53.25	26.11	-48.45	-12.60	33.93	-21.93	55.86	0.607	Level 1
1,500.00	1,498.55	1,480.55	1,480.55	3.10	57.22	40.15	-48.45	-12.60	23.19	-36.76	59.94	0.387	Level 1
1,600.00	1,597.23	1,579.23	1,579.23	3.36	61.17	83.80	-48.45	-12.60	14.95	-49.57	64.52	0.232	Level 1
1,609.10	1,606.19	1,588.19	1,588.19	3.38	61.53	90.00	-48.45	-12.60	14.86	-50.06	64.92	0.229	Level 1, CC, ES, SF
1,679.06	1,674.81	1,656.81	1,656.81	3.59	64.27	131.78	-48.45	-12.60	20.12	-47.09	67.21	0.299	Level 1
1,700.00	1,695.30	1,677.30	1,677.30	3.65	65.09	139.66	-48.45	-12.60	23.25	-44.61	67.86	0.343	Level 1
1,800.00	1,793.16	1,775.16	1,775.16	3.98	69.01	158.46	-48.45	-12.60	41.24	-30.24	71.48	0.577	Level 1
1,900.00	1,891.02	1,873.02	1,873.02	4.34	72.92	165.58	-48.45	-12.60	60.89	-14.52	75.42	0.807	Level 1
2,000.00	1,988.88	1,970.88	1,970.88	4.71	76.84	169.21	-48.45	-12.60	81.02	1.58	79.43	1.020	Level 2
2,100.00	2,086.73	2,068.73	2,068.73	5.09	80.75	171.39	-48.45	-12.60	101.33	17.85	83.47	1.214	Level 2
2,200.00	2,184.59	2,166.59	2,166.59	5.48	84.66	172.84	-48.45	-12.60	121.73	34.20	87.53	1.391	Level 3
2,300.00	2,282.45	2,264.45	2,264.45	5.89	88.58	173.87	-48.45	-12.60	142.19	50.59	91.59	1.552	
2,400.00	2,380.31	2,362.31	2,362.31	6.30	92.49	174.65	-48.45	-12.60	162.67	67.01	95.66	1.701	
2,500.00	2,478.16	2,460.16	2,460.16	6.71	96.41	175.25	-48.45	-12.60	183.19	83.45	99.74	1.837	
2,600.00	2,576.02	2,558.02	2,558.02	7.13	100.32	175.73	-48.45	-12.60	203.71	99.90	103.81	1.962	
2,700.00	2,673.88	2,655.88	2,655.88	7.56	104.24	176.12	-48.45	-12.60	224.25	116.36	107.89	2.079	
2,800.00	2,771.74	2,753.74	2,753.74	7.98	108.15	176.44	-48.45	-12.60	244.80	132.83	111.97	2.186	
2,900.00	2,869.60	2,851.60	2,851.60	8.42	112.06	176.72	-48.45	-12.60	265.35	149.30	116.05	2.286	
3,000.00	2,967.45	2,949.45	2,949.45	8.85	115.98	176.96	-48.45	-12.60	285.91	165.77	120.14	2.380	
3,100.00	3,065.31	3,047.31	3,047.31	9.28	119.89	177.16	-48.45	-12.60	306.47	182.25	124.22	2.467	
3,200.00	3,163.17	3,145.17	3,145.17	9.72	123.81	177.34	-48.45	-12.60	327.04	198.73	128.31	2.549	
3,300.00	3,261.03	3,243.03	3,243.03	10.16	127.72	177.50	-48.45	-12.60	347.61	215.21	132.39	2.626	
3,400.00	3,358.88	3,340.88	3,340.88	10.60	131.64	177.64	-48.45	-12.60	368.18	231.69	136.48	2.698	
3,500.00	3,456.74	3,438.74	3,438.74	11.04	135.55	177.76	-48.45	-12.60	388.75	248.18	140.57	2.766	
3,600.00	3,554.60	3,536.60	3,536.60	11.48	139.46	177.87	-48.45	-12.60	409.32	264.66	144.66	2.830	
3,700.00	3,652.46	3,634.46	3,634.46	11.92	143.38	177.98	-48.45	-12.60	429.90	281.15	148.75	2.890	
3,800.00	3,750.31	3,732.31	3,732.31	12.37	147.29	178.07	-48.45	-12.60	450.48	297.63	152.84	2.947	
3,900.00	3,848.17	3,830.17	3,830.17	12.81	151.21	178.15	-48.45	-12.60	471.05	314.12	156.93	3.002	
4,000.00	3,946.03	3,928.03	3,928.03	13.26	155.12	178.23	-48.45	-12.60	491.63	330.61	161.02	3.053	
4,100.00	4,043.89	4,025.89	4,025.89	13.70	159.04	178.30	-48.45	-12.60	512.21	347.09	165.12	3.102	
4,200.00	4,141.74	4,123.74	4,123.74	14.15	162.95	178.37	-48.45	-12.60	532.79	363.58	169.21	3.149	
4,300.00	4,239.60	4,221.60	4,221.60	14.59	166.86	178.43	-48.45	-12.60	553.37	380.07	173.30	3.193	
4,400.00	4,337.46	4,319.46	4,319.46	15.04	170.78	178.48	-48.45	-12.60	573.95	396.56	177.39	3.235	
4,500.00	4,435.32	4,417.32	4,417.32	15.49	174.69	178.54	-48.45	-12.60	594.53	413.05	181.49	3.276	
4,600.00	4,533.18	4,515.18	4,515.18	15.94	178.61	178.59	-48.45	-12.60	615.12	429.54	185.58	3.315	
4,700.00	4,631.03	4,613.03	4,613.03	16.39	182.52	178.63	-48.45	-12.60	635.70	446.02	189.67	3.352	
4,800.00	4,728.89	4,710.89	4,710.89	16.83	186.44	178.67	-48.45	-12.60	656.28	462.51	193.77	3.387	

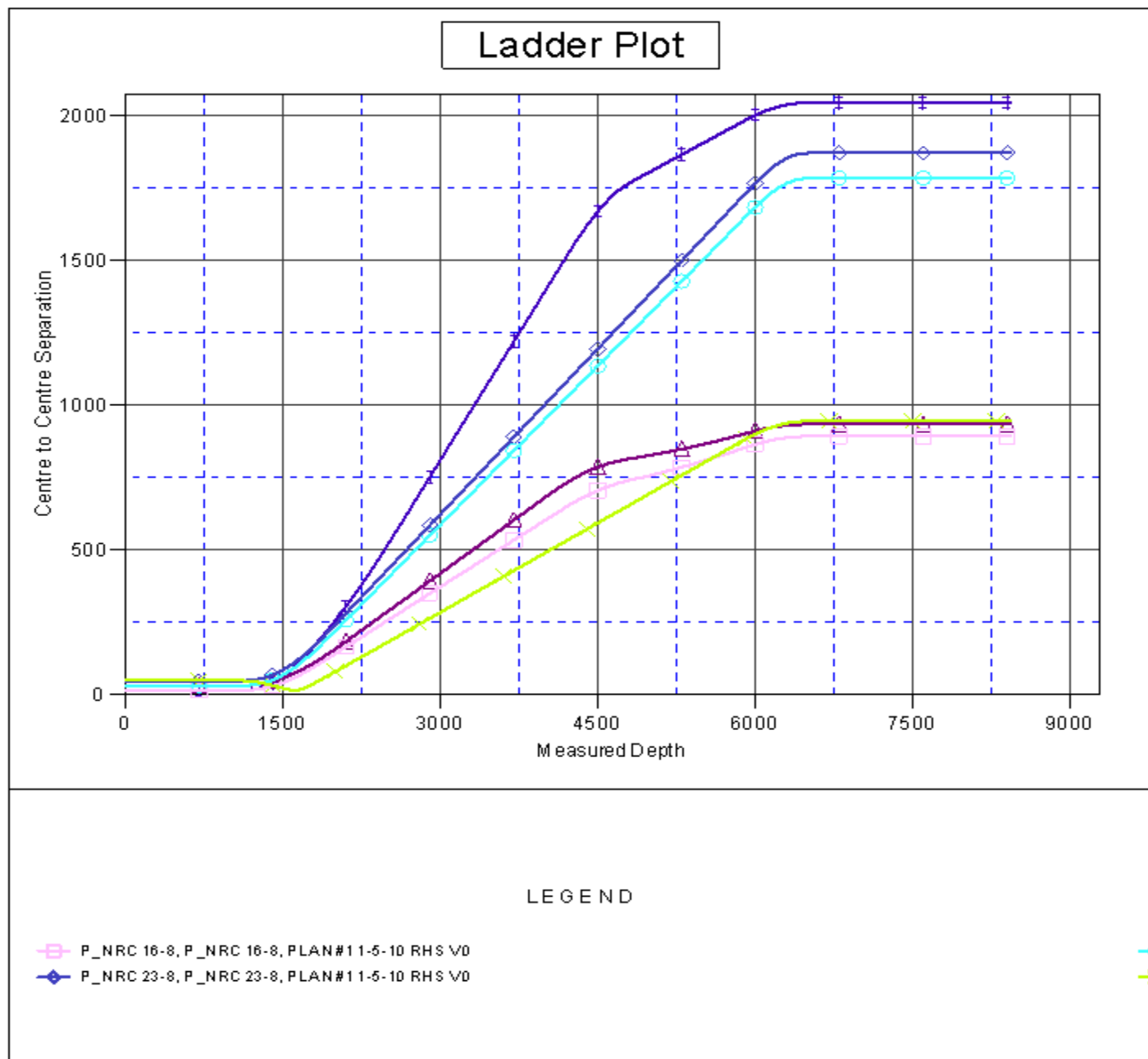
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.00	4,826.75	4,808.75	4,808.75	17.28	190.35	178.71	-48.45	-12.60	676.86	479.00	197.86	3.421	
5,000.00	4,924.61	4,906.61	4,906.61	17.73	194.26	178.75	-48.45	-12.60	697.45	495.49	201.96	3.453	
5,100.00	5,022.46	5,004.46	5,004.46	18.18	198.18	178.79	-48.45	-12.60	718.03	511.98	206.05	3.485	
5,200.00	5,120.32	5,102.32	5,102.32	18.63	202.09	178.82	-48.45	-12.60	738.61	528.47	210.15	3.515	
5,300.00	5,218.18	5,200.18	5,200.18	19.08	206.01	178.85	-48.45	-12.60	759.20	544.96	214.24	3.544	
5,400.00	5,316.04	5,298.04	5,298.04	19.53	209.92	178.88	-48.45	-12.60	779.78	561.45	218.34	3.571	
5,500.00	5,413.89	5,395.89	5,395.89	19.98	213.84	178.91	-48.45	-12.60	800.37	577.94	222.43	3.598	
5,600.00	5,511.75	5,493.75	5,493.75	20.43	217.75	178.94	-48.45	-12.60	820.95	594.43	226.53	3.624	
5,700.00	5,609.61	5,591.61	5,591.61	20.88	221.66	178.97	-48.45	-12.60	841.54	610.91	230.62	3.649	
5,800.00	5,707.47	5,689.47	5,689.47	21.33	225.58	178.99	-48.45	-12.60	862.12	627.40	234.72	3.673	
5,900.00	5,805.33	5,787.33	5,787.33	21.79	229.49	179.01	-48.45	-12.60	882.71	643.89	238.81	3.696	
5,913.15	5,818.19	5,800.19	5,800.19	21.84	230.01	179.02	-48.45	-12.60	885.41	646.06	239.35	3.699	
6,000.00	5,903.44	5,885.44	5,885.44	22.17	233.42	179.04	-48.45	-12.60	902.00	657.80	244.20	3.694	
6,100.00	6,002.17	5,984.17	5,984.17	22.44	237.37	179.06	-48.45	-12.60	917.89	668.28	249.61	3.677	
6,200.00	6,101.38	6,083.38	6,083.38	22.68	241.34	179.08	-48.45	-12.60	930.33	675.55	254.77	3.652	
6,300.00	6,200.98	6,182.98	6,182.98	22.88	245.32	179.09	-48.45	-12.60	939.29	679.64	259.65	3.617	
6,400.00	6,300.82	6,282.82	6,282.82	23.04	249.31	179.10	-48.45	-12.60	944.77	680.53	264.24	3.575	
6,507.20	6,408.00	6,390.00	6,390.00	23.19	253.60	-3.59	-48.45	-12.60	946.78	677.96	268.82	3.522	
6,600.00	6,500.80	6,482.80	6,482.80	23.30	257.31	-3.59	-48.45	-12.60	946.78	674.08	272.70	3.472	
6,700.00	6,600.80	6,582.80	6,582.80	23.41	261.31	-3.59	-48.45	-12.60	946.78	669.91	276.87	3.420	
6,800.00	6,700.80	6,682.80	6,682.80	23.52	265.31	-3.59	-48.45	-12.60	946.78	665.74	281.03	3.369	
6,900.00	6,800.80	6,782.80	6,782.80	23.63	269.31	-3.59	-48.45	-12.60	946.78	661.57	285.20	3.320	
7,000.00	6,900.80	6,882.80	6,882.80	23.74	273.31	-3.59	-48.45	-12.60	946.78	657.40	289.38	3.272	
7,100.00	7,000.80	6,982.80	6,982.80	23.86	277.31	-3.59	-48.45	-12.60	946.78	653.23	293.55	3.225	
7,200.00	7,100.80	7,082.80	7,082.80	23.97	281.31	-3.59	-48.45	-12.60	946.78	649.05	297.72	3.180	
7,300.00	7,200.80	7,182.80	7,182.80	24.09	285.31	-3.59	-48.45	-12.60	946.78	644.88	301.90	3.136	
7,400.00	7,300.80	7,282.80	7,282.80	24.21	289.31	-3.59	-48.45	-12.60	946.78	640.70	306.08	3.093	
7,500.00	7,400.80	7,382.80	7,382.80	24.33	293.31	-3.59	-48.45	-12.60	946.78	636.52	310.25	3.052	
7,600.00	7,500.80	7,482.80	7,482.80	24.45	297.31	-3.59	-48.45	-12.60	946.78	632.34	314.43	3.011	
7,700.00	7,600.80	7,582.80	7,582.80	24.57	301.31	-3.59	-48.45	-12.60	946.78	628.16	318.61	2.972	
7,800.00	7,700.80	7,682.80	7,682.80	24.69	305.31	-3.59	-48.45	-12.60	946.78	623.98	322.80	2.933	
7,900.00	7,800.80	7,782.80	7,782.80	24.82	309.31	-3.59	-48.45	-12.60	946.78	619.80	326.98	2.896	
8,000.00	7,900.80	7,882.80	7,882.80	24.95	313.31	-3.59	-48.45	-12.60	946.78	615.62	331.16	2.859	
8,100.00	8,000.80	7,982.80	7,982.80	25.07	317.31	-3.59	-48.45	-12.60	946.78	611.43	335.34	2.823	
8,200.00	8,100.80	8,082.80	8,082.80	25.20	321.31	-3.59	-48.45	-12.60	946.78	607.25	339.53	2.789	
8,300.00	8,200.80	8,182.80	8,182.80	25.33	325.31	-3.59	-48.45	-12.60	946.78	603.06	343.72	2.755	
8,400.00	8,300.80	8,282.80	8,282.80	25.47	329.31	-3.59	-48.45	-12.60	946.78	598.88	347.90	2.721	
8,432.20	8,333.00	8,315.00	8,315.00	25.51	330.60	-3.59	-48.45	-12.60	946.78	597.53	349.25	2.711	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

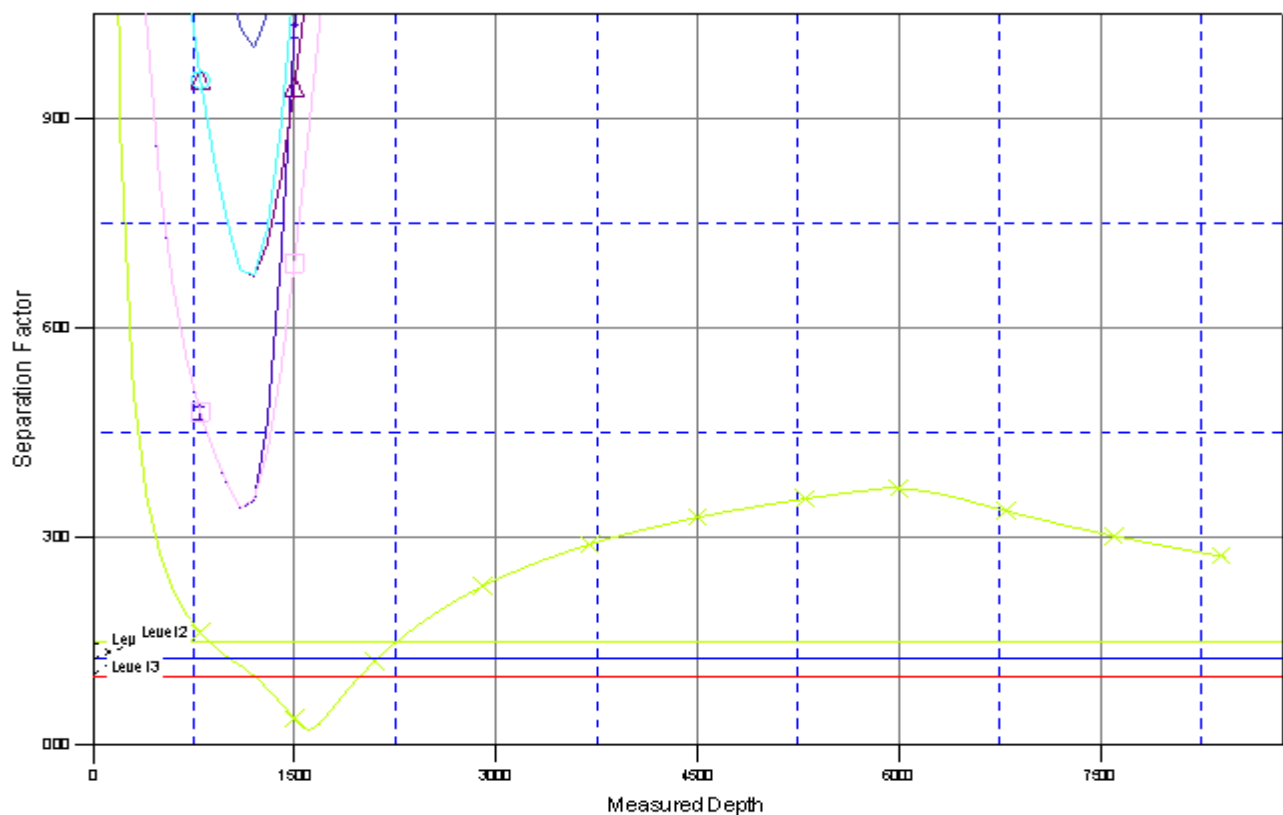
Reference Depths are relative to WELL @ 5071.00ft (Original Well Elev) Coordinates are relative to: P_NRC 37-8
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.38°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_NRC 37-8
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 5071.00ft (Original Well Elev)
Reference Site:	WELD_NRC 20-8 PAD	MD Reference:	WELL @ 5071.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_NRC 37-8	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_NRC 37-8	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 1-5-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5071.00ft (Original Well Elev) Coordinates are relative to: P_NRC 37-8
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.38°

Separation Factor Plot



LEGEND

- P_NRC 16-8, P_NRC 16-8, PLAN#1 1-5-10 RHS V0
- P_NRC 23-8, P_NRC 23-8, PLAN#1 1-5-10 RHS V0

