



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_NRC 20-9 PAD**

**P\_NRC 15-9**

**P\_NRC 15-9**

**Plan: PLAN #1 1-6-10 RHS**

## **Standard Planning Report**

**04 February, 2010**



**P\_NRC 15-9**  
**COLORADO NORTHERN ZONE - 83**  
**SECTION 9 T1N R67W**  
**PLAN #1 1-6-10 RHS**  
**LAT: 40° 3' 40.979 N**  
**LONG: 104° 53' 30.070 W**



Azimuths to True North  
Magnetic North: 9.09°  
  
Magnetic Field  
Strength: 53088.9nT  
Dip Angle: 66.80°  
Date: 1/6/2010  
Model: IGRF2010

**WELL DETAILS: P\_NRC 15-9**

+N/-S	+E/-W	Northing	Ground Level: Easting	5024.00 Latitude	Longitude	Slot
0.00	0.00	1265791.13	3170266.62	40° 3' 40.979 N	104° 53' 30.070 W	

**FORMATION TOP DETAILS**

TVDPath	MDPath	Formation
3230.00	3261.15	PARKMAN
4705.00	4761.79	SUSSEX
5175.00	5239.97	SHANNON
7345.00	7424.16	NIO A
7685.00	7764.16	CODELL
8135.00	8214.16	JSAND
8305.00	8384.16	DAKOTA

**SECTION DETAILS**

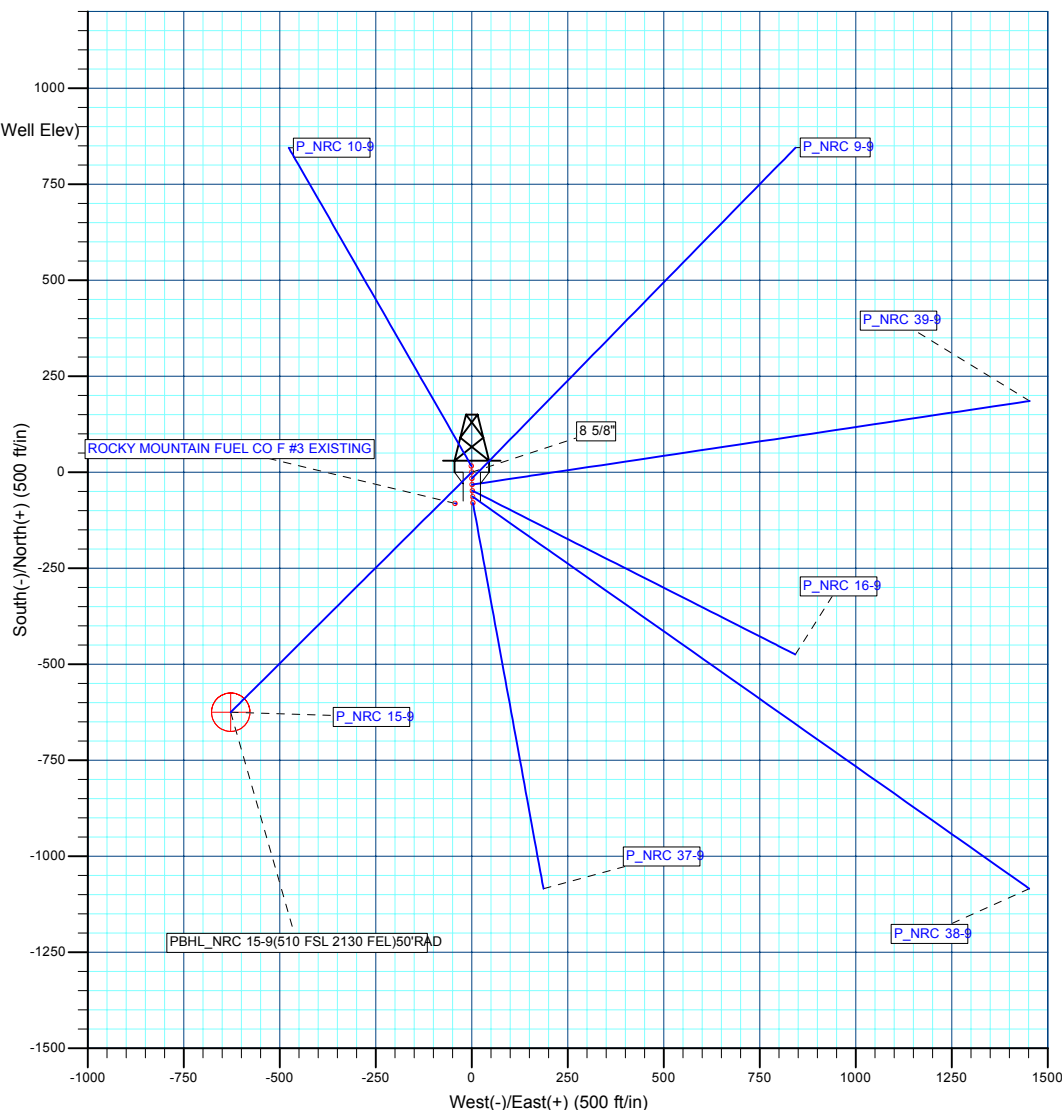
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1085.00	0.00	0.00	1085.00	0.00	0.00	0.00	0.00	0.00	
1615.38	10.61	225.13	1612.35	-34.54	-34.70	2.00	225.13	48.96	
5893.78	10.61	225.13	5817.65	-590.17	-592.86	0.00	0.00	836.53	
6424.16	0.00	0.00	6345.00	-624.71	-627.56	2.00	180.00	885.49	
8604.16	0.00	0.00	8525.00	-624.71	-627.56	0.00	0.00	885.49	PBHL_NRC 15-9(510 FSL 2130 FEL)50°RAD

**CASING DETAILS**

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



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

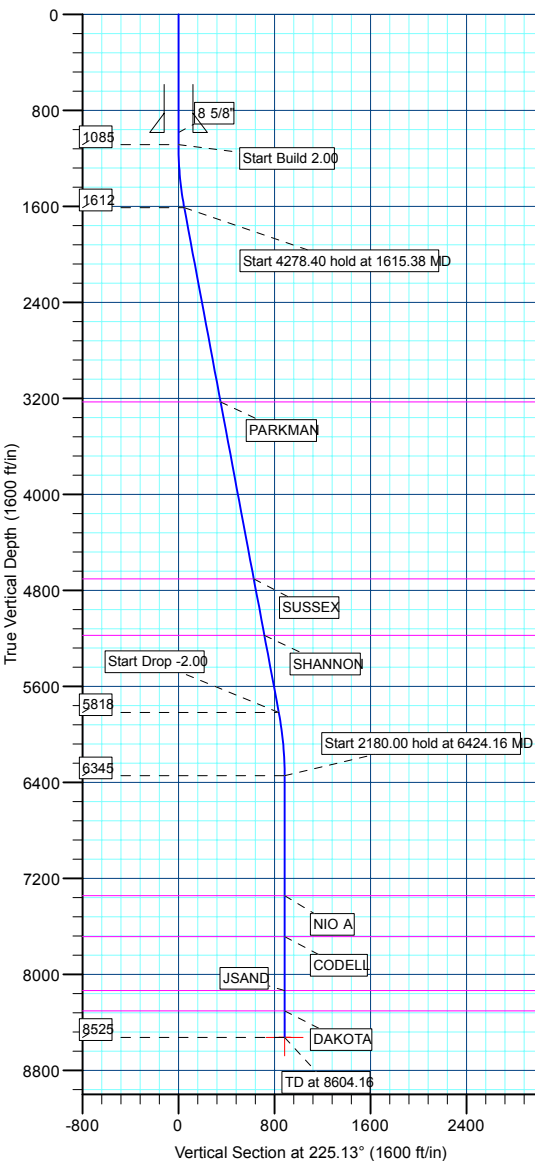


**WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8525.00	-624.71	-627.56	1265162.13	3169643.37	40° 3' 34.805 N	104° 53' 38.141 W	Circle (Radius: 50.00)

Plan: PLAN #1 1-6-10 RHS (P\_NRC 15-9/P\_NRC 15-9)

Created By: Robert H. Scott



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 15-9		
<b>Design:</b>	PLAN #1 1-6-10 RHS		

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

Site						WELD_NRC 20-9 PAD, SECTION 9 T1N R67W											
Site Position:						Northing:			1,265,759.10 ft			Latitude:			40° 3' 40.662 N		
From:			Lat/Long			Easting:			3,170,268.24 ft			Longitude:			104° 53' 30.052 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.39 °		

Well	P_NRC 15-9					
Well Position	+N/-S	32.04 ft	Northing:	1,265,791.13 ft	Latitude:	40° 3' 40.979 N
	+E/-W	-1.40 ft	Easting:	3,170,266.62 ft	Longitude:	104° 53' 30.070 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,024.00 ft

<b>Wellbore</b>	P_NRC 15-9				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	1/6/2010	9.09	66.80	53,089

<b>Design</b>	PLAN #1 1-6-10 RHS				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	225.13	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,085.00	0.00	0.00	1,085.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,615.38	10.61	225.13	1,612.35	-34.54	-34.70	2.00	2.00	0.00	225.13	
5,893.78	10.61	225.13	5,817.65	-590.17	-592.86	0.00	0.00	0.00	0.00	
6,424.16	0.00	0.00	6,345.00	-624.71	-627.56	2.00	-2.00	0.00	180.00	
8,604.16	0.00	0.00	8,525.00	-624.71	-627.56	0.00	0.00	0.00	0.00	PBHL_NRC 15-9(5

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 15-9		
<b>Design:</b>	PLAN #1 1-6-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>Start Build 2.00</b>									
1,085.00	0.00	0.00	1,085.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.30	225.13	1,100.00	-0.03	-0.03	0.04	2.00	2.00	0.00
1,200.00	2.30	225.13	1,199.97	-1.63	-1.64	2.31	2.00	2.00	0.00
1,300.00	4.30	225.13	1,299.80	-5.69	-5.72	8.06	2.00	2.00	0.00
1,400.00	6.30	225.13	1,399.37	-12.21	-12.26	17.30	2.00	2.00	0.00
1,500.00	8.30	225.13	1,498.55	-21.17	-21.27	30.01	2.00	2.00	0.00
1,600.00	10.30	225.13	1,597.23	-32.57	-32.72	46.17	2.00	2.00	0.00
<b>Start 4278.40 hold at 1615.38 MD</b>									
1,615.38	10.61	225.13	1,612.35	-34.54	-34.70	48.96	2.00	2.00	0.00
1,700.00	10.61	225.13	1,695.53	-45.53	-45.74	64.53	0.00	0.00	0.00
1,800.00	10.61	225.13	1,793.82	-58.52	-58.78	82.94	0.00	0.00	0.00
1,900.00	10.61	225.13	1,892.11	-71.50	-71.83	101.35	0.00	0.00	0.00
2,000.00	10.61	225.13	1,990.40	-84.49	-84.87	119.76	0.00	0.00	0.00
2,100.00	10.61	225.13	2,088.69	-97.48	-97.92	138.17	0.00	0.00	0.00
2,200.00	10.61	225.13	2,186.98	-110.46	-110.97	156.57	0.00	0.00	0.00
2,300.00	10.61	225.13	2,285.28	-123.45	-124.01	174.98	0.00	0.00	0.00
2,400.00	10.61	225.13	2,383.57	-136.44	-137.06	193.39	0.00	0.00	0.00
2,500.00	10.61	225.13	2,481.86	-149.42	-150.10	211.80	0.00	0.00	0.00
2,600.00	10.61	225.13	2,580.15	-162.41	-163.15	230.21	0.00	0.00	0.00
2,700.00	10.61	225.13	2,678.44	-175.40	-176.20	248.62	0.00	0.00	0.00
2,800.00	10.61	225.13	2,776.73	-188.38	-189.24	267.02	0.00	0.00	0.00
2,900.00	10.61	225.13	2,875.02	-201.37	-202.29	285.43	0.00	0.00	0.00
3,000.00	10.61	225.13	2,973.31	-214.36	-215.33	303.84	0.00	0.00	0.00
3,100.00	10.61	225.13	3,071.60	-227.35	-228.38	322.25	0.00	0.00	0.00
3,200.00	10.61	225.13	3,169.90	-240.33	-241.43	340.66	0.00	0.00	0.00
<b>PARKMAN</b>									
3,261.15	10.61	225.13	3,230.00	-248.27	-249.40	351.91	0.00	0.00	0.00
3,300.00	10.61	225.13	3,268.19	-253.32	-254.47	359.06	0.00	0.00	0.00
3,400.00	10.61	225.13	3,366.48	-266.31	-267.52	377.47	0.00	0.00	0.00
3,500.00	10.61	225.13	3,464.77	-279.29	-280.57	395.88	0.00	0.00	0.00
3,600.00	10.61	225.13	3,563.06	-292.28	-293.61	414.29	0.00	0.00	0.00
3,700.00	10.61	225.13	3,661.35	-305.27	-306.66	432.70	0.00	0.00	0.00
3,800.00	10.61	225.13	3,759.64	-318.25	-319.70	451.10	0.00	0.00	0.00
3,900.00	10.61	225.13	3,857.93	-331.24	-332.75	469.51	0.00	0.00	0.00
4,000.00	10.61	225.13	3,956.22	-344.23	-345.80	487.92	0.00	0.00	0.00
4,100.00	10.61	225.13	4,054.52	-357.21	-358.84	506.33	0.00	0.00	0.00
4,200.00	10.61	225.13	4,152.81	-370.20	-371.89	524.74	0.00	0.00	0.00
4,300.00	10.61	225.13	4,251.10	-383.19	-384.93	543.15	0.00	0.00	0.00
4,400.00	10.61	225.13	4,349.39	-396.18	-397.98	561.55	0.00	0.00	0.00
4,500.00	10.61	225.13	4,447.68	-409.16	-411.03	579.96	0.00	0.00	0.00
4,600.00	10.61	225.13	4,545.97	-422.15	-424.07	598.37	0.00	0.00	0.00
4,700.00	10.61	225.13	4,644.26	-435.14	-437.12	616.78	0.00	0.00	0.00
<b>SUSSEX</b>									
4,761.79	10.61	225.13	4,705.00	-443.16	-445.18	628.15	0.00	0.00	0.00
4,800.00	10.61	225.13	4,742.55	-448.12	-450.16	635.19	0.00	0.00	0.00
4,900.00	10.61	225.13	4,840.84	-461.11	-463.21	653.59	0.00	0.00	0.00
5,000.00	10.61	225.13	4,939.14	-474.10	-476.26	672.00	0.00	0.00	0.00
5,100.00	10.61	225.13	5,037.43	-487.08	-489.30	690.41	0.00	0.00	0.00
5,200.00	10.61	225.13	5,135.72	-500.07	-502.35	708.82	0.00	0.00	0.00
<b>SHANNON</b>									
5,239.97	10.61	225.13	5,175.00	-505.26	-507.56	716.18	0.00	0.00	0.00
5,300.00	10.61	225.13	5,234.01	-513.06	-515.39	727.23	0.00	0.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 15-9		
<b>Design:</b>	PLAN #1 1-6-10 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	10.61	225.13	5,332.30	-526.04	-528.44	745.64	0.00	0.00	0.00
5,500.00	10.61	225.13	5,430.59	-539.03	-541.49	764.04	0.00	0.00	0.00
5,600.00	10.61	225.13	5,528.88	-552.02	-554.53	782.45	0.00	0.00	0.00
5,700.00	10.61	225.13	5,627.17	-565.01	-567.58	800.86	0.00	0.00	0.00
5,800.00	10.61	225.13	5,725.46	-577.99	-580.62	819.27	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,893.78	10.61	225.13	5,817.65	-590.17	-592.86	836.53	0.00	0.00	0.00
5,900.00	10.48	225.13	5,823.76	-590.97	-593.67	837.67	2.00	-2.00	0.00
6,000.00	8.48	225.13	5,922.38	-602.60	-605.34	854.14	2.00	-2.00	0.00
6,100.00	6.48	225.13	6,021.53	-611.79	-614.57	867.17	2.00	-2.00	0.00
6,200.00	4.48	225.13	6,121.07	-618.53	-621.34	876.72	2.00	-2.00	0.00
6,300.00	2.48	225.13	6,220.88	-622.81	-625.65	882.80	2.00	-2.00	0.00
6,400.00	0.48	225.13	6,320.84	-624.64	-627.48	885.39	2.00	-2.00	0.00
<b>Start 2180.00 hold at 6424.16 MD</b>									
6,424.16	0.00	0.00	6,345.00	-624.71	-627.56	885.49	2.00	-2.00	558.16
6,500.00	0.00	0.00	6,420.84	-624.71	-627.56	885.49	0.00	0.00	0.00
6,600.00	0.00	0.00	6,520.84	-624.71	-627.56	885.49	0.00	0.00	0.00
6,700.00	0.00	0.00	6,620.84	-624.71	-627.56	885.49	0.00	0.00	0.00
6,800.00	0.00	0.00	6,720.84	-624.71	-627.56	885.49	0.00	0.00	0.00
6,900.00	0.00	0.00	6,820.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,000.00	0.00	0.00	6,920.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,100.00	0.00	0.00	7,020.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,200.00	0.00	0.00	7,120.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,300.00	0.00	0.00	7,220.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,400.00	0.00	0.00	7,320.84	-624.71	-627.56	885.49	0.00	0.00	0.00
<b>NIO A</b>									
7,424.16	0.00	0.00	7,345.00	-624.71	-627.56	885.49	0.00	0.00	0.00
7,500.00	0.00	0.00	7,420.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,600.00	0.00	0.00	7,520.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,700.00	0.00	0.00	7,620.84	-624.71	-627.56	885.49	0.00	0.00	0.00
<b>CODELL</b>									
7,764.16	0.00	0.00	7,685.00	-624.71	-627.56	885.49	0.00	0.00	0.00
7,800.00	0.00	0.00	7,720.84	-624.71	-627.56	885.49	0.00	0.00	0.00
7,900.00	0.00	0.00	7,820.84	-624.71	-627.56	885.49	0.00	0.00	0.00
8,000.00	0.00	0.00	7,920.84	-624.71	-627.56	885.49	0.00	0.00	0.00
8,100.00	0.00	0.00	8,020.84	-624.71	-627.56	885.49	0.00	0.00	0.00
8,200.00	0.00	0.00	8,120.84	-624.71	-627.56	885.49	0.00	0.00	0.00
<b>JSAND</b>									
8,214.16	0.00	0.00	8,135.00	-624.71	-627.56	885.49	0.00	0.00	0.00
8,300.00	0.00	0.00	8,220.84	-624.71	-627.56	885.49	0.00	0.00	0.00
<b>DAKOTA</b>									
8,384.16	0.00	0.00	8,305.00	-624.71	-627.56	885.49	0.00	0.00	0.00
8,400.00	0.00	0.00	8,320.84	-624.71	-627.56	885.49	0.00	0.00	0.00
8,500.00	0.00	0.00	8,420.84	-624.71	-627.56	885.49	0.00	0.00	0.00
8,600.00	0.00	0.00	8,520.84	-624.71	-627.56	885.49	0.00	0.00	0.00
<b>PBHL_NRC 15-9(510 FSL 2130 FEL)50'RAD</b>									
8,604.16	0.00	0.00	8,525.00	-624.71	-627.56	885.49	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site:</b>	WELD_NRC 20-9 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NRC 15-9		
<b>Design:</b>	PLAN #1 1-6-10 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 15-9(510)	0.00	0.00	8,525.00	-624.71	-627.56	1,265,162.13	3,169,643.37	40° 3' 34.805 N	104° 53' 38.141 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		(°)	(°)
3,261.15	3,230.00	PARKMAN				
4,761.79	4,705.00	SUSSEX				
5,239.97	5,175.00	SHANNON				
7,424.16	7,345.00	NIO A				
7,764.16	7,685.00	CODELL				
8,214.16	8,135.00	JSAND				
8,384.16	8,305.00	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	
1,615.38	1,612.35	-34.54	-34.70	Start 4278.40 hold at 1615.38 MD	
5,893.78	5,817.65	-590.17	-592.86	Start Drop -2.00	
6,424.16	6,345.00	-624.71	-627.56	Start 2180.00 hold at 6424.16 MD	
8,604.16	8,525.00	-624.71	-627.56	TD at 8604.16	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_NRC 20-9 PAD  
P\_NRC 15-9**

**P\_NRC 15-9  
PLAN #1 1-6-10 RHS**

## **Anticollision Report**

**04 February, 2010**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 1-6-10 RHS		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	0.00 to 20,000.00ft	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 2/4/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,604.16	PLAN #1 1-6-10 RHS (P_NRC 15-9)	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
WELD_NRC 20-9 PAD						
P_NRC 10-9 - P_NRC 10-9 - PLAN #1 1-6-10 RHS	1,085.00	1,085.00	16.04	11.42	3.473	CC
P_NRC 10-9 - P_NRC 10-9 - PLAN #1 1-6-10 RHS	1,100.00	1,099.93	16.10	11.42	3.439	ES, SF
P_NRC 16-9 - P_NRC 16-9 - PLAN #1 1-6-10 RHS	1,224.75	1,223.39	47.82	42.68	9.307	CC, ES
P_NRC 16-9 - P_NRC 16-9 - PLAN #1 1-6-10 RHS	1,300.00	1,297.46	48.39	42.97	8.923	SF
P_NRC 37-9 - P_NRC 37-9 - PLAN #1 1-6-10 RHS	1,085.00	1,085.00	79.85	75.23	17.288	CC
P_NRC 37-9 - P_NRC 37-9 - PLAN #1 1-6-10 RHS	1,100.00	1,099.60	79.86	75.19	17.074	ES
P_NRC 37-9 - P_NRC 37-9 - PLAN #1 1-6-10 RHS	1,500.00	1,487.12	92.18	86.00	14.921	SF
P_NRC 38-9 - P_NRC 38-9 - PLAN #1 1-6-10 RHS	1,191.62	1,190.11	63.74	58.73	12.728	CC
P_NRC 38-9 - P_NRC 38-9 - PLAN #1 1-6-10 RHS	1,200.00	1,198.35	63.74	58.70	12.652	ES
P_NRC 38-9 - P_NRC 38-9 - PLAN #1 1-6-10 RHS	1,400.00	1,393.63	67.78	61.97	11.662	SF
P_NRC 39-9 - P_NRC 39-9 - PLAN #1 1-6-10 RHS	1,284.57	1,283.93	29.24	-16.66	0.637	Level 1, CC
P_NRC 39-9 - P_NRC 39-9 - PLAN #1 1-6-10 RHS	1,300.00	1,299.16	29.32	-16.79	0.636	Level 1, ES, SF
P_NRC 9-9 - P_NRC 9-9 - PLAN #1 1-6-10 RHS	1,260.86	1,260.87	11.88	6.55	2.230	CC, ES, SF
ROCKY MOUNTAIN FUEL CO F #3 EXISTING - ROCKY	1,826.70	1,801.06	27.16	19.05	3.351	CC, ES, SF

<b>Offset Design</b>	WELD_NRC 20-9 PAD - P_NRC 10-9 - P_NRC 10-9 - PLAN #1 1-6-10 RHS										<b>Offset Site Error:</b>	0.00 ft
<b>Survey Program:</b>	0-MWD										<b>Offset Well Error:</b>	0.00 ft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>		<b>Minimum Separation</b>			<b>Separation Factor</b>	<b>Warning</b>		
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>		
0.00	0.00	0.00	0.00	0.00	0.00	-2.00	16.03	-0.56	16.04			
100.00	100.00	100.00	100.00	0.10	0.10	-2.00	16.03	-0.56	16.04	15.85	0.19	83.968
200.00	200.00	200.00	200.00	0.32	0.32	-2.00	16.03	-0.56	16.04	15.40	0.64	25.043
300.00	300.00	300.00	300.00	0.55	0.55	-2.00	16.03	-0.56	16.04	14.95	1.09	14.716
400.00	400.00	400.00	400.00	0.77	0.77	-2.00	16.03	-0.56	16.04	14.50	1.54	10.419
500.00	500.00	500.00	500.00	0.99	0.99	-2.00	16.03	-0.56	16.04	14.05	1.99	8.065
600.00	600.00	600.00	600.00	1.22	1.22	-2.00	16.03	-0.56	16.04	13.60	2.44	6.578
700.00	700.00	700.00	700.00	1.44	1.44	-2.00	16.03	-0.56	16.04	13.15	2.89	5.554
800.00	800.00	800.00	800.00	1.67	1.67	-2.00	16.03	-0.56	16.04	12.70	3.34	4.806
900.00	900.00	900.00	900.00	1.89	1.89	-2.00	16.03	-0.56	16.04	12.25	3.79	4.236
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-2.00	16.03	-0.56	16.04	11.81	4.24	3.786
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	-2.00	16.03	-0.56	16.04	11.42	4.62	3.473 CC
1,100.00	1,100.00	1,099.93	1,099.93	2.34	2.34	132.91	16.07	-0.58	16.10	11.42	4.68	3.439 ES, SF
1,200.00	1,199.97	1,199.32	1,199.29	2.52	2.56	134.62	18.01	-1.69	19.65	14.57	5.08	3.868

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



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-9 PAD - P_NRC 10-9 - P_NRC 10-9 - PLAN #1 1-6-10 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
1,300.00	1,299.80	1,298.19	1,297.99	2.71	2.78	137.02	22.91	-4.51	28.68	23.20	5.48	5.230	
1,400.00	1,399.37	1,396.10	1,395.49	2.91	3.01	138.73	30.67	-8.96	43.18	37.28	5.89	7.324	
1,500.00	1,498.55	1,492.63	1,491.26	3.14	3.25	139.72	41.14	-14.97	63.05	56.74	6.32	9.983	
1,600.00	1,597.23	1,587.38	1,584.81	3.41	3.51	140.24	54.14	-22.43	88.20	81.44	6.75	13.059	
1,615.38	1,612.35	1,601.78	1,598.98	3.45	3.55	140.29	56.35	-23.70	92.52	85.70	6.82	13.562	
1,700.00	1,695.53	1,680.94	1,676.66	3.71	3.79	140.45	69.54	-31.27	117.50	110.26	7.23	16.241	
1,800.00	1,793.82	1,776.30	1,770.11	4.03	4.11	140.40	86.05	-40.74	147.60	139.86	7.75	19.050	
1,900.00	1,892.11	1,871.66	1,863.55	4.36	4.44	140.36	102.56	-50.22	177.71	169.43	8.28	21.464	
2,000.00	1,990.40	1,967.02	1,956.99	4.72	4.78	140.33	119.07	-59.69	207.82	198.99	8.82	23.549	
2,100.00	2,088.69	2,062.38	2,050.43	5.08	5.13	140.31	135.58	-69.17	237.92	228.54	9.38	25.358	
2,200.00	2,186.98	2,157.74	2,143.87	5.45	5.50	140.30	152.09	-78.64	268.03	258.08	9.95	26.936	
2,300.00	2,285.28	2,253.10	2,237.31	5.83	5.87	140.29	168.60	-88.12	298.13	287.61	10.53	28.322	
2,400.00	2,383.57	2,348.46	2,330.75	6.21	6.24	140.28	185.11	-97.59	328.24	317.13	11.11	29.545	
2,500.00	2,481.86	2,443.82	2,424.19	6.60	6.62	140.27	201.62	-107.07	358.35	346.65	11.70	30.630	
2,600.00	2,580.15	2,539.18	2,517.63	6.99	7.00	140.26	218.13	-116.54	388.45	376.16	12.29	31.597	
2,700.00	2,678.44	2,634.54	2,611.08	7.39	7.39	140.25	234.65	-126.02	418.56	405.67	12.89	32.464	
2,800.00	2,776.73	2,729.90	2,704.52	7.78	7.78	140.25	251.16	-135.49	448.66	435.17	13.50	33.245	
2,900.00	2,875.02	2,825.26	2,797.96	8.19	8.17	140.24	267.67	-144.97	478.77	464.67	14.10	33.951	
3,000.00	2,973.31	2,920.63	2,891.40	8.59	8.57	140.24	284.18	-154.45	508.88	494.17	14.71	34.591	
3,100.00	3,071.60	3,015.99	2,984.84	8.99	8.97	140.24	300.69	-163.92	538.98	523.66	15.32	35.175	
3,200.00	3,169.90	3,111.35	3,078.28	9.40	9.36	140.23	317.20	-173.40	569.09	553.15	15.94	35.709	
3,300.00	3,268.19	3,206.71	3,171.72	9.81	9.76	140.23	333.71	-182.87	599.20	582.64	16.55	36.198	
3,400.00	3,366.48	3,302.07	3,265.16	10.21	10.16	140.23	350.22	-192.35	629.30	612.13	17.17	36.649	
3,500.00	3,464.77	3,397.43	3,358.60	10.62	10.57	140.23	366.73	-201.82	659.41	641.62	17.79	37.065	
3,600.00	3,563.06	3,492.79	3,452.05	11.03	10.97	140.22	383.24	-211.30	689.51	671.10	18.41	37.450	
3,700.00	3,661.35	3,588.15	3,545.49	11.45	11.37	140.22	399.75	-220.77	719.62	700.59	19.03	37.807	
3,800.00	3,759.64	3,683.51	3,638.93	11.86	11.78	140.22	416.26	-230.25	749.73	730.07	19.66	38.139	
3,900.00	3,857.93	3,778.87	3,732.37	12.27	12.18	140.22	432.77	-239.72	779.83	759.55	20.28	38.449	
4,000.00	3,956.22	3,874.23	3,825.81	12.68	12.59	140.22	449.28	-249.20	809.94	789.03	20.91	38.738	
4,100.00	4,054.52	3,969.59	3,919.25	13.10	12.99	140.22	465.80	-258.67	840.04	818.51	21.53	39.009	
4,200.00	4,152.81	4,064.95	4,012.69	13.51	13.40	140.21	482.31	-268.15	870.15	847.99	22.16	39.263	
4,300.00	4,251.10	4,160.31	4,106.13	13.93	13.81	140.21	498.82	-277.62	900.26	877.47	22.79	39.502	
4,400.00	4,349.39	4,255.67	4,199.57	14.34	14.22	140.21	515.33	-287.10	930.36	906.94	23.42	39.727	
4,500.00	4,447.68	4,351.03	4,293.01	14.76	14.62	140.21	531.84	-296.57	960.47	936.42	24.05	39.939	
4,600.00	4,545.97	4,446.39	4,386.46	15.18	15.03	140.21	548.35	-306.05	990.58	965.90	24.68	40.139	
4,700.00	4,644.26	4,541.75	4,479.90	15.59	15.44	140.21	564.86	-315.52	1,020.68	995.37	25.31	40.329	
4,800.00	4,742.55	4,637.11	4,573.34	16.01	15.85	140.21	581.37	-325.00	1,050.79	1,024.85	25.94	40.508	
4,900.00	4,840.84	4,732.47	4,666.78	16.43	16.26	140.21	597.88	-334.48	1,080.89	1,054.32	26.57	40.678	
5,000.00	4,939.14	4,827.83	4,760.22	16.84	16.67	140.21	614.39	-343.95	1,111.00	1,083.80	27.20	40.840	
5,100.00	5,037.43	4,923.19	4,853.66	17.26	17.08	140.21	630.90	-353.43	1,141.11	1,113.27	27.84	40.994	
5,200.00	5,135.72	5,018.56	4,947.10	17.68	17.49	140.20	647.41	-362.90	1,171.21	1,142.74	28.47	41.140	
5,300.00	5,234.01	5,113.92	5,040.54	18.10	17.90	140.20	663.92	-372.38	1,201.32	1,172.22	29.10	41.279	
5,400.00	5,332.30	5,209.28	5,133.98	18.51	18.31	140.20	680.43	-381.85	1,231.42	1,201.69	29.74	41.412	
5,500.00	5,430.59	5,304.64	5,227.43	18.93	18.72	140.20	696.94	-391.33	1,261.53	1,231.16	30.37	41.540	
5,600.00	5,528.88	5,400.00	5,320.87	19.35	19.14	140.20	713.46	-400.80	1,291.64	1,260.63	31.00	41.661	
5,700.00	5,627.17	5,495.36	5,414.31	19.77	19.55	140.20	729.97	-410.28	1,321.74	1,290.11	31.64	41.777	
5,800.00	5,725.46	5,590.72	5,507.75	20.19	19.96	140.20	746.48	-419.75	1,351.85	1,319.58	32.27	41.888	
5,893.78	5,817.65	5,680.15	5,595.38	20.58	20.34	140.20	761.96	-428.64	1,380.08	1,347.22	32.87	41.989	
5,900.00	5,823.76	5,686.08	5,601.19	20.60	20.37	140.23	762.99	-429.23	1,381.95	1,349.04	32.91	41.988	
6,000.00	5,922.38	5,781.87	5,695.05	20.89	20.78	140.55	779.57	-438.75	1,410.61	1,377.03	33.59	42.000	
6,100.00	6,021.53	5,882.85	5,794.01	21.13	21.21	140.74	797.04	-448.77	1,436.68	1,402.44	34.23	41.969	
6,200.00	6,121.07	6,048.19	5,956.99	21.35	21.72	140.76	821.05	-462.55	1,457.57	1,422.67	34.90	41.767	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - P_NRC 10-9 - P_NRC 10-9 - PLAN #1 1-6-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,300.00	6,220.88	6,217.34	6,125.09	21.52	22.12	140.76	837.13	-471.78	1,471.15	1,435.68	35.47	41.479	
6,400.00	6,320.84	6,388.73	6,296.24	21.66	22.41	140.75	844.62	-476.08	1,477.25	1,441.31	35.93	41.113	
6,424.16	6,345.00	6,430.29	6,337.80	21.69	22.46	5.87	845.10	-476.35	1,477.58	1,441.55	36.03	41.011	
6,500.00	6,420.84	6,513.33	6,420.84	21.79	22.57	5.87	845.14	-476.38	1,477.61	1,441.34	36.27	40.738	
6,600.00	6,520.84	6,613.33	6,520.84	21.91	22.70	5.87	845.14	-476.38	1,477.61	1,441.02	36.59	40.380	
6,700.00	6,620.84	6,713.33	6,620.84	22.03	22.84	5.87	845.14	-476.38	1,477.61	1,440.69	36.92	40.026	
6,800.00	6,720.84	6,813.33	6,720.84	22.16	22.98	5.87	845.14	-476.38	1,477.61	1,440.37	37.24	39.675	
6,900.00	6,820.84	6,913.33	6,820.84	22.29	23.12	5.87	845.14	-476.38	1,477.61	1,440.04	37.57	39.327	
7,000.00	6,920.84	7,013.33	6,920.84	22.41	23.26	5.87	845.14	-476.38	1,477.61	1,439.70	37.90	38.983	
7,100.00	7,020.84	7,113.33	7,020.84	22.54	23.41	5.87	845.14	-476.38	1,477.61	1,439.37	38.24	38.643	
7,200.00	7,120.84	7,213.33	7,120.84	22.67	23.55	5.87	845.14	-476.38	1,477.61	1,439.03	38.57	38.306	
7,300.00	7,220.84	7,313.33	7,220.84	22.81	23.69	5.87	845.14	-476.38	1,477.61	1,438.70	38.91	37.972	
7,400.00	7,320.84	7,413.33	7,320.84	22.94	23.84	5.87	845.14	-476.38	1,477.61	1,438.36	39.25	37.643	
7,500.00	7,420.84	7,513.33	7,420.84	23.08	23.99	5.87	845.14	-476.38	1,477.61	1,438.01	39.60	37.317	
7,600.00	7,520.84	7,613.33	7,520.84	23.21	24.14	5.87	845.14	-476.38	1,477.61	1,437.67	39.94	36.994	
7,700.00	7,620.84	7,713.33	7,620.84	23.35	24.29	5.87	845.14	-476.38	1,477.61	1,437.32	40.29	36.675	
7,800.00	7,720.84	7,813.33	7,720.84	23.49	24.44	5.87	845.14	-476.38	1,477.61	1,436.97	40.64	36.360	
7,900.00	7,820.84	7,913.33	7,820.84	23.63	24.59	5.87	845.14	-476.38	1,477.61	1,436.62	40.99	36.049	
8,000.00	7,920.84	8,013.33	7,920.84	23.78	24.75	5.87	845.14	-476.38	1,477.61	1,436.27	41.34	35.741	
8,100.00	8,020.84	8,113.33	8,020.84	23.92	24.90	5.87	845.14	-476.38	1,477.61	1,435.91	41.70	35.437	
8,200.00	8,120.84	8,213.33	8,120.84	24.06	25.06	5.87	845.14	-476.38	1,477.61	1,435.55	42.05	35.136	
8,300.00	8,220.84	8,313.33	8,220.84	24.21	25.21	5.87	845.14	-476.38	1,477.61	1,435.20	42.41	34.839	
8,400.00	8,320.84	8,413.33	8,320.84	24.36	25.37	5.87	845.14	-476.38	1,477.61	1,434.84	42.77	34.546	
8,500.00	8,420.84	8,513.33	8,420.84	24.51	25.53	5.87	845.14	-476.38	1,477.61	1,434.47	43.13	34.256	
8,604.16	8,525.00	8,617.49	8,525.00	24.66	25.70	5.87	845.14	-476.38	1,477.61	1,434.10	43.51	33.958	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						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	177.33	-48.08	2.24	48.13				
100.00	100.00	100.00	100.00	0.10	0.10	177.33	-48.08	2.24	48.13	47.94	0.19	251.913	
200.00	200.00	200.00	200.00	0.32	0.32	177.33	-48.08	2.24	48.13	47.49	0.64	75.132	
300.00	300.00	300.00	300.00	0.55	0.55	177.33	-48.08	2.24	48.13	47.04	1.09	44.150	
400.00	400.00	400.00	400.00	0.77	0.77	177.33	-48.08	2.24	48.13	46.59	1.54	31.259	
500.00	500.00	500.00	500.00	0.99	0.99	177.33	-48.08	2.24	48.13	46.14	1.99	24.195	
600.00	600.00	600.00	600.00	1.22	1.22	177.33	-48.08	2.24	48.13	45.69	2.44	19.735	
700.00	700.00	700.00	700.00	1.44	1.44	177.33	-48.08	2.24	48.13	45.24	2.89	16.664	
800.00	800.00	800.00	800.00	1.67	1.67	177.33	-48.08	2.24	48.13	44.79	3.34	14.419	
900.00	900.00	900.00	900.00	1.89	1.89	177.33	-48.08	2.24	48.13	44.34	3.79	12.708	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	177.33	-48.08	2.24	48.13	43.89	4.24	11.359	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	177.33	-48.08	2.24	48.13	43.51	4.62	10.420	
1,100.00	1,100.00	1,099.88	1,099.88	2.34	2.34	-47.87	-48.09	2.27	48.12	43.44	4.68	10.284	
1,200.00	1,199.97	1,198.94	1,198.91	2.52	2.53	-52.19	-49.10	4.26	47.85	42.81	5.04	9.489	
1,224.75	1,224.69	1,223.39	1,223.33	2.57	2.57	-54.29	-49.59	5.22	47.82	42.68	5.14	9.307 CC, ES	
1,300.00	1,299.80	1,297.46	1,297.26	2.71	2.72	-63.05	-51.64	9.26	48.39	42.97	5.42	8.923 SF	
1,400.00	1,399.37	1,394.98	1,394.38	2.91	2.93	-78.73	-55.65	17.18	52.72	46.90	5.83	9.050	
1,500.00	1,498.55	1,491.08	1,489.72	3.14	3.15	-94.83	-61.07	27.86	63.91	57.66	6.24	10.236	
1,600.00	1,597.23	1,585.34	1,582.80	3.41	3.41	-107.61	-67.79	41.11	83.06	76.39	6.67	12.446	
1,615.38	1,612.35	1,600.00	1,597.23	3.45	3.45	-109.25	-68.96	43.41	86.69	79.94	6.74	12.859	
1,700.00	1,695.53	1,678.64	1,674.42	3.71	3.69	-116.42	-75.75	56.80	108.95	101.83	7.13	15.288	
1,800.00	1,793.82	1,773.87	1,767.79	4.03	4.00	-121.94	-84.23	73.51	137.26	129.65	7.61	18.029	
1,900.00	1,892.11	1,869.11	1,861.17	4.36	4.34	-125.56	-92.71	90.23	166.35	158.23	8.12	20.480	
2,000.00	1,990.40	1,964.34	1,954.54	4.72	4.68	-128.11	-101.19	106.95	195.87	187.22	8.65	22.644	
2,100.00	2,088.69	2,059.58	2,047.91	5.08	5.04	-129.99	-109.67	123.67	225.65	216.45	9.19	24.549	
2,200.00	2,186.98	2,154.81	2,141.28	5.45	5.41	-131.44	-118.15	140.39	255.60	245.85	9.75	26.228	
2,300.00	2,285.28	2,250.04	2,234.65	5.83	5.79	-132.58	-126.63	157.11	285.67	275.36	10.31	27.711	
2,400.00	2,383.57	2,345.28	2,328.02	6.21	6.17	-133.50	-135.11	173.83	315.82	304.94	10.88	29.026	
2,500.00	2,481.86	2,440.51	2,421.39	6.60	6.55	-134.27	-143.59	190.55	346.03	334.57	11.46	30.197	
2,600.00	2,580.15	2,535.74	2,514.76	6.99	6.94	-134.91	-152.07	207.27	376.29	364.25	12.04	31.245	
2,700.00	2,678.44	2,630.98	2,608.13	7.39	7.34	-135.45	-160.55	223.99	406.59	393.96	12.63	32.187	
2,800.00	2,776.73	2,726.21	2,701.50	7.78	7.73	-135.92	-169.03	240.71	436.92	423.69	13.22	33.037	
2,900.00	2,875.02	2,821.45	2,794.87	8.19	8.13	-136.33	-177.51	257.43	467.27	453.45	13.82	33.808	
3,000.00	2,973.31	2,916.68	2,888.24	8.59	8.53	-136.69	-185.99	274.15	497.64	483.21	14.42	34.510	
3,100.00	3,071.60	3,011.91	2,981.61	8.99	8.94	-137.01	-194.47	290.87	528.02	512.99	15.03	35.140	
3,200.00	3,169.90	3,107.15	3,074.98	9.40	9.34	-137.29	-202.95	307.59	558.42	542.78	15.63	35.716	
3,300.00	3,268.19	3,202.38	3,168.35	9.81	9.75	-137.54	-211.43	324.31	588.82	572.58	16.25	36.244	
3,400.00	3,366.48	3,297.61	3,261.72	10.21	10.16	-137.77	-219.91	341.03	619.24	602.38	16.86	36.729	
3,500.00	3,464.77	3,392.85	3,355.09	10.62	10.56	-137.98	-228.39	357.75	649.67	632.19	17.48	37.176	
3,600.00	3,563.06	3,488.08	3,448.46	11.03	10.97	-138.17	-236.87	374.47	680.10	662.01	18.09	37.590	
3,700.00	3,661.35	3,583.32	3,541.83	11.45	11.38	-138.34	-245.35	391.19	710.54	691.83	18.71	37.974	
3,800.00	3,759.64	3,678.55	3,635.20	11.86	11.80	-138.50	-253.83	407.91	740.99	721.65	19.33	38.330	
3,900.00	3,857.93	3,773.78	3,728.57	12.27	12.21	-138.65	-262.31	424.63	771.43	751.48	19.95	38.663	
4,000.00	3,956.22	3,869.02	3,821.94	12.68	12.62	-138.78	-270.79	441.35	801.89	781.31	20.58	38.973	
4,100.00	4,054.52	3,964.25	3,915.31	13.10	13.03	-138.91	-279.27	458.07	832.35	811.15	21.20	39.263	
4,200.00	4,152.81	4,059.48	4,008.68	13.51	13.45	-139.02	-287.75	474.79	862.81	840.98	21.82	39.535	
4,300.00	4,251.10	4,154.72	4,102.05	13.93	13.86	-139.13	-296.23	491.51	893.27	870.82	22.45	39.790	
4,400.00	4,349.39	4,249.95	4,195.42	14.34	14.28	-139.23	-304.71	508.23	923.74	900.66	23.08	40.030	
4,500.00	4,447.68	4,345.19	4,288.79	14.76	14.69	-139.33	-313.19	524.95	954.20	930.50	23.70	40.256	
4,600.00	4,545.97	4,440.42	4,382.16	15.18	15.11	-139.42	-321.67	541.67	984.68	960.34	24.33	40.470	
4,700.00	4,644.26	4,535.65	4,475.53	15.59	15.52	-139.50	-330.15	558.39	1,015.15	990.19	24.96	40.672	
4,800.00	4,742.55	4,630.89	4,568.90	16.01	15.94	-139.58	-338.63	575.11	1,045.62	1,020.04	25.59	40.863	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - P_NRC 16-9 - P_NRC 16-9 - PLAN #1 1-6-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.00	4,840.84	4,726.12	4,662.27	16.43	16.35	-139.65	-347.11	591.83	1,076.10	1,049.88	26.22	41.044	
5,000.00	4,939.14	4,821.35	4,755.64	16.84	16.77	-139.72	-355.59	608.55	1,106.58	1,079.73	26.85	41.216	
5,100.00	5,037.43	4,916.59	4,849.01	17.26	17.19	-139.79	-364.07	625.27	1,137.06	1,109.58	27.48	41.379	
5,200.00	5,135.72	5,011.82	4,942.38	17.68	17.60	-139.85	-372.55	641.99	1,167.54	1,139.43	28.11	41.535	
5,300.00	5,234.01	5,107.06	5,035.75	18.10	18.02	-139.91	-381.03	658.71	1,198.02	1,169.28	28.74	41.683	
5,400.00	5,332.30	5,202.29	5,129.12	18.51	18.44	-139.97	-389.51	675.43	1,228.50	1,199.13	29.37	41.824	
5,500.00	5,430.59	5,297.52	5,222.49	18.93	18.86	-140.02	-397.99	692.15	1,258.99	1,228.98	30.01	41.959	
5,600.00	5,528.88	5,392.76	5,315.86	19.35	19.27	-140.07	-406.47	708.87	1,289.47	1,258.84	30.64	42.088	
5,700.00	5,627.17	5,487.99	5,409.23	19.77	19.69	-140.12	-414.95	725.59	1,319.96	1,288.69	31.27	42.211	
5,800.00	5,725.46	5,583.22	5,502.60	20.19	20.11	-140.17	-423.43	742.31	1,350.45	1,318.54	31.90	42.329	
5,893.78	5,817.65	5,672.54	5,590.17	20.58	20.50	-140.21	-431.38	757.99	1,379.04	1,346.54	32.50	42.435	
5,900.00	5,823.76	5,678.46	5,595.98	20.60	20.53	-140.24	-431.91	759.03	1,380.93	1,348.39	32.54	42.434	
6,000.00	5,922.38	5,774.14	5,689.79	20.89	20.95	-140.62	-440.43	775.83	1,409.97	1,376.77	33.20	42.466	
6,100.00	6,021.53	5,871.47	5,785.21	21.13	21.38	-140.86	-449.10	792.91	1,436.43	1,402.60	33.83	42.462	
6,200.00	6,121.07	6,041.03	5,952.37	21.35	21.88	-140.92	-461.90	818.16	1,457.80	1,423.30	34.50	42.259	
6,300.00	6,220.88	6,214.69	6,124.99	21.52	22.28	-140.96	-470.36	834.84	1,471.55	1,436.48	35.07	41.965	
6,400.00	6,320.84	6,390.71	6,300.79	21.66	22.56	-140.97	-474.09	842.19	1,477.50	1,441.97	35.53	41.581	
6,424.16	6,345.00	6,433.39	6,343.47	21.69	22.62	84.16	-474.26	842.52	1,477.75	1,442.12	35.64	41.467	
6,500.00	6,420.84	6,510.76	6,420.84	21.79	22.71	84.16	-474.26	842.52	1,477.76	1,441.88	35.87	41.195	
6,600.00	6,520.84	6,610.76	6,520.84	21.91	22.84	84.16	-474.26	842.52	1,477.76	1,441.59	36.17	40.858	
6,700.00	6,620.84	6,710.76	6,620.84	22.03	22.96	84.16	-474.26	842.52	1,477.76	1,441.29	36.47	40.524	
6,800.00	6,720.84	6,810.76	6,720.84	22.16	23.09	84.16	-474.26	842.52	1,477.76	1,440.99	36.77	40.192	
6,900.00	6,820.84	6,910.76	6,820.84	22.29	23.22	84.16	-474.26	842.52	1,477.76	1,440.68	37.07	39.862	
7,000.00	6,920.84	7,010.76	6,920.84	22.41	23.35	84.16	-474.26	842.52	1,477.76	1,440.38	37.38	39.534	
7,100.00	7,020.84	7,110.76	7,020.84	22.54	23.49	84.16	-474.26	842.52	1,477.76	1,440.07	37.69	39.209	
7,200.00	7,120.84	7,210.76	7,120.84	22.67	23.62	84.16	-474.26	842.52	1,477.76	1,439.75	38.00	38.886	
7,300.00	7,220.84	7,310.76	7,220.84	22.81	23.75	84.16	-474.26	842.52	1,477.76	1,439.44	38.32	38.565	
7,400.00	7,320.84	7,410.76	7,320.84	22.94	23.89	84.16	-474.26	842.52	1,477.76	1,439.12	38.64	38.247	
7,500.00	7,420.84	7,510.76	7,420.84	23.08	24.03	84.16	-474.26	842.52	1,477.76	1,438.80	38.96	37.932	
7,600.00	7,520.84	7,610.76	7,520.84	23.21	24.17	84.16	-474.26	842.52	1,477.76	1,438.47	39.28	37.620	
7,700.00	7,620.84	7,710.76	7,620.84	23.35	24.31	84.16	-474.26	842.52	1,477.76	1,438.15	39.61	37.310	
7,800.00	7,720.84	7,810.76	7,720.84	23.49	24.45	84.16	-474.26	842.52	1,477.76	1,437.82	39.94	37.004	
7,900.00	7,820.84	7,910.76	7,820.84	23.63	24.59	84.16	-474.26	842.52	1,477.76	1,437.49	40.27	36.700	
8,000.00	7,920.84	8,010.76	7,920.84	23.78	24.74	84.16	-474.26	842.52	1,477.76	1,437.16	40.60	36.399	
8,100.00	8,020.84	8,110.76	8,020.84	23.92	24.88	84.16	-474.26	842.52	1,477.76	1,436.82	40.93	36.101	
8,200.00	8,120.84	8,210.76	8,120.84	24.06	25.03	84.16	-474.26	842.52	1,477.76	1,436.48	41.27	35.806	
8,300.00	8,220.84	8,310.76	8,220.84	24.21	25.18	84.16	-474.26	842.52	1,477.76	1,436.14	41.61	35.513	
8,400.00	8,320.84	8,410.76	8,320.84	24.36	25.33	84.16	-474.26	842.52	1,477.76	1,435.80	41.95	35.224	
8,500.00	8,420.84	8,510.76	8,420.84	24.51	25.48	84.16	-474.26	842.52	1,477.76	1,435.46	42.30	34.938	
8,562.19	8,483.03	8,572.95	8,483.03	24.60	25.57	84.16	-474.26	842.52	1,477.76	1,435.24	42.51	34.762	
8,604.16	8,525.00	8,596.92	8,507.00	24.66	25.61	84.16	-474.26	842.52	1,477.87	1,435.24	42.62	34.672	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-9 PAD - P_NRC 37-9 - P_NRC 37-9 - PLAN #1 1-6-10 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	177.59	-79.78	3.36	79.85				
100.00	100.00	100.00	100.00	0.10	0.10	177.59	-79.78	3.36	79.85	79.66	0.19	417.959	
200.00	200.00	200.00	200.00	0.32	0.32	177.59	-79.78	3.36	79.85	79.21	0.64	124.654	
300.00	300.00	300.00	300.00	0.55	0.55	177.59	-79.78	3.36	79.85	78.76	1.09	73.251	
400.00	400.00	400.00	400.00	0.77	0.77	177.59	-79.78	3.36	79.85	78.31	1.54	51.864	
500.00	500.00	500.00	500.00	0.99	0.99	177.59	-79.78	3.36	79.85	77.86	1.99	40.143	
600.00	600.00	600.00	600.00	1.22	1.22	177.59	-79.78	3.36	79.85	77.41	2.44	32.743	
700.00	700.00	700.00	700.00	1.44	1.44	177.59	-79.78	3.36	79.85	76.96	2.89	27.647	
800.00	800.00	800.00	800.00	1.67	1.67	177.59	-79.78	3.36	79.85	76.51	3.34	23.924	
900.00	900.00	900.00	900.00	1.89	1.89	177.59	-79.78	3.36	79.85	76.06	3.79	21.084	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	177.59	-79.78	3.36	79.85	75.61	4.24	18.847	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	177.59	-79.78	3.36	79.85	75.23	4.62	17.288	CC
1,100.00	1,100.00	1,099.60	1,099.60	2.34	2.34	-47.56	-79.82	3.37	79.86	75.19	4.68	17.074	ES
1,200.00	1,199.97	1,196.87	1,196.84	2.52	2.50	-48.92	-81.93	3.75	80.54	75.52	5.02	16.037	
1,300.00	1,299.80	1,293.98	1,293.80	2.71	2.68	-52.25	-87.28	4.73	82.47	77.09	5.38	15.322	
1,400.00	1,399.37	1,390.78	1,390.20	2.91	2.87	-57.23	-95.82	6.29	86.14	80.37	5.76	14.943	
1,500.00	1,498.55	1,487.12	1,485.80	3.14	3.08	-63.31	-107.50	8.42	92.18	86.00	6.18	14.921	SF
1,600.00	1,597.23	1,582.87	1,580.36	3.41	3.32	-69.84	-122.23	11.12	101.22	94.58	6.64	15.242	
1,615.38	1,612.35	1,597.53	1,594.80	3.45	3.36	-70.84	-124.76	11.58	102.91	96.19	6.72	15.321	
1,700.00	1,695.53	1,677.98	1,673.76	3.71	3.59	-75.82	-139.94	14.35	114.01	106.84	7.16	15.917	
1,800.00	1,793.82	1,775.55	1,769.12	4.03	3.91	-80.32	-160.22	18.06	129.84	122.11	7.73	16.790	
1,900.00	1,892.11	1,873.82	1,865.16	4.36	4.26	-83.85	-180.71	21.81	146.36	138.01	8.34	17.542	
2,000.00	1,990.40	1,972.09	1,961.20	4.72	4.63	-86.66	-201.20	25.55	163.30	154.32	8.98	18.177	
2,100.00	2,088.69	2,070.36	2,057.23	5.08	5.01	-88.93	-221.69	29.30	180.56	170.91	9.65	18.709	
2,200.00	2,186.98	2,168.63	2,153.27	5.45	5.40	-90.81	-242.18	33.04	198.05	187.71	10.34	19.156	
2,300.00	2,285.28	2,266.90	2,249.30	5.83	5.81	-92.39	-262.67	36.79	215.71	204.67	11.04	19.533	
2,400.00	2,383.57	2,365.16	2,345.34	6.21	6.22	-93.73	-283.16	40.53	233.51	221.75	11.76	19.852	
2,500.00	2,481.86	2,463.43	2,441.37	6.60	6.63	-94.87	-303.65	44.28	251.41	238.92	12.49	20.124	
2,600.00	2,580.15	2,561.70	2,537.41	6.99	7.05	-95.87	-324.14	48.02	269.40	256.17	13.23	20.358	
2,700.00	2,678.44	2,659.97	2,633.44	7.39	7.48	-96.74	-344.63	51.77	287.46	273.47	13.98	20.560	
2,800.00	2,776.73	2,758.24	2,729.48	7.78	7.91	-97.50	-365.12	55.51	305.57	290.83	14.74	20.736	
2,900.00	2,875.02	2,856.51	2,825.51	8.19	8.34	-98.18	-385.61	59.26	323.73	308.23	15.50	20.891	
3,000.00	2,973.31	2,954.77	2,921.55	8.59	8.78	-98.79	-406.10	63.00	341.93	325.67	16.26	21.027	
3,100.00	3,071.60	3,053.04	3,017.59	8.99	9.21	-99.34	-426.59	66.75	360.16	343.13	17.03	21.149	
3,200.00	3,169.90	3,151.31	3,113.62	9.40	9.65	-99.84	-447.08	70.49	378.42	360.62	17.80	21.257	
3,300.00	3,268.19	3,249.58	3,209.66	9.81	10.09	-100.29	-467.57	74.24	396.71	378.13	18.58	21.354	
3,400.00	3,366.48	3,347.85	3,305.69	10.21	10.54	-100.69	-488.06	77.98	415.02	395.66	19.36	21.442	
3,500.00	3,464.77	3,446.12	3,401.73	10.62	10.98	-101.07	-508.55	81.73	433.34	413.21	20.14	21.522	
3,600.00	3,563.06	3,544.38	3,497.76	11.03	11.42	-101.41	-529.04	85.47	451.69	430.77	20.92	21.594	
3,700.00	3,661.35	3,642.65	3,593.80	11.45	11.87	-101.73	-549.53	89.22	470.05	448.35	21.70	21.661	
3,800.00	3,759.64	3,740.92	3,689.83	11.86	12.32	-102.03	-570.02	92.96	488.42	465.93	22.48	21.722	
3,900.00	3,857.93	3,839.19	3,785.87	12.27	12.76	-102.30	-590.51	96.71	506.80	483.53	23.27	21.779	
4,000.00	3,956.22	3,937.46	3,881.91	12.68	13.21	-102.55	-611.00	100.45	525.19	501.13	24.06	21.831	
4,100.00	4,054.52	4,035.73	3,977.94	13.10	13.66	-102.79	-631.49	104.20	543.59	518.75	24.84	21.880	
4,200.00	4,152.81	4,134.00	4,073.98	13.51	14.11	-103.01	-651.98	107.94	562.00	536.37	25.63	21.925	
4,300.00	4,251.10	4,232.26	4,170.01	13.93	14.56	-103.22	-672.47	111.69	580.42	554.00	26.42	21.967	
4,400.00	4,349.39	4,330.53	4,266.05	14.34	15.01	-103.41	-692.96	115.43	598.85	571.63	27.21	22.007	
4,500.00	4,447.68	4,428.80	4,362.08	14.76	15.46	-103.59	-713.45	119.18	617.28	589.28	28.00	22.045	
4,600.00	4,545.97	4,527.07	4,458.12	15.18	15.91	-103.76	-733.94	122.92	635.71	606.92	28.79	22.080	
4,700.00	4,644.26	4,625.34	4,554.15	15.59	16.36	-103.93	-754.43	126.67	654.15	624.57	29.58	22.113	
4,800.00	4,742.55	4,723.61	4,650.19	16.01	16.81	-104.08	-774.92	130.41	672.60	642.23	30.37	22.145	
4,900.00	4,840.84	4,821.87	4,746.22	16.43	17.27	-104.22	-795.41	134.16	691.05	659.89	31.16	22.175	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - P_NRC 37-9 - P_NRC 37-9 - PLAN #1 1-6-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,939.14	4,920.14	4,842.26	16.84	17.72	-104.36	-815.90	137.90	709.51	677.55	31.95	22.203	
5,100.00	5,037.43	5,018.41	4,938.30	17.26	18.17	-104.49	-836.39	141.65	727.97	695.22	32.75	22.231	
5,200.00	5,135.72	5,116.68	5,034.33	17.68	18.62	-104.62	-856.88	145.39	746.43	712.89	33.54	22.257	
5,300.00	5,234.01	5,214.95	5,130.37	18.10	19.08	-104.74	-877.37	149.14	764.89	730.57	34.33	22.282	
5,400.00	5,332.30	5,313.22	5,226.40	18.51	19.53	-104.85	-897.86	152.88	783.36	748.24	35.12	22.306	
5,500.00	5,430.59	5,411.48	5,322.44	18.93	19.98	-104.96	-918.35	156.63	801.83	765.92	35.91	22.329	
5,600.00	5,528.88	5,509.75	5,418.47	19.35	20.44	-105.06	-938.84	160.37	820.31	783.61	36.70	22.351	
5,700.00	5,627.17	5,608.02	5,514.51	19.77	20.89	-105.16	-959.33	164.12	838.78	801.29	37.49	22.372	
5,800.00	5,725.46	5,706.29	5,610.54	20.19	21.34	-105.25	-979.81	167.86	857.26	818.98	38.28	22.393	
5,893.78	5,817.65	5,798.45	5,700.61	20.58	21.77	-105.33	-999.03	171.37	874.59	835.57	39.02	22.411	
5,900.00	5,823.76	5,804.56	5,706.58	20.60	21.80	-105.36	-1,000.30	171.61	875.74	836.67	39.07	22.413	
6,000.00	5,922.38	5,903.41	5,803.19	20.89	22.25	-105.68	-1,020.92	175.37	893.71	853.92	39.78	22.464	
6,100.00	6,021.53	6,026.71	5,924.23	21.13	22.69	-105.80	-1,043.96	179.59	909.36	868.91	40.45	22.484	
6,200.00	6,121.07	6,151.21	6,047.36	21.35	23.02	-105.86	-1,062.02	182.88	921.36	880.38	40.98	22.485	
6,300.00	6,220.88	6,276.63	6,172.08	21.52	23.29	-105.85	-1,074.86	185.23	929.66	888.23	41.42	22.442	
6,400.00	6,320.84	6,402.67	6,297.89	21.66	23.51	-105.77	-1,082.35	186.60	934.22	892.44	41.78	22.359	
6,424.16	6,345.00	6,433.19	6,328.39	21.69	23.54	119.39	-1,083.35	186.78	934.76	892.90	41.86	22.333	
6,500.00	6,420.84	6,525.65	6,420.84	21.79	23.66	119.44	-1,084.43	186.98	935.32	893.24	42.08	22.229	
6,600.00	6,520.84	6,625.65	6,520.84	21.91	23.78	119.44	-1,084.43	186.98	935.32	892.99	42.33	22.096	
6,700.00	6,620.84	6,725.65	6,620.84	22.03	23.88	119.44	-1,084.43	186.98	935.32	892.74	42.58	21.969	
6,800.00	6,720.84	6,825.65	6,720.84	22.16	23.99	119.44	-1,084.43	186.98	935.32	892.49	42.82	21.841	
6,900.00	6,820.84	6,925.65	6,820.84	22.29	24.10	119.44	-1,084.43	186.98	935.32	892.24	43.08	21.713	
7,000.00	6,920.84	7,025.65	6,920.84	22.41	24.21	119.44	-1,084.43	186.98	935.32	891.99	43.33	21.585	
7,100.00	7,020.84	7,125.65	7,020.84	22.54	24.32	119.44	-1,084.43	186.98	935.32	891.73	43.59	21.457	
7,200.00	7,120.84	7,225.65	7,120.84	22.67	24.44	119.44	-1,084.43	186.98	935.32	891.47	43.85	21.329	
7,300.00	7,220.84	7,325.65	7,220.84	22.81	24.55	119.44	-1,084.43	186.98	935.32	891.20	44.12	21.201	
7,400.00	7,320.84	7,425.65	7,320.84	22.94	24.67	119.44	-1,084.43	186.98	935.32	890.93	44.38	21.073	
7,500.00	7,420.84	7,525.65	7,420.84	23.08	24.79	119.44	-1,084.43	186.98	935.32	890.66	44.66	20.945	
7,600.00	7,520.84	7,625.65	7,520.84	23.21	24.91	119.44	-1,084.43	186.98	935.32	890.39	44.93	20.818	
7,700.00	7,620.84	7,725.65	7,620.84	23.35	25.03	119.44	-1,084.43	186.98	935.32	890.11	45.21	20.691	
7,800.00	7,720.84	7,825.65	7,720.84	23.49	25.15	119.44	-1,084.43	186.98	935.32	889.83	45.48	20.564	
7,900.00	7,820.84	7,925.65	7,820.84	23.63	25.28	119.44	-1,084.43	186.98	935.32	889.55	45.77	20.437	
8,000.00	7,920.84	8,025.65	7,920.84	23.78	25.40	119.44	-1,084.43	186.98	935.32	889.27	46.05	20.311	
8,100.00	8,020.84	8,125.65	8,020.84	23.92	25.53	119.44	-1,084.43	186.98	935.32	888.98	46.34	20.185	
8,200.00	8,120.84	8,225.65	8,120.84	24.06	25.66	119.44	-1,084.43	186.98	935.32	888.69	46.63	20.060	
8,300.00	8,220.84	8,325.65	8,220.84	24.21	25.79	119.44	-1,084.43	186.98	935.32	888.40	46.92	19.935	
8,400.00	8,320.84	8,425.65	8,320.84	24.36	25.92	119.44	-1,084.43	186.98	935.32	888.10	47.21	19.810	
8,500.00	8,420.84	8,437.81	8,333.00	24.51	25.94	119.44	-1,084.43	186.98	939.43	892.05	47.38	19.827	
8,604.16	8,525.00	8,437.81	8,333.00	24.66	25.94	119.44	-1,084.43	186.98	954.82	907.28	47.54	20.085	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-9 PAD - P_NRC 38-9 - P_NRC 38-9 - PLAN #1 1-6-10 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	177.49	-63.75	2.80	63.81				
100.00	100.00	100.00	100.00	0.10	0.10	177.49	-63.75	2.80	63.81	63.62	0.19	333.993	
200.00	200.00	200.00	200.00	0.32	0.32	177.49	-63.75	2.80	63.81	63.17	0.64	99.612	
300.00	300.00	300.00	300.00	0.55	0.55	177.49	-63.75	2.80	63.81	62.72	1.09	58.535	
400.00	400.00	400.00	400.00	0.77	0.77	177.49	-63.75	2.80	63.81	62.27	1.54	41.444	
500.00	500.00	500.00	500.00	0.99	0.99	177.49	-63.75	2.80	63.81	61.82	1.99	32.078	
600.00	600.00	600.00	600.00	1.22	1.22	177.49	-63.75	2.80	63.81	61.37	2.44	26.165	
700.00	700.00	700.00	700.00	1.44	1.44	177.49	-63.75	2.80	63.81	60.92	2.89	22.093	
800.00	800.00	800.00	800.00	1.67	1.67	177.49	-63.75	2.80	63.81	60.47	3.34	19.117	
900.00	900.00	900.00	900.00	1.89	1.89	177.49	-63.75	2.80	63.81	60.02	3.79	16.848	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	177.49	-63.75	2.80	63.81	59.57	4.24	15.061	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	177.49	-63.75	2.80	63.81	59.19	4.62	13.815	
1,100.00	1,100.00	1,099.80	1,099.80	2.34	2.34	-47.70	-63.77	2.83	63.81	59.13	4.68	13.638	
1,191.62	1,191.60	1,190.11	1,190.08	2.50	2.51	-50.32	-64.86	4.38	63.74	58.73	5.01	12.728 CC	
1,200.00	1,199.97	1,198.35	1,198.32	2.52	2.52	-50.75	-65.04	4.63	63.74	58.70	5.04	12.652 ES	
1,300.00	1,299.80	1,296.43	1,296.24	2.71	2.71	-58.39	-68.24	9.18	64.40	58.98	5.41	11.894	
1,400.00	1,399.37	1,393.63	1,393.03	2.91	2.91	-69.80	-73.31	16.38	67.78	61.97	5.81	11.662 SF	
1,500.00	1,498.55	1,489.56	1,488.21	3.14	3.14	-82.84	-80.17	26.12	76.37	70.14	6.24	12.249	
1,600.00	1,597.23	1,583.86	1,581.34	3.41	3.39	-94.88	-88.69	38.22	91.84	85.16	6.68	13.744	
1,615.38	1,612.35	1,598.20	1,595.46	3.45	3.43	-96.53	-90.14	40.28	94.86	88.11	6.75	14.049	
1,700.00	1,695.53	1,676.47	1,672.28	3.71	3.67	-104.28	-98.77	52.55	114.17	107.02	7.16	15.956	
1,800.00	1,793.82	1,767.64	1,761.20	4.03	3.98	-110.35	-110.35	68.99	141.69	134.04	7.65	18.517	
1,900.00	1,892.11	1,857.22	1,847.90	4.36	4.34	-114.16	-123.30	87.39	173.17	164.99	8.17	21.189	
2,000.00	1,990.40	1,945.10	1,932.23	4.72	4.74	-116.54	-137.52	107.58	207.93	199.21	8.72	23.854	
2,100.00	2,088.69	2,031.15	2,014.04	5.08	5.19	-118.01	-152.88	129.39	245.59	236.31	9.28	26.458	
2,200.00	2,186.98	2,115.28	2,093.21	5.45	5.67	-118.89	-169.26	152.66	285.91	276.05	9.87	28.977	
2,300.00	2,285.28	2,200.00	2,172.06	5.83	6.21	-119.39	-187.10	177.99	328.75	318.27	10.47	31.384	
2,400.00	2,383.57	2,278.08	2,243.89	6.21	6.76	-119.61	-204.71	203.01	373.93	362.84	11.08	33.733	
2,500.00	2,481.86	2,366.76	2,325.06	6.60	7.41	-119.75	-225.28	232.22	420.14	408.39	11.75	35.765	
2,600.00	2,580.15	2,455.44	2,406.22	6.99	8.09	-119.86	-245.84	261.43	466.35	453.93	12.42	37.549	
2,700.00	2,678.44	2,544.12	2,487.39	7.39	8.77	-119.95	-266.41	290.64	512.56	499.46	13.10	39.118	
2,800.00	2,776.73	2,632.80	2,568.56	7.78	9.47	-120.02	-286.97	319.85	558.77	544.98	13.79	40.506	
2,900.00	2,875.02	2,721.47	2,649.72	8.19	10.18	-120.09	-307.54	349.05	604.99	590.49	14.49	41.739	
3,000.00	2,973.31	2,810.15	2,730.89	8.59	10.89	-120.14	-328.10	378.26	651.20	636.00	15.20	42.841	
3,100.00	3,071.60	2,898.83	2,812.06	8.99	11.60	-120.19	-348.66	407.47	697.42	681.50	15.91	43.830	
3,200.00	3,169.90	2,987.51	2,893.22	9.40	12.33	-120.23	-369.23	436.68	743.63	727.00	16.63	44.721	
3,300.00	3,268.19	3,076.19	2,974.39	9.81	13.05	-120.27	-389.79	465.88	789.85	772.50	17.35	45.529	
3,400.00	3,366.48	3,164.87	3,055.55	10.21	13.78	-120.30	-410.36	495.09	836.06	817.99	18.07	46.264	
3,500.00	3,464.77	3,253.55	3,136.72	10.62	14.51	-120.33	-430.92	524.30	882.28	863.48	18.80	46.936	
3,600.00	3,563.06	3,342.23	3,217.89	11.03	15.25	-120.36	-451.49	553.51	928.49	908.97	19.53	47.552	
3,700.00	3,661.35	3,430.91	3,299.05	11.45	15.98	-120.38	-472.05	582.72	974.71	954.45	20.26	48.119	
3,800.00	3,759.64	3,519.58	3,380.22	11.86	16.72	-120.41	-492.62	611.92	1,020.93	999.94	20.99	48.643	
3,900.00	3,857.93	3,608.26	3,461.38	12.27	17.46	-120.43	-513.18	641.13	1,067.14	1,045.42	21.72	49.128	
4,000.00	3,956.22	3,696.94	3,542.55	12.68	18.20	-120.44	-533.74	670.34	1,113.36	1,090.90	22.46	49.578	
4,100.00	4,054.52	3,785.62	3,623.72	13.10	18.94	-120.46	-554.31	699.55	1,159.58	1,136.38	23.19	49.998	
4,200.00	4,152.81	3,874.30	3,704.88	13.51	19.68	-120.48	-574.87	728.75	1,205.79	1,181.86	23.93	50.390	
4,300.00	4,251.10	3,962.98	3,786.05	13.93	20.42	-120.49	-595.44	757.96	1,252.01	1,227.34	24.67	50.758	
4,400.00	4,349.39	4,051.66	3,867.22	14.34	21.17	-120.50	-616.00	787.17	1,298.23	1,272.82	25.40	51.103	
4,500.00	4,447.68	4,140.34	3,948.38	14.76	21.91	-120.52	-636.57	816.38	1,344.44	1,318.30	26.14	51.428	
4,600.00	4,545.97	4,229.01	4,029.55	15.18	22.66	-120.53	-657.13	845.59	1,390.66	1,363.78	26.88	51.735	
4,700.00	4,644.26	4,317.69	4,110.71	15.59	23.40	-120.54	-677.69	874.79	1,436.88	1,409.26	27.62	52.024	
4,800.00	4,742.55	4,406.37	4,191.88	16.01	24.15	-120.55	-698.26	904.00	1,483.10	1,454.74	28.36	52.299	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-9 PAD - P_NRC 38-9 - P_NRC 38-9 - PLAN #1 1-6-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
4,900.00	4,840.84	4,495.05	4,273.05	16.43	24.89	-120.56	-718.82	933.21	1,529.31	1,500.22	29.10	52.559	
5,000.00	4,939.14	4,583.73	4,354.21	16.84	25.64	-120.57	-739.39	962.42	1,575.53	1,545.69	29.84	52.807	
5,100.00	5,037.43	4,672.41	4,435.38	17.26	26.39	-120.58	-759.95	991.62	1,621.75	1,591.17	30.57	53.043	
5,200.00	5,135.72	4,761.09	4,516.55	17.68	27.14	-120.58	-780.52	1,020.83	1,667.96	1,636.65	31.31	53.268	
5,300.00	5,234.01	4,849.77	4,597.71	18.10	27.89	-120.59	-801.08	1,050.04	1,714.18	1,682.13	32.05	53.483	
5,400.00	5,332.30	4,938.45	4,678.88	18.51	28.63	-120.60	-821.64	1,079.25	1,760.40	1,727.61	32.79	53.689	
5,500.00	5,430.59	5,027.12	4,760.04	18.93	29.38	-120.61	-842.21	1,108.46	1,806.62	1,773.08	33.53	53.880	
5,600.00	5,528.88	5,115.80	4,841.21	19.35	30.13	-120.61	-862.77	1,137.66	1,852.83	1,818.55	34.28	54.044	
5,700.00	5,627.17	5,204.48	4,922.38	19.77	30.88	-120.62	-883.34	1,166.87	1,899.05	1,864.01	35.04	54.200	
5,800.00	5,725.46	5,293.16	5,003.54	20.19	31.63	-120.62	-903.90	1,196.08	1,945.27	1,909.47	35.79	54.349	
5,893.78	5,817.65	5,376.33	5,079.66	20.58	32.34	-120.63	-923.19	1,223.47	1,988.61	1,952.11	36.50	54.482	
5,900.00	5,823.76	5,381.84	5,084.71	20.60	32.38	-120.69	-924.47	1,225.29	1,991.48	1,954.92	36.56	54.468	
6,000.00	5,922.38	5,477.72	5,172.47	20.89	33.18	-121.50	-946.69	1,256.85	2,036.80	1,999.29	37.51	54.300	
6,100.00	6,021.53	5,749.39	5,426.29	21.13	34.80	-121.99	-1,002.29	1,335.82	2,076.25	2,037.37	38.88	53.402	
6,200.00	6,121.07	6,042.05	5,708.61	21.35	36.09	-122.33	-1,046.41	1,398.48	2,105.45	2,065.35	40.09	52.515	
6,300.00	6,220.88	6,350.47	6,012.93	21.52	36.99	-122.55	-1,074.71	1,438.68	2,123.42	2,082.34	41.08	51.692	
6,400.00	6,320.84	6,658.95	6,320.84	21.66	37.42	-122.67	-1,084.03	1,451.91	2,129.54	2,087.76	41.78	50.968	
6,424.16	6,345.00	6,683.11	6,345.00	21.69	37.43	102.46	-1,084.03	1,451.91	2,129.59	2,087.73	41.86	50.872	
6,500.00	6,420.84	6,758.95	6,420.84	21.79	37.49	102.46	-1,084.03	1,451.91	2,129.59	2,087.54	42.06	50.637	
6,600.00	6,520.84	6,858.95	6,520.84	21.91	37.57	102.46	-1,084.03	1,451.91	2,129.59	2,087.29	42.30	50.340	
6,700.00	6,620.84	6,958.95	6,620.84	22.03	37.64	102.46	-1,084.03	1,451.91	2,129.59	2,087.04	42.56	50.043	
6,800.00	6,720.84	7,058.95	6,720.84	22.16	37.72	102.46	-1,084.03	1,451.91	2,129.59	2,086.78	42.81	49.745	
6,900.00	6,820.84	7,158.95	6,820.84	22.29	37.80	102.46	-1,084.03	1,451.91	2,129.59	2,086.53	43.07	49.448	
7,000.00	6,920.84	7,258.95	6,920.84	22.41	37.88	102.46	-1,084.03	1,451.91	2,129.59	2,086.27	43.33	49.150	
7,100.00	7,020.84	7,358.95	7,020.84	22.54	37.97	102.46	-1,084.03	1,451.91	2,129.59	2,086.00	43.59	48.852	
7,200.00	7,120.84	7,458.95	7,120.84	22.67	38.05	102.46	-1,084.03	1,451.91	2,129.59	2,085.74	43.86	48.555	
7,300.00	7,220.84	7,558.95	7,220.84	22.81	38.13	102.46	-1,084.03	1,451.91	2,129.59	2,085.47	44.13	48.258	
7,400.00	7,320.84	7,658.95	7,320.84	22.94	38.22	102.46	-1,084.03	1,451.91	2,129.59	2,085.19	44.40	47.961	
7,500.00	7,420.84	7,758.95	7,420.84	23.08	38.30	102.46	-1,084.03	1,451.91	2,129.59	2,084.92	44.68	47.666	
7,600.00	7,520.84	7,858.95	7,520.84	23.21	38.39	102.46	-1,084.03	1,451.91	2,129.59	2,084.64	44.96	47.370	
7,700.00	7,620.84	7,958.95	7,620.84	23.35	38.48	102.46	-1,084.03	1,451.91	2,129.59	2,084.36	45.24	47.076	
7,800.00	7,720.84	8,058.95	7,720.84	23.49	38.57	102.46	-1,084.03	1,451.91	2,129.59	2,084.07	45.52	46.782	
7,900.00	7,820.84	8,158.95	7,820.84	23.63	38.66	102.46	-1,084.03	1,451.91	2,129.59	2,083.79	45.81	46.489	
8,000.00	7,920.84	8,258.95	7,920.84	23.78	38.75	102.46	-1,084.03	1,451.91	2,129.59	2,083.50	46.10	46.198	
8,100.00	8,020.84	8,358.95	8,020.84	23.92	38.85	102.46	-1,084.03	1,451.91	2,129.59	2,083.21	46.39	45.907	
8,200.00	8,120.84	8,458.95	8,120.84	24.06	38.94	102.46	-1,084.03	1,451.91	2,129.59	2,082.91	46.68	45.618	
8,300.00	8,220.84	8,558.95	8,220.84	24.21	39.04	102.46	-1,084.03	1,451.91	2,129.59	2,082.61	46.98	45.330	
8,400.00	8,320.84	8,580.11	8,242.00	24.36	39.06	102.46	-1,084.03	1,451.91	2,131.05	2,083.89	47.16	45.183	
8,500.00	8,420.84	8,580.11	8,242.00	24.51	39.06	102.46	-1,084.03	1,451.91	2,137.09	2,089.77	47.32	45.162	
8,604.16	8,525.00	8,580.11	8,242.00	24.66	39.06	102.46	-1,084.03	1,451.91	2,148.32	2,100.83	47.48	45.242	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - P_NRC 39-9 - P_NRC 39-9 - PLAN #1 1-6-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-UNKNOWN												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	177.50	-32.04	1.40	32.07				
100.00	100.00	100.00	100.00	0.10	1.70	177.50	-32.04	1.40	32.07	30.27	1.80	17.861	
200.00	200.00	200.00	200.00	0.32	5.70	177.50	-32.04	1.40	32.07	26.05	6.02	5.327	
300.00	300.00	300.00	300.00	0.55	9.70	177.50	-32.04	1.40	32.07	21.83	10.25	3.130	
400.00	400.00	400.00	400.00	0.77	13.70	177.50	-32.04	1.40	32.07	17.60	14.47	2.216	
500.00	500.00	500.00	500.00	0.99	17.70	177.50	-32.04	1.40	32.07	13.38	18.69	1.715	
600.00	600.00	600.00	600.00	1.22	21.70	177.50	-32.04	1.40	32.07	9.15	22.92	1.399	Level 3
700.00	700.00	700.00	700.00	1.44	25.70	177.50	-32.04	1.40	32.07	4.93	27.14	1.181	Level 2
800.00	800.00	800.00	800.00	1.67	29.70	177.50	-32.04	1.40	32.07	0.70	31.37	1.022	Level 2
900.00	900.00	900.00	900.00	1.89	33.70	177.50	-32.04	1.40	32.07	-3.52	35.59	0.901	Level 1
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	177.50	-32.04	1.40	32.07	-7.75	39.82	0.805	Level 1
1,085.00	1,085.00	1,085.00	1,085.00	2.31	41.10	177.50	-32.04	1.40	32.07	-11.34	43.41	0.739	Level 1
1,100.00	1,100.00	1,100.02	1,100.02	2.34	41.45	-47.75	-32.03	1.44	32.04	-11.75	43.78	0.732	Level 1
1,200.00	1,199.97	1,199.97	1,199.94	2.52	42.25	-55.18	-31.70	3.68	30.54	-14.22	44.76	0.682	Level 1
1,284.57	1,284.41	1,283.93	1,283.77	2.68	43.24	-71.82	-31.01	8.23	29.24	-16.66	45.90	0.637	Level 1, CC
1,300.00	1,299.80	1,299.16	1,298.96	2.71	43.41	-75.90	-30.85	9.31	29.32	-16.79	46.11	0.636	Level 1, ES, SF
1,400.00	1,399.37	1,396.97	1,396.36	2.91	44.90	-104.89	-29.52	18.18	35.15	-12.63	47.79	0.736	Level 1
1,500.00	1,498.55	1,492.79	1,491.42	3.14	46.67	-126.62	-27.74	30.05	52.23	2.72	49.51	1.055	Level 2
1,600.00	1,597.23	1,586.08	1,583.53	3.41	48.68	-138.65	-25.55	44.63	78.86	27.63	51.23	1.539	
1,615.38	1,612.35	1,600.00	1,597.23	3.45	48.99	-139.91	-25.19	47.05	83.66	32.18	51.48	1.625	
1,700.00	1,695.53	1,676.78	1,672.58	3.71	50.91	-145.25	-23.00	61.63	112.08	58.89	53.19	2.107	
1,800.00	1,793.82	1,765.38	1,759.00	4.03	53.34	-148.75	-20.11	80.92	149.01	93.71	55.31	2.694	
1,900.00	1,892.11	1,851.79	1,842.67	4.36	55.94	-150.72	-16.90	102.28	189.05	131.54	57.51	3.287	
2,000.00	1,990.40	1,935.96	1,923.50	4.72	58.70	-151.89	-13.42	125.47	231.88	172.12	59.76	3.880	
2,100.00	2,088.69	2,017.82	2,001.43	5.08	61.56	-152.59	-9.70	150.27	277.34	215.32	62.02	4.472	
2,200.00	2,186.98	2,104.40	2,083.31	5.45	64.83	-153.07	-5.53	178.07	324.50	260.03	64.47	5.033	
2,300.00	2,285.28	2,192.52	2,166.64	5.83	68.31	-153.44	-1.27	206.42	371.73	304.68	67.05	5.544	
2,400.00	2,383.57	2,280.65	2,249.97	6.21	71.92	-153.72	2.98	234.76	418.97	349.26	69.71	6.010	
2,500.00	2,481.86	2,368.77	2,333.30	6.60	75.64	-153.94	7.24	263.11	466.21	393.78	72.43	6.437	
2,600.00	2,580.15	2,456.89	2,416.63	6.99	79.45	-154.13	11.49	291.45	513.46	438.25	75.22	6.827	
2,700.00	2,678.44	2,545.01	2,499.97	7.39	83.34	-154.28	15.74	319.80	560.71	482.66	78.05	7.184	
2,800.00	2,776.73	2,633.14	2,583.30	7.78	87.31	-154.41	20.00	348.15	607.97	527.03	80.94	7.512	
2,900.00	2,875.02	2,721.26	2,666.63	8.19	91.33	-154.52	24.25	376.49	655.23	571.36	83.86	7.813	
3,000.00	2,973.31	2,809.38	2,749.96	8.59	95.41	-154.61	28.51	404.84	702.48	615.65	86.83	8.090	
3,100.00	3,071.60	2,897.51	2,833.29	8.99	99.54	-154.70	32.76	433.18	749.74	659.91	89.83	8.346	
3,200.00	3,169.90	2,985.63	2,916.62	9.40	103.72	-154.77	37.01	461.53	797.00	704.13	92.87	8.582	
3,300.00	3,268.19	3,073.75	2,999.95	9.81	107.93	-154.84	41.27	489.87	844.26	748.33	95.94	8.800	
3,400.00	3,366.48	3,161.88	3,083.29	10.21	112.18	-154.90	45.52	518.22	891.53	792.50	99.03	9.003	
3,500.00	3,464.77	3,250.00	3,166.62	10.62	116.45	-154.95	49.77	546.57	938.79	836.64	102.15	9.191	
3,600.00	3,563.06	3,338.12	3,249.95	11.03	120.75	-155.00	54.03	574.91	986.05	880.77	105.28	9.366	
3,700.00	3,661.35	3,426.25	3,333.28	11.45	125.07	-155.04	58.28	603.26	1,033.32	924.88	108.44	9.529	
3,800.00	3,759.64	3,514.37	3,416.61	11.86	129.41	-155.08	62.54	631.60	1,080.58	968.97	111.61	9.681	
3,900.00	3,857.93	3,602.49	3,499.94	12.27	133.77	-155.11	66.79	659.95	1,127.85	1,013.04	114.81	9.824	
4,000.00	3,956.22	3,690.61	3,583.27	12.68	138.16	-155.15	71.04	688.29	1,175.11	1,057.10	118.01	9.957	
4,100.00	4,054.52	3,778.74	3,666.60	13.10	142.55	-155.18	75.30	716.64	1,222.38	1,101.14	121.24	10.083	
4,200.00	4,152.81	3,866.86	3,749.94	13.51	146.96	-155.21	79.55	744.99	1,269.64	1,145.17	124.47	10.200	
4,300.00	4,251.10	3,954.98	3,833.27	13.93	151.39	-155.23	83.81	773.33	1,316.91	1,189.19	127.72	10.311	
4,400.00	4,349.39	4,043.11	3,916.60	14.34	155.82	-155.26	88.06	801.68	1,364.17	1,233.20	130.98	10.415	
4,500.00	4,447.68	4,131.23	3,999.93	14.76	160.27	-155.28	92.31	830.02	1,411.44	1,277.19	134.25	10.514	
4,600.00	4,545.97	4,219.35	4,083.26	15.18	164.73	-155.30	96.57	858.37	1,458.71	1,321.18	137.52	10.607	
4,700.00	4,644.26	4,307.48	4,166.59	15.59	169.19	-155.32	100.82	886.71	1,505.97	1,365.16	140.81	10.695	
4,800.00	4,742.55	4,395.60	4,249.92	16.01	173.67	-155.34	105.07	915.06	1,553.24	1,409.13	144.11	10.778	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - P_NRC 39-9 - P_NRC 39-9 - PLAN #1 1-6-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-UNKNOWN												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
4,900.00	4,840.84	4,483.72	4,333.25	16.43	178.15	-155.36	109.33	943.41	1,600.51	1,453.09	147.41	10.857	
5,000.00	4,939.14	4,571.85	4,416.59	16.84	182.64	-155.37	113.58	971.75	1,647.77	1,497.05	150.72	10.933	
5,100.00	5,037.43	4,659.97	4,499.92	17.26	187.14	-155.39	117.84	1,000.10	1,695.04	1,541.00	154.04	11.004	
5,200.00	5,135.72	4,748.09	4,583.25	17.68	191.64	-155.40	122.09	1,028.44	1,742.31	1,584.94	157.36	11.072	
5,300.00	5,234.01	4,836.21	4,666.58	18.10	196.15	-155.42	126.34	1,056.79	1,789.57	1,628.88	160.69	11.137	
5,400.00	5,332.30	4,924.34	4,749.91	18.51	200.66	-155.43	130.60	1,085.13	1,836.84	1,672.81	164.03	11.198	
5,500.00	5,430.59	5,012.46	4,833.24	18.93	205.18	-155.44	134.85	1,113.48	1,884.11	1,716.74	167.37	11.257	
5,600.00	5,528.88	5,100.58	4,916.57	19.35	209.71	-155.46	139.11	1,141.83	1,931.37	1,760.66	170.72	11.313	
5,700.00	5,627.17	5,188.71	4,999.90	19.77	214.23	-155.47	143.36	1,170.17	1,978.64	1,804.58	174.07	11.367	
5,800.00	5,725.46	5,276.83	5,083.24	20.19	218.77	-155.48	147.61	1,198.52	2,025.91	1,848.49	177.42	11.419	
5,893.78	5,817.65	5,359.48	5,161.39	20.58	223.02	-155.49	151.60	1,225.10	2,070.24	1,889.67	180.57	11.465	
5,900.00	5,823.76	5,364.96	5,166.57	20.60	223.30	-155.52	151.87	1,226.86	2,073.17	1,892.24	180.93	11.458	
6,000.00	5,922.38	5,453.90	5,250.68	20.89	227.89	-155.93	156.16	1,255.48	2,118.85	1,932.20	186.65	11.352	
6,100.00	6,021.53	5,544.24	5,336.11	21.13	232.55	-156.25	160.52	1,284.53	2,161.68	1,969.29	192.39	11.236	
6,200.00	6,121.07	5,773.37	5,554.57	21.35	244.01	-156.38	170.75	1,352.70	2,200.16	1,996.92	203.24	10.825	
6,300.00	6,220.88	6,166.22	5,939.39	21.52	261.25	-156.38	182.25	1,429.30	2,224.90	2,004.40	220.50	10.090	
6,400.00	6,320.84	6,548.72	6,320.84	21.66	274.44	-156.41	185.84	1,453.24	2,233.00	1,996.26	236.74	9.432	
6,424.16	6,345.00	6,572.88	6,345.00	21.69	274.71	68.72	185.84	1,453.24	2,233.09	1,995.55	237.54	9.401	
6,500.00	6,420.84	6,648.72	6,420.84	21.79	275.57	68.72	185.84	1,453.24	2,233.09	1,994.40	238.69	9.356	
6,600.00	6,520.84	6,748.72	6,520.84	21.91	276.74	68.72	185.84	1,453.24	2,233.09	1,992.85	240.24	9.295	
6,700.00	6,620.84	6,848.72	6,620.84	22.03	277.96	68.72	185.84	1,453.24	2,233.09	1,991.24	241.85	9.233	
6,800.00	6,720.84	6,948.72	6,720.84	22.16	279.24	68.72	185.84	1,453.24	2,233.09	1,989.56	243.53	9.170	
6,900.00	6,820.84	7,048.72	6,820.84	22.29	280.57	68.72	185.84	1,453.24	2,233.09	1,987.83	245.27	9.105	
7,000.00	6,920.84	7,148.72	6,920.84	22.41	281.95	68.72	185.84	1,453.24	2,233.09	1,986.03	247.07	9.038	
7,100.00	7,020.84	7,248.72	7,020.84	22.54	283.38	68.72	185.84	1,453.24	2,233.09	1,984.17	248.92	8.971	
7,200.00	7,120.84	7,348.72	7,120.84	22.67	284.86	68.72	185.84	1,453.24	2,233.09	1,982.26	250.84	8.903	
7,300.00	7,220.84	7,448.72	7,220.84	22.81	286.38	68.72	185.84	1,453.24	2,233.09	1,980.28	252.81	8.833	
7,400.00	7,320.84	7,548.72	7,320.84	22.94	287.96	68.72	185.84	1,453.24	2,233.09	1,978.26	254.84	8.763	
7,500.00	7,420.84	7,648.72	7,420.84	23.08	289.58	68.72	185.84	1,453.24	2,233.09	1,976.18	256.92	8.692	
7,600.00	7,520.84	7,748.72	7,520.84	23.21	291.24	68.72	185.84	1,453.24	2,233.09	1,974.05	259.05	8.620	
7,700.00	7,620.84	7,848.72	7,620.84	23.35	292.96	68.72	185.84	1,453.24	2,233.09	1,971.86	261.23	8.548	
7,800.00	7,720.84	7,948.72	7,720.84	23.49	294.71	68.72	185.84	1,453.24	2,233.09	1,969.63	263.47	8.476	
7,900.00	7,820.84	8,048.72	7,820.84	23.63	296.51	68.72	185.84	1,453.24	2,233.09	1,967.35	265.75	8.403	
8,000.00	7,920.84	8,148.72	7,920.84	23.78	298.36	68.72	185.84	1,453.24	2,233.09	1,965.02	268.08	8.330	
8,100.00	8,020.84	8,248.72	8,020.84	23.92	300.24	68.72	185.84	1,453.24	2,233.09	1,962.64	270.45	8.257	
8,200.00	8,120.84	8,348.72	8,120.84	24.06	302.17	68.72	185.84	1,453.24	2,233.09	1,960.22	272.87	8.184	
8,300.00	8,220.84	8,448.72	8,220.84	24.21	304.14	68.72	185.84	1,453.24	2,233.09	1,957.76	275.34	8.110	
8,400.00	8,320.84	8,463.88	8,236.00	24.36	304.44	68.72	185.84	1,453.24	2,234.70	1,958.84	275.86	8.101	
8,500.00	8,420.84	8,463.88	8,236.00	24.51	304.44	68.72	185.84	1,453.24	2,240.73	1,964.68	276.05	8.117	
8,604.16	8,525.00	8,463.88	8,236.00	24.66	304.44	68.72	185.84	1,453.24	2,251.72	1,975.48	276.24	8.151	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - P_NRC 9-9 - P_NRC 9-9 - PLAN #1 1-6-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	177.00	-16.03	0.84	16.05				
100.00	100.00	100.00	100.00	0.10	0.10	177.00	-16.03	0.84	16.05	15.86	0.19	84.010	
200.00	200.00	200.00	200.00	0.32	0.32	177.00	-16.03	0.84	16.05	15.41	0.64	25.056	
300.00	300.00	300.00	300.00	0.55	0.55	177.00	-16.03	0.84	16.05	14.96	1.09	14.723	
400.00	400.00	400.00	400.00	0.77	0.77	177.00	-16.03	0.84	16.05	14.51	1.54	10.425	
500.00	500.00	500.00	500.00	0.99	0.99	177.00	-16.03	0.84	16.05	14.06	1.99	8.069	
600.00	600.00	600.00	600.00	1.22	1.22	177.00	-16.03	0.84	16.05	13.61	2.44	6.581	
700.00	700.00	700.00	700.00	1.44	1.44	177.00	-16.03	0.84	16.05	13.16	2.89	5.557	
800.00	800.00	800.00	800.00	1.67	1.67	177.00	-16.03	0.84	16.05	12.71	3.34	4.809	
900.00	900.00	900.00	900.00	1.89	1.89	177.00	-16.03	0.84	16.05	12.26	3.79	4.238	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	177.00	-16.03	0.84	16.05	11.81	4.24	3.788	
1,085.00	1,085.00	1,085.00	1,085.00	2.31	2.31	177.00	-16.03	0.84	16.05	11.43	4.62	3.475	
1,100.00	1,100.00	1,100.06	1,100.06	2.34	2.34	-48.34	-16.00	0.87	16.00	11.32	4.68	3.417	
1,200.00	1,199.97	1,200.25	1,200.22	2.52	2.56	-63.01	-14.37	2.46	13.39	8.31	5.08	2.636	
1,260.86	1,260.75	1,260.87	1,260.76	2.63	2.70	-90.39	-12.17	4.61	11.88	6.55	5.33	2.230 CC, ES, SF	
1,300.00	1,299.80	1,299.61	1,299.41	2.71	2.78	-114.27	-10.28	6.46	13.02	7.54	5.48	2.375	
1,400.00	1,399.37	1,397.42	1,396.80	2.91	3.01	-153.17	-3.86	12.74	26.48	20.62	5.86	4.520	
1,500.00	1,498.55	1,493.02	1,491.65	3.14	3.24	-166.12	4.71	21.12	50.14	43.91	6.24	8.041	
1,600.00	1,597.23	1,585.83	1,583.28	3.41	3.49	-171.42	15.19	31.37	81.14	74.53	6.61	12.281	
1,615.38	1,612.35	1,600.00	1,597.23	3.45	3.53	-171.95	16.98	33.12	86.50	79.83	6.66	12.983	
1,700.00	1,695.53	1,675.78	1,671.61	3.71	3.77	-174.12	27.37	43.28	117.52	110.51	7.01	16.769	
1,800.00	1,793.82	1,763.45	1,757.13	4.03	4.06	-175.64	41.14	56.75	156.92	149.50	7.42	21.151	
1,900.00	1,892.11	1,849.76	1,840.72	4.36	4.39	-176.62	56.49	71.77	199.10	191.27	7.83	25.418	
2,000.00	1,990.40	1,939.94	1,927.83	4.72	4.76	-177.30	73.16	88.08	242.24	233.98	8.27	29.306	
2,100.00	2,088.69	2,030.13	2,014.95	5.08	5.16	-177.78	89.84	104.39	285.40	276.70	8.70	32.791	
2,200.00	2,186.98	2,120.31	2,102.06	5.45	5.56	-178.13	106.52	120.70	328.58	319.43	9.15	35.919	
2,300.00	2,285.28	2,210.50	2,189.18	5.83	5.98	-178.40	123.20	137.02	371.76	362.16	9.60	38.737	
2,400.00	2,383.57	2,300.68	2,276.29	6.21	6.40	-178.62	139.87	153.33	414.95	404.90	10.05	41.285	
2,500.00	2,481.86	2,390.86	2,363.41	6.60	6.84	-178.79	156.55	169.64	458.14	447.63	10.51	43.594	
2,600.00	2,580.15	2,481.05	2,450.52	6.99	7.28	-178.93	173.23	185.95	501.33	490.36	10.97	45.697	
2,700.00	2,678.44	2,571.23	2,537.64	7.39	7.72	-179.05	189.91	202.27	544.53	533.09	11.44	47.619	
2,800.00	2,776.73	2,661.42	2,624.75	7.78	8.17	-179.16	206.59	218.58	587.72	575.82	11.90	49.380	
2,900.00	2,875.02	2,751.60	2,711.86	8.19	8.63	-179.25	223.26	234.89	630.92	618.55	12.37	50.998	
3,000.00	2,973.31	2,841.79	2,798.98	8.59	9.08	-179.32	239.94	251.20	674.12	661.28	12.84	52.490	
3,100.00	3,071.60	2,931.97	2,886.09	8.99	9.54	-179.39	256.62	267.52	717.32	704.00	13.32	53.869	
3,200.00	3,169.90	3,022.15	2,973.21	9.40	10.00	-179.45	273.30	283.83	760.52	746.73	13.79	55.147	
3,300.00	3,268.19	3,112.34	3,060.32	9.81	10.46	-179.51	289.97	300.14	803.72	789.46	14.27	56.333	
3,400.00	3,366.48	3,202.52	3,147.44	10.21	10.93	-179.56	306.65	316.45	846.93	832.18	14.75	57.438	
3,500.00	3,464.77	3,292.71	3,234.55	10.62	11.40	-179.60	323.33	332.77	890.13	874.90	15.22	58.468	
3,600.00	3,563.06	3,382.89	3,321.66	11.03	11.86	-179.64	340.01	349.08	933.33	917.63	15.70	59.431	
3,700.00	3,661.35	3,473.07	3,408.78	11.45	12.33	-179.67	356.69	365.39	976.54	960.35	16.19	60.334	
3,800.00	3,759.64	3,563.26	3,495.89	11.86	12.80	-179.71	373.36	381.70	1,019.74	1,003.07	16.67	61.180	
3,900.00	3,857.93	3,653.44	3,583.01	12.27	13.27	-179.74	390.04	398.02	1,062.94	1,045.79	17.15	61.977	
4,000.00	3,956.22	3,743.63	3,670.12	12.68	13.74	-179.77	406.72	414.33	1,106.15	1,088.51	17.63	62.726	
4,100.00	4,054.52	3,833.81	3,757.24	13.10	14.22	-179.79	423.40	430.64	1,149.35	1,131.23	18.12	63.434	
4,200.00	4,152.81	3,923.99	3,844.35	13.51	14.69	-179.82	440.07	446.95	1,192.56	1,173.95	18.60	64.102	
4,300.00	4,251.10	4,014.18	3,931.47	13.93	15.16	-179.84	456.75	463.27	1,235.76	1,216.67	19.09	64.734	
4,400.00	4,349.39	4,104.36	4,018.58	14.34	15.64	-179.86	473.43	479.58	1,278.97	1,259.39	19.58	65.333	
4,500.00	4,447.68	4,194.55	4,105.69	14.76	16.11	-179.88	490.11	495.89	1,322.17	1,302.11	20.06	65.901	
4,600.00	4,545.97	4,284.73	4,192.81	15.18	16.59	-179.90	506.78	512.20	1,365.38	1,344.83	20.55	66.441	
4,700.00	4,644.26	4,374.91	4,279.92	15.59	17.06	-179.92	523.46	528.52	1,408.58	1,387.54	21.04	66.954	
4,800.00	4,742.55	4,465.10	4,367.04	16.01	17.54	-179.93	540.14	544.83	1,451.79	1,430.26	21.53	67.442	

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

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_NRC 20-9 PAD - P_NRC 9-9 - P_NRC 9-9 - PLAN #1 1-6-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
4,900.00	4,840.84	4,555.28	4,454.15	16.43	18.02	-179.95	556.82	561.14	1,494.99	1,472.98	22.02	67.908	
5,000.00	4,939.14	4,645.47	4,541.27	16.84	18.49	-179.96	573.50	577.45	1,538.20	1,515.69	22.50	68.352	
5,100.00	5,037.43	4,735.65	4,628.38	17.26	18.97	-179.97	590.17	593.77	1,581.40	1,558.41	22.99	68.777	
5,200.00	5,135.72	4,825.83	4,715.49	17.68	19.45	-179.99	606.85	610.08	1,624.61	1,601.13	23.48	69.182	
5,300.00	5,234.01	4,916.02	4,802.61	18.10	19.92	-180.00	623.53	626.39	1,667.82	1,643.84	23.97	69.571	
5,400.00	5,332.30	5,006.20	4,889.72	18.51	20.40	179.99	640.21	642.70	1,711.02	1,686.56	24.46	69.943	
5,500.00	5,430.59	5,096.39	4,976.84	18.93	20.88	179.98	656.88	659.02	1,754.23	1,729.27	24.95	70.299	
5,600.00	5,528.88	5,186.57	5,063.95	19.35	21.36	179.97	673.56	675.33	1,797.43	1,771.99	25.44	70.641	
5,700.00	5,627.17	5,276.75	5,151.07	19.77	21.84	179.96	690.24	691.64	1,840.64	1,814.70	25.94	70.970	
5,800.00	5,725.46	5,366.94	5,238.18	20.19	22.32	179.95	706.92	707.95	1,883.85	1,857.42	26.43	71.285	
5,893.78	5,817.65	5,451.52	5,319.88	20.58	22.76	179.94	722.56	723.25	1,924.37	1,897.48	26.89	71.571	
5,900.00	5,823.76	5,457.13	5,325.30	20.60	22.79	179.94	723.60	724.27	1,927.05	1,900.12	26.93	71.560	
6,000.00	5,922.38	5,548.14	5,413.21	20.89	23.28	179.93	740.43	740.73	1,968.47	1,940.91	27.56	71.419	
6,100.00	6,021.53	5,640.54	5,502.47	21.13	23.77	179.92	757.51	757.44	2,006.70	1,978.53	28.17	71.248	
6,200.00	6,121.07	5,734.21	5,592.95	21.35	24.27	179.92	774.84	774.39	2,041.67	2,012.94	28.74	71.051	
6,300.00	6,220.88	6,057.26	5,908.89	21.52	25.44	179.90	822.45	820.96	2,068.52	2,038.80	29.73	69.583	
6,400.00	6,320.84	6,417.43	6,267.41	21.66	26.19	179.89	845.21	843.21	2,079.96	2,049.35	30.62	67.929	
6,424.16	6,345.00	6,495.03	6,345.00	21.69	26.28	45.02	845.88	843.88	2,080.33	2,049.53	30.80	67.551	
6,500.00	6,420.84	6,570.87	6,420.84	21.79	26.37	45.02	845.88	843.88	2,080.33	2,049.25	31.08	66.945	
6,600.00	6,520.84	6,670.87	6,520.84	21.91	26.48	45.02	845.88	843.88	2,080.33	2,048.89	31.44	66.175	
6,700.00	6,620.84	6,770.87	6,620.84	22.03	26.60	45.02	845.88	843.88	2,080.33	2,048.52	31.80	65.418	
6,800.00	6,720.84	6,870.87	6,720.84	22.16	26.72	45.02	845.88	843.88	2,080.33	2,048.16	32.17	64.674	
6,900.00	6,820.84	6,970.87	6,820.84	22.29	26.84	45.02	845.88	843.88	2,080.33	2,047.79	32.53	63.942	
7,000.00	6,920.84	7,070.87	6,920.84	22.41	26.96	45.02	845.88	843.88	2,080.33	2,047.42	32.90	63.223	
7,100.00	7,020.84	7,170.87	7,020.84	22.54	27.08	45.02	845.88	843.88	2,080.33	2,047.05	33.28	62.516	
7,200.00	7,120.84	7,270.87	7,120.84	22.67	27.20	45.02	845.88	843.88	2,080.33	2,046.67	33.65	61.821	
7,300.00	7,220.84	7,370.87	7,220.84	22.81	27.33	45.02	845.88	843.88	2,080.33	2,046.30	34.03	61.138	
7,400.00	7,320.84	7,470.87	7,320.84	22.94	27.45	45.02	845.88	843.88	2,080.33	2,045.92	34.40	60.467	
7,500.00	7,420.84	7,570.87	7,420.84	23.08	27.58	45.02	845.88	843.88	2,080.33	2,045.54	34.78	59.808	
7,600.00	7,520.84	7,670.87	7,520.84	23.21	27.71	45.02	845.88	843.88	2,080.33	2,045.16	35.16	59.160	
7,700.00	7,620.84	7,770.87	7,620.84	23.35	27.84	45.02	845.88	843.88	2,080.33	2,044.78	35.55	58.523	
7,800.00	7,720.84	7,870.87	7,720.84	23.49	27.97	45.02	845.88	843.88	2,080.33	2,044.39	35.93	57.897	
7,900.00	7,820.84	7,970.87	7,820.84	23.63	28.10	45.02	845.88	843.88	2,080.33	2,044.01	36.32	57.283	
8,000.00	7,920.84	8,070.87	7,920.84	23.78	28.23	45.02	845.88	843.88	2,080.33	2,043.62	36.70	56.679	
8,100.00	8,020.84	8,170.87	8,020.84	23.92	28.37	45.02	845.88	843.88	2,080.33	2,043.23	37.09	56.085	
8,200.00	8,120.84	8,270.87	8,120.84	24.06	28.50	45.02	845.88	843.88	2,080.33	2,042.84	37.48	55.501	
8,300.00	8,220.84	8,370.87	8,220.84	24.21	28.64	45.02	845.88	843.88	2,080.33	2,042.45	37.87	54.928	
8,400.00	8,320.84	8,470.87	8,320.84	24.36	28.78	45.02	845.88	843.88	2,080.33	2,042.06	38.27	54.365	
8,500.00	8,420.84	8,570.87	8,420.84	24.51	28.92	45.02	845.88	843.88	2,080.33	2,041.67	38.66	53.811	
8,568.06	8,488.89	8,638.92	8,488.89	24.61	29.01	45.02	845.88	843.88	2,080.33	2,041.40	38.93	53.440	
8,604.16	8,525.00	8,671.03	8,521.00	24.66	29.06	45.02	845.88	843.88	2,080.33	2,041.27	39.06	53.256	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - ROCKY MOUNTAIN FUEL CO F #3 EXISTING - ROCKY MOUNTAIN FUEL C												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-152.05	-81.23	-43.11	93.90				
100.00	100.00	81.00	81.00	0.10	0.09	-152.05	-81.23	-43.11	91.96	91.77	0.19	492.824	
200.00	200.00	181.00	181.00	0.32	0.29	-152.05	-81.23	-43.11	91.96	91.34	0.61	149.590	
300.00	300.00	281.00	281.00	0.55	0.52	-152.05	-81.23	-43.11	91.96	90.89	1.06	86.405	
400.00	400.00	381.00	381.00	0.77	0.74	-152.05	-81.23	-43.11	91.96	90.44	1.51	60.747	
500.00	500.00	481.00	481.00	0.99	0.97	-152.05	-81.23	-43.11	91.96	89.99	1.96	46.838	
600.00	600.00	581.00	581.00	1.22	1.19	-152.05	-81.23	-43.11	91.96	89.55	2.41	38.112	
700.00	700.00	681.00	681.00	1.44	1.42	-152.05	-81.23	-43.11	91.96	89.10	2.86	32.126	
800.00	800.00	781.00	781.00	1.67	1.64	-152.05	-81.23	-43.11	91.96	88.65	3.31	27.766	
900.00	900.00	881.00	881.00	1.89	1.87	-152.05	-81.23	-43.11	91.96	88.20	3.76	24.447	
1,000.00	1,000.00	981.00	981.00	2.12	2.09	-152.05	-81.23	-43.11	91.96	87.75	4.21	21.838	
1,085.00	1,085.00	1,066.00	1,066.00	2.31	2.28	-152.05	-81.23	-43.11	91.96	87.36	4.59	20.021	
1,100.00	1,100.00	1,081.00	1,081.00	2.34	2.32	-17.18	-81.23	-43.11	91.92	87.26	4.66	19.739	
1,200.00	1,199.97	1,180.97	1,180.97	2.52	2.54	-17.63	-81.23	-43.11	89.76	84.70	5.06	17.746	
1,300.00	1,299.80	1,280.80	1,280.80	2.71	2.77	-18.85	-81.23	-43.11	84.29	78.83	5.46	15.431	
1,400.00	1,399.37	1,380.37	1,380.37	2.91	2.99	-21.17	-81.23	-43.11	75.60	69.73	5.87	12.877	
1,500.00	1,498.55	1,479.55	1,479.55	3.14	3.21	-25.38	-81.23	-43.11	63.91	57.62	6.29	10.162	
1,600.00	1,597.23	1,578.23	1,578.23	3.41	3.43	-33.51	-81.23	-43.11	49.76	43.02	6.74	7.386	
1,615.38	1,612.35	1,593.35	1,593.35	3.45	3.47	-35.39	-81.23	-43.11	47.44	40.63	6.81	6.965	
1,700.00	1,695.53	1,676.53	1,676.53	3.71	3.66	-49.83	-81.23	-43.11	35.80	28.51	7.29	4.911	
1,800.00	1,793.82	1,774.82	1,774.82	4.03	3.88	-79.91	-81.23	-43.11	27.60	19.66	7.94	3.476	
1,826.70	1,820.06	1,801.06	1,801.06	4.12	3.94	-90.00	-81.23	-43.11	27.16	19.05	8.10	3.351	CC, ES, SF
1,900.00	1,892.11	1,873.11	1,873.11	4.36	4.10	-116.03	-81.23	-43.11	30.33	21.94	8.39	3.614	
2,000.00	1,990.40	1,971.40	1,971.40	4.72	4.32	-139.10	-81.23	-43.11	41.90	33.22	8.68	4.829	
2,100.00	2,088.69	2,069.69	2,069.69	5.08	4.54	-151.22	-81.23	-43.11	57.17	48.14	9.03	6.332	
2,200.00	2,186.98	2,167.98	2,167.98	5.45	4.76	-158.10	-81.23	-43.11	73.89	64.46	9.43	7.835	
2,300.00	2,285.28	2,266.28	2,266.28	5.83	4.98	-162.40	-81.23	-43.11	91.26	81.40	9.86	9.258	
2,400.00	2,383.57	2,364.57	2,364.57	6.21	5.20	-165.33	-81.23	-43.11	108.97	98.68	10.30	10.584	
2,500.00	2,481.86	2,462.86	2,462.86	6.60	5.42	-167.43	-81.23	-43.11	126.88	116.14	10.74	11.811	
2,600.00	2,580.15	2,561.15	2,561.15	6.99	5.64	-169.02	-81.23	-43.11	144.92	133.72	11.19	12.945	
2,700.00	2,678.44	2,659.44	2,659.44	7.39	5.87	-170.25	-81.23	-43.11	163.04	151.39	11.65	13.994	
2,800.00	2,776.73	2,757.73	2,757.73	7.78	6.09	-171.23	-81.23	-43.11	181.21	169.10	12.11	14.965	
2,900.00	2,875.02	2,856.02	2,856.02	8.19	6.31	-172.04	-81.23	-43.11	199.43	186.86	12.57	15.866	
3,000.00	2,973.31	2,954.31	2,954.31	8.59	6.53	-172.71	-81.23	-43.11	217.68	204.65	13.03	16.703	
3,100.00	3,071.60	3,052.60	3,052.60	8.99	6.75	-173.28	-81.23	-43.11	235.96	222.46	13.50	17.483	
3,200.00	3,169.90	3,150.90	3,150.90	9.40	6.97	-173.76	-81.23	-43.11	254.25	240.29	13.96	18.211	
3,300.00	3,268.19	3,249.19	3,249.19	9.81	7.19	-174.18	-81.23	-43.11	272.56	258.14	14.43	18.891	
3,400.00	3,366.48	3,347.48	3,347.48	10.21	7.41	-174.55	-81.23	-43.11	290.89	275.99	14.90	19.529	
3,500.00	3,464.77	3,445.77	3,445.77	10.62	7.63	-174.87	-81.23	-43.11	309.22	293.86	15.36	20.127	
3,600.00	3,563.06	3,544.06	3,544.06	11.03	7.85	-175.16	-81.23	-43.11	327.56	311.73	15.83	20.690	
3,700.00	3,661.35	3,642.35	3,642.35	11.45	8.07	-175.42	-81.23	-43.11	345.91	329.61	16.30	21.220	
3,800.00	3,759.64	3,740.64	3,740.64	11.86	8.30	-175.65	-81.23	-43.11	364.26	347.49	16.77	21.720	
3,900.00	3,857.93	3,838.93	3,838.93	12.27	8.52	-175.86	-81.23	-43.11	382.62	365.38	17.24	22.192	
4,000.00	3,956.22	3,937.22	3,937.22	12.68	8.74	-176.05	-81.23	-43.11	400.99	383.27	17.71	22.639	
4,100.00	4,054.52	4,035.52	4,035.52	13.10	8.96	-176.22	-81.23	-43.11	419.35	401.17	18.18	23.063	
4,200.00	4,152.81	4,133.81	4,133.81	13.51	9.18	-176.38	-81.23	-43.11	437.72	419.07	18.65	23.465	
4,300.00	4,251.10	4,232.10	4,232.10	13.93	9.40	-176.53	-81.23	-43.11	456.10	436.97	19.13	23.846	
4,400.00	4,349.39	4,330.39	4,330.39	14.34	9.62	-176.66	-81.23	-43.11	474.48	454.88	19.60	24.210	
4,500.00	4,447.68	4,428.68	4,428.68	14.76	9.84	-176.79	-81.23	-43.11	492.85	472.78	20.07	24.556	
4,600.00	4,545.97	4,526.97	4,526.97	15.18	10.06	-176.90	-81.23	-43.11	511.24	490.69	20.54	24.885	
4,700.00	4,644.26	4,625.26	4,625.26	15.59	10.28	-177.01	-81.23	-43.11	529.62	508.60	21.02	25.200	
4,800.00	4,742.55	4,723.55	4,723.55	16.01	10.50	-177.11	-81.23	-43.11	548.00	526.51	21.49	25.501	

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

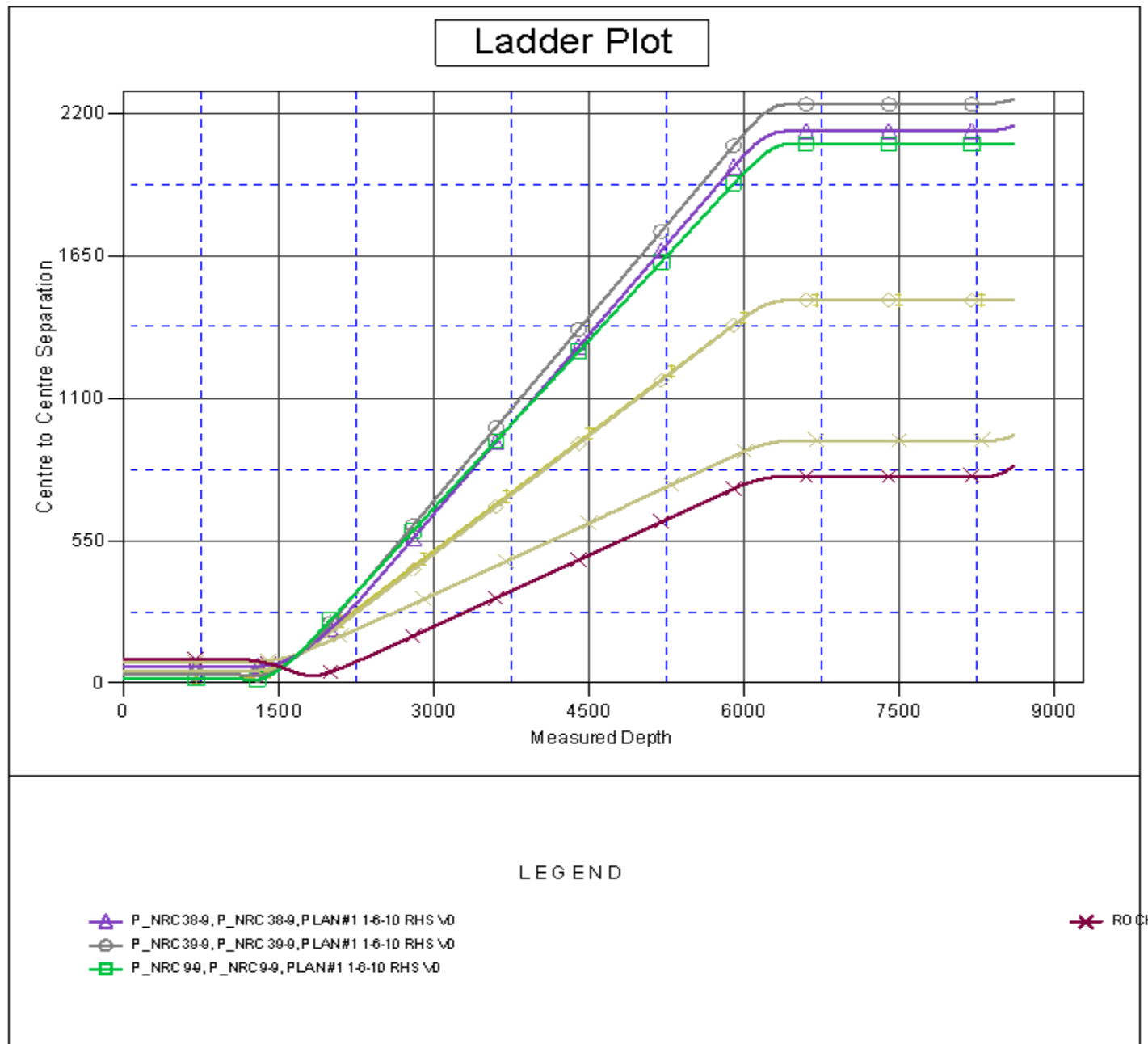
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_NRC 20-9 PAD - ROCKY MOUNTAIN FUEL CO F #3 EXISTING - ROCKY MOUNTAIN FUEL C												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.00	4,840.84	4,821.84	4,821.84	16.43	10.73	-177.20	-81.23	-43.11	566.39	544.43	21.96	25.788	
5,000.00	4,939.14	4,920.14	4,920.14	16.84	10.95	-177.29	-81.23	-43.11	584.78	562.34	22.44	26.063	
5,100.00	5,037.43	5,018.43	5,018.43	17.26	11.17	-177.37	-81.23	-43.11	603.17	580.26	22.91	26.327	
5,200.00	5,135.72	5,116.72	5,116.72	17.68	11.39	-177.45	-81.23	-43.11	621.56	598.17	23.38	26.580	
5,300.00	5,234.01	5,215.01	5,215.01	18.10	11.61	-177.53	-81.23	-43.11	639.95	616.09	23.86	26.823	
5,400.00	5,332.30	5,313.30	5,313.30	18.51	11.83	-177.59	-81.23	-43.11	658.34	634.01	24.33	27.056	
5,500.00	5,430.59	5,411.59	5,411.59	18.93	12.05	-177.66	-81.23	-43.11	676.73	651.93	24.81	27.280	
5,600.00	5,528.88	5,509.88	5,509.88	19.35	12.27	-177.72	-81.23	-43.11	695.13	669.84	25.28	27.496	
5,700.00	5,627.17	5,608.17	5,608.17	19.77	12.49	-177.78	-81.23	-43.11	713.52	687.76	25.76	27.703	
5,800.00	5,725.46	5,706.46	5,706.46	20.19	12.71	-177.84	-81.23	-43.11	731.92	705.68	26.23	27.903	
5,893.78	5,817.65	5,798.65	5,798.65	20.58	12.92	-177.89	-81.23	-43.11	749.17	722.49	26.68	28.084	
5,900.00	5,823.76	5,804.76	5,804.76	20.60	12.93	-177.89	-81.23	-43.11	750.30	723.59	26.71	28.091	
6,000.00	5,922.38	5,903.38	5,903.38	20.89	13.16	-177.95	-81.23	-43.11	766.77	739.55	27.22	28.171	
6,100.00	6,021.53	6,002.53	6,002.53	21.13	13.38	-177.99	-81.23	-43.11	779.78	752.09	27.69	28.161	
6,200.00	6,121.07	6,102.07	6,102.07	21.35	13.60	-178.02	-81.23	-43.11	789.33	761.21	28.12	28.068	
6,300.00	6,220.88	6,201.88	6,201.88	21.52	13.83	-178.04	-81.23	-43.11	795.41	766.89	28.51	27.895	
6,400.00	6,320.84	6,301.84	6,301.84	21.66	14.05	-178.05	-81.23	-43.11	797.99	769.13	28.86	27.647	
6,424.16	6,345.00	6,326.00	6,326.00	21.69	14.11	47.08	-81.23	-43.11	798.09	769.15	28.94	27.573	
6,500.00	6,420.84	6,401.84	6,401.84	21.79	14.28	47.08	-81.23	-43.11	798.09	768.84	29.25	27.281	
6,600.00	6,520.84	6,501.84	6,501.84	21.91	14.50	47.08	-81.23	-43.11	798.09	768.44	29.66	26.912	
6,700.00	6,620.84	6,601.84	6,601.84	22.03	14.73	47.08	-81.23	-43.11	798.09	768.04	30.06	26.552	
6,800.00	6,720.84	6,701.84	6,701.84	22.16	14.95	47.08	-81.23	-43.11	798.09	767.63	30.46	26.201	
6,900.00	6,820.84	6,801.84	6,801.84	22.29	15.18	47.08	-81.23	-43.11	798.09	767.23	30.87	25.857	
7,000.00	6,920.84	6,901.84	6,901.84	22.41	15.40	47.08	-81.23	-43.11	798.09	766.82	31.27	25.522	
7,100.00	7,020.84	7,001.84	7,001.84	22.54	15.63	47.08	-81.23	-43.11	798.09	766.42	31.68	25.194	
7,200.00	7,120.84	7,101.84	7,101.84	22.67	15.85	47.08	-81.23	-43.11	798.09	766.01	32.09	24.874	
7,300.00	7,220.84	7,201.84	7,201.84	22.81	16.07	47.08	-81.23	-43.11	798.09	765.60	32.49	24.561	
7,400.00	7,320.84	7,301.84	7,301.84	22.94	16.30	47.08	-81.23	-43.11	798.09	765.19	32.90	24.255	
7,500.00	7,420.84	7,401.84	7,401.84	23.08	16.52	47.08	-81.23	-43.11	798.09	764.78	33.31	23.956	
7,600.00	7,520.84	7,501.84	7,501.84	23.21	16.75	47.08	-81.23	-43.11	798.09	764.37	33.73	23.664	
7,700.00	7,620.84	7,601.84	7,601.84	23.35	16.97	47.08	-81.23	-43.11	798.09	763.95	34.14	23.378	
7,800.00	7,720.84	7,701.84	7,701.84	23.49	17.20	47.08	-81.23	-43.11	798.09	763.54	34.55	23.098	
7,900.00	7,820.84	7,801.84	7,801.84	23.63	17.42	47.08	-81.23	-43.11	798.09	763.13	34.97	22.824	
8,000.00	7,920.84	7,901.84	7,901.84	23.78	17.65	47.08	-81.23	-43.11	798.09	762.71	35.38	22.556	
8,100.00	8,020.84	8,001.84	8,001.84	23.92	17.87	47.08	-81.23	-43.11	798.09	762.30	35.80	22.294	
8,200.00	8,120.84	8,101.84	8,101.84	24.06	18.10	47.08	-81.23	-43.11	798.09	761.88	36.22	22.038	
8,300.00	8,220.84	8,201.84	8,201.84	24.21	18.32	47.08	-81.23	-43.11	798.09	761.46	36.63	21.786	
8,342.68	8,263.52	8,244.52	8,244.52	24.27	18.42	47.08	-81.23	-43.11	798.09	761.28	36.81	21.681	
8,400.00	8,320.84	8,260.00	8,260.00	24.36	18.45	47.08	-81.23	-43.11	799.19	762.23	36.96	21.625	
8,500.00	8,420.84	8,260.00	8,260.00	24.51	18.45	47.08	-81.23	-43.11	810.60	773.45	37.15	21.819	
8,604.16	8,525.00	8,260.00	8,260.00	24.66	18.45	47.08	-81.23	-43.11	835.15	797.79	37.35	22.358	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5039.00ft (Original Well Elev) Coordinates are relative to: P\_NRC 15-9  
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°



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_NRC 15-9
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_NRC 20-9 PAD	<b>MD Reference:</b>	WELL @ 5039.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_NRC 15-9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_NRC 15-9	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-6-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

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