



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_RURAL 22-31 PAD**

**P\_RURAL 21-31**

**P\_RURAL 21-31**

**Plan: PLAN #1 4-1-10 RHS**

## **Standard Planning Report**

**01 April, 2010**





Azimuths to True North  
Magnetic North: 9.00°  
  
Magnetic Field  
Strength: 53256.4nT  
Dip Angle: 67.02°  
Date: 11/5/2009  
Model: IGRF200510

#### WELL DETAILS: P\_RURAL 21-31

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.00	0.00	1341708.51	4880.00	3220186.89	40° 16' 7.320 N	104° 42' 39.348 W	

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3900.00	4135.12	PARKMAN TOP
4350.00	4629.43	SUSSEX TOP
7021.00	7384.98	NIO A TOP
7312.00	7675.98	CODELL TOP
7750.00	8113.98	JSAND TOP

#### SECTION DETAILS

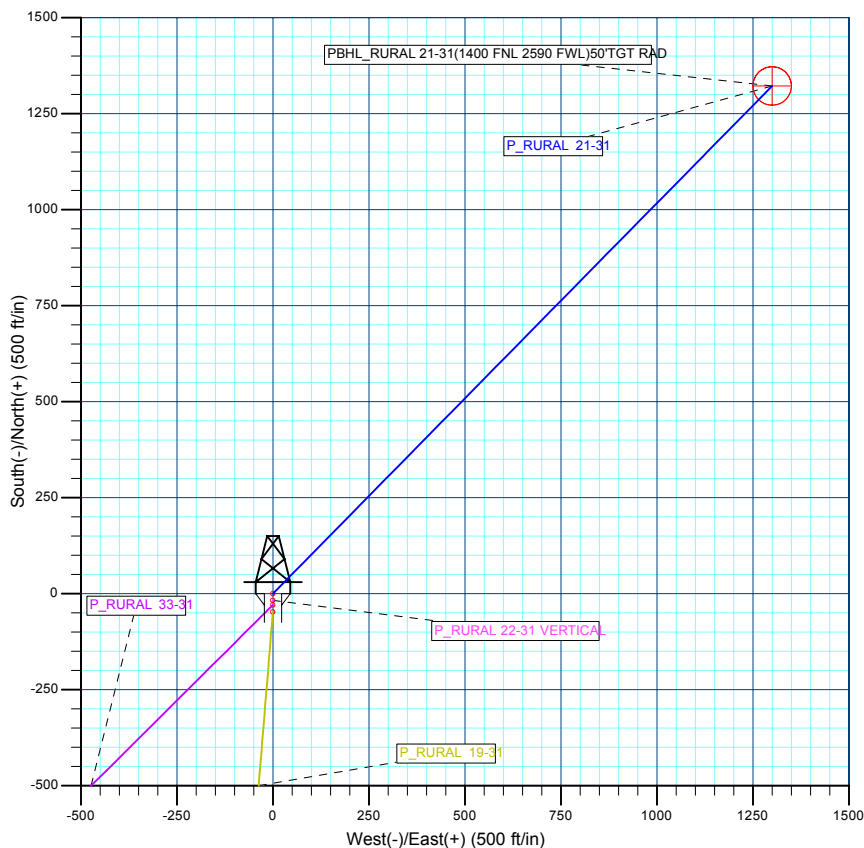
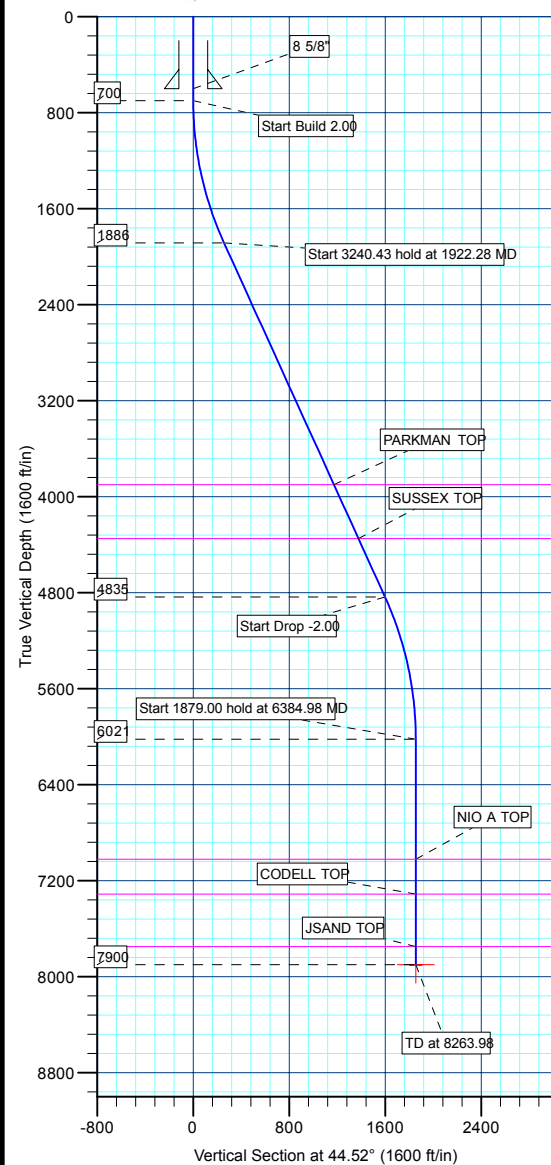
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
1922.28	24.45	44.52	1885.53	183.12	180.06	2.00	44.52	256.81	
5162.70	24.45	44.52	4835.47	1139.29	1120.25	0.00	0.00	1597.79	
6384.98	0.00	0.00	6021.00	1322.41	1300.30	2.00	180.00	1854.61	
8263.98	0.00	0.00	7900.00	1322.41	1300.30	0.00	0.00	1854.61	PBHL_RURAL 21-31(1400 FNL 2590 FWL)50°TGT RAD

#### CASING DETAILS

TVD	MD	Name	Size
600.00	600.00	8 5/8"	8.62



KB ELEV: WELL @ 4895.00ft (Original Well Elev)  
GRD ELEV: 4880.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7900.00	1322.41	1300.30	1343042.44	3221475.37	40° 16' 20.388 N	104° 42' 22.572 W	Circle (Radius: 50.00)

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site:</b>	WELD_RURAL 22-31 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RURAL 21-31	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RURAL 21-31		
<b>Design:</b>	PLAN #1 4-1-10 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_RURAL 22-31 PAD, SECTION 31 T4N R65W											
Site Position:						Northing:			1,341,661.17 ft			Latitude:			40° 16' 6.852 N		
From:			Lat/Long			Easting:			3,220,187.31 ft			Longitude:			104° 42' 39.348 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.51 °		

Well	P_RURAL 21-31					
Well Position	+N/-S	47.35 ft	Northing:	1,341,708.51 ft	Latitude:	40° 16' 7.320 N
	+E/-W	0.00 ft	Easting:	3,220,186.89 ft	Longitude:	104° 42' 39.348 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,880.00 ft

<b>Wellbore</b>	P_RURAL 21-31				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	11/5/2009	9.00	67.02	53,256

<b>Design</b>	PLAN #1 4-1-10 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	44.52

<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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,922.28	24.45	44.52	1,885.53	183.12	180.06	2.00	2.00	0.00	44.52	
5,162.70	24.45	44.52	4,835.47	1,139.29	1,120.25	0.00	0.00	0.00	0.00	
6,384.98	0.00	0.00	6,021.00	1,322.41	1,300.30	2.00	-2.00	0.00	180.00	
8,263.98	0.00	0.00	7,900.00	1,322.41	1,300.30	0.00	0.00	0.00	0.00	PBHL_RURAL 21-3

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site:</b>	WELD_RURAL 22-31 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RURAL 21-31	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RURAL 21-31		
<b>Design:</b>	PLAN #1 4-1-10 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>									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	2.00	44.52	799.98	1.24	1.22	1.75	2.00	2.00	0.00
900.00	4.00	44.52	899.84	4.98	4.89	6.98	2.00	2.00	0.00
1,000.00	6.00	44.52	999.45	11.19	11.00	15.69	2.00	2.00	0.00
1,100.00	8.00	44.52	1,098.70	19.88	19.55	27.88	2.00	2.00	0.00
1,200.00	10.00	44.52	1,197.47	31.03	30.51	43.52	2.00	2.00	0.00
1,300.00	12.00	44.52	1,295.62	44.64	43.89	62.60	2.00	2.00	0.00
1,400.00	14.00	44.52	1,393.06	60.68	59.66	85.10	2.00	2.00	0.00
1,500.00	16.00	44.52	1,489.64	79.13	77.81	110.98	2.00	2.00	0.00
1,600.00	18.00	44.52	1,585.27	99.98	98.31	140.21	2.00	2.00	0.00
1,700.00	20.00	44.52	1,679.82	123.19	121.13	172.77	2.00	2.00	0.00
1,800.00	22.00	44.52	1,773.17	148.74	146.26	208.60	2.00	2.00	0.00
1,900.00	24.00	44.52	1,865.21	176.60	173.65	247.67	2.00	2.00	0.00
<b>Start 3240.43 hold at 1922.28 MD</b>									
1,922.28	24.45	44.52	1,885.53	183.12	180.06	256.81	2.00	2.00	0.00
2,000.00	24.45	44.52	1,956.29	206.05	202.61	288.98	0.00	0.00	0.00
2,100.00	24.45	44.52	2,047.32	235.56	231.62	330.36	0.00	0.00	0.00
2,200.00	24.45	44.52	2,138.36	265.07	260.64	371.74	0.00	0.00	0.00
2,300.00	24.45	44.52	2,229.39	294.58	289.65	413.13	0.00	0.00	0.00
2,400.00	24.45	44.52	2,320.43	324.08	318.67	454.51	0.00	0.00	0.00
2,500.00	24.45	44.52	2,411.46	353.59	347.68	495.89	0.00	0.00	0.00
2,600.00	24.45	44.52	2,502.50	383.10	376.69	537.27	0.00	0.00	0.00
2,700.00	24.45	44.52	2,593.53	412.61	405.71	578.66	0.00	0.00	0.00
2,800.00	24.45	44.52	2,684.57	442.11	434.72	620.04	0.00	0.00	0.00
2,900.00	24.45	44.52	2,775.61	471.62	463.74	661.42	0.00	0.00	0.00
3,000.00	24.45	44.52	2,866.64	501.13	492.75	702.81	0.00	0.00	0.00
3,100.00	24.45	44.52	2,957.68	530.64	521.77	744.19	0.00	0.00	0.00
3,200.00	24.45	44.52	3,048.71	560.15	550.78	785.57	0.00	0.00	0.00
3,300.00	24.45	44.52	3,139.75	589.65	579.80	826.95	0.00	0.00	0.00
3,400.00	24.45	44.52	3,230.78	619.16	608.81	868.34	0.00	0.00	0.00
3,500.00	24.45	44.52	3,321.82	648.67	637.82	909.72	0.00	0.00	0.00
3,600.00	24.45	44.52	3,412.85	678.18	666.84	951.10	0.00	0.00	0.00
3,700.00	24.45	44.52	3,503.89	707.68	695.85	992.49	0.00	0.00	0.00
3,800.00	24.45	44.52	3,594.92	737.19	724.87	1,033.87	0.00	0.00	0.00
3,900.00	24.45	44.52	3,685.96	766.70	753.88	1,075.25	0.00	0.00	0.00
4,000.00	24.45	44.52	3,777.00	796.21	782.90	1,116.63	0.00	0.00	0.00
4,100.00	24.45	44.52	3,868.03	825.71	811.91	1,158.02	0.00	0.00	0.00
<b>PARKMAN TOP</b>									
4,135.12	24.45	44.52	3,900.00	836.08	822.10	1,172.55	0.00	0.00	0.00
4,200.00	24.45	44.52	3,959.07	855.22	840.92	1,199.40	0.00	0.00	0.00
4,300.00	24.45	44.52	4,050.10	884.73	869.94	1,240.78	0.00	0.00	0.00
4,400.00	24.45	44.52	4,141.14	914.24	898.95	1,282.17	0.00	0.00	0.00
4,500.00	24.45	44.52	4,232.17	943.75	927.97	1,323.55	0.00	0.00	0.00
4,600.00	24.45	44.52	4,323.21	973.25	956.98	1,364.93	0.00	0.00	0.00
<b>SUSSEX TOP</b>									
4,629.43	24.45	44.52	4,350.00	981.94	965.52	1,377.11	0.00	0.00	0.00
4,700.00	24.45	44.52	4,414.24	1,002.76	986.00	1,406.31	0.00	0.00	0.00
4,800.00	24.45	44.52	4,505.28	1,032.27	1,015.01	1,447.70	0.00	0.00	0.00
4,900.00	24.45	44.52	4,596.32	1,061.78	1,044.03	1,489.08	0.00	0.00	0.00
5,000.00	24.45	44.52	4,687.35	1,091.28	1,073.04	1,530.46	0.00	0.00	0.00
5,100.00	24.45	44.52	4,778.39	1,120.79	1,102.05	1,571.84	0.00	0.00	0.00
<b>Start Drop -2.00</b>									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site:</b>	WELD_RURAL 22-31 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RURAL 21-31	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RURAL 21-31		
<b>Design:</b>	PLAN #1 4-1-10 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)
5,162.70	24.45	44.52	4,835.47	1,139.29	1,120.25	1,597.79	0.00	0.00	0.00
5,200.00	23.70	44.52	4,869.52	1,150.14	1,130.91	1,613.01	2.00	-2.00	0.00
5,300.00	21.70	44.52	4,961.77	1,177.66	1,157.97	1,651.59	2.00	-2.00	0.00
5,400.00	19.70	44.52	5,055.31	1,202.86	1,182.75	1,686.94	2.00	-2.00	0.00
5,500.00	17.70	44.52	5,150.03	1,225.72	1,205.23	1,719.00	2.00	-2.00	0.00
5,600.00	15.70	44.52	5,245.80	1,246.21	1,225.37	1,747.73	2.00	-2.00	0.00
5,700.00	13.70	44.52	5,342.53	1,264.30	1,243.16	1,773.11	2.00	-2.00	0.00
5,800.00	11.70	44.52	5,440.08	1,279.97	1,258.58	1,795.09	2.00	-2.00	0.00
5,900.00	9.70	44.52	5,538.33	1,293.21	1,271.59	1,813.65	2.00	-2.00	0.00
6,000.00	7.70	44.52	5,637.18	1,304.00	1,282.20	1,828.78	2.00	-2.00	0.00
6,100.00	5.70	44.52	5,736.49	1,312.31	1,290.38	1,840.44	2.00	-2.00	0.00
6,200.00	3.70	44.52	5,836.15	1,318.16	1,296.12	1,848.64	2.00	-2.00	0.00
6,300.00	1.70	44.52	5,936.03	1,321.51	1,299.42	1,853.35	2.00	-2.00	0.00
Start 1879.00 hold at 6384.98 MD									
6,384.98	0.00	0.00	6,021.00	1,322.41	1,300.30	1,854.61	2.00	-2.00	-52.38
6,400.00	0.00	0.00	6,036.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
6,500.00	0.00	0.00	6,136.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
6,600.00	0.00	0.00	6,236.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
6,700.00	0.00	0.00	6,336.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
6,800.00	0.00	0.00	6,436.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
6,900.00	0.00	0.00	6,536.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,000.00	0.00	0.00	6,636.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,100.00	0.00	0.00	6,736.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,200.00	0.00	0.00	6,836.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,300.00	0.00	0.00	6,936.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
NIO A TOP									
7,384.98	0.00	0.00	7,021.00	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,400.00	0.00	0.00	7,036.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,500.00	0.00	0.00	7,136.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,600.00	0.00	0.00	7,236.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
CODELL TOP									
7,675.98	0.00	0.00	7,312.00	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,700.00	0.00	0.00	7,336.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,800.00	0.00	0.00	7,436.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
7,900.00	0.00	0.00	7,536.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
8,000.00	0.00	0.00	7,636.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
8,100.00	0.00	0.00	7,736.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
JSAND TOP									
8,113.98	0.00	0.00	7,750.00	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
8,200.00	0.00	0.00	7,836.02	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00
PBHL_RURAL 21-31(1400 FNL 2590 FWL)50'TGT RAD									
8,263.98	0.00	0.00	7,900.00	1,322.41	1,300.30	1,854.61	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_RURAL 21-31(	0.00	0.00	7,900.00	1,322.41	1,300.30	1,343,042.44	3,221,475.37	40° 16' 20.388 N	104° 42' 22.572 W
- hit/miss target									
- Shape									
- Circle (radius 50.00)									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site:</b>	WELD_RURAL 22-31 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_RURAL 21-31	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_RURAL 21-31		
<b>Design:</b>	PLAN #1 4-1-10 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
600.00	600.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,135.12	3,900.00	PARKMAN TOP				
4,629.43	4,350.00	SUSSEX TOP				
7,384.98	7,021.00	NIO A TOP				
7,675.98	7,312.00	CODELL TOP				
8,113.98	7,750.00	JSAND TOP		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
700.00	700.00	0.00	0.00	Start Build 2.00	
1,922.28	1,885.53	183.12	180.06	Start 3240.43 hold at 1922.28 MD	
5,162.70	4,835.47	1,139.29	1,120.25	Start Drop -2.00	
6,384.98	6,021.00	1,322.41	1,300.30	Start 1879.00 hold at 6384.98 MD	
8,263.98	7,900.00	1,322.41	1,300.30	TD at 8263.98	

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_RURAL 22-31 PAD  
P\_RURAL 21-31**

**P\_RURAL 21-31  
PLAN #1 4-1-10 RHS**

## **Anticollision Report**

**01 April, 2010**

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 4-1-10 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> 4/1/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,263.98	PLAN #1 4-1-10 RHS (P_RURAL 21-31)	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_RURAL 22-31 PAD						
P_RURAL 19-31 - P_RURAL 19-31 - PLAN #1 11-05-09	700.00	700.00	47.35	44.46	16.392	CC, ES
P_RURAL 19-31 - P_RURAL 19-31 - PLAN #1 11-05-09	800.00	798.28	50.32	47.02	15.238	SF
P_RURAL 22-31 VERTICAL - P_RURAL 22-31 - PLAN #	700.00	700.00	17.34	14.45	6.004	CC, ES
P_RURAL 22-31 VERTICAL - P_RURAL 22-31 - PLAN #	800.00	799.98	18.63	15.30	5.589	SF
P_RURAL 33-31 - P_RURAL 33-31 - PLAN #1 11-05-09	700.00	700.00	29.15	26.26	10.092	CC, ES
P_RURAL 33-31 - P_RURAL 33-31 - PLAN #1 11-05-09	800.00	799.17	31.71	28.40	9.584	SF

<b>Offset Design</b>	WELD_RURAL 22-31 PAD - P_RURAL 19-31 - P_RURAL 19-31 - PLAN #1 11-05-09 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>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>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>		
0.00	0.00	0.00	0.00	0.00	0.00	-180.00	-47.35	0.00	47.35					
100.00	100.00	100.00	100.00	0.10	0.10	-180.00	-47.35	0.00	47.35	47.15	0.19	247.813		
200.00	200.00	200.00	200.00	0.32	0.32	-180.00	-47.35	0.00	47.35	46.70	0.64	73.909		
300.00	300.00	300.00	300.00	0.55	0.55	-180.00	-47.35	0.00	47.35	46.25	1.09	43.431		
400.00	400.00	400.00	400.00	0.77	0.77	-180.00	-47.35	0.00	47.35	45.81	1.54	30.751		
500.00	500.00	500.00	500.00	0.99	0.99	-180.00	-47.35	0.00	47.35	45.36	1.99	23.801		
600.00	600.00	600.00	600.00	1.22	1.22	-180.00	-47.35	0.00	47.35	44.91	2.44	19.414		
700.00	700.00	700.00	700.00	1.44	1.44	-180.00	-47.35	0.00	47.35	44.46	2.89	16.392	CC, ES	
800.00	799.98	798.28	798.26	1.66	1.64	136.97	-49.03	-0.14	50.32	47.02	3.30	15.238	SF	
900.00	899.84	895.93	895.78	1.89	1.81	140.50	-54.02	-0.54	59.39	55.69	3.69	16.078		
1,000.00	999.45	992.37	991.86	2.12	2.01	144.42	-62.20	-1.21	74.79	70.69	4.09	18.272		
1,100.00	1,098.70	1,087.01	1,085.83	2.37	2.22	147.73	-73.36	-2.11	96.58	92.08	4.50	21.467		
1,200.00	1,197.47	1,179.33	1,177.10	2.66	2.47	150.21	-87.22	-3.24	124.65	119.74	4.91	25.380		
1,300.00	1,295.62	1,268.86	1,265.13	2.99	2.75	151.98	-103.46	-4.55	158.77	153.44	5.33	29.787		
1,400.00	1,393.06	1,355.20	1,349.50	3.36	3.05	153.19	-121.70	-6.04	198.68	192.93	5.76	34.519		
1,500.00	1,489.64	1,443.55	1,435.45	3.80	3.40	154.15	-142.07	-7.69	243.27	237.06	6.20	39.226		
1,600.00	1,585.27	1,531.37	1,520.88	4.29	3.77	154.99	-162.37	-9.34	290.79	284.13	6.66	43.668		
1,700.00	1,679.82	1,617.55	1,604.71	4.85	4.14	155.72	-182.28	-10.95	341.17	334.04	7.13	47.878		
1,800.00	1,773.17	1,701.98	1,686.85	5.48	4.52	156.35	-201.79	-12.54	394.38	386.78	7.60	51.885		
1,900.00	1,865.21	1,784.57	1,767.19	6.17	4.89	156.89	-220.87	-14.09	450.37	442.29	8.08	55.707		
1,922.28	1,885.53	1,802.71	1,784.83	6.34	4.97	156.99	-225.06	-14.43	463.22	455.03	8.19	56.537		

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_RURAL 21-31
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<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RURAL 22-31 PAD - P_RURAL 19-31 - P_RURAL 19-31 - PLAN #1 11-05-09 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
2,000.00	1,956.29	1,865.81	1,846.22	6.92	5.27	157.73	-239.64	-15.61	508.31	499.67	8.64	58.855	
2,100.00	2,047.32	1,947.01	1,925.20	7.68	5.64	158.50	-258.40	-17.13	566.38	557.17	9.22	61.461	
2,200.00	2,138.36	2,028.20	2,004.18	8.46	6.02	159.13	-277.16	-18.65	624.52	614.71	9.80	63.713	
2,300.00	2,229.39	2,109.39	2,083.16	9.25	6.41	159.65	-295.92	-20.18	682.69	672.29	10.40	65.673	
2,400.00	2,320.43	2,190.59	2,162.14	10.04	6.79	160.09	-314.68	-21.70	740.89	729.90	10.99	67.391	
2,500.00	2,411.46	2,271.78	2,241.13	10.84	7.18	160.46	-333.44	-23.22	799.12	787.53	11.60	68.905	
2,600.00	2,502.50	2,352.97	2,320.11	11.64	7.57	160.79	-352.20	-24.75	857.37	845.17	12.20	70.250	
2,700.00	2,593.53	2,434.17	2,399.09	12.45	7.96	161.07	-370.96	-26.27	915.64	902.82	12.81	71.451	
2,800.00	2,684.57	2,515.36	2,478.07	13.26	8.35	161.32	-389.72	-27.79	973.92	960.49	13.43	72.528	
2,900.00	2,775.61	2,596.56	2,557.05	14.07	8.75	161.54	-408.48	-29.31	1,032.21	1,018.16	14.04	73.499	
3,000.00	2,866.64	2,677.75	2,636.03	14.88	9.14	161.74	-427.24	-30.84	1,090.50	1,075.84	14.66	74.377	
3,100.00	2,957.68	2,758.94	2,715.02	15.70	9.54	161.92	-446.00	-32.36	1,148.81	1,133.53	15.28	75.176	
3,200.00	3,048.71	2,840.14	2,794.00	16.51	9.93	162.08	-464.76	-33.88	1,207.12	1,191.22	15.90	75.906	
3,300.00	3,139.75	2,921.33	2,872.98	17.33	10.33	162.23	-483.52	-35.40	1,265.44	1,248.92	16.53	76.574	
3,400.00	3,230.78	3,002.52	2,951.96	18.15	10.73	162.36	-502.28	-36.93	1,323.76	1,306.61	17.15	77.188	
3,500.00	3,321.82	3,083.72	3,030.94	18.97	11.12	162.48	-521.04	-38.45	1,382.09	1,364.32	17.78	77.754	
3,600.00	3,412.85	3,164.91	3,109.93	19.79	11.52	162.59	-539.80	-39.97	1,440.42	1,422.02	18.40	78.277	
3,700.00	3,503.89	3,246.10	3,188.91	20.61	11.92	162.70	-558.56	-41.50	1,498.76	1,479.73	19.03	78.762	
3,800.00	3,594.92	3,327.30	3,267.89	21.43	12.32	162.79	-577.32	-43.02	1,557.10	1,537.44	19.66	79.213	
3,900.00	3,685.96	3,408.49	3,346.87	22.25	12.72	162.88	-596.08	-44.54	1,615.44	1,595.15	20.29	79.633	
4,000.00	3,777.00	3,489.69	3,425.85	23.07	13.12	162.97	-614.84	-46.06	1,673.78	1,652.86	20.92	80.025	
4,100.00	3,868.03	3,570.88	3,504.84	23.90	13.52	163.04	-633.60	-47.59	1,732.12	1,710.58	21.55	80.392	
4,200.00	3,959.07	3,652.07	3,583.82	24.72	13.92	163.11	-652.36	-49.11	1,790.47	1,768.29	22.18	80.735	
4,300.00	4,050.10	3,733.27	3,662.80	25.54	14.32	163.18	-671.12	-50.63	1,848.82	1,826.01	22.81	81.058	
4,400.00	4,141.14	3,814.46	3,741.78	26.37	14.72	163.24	-689.88	-52.16	1,907.17	1,883.73	23.44	81.362	
4,500.00	4,232.17	3,895.65	3,820.76	27.19	15.12	163.30	-708.64	-53.68	1,965.52	1,941.45	24.07	81.649	
4,600.00	4,323.21	3,976.85	3,899.75	28.01	15.52	163.36	-727.40	-55.20	2,023.87	1,999.17	24.71	81.919	
4,700.00	4,414.24	4,058.04	3,978.73	28.84	15.92	163.41	-746.16	-56.72	2,082.23	2,056.89	25.34	82.175	
4,800.00	4,505.28	4,139.24	4,057.71	29.66	16.32	163.46	-764.92	-58.25	2,140.58	2,114.61	25.97	82.417	
4,900.00	4,596.32	4,220.43	4,136.69	30.49	16.72	163.51	-783.68	-59.77	2,198.94	2,172.33	26.61	82.647	
5,000.00	4,687.35	4,301.62	4,215.67	31.31	17.12	163.56	-802.44	-61.29	2,257.30	2,230.06	27.24	82.865	
5,100.00	4,778.39	4,382.82	4,294.66	32.14	17.52	163.60	-821.21	-62.81	2,315.66	2,287.78	27.88	83.072	
5,162.70	4,835.47	4,433.73	4,344.18	32.66	17.77	163.62	-832.97	-63.77	2,352.25	2,323.98	28.27	83.197	
5,200.00	4,869.52	4,464.15	4,373.77	32.93	17.92	163.79	-840.00	-64.34	2,373.83	2,345.25	28.57	83.077	
5,300.00	4,961.77	4,547.02	4,454.38	33.54	18.33	164.17	-859.14	-65.89	2,429.78	2,400.45	29.33	82.833	
5,400.00	5,055.31	4,631.72	4,536.78	34.10	18.75	164.50	-878.72	-67.48	2,482.92	2,452.85	30.07	82.572	
5,500.00	5,150.03	4,718.15	4,620.86	34.62	19.18	164.77	-898.69	-69.10	2,533.19	2,502.41	30.78	82.303	
5,600.00	5,245.80	4,806.21	4,706.52	35.10	19.62	164.99	-919.03	-70.76	2,580.51	2,549.05	31.46	82.034	
5,700.00	5,342.53	4,895.78	4,793.65	35.52	20.06	165.17	-939.73	-72.44	2,624.84	2,592.74	32.10	81.769	
5,800.00	5,440.08	4,986.77	4,882.15	35.90	20.51	165.30	-960.75	-74.14	2,666.13	2,633.42	32.71	81.514	
5,900.00	5,538.33	5,079.04	4,971.92	36.23	20.97	165.40	-982.07	-75.87	2,704.33	2,671.05	33.28	81.271	
6,000.00	5,637.18	5,172.50	5,062.83	36.51	21.43	165.45	-1,003.67	-77.63	2,739.40	2,705.59	33.80	81.042	
6,100.00	5,736.49	5,267.04	5,154.79	36.74	21.90	165.47	-1,025.51	-79.40	2,771.29	2,737.01	34.29	80.831	
6,200.00	5,836.15	5,362.52	5,247.67	36.92	22.37	165.46	-1,047.57	-81.19	2,799.99	2,765.27	34.72	80.638	
6,300.00	5,936.03	5,463.03	5,345.44	37.06	22.87	165.41	-1,070.79	-83.07	2,825.46	2,790.33	35.13	80.435	
6,384.98	6,021.00	5,544.55	5,431.00	37.13	23.39	-150.64	-1,147.49	-89.30	2,833.98	2,797.41	36.57	77.490	
6,400.00	6,036.02	5,559.57	5,446.02	37.14	23.40	-150.64	-1,147.49	-89.30	2,833.98	2,797.37	36.61	77.402	
6,500.00	6,136.02	5,659.57	5,546.02	37.22	23.50	-150.64	-1,147.49	-89.30	2,833.98	2,797.08	36.90	76.808	
6,600.00	6,236.02	5,759.57	5,646.02	37.29	23.60	-150.64	-1,147.49	-89.30	2,833.98	2,796.80	37.18	76.229	
6,700.00	6,336.02	5,859.57	5,746.02	37.37	23.69	-150.64	-1,147.49	-89.30	2,833.98	2,796.52	37.46	75.652	
6,800.00	6,436.02	5,959.57	5,846.02	37.45	23.79	-150.64	-1,147.49	-89.30	2,833.98	2,796.23	37.75	75.077	
6,900.00	6,536.02	6,059.57	5,946.02	37.53	23.89	-150.64	-1,147.49	-89.30	2,833.98	2,795.94	38.04	74.504	

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<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_RURAL 22-31 PAD - P_RURAL 19-31 - P_RURAL 19-31 - PLAN #1 11-05-09 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
7,000.00	6,636.02	6,759.57	6,636.02	37.61	24.99	-150.64	-1,147.49	-89.30	2,833.98	2,795.65	38.33	73.934	
7,100.00	6,736.02	6,859.57	6,736.02	37.69	25.10	-150.64	-1,147.49	-89.30	2,833.98	2,795.35	38.63	73.367	
7,200.00	6,836.02	6,959.57	6,836.02	37.78	25.20	-150.64	-1,147.49	-89.30	2,833.98	2,795.05	38.93	72.804	
7,300.00	6,936.02	7,059.57	6,936.02	37.86	25.31	-150.64	-1,147.49	-89.30	2,833.98	2,794.75	39.23	72.243	
7,400.00	7,036.02	7,159.57	7,036.02	37.95	25.41	-150.64	-1,147.49	-89.30	2,833.98	2,794.45	39.53	71.686	
7,500.00	7,136.02	7,259.57	7,136.02	38.03	25.52	-150.64	-1,147.49	-89.30	2,833.98	2,794.14	39.84	71.133	
7,600.00	7,236.02	7,359.57	7,236.02	38.12	25.63	-150.64	-1,147.49	-89.30	2,833.98	2,793.83	40.15	70.583	
7,700.00	7,336.02	7,459.57	7,336.02	38.21	25.75	-150.64	-1,147.49	-89.30	2,833.98	2,793.52	40.46	70.037	
7,800.00	7,436.02	7,559.57	7,436.02	38.30	25.86	-150.64	-1,147.49	-89.30	2,833.98	2,793.20	40.78	69.495	
7,814.48	7,450.50	7,574.06	7,450.50	38.31	25.88	-150.64	-1,147.49	-89.30	2,833.98	2,793.16	40.83	69.417	
7,900.00	7,536.02	7,598.55	7,475.00	38.39	25.91	-150.64	-1,147.49	-89.30	2,834.64	2,793.64	41.00	69.139	
8,000.00	7,636.02	7,598.55	7,475.00	38.48	25.91	-150.64	-1,147.49	-89.30	2,838.55	2,797.39	41.16	68.967	
8,100.00	7,736.02	7,598.55	7,475.00	38.58	25.91	-150.64	-1,147.49	-89.30	2,845.98	2,804.66	41.32	68.880	
8,200.00	7,836.02	7,598.55	7,475.00	38.67	25.91	-150.64	-1,147.49	-89.30	2,856.88	2,815.40	41.48	68.876	
8,263.98	7,900.00	7,598.55	7,475.00	38.73	25.91	-150.64	-1,147.49	-89.30	2,865.67	2,824.09	41.58	68.916	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_RURAL 22-31 PAD - P_RURAL 22-31 VERTICAL - P_RURAL 22-31 - PLAN #1 PLAN #1 11-05												<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		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	-179.85	-17.34	-0.05	17.34				
100.00	100.00	100.00	100.00	0.10	0.10	-179.85	-17.34	-0.05	17.34	17.15	0.19	90.768	
200.00	200.00	200.00	200.00	0.32	0.32	-179.85	-17.34	-0.05	17.34	16.70	0.64	27.071	
300.00	300.00	300.00	300.00	0.55	0.55	-179.85	-17.34	-0.05	17.34	16.25	1.09	15.908	
400.00	400.00	400.00	400.00	0.77	0.77	-179.85	-17.34	-0.05	17.34	15.80	1.54	11.263	
500.00	500.00	500.00	500.00	0.99	0.99	-179.85	-17.34	-0.05	17.34	15.35	1.99	8.718	
600.00	600.00	600.00	600.00	1.22	1.22	-179.85	-17.34	-0.05	17.34	14.90	2.44	7.111	
700.00	700.00	700.00	700.00	1.44	1.44	-179.85	-17.34	-0.05	17.34	14.45	2.89	6.004 CC, ES	
800.00	799.98	799.98	799.98	1.66	1.67	139.37	-17.34	-0.05	18.63	15.30	3.33	5.589 SF	
900.00	899.84	899.84	899.84	1.89	1.89	147.90	-17.34	-0.05	22.86	19.08	3.77	6.057	
1,000.00	999.45	999.45	999.45	2.12	2.12	156.54	-17.34	-0.05	30.60	26.39	4.21	7.266	
1,100.00	1,098.70	1,098.70	1,098.70	2.37	2.34	163.09	-17.34	-0.05	42.06	37.42	4.64	9.058	
1,200.00	1,197.47	1,197.47	1,197.47	2.66	2.56	167.58	-17.34	-0.05	57.22	52.15	5.07	11.282	
1,300.00	1,295.62	1,295.62	1,295.62	2.99	2.78	170.61	-17.34	-0.05	75.97	70.48	5.50	13.824	
1,400.00	1,393.06	1,393.06	1,393.06	3.36	3.00	172.70	-17.34	-0.05	98.25	92.33	5.92	16.605	
1,500.00	1,489.64	1,489.64	1,489.64	3.80	3.22	174.16	-17.34	-0.05	123.97	117.63	6.33	19.570	
1,600.00	1,585.27	1,585.27	1,585.27	4.29	3.43	175.22	-17.34	-0.05	153.09	146.34	6.75	22.679	
1,700.00	1,679.82	1,679.82	1,679.82	4.85	3.65	176.01	-17.34	-0.05	185.56	178.40	7.16	25.900	
1,800.00	1,773.17	1,773.17	1,773.17	5.48	3.86	176.61	-17.34	-0.05	221.33	213.76	7.58	29.211	
1,900.00	1,865.21	1,865.21	1,865.21	6.17	4.06	177.08	-17.34	-0.05	260.35	252.37	7.99	32.593	
1,922.28	1,885.53	1,885.53	1,885.53	6.34	4.11	177.17	-17.34	-0.05	269.48	261.40	8.08	33.355	
2,000.00	1,956.29	1,956.29	1,956.29	6.92	4.27	177.47	-17.34	-0.05	301.62	293.15	8.47	35.596	
2,100.00	2,047.32	2,047.32	2,047.32	7.68	4.47	177.77	-17.34	-0.05	342.97	333.99	8.99	38.164	
2,200.00	2,138.36	2,138.36	2,138.36	8.46	4.68	178.01	-17.34	-0.05	384.33	374.83	9.51	40.430	
2,300.00	2,229.39	2,229.39	2,229.39	9.25	4.88	178.21	-17.34	-0.05	425.70	415.67	10.03	42.442	
2,400.00	2,320.43	2,320.43	2,320.43	10.04	5.09	178.37	-17.34	-0.05	467.06	456.51	10.56	44.238	
2,500.00	2,411.46	2,411.46	2,411.46	10.84	5.29	178.50	-17.34	-0.05	508.43	497.34	11.09	45.849	
2,600.00	2,502.50	2,502.50	2,502.50	11.64	5.50	178.61	-17.34	-0.05	549.81	538.18	11.62	47.301	
2,700.00	2,593.53	2,593.53	2,593.53	12.45	5.70	178.71	-17.34	-0.05	591.18	579.02	12.16	48.617	
2,800.00	2,684.57	2,684.57	2,684.57	13.26	5.90	178.79	-17.34	-0.05	632.55	619.86	12.70	49.814	
2,900.00	2,775.61	2,775.61	2,775.61	14.07	6.11	178.87	-17.34	-0.05	673.93	660.69	13.24	50.906	
3,000.00	2,866.64	2,866.64	2,866.64	14.88	6.31	178.93	-17.34	-0.05	715.31	701.53	13.78	51.908	
3,100.00	2,957.68	2,957.68	2,957.68	15.70	6.52	178.99	-17.34	-0.05	756.68	742.36	14.32	52.828	
3,200.00	3,048.71	3,048.71	3,048.71	16.51	6.72	179.04	-17.34	-0.05	798.06	783.19	14.87	53.677	
3,300.00	3,139.75	3,139.75	3,139.75	17.33	6.93	179.09	-17.34	-0.05	839.44	824.03	15.41	54.463	
3,400.00	3,230.78	3,230.78	3,230.78	18.15	7.13	179.13	-17.34	-0.05	880.82	864.86	15.96	55.192	
3,500.00	3,321.82	3,321.82	3,321.82	18.97	7.34	179.17	-17.34	-0.05	922.20	905.69	16.51	55.870	
3,600.00	3,412.85	3,412.85	3,412.85	19.79	7.54	179.21	-17.34	-0.05	963.58	946.52	17.05	56.502	
3,700.00	3,503.89	3,503.89	3,503.89	20.61	7.75	179.24	-17.34	-0.05	1,004.96	987.35	17.60	57.093	
3,800.00	3,594.92	3,594.92	3,594.92	21.43	7.95	179.27	-17.34	-0.05	1,046.34	1,028.18	18.15	57.646	
3,900.00	3,685.96	3,685.96	3,685.96	22.25	8.16	179.30	-17.34	-0.05	1,087.72	1,069.02	18.70	58.165	
4,000.00	3,777.00	3,777.00	3,777.00	23.07	8.36	179.32	-17.34	-0.05	1,129.10	1,109.85	19.25	58.653	
4,100.00	3,868.03	3,868.03	3,868.03	23.90	8.56	179.35	-17.34	-0.05	1,170.48	1,150.68	19.80	59.112	
4,200.00	3,959.07	3,959.07	3,959.07	24.72	8.77	179.37	-17.34	-0.05	1,211.86	1,191.51	20.35	59.546	
4,300.00	4,050.10	4,050.10	4,050.10	25.54	8.97	179.39	-17.34	-0.05	1,253.24	1,232.34	20.90	59.955	
4,400.00	4,141.14	4,141.14	4,141.14	26.37	9.18	179.41	-17.34	-0.05	1,294.62	1,273.17	21.45	60.343	
4,500.00	4,232.17	4,232.17	4,232.17	27.19	9.38	179.43	-17.34	-0.05	1,336.00	1,313.99	22.01	60.710	
4,600.00	4,323.21	4,323.21	4,323.21	28.01	9.59	179.45	-17.34	-0.05	1,377.38	1,354.82	22.56	61.059	
4,700.00	4,414.24	4,414.24	4,414.24	28.84	9.79	179.46	-17.34	-0.05	1,418.76	1,395.65	23.11	61.390	
4,800.00	4,505.28	4,505.28	4,505.28	29.66	10.00	179.48	-17.34	-0.05	1,460.14	1,436.48	23.66	61.706	
4,900.00	4,596.32	4,596.32	4,596.32	30.49	10.20	179.49	-17.34	-0.05	1,501.53	1,477.31	24.22	62.006	
5,000.00	4,687.35	4,687.35	4,687.35	31.31	10.41	179.51	-17.34	-0.05	1,542.91	1,518.14	24.77	62.292	

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_RURAL 21-31
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_RURAL 22-31 PAD - P_RURAL 22-31 VERTICAL - P_RURAL 22-31 - PLAN #1 PLAN #1 11-05												<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
5,100.00	4,778.39	4,778.39	4,778.39	32.14	10.61	179.52	-17.34	-0.05	1,584.29	1,558.97	25.32	62.566	
5,162.70	4,835.47	4,835.47	4,835.47	32.66	10.74	179.53	-17.34	-0.05	1,610.24	1,584.57	25.67	62.731	
5,200.00	4,869.52	4,869.52	4,869.52	32.93	10.82	179.53	-17.34	-0.05	1,625.45	1,599.52	25.93	62.678	
5,300.00	4,961.77	4,961.77	4,961.77	33.54	11.02	179.55	-17.34	-0.05	1,664.04	1,637.44	26.60	62.561	
5,400.00	5,055.31	5,055.31	5,055.31	34.10	11.23	179.57	-17.34	-0.05	1,699.38	1,672.15	27.23	62.420	
5,500.00	5,150.03	5,150.03	5,150.03	34.62	11.45	179.58	-17.34	-0.05	1,731.44	1,703.63	27.81	62.257	
5,600.00	5,245.80	5,245.80	5,245.80	35.10	11.66	179.59	-17.34	-0.05	1,760.17	1,731.82	28.36	62.076	
5,700.00	5,342.53	5,342.53	5,342.53	35.52	11.88	179.60	-17.34	-0.05	1,785.54	1,756.69	28.86	61.880	
5,800.00	5,440.08	5,440.08	5,440.08	35.90	12.10	179.61	-17.34	-0.05	1,807.53	1,778.22	29.31	61.670	
5,900.00	5,538.33	5,538.33	5,538.33	36.23	12.32	179.61	-17.34	-0.05	1,826.09	1,796.37	29.72	61.450	
6,000.00	5,637.18	5,637.18	5,637.18	36.51	12.54	179.62	-17.34	-0.05	1,841.22	1,811.14	30.08	61.219	
6,100.00	5,736.49	5,736.49	5,736.49	36.74	12.76	179.62	-17.34	-0.05	1,852.88	1,822.50	30.39	60.978	
6,200.00	5,836.15	5,836.15	5,836.15	36.92	12.99	179.63	-17.34	-0.05	1,861.07	1,830.43	30.65	60.730	
6,300.00	5,936.03	5,936.03	5,936.03	37.06	13.21	179.63	-17.34	-0.05	1,865.78	1,834.93	30.85	60.473	
6,384.98	6,021.00	6,021.00	6,021.00	37.13	13.40	-135.86	-17.34	-0.05	1,867.04	1,836.05	30.99	60.247	
6,400.00	6,036.02	6,036.02	6,036.02	37.14	13.44	-135.86	-17.34	-0.05	1,867.04	1,836.00	31.04	60.140	
6,500.00	6,136.02	6,136.02	6,136.02	37.22	13.66	-135.86	-17.34	-0.05	1,867.04	1,835.62	31.42	59.420	
6,600.00	6,236.02	6,236.02	6,236.02	37.29	13.89	-135.86	-17.34	-0.05	1,867.04	1,835.25	31.80	58.715	
6,700.00	6,336.02	6,336.02	6,336.02	37.37	14.11	-135.86	-17.34	-0.05	1,867.04	1,834.87	32.18	58.023	
6,800.00	6,436.02	6,436.02	6,436.02	37.45	14.34	-135.86	-17.34	-0.05	1,867.04	1,834.49	32.56	57.345	
6,900.00	6,536.02	6,536.02	6,536.02	37.53	14.56	-135.86	-17.34	-0.05	1,867.04	1,834.10	32.94	56.680	
7,000.00	6,636.02	6,636.02	6,636.02	37.61	14.79	-135.86	-17.34	-0.05	1,867.04	1,833.72	33.32	56.028	
7,100.00	6,736.02	6,736.02	6,736.02	37.69	15.01	-135.86	-17.34	-0.05	1,867.04	1,833.34	33.71	55.389	
7,200.00	6,836.02	6,836.02	6,836.02	37.78	15.24	-135.86	-17.34	-0.05	1,867.04	1,832.95	34.09	54.762	
7,300.00	6,936.02	6,936.02	6,936.02	37.86	15.46	-135.86	-17.34	-0.05	1,867.04	1,832.56	34.48	54.147	
7,400.00	7,036.02	7,036.02	7,036.02	37.95	15.69	-135.86	-17.34	-0.05	1,867.04	1,832.17	34.87	53.543	
7,500.00	7,136.02	7,136.02	7,136.02	38.03	15.91	-135.86	-17.34	-0.05	1,867.04	1,831.78	35.26	52.951	
7,600.00	7,236.02	7,236.02	7,236.02	38.12	16.13	-135.86	-17.34	-0.05	1,867.04	1,831.39	35.65	52.371	
7,700.00	7,336.02	7,336.02	7,336.02	38.21	16.36	-135.86	-17.34	-0.05	1,867.04	1,831.00	36.04	51.801	
7,800.00	7,436.02	7,436.02	7,436.02	38.30	16.58	-135.86	-17.34	-0.05	1,867.04	1,830.61	36.44	51.242	
7,801.89	7,437.91	7,437.91	7,437.91	38.30	16.59	-135.86	-17.34	-0.05	1,867.04	1,830.60	36.44	51.231	
7,900.00	7,536.02	7,470.00	7,470.00	38.39	16.66	-135.86	-17.34	-0.05	1,868.21	1,831.53	36.68	50.930	
8,000.00	7,636.02	7,470.00	7,470.00	38.48	16.66	-135.86	-17.34	-0.05	1,874.41	1,837.56	36.85	50.862	
8,100.00	7,736.02	7,470.00	7,470.00	38.58	16.66	-135.86	-17.34	-0.05	1,885.90	1,848.88	37.02	50.937	
8,200.00	7,836.02	7,470.00	7,470.00	38.67	16.66	-135.86	-17.34	-0.05	1,902.58	1,865.39	37.20	51.149	
8,263.98	7,900.00	7,470.00	7,470.00	38.73	16.66	-135.86	-17.34	-0.05	1,915.92	1,878.61	37.31	51.354	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_RURAL 22-31 PAD - P_RURAL 33-31 - P_RURAL 33-31 - PLAN #1 11-05-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	180.00	-29.15	0.00	29.15				
100.00	100.00	100.00	100.00	0.10	0.10	180.00	-29.15	0.00	29.15	28.96	0.19	152.562	
200.00	200.00	200.00	200.00	0.32	0.32	180.00	-29.15	0.00	29.15	28.51	0.64	45.501	
300.00	300.00	300.00	300.00	0.55	0.55	180.00	-29.15	0.00	29.15	28.06	1.09	26.738	
400.00	400.00	400.00	400.00	0.77	0.77	180.00	-29.15	0.00	29.15	27.61	1.54	18.931	
500.00	500.00	500.00	500.00	0.99	0.99	180.00	-29.15	0.00	29.15	27.16	1.99	14.653	
600.00	600.00	600.00	600.00	1.22	1.22	180.00	-29.15	0.00	29.15	26.71	2.44	11.952	
700.00	700.00	700.00	700.00	1.44	1.44	180.00	-29.15	0.00	29.15	26.26	2.89	10.092 CC, ES	
800.00	799.98	799.17	799.15	1.66	1.64	139.85	-30.36	-1.22	31.71	28.40	3.31	9.584 SF	
900.00	899.84	897.62	897.46	1.89	1.83	149.32	-33.95	-4.83	40.20	36.49	3.71	10.839	
1,000.00	999.45	994.67	994.15	2.12	2.03	158.23	-39.83	-10.73	55.71	51.60	4.11	13.552	
1,100.00	1,098.70	1,089.65	1,088.45	2.37	2.26	164.56	-47.82	-18.75	78.45	73.94	4.51	17.394	
1,200.00	1,197.47	1,181.98	1,179.71	2.66	2.52	168.70	-57.69	-28.66	108.11	103.21	4.90	22.044	
1,300.00	1,295.62	1,271.13	1,267.36	2.99	2.80	171.40	-69.18	-40.21	144.32	139.02	5.29	27.264	
1,400.00	1,393.06	1,356.66	1,350.92	3.36	3.11	173.22	-82.01	-53.10	186.69	181.01	5.68	32.893	
1,500.00	1,489.64	1,438.19	1,430.05	3.80	3.45	174.48	-95.88	-67.03	234.86	228.81	6.05	38.819	
1,600.00	1,585.27	1,515.47	1,504.50	4.29	3.81	175.38	-110.48	-81.69	288.48	282.06	6.42	44.965	
1,700.00	1,679.82	1,588.27	1,574.11	4.85	4.18	176.04	-125.53	-96.81	347.18	340.41	6.77	51.256	
1,800.00	1,773.17	1,656.48	1,638.81	5.48	4.57	176.53	-140.76	-112.10	410.63	403.50	7.12	57.633	
1,900.00	1,865.21	1,720.05	1,698.63	6.17	4.96	176.90	-155.93	-127.34	478.46	470.99	7.47	64.092	
1,922.28	1,885.53	1,733.57	1,711.29	6.34	5.04	176.96	-159.28	-130.70	494.13	486.59	7.54	65.529	
2,000.00	1,956.29	1,779.60	1,754.23	6.92	5.34	177.25	-170.98	-142.46	549.60	541.72	7.88	69.743	
2,100.00	2,047.32	1,836.64	1,807.05	7.68	5.74	177.55	-186.17	-157.71	622.22	613.90	8.32	74.784	
2,200.00	2,138.36	1,898.21	1,863.67	8.46	6.18	177.82	-203.24	-174.86	696.01	687.23	8.78	79.311	
2,300.00	2,229.39	1,965.50	1,925.49	9.25	6.68	178.06	-221.99	-193.69	769.95	760.70	9.25	83.216	
2,400.00	2,320.43	2,032.80	1,987.31	10.04	7.19	178.26	-240.74	-212.52	843.89	834.16	9.73	86.708	
2,500.00	2,411.46	2,100.09	2,049.14	10.84	7.70	178.43	-259.50	-231.36	917.84	907.63	10.22	89.835	
2,600.00	2,502.50	2,167.39	2,110.96	11.64	8.21	178.57	-278.25	-250.19	991.80	981.09	10.71	92.617	
2,700.00	2,593.53	2,234.68	2,172.79	12.45	8.73	178.69	-297.00	-269.02	1,065.75	1,054.55	11.20	95.133	
2,800.00	2,684.57	2,301.98	2,234.61	13.26	9.26	178.80	-315.75	-287.85	1,139.71	1,128.01	11.70	97.416	
2,900.00	2,775.61	2,369.27	2,296.44	14.07	9.78	178.89	-334.50	-306.69	1,213.67	1,201.47	12.20	99.474	
3,000.00	2,866.64	2,436.57	2,358.26	14.88	10.31	178.97	-353.25	-325.52	1,287.63	1,274.92	12.70	101.355	
3,100.00	2,957.68	2,503.86	2,420.09	15.70	10.84	179.04	-372.00	-344.35	1,361.59	1,348.38	13.21	103.079	
3,200.00	3,048.71	2,571.15	2,481.91	16.51	11.37	179.11	-390.75	-363.18	1,435.55	1,421.83	13.72	104.652	
3,300.00	3,139.75	2,638.45	2,543.74	17.33	11.90	179.17	-409.50	-382.02	1,509.51	1,495.28	14.23	106.102	
3,400.00	3,230.78	2,705.74	2,605.56	18.15	12.43	179.22	-428.25	-400.85	1,583.47	1,568.73	14.74	107.443	
3,500.00	3,321.82	2,773.04	2,667.38	18.97	12.96	179.27	-447.00	-419.68	1,657.44	1,642.19	15.25	108.678	
3,600.00	3,412.85	2,840.33	2,729.21	19.79	13.50	179.32	-465.75	-438.51	1,731.40	1,715.64	15.77	109.825	
3,700.00	3,503.89	2,907.63	2,791.03	20.61	14.03	179.36	-484.50	-457.35	1,805.36	1,789.08	16.28	110.893	
3,800.00	3,594.92	2,974.92	2,852.86	21.43	14.57	179.40	-503.25	-476.18	1,879.33	1,862.53	16.80	111.885	
3,900.00	3,685.96	3,042.21	2,914.68	22.25	15.11	179.43	-522.00	-495.01	1,953.29	1,935.98	17.31	112.812	
4,000.00	3,777.00	3,109.51	2,976.51	23.07	15.65	179.46	-540.75	-513.84	2,027.26	2,009.43	17.83	113.680	
4,100.00	3,868.03	3,176.80	3,038.33	23.90	16.18	179.50	-559.51	-532.68	2,101.23	2,082.87	18.35	114.493	
4,200.00	3,959.07	3,244.10	3,100.16	24.72	16.72	179.52	-578.26	-551.51	2,175.19	2,156.32	18.87	115.256	
4,300.00	4,050.10	3,311.39	3,161.98	25.54	17.26	179.55	-597.01	-570.34	2,249.16	2,229.76	19.39	115.974	
4,400.00	4,141.14	3,378.69	3,223.81	26.37	17.80	179.57	-615.76	-589.18	2,323.12	2,303.21	19.92	116.651	
4,500.00	4,232.17	3,445.98	3,285.63	27.19	18.34	179.60	-634.51	-608.01	2,397.09	2,376.65	20.44	117.288	
4,600.00	4,323.21	3,513.27	3,347.45	28.01	18.88	179.62	-653.26	-626.84	2,471.06	2,450.10	20.96	117.892	
4,700.00	4,414.24	3,580.57	3,409.28	28.84	19.42	179.64	-672.01	-645.67	2,545.03	2,523.54	21.48	118.463	
4,800.00	4,505.28	3,647.86	3,471.10	29.66	19.96	179.66	-690.76	-664.51	2,618.99	2,596.98	22.01	119.004	
4,900.00	4,596.32	3,715.16	3,532.93	30.49	20.50	179.68	-709.51	-683.34	2,692.96	2,670.43	22.53	119.517	
5,000.00	4,687.35	3,782.45	3,594.75	31.31	21.04	179.69	-728.26	-702.17	2,766.93	2,743.87	23.06	120.005	

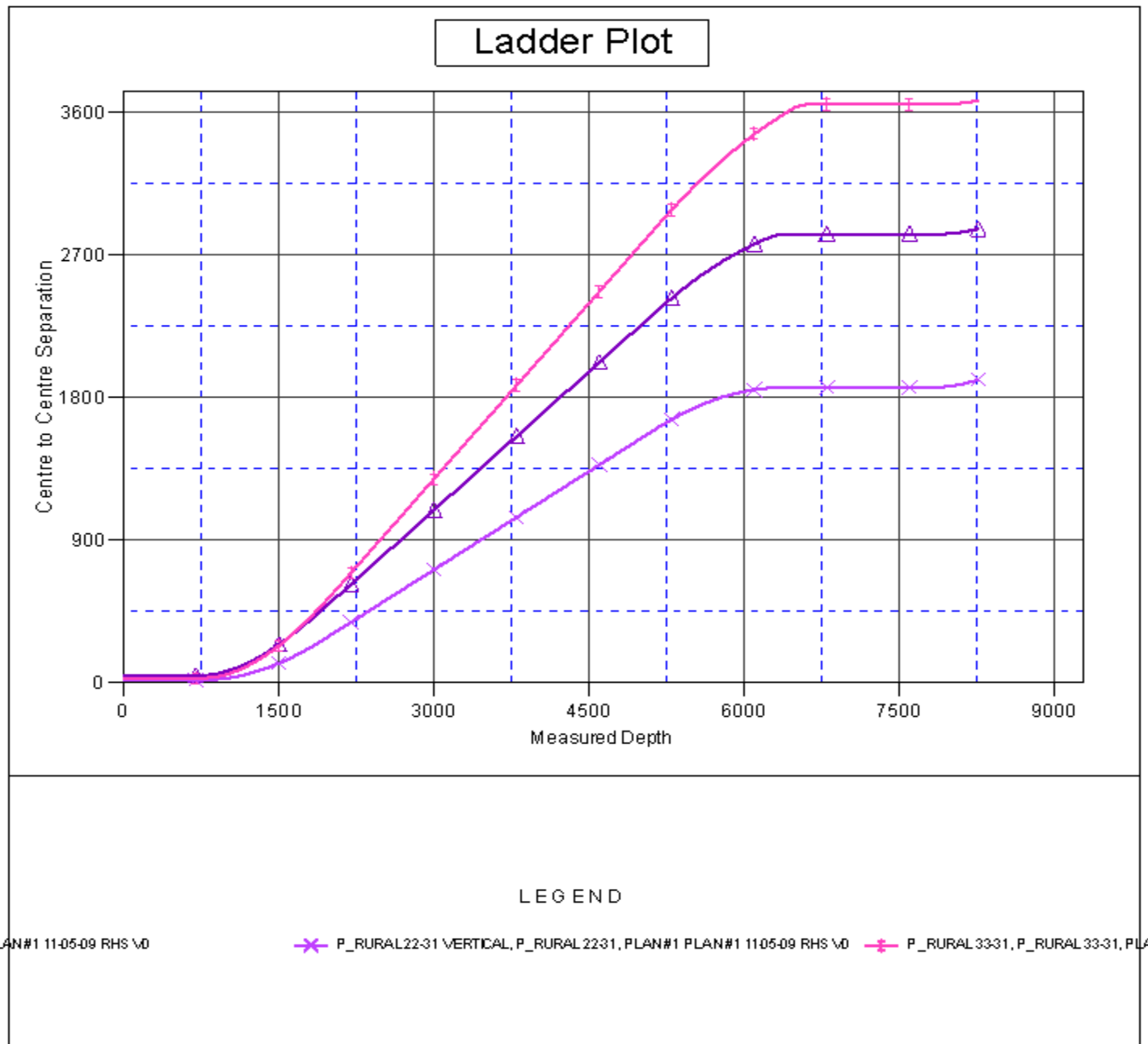
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_RURAL 22-31 PAD - P_RURAL 33-31 - P_RURAL 33-31 - PLAN #1 11-05-09 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
5,100.00	4,778.39	3,849.75	3,656.58	32.14	21.58	179.71	-747.01	-721.00	2,840.89	2,817.31	23.58	120.468	
5,162.70	4,835.47	3,891.94	3,695.34	32.66	21.92	179.72	-758.77	-732.81	2,887.28	2,863.36	23.91	120.748	
5,200.00	4,869.52	3,917.22	3,718.57	32.93	22.13	179.73	-765.81	-739.89	2,914.70	2,890.49	24.20	120.420	
5,300.00	4,961.77	3,986.73	3,782.43	33.54	22.68	179.75	-785.18	-759.34	2,986.58	2,961.62	24.96	119.678	
5,400.00	5,055.31	4,058.71	3,848.56	34.10	23.26	179.78	-805.24	-779.48	3,055.99	3,030.31	25.68	119.002	
5,500.00	5,150.03	4,133.07	3,916.87	34.62	23.86	179.79	-825.96	-800.29	3,122.84	3,096.46	26.38	118.389	
5,600.00	5,245.80	4,209.72	3,987.29	35.10	24.48	179.81	-847.31	-821.74	3,187.06	3,160.01	27.05	117.835	
5,700.00	5,342.53	4,288.56	4,059.72	35.52	25.12	179.83	-869.28	-843.81	3,248.57	3,220.88	27.69	117.337	
5,800.00	5,440.08	4,369.49	4,134.08	35.90	25.77	179.84	-891.83	-866.46	3,307.28	3,278.99	28.29	116.893	
5,900.00	5,538.33	4,452.43	4,210.28	36.23	26.44	179.86	-914.94	-889.67	3,363.14	3,334.27	28.87	116.500	
6,000.00	5,637.18	4,537.27	4,288.22	36.51	27.12	179.87	-938.58	-913.41	3,416.07	3,386.66	29.41	116.158	
6,100.00	5,736.49	4,623.90	4,367.81	36.74	27.82	179.88	-962.72	-937.65	3,466.00	3,436.09	29.91	115.864	
6,200.00	5,836.15	4,712.23	4,448.95	36.92	28.53	179.89	-987.33	-962.37	3,512.88	3,482.50	30.38	115.618	
6,300.00	5,936.03	4,802.13	4,531.55	37.06	29.26	179.90	-1,012.38	-987.53	3,556.65	3,525.84	30.82	115.419	
6,384.98	6,021.00	4,879.70	4,602.81	37.13	29.88	-135.58	-1,033.99	-1,009.24	3,591.36	3,560.21	31.15	115.283	
6,400.00	6,036.02	4,893.50	4,615.49	37.14	29.99	-135.57	-1,037.84	-1,013.10	3,597.30	3,566.08	31.22	115.228	
6,500.00	6,136.02	4,985.37	4,699.89	37.22	30.74	-135.57	-1,063.44	-1,038.81	3,636.78	3,605.11	31.67	114.834	
6,600.00	6,236.02	5,069.08	4,783.02	37.29	31.40	-135.51	-1,089.25	-1,058.58	3,671.32	3,639.91	32.12	114.437	
6,700.00	6,336.02	5,169.08	4,883.02	37.37	32.06	-135.51	-1,115.25	-1,084.58	3,706.32	3,674.91	32.57	114.040	
6,800.00	6,436.02	5,269.08	4,983.02	37.45	32.71	-135.51	-1,141.25	-1,110.58	3,741.32	3,709.91	33.02	113.643	
6,900.00	6,536.02	5,369.08	5,083.02	37.53	33.36	-135.51	-1,167.25	-1,136.58	3,776.32	3,744.91	33.47	113.246	
7,000.00	6,636.02	5,469.08	5,183.02	37.61	34.01	-135.51	-1,193.25	-1,162.58	3,811.32	3,780.91	33.92	112.849	
7,100.00	6,736.02	5,569.08	5,283.02	37.69	34.66	-135.51	-1,219.25	-1,188.58	3,846.32	3,806.91	34.37	112.452	
7,200.00	6,836.02	5,669.08	5,383.02	37.78	35.31	-135.51	-1,245.25	-1,214.58	3,881.32	3,832.91	34.82	112.055	
7,300.00	6,936.02	5,769.08	5,483.02	37.86	35.96	-135.51	-1,271.25	-1,240.58	3,916.32	3,868.91	35.27	111.658	
7,400.00	7,036.02	5,869.08	5,583.02	37.95	36.61	-135.51	-1,297.25	-1,266.58	3,951.32	3,904.91	35.72	111.261	
7,500.00	7,136.02	5,969.08	5,683.02	38.03	37.26	-135.51	-1,323.25	-1,292.58	3,986.32	3,940.91	36.17	110.864	
7,600.00	7,236.02	6,069.08	5,783.02	38.12	37.91	-135.51	-1,349.25	-1,318.58	4,021.32	3,976.91	36.62	110.467	
7,700.00	7,336.02	6,169.08	5,883.02	38.21	38.56	-135.51	-1,375.25	-1,344.58	4,056.32	3,992.91	37.07	110.070	
7,800.00	7,436.02	6,269.08	5,983.02	38.30	39.21	-135.51	-1,401.25	-1,370.58	4,091.32	4,028.91	37.52	109.673	
7,900.00	7,536.02	6,369.08	6,083.02	38.39	39.86	-135.51	-1,427.25	-1,396.58	4,126.32	4,064.91	37.97	109.276	
8,000.00	7,636.02	6,469.08	6,183.02	38.48	40.51	-135.51	-1,453.25	-1,422.58	4,161.32	4,100.91	38.42	108.879	
8,100.00	7,736.02	6,569.08	6,283.02	38.58	41.16	-135.51	-1,479.25	-1,448.58	4,196.32	4,136.91	38.87	108.482	
8,200.00	7,836.02	6,669.08	6,383.02	38.67	41.81	-135.51	-1,505.25	-1,474.58	4,231.32	4,172.91	39.32	108.085	
8,263.98	7,900.00	6,798.06	6,465.00	38.73	42.46	-135.51	-1,531.25	-1,500.58	4,266.32	4,208.91	39.77	107.688	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4895.00ft (Original Well Elev) Coordinates are relative to: P\_RURAL 21-31  
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: 0.51°

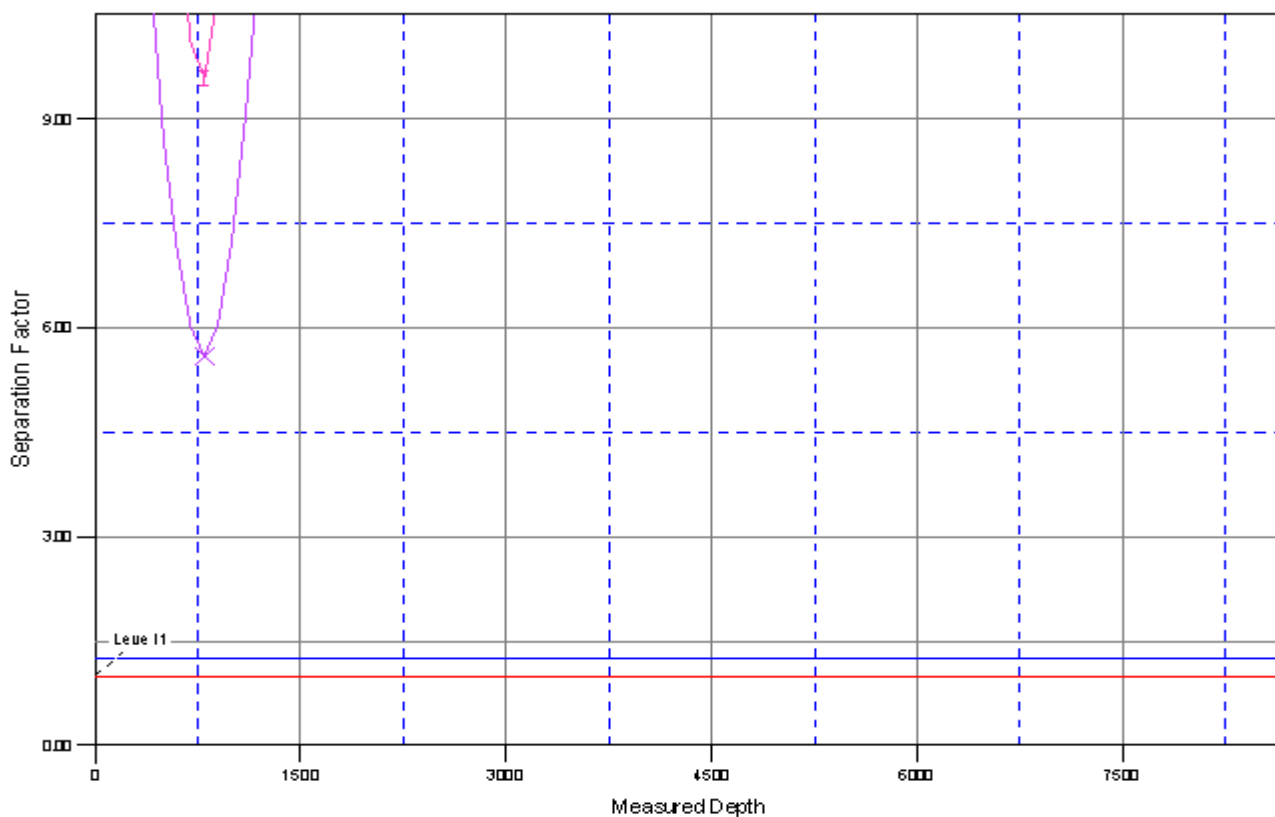




<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_RURAL 21-31
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_RURAL 22-31 PAD	<b>MD Reference:</b>	WELL @ 4895.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_RURAL 21-31	<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_RURAL 21-31	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-1-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4895.00ft (Original Well Elev) Coordinates are relative to: P\_RURAL 21-31  
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: 0.51°

### Separation Factor Plot



#### LEGEND

'LAN#1 11-05-09 RHS \0

✱ P\_RURAL22-31 VERTICAL, P\_RURAL 2231, PLAN#1 PLAN#1 11-05-09 RHS \0 ✱ P\_RURAL 33-31, P\_RURAL 33-31, PLA