



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Riverbend 25-12 PAD

P_Riverbend 25-12

P_Riverbend 25-12

Plan: PLAN #1 6-22-10 RHS

Standard Planning Report

22 June, 2010





Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_Riverbend 25-12 PAD
 Well: P_Riverbend 25-12
 Wellbore: P_Riverbend 25-12
 Section: PLAN #1 6-22-10 RHS
 SHL: 2419 FSL 2107 FEL
 Design: PLAN #1 6-22-10 RHS
 Latitude: 40° 3' 53.881 N
 Longitude: 104° 50' 14.420 W
 GL: 4913.00
 KB: WELL @ 4928.00ft (Original Well Elev)



Weatherford®



Azimuths to True North
 Magnetic North: 9.00°
 Magnetic Field
 Strength: 53049.5nT
 Dip Angle: 66.80°
 Date: 6/22/2010
 Model: IGRF2010

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3259.00	3271.95	PARKMAN
4589.00	4610.37	SUSSEX
7121.00	7150.72	NIO
7468.00	7497.72	CODELL
7553.00	7582.72	GREENHORN
7903.00	7932.72	JSAND

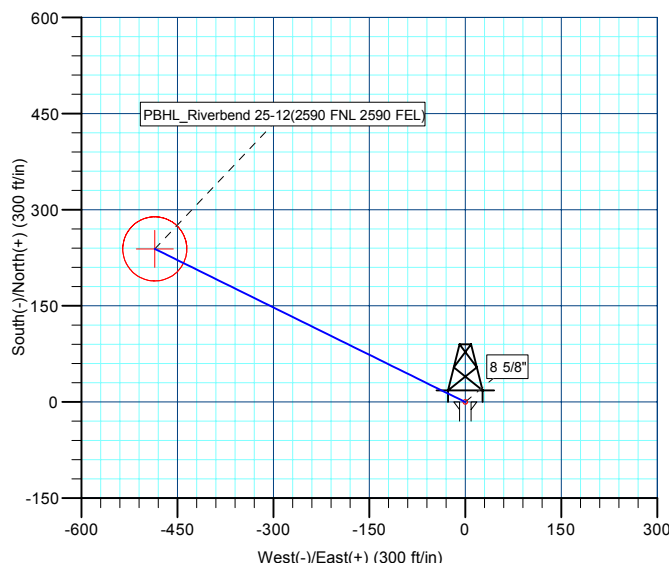
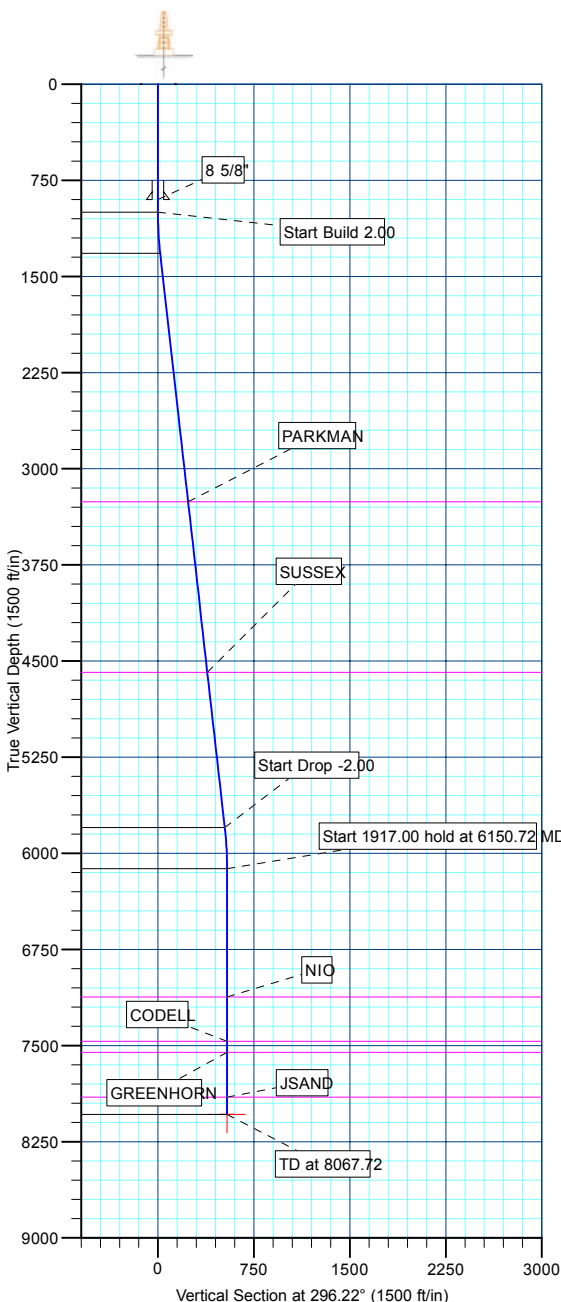
CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	8 5/8"	8.62

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1321.57	6.43	296.22	1320.90	7.96	-16.17	2.00	296.22	18.03	Start 4507.57 hold at 1321.57 MD
5829.15	6.43	296.22	5800.10	231.02	-469.15	0.00	0.00	522.94	Start Drop -2.00
6150.72	0.00	0.00	6121.00	238.98	-485.32	2.00	180.00	540.97	Start 1917.00 hold at 6150.72 MD
8067.72	0.00	0.00	8038.00	238.98	-485.32	0.00	0.00	540.97	TD at 8067.72

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	8038.00	238.98	-485.32	40° 3' 56.243 N	104° 50' 20.663 W	Circle (Radius: 50.00)

WELL DETAILS: P_Riverbend 25-12					
+N/-S	+E/-W	Northing	Ground Level: Easting	4913.00 Latitude	Longitude
0.00	0.00	1267205.68	3185468.28	40° 3' 53.881 N	104° 50' 14.420 W

LEGEND	
—	JAMES N. MATHISEN UNIT B #2 EXISTING, JAMES N. MATHISEN UNIT B #2 EXISTING, JAMES N. MATHISEN UNIT B #2 EXISTING V0
—	P_Riverbend 10-12, P_Riverbend 10-12, PLAN #1 6-22-10 RHS V0
—	P_Riverbend 22-12, P_Riverbend 22-12, PLAN #1 6-22-10 RHS V0
—	P_Riverbend 23-12, P_Riverbend 23-12, PLAN #1 6-22-10 RHS V0
—	P_Riverbend 39-12, P_Riverbend 39-12, PLAN #1 6-22-10 RHS V0
—	P_Riverbend 9-12, P_Riverbend 9-12, PLAN #1 6-22-10 RHS V0
—	PLAN #1 6-22-10 RHS



Plan: PLAN #1 6-22-10 RHS (P_Riverbend 25-12/P_Riverbend 25-12)	
Created By: Robert H. Scott	Date: 9:55, June 22 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site:	WELD_Riverbend 25-12 PAD	North Reference:	True
Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 25-12		
Design:	PLAN #1 6-22-10 RHS		

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

Site						WELD_Riverbend 25-12 PAD, PLAN #1 6-22-10 RHS					
Site Position:				Northing:		1,267,205.81 ft		Latitude:		40° 3' 53.881 N	
From:		Lat/Long		Easting:		3,185,484.23ft		Longitude:		104° 50' 14.215 W	
Position Uncertainty:		0.00 ft		Slot Radius:		in		Grid Convergence:		0.43 °	

Well	P_Riverbend 25-12					
Well Position	+N/-S	-0.01 ft	Northing:	1,267,205.68 ft	Latitude:	40° 3' 53.881 N
	+E/-W	-15.95 ft	Easting:	3,185,468.28 ft	Longitude:	104° 50' 14.420 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,913.00 ft

Wellbore	P_Riverbend 25-12				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/22/2010	9.00	66.80	53,050

Design	PLAN #1 6-22-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	296.22

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,321.57	6.43	296.22	1,320.90	7.96	-16.17	2.00	2.00	0.00	296.22	
5,829.15	6.43	296.22	5,800.10	231.02	-469.15	0.00	0.00	0.00	0.00	
6,150.72	0.00	0.00	6,121.00	238.98	-485.32	2.00	-2.00	0.00	180.00	
8,067.72	0.00	0.00	8,038.00	238.98	-485.32	0.00	0.00	0.00	0.00	PBHL_Riverbend 2

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site:	WELD_Riverbend 25-12 PAD	North Reference:	True
Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 25-12		
Design:	PLAN #1 6-22-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 2.00									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	2.00	296.22	1,099.98	0.77	-1.57	1.75	2.00	2.00	0.00
1,200.00	4.00	296.22	1,199.84	3.08	-6.26	6.98	2.00	2.00	0.00
1,300.00	6.00	296.22	1,299.45	6.93	-14.08	15.69	2.00	2.00	0.00
Start 4507.57 hold at 1321.57 MD									
1,321.57	6.43	296.22	1,320.90	7.96	-16.17	18.03	2.00	2.00	0.00
1,400.00	6.43	296.22	1,398.83	11.85	-24.06	26.81	0.00	0.00	0.00
1,500.00	6.43	296.22	1,498.20	16.79	-34.10	38.02	0.00	0.00	0.00
1,600.00	6.43	296.22	1,597.57	21.74	-44.15	49.22	0.00	0.00	0.00
1,700.00	6.43	296.22	1,696.94	26.69	-54.20	60.42	0.00	0.00	0.00
1,800.00	6.43	296.22	1,796.31	31.64	-64.25	71.62	0.00	0.00	0.00
1,900.00	6.43	296.22	1,895.68	36.59	-74.30	82.82	0.00	0.00	0.00
2,000.00	6.43	296.22	1,995.06	41.54	-84.35	94.02	0.00	0.00	0.00
2,100.00	6.43	296.22	2,094.43	46.48	-94.40	105.22	0.00	0.00	0.00
2,200.00	6.43	296.22	2,193.80	51.43	-104.45	116.43	0.00	0.00	0.00
2,300.00	6.43	296.22	2,293.17	56.38	-114.50	127.63	0.00	0.00	0.00
2,400.00	6.43	296.22	2,392.54	61.33	-124.55	138.83	0.00	0.00	0.00
2,500.00	6.43	296.22	2,491.91	66.28	-134.60	150.03	0.00	0.00	0.00
2,600.00	6.43	296.22	2,591.28	71.23	-144.65	161.23	0.00	0.00	0.00
2,700.00	6.43	296.22	2,690.65	76.18	-154.69	172.43	0.00	0.00	0.00
2,800.00	6.43	296.22	2,790.02	81.12	-164.74	183.63	0.00	0.00	0.00
2,900.00	6.43	296.22	2,889.39	86.07	-174.79	194.84	0.00	0.00	0.00
3,000.00	6.43	296.22	2,988.76	91.02	-184.84	206.04	0.00	0.00	0.00
3,100.00	6.43	296.22	3,088.13	95.97	-194.89	217.24	0.00	0.00	0.00
3,200.00	6.43	296.22	3,187.50	100.92	-204.94	228.44	0.00	0.00	0.00
PARKMAN									
3,271.95	6.43	296.22	3,259.00	104.48	-212.17	236.50	0.00	0.00	0.00
3,300.00	6.43	296.22	3,286.87	105.87	-214.99	239.64	0.00	0.00	0.00
3,400.00	6.43	296.22	3,386.24	110.81	-225.04	250.84	0.00	0.00	0.00
3,500.00	6.43	296.22	3,485.62	115.76	-235.09	262.04	0.00	0.00	0.00
3,600.00	6.43	296.22	3,584.99	120.71	-245.14	273.25	0.00	0.00	0.00
3,700.00	6.43	296.22	3,684.36	125.66	-255.19	284.45	0.00	0.00	0.00
3,800.00	6.43	296.22	3,783.73	130.61	-265.23	295.65	0.00	0.00	0.00
3,900.00	6.43	296.22	3,883.10	135.56	-275.28	306.85	0.00	0.00	0.00
4,000.00	6.43	296.22	3,982.47	140.50	-285.33	318.05	0.00	0.00	0.00
4,100.00	6.43	296.22	4,081.84	145.45	-295.38	329.25	0.00	0.00	0.00
4,200.00	6.43	296.22	4,181.21	150.40	-305.43	340.45	0.00	0.00	0.00
4,300.00	6.43	296.22	4,280.58	155.35	-315.48	351.65	0.00	0.00	0.00
4,400.00	6.43	296.22	4,379.95	160.30	-325.53	362.86	0.00	0.00	0.00
4,500.00	6.43	296.22	4,479.32	165.25	-335.58	374.06	0.00	0.00	0.00
4,600.00	6.43	296.22	4,578.69	170.20	-345.63	385.26	0.00	0.00	0.00
SUSSEX									
4,610.37	6.43	296.22	4,589.00	170.71	-346.67	386.42	0.00	0.00	0.00
4,700.00	6.43	296.22	4,678.06	175.14	-355.68	396.46	0.00	0.00	0.00
4,800.00	6.43	296.22	4,777.43	180.09	-365.73	407.66	0.00	0.00	0.00
4,900.00	6.43	296.22	4,876.80	185.04	-375.77	418.86	0.00	0.00	0.00
5,000.00	6.43	296.22	4,976.18	189.99	-385.82	430.06	0.00	0.00	0.00
5,100.00	6.43	296.22	5,075.55	194.94	-395.87	441.27	0.00	0.00	0.00
5,200.00	6.43	296.22	5,174.92	199.89	-405.92	452.47	0.00	0.00	0.00
5,300.00	6.43	296.22	5,274.29	204.83	-415.97	463.67	0.00	0.00	0.00
5,400.00	6.43	296.22	5,373.66	209.78	-426.02	474.87	0.00	0.00	0.00
5,500.00	6.43	296.22	5,473.03	214.73	-436.07	486.07	0.00	0.00	0.00
5,600.00	6.43	296.22	5,572.40	219.68	-446.12	497.27	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site:	WELD_Riverbend 25-12 PAD	North Reference:	True
Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 25-12		
Design:	PLAN #1 6-22-10 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)
5,700.00	6.43	296.22	5,671.77	224.63	-456.17	508.47	0.00	0.00	0.00
5,800.00	6.43	296.22	5,771.14	229.58	-466.22	519.68	0.00	0.00	0.00
Start Drop -2.00									
5,829.15	6.43	296.22	5,800.10	231.02	-469.15	522.94	0.00	0.00	0.00
5,900.00	5.01	296.22	5,870.60	234.14	-475.48	530.01	2.00	-2.00	0.00
6,000.00	3.01	296.22	5,970.35	237.23	-481.76	537.01	2.00	-2.00	0.00
6,100.00	1.01	296.22	6,070.29	238.78	-484.92	540.52	2.00	-2.00	0.00
Start 1917.00 hold at 6150.72 MD									
6,150.72	0.00	0.00	6,121.00	238.98	-485.32	540.97	2.00	-2.00	125.76
6,200.00	0.00	0.00	6,170.28	238.98	-485.32	540.97	0.00	0.00	0.00
6,300.00	0.00	0.00	6,270.28	238.98	-485.32	540.97	0.00	0.00	0.00
6,400.00	0.00	0.00	6,370.28	238.98	-485.32	540.97	0.00	0.00	0.00
6,500.00	0.00	0.00	6,470.28	238.98	-485.32	540.97	0.00	0.00	0.00
6,600.00	0.00	0.00	6,570.28	238.98	-485.32	540.97	0.00	0.00	0.00
6,700.00	0.00	0.00	6,670.28	238.98	-485.32	540.97	0.00	0.00	0.00
6,800.00	0.00	0.00	6,770.28	238.98	-485.32	540.97	0.00	0.00	0.00
6,900.00	0.00	0.00	6,870.28	238.98	-485.32	540.97	0.00	0.00	0.00
7,000.00	0.00	0.00	6,970.28	238.98	-485.32	540.97	0.00	0.00	0.00
7,100.00	0.00	0.00	7,070.28	238.98	-485.32	540.97	0.00	0.00	0.00
NIO									
7,150.72	0.00	0.00	7,121.00	238.98	-485.32	540.97	0.00	0.00	0.00
7,200.00	0.00	0.00	7,170.28	238.98	-485.32	540.97	0.00	0.00	0.00
7,300.00	0.00	0.00	7,270.28	238.98	-485.32	540.97	0.00	0.00	0.00
7,400.00	0.00	0.00	7,370.28	238.98	-485.32	540.97	0.00	0.00	0.00
CODELL									
7,497.72	0.00	0.00	7,468.00	238.98	-485.32	540.97	0.00	0.00	0.00
7,500.00	0.00	0.00	7,470.28	238.98	-485.32	540.97	0.00	0.00	0.00
GREENHORN									
7,582.72	0.00	0.00	7,553.00	238.98	-485.32	540.97	0.00	0.00	0.00
7,600.00	0.00	0.00	7,570.28	238.98	-485.32	540.97	0.00	0.00	0.00
7,700.00	0.00	0.00	7,670.28	238.98	-485.32	540.97	0.00	0.00	0.00
7,800.00	0.00	0.00	7,770.28	238.98	-485.32	540.97	0.00	0.00	0.00
7,900.00	0.00	0.00	7,870.28	238.98	-485.32	540.97	0.00	0.00	0.00
JSAND									
7,932.72	0.00	0.00	7,903.00	238.98	-485.32	540.97	0.00	0.00	0.00
8,000.00	0.00	0.00	7,970.28	238.98	-485.32	540.97	0.00	0.00	0.00
PBHL_Riverbend 25-12(2590 FNL 2590 FEL)									
8,067.72	0.00	0.00	8,038.00	238.98	-485.32	540.97	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
- hit/miss target									
- Shape									
PBHL_Riverbend 25-12	0.00	0.00	8,038.00	238.98	-485.32	1,267,441.03	3,184,981.19	40° 3' 56.243 N	104° 50' 20.663 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site:	WELD_Riverbend 25-12 PAD	North Reference:	True
Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 25-12		
Design:	PLAN #1 6-22-10 RHS		

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

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,271.95	3,259.00	PARKMAN				
4,610.37	4,589.00	SUSSEX				
7,150.72	7,121.00	NIO				
7,497.72	7,468.00	CODELL				
7,582.72	7,553.00	GREENHORN				
7,932.72	7,903.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00	
1,321.57	1,320.90	7.96	-16.17	Start 4507.57 hold at 1321.57 MD	
5,829.15	5,800.10	231.02	-469.15	Start Drop -2.00	
6,150.72	6,121.00	238.98	-485.32	Start 1917.00 hold at 6150.72 MD	
8,067.72	8,038.00	238.98	-485.32	TD at 8067.72	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_Riverbend 25-12 PAD
P_Riverbend 25-12**

**P_Riverbend 25-12
PLAN #1 6-22-10 RHS**

Anticollision Report

22 June, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 6-22-10 RHS		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	0.00 to 20,000.00ft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 6/22/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,067.72	PLAN #1 6-22-10 RHS (P_Riverbend 25-1	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_Riverbend 25-12 PAD						
JAMES N. MATHISEN UNIT B #2 EXISTING - JAMES N	1,064.56	1,074.46	1,380.36	1,337.03	31.855	CC
JAMES N. MATHISEN UNIT B #2 EXISTING - JAMES N	1,200.00	1,209.76	1,383.49	1,334.49	28.235	ES
JAMES N. MATHISEN UNIT B #2 EXISTING - JAMES N	8,067.72	8,051.99	1,780.84	1,441.89	5.254	SF
P_Riverbend 10-12 - P_Riverbend 10-12 - PLAN #1 6-22	1,000.00	1,000.00	15.95	-23.86	0.401	Level 1, CC, ES, SF
P_Riverbend 22-12 - P_Riverbend 22-12 - PLAN #1 6-22	1,000.00	1,000.00	31.91	27.67	7.531	CC
P_Riverbend 22-12 - P_Riverbend 22-12 - PLAN #1 6-22	1,100.00	1,098.90	32.07	27.41	6.881	ES
P_Riverbend 22-12 - P_Riverbend 22-12 - PLAN #1 6-22	1,321.57	1,317.92	34.14	28.57	6.125	SF
P_Riverbend 23-12 - P_Riverbend 23-12 - PLAN #1 6-22	1,145.28	1,144.74	15.08	10.26	3.126	CC, ES, SF
P_Riverbend 39-12 - P_Riverbend 39-12 - PLAN #1 6-22	300.00	300.00	31.91	30.82	29.270	CC, ES
P_Riverbend 39-12 - P_Riverbend 39-12 - PLAN #1 6-22	600.00	596.03	46.17	43.77	19.299	SF
P_Riverbend 9-12 - P_Riverbend 9-12 - PLAN #1 6-22-1	300.00	300.00	48.14	47.05	44.161	CC, ES
P_Riverbend 9-12 - P_Riverbend 9-12 - PLAN #1 6-22-1	700.00	691.05	75.20	72.32	26.104	SF

Offset Design WELD_Riverbend 25-12 PAD - JAMES N. MATHISEN UNIT B #2 EXISTING - JAMES N. MATHISEN U											
Survey Program: 0-UNKNOWN											
Offset Site Error: 0.00 ft											
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)
0.00	0.00	0.00	0.00	0.00	0.00	130.09	-902.29	1,071.73	1,401.13		
100.00	100.00	93.76	93.75	0.10	1.88	130.07	-901.52	1,071.73	1,400.56	1,398.59	1.97
200.00	200.00	210.42	210.37	0.32	6.43	129.97	-898.44	1,071.73	1,398.85	1,392.11	6.74
300.00	300.00	310.36	310.25	0.55	10.44	129.86	-894.95	1,071.73	1,396.61	1,385.65	10.96
400.00	400.00	410.30	410.13	0.77	14.46	129.75	-891.46	1,071.73	1,394.37	1,379.19	15.18
500.00	500.00	510.24	510.01	0.99	18.47	129.64	-887.97	1,071.73	1,392.14	1,372.74	19.40
600.00	600.00	610.18	609.89	1.22	22.48	129.53	-884.49	1,071.73	1,389.92	1,366.30	23.62
700.00	700.00	710.12	709.77	1.44	26.50	129.42	-881.00	1,071.73	1,387.70	1,359.86	27.84
800.00	800.00	810.06	809.64	1.67	30.51	129.31	-877.51	1,071.73	1,385.48	1,353.42	32.06
900.00	900.00	909.99	909.52	1.89	34.53	129.20	-874.02	1,071.73	1,383.27	1,346.99	36.28
1,000.00	1,000.00	1,009.93	1,009.40	2.12	38.54	129.09	-870.53	1,071.73	1,381.07	1,340.57	40.50
1,064.56	1,064.55	1,074.46	1,073.88	2.26	41.13	-167.21	-868.28	1,071.73	1,380.36	1,337.03	43.33
1,100.00	1,099.98	1,109.88	1,109.28	2.34	42.56	-167.26	-867.05	1,071.73	1,380.57	1,335.75	44.83
1,200.00	1,199.84	1,209.76	1,209.10	2.55	46.57	-167.41	-863.56	1,071.73	1,383.49	1,334.49	49.00
1,300.00	1,299.45	1,309.45	1,308.73	2.78	50.57	-167.57	-860.08	1,071.73	1,389.82	1,336.72	53.10
1,321.57	1,320.90	1,330.91	1,330.18	2.83	51.43	-167.61	-859.33	1,071.73	1,391.64	1,337.66	53.97

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - JAMES N. MATHISEN UNIT B #2 EXISTING - JAMES N. MATHISEN U												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
1,400.00	1,398.83	1,408.94	1,408.16	3.02	54.57	-167.77	-856.61	1,071.73	1,398.53	1,341.26	57.26	24.422	
1,500.00	1,498.20	1,508.42	1,507.58	3.28	58.56	-167.98	-853.14	1,071.73	1,407.33	1,345.86	61.46	22.897	
1,600.00	1,597.57	1,607.90	1,607.00	3.54	62.56	-168.19	-849.67	1,071.73	1,416.15	1,350.48	65.66	21.567	
1,700.00	1,696.94	1,707.38	1,706.43	3.81	66.56	-168.39	-846.19	1,071.73	1,424.98	1,355.12	69.87	20.396	
1,800.00	1,796.31	1,806.87	1,805.85	4.09	70.55	-168.59	-842.72	1,071.73	1,433.84	1,359.77	74.07	19.357	
1,900.00	1,895.68	1,906.35	1,905.27	4.37	74.55	-168.79	-839.25	1,071.73	1,442.71	1,364.43	78.28	18.431	
2,000.00	1,995.06	2,005.83	2,004.69	4.65	78.54	-168.98	-835.78	1,071.73	1,451.60	1,369.11	82.48	17.598	
2,100.00	2,094.43	2,105.32	2,104.11	4.93	82.54	-169.17	-832.31	1,071.73	1,460.50	1,373.81	86.69	16.847	
2,200.00	2,193.80	2,204.80	2,203.54	5.22	86.53	-169.36	-828.83	1,071.73	1,469.42	1,378.52	90.90	16.165	
2,300.00	2,293.17	2,304.28	2,302.96	5.51	90.53	-169.55	-825.36	1,071.73	1,478.36	1,383.25	95.11	15.544	
2,400.00	2,392.54	2,403.76	2,402.38	5.80	94.53	-169.74	-821.89	1,071.73	1,487.31	1,387.99	99.32	14.975	
2,500.00	2,491.91	2,503.25	2,501.80	6.10	98.52	-169.92	-818.42	1,071.73	1,496.28	1,392.75	103.53	14.453	
2,600.00	2,591.28	2,602.73	2,601.23	6.39	102.52	-170.10	-814.95	1,071.73	1,505.27	1,397.53	107.74	13.971	
2,700.00	2,690.65	2,702.21	2,700.65	6.69	106.51	-170.28	-811.47	1,071.73	1,514.26	1,402.31	111.95	13.526	
2,800.00	2,790.02	2,801.70	2,800.07	6.98	110.51	-170.46	-808.00	1,071.73	1,523.28	1,407.11	116.16	13.113	
2,900.00	2,889.39	2,901.18	2,899.49	7.28	114.51	-170.64	-804.53	1,071.73	1,532.30	1,411.93	120.37	12.730	
3,000.00	2,988.76	3,000.66	2,998.91	7.58	118.50	-170.81	-801.06	1,071.73	1,541.34	1,416.76	124.58	12.372	
3,100.00	3,088.13	3,100.14	3,098.34	7.88	122.50	-170.98	-797.59	1,071.73	1,550.40	1,421.61	128.79	12.038	
3,200.00	3,187.50	3,199.63	3,197.76	8.18	126.49	-171.15	-794.12	1,071.73	1,559.47	1,426.46	133.00	11.725	
3,300.00	3,286.87	3,299.11	3,297.18	8.48	130.49	-171.32	-790.64	1,071.73	1,568.55	1,431.33	137.22	11.431	
3,400.00	3,386.24	3,398.59	3,396.60	8.78	134.49	-171.48	-787.17	1,071.73	1,577.64	1,436.22	141.43	11.155	
3,500.00	3,485.62	3,498.08	3,496.03	9.08	138.48	-171.64	-783.70	1,071.73	1,586.75	1,441.11	145.64	10.895	
3,600.00	3,584.99	3,597.56	3,595.45	9.38	142.48	-171.81	-780.23	1,071.73	1,595.87	1,446.02	149.85	10.650	
3,700.00	3,684.36	3,697.04	3,694.87	9.68	146.47	-171.97	-776.76	1,071.73	1,605.01	1,450.94	154.06	10.418	
3,800.00	3,783.73	3,796.52	3,794.29	9.99	150.47	-172.12	-773.28	1,071.73	1,614.15	1,455.88	158.27	10.199	
3,900.00	3,883.10	3,896.01	3,893.71	10.29	154.46	-172.28	-769.81	1,071.73	1,623.31	1,460.82	162.48	9.991	
4,000.00	3,982.47	3,995.49	3,993.14	10.59	158.46	-172.43	-766.34	1,071.73	1,632.48	1,465.78	166.69	9.793	
4,100.00	4,081.84	4,094.97	4,092.56	10.90	162.46	-172.59	-762.87	1,071.73	1,641.66	1,470.75	170.91	9.606	
4,200.00	4,181.21	4,194.45	4,191.98	11.20	166.45	-172.74	-759.40	1,071.73	1,650.85	1,475.73	175.12	9.427	
4,300.00	4,280.58	4,293.94	4,291.40	11.50	170.45	-172.89	-755.92	1,071.73	1,660.05	1,480.73	179.33	9.257	
4,400.00	4,379.95	4,393.42	4,390.83	11.81	174.44	-173.03	-752.45	1,071.73	1,669.27	1,485.73	183.54	9.095	
4,500.00	4,479.32	4,492.90	4,490.25	12.11	178.44	-173.18	-748.98	1,071.73	1,678.49	1,490.74	187.75	8.940	
4,600.00	4,578.69	4,592.39	4,589.67	12.41	182.44	-173.32	-745.51	1,071.73	1,687.73	1,495.77	191.96	8.792	
4,700.00	4,678.06	4,691.87	4,689.09	12.72	186.43	-173.47	-742.04	1,071.73	1,696.98	1,500.80	196.17	8.650	
4,800.00	4,777.43	4,791.35	4,788.51	13.02	190.43	-173.61	-738.57	1,071.73	1,706.23	1,505.85	200.38	8.515	
4,900.00	4,876.80	4,890.83	4,887.94	13.33	194.42	-173.75	-735.09	1,071.73	1,715.50	1,510.91	204.59	8.385	
5,000.00	4,976.18	4,990.32	4,987.36	13.63	198.42	-173.89	-731.62	1,071.73	1,724.78	1,515.97	208.81	8.260	
5,100.00	5,075.55	5,089.80	5,086.78	13.93	202.42	-174.02	-728.15	1,071.73	1,734.06	1,521.05	213.02	8.141	
5,200.00	5,174.92	5,189.28	5,186.20	14.24	206.41	-174.16	-724.68	1,071.73	1,743.36	1,526.13	217.23	8.026	
5,300.00	5,274.29	5,288.77	5,285.63	14.54	210.41	-174.29	-721.21	1,071.73	1,752.67	1,531.23	221.44	7.915	
5,400.00	5,373.66	5,388.25	5,385.05	14.85	214.40	-174.42	-717.73	1,071.73	1,761.98	1,536.33	225.65	7.809	
5,500.00	5,473.03	5,487.73	5,484.47	15.15	218.40	-174.56	-714.26	1,071.73	1,771.31	1,541.45	229.86	7.706	
5,600.00	5,572.40	5,587.21	5,583.89	15.46	222.39	-174.69	-710.79	1,071.73	1,780.64	1,546.57	234.07	7.607	
5,700.00	5,671.77	5,686.70	5,683.31	15.76	226.39	-174.81	-707.32	1,071.73	1,789.98	1,551.70	238.28	7.512	
5,800.00	5,771.14	5,786.18	5,782.74	16.07	230.39	-174.94	-703.85	1,071.73	1,799.34	1,556.84	242.49	7.420	
5,829.15	5,800.10	5,815.18	5,811.71	16.16	231.55	-174.98	-702.83	1,071.73	1,802.06	1,558.34	243.72	7.394	
5,900.00	5,870.60	5,885.74	5,882.24	16.34	234.39	-175.07	-700.37	1,071.73	1,807.83	1,560.72	247.11	7.316	
6,000.00	5,970.35	5,985.54	5,981.97	16.54	238.39	-175.20	-696.89	1,071.73	1,813.00	1,561.30	251.70	7.203	
6,100.00	6,070.29	6,085.46	6,081.84	16.71	242.41	-175.30	-693.40	1,071.73	1,814.71	1,558.71	256.00	7.089	
6,150.72	6,121.00	6,136.15	6,132.50	16.78	244.44	120.87	-691.63	1,071.73	1,814.25	1,556.19	258.06	7.030	
6,200.00	6,170.28	6,185.41	6,181.72	16.86	246.42	120.82	-689.91	1,071.73	1,813.37	1,553.23	260.13	6.971	
6,300.00	6,270.28	6,285.35	6,281.60	17.04	250.44	120.72	-686.43	1,071.73	1,811.58	1,547.23	264.35	6.853	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - JAMES N. MATHISEN UNIT B #2 EXISTING - JAMES N. MATHISEN U													Offset Site Error: 0.00 ft
Survey Program: 0-UNKNOWN													Offset Well Error: 0.00 ft
Reference	Offset	Semi Major Axis		Distance									Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
6,400.00	6,370.28	6,385.29	6,381.48	17.21	254.45	120.63	-682.94	1,071.73	1,809.80	1,541.24	268.56	6.739	
6,500.00	6,470.28	6,485.22	6,481.35	17.39	258.46	120.53	-679.45	1,071.73	1,808.02	1,535.24	272.78	6.628	
6,600.00	6,570.28	6,585.16	6,581.23	17.57	262.48	120.44	-675.96	1,071.73	1,806.25	1,529.25	277.00	6.521	
6,700.00	6,670.28	6,685.10	6,681.11	17.75	266.49	120.34	-672.47	1,071.73	1,804.48	1,523.27	281.21	6.417	
6,800.00	6,770.28	6,785.04	6,780.99	17.93	270.51	120.25	-668.99	1,071.73	1,802.72	1,517.29	285.43	6.316	
6,900.00	6,870.28	6,884.98	6,880.87	18.11	274.52	120.15	-665.50	1,071.73	1,800.97	1,511.32	289.65	6.218	
7,000.00	6,970.28	6,984.92	6,980.75	18.29	278.54	120.06	-662.01	1,071.73	1,799.22	1,505.35	293.87	6.123	
7,100.00	7,070.28	7,084.86	7,080.62	18.47	282.55	119.96	-658.52	1,071.73	1,797.47	1,499.38	298.09	6.030	
7,200.00	7,170.28	7,184.80	7,180.50	18.66	286.56	119.86	-655.03	1,071.73	1,795.73	1,493.42	302.31	5.940	
7,300.00	7,270.28	7,284.74	7,280.38	18.84	290.58	119.77	-651.55	1,071.73	1,793.99	1,487.46	306.53	5.853	
7,400.00	7,370.28	7,384.68	7,380.26	19.03	294.59	119.67	-648.06	1,071.73	1,792.26	1,481.51	310.75	5.768	
7,500.00	7,470.28	7,484.62	7,480.14	19.22	298.61	119.57	-644.57	1,071.73	1,790.54	1,475.56	314.97	5.685	
7,600.00	7,570.28	7,584.55	7,580.02	19.40	302.62	119.48	-641.08	1,071.73	1,788.81	1,469.62	319.19	5.604	
7,700.00	7,670.28	7,684.49	7,679.89	19.59	306.64	119.38	-637.60	1,071.73	1,787.10	1,463.68	323.41	5.526	
7,800.00	7,770.28	7,784.43	7,779.77	19.78	310.65	119.28	-634.11	1,071.73	1,785.39	1,457.75	327.64	5.449	
7,900.00	7,870.28	7,884.37	7,879.65	19.97	314.66	119.18	-630.62	1,071.73	1,783.68	1,451.82	331.86	5.375	
8,000.00	7,970.28	7,984.31	7,979.53	20.16	318.68	119.09	-627.13	1,071.73	1,781.98	1,445.90	336.08	5.302	
8,067.72	8,038.00	8,051.99	8,047.16	20.29	321.40	119.02	-624.77	1,071.73	1,780.84	1,441.89	338.94	5.254 SF	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 10-12 - P_Riverbend 10-12 - PLAN #1 6-22-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.95	0.01	15.95	15.95				
100.00	100.00	100.00	100.00	0.10	1.70	89.95	0.01	15.95	15.95	14.16	1.80	8.885	
200.00	200.00	200.00	200.00	0.32	5.70	89.95	0.01	15.95	15.95	9.93	6.02	2.650	
300.00	300.00	300.00	300.00	0.55	9.70	89.95	0.01	15.95	15.95	5.71	10.25	1.557	
400.00	400.00	400.00	400.00	0.77	13.70	89.95	0.01	15.95	15.95	1.48	14.47	1.103	Level 2
500.00	500.00	500.00	500.00	0.99	17.70	89.95	0.01	15.95	15.95	-2.74	18.69	0.853	Level 1
600.00	600.00	600.00	600.00	1.22	21.70	89.95	0.01	15.95	15.95	-6.97	22.92	0.696	Level 1
700.00	700.00	700.00	700.00	1.44	25.70	89.95	0.01	15.95	15.95	-11.19	27.14	0.588	Level 1
800.00	800.00	800.00	800.00	1.67	29.70	89.95	0.01	15.95	15.95	-15.42	31.37	0.509	Level 1
900.00	900.00	900.00	900.00	1.89	33.70	89.95	0.01	15.95	15.95	-19.64	35.59	0.448	Level 1
1,000.00	1,000.00	1,000.00	1,000.00	2.12	37.70	89.95	0.01	15.95	15.95	-23.86	39.82	0.401	Level 1, CC, ES, SF
1,100.00	1,099.98	1,099.76	1,099.74	2.34	37.77	161.50	-1.67	16.39	18.12	-21.96	40.09	0.452	Level 1
1,200.00	1,199.84	1,198.92	1,198.76	2.55	33.98	175.92	-6.67	17.69	25.88	-10.57	36.45	0.710	Level 1
1,300.00	1,299.45	1,296.90	1,296.37	2.78	30.29	-173.38	-14.87	19.81	40.42	7.51	32.91	1.228	Level 2
1,321.57	1,320.90	1,317.83	1,317.18	2.83	29.52	-171.72	-17.04	20.38	44.44	12.27	32.17	1.381	Level 3
1,400.00	1,398.83	1,393.37	1,392.13	3.02	26.79	-166.94	-26.09	22.73	60.60	30.99	29.61	2.047	
1,500.00	1,498.20	1,490.58	1,488.39	3.28	23.47	-162.96	-39.25	26.14	82.87	56.46	26.41	3.137	
1,600.00	1,597.57	1,587.94	1,584.79	3.54	20.46	-160.66	-52.45	29.57	105.37	82.01	23.36	4.510	
1,700.00	1,696.94	1,685.31	1,681.20	3.81	17.91	-159.17	-65.65	33.00	127.98	107.43	20.55	6.227	
1,800.00	1,796.31	1,782.68	1,777.61	4.09	16.05	-158.13	-78.85	36.42	150.65	132.52	18.12	8.312	
1,900.00	1,895.68	1,880.04	1,874.01	4.37	15.12	-157.36	-92.06	39.85	173.35	157.01	16.34	10.610	
2,000.00	1,995.06	1,977.41	1,970.42	4.65	15.30	-156.77	-105.26	43.27	196.07	180.53	15.54	12.619	
2,100.00	2,094.43	2,074.78	2,066.83	4.93	16.53	-156.30	-118.46	46.70	218.81	202.83	15.98	13.693	
2,200.00	2,193.80	2,172.14	2,163.23	5.22	18.62	-155.92	-131.66	50.12	241.56	223.92	17.64	13.697	
2,300.00	2,293.17	2,269.51	2,259.64	5.51	21.32	-155.61	-144.86	53.55	264.31	244.18	20.13	13.128	
2,400.00	2,392.54	2,366.88	2,356.05	5.80	24.42	-155.34	-158.06	56.98	287.08	263.89	23.19	12.380	
2,500.00	2,491.91	2,464.24	2,452.45	6.10	27.81	-155.11	-171.26	60.40	309.85	283.27	26.57	11.660	
2,600.00	2,591.28	2,561.61	2,548.86	6.39	31.38	-154.92	-184.46	63.83	332.62	302.46	30.16	11.027	
2,700.00	2,690.65	2,658.98	2,645.27	6.69	35.07	-154.75	-197.66	67.25	355.40	321.51	33.88	10.489	
2,800.00	2,790.02	2,756.34	2,741.67	6.98	38.86	-154.60	-210.86	70.68	378.18	340.49	37.69	10.035	
2,900.00	2,889.39	2,853.71	2,838.08	7.28	42.72	-154.47	-224.06	74.10	400.96	359.41	41.55	9.650	
3,000.00	2,988.76	2,951.08	2,934.49	7.58	46.62	-154.35	-237.26	77.53	423.74	378.28	45.46	9.322	
3,100.00	3,088.13	3,048.44	3,030.89	7.88	50.57	-154.24	-250.46	80.96	446.52	397.13	49.40	9.040	
3,200.00	3,187.50	3,145.81	3,127.30	8.18	54.55	-154.15	-263.66	84.38	469.31	415.95	53.36	8.796	
3,300.00	3,286.87	3,243.18	3,223.71	8.48	58.55	-154.06	-276.87	87.81	492.10	434.76	57.34	8.582	
3,400.00	3,386.24	3,340.54	3,320.11	8.78	62.56	-153.98	-290.07	91.23	514.88	453.55	61.34	8.395	
3,500.00	3,485.62	3,437.91	3,416.52	9.08	66.60	-153.91	-303.27	94.66	537.67	472.33	65.34	8.228	
3,600.00	3,584.99	3,535.28	3,512.93	9.38	70.65	-153.84	-316.47	98.09	560.46	491.10	69.36	8.080	
3,700.00	3,684.36	3,632.64	3,609.33	9.68	74.71	-153.78	-329.67	101.51	583.25	509.87	73.39	7.948	
3,800.00	3,783.73	3,730.01	3,705.74	9.99	78.77	-153.72	-342.87	104.94	606.04	528.62	77.42	7.828	
3,900.00	3,883.10	3,827.38	3,802.15	10.29	82.85	-153.67	-356.07	108.36	628.83	547.38	81.46	7.720	
4,000.00	3,982.47	3,924.74	3,898.56	10.59	86.93	-153.62	-369.27	111.79	651.63	566.13	85.50	7.621	
4,100.00	4,081.84	4,022.11	3,994.96	10.90	91.02	-153.58	-382.47	115.21	674.42	584.87	89.55	7.531	
4,200.00	4,181.21	4,119.48	4,091.37	11.20	95.12	-153.53	-395.67	118.64	697.21	603.61	93.60	7.449	
4,300.00	4,280.58	4,216.84	4,187.78	11.50	99.22	-153.49	-408.87	122.07	720.00	622.35	97.65	7.373	
4,400.00	4,379.95	4,338.37	4,308.34	11.81	104.24	-153.50	-423.63	125.90	741.54	638.88	102.66	7.223	
4,500.00	4,479.32	4,468.05	4,437.56	12.11	109.37	-153.68	-433.97	128.58	759.11	651.11	108.01	7.028	
4,600.00	4,578.69	4,599.32	4,568.73	12.41	114.34	-154.02	-438.67	129.80	772.56	659.13	113.43	6.811	
4,700.00	4,678.06	4,708.65	4,678.06	12.72	112.07	-154.41	-438.94	129.87	782.85	671.59	111.26	7.036	
4,800.00	4,777.43	4,808.02	4,777.43	13.02	108.72	-154.76	-438.94	129.87	792.98	685.06	107.92	7.348	
4,900.00	4,876.80	4,907.39	4,876.80	13.33	105.42	-155.10	-438.94	129.87	803.14	698.53	104.61	7.677	
5,000.00	4,976.18	5,006.77	4,976.18	13.63	102.16	-155.43	-438.94	129.87	813.32	711.99	101.34	8.026	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 10-12 - P_Riverbend 10-12 - PLAN #1 6-22-10 RHS											Offset Site Error: 0.00 ft		
Survey Program: 0-UNKNOWN											Offset Well Error: 0.00 ft		
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	5,075.55	5,106.14	5,075.55	13.93	98.96	-155.75	-438.94	129.87	823.53	725.44	98.10	8.395	
5,200.00	5,174.92	5,205.51	5,174.92	14.24	95.81	-156.07	-438.94	129.87	833.77	738.87	94.90	8.786	
5,300.00	5,274.29	5,304.88	5,274.29	14.54	92.73	-156.38	-438.94	129.87	844.03	752.28	91.75	9.199	
5,400.00	5,373.66	5,404.25	5,373.66	14.85	89.72	-156.68	-438.94	129.87	854.32	765.67	88.65	9.637	
5,500.00	5,473.03	5,503.62	5,473.03	15.15	86.78	-156.97	-438.94	129.87	864.62	779.01	85.61	10.099	
5,600.00	5,572.40	5,602.99	5,572.40	15.46	83.94	-157.26	-438.94	129.87	874.95	792.31	82.64	10.587	
5,700.00	5,671.77	5,702.36	5,671.77	15.76	81.18	-157.54	-438.94	129.87	885.30	805.55	79.75	11.101	
5,800.00	5,771.14	5,801.73	5,771.14	16.07	78.53	-157.81	-438.94	129.87	895.68	818.72	76.95	11.639	
5,829.15	5,800.10	5,830.69	5,800.10	16.16	77.79	-157.89	-438.94	129.87	898.70	822.53	76.17	11.799	
5,900.00	5,870.60	5,901.19	5,870.60	16.34	76.00	-158.11	-438.94	129.87	905.26	830.59	74.66	12.125	
6,000.00	5,970.35	6,000.94	5,970.35	16.54	73.58	-158.32	-438.94	129.87	911.76	839.14	72.62	12.555	
6,100.00	6,070.29	6,100.87	6,070.29	16.71	71.31	-158.43	-438.94	129.87	915.03	844.41	70.62	12.957	
6,150.72	6,121.00	6,151.59	6,121.00	16.78	70.23	137.78	-438.94	129.87	915.44	845.81	69.64	13.146	
6,200.00	6,170.28	6,200.87	6,170.28	16.86	69.18	137.78	-438.94	129.87	915.44	847.02	68.43	13.378	
6,300.00	6,270.28	6,300.87	6,270.28	17.04	67.23	137.78	-438.94	129.87	915.44	849.28	66.16	13.836	
6,400.00	6,370.28	6,400.87	6,370.28	17.21	65.47	137.78	-438.94	129.87	915.44	851.34	64.10	14.281	
6,500.00	6,470.28	6,500.87	6,470.28	17.39	63.91	137.78	-438.94	129.87	915.44	853.17	62.27	14.701	
6,600.00	6,570.28	6,600.87	6,570.28	17.57	62.56	137.78	-438.94	129.87	915.44	854.74	60.71	15.080	
6,700.00	6,670.28	6,700.87	6,670.28	17.75	61.45	137.78	-438.94	129.87	915.44	856.01	59.44	15.402	
6,800.00	6,770.28	6,800.87	6,770.28	17.93	60.58	137.78	-438.94	129.87	915.44	856.96	58.49	15.652	
6,900.00	6,870.28	6,900.87	6,870.28	18.11	59.96	137.78	-438.94	129.87	915.44	857.55	57.89	15.813	
7,000.00	6,970.28	7,000.87	6,970.28	18.29	59.61	137.78	-438.94	129.87	915.44	857.77	57.67	15.874	
7,100.00	7,070.28	7,100.87	7,070.28	18.47	59.53	137.78	-438.94	129.87	915.44	857.61	57.83	15.830	
7,200.00	7,170.28	7,200.87	7,170.28	18.66	59.71	137.78	-438.94	129.87	915.44	857.07	58.37	15.682	
7,300.00	7,270.28	7,300.87	7,270.28	18.84	60.16	137.78	-438.94	129.87	915.44	856.15	59.29	15.439	
7,400.00	7,370.28	7,400.87	7,370.28	19.03	60.87	137.78	-438.94	129.87	915.44	854.87	60.57	15.113	
7,500.00	7,470.28	7,500.87	7,470.28	19.22	61.83	137.78	-438.94	129.87	915.44	853.27	62.18	14.723	
7,600.00	7,570.28	7,600.87	7,570.28	19.40	63.03	137.78	-438.94	129.87	915.44	851.36	64.09	14.284	
7,700.00	7,670.28	7,700.87	7,670.28	19.59	64.46	137.78	-438.94	129.87	915.44	849.18	66.27	13.814	
7,800.00	7,770.28	7,800.87	7,770.28	19.78	66.09	137.78	-438.94	129.87	915.44	846.76	68.69	13.328	
7,900.00	7,870.28	7,900.87	7,870.28	19.97	67.93	137.78	-438.94	129.87	915.44	844.13	71.32	12.836	
8,000.00	7,970.28	8,000.87	7,970.28	20.16	69.94	137.78	-438.94	129.87	915.44	841.32	74.13	12.350	
8,067.72	8,038.00	8,068.59	8,038.00	20.29	71.41	137.78	-438.94	129.87	915.44	839.32	76.13	12.025	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 22-12 - P_Riverbend 22-12 - PLAN #1 6-22-10 RHS													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Reference	Offset	Semi Major Axis		Distance									Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-90.65	-0.36	-31.91	31.91				
100.00	100.00	100.00	100.00	0.10	0.10	-90.65	-0.36	-31.91	31.91	31.72	0.19	167.019	
200.00	200.00	200.00	200.00	0.32	0.32	-90.65	-0.36	-31.91	31.91	31.27	0.64	49.813	
300.00	300.00	300.00	300.00	0.55	0.55	-90.65	-0.36	-31.91	31.91	30.82	1.09	29.271	
400.00	400.00	400.00	400.00	0.77	0.77	-90.65	-0.36	-31.91	31.91	30.37	1.54	20.725	
500.00	500.00	500.00	500.00	0.99	0.99	-90.65	-0.36	-31.91	31.91	29.92	1.99	16.041	
600.00	600.00	600.00	600.00	1.22	1.22	-90.65	-0.36	-31.91	31.91	29.47	2.44	13.084	
700.00	700.00	700.00	700.00	1.44	1.44	-90.65	-0.36	-31.91	31.91	29.02	2.89	11.048	
800.00	800.00	800.00	800.00	1.67	1.67	-90.65	-0.36	-31.91	31.91	28.57	3.34	9.560	
900.00	900.00	900.00	900.00	1.89	1.89	-90.65	-0.36	-31.91	31.91	28.12	3.79	8.425	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.65	-0.36	-31.91	31.91	27.67	4.24	7.531 CC	
1,100.00	1,099.98	1,098.90	1,098.88	2.34	2.33	-27.95	-0.21	-33.61	32.07	27.41	4.66	6.881 ES	
1,200.00	1,199.84	1,197.78	1,197.62	2.55	2.54	-31.10	0.27	-38.70	32.64	27.57	5.07	6.441	
1,300.00	1,299.45	1,296.61	1,296.08	2.78	2.75	-36.09	1.05	-47.18	33.79	28.31	5.48	6.163	
1,321.57	1,320.90	1,317.92	1,317.27	2.83	2.81	-37.36	1.26	-49.46	34.14	28.57	5.57	6.125 SF	
1,400.00	1,398.83	1,395.37	1,394.12	3.02	2.99	-41.34	2.15	-59.03	36.60	30.68	5.92	6.179	
1,500.00	1,498.20	1,493.91	1,491.46	3.28	3.26	-43.96	3.55	-74.20	42.76	36.38	6.38	6.701	
1,600.00	1,597.57	1,591.98	1,587.78	3.54	3.57	-44.33	5.26	-92.59	52.10	45.25	6.85	7.603	
1,700.00	1,696.94	1,689.38	1,682.75	3.81	3.92	-43.38	7.25	-114.10	64.56	57.22	7.33	8.806	
1,800.00	1,796.31	1,785.88	1,776.06	4.09	4.32	-41.85	9.51	-138.57	80.14	72.33	7.82	10.254	
1,900.00	1,895.68	1,881.29	1,867.45	4.37	4.78	-40.17	12.04	-165.82	98.87	90.57	8.30	11.907	
2,000.00	1,995.06	1,975.40	1,956.66	4.65	5.29	-38.55	14.80	-195.66	120.74	111.95	8.80	13.726	
2,100.00	2,094.43	2,068.05	2,043.48	4.93	5.85	-37.08	17.78	-227.87	145.72	136.42	9.29	15.681	
2,200.00	2,193.80	2,159.09	2,127.72	5.22	6.47	-35.77	20.96	-262.22	173.74	163.95	9.79	17.744	
2,300.00	2,293.17	2,248.88	2,209.70	5.51	7.13	-34.62	24.34	-298.69	204.74	194.45	10.29	19.889	
2,400.00	2,392.54	2,343.46	2,295.55	5.80	7.88	-33.65	28.00	-338.23	237.02	226.20	10.82	21.903	
2,500.00	2,491.91	2,438.05	2,381.39	6.10	8.65	-32.91	31.66	-377.76	269.34	257.98	11.36	23.720	
2,600.00	2,591.28	2,532.63	2,467.24	6.39	9.43	-32.33	35.32	-417.30	301.69	289.80	11.90	25.361	
2,700.00	2,690.65	2,627.21	2,553.08	6.69	10.22	-31.86	38.99	-456.84	334.07	321.62	12.44	26.850	
2,800.00	2,790.02	2,721.79	2,638.93	6.98	11.02	-31.48	42.65	-496.38	366.46	353.46	12.99	28.204	
2,900.00	2,889.39	2,816.38	2,724.77	7.28	11.82	-31.15	46.31	-535.91	398.86	385.31	13.55	29.440	
3,000.00	2,988.76	2,910.96	2,810.61	7.58	12.63	-30.88	49.97	-575.45	431.27	417.17	14.11	30.572	
3,100.00	3,088.13	3,005.54	2,896.46	7.88	13.44	-30.64	53.63	-614.99	463.69	449.02	14.67	31.611	
3,200.00	3,187.50	3,100.12	2,982.30	8.18	14.26	-30.44	57.29	-654.52	496.12	480.89	15.23	32.568	
3,300.00	3,286.87	3,194.71	3,068.15	8.48	15.08	-30.26	60.95	-694.06	528.55	512.75	15.80	33.452	
3,400.00	3,386.24	3,289.29	3,153.99	8.78	15.91	-30.10	64.61	-733.60	560.99	544.62	16.37	34.270	
3,500.00	3,485.62	3,383.87	3,239.84	9.08	16.73	-29.96	68.28	-773.13	593.43	576.48	16.94	35.030	
3,600.00	3,584.99	3,478.45	3,325.68	9.38	17.56	-29.83	71.94	-812.67	625.87	608.35	17.51	35.736	
3,700.00	3,684.36	3,573.04	3,411.53	9.68	18.39	-29.71	75.60	-852.21	658.31	640.22	18.09	36.395	
3,800.00	3,783.73	3,667.62	3,497.37	9.99	19.22	-29.61	79.26	-891.74	690.76	672.10	18.66	37.011	
3,900.00	3,883.10	3,762.20	3,583.22	10.29	20.05	-29.52	82.92	-931.28	723.21	703.97	19.24	37.587	
4,000.00	3,982.47	3,856.78	3,669.06	10.59	20.88	-29.43	86.58	-970.82	755.66	735.84	19.82	38.128	
4,100.00	4,081.84	3,951.37	3,754.91	10.90	21.71	-29.35	90.24	-1,010.35	788.11	767.71	20.40	38.636	
4,200.00	4,181.21	4,045.95	3,840.75	11.20	22.55	-29.28	93.90	-1,049.89	820.56	799.58	20.98	39.114	
4,300.00	4,280.58	4,140.53	3,926.60	11.50	23.38	-29.21	97.57	-1,089.43	853.02	831.46	21.56	39.566	
4,400.00	4,379.95	4,235.12	4,012.44	11.81	24.22	-29.15	101.23	-1,128.96	885.47	863.33	22.14	39.992	
4,500.00	4,479.32	4,329.70	4,098.29	12.11	25.06	-29.09	104.89	-1,168.50	917.93	895.20	22.72	40.395	
4,600.00	4,578.69	4,424.28	4,184.13	12.41	25.89	-29.03	108.55	-1,208.04	950.38	927.08	23.31	40.776	
4,700.00	4,678.06	4,518.86	4,269.97	12.72	26.73	-28.98	112.21	-1,247.57	982.84	958.95	23.89	41.138	
4,800.00	4,777.43	4,613.45	4,355.82	13.02	27.57	-28.94	115.87	-1,287.11	1,015.30	990.82	24.48	41.482	
4,900.00	4,876.80	4,708.03	4,441.66	13.33	28.41	-28.89	119.53	-1,326.65	1,047.76	1,022.70	25.06	41.809	
5,000.00	4,976.18	4,802.61	4,527.51	13.63	29.25	-28.85	123.20	-1,366.18	1,080.22	1,054.57	25.65	42.120	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 22-12 - P_Riverbend 22-12 - PLAN #1 6-22-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,075.55	4,897.19	4,613.35	13.93	30.08	-28.81	126.86	-1,405.72	1,112.68	1,086.44	26.23	42.417	
5,200.00	5,174.92	4,991.78	4,699.20	14.24	30.92	-28.77	130.52	-1,445.26	1,145.14	1,118.32	26.82	42.700	
5,300.00	5,274.29	5,086.36	4,785.04	14.54	31.76	-28.74	134.18	-1,484.79	1,177.60	1,150.19	27.40	42.970	
5,400.00	5,373.66	5,180.94	4,870.89	14.85	32.60	-28.71	137.84	-1,524.33	1,210.06	1,182.06	27.99	43.229	
5,500.00	5,473.03	5,275.52	4,956.73	15.15	33.44	-28.67	141.50	-1,563.87	1,242.52	1,213.94	28.58	43.476	
5,600.00	5,572.40	5,438.68	5,106.53	15.46	34.56	-28.65	147.46	-1,628.21	1,272.63	1,243.27	29.36	43.347	
5,700.00	5,671.77	5,613.10	5,270.44	15.76	35.58	-28.70	152.95	-1,687.48	1,297.05	1,266.91	30.15	43.026	
5,800.00	5,771.14	5,792.23	5,442.23	16.07	36.45	-28.81	157.62	-1,737.91	1,315.51	1,284.60	30.91	42.557	
5,829.15	5,800.10	5,845.15	5,493.55	16.16	36.67	-28.85	158.81	-1,750.75	1,319.74	1,288.61	31.13	42.397	
5,900.00	5,870.60	5,974.69	5,620.12	16.34	37.15	-29.04	161.35	-1,778.19	1,328.56	1,297.02	31.54	42.127	
6,000.00	5,970.35	6,159.19	5,802.25	16.54	37.68	-29.22	164.05	-1,807.36	1,338.22	1,306.22	32.00	41.823	
6,100.00	6,070.29	6,345.14	5,987.33	16.71	38.04	-29.31	165.67	-1,824.90	1,344.53	1,312.19	32.35	41.568	
6,150.72	6,121.00	6,439.81	6,081.89	16.78	38.16	-93.11	166.07	-1,829.22	1,346.45	1,313.96	32.48	41.454	
6,200.00	6,170.28	6,528.21	6,170.28	16.86	38.23	-93.10	166.19	-1,830.45	1,347.10	1,314.40	32.70	41.201	
6,300.00	6,270.28	6,628.21	6,270.28	17.04	38.31	-93.10	166.19	-1,830.45	1,347.10	1,314.06	33.03	40.779	
6,400.00	6,370.28	6,728.21	6,370.28	17.21	38.39	-93.10	166.19	-1,830.45	1,347.10	1,313.72	33.38	40.358	
6,500.00	6,470.28	6,828.21	6,470.28	17.39	38.47	-93.10	166.19	-1,830.45	1,347.10	1,313.37	33.73	39.943	
6,600.00	6,570.28	6,928.21	6,570.28	17.57	38.55	-93.10	166.19	-1,830.45	1,347.10	1,313.02	34.07	39.534	
6,700.00	6,670.28	7,028.21	6,670.28	17.75	38.63	-93.10	166.19	-1,830.45	1,347.10	1,312.67	34.43	39.131	
6,800.00	6,770.28	7,128.21	6,770.28	17.93	38.71	-93.10	166.19	-1,830.45	1,347.10	1,312.32	34.78	38.733	
6,900.00	6,870.28	7,228.21	6,870.28	18.11	38.80	-93.10	166.19	-1,830.45	1,347.10	1,311.96	35.13	38.341	
7,000.00	6,970.28	7,328.21	6,970.28	18.29	38.88	-93.10	166.19	-1,830.45	1,347.10	1,311.61	35.49	37.955	
7,100.00	7,070.28	7,428.21	7,070.28	18.47	38.97	-93.10	166.19	-1,830.45	1,347.10	1,311.25	35.85	37.575	
7,200.00	7,170.28	7,528.21	7,170.28	18.66	39.06	-93.10	166.19	-1,830.45	1,347.10	1,310.89	36.21	37.200	
7,300.00	7,270.28	7,628.21	7,270.28	18.84	39.14	-93.10	166.19	-1,830.45	1,347.10	1,310.52	36.58	36.831	
7,400.00	7,370.28	7,728.21	7,370.28	19.03	39.23	-93.10	166.19	-1,830.45	1,347.10	1,310.16	36.94	36.467	
7,500.00	7,470.28	7,828.21	7,470.28	19.22	39.33	-93.10	166.19	-1,830.45	1,347.10	1,309.79	37.31	36.109	
7,600.00	7,570.28	7,928.21	7,570.28	19.40	39.42	-93.10	166.19	-1,830.45	1,347.10	1,309.42	37.68	35.756	
7,700.00	7,670.28	8,028.21	7,670.28	19.59	39.51	-93.10	166.19	-1,830.45	1,347.10	1,309.05	38.05	35.408	
7,800.00	7,770.28	8,128.21	7,770.28	19.78	39.60	-93.10	166.19	-1,830.45	1,347.10	1,308.68	38.42	35.065	
7,900.00	7,870.28	8,228.21	7,870.28	19.97	39.70	-93.10	166.19	-1,830.45	1,347.10	1,308.31	38.79	34.728	
8,000.00	7,970.28	8,328.21	7,970.28	20.16	39.80	-93.10	166.19	-1,830.45	1,347.10	1,307.93	39.16	34.396	
8,067.72	8,038.00	8,395.93	8,038.00	20.29	39.86	-93.10	166.19	-1,830.45	1,347.10	1,307.68	39.42	34.174	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 23-12 - P_Riverbend 23-12 - PLAN #1 6-22-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-15.95	15.95				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-15.95	15.95	15.76	0.19	83.504	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-15.95	15.95	15.31	0.64	24.905	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-15.95	15.95	14.86	1.09	14.635	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-15.95	15.95	14.41	1.54	10.362	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-15.95	15.95	13.96	1.99	8.020	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-15.95	15.95	13.51	2.44	6.542	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-15.95	15.95	13.07	2.89	5.524	
800.00	800.00	800.00	800.00	1.67	1.67	-90.00	0.00	-15.95	15.95	12.62	3.34	4.780	
900.00	900.00	900.00	900.00	1.89	1.89	-90.00	0.00	-15.95	15.95	12.17	3.79	4.212	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.00	0.00	-15.95	15.95	11.72	4.24	3.765	
1,100.00	1,099.98	1,099.70	1,099.68	2.34	2.32	-34.96	-1.56	-16.71	15.33	10.68	4.65	3.297	
1,145.28	1,145.21	1,144.74	1,144.67	2.43	2.40	-45.21	-3.29	-17.55	15.08	10.26	4.83	3.126 CC, ES, SF	
1,200.00	1,199.84	1,199.03	1,198.87	2.55	2.49	-62.23	-6.21	-18.98	15.78	10.74	5.04	3.132	
1,300.00	1,299.45	1,297.64	1,297.11	2.78	2.69	-93.06	-13.89	-22.71	22.66	17.21	5.46	4.154	
1,321.57	1,320.90	1,318.78	1,318.13	2.83	2.73	-97.97	-15.93	-23.70	25.21	19.66	5.55	4.544	
1,400.00	1,398.83	1,395.32	1,394.06	3.02	2.90	-109.32	-24.49	-27.87	36.84	30.96	5.89	6.259	
1,500.00	1,498.20	1,492.06	1,489.65	3.28	3.14	-114.86	-37.91	-34.39	55.37	49.03	6.34	8.738	
1,600.00	1,597.57	1,587.69	1,583.57	3.54	3.42	-116.46	-54.02	-42.23	77.07	70.26	6.81	11.321	
1,700.00	1,696.94	1,682.00	1,675.57	3.81	3.74	-116.51	-72.66	-51.30	101.66	94.37	7.30	13.934	
1,800.00	1,796.31	1,774.82	1,765.41	4.09	4.10	-115.90	-93.65	-61.51	129.08	121.28	7.80	16.551	
1,900.00	1,895.68	1,869.97	1,857.00	4.37	4.52	-115.17	-116.83	-72.79	158.23	149.91	8.32	19.008	
2,000.00	1,995.06	1,965.60	1,949.05	4.65	4.97	-114.66	-140.15	-84.13	187.43	178.56	8.86	21.147	
2,100.00	2,094.43	2,061.24	2,041.10	4.93	5.43	-114.29	-163.48	-95.47	216.63	207.22	9.41	23.018	
2,200.00	2,193.80	2,156.87	2,133.15	5.22	5.90	-114.01	-186.80	-106.82	245.84	235.87	9.97	24.663	
2,300.00	2,293.17	2,252.50	2,225.20	5.51	6.39	-113.79	-210.12	-118.16	275.06	264.52	10.53	26.117	
2,400.00	2,392.54	2,348.13	2,317.25	5.80	6.88	-113.61	-233.44	-129.51	304.27	293.17	11.10	27.409	
2,500.00	2,491.91	2,443.77	2,409.29	6.10	7.38	-113.46	-256.76	-140.85	333.49	321.82	11.68	28.562	
2,600.00	2,591.28	2,539.40	2,501.34	6.39	7.89	-113.34	-280.08	-152.19	362.72	350.46	12.26	29.597	
2,700.00	2,690.65	2,635.03	2,593.39	6.69	8.40	-113.23	-303.40	-163.54	391.94	379.10	12.84	30.529	
2,800.00	2,790.02	2,730.66	2,685.44	6.98	8.91	-113.14	-326.72	-174.88	421.16	407.74	13.42	31.373	
2,900.00	2,889.39	2,826.30	2,777.49	7.28	9.43	-113.06	-350.05	-186.23	450.39	436.38	14.01	32.140	
3,000.00	2,988.76	2,921.93	2,869.54	7.58	9.95	-112.99	-373.37	-197.57	479.62	465.01	14.60	32.840	
3,100.00	3,088.13	3,017.56	2,961.59	7.88	10.47	-112.93	-396.69	-208.91	508.84	493.64	15.20	33.480	
3,200.00	3,187.50	3,113.19	3,053.64	8.18	10.99	-112.88	-420.01	-220.26	538.07	522.28	15.79	34.068	
3,300.00	3,286.87	3,208.82	3,145.68	8.48	11.52	-112.83	-443.33	-231.60	567.30	550.91	16.39	34.610	
3,400.00	3,386.24	3,304.46	3,237.73	8.78	12.05	-112.78	-466.65	-242.95	596.53	579.54	16.99	35.110	
3,500.00	3,485.62	3,400.09	3,329.78	9.08	12.57	-112.74	-489.97	-254.29	625.75	608.16	17.59	35.573	
3,600.00	3,584.99	3,495.72	3,421.83	9.38	13.10	-112.70	-513.29	-265.64	654.98	636.79	18.19	36.004	
3,700.00	3,684.36	3,591.35	3,513.88	9.68	13.63	-112.67	-536.61	-276.98	684.21	665.42	18.79	36.404	
3,800.00	3,783.73	3,686.99	3,605.93	9.99	14.16	-112.64	-559.94	-288.32	713.44	694.04	19.40	36.778	
3,900.00	3,883.10	3,782.62	3,697.98	10.29	14.70	-112.61	-583.26	-299.67	742.67	722.67	20.00	37.128	
4,000.00	3,982.47	3,878.25	3,790.03	10.59	15.23	-112.59	-606.58	-311.01	771.90	751.29	20.61	37.455	
4,100.00	4,081.84	3,973.88	3,882.07	10.90	15.76	-112.56	-629.90	-322.36	801.13	779.91	21.21	37.763	
4,200.00	4,181.21	4,069.52	3,974.12	11.20	16.29	-112.54	-653.22	-333.70	830.36	808.53	21.82	38.052	
4,300.00	4,280.58	4,165.15	4,066.17	11.50	16.83	-112.52	-676.54	-345.04	859.59	837.16	22.43	38.324	
4,400.00	4,379.95	4,260.78	4,158.22	11.81	17.36	-112.50	-699.86	-356.39	888.82	865.78	23.04	38.581	
4,500.00	4,479.32	4,356.41	4,250.27	12.11	17.90	-112.48	-723.18	-367.73	918.05	894.40	23.65	38.824	
4,600.00	4,578.69	4,452.05	4,342.32	12.41	18.43	-112.46	-746.51	-379.08	947.28	923.02	24.26	39.054	
4,700.00	4,678.06	4,547.68	4,434.37	12.72	18.97	-112.45	-769.83	-390.42	976.51	951.64	24.87	39.272	
4,800.00	4,777.43	4,643.31	4,526.42	13.02	19.50	-112.43	-793.15	-401.77	1,005.74	980.26	25.48	39.479	
4,900.00	4,876.80	4,738.94	4,618.46	13.33	20.04	-112.42	-816.47	-413.11	1,034.97	1,008.88	26.09	39.675	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 23-12 - P_Riverbend 23-12 - PLAN #1 6-22-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,976.18	4,834.57	4,710.51	13.63	20.58	-112.40	-839.79	-424.45	1,064.20	1,037.50	26.70	39.862	
5,100.00	5,075.55	4,930.21	4,802.56	13.93	21.11	-112.39	-863.11	-435.80	1,093.43	1,066.12	27.31	40.040	
5,200.00	5,174.92	5,025.84	4,894.61	14.24	21.65	-112.38	-886.43	-447.14	1,122.66	1,094.74	27.92	40.210	
5,300.00	5,274.29	5,121.47	4,986.66	14.54	22.19	-112.37	-909.75	-458.49	1,151.89	1,123.35	28.53	40.372	
5,400.00	5,373.66	5,217.10	5,078.71	14.85	22.73	-112.35	-933.07	-469.83	1,181.12	1,151.97	29.14	40.527	
5,500.00	5,473.03	5,312.74	5,170.76	15.15	23.26	-112.34	-956.40	-481.17	1,210.35	1,180.59	29.76	40.675	
5,600.00	5,572.40	5,408.37	5,262.81	15.46	23.80	-112.33	-979.72	-492.52	1,239.58	1,209.21	30.37	40.817	
5,700.00	5,671.77	5,504.00	5,354.85	15.76	24.34	-112.32	-1,003.04	-503.86	1,268.81	1,237.83	30.98	40.953	
5,800.00	5,771.14	5,601.11	5,507.05	16.07	25.01	-112.38	-1,038.05	-520.89	1,296.00	1,264.27	31.73	40.844	
5,829.15	5,800.10	5,709.70	5,554.52	16.16	25.18	-112.42	-1,047.36	-525.42	1,302.97	1,271.02	31.95	40.787	
5,900.00	5,870.60	5,829.38	5,672.14	16.34	25.54	-112.81	-1,067.18	-535.06	1,317.72	1,285.22	32.49	40.553	
6,000.00	5,970.35	6,001.50	5,842.68	16.54	25.97	-113.18	-1,087.91	-545.15	1,332.79	1,299.64	33.15	40.207	
6,100.00	6,070.29	6,176.14	6,016.82	16.71	26.27	-113.36	-1,099.50	-550.78	1,340.97	1,307.28	33.69	39.804	
6,150.72	6,121.00	6,265.21	6,105.85	16.78	26.39	-177.16	-1,101.73	-551.87	1,342.45	1,308.52	33.93	39.569	
6,200.00	6,170.28	6,329.64	6,170.28	16.86	26.46	-177.15	-1,101.92	-551.96	1,342.56	1,308.45	34.11	39.365	
6,300.00	6,270.28	6,429.64	6,270.28	17.04	26.56	-177.15	-1,101.92	-551.96	1,342.56	1,308.13	34.43	38.992	
6,400.00	6,370.28	6,529.64	6,370.28	17.21	26.65	-177.15	-1,101.92	-551.96	1,342.56	1,307.80	34.76	38.628	
6,500.00	6,470.28	6,629.64	6,470.28	17.39	26.74	-177.15	-1,101.92	-551.96	1,342.56	1,307.48	35.08	38.269	
6,600.00	6,570.28	6,729.64	6,570.28	17.57	26.84	-177.15	-1,101.92	-551.96	1,342.56	1,307.15	35.41	37.913	
6,700.00	6,670.28	6,829.64	6,670.28	17.75	26.94	-177.15	-1,101.92	-551.96	1,342.56	1,306.81	35.74	37.560	
6,800.00	6,770.28	6,929.64	6,770.28	17.93	27.04	-177.15	-1,101.92	-551.96	1,342.56	1,306.48	36.08	37.212	
6,900.00	6,870.28	7,029.64	6,870.28	18.11	27.14	-177.15	-1,101.92	-551.96	1,342.56	1,306.14	36.42	36.868	
7,000.00	6,970.28	7,129.64	6,970.28	18.29	27.24	-177.15	-1,101.92	-551.96	1,342.56	1,305.80	36.75	36.528	
7,100.00	7,070.28	7,229.64	7,070.28	18.47	27.34	-177.15	-1,101.92	-551.96	1,342.56	1,305.46	37.10	36.191	
7,200.00	7,170.28	7,329.64	7,170.28	18.66	27.45	-177.15	-1,101.92	-551.96	1,342.56	1,305.12	37.44	35.859	
7,300.00	7,270.28	7,429.64	7,270.28	18.84	27.56	-177.15	-1,101.92	-551.96	1,342.56	1,304.77	37.79	35.530	
7,400.00	7,370.28	7,529.64	7,370.28	19.03	27.66	-177.15	-1,101.92	-551.96	1,342.56	1,304.42	38.13	35.206	
7,500.00	7,470.28	7,629.64	7,470.28	19.22	27.77	-177.15	-1,101.92	-551.96	1,342.56	1,304.07	38.48	34.886	
7,600.00	7,570.28	7,729.64	7,570.28	19.40	27.88	-177.15	-1,101.92	-551.96	1,342.56	1,303.72	38.84	34.569	
7,700.00	7,670.28	7,829.64	7,670.28	19.59	28.00	-177.15	-1,101.92	-551.96	1,342.56	1,303.37	39.19	34.257	
7,800.00	7,770.28	7,929.64	7,770.28	19.78	28.11	-177.15	-1,101.92	-551.96	1,342.56	1,303.01	39.55	33.948	
7,900.00	7,870.28	8,029.64	7,870.28	19.97	28.23	-177.15	-1,101.92	-551.96	1,342.56	1,302.65	39.90	33.644	
8,000.00	7,970.28	8,129.64	7,970.28	20.16	28.34	-177.15	-1,101.92	-551.96	1,342.56	1,302.29	40.26	33.343	
8,067.72	8,038.00	8,197.36	8,038.00	20.29	28.42	-177.15	-1,101.92	-551.96	1,342.56	1,302.05	40.51	33.142	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 39-12 - P_Riverbend 39-12 - PLAN #1 6-22-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.99	0.00	31.91	31.91				
100.00	100.00	100.00	100.00	0.10	0.10	89.99	0.00	31.91	31.91	31.72	0.19	167.008	
200.00	200.00	200.00	200.00	0.32	0.32	89.99	0.00	31.91	31.91	31.27	0.64	49.810	
300.00	300.00	300.00	300.00	0.55	0.55	89.99	0.00	31.91	31.91	30.82	1.09	29.270 CC, ES	
400.00	400.00	398.99	398.97	0.77	0.75	91.38	-0.80	33.41	33.44	31.92	1.52	22.007	
500.00	500.00	497.74	497.58	0.99	0.96	94.85	-3.22	37.92	38.13	36.19	1.95	19.595	
600.00	600.00	596.03	595.50	1.22	1.19	99.03	-7.21	45.38	46.17	43.77	2.39	19.299 SF	
700.00	700.00	693.62	692.38	1.44	1.46	102.89	-12.75	55.71	57.65	54.79	2.86	20.131	
800.00	800.00	790.30	787.91	1.67	1.77	106.02	-19.76	68.80	72.60	69.23	3.37	21.553	
900.00	900.00	885.86	881.79	1.89	2.13	108.44	-28.19	84.53	90.95	87.04	3.91	23.252	
1,000.00	1,000.00	980.12	973.75	2.12	2.53	110.27	-37.94	102.74	112.62	108.13	4.50	25.048	
1,100.00	1,099.98	1,072.44	1,063.12	2.34	2.98	175.44	-48.88	123.15	139.20	134.58	4.62	30.142	
1,200.00	1,199.84	1,161.96	1,149.01	2.55	3.47	176.54	-60.77	145.35	172.18	167.14	5.04	34.146	
1,300.00	1,299.45	1,248.19	1,230.97	2.78	3.99	177.38	-73.42	168.97	211.31	205.85	5.46	38.730	
1,321.57	1,320.90	1,266.32	1,248.10	2.83	4.10	177.53	-76.23	174.21	220.53	214.99	5.54	39.784	
1,400.00	1,398.83	1,331.19	1,309.07	3.02	4.54	178.03	-86.70	193.74	255.35	249.46	5.89	43.373	
1,500.00	1,498.20	1,411.78	1,384.08	3.28	5.12	178.53	-100.60	219.69	302.02	295.70	6.33	47.733	
1,600.00	1,597.57	1,489.96	1,456.04	3.54	5.72	178.91	-115.04	246.64	351.14	344.37	6.77	51.873	
1,700.00	1,696.94	1,567.94	1,526.98	3.81	6.37	179.22	-130.33	275.19	402.54	395.33	7.22	55.774	
1,800.00	1,796.31	1,653.27	1,604.31	4.09	7.10	179.50	-147.36	306.97	454.66	446.97	7.69	59.095	
1,900.00	1,895.68	1,738.60	1,681.64	4.37	7.84	179.71	-164.39	338.76	506.78	498.61	8.17	62.004	
2,000.00	1,995.06	1,823.93	1,758.98	4.65	8.58	179.89	-181.42	370.55	558.90	550.25	8.66	64.563	
2,100.00	2,094.43	1,909.26	1,836.31	4.93	9.33	-179.97	-198.45	402.34	611.03	601.89	9.14	66.828	
2,200.00	2,193.80	1,994.59	1,913.65	5.22	10.08	-179.85	-215.48	434.12	663.16	653.53	9.63	68.843	
2,300.00	2,293.17	2,079.92	1,990.98	5.51	10.83	-179.74	-232.51	465.91	715.29	705.17	10.13	70.646	
2,400.00	2,392.54	2,165.25	2,068.32	5.80	11.59	-179.65	-249.54	497.70	767.43	756.81	10.62	72.268	
2,500.00	2,491.91	2,250.58	2,145.65	6.10	12.34	-179.57	-266.57	529.49	819.56	808.45	11.11	73.736	
2,600.00	2,591.28	2,335.91	2,222.99	6.39	13.10	-179.50	-283.59	561.27	871.70	860.09	11.61	75.069	
2,700.00	2,690.65	2,421.24	2,300.32	6.69	13.86	-179.44	-300.62	593.06	923.84	911.73	12.11	76.285	
2,800.00	2,790.02	2,506.57	2,377.66	6.98	14.62	-179.39	-317.65	624.85	975.97	963.36	12.61	77.397	
2,900.00	2,889.39	2,591.90	2,454.99	7.28	15.38	-179.34	-334.68	656.64	1,028.11	1,015.00	13.11	78.418	
3,000.00	2,988.76	2,677.22	2,532.32	7.58	16.14	-179.29	-351.71	688.42	1,080.25	1,066.64	13.61	79.359	
3,100.00	3,088.13	2,762.55	2,609.66	7.88	16.90	-179.25	-368.74	720.21	1,132.39	1,118.27	14.11	80.228	
3,200.00	3,187.50	2,847.88	2,686.99	8.18	17.66	-179.21	-385.77	752.00	1,184.53	1,169.91	14.62	81.034	
3,300.00	3,286.87	2,933.21	2,764.33	8.48	18.42	-179.18	-402.80	783.79	1,236.67	1,221.55	15.12	81.782	
3,400.00	3,386.24	3,018.54	2,841.66	8.78	19.18	-179.15	-419.83	815.57	1,288.81	1,273.18	15.63	82.480	
3,500.00	3,485.62	3,103.87	2,919.00	9.08	19.94	-179.12	-436.86	847.36	1,340.95	1,324.82	16.13	83.131	
3,600.00	3,584.99	3,189.20	2,996.33	9.38	20.71	-179.09	-453.89	879.15	1,393.09	1,376.45	16.64	83.739	
3,700.00	3,684.36	3,274.53	3,073.67	9.68	21.47	-179.07	-470.92	910.94	1,445.23	1,428.09	17.14	84.310	
3,800.00	3,783.73	3,359.86	3,151.00	9.99	22.23	-179.05	-487.95	942.72	1,497.37	1,479.72	17.65	84.846	
3,900.00	3,883.10	3,445.19	3,228.34	10.29	23.00	-179.02	-504.98	974.51	1,549.51	1,531.36	18.15	85.351	
4,000.00	3,982.47	3,530.52	3,305.67	10.59	23.76	-179.00	-522.01	1,006.30	1,601.65	1,582.99	18.66	85.827	
4,100.00	4,081.84	3,615.85	3,383.01	10.90	24.52	-178.99	-539.04	1,038.08	1,653.79	1,634.62	19.17	86.276	
4,200.00	4,181.21	3,701.18	3,460.34	11.20	25.29	-178.97	-556.07	1,069.87	1,705.93	1,686.26	19.68	86.701	
4,300.00	4,280.58	3,786.51	3,537.67	11.50	26.05	-178.95	-573.10	1,101.66	1,758.08	1,737.89	20.18	87.103	
4,400.00	4,379.95	3,871.83	3,615.01	11.81	26.82	-178.94	-590.13	1,133.45	1,810.22	1,789.53	20.69	87.484	
4,500.00	4,479.32	3,957.16	3,692.34	12.11	27.58	-178.92	-607.16	1,165.23	1,862.36	1,841.16	21.20	87.847	
4,600.00	4,578.69	4,042.49	3,769.68	12.41	28.35	-178.91	-624.19	1,197.02	1,914.50	1,892.79	21.71	88.191	
4,700.00	4,678.06	4,127.82	3,847.01	12.72	29.11	-178.89	-641.22	1,228.81	1,966.64	1,944.43	22.22	88.519	
4,800.00	4,777.43	4,213.15	3,924.35	13.02	29.88	-178.88	-658.25	1,260.60	2,018.78	1,996.06	22.73	88.831	
4,900.00	4,876.80	4,298.48	4,001.68	13.33	30.64	-178.87	-675.27	1,292.38	2,070.93	2,047.69	23.23	89.130	
5,000.00	4,976.18	4,383.81	4,079.02	13.63	31.41	-178.86	-692.30	1,324.17	2,123.07	2,099.32	23.74	89.414	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_Riverbend 25-12 PAD - P_Riverbend 39-12 - P_Riverbend 39-12 - PLAN #1 6-22-10 RHS												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
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	5,075.55	4,469.14	4,156.35	13.93	32.17	-178.85	-709.33	1,355.96	2,175.21	2,150.96	24.25	89.687	
5,200.00	5,174.92	4,554.47	4,233.69	14.24	32.94	-178.84	-726.36	1,387.75	2,227.35	2,202.59	24.76	89.947	
5,300.00	5,274.29	4,639.80	4,311.02	14.54	33.70	-178.83	-743.39	1,419.53	2,279.49	2,254.22	25.27	90.197	
5,400.00	5,373.66	4,725.13	4,388.35	14.85	34.47	-178.82	-760.42	1,451.32	2,331.64	2,305.85	25.78	90.436	
5,500.00	5,473.03	4,810.46	4,465.69	15.15	35.23	-178.81	-777.45	1,483.11	2,383.78	2,357.49	26.29	90.666	
5,600.00	5,572.40	4,895.79	4,543.02	15.46	36.00	-178.80	-794.48	1,514.90	2,435.92	2,409.12	26.80	90.886	
5,700.00	5,671.77	4,981.11	4,620.36	15.76	36.76	-178.79	-811.51	1,546.68	2,488.06	2,460.75	27.31	91.098	
5,800.00	5,771.14	5,066.44	4,697.69	16.07	37.53	-178.78	-828.54	1,578.47	2,540.21	2,512.38	27.82	91.302	
5,829.15	5,800.10	5,091.31	4,720.23	16.16	37.75	-178.78	-833.50	1,587.74	2,555.40	2,527.43	27.97	91.360	
5,900.00	5,870.60	5,152.22	4,775.44	16.34	38.30	-178.79	-845.66	1,610.43	2,591.60	2,563.09	28.51	90.903	
6,000.00	5,970.35	5,239.67	4,854.69	16.54	39.08	-178.81	-863.11	1,643.00	2,640.09	2,610.87	29.22	90.337	
6,100.00	6,070.29	5,328.76	4,935.43	16.71	39.88	-178.82	-880.89	1,676.19	2,685.51	2,655.59	29.92	89.767	
6,150.72	6,121.00	5,374.53	4,976.91	16.78	40.29	117.39	-890.03	1,693.24	2,707.35	2,677.09	30.26	89.471	
6,200.00	6,170.28	5,419.20	5,017.39	16.86	40.69	117.40	-898.94	1,709.88	2,728.17	2,697.67	30.50	89.434	
6,300.00	6,270.28	5,509.83	5,099.53	17.04	41.50	117.41	-917.03	1,743.64	2,770.43	2,739.41	31.02	89.318	
6,400.00	6,370.28	5,600.46	5,181.67	17.21	42.32	117.42	-935.12	1,777.41	2,812.69	2,781.16	31.53	89.205	
6,500.00	6,470.28	5,691.09	5,263.81	17.39	43.13	117.44	-953.20	1,811.17	2,854.95	2,822.90	32.04	89.094	
6,600.00	6,570.28	5,781.14	5,346.95	17.57	43.94	117.51	-1,089.09	2,064.82	2,875.24	2,839.94	35.29	81.466	
6,700.00	6,670.28	5,871.14	5,430.09	17.75	44.75	117.51	-1,089.09	2,064.82	2,875.24	2,839.61	35.63	80.703	
6,800.00	6,770.28	5,961.14	5,513.23	17.93	45.56	117.51	-1,089.09	2,064.82	2,875.24	2,839.27	35.96	79.948	
6,900.00	6,870.28	6,051.14	5,596.37	18.11	46.37	117.51	-1,089.09	2,064.82	2,875.24	2,838.93	36.30	79.203	
7,000.00	6,970.28	6,141.14	5,679.51	18.29	47.18	117.51	-1,089.09	2,064.82	2,875.24	2,838.59	36.64	78.467	
7,100.00	7,070.28	6,231.14	5,767.65	18.47	47.99	117.51	-1,089.09	2,064.82	2,875.24	2,838.25	36.98	77.741	
7,200.00	7,170.28	6,321.14	5,855.79	18.66	48.80	117.51	-1,089.09	2,064.82	2,875.24	2,837.91	37.33	77.024	
7,300.00	7,270.28	6,411.14	5,943.93	18.84	49.61	117.51	-1,089.09	2,064.82	2,875.24	2,837.56	37.68	76.316	
7,400.00	7,370.28	6,501.14	6,032.07	19.03	50.42	117.51	-1,089.09	2,064.82	2,875.24	2,837.21	38.02	75.617	
7,500.00	7,470.28	6,591.14	6,120.21	19.22	51.23	117.51	-1,089.09	2,064.82	2,875.24	2,836.86	38.37	74.928	
7,600.00	7,570.28	6,681.14	6,208.35	19.40	52.04	117.51	-1,089.09	2,064.82	2,875.24	2,836.51	38.73	74.247	
7,700.00	7,670.28	6,771.14	6,296.49	19.59	52.85	117.51	-1,089.09	2,064.82	2,875.24	2,836.16	39.08	73.575	
7,800.00	7,770.28	6,861.14	6,384.63	19.78	53.66	117.51	-1,089.09	2,064.82	2,875.24	2,835.80	39.43	72.913	
7,900.00	7,870.28	6,951.14	6,472.77	19.97	54.47	117.51	-1,089.09	2,064.82	2,875.24	2,835.45	39.79	72.259	
8,000.00	7,970.28	7,041.14	6,560.91	20.16	55.28	117.51	-1,089.09	2,064.82	2,875.24	2,835.09	40.15	71.614	
8,067.72	8,038.00	7,131.14	6,649.05	20.29	56.09	117.51	-1,089.09	2,064.82	2,875.24	2,834.84	40.39	71.182	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 9-12 - P_Riverbend 9-12 - PLAN #1 6-22-10 RHS													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	48.14	48.14					
100.00	100.00	100.00	100.00	0.10	0.10	90.00	0.00	48.14	48.14	47.95	0.19	251.977		
200.00	200.00	200.00	200.00	0.32	0.32	90.00	0.00	48.14	48.14	47.50	0.64	75.151		
300.00	300.00	300.00	300.00	0.55	0.55	90.00	0.00	48.14	48.14	47.05	1.09	44.161 CC, ES		
400.00	400.00	398.33	398.32	0.77	0.75	90.35	-0.30	49.80	49.83	48.31	1.52	32.736		
500.00	500.00	496.44	496.28	0.99	0.96	91.26	-1.20	54.76	54.90	52.95	1.95	28.096		
600.00	600.00	594.08	593.57	1.22	1.20	92.45	-2.69	62.98	63.36	60.96	2.41	26.345		
700.00	700.00	691.05	689.83	1.44	1.47	93.66	-4.76	74.36	75.20	72.32	2.88	26.104 SF		
800.00	800.00	787.12	784.77	1.67	1.77	94.75	-7.38	88.79	90.39	87.00	3.39	26.682		
900.00	900.00	882.10	878.10	1.89	2.12	95.67	-10.53	106.13	108.87	104.94	3.93	27.699		
1,000.00	1,000.00	975.79	969.54	2.12	2.52	96.41	-14.17	126.20	130.60	126.09	4.51	28.937		
1,100.00	1,099.98	1,067.60	1,058.45	2.34	2.96	160.81	-18.26	148.72	157.08	152.46	4.61	34.041		
1,200.00	1,199.84	1,156.68	1,143.97	2.55	3.44	161.53	-22.71	173.23	189.75	184.71	5.04	37.664		
1,300.00	1,299.45	1,242.57	1,225.66	2.78	3.95	162.22	-27.45	199.34	228.42	222.97	5.45	41.899		
1,321.57	1,320.90	1,260.64	1,242.74	2.83	4.06	162.36	-28.50	205.14	237.52	231.98	5.54	42.879		
1,400.00	1,398.83	1,325.33	1,303.58	3.02	4.49	162.99	-32.43	226.76	271.92	266.04	5.88	46.230		
1,500.00	1,498.20	1,405.71	1,378.46	3.28	5.06	163.60	-37.65	255.50	318.07	311.75	6.32	50.320		
1,600.00	1,597.57	1,483.74	1,450.34	3.54	5.66	164.04	-43.07	285.37	366.69	359.93	6.76	54.220		
1,700.00	1,696.94	1,560.78	1,520.48	3.81	6.30	164.38	-48.76	316.71	417.63	410.42	7.21	57.935		
1,800.00	1,796.31	1,646.29	1,597.98	4.09	7.03	164.68	-55.22	352.27	469.44	461.75	7.69	61.080		
1,900.00	1,895.68	1,731.79	1,675.47	4.37	7.77	164.92	-61.67	387.82	521.26	513.09	8.17	63.825		
2,000.00	1,995.06	1,817.30	1,752.97	4.65	8.51	165.11	-68.13	423.38	573.08	564.43	8.65	66.234		
2,100.00	2,094.43	1,902.81	1,830.47	4.93	9.26	165.28	-74.58	458.94	624.91	615.77	9.14	68.362		
2,200.00	2,193.80	1,988.32	1,907.96	5.22	10.01	165.41	-81.04	494.49	676.74	667.11	9.63	70.249		
2,300.00	2,293.17	2,073.83	1,985.46	5.51	10.76	165.53	-87.50	530.05	728.58	718.45	10.13	71.936		
2,400.00	2,392.54	2,159.33	2,062.96	5.80	11.52	165.63	-93.95	565.61	780.41	769.79	10.62	73.451		
2,500.00	2,491.91	2,244.84	2,140.45	6.10	12.28	165.72	-100.41	601.16	832.25	821.13	11.12	74.819		
2,600.00	2,591.28	2,330.35	2,217.95	6.39	13.03	165.80	-106.86	636.72	884.09	872.47	11.62	76.060		
2,700.00	2,690.65	2,415.86	2,295.45	6.69	13.79	165.87	-113.32	672.27	935.93	923.81	12.13	77.189		
2,800.00	2,790.02	2,501.37	2,372.94	6.98	14.56	165.94	-119.77	707.83	987.77	975.15	12.63	78.220		
2,900.00	2,889.39	2,586.88	2,450.44	7.28	15.32	165.99	-126.23	743.39	1,039.62	1,026.48	13.13	79.166		
3,000.00	2,988.76	2,672.38	2,527.94	7.58	16.08	166.05	-132.68	778.94	1,091.46	1,077.82	13.64	80.036		
3,100.00	3,088.13	2,757.89	2,605.43	7.88	16.84	166.09	-139.14	814.50	1,143.30	1,129.16	14.14	80.838		
3,200.00	3,187.50	2,843.40	2,682.93	8.18	17.61	166.13	-145.60	850.05	1,195.15	1,180.50	14.65	81.582		
3,300.00	3,286.87	2,928.91	2,760.43	8.48	18.37	166.17	-152.05	885.61	1,246.99	1,231.83	15.16	82.272		
3,400.00	3,386.24	3,014.42	2,837.92	8.78	19.13	166.21	-158.51	921.17	1,298.83	1,283.17	15.66	82.914		
3,500.00	3,485.62	3,099.92	2,915.42	9.08	19.90	166.24	-164.96	956.72	1,350.68	1,334.51	16.17	83.512		
3,600.00	3,584.99	3,185.43	2,992.92	9.38	20.66	166.27	-171.42	992.28	1,402.53	1,385.84	16.68	84.071		
3,700.00	3,684.36	3,270.94	3,070.41	9.68	21.43	166.30	-177.87	1,027.83	1,454.37	1,437.18	17.19	84.595		
3,800.00	3,783.73	3,356.45	3,147.91	9.99	22.19	166.33	-184.33	1,063.39	1,506.22	1,488.51	17.70	85.087		
3,900.00	3,883.10	3,441.96	3,225.41	10.29	22.96	166.35	-190.78	1,098.95	1,558.06	1,539.85	18.21	85.549		
4,000.00	3,982.47	3,527.47	3,302.90	10.59	23.73	166.38	-197.24	1,134.50	1,609.91	1,591.19	18.72	85.985		
4,100.00	4,081.84	3,612.97	3,380.40	10.90	24.49	166.40	-203.69	1,170.06	1,661.76	1,642.52	19.23	86.396		
4,200.00	4,181.21	3,698.48	3,457.90	11.20	25.26	166.42	-210.15	1,205.61	1,713.60	1,693.86	19.75	86.784		
4,300.00	4,280.58	3,783.99	3,535.39	11.50	26.02	166.44	-216.61	1,241.17	1,765.45	1,745.19	20.26	87.152		
4,400.00	4,379.95	3,869.50	3,612.89	11.81	26.79	166.46	-223.06	1,276.73	1,817.30	1,796.53	20.77	87.500		
4,500.00	4,479.32	3,955.01	3,690.39	12.11	27.56	166.47	-229.52	1,312.28	1,869.14	1,847.86	21.28	87.830		
4,600.00	4,578.69	4,104.82	3,826.83	12.41	28.78	166.50	-240.57	1,373.13	1,920.46	1,898.48	21.98	87.364		
4,700.00	4,678.06	4,382.14	4,086.81	12.72	30.42	166.59	-257.75	1,467.79	1,965.20	1,942.22	22.98	85.513		
4,800.00	4,777.43	4,685.15	4,380.03	13.02	31.73	166.71	-271.30	1,542.42	2,000.67	1,976.72	23.95	83.526		
4,900.00	4,876.80	5,009.95	4,701.32	13.33	32.59	166.89	-279.60	1,588.11	2,025.71	2,000.88	24.83	81.575		
5,000.00	4,976.18	5,285.12	4,976.18	13.63	32.90	167.07	-281.53	1,598.73	2,039.80	2,014.31	25.49	80.023		

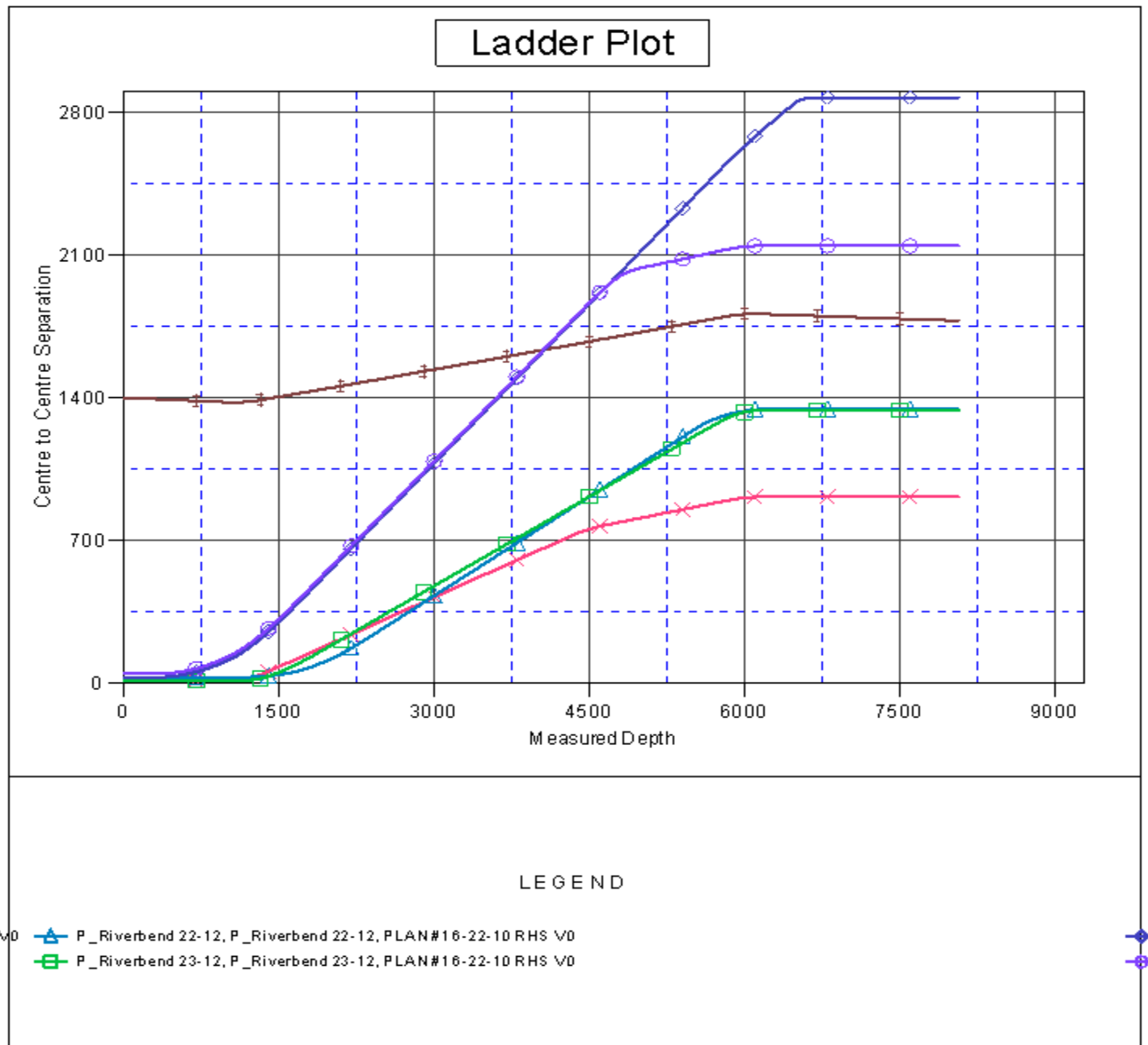
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design WELD_Riverbend 25-12 PAD - P_Riverbend 9-12 - P_Riverbend 9-12 - PLAN #1 6-22-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,075.55	5,384.49	5,075.55	13.93	32.97	167.14	-281.53	1,598.73	2,050.72	2,024.85	25.87	79.269	
5,200.00	5,174.92	5,483.86	5,174.92	14.24	33.04	167.21	-281.53	1,598.73	2,061.65	2,035.40	26.25	78.532	
5,300.00	5,274.29	5,583.23	5,274.29	14.54	33.12	167.28	-281.53	1,598.73	2,072.58	2,045.94	26.64	77.810	
5,400.00	5,373.66	5,682.60	5,373.66	14.85	33.19	167.35	-281.53	1,598.73	2,083.51	2,056.49	27.02	77.103	
5,500.00	5,473.03	5,781.97	5,473.03	15.15	33.27	167.41	-281.53	1,598.73	2,094.44	2,067.03	27.41	76.411	
5,600.00	5,572.40	5,881.34	5,572.40	15.46	33.34	167.48	-281.53	1,598.73	2,105.38	2,077.58	27.80	75.733	
5,700.00	5,671.77	5,980.71	5,671.77	15.76	33.42	167.54	-281.53	1,598.73	2,116.32	2,088.13	28.19	75.069	
5,800.00	5,771.14	6,080.09	5,771.14	16.07	33.50	167.61	-281.53	1,598.73	2,127.26	2,098.68	28.59	74.419	
5,829.15	5,800.10	6,109.05	5,800.10	16.16	33.52	167.63	-281.53	1,598.73	2,130.45	2,101.75	28.70	74.232	
5,900.00	5,870.60	6,179.55	5,870.60	16.34	33.58	167.70	-281.53	1,598.73	2,137.36	2,108.23	29.12	73.388	
6,000.00	5,970.35	6,279.30	5,970.35	16.54	33.66	167.77	-281.53	1,598.73	2,144.20	2,114.53	29.67	72.280	
6,100.00	6,070.29	6,379.23	6,070.29	16.71	33.75	167.80	-281.53	1,598.73	2,147.63	2,117.47	30.17	71.195	
6,150.72	6,121.00	6,429.94	6,121.00	16.78	33.79	104.02	-281.53	1,598.73	2,148.07	2,117.67	30.41	70.647	
6,200.00	6,170.28	6,479.23	6,170.28	16.86	33.83	104.02	-281.53	1,598.73	2,148.07	2,117.49	30.58	70.250	
6,300.00	6,270.28	6,579.23	6,270.28	17.04	33.92	104.02	-281.53	1,598.73	2,148.07	2,117.13	30.94	69.424	
6,400.00	6,370.28	6,679.23	6,370.28	17.21	34.01	104.02	-281.53	1,598.73	2,148.07	2,116.76	31.31	68.613	
6,500.00	6,470.28	6,779.23	6,470.28	17.39	34.10	104.02	-281.53	1,598.73	2,148.07	2,116.40	31.67	67.816	
6,600.00	6,570.28	6,879.23	6,570.28	17.57	34.19	104.02	-281.53	1,598.73	2,148.07	2,116.03	32.04	67.034	
6,700.00	6,670.28	6,979.23	6,670.28	17.75	34.28	104.02	-281.53	1,598.73	2,148.07	2,115.65	32.42	66.265	
6,800.00	6,770.28	7,079.23	6,770.28	17.93	34.37	104.02	-281.53	1,598.73	2,148.07	2,115.28	32.79	65.510	
6,900.00	6,870.28	7,179.23	6,870.28	18.11	34.46	104.02	-281.53	1,598.73	2,148.07	2,114.91	33.17	64.769	
7,000.00	6,970.28	7,279.23	6,970.28	18.29	34.56	104.02	-281.53	1,598.73	2,148.07	2,114.53	33.54	64.040	
7,100.00	7,070.28	7,379.23	7,070.28	18.47	34.65	104.02	-281.53	1,598.73	2,148.07	2,114.15	33.92	63.325	
7,200.00	7,170.28	7,479.23	7,170.28	18.66	34.75	104.02	-281.53	1,598.73	2,148.07	2,113.77	34.30	62.623	
7,300.00	7,270.28	7,579.23	7,270.28	18.84	34.85	104.02	-281.53	1,598.73	2,148.07	2,113.39	34.68	61.933	
7,400.00	7,370.28	7,679.23	7,370.28	19.03	34.95	104.02	-281.53	1,598.73	2,148.07	2,113.00	35.07	61.256	
7,500.00	7,470.28	7,779.23	7,470.28	19.22	35.05	104.02	-281.53	1,598.73	2,148.07	2,112.62	35.45	60.591	
7,600.00	7,570.28	7,879.23	7,570.28	19.40	35.15	104.02	-281.53	1,598.73	2,148.07	2,112.23	35.84	59.938	
7,700.00	7,670.28	7,979.23	7,670.28	19.59	35.26	104.02	-281.53	1,598.73	2,148.07	2,111.84	36.23	59.296	
7,800.00	7,770.28	8,079.23	7,770.28	19.78	35.36	104.02	-281.53	1,598.73	2,148.07	2,111.46	36.62	58.666	
7,900.00	7,870.28	8,179.23	7,870.28	19.97	35.47	104.02	-281.53	1,598.73	2,148.07	2,111.06	37.01	58.047	
8,000.00	7,970.28	8,279.23	7,970.28	20.16	35.57	104.02	-281.53	1,598.73	2,148.07	2,110.67	37.40	57.439	
8,043.35	8,013.63	8,322.57	8,013.63	20.24	35.62	104.02	-281.53	1,598.73	2,148.07	2,110.50	37.57	57.179	
8,067.72	8,038.00	8,341.94	8,038.00	20.29	35.64	104.02	-281.53	1,598.73	2,148.08	2,110.42	37.65	57.047	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

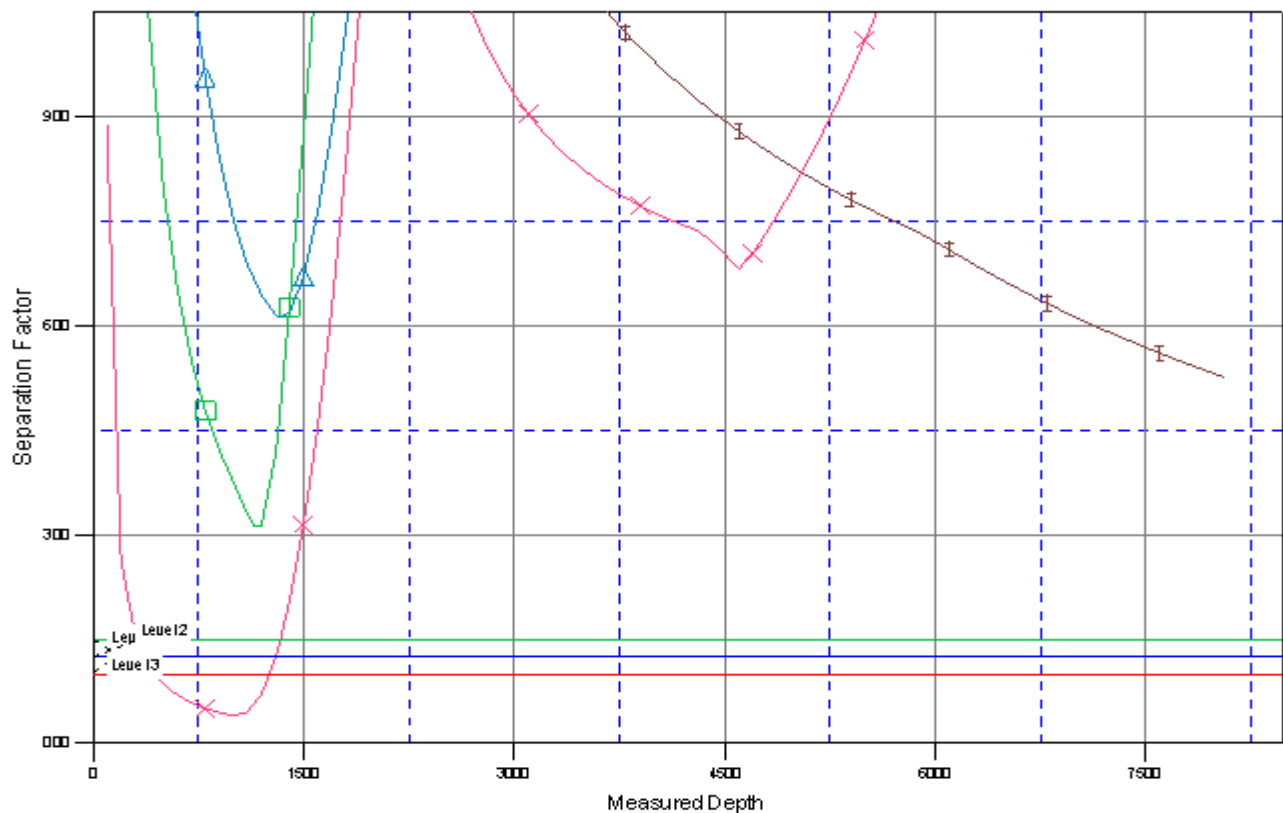
Reference Depths are relative to WELL @ 4928.00ft (Original Well Elev) Coordinates are relative to: P_Riverbend 25-12
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.43°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 25-12
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4928.00ft (Original Well Elev)
Reference Site:	WELD_Riverbend 25-12 PAD	MD Reference:	WELL @ 4928.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 25-12	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 25-12	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-22-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4928.00ft (Original Well Elev) Coordinates are relative to: P_Riverbend 25-12
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: 0.43°

Separation Factor Plot



LEGEND

- ▲ P_Riverbend 22-12, P_Riverbend 22-12, PLAN#16-22-10 RHS V0
- P_Riverbend 23-12, P_Riverbend 23-12, PLAN#16-22-10 RHS V0