



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

Riverbend 7-13 PAD

P_Riverbend 24-13

P_Riverbend 24-13

Plan: PLAN #1 6-21-10 RHS

Standard Planning Report

21 June, 2010

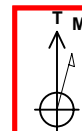




Project: COLORADO NORTHERN ZONE - 83
Site: Riverbend 7-13 PAD
Well: P_Riverbend 24-13
Wellbore: P_Riverbend 24-13
Section: SECTION 13 T1N R67W
SHL: 2045 FNL 1739 FWL
Design: PLAN #1 6-21-10 RHS
Latitude: 40° 3' 9.774 N
Longitude: 104° 50' 9.370 W
GL: 4917.00
KB: WELL @ 4932.00ft (Original Well Elev)



Weatherford®



Azimuths to True North
Magnetic North: 9.00°

Magnetic Field
Strength: 53043.5snT
Dip Angle: 66.79°
Date: 6/21/2010
Model: IGRF2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3253.00	3274.00	PARKMAN
4583.00	4618.13	SUSSEX
7115.00	7163.47	NIO
7462.00	7510.47	CODELL
7547.00	7595.47	GREENHORN
7897.00	7945.47	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
1415.82	8.32	142.16	1414.36	-23.79	18.48	2.00	142.16	30.12	Start 4331.83 hold at 1415.82 MD
5747.65	8.32	142.16	5700.64	-518.60	402.84	0.00	0.00	656.68	Start Drop -2.00
6163.47	0.00	0.00	6115.00	-542.39	421.32	2.00	180.00	686.80	Start 1917.00 hold at 6163.47 MD
8080.47	0.00	0.00	8032.00	-542.39	421.32	0.00	0.00	686.80	TD at 8080.47

LEGEND

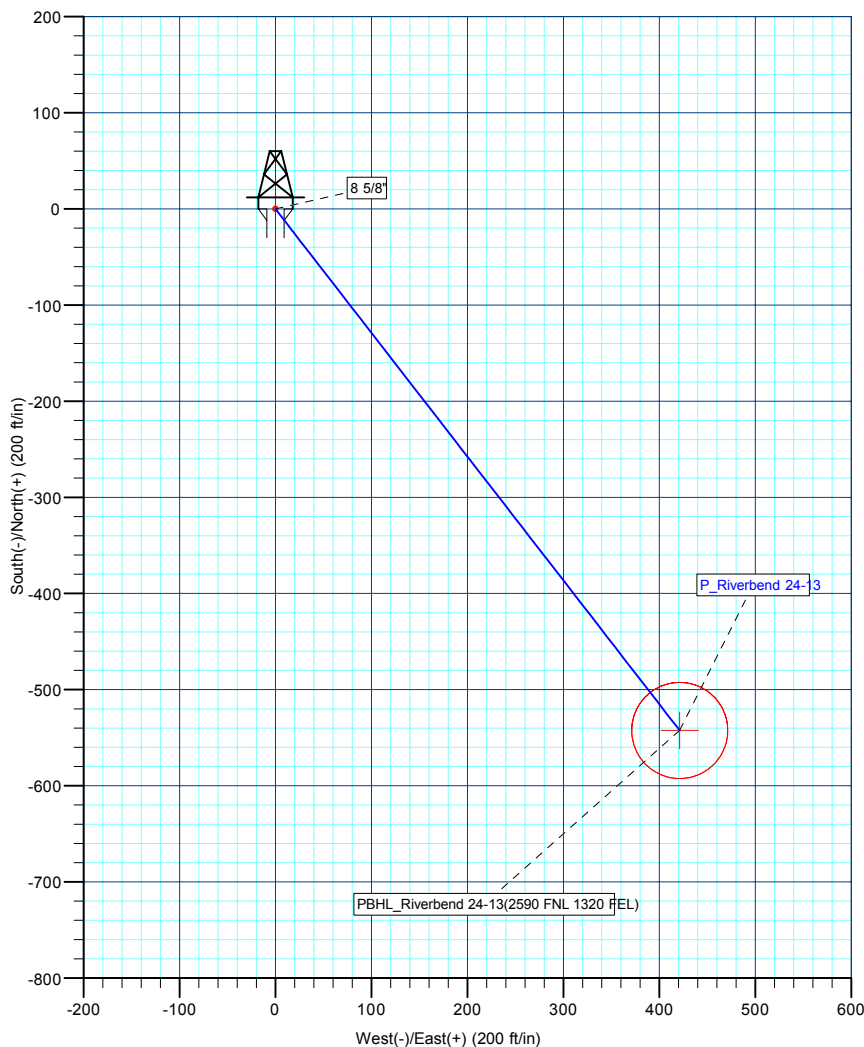
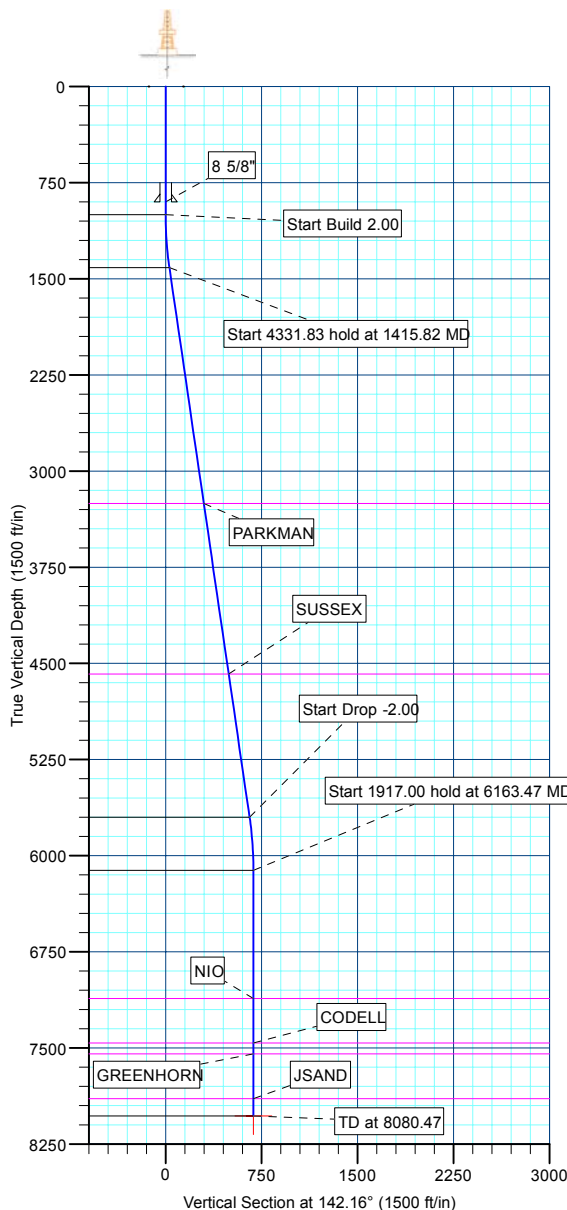
CHIKUMA UNIT #2 EXISTING, CHIKUMA UNIT #2 EXISTING, CHIKUMA UNIT #2 EXISTING V0
HARRY S CHIKUMA #5 EXISTING, HARRY S CHIKUMA #5 EXISTING, HARRY S CHIKUMA #5 EXISTING V0
HARRY S CHIKUMA G.U. B #1 EXISTING, HARRY S CHIKUMA G.U. B #1 EXISTING, HARRY S CHIKUMA G.U. B #1 EXISTING V0
P_Riverbend 21-13, P_Riverbend 21-13, PLAN #1 6-21-10 RHS V0
P_Riverbend 25-13, P_Riverbend 25-13, PLAN #1 6-21-10 RHS V0
P_Riverbend 5-18, P_Riverbend 5-1, PLAN #1 6-21-10 RHS V0
P_Riverbend 6-13, P_Riverbend 6-13, PLAN #1 6-21-10 RHS V0
P_Riverbend 7-13, P_Riverbend 7-13, PLAN #1 6-21-10 RH V0
P_Riverbend 8-13, P_Riverbend 8-13, PLAN #1 6-21-10 RHS V0
PLAN #1 6-21-10 RHS

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

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	8032.00	-542.39	421.32	40° 3' 4.414 N	104° 50' 3.952 W	Circle (Radius: 50.00)

WELL DETAILS: P_Riverbend 24-13

+N/-S	+E/-W	Northing	Ground Level: Easting	4917.00 Latitude	Longitude	Slot
0.00	0.00	1262745.63	3185894.37	40° 3' 9.774 N	104° 50' 9.370 W	



Plan: PLAN #1 6-21-10 RHS (P_Riverbend 24-13/P_Riverbend 24-13)

Created By: Robert H. Scott Date: 15:28, June 21 2010



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site:	Riverbend 7-13 PAD	North Reference:	True
Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 24-13		
Design:	PLAN #1 6-21-10 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		Riverbend 7-13 PAD, SECTION 13 T1N R67W			
Site Position:		Northing:	1,262,745.52 ft	Latitude:	40° 3' 9.774 N
From:	Lat/Long	Easting:	3,185,878.14 ft	Longitude:	104° 50' 9.578 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.43 °

Well	P_Riverbend 24-13					
Well Position	+N/-S	-0.01 ft	Northing:	1,262,745.63 ft	Latitude:	40° 3' 9.774 N
	+E/-W	16.24 ft	Easting:	3,185,894.37 ft	Longitude:	104° 50' 9.370 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,917.00 ft

Wellbore	P_Riverbend 24-13				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/21/2010	9.00	66.79	53,043

Design	PLAN #1 6-21-10 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	142.16

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	
1,415.82	8.32	142.16	1,414.36	-23.79	18.48	2.00	2.00	0.00	142.16	
5,747.65	8.32	142.16	5,700.64	-518.60	402.84	0.00	0.00	0.00	0.00	
6,163.47	0.00	0.00	6,115.00	-542.39	421.32	2.00	-2.00	0.00	180.00	
8,080.47	0.00	0.00	8,032.00	-542.39	421.32	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 24-13
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site:	Riverbend 7-13 PAD	North Reference:	True
Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 24-13		
Design:	PLAN #1 6-21-10 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	142.16	1,099.98	-1.38	1.07	1.75	2.00	2.00	0.00
1,200.00	4.00	142.16	1,199.84	-5.51	4.28	6.98	2.00	2.00	0.00
1,300.00	6.00	142.16	1,299.45	-12.39	9.63	15.69	2.00	2.00	0.00
1,400.00	8.00	142.16	1,398.70	-22.02	17.10	27.88	2.00	2.00	0.00
Start 4331.83 hold at 1415.82 MD									
1,415.82	8.32	142.16	1,414.36	-23.79	18.48	30.12	2.00	2.00	0.00
1,500.00	8.32	142.16	1,497.66	-33.41	25.95	42.30	0.00	0.00	0.00
1,600.00	8.32	142.16	1,596.60	-44.83	34.82	56.76	0.00	0.00	0.00
1,700.00	8.32	142.16	1,695.55	-56.25	43.69	71.23	0.00	0.00	0.00
1,800.00	8.32	142.16	1,794.50	-67.67	52.57	85.69	0.00	0.00	0.00
1,900.00	8.32	142.16	1,893.45	-79.10	61.44	100.16	0.00	0.00	0.00
2,000.00	8.32	142.16	1,992.40	-90.52	70.31	114.62	0.00	0.00	0.00
2,100.00	8.32	142.16	2,091.35	-101.94	79.19	129.08	0.00	0.00	0.00
2,200.00	8.32	142.16	2,190.30	-113.36	88.06	143.55	0.00	0.00	0.00
2,300.00	8.32	142.16	2,289.24	-124.79	96.93	158.01	0.00	0.00	0.00
2,400.00	8.32	142.16	2,388.19	-136.21	105.80	172.48	0.00	0.00	0.00
2,500.00	8.32	142.16	2,487.14	-147.63	114.68	186.94	0.00	0.00	0.00
2,600.00	8.32	142.16	2,586.09	-159.06	123.55	201.40	0.00	0.00	0.00
2,700.00	8.32	142.16	2,685.04	-170.48	132.42	215.87	0.00	0.00	0.00
2,800.00	8.32	142.16	2,783.99	-181.90	141.30	230.33	0.00	0.00	0.00
2,900.00	8.32	142.16	2,882.93	-193.32	150.17	244.80	0.00	0.00	0.00
3,000.00	8.32	142.16	2,981.88	-204.75	159.04	259.26	0.00	0.00	0.00
3,100.00	8.32	142.16	3,080.83	-216.17	167.91	273.72	0.00	0.00	0.00
3,200.00	8.32	142.16	3,179.78	-227.59	176.79	288.19	0.00	0.00	0.00
PARKMAN									
3,274.00	8.32	142.16	3,253.00	-236.04	183.35	298.89	0.00	0.00	0.00
3,300.00	8.32	142.16	3,278.73	-239.01	185.66	302.65	0.00	0.00	0.00
3,400.00	8.32	142.16	3,377.68	-250.44	194.53	317.11	0.00	0.00	0.00
3,500.00	8.32	142.16	3,476.63	-261.86	203.41	331.58	0.00	0.00	0.00
3,600.00	8.32	142.16	3,575.57	-273.28	212.28	346.04	0.00	0.00	0.00
3,700.00	8.32	142.16	3,674.52	-284.70	221.15	360.51	0.00	0.00	0.00
3,800.00	8.32	142.16	3,773.47	-296.13	230.02	374.97	0.00	0.00	0.00
3,900.00	8.32	142.16	3,872.42	-307.55	238.90	389.43	0.00	0.00	0.00
4,000.00	8.32	142.16	3,971.37	-318.97	247.77	403.90	0.00	0.00	0.00
4,100.00	8.32	142.16	4,070.32	-330.40	256.64	418.36	0.00	0.00	0.00
4,200.00	8.32	142.16	4,169.26	-341.82	265.52	432.83	0.00	0.00	0.00
4,300.00	8.32	142.16	4,268.21	-353.24	274.39	447.29	0.00	0.00	0.00
4,400.00	8.32	142.16	4,367.16	-364.66	283.26	461.75	0.00	0.00	0.00
4,500.00	8.32	142.16	4,466.11	-376.09	292.13	476.22	0.00	0.00	0.00
4,600.00	8.32	142.16	4,565.06	-387.51	301.01	490.68	0.00	0.00	0.00
SUSSEX									
4,618.13	8.32	142.16	4,583.00	-389.58	302.62	493.30	0.00	0.00	0.00
4,700.00	8.32	142.16	4,664.01	-398.93	309.88	505.15	0.00	0.00	0.00
4,800.00	8.32	142.16	4,762.96	-410.35	318.75	519.61	0.00	0.00	0.00
4,900.00	8.32	142.16	4,861.90	-421.78	327.62	534.07	0.00	0.00	0.00
5,000.00	8.32	142.16	4,960.85	-433.20	336.50	548.54	0.00	0.00	0.00
5,100.00	8.32	142.16	5,059.80	-444.62	345.37	563.00	0.00	0.00	0.00
5,200.00	8.32	142.16	5,158.75	-456.04	354.24	577.46	0.00	0.00	0.00
5,300.00	8.32	142.16	5,257.70	-467.47	363.12	591.93	0.00	0.00	0.00
5,400.00	8.32	142.16	5,356.65	-478.89	371.99	606.39	0.00	0.00	0.00
5,500.00	8.32	142.16	5,455.59	-490.31	380.86	620.86	0.00	0.00	0.00
5,600.00	8.32	142.16	5,554.54	-501.74	389.73	635.32	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site:	Riverbend 7-13 PAD	North Reference:	True
Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 24-13		
Design:	PLAN #1 6-21-10 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	8.32	142.16	5,653.49	-513.16	398.61	649.78	0.00	0.00	0.00
Start Drop -2.00									
5,747.65	8.32	142.16	5,700.64	-518.60	402.84	656.68	0.00	0.00	0.00
5,800.00	7.27	142.16	5,752.51	-524.21	407.19	663.77	2.00	-2.00	0.00
5,900.00	5.27	142.16	5,851.90	-532.83	413.89	674.69	2.00	-2.00	0.00
6,000.00	3.27	142.16	5,951.62	-538.71	418.46	682.14	2.00	-2.00	0.00
6,100.00	1.27	142.16	6,051.54	-541.84	420.88	686.10	2.00	-2.00	0.00
Start 1917.00 hold at 6163.47 MD									
6,163.47	0.00	0.00	6,115.00	-542.39	421.32	686.80	2.00	-2.00	-223.99
6,200.00	0.00	0.00	6,151.53	-542.39	421.32	686.80	0.00	0.00	0.00
6,300.00	0.00	0.00	6,251.53	-542.39	421.32	686.80	0.00	0.00	0.00
6,400.00	0.00	0.00	6,351.53	-542.39	421.32	686.80	0.00	0.00	0.00
6,500.00	0.00	0.00	6,451.53	-542.39	421.32	686.80	0.00	0.00	0.00
6,600.00	0.00	0.00	6,551.53	-542.39	421.32	686.80	0.00	0.00	0.00
6,700.00	0.00	0.00	6,651.53	-542.39	421.32	686.80	0.00	0.00	0.00
6,800.00	0.00	0.00	6,751.53	-542.39	421.32	686.80	0.00	0.00	0.00
6,900.00	0.00	0.00	6,851.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,000.00	0.00	0.00	6,951.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,100.00	0.00	0.00	7,051.53	-542.39	421.32	686.80	0.00	0.00	0.00
NIO									
7,163.47	0.00	0.00	7,115.00	-542.39	421.32	686.80	0.00	0.00	0.00
7,200.00	0.00	0.00	7,151.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,300.00	0.00	0.00	7,251.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,400.00	0.00	0.00	7,351.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,500.00	0.00	0.00	7,451.53	-542.39	421.32	686.80	0.00	0.00	0.00
CODELL									
7,510.47	0.00	0.00	7,462.00	-542.39	421.32	686.80	0.00	0.00	0.00
GREENHORN									
7,595.47	0.00	0.00	7,547.00	-542.39	421.32	686.80	0.00	0.00	0.00
7,600.00	0.00	0.00	7,551.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,700.00	0.00	0.00	7,651.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,800.00	0.00	0.00	7,751.53	-542.39	421.32	686.80	0.00	0.00	0.00
7,900.00	0.00	0.00	7,851.53	-542.39	421.32	686.80	0.00	0.00	0.00
JSAND									
7,945.47	0.00	0.00	7,897.00	-542.39	421.32	686.80	0.00	0.00	0.00
8,000.00	0.00	0.00	7,951.53	-542.39	421.32	686.80	0.00	0.00	0.00
PBHL_Riverbend 24-13(2590 FNL 1320 FEL)									
8,080.47	0.00	0.00	8,032.00	-542.39	421.32	686.80	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 24-13	0.00	0.00	8,032.00	-542.39	421.32	1,262,206.41	3,186,319.74	40° 3' 4.414 N	104° 50' 3.952 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site:	Riverbend 7-13 PAD	North Reference:	True
Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 24-13		
Design:	PLAN #1 6-21-10 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 (°)	
3,274.00	3,253.00	PARKMAN				
4,618.13	4,583.00	SUSSEX				
7,163.47	7,115.00	NIO				
7,510.47	7,462.00	CODELL				
7,595.47	7,547.00	GREENHORN				
7,945.47	7,897.00	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	
1,415.82	1,414.36	-23.79	18.48	Start 4331.83 hold at 1415.82 MD	
5,747.65	5,700.64	-518.60	402.84	Start Drop -2.00	
6,163.47	6,115.00	-542.39	421.32	Start 1917.00 hold at 6163.47 MD	
8,080.47	8,032.00	-542.39	421.32	TD at 8080.47	



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
Riverbend 7-13 PAD
P_Riverbend 24-13**

**P_Riverbend 24-13
PLAN #1 6-21-10 RHS**

Anticollision Report

21 June, 2010



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 6-21-10 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 6/21/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,080.47	PLAN #1 6-21-10 RHS (P_Riverbend 24-1	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						
Riverbend 7-13 PAD						
CHIKUMA UNIT #2 EXISTING - CHIKUMA UNIT #2 EXI	100.00	82.35	199.78	198.04	114.614	CC
CHIKUMA UNIT #2 EXISTING - CHIKUMA UNIT #2 EXI	1,100.00	1,080.75	211.53	167.88	4.846	ES
CHIKUMA UNIT #2 EXISTING - CHIKUMA UNIT #2 EXI	3,300.00	3,249.88	547.53	413.82	4.095	SF
HARRY S CHIKUMA #5 EXISTING - HARRY S CHIKUM	1,013.47	1,006.07	1,565.03	1,524.50	38.613	CC
HARRY S CHIKUMA #5 EXISTING - HARRY S CHIKUM	1,200.00	1,192.13	1,568.44	1,520.11	32.451	ES
HARRY S CHIKUMA #5 EXISTING - HARRY S CHIKUM	5,000.00	4,892.00	1,951.23	1,744.93	9.458	SF
HARRY S. CHIKUMA G.U. B #1 EXISTING - HARRY S.	0.00	0.00	544.16			
HARRY S. CHIKUMA G.U. B #1 EXISTING - HARRY S.	1,000.00	963.25	573.12	534.40	14.798	ES
HARRY S. CHIKUMA G.U. B #1 EXISTING - HARRY S.	8,080.47	7,972.04	1,365.43	1,030.33	4.075	SF
P_Riverbend 21-13 - P_Riverbend 21-13 - PLAN #1 6-21	1,000.00	1,000.00	16.24	12.00	3.832	CC, ES, SF
P_Riverbend 25-13 - P_Riverbend 25-13 - PLAN #1 6-21	1,000.00	1,000.00	32.19	27.96	7.598	CC, ES
P_Riverbend 25-13 - P_Riverbend 25-13 - PLAN #1 6-21	1,100.00	1,099.01	34.70	30.07	7.487	SF
P_Riverbend 5-18 - P_Riverbend 5-1 - PLAN #1 6-21-10	300.00	300.00	31.91	30.82	29.277	CC, ES
P_Riverbend 5-18 - P_Riverbend 5-1 - PLAN #1 6-21-10	600.00	595.64	47.41	45.00	19.670	SF
P_Riverbend 6-13 - P_Riverbend 6-13 - PLAN #1 6-21-1	300.00	300.00	64.11	63.02	58.807	CC, ES
P_Riverbend 6-13 - P_Riverbend 6-13 - PLAN #1 6-21-1	800.00	784.40	106.45	103.11	31.860	SF
P_Riverbend 7-13 - P_Riverbend 7-13 - PLAN #1 6-21-1	1,000.00	1,000.00	48.15	43.91	11.364	CC, ES
P_Riverbend 7-13 - P_Riverbend 7-13 - PLAN #1 6-21-1	1,100.00	1,098.31	50.89	46.25	10.973	SF
P_Riverbend 8-13 - P_Riverbend 8-13 - PLAN #1 6-21-1	1,000.00	1,000.00	15.96	11.72	3.767	CC, ES
P_Riverbend 8-13 - P_Riverbend 8-13 - PLAN #1 6-21-1	1,100.00	1,099.42	16.72	12.08	3.599	SF

Offset Design Riverbend 7-13 PAD - CHIKUMA UNIT #2 EXISTING - CHIKUMA UNIT #2 EXISTING - CHIKUMA UNIT												
Survey Program: 0-UNKNOWN												
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
0.00	0.00	0.00	0.00	0.00	0.00	-77.03	44.80	-194.56	200.37			
100.00	100.00	82.35	82.35	0.10	1.65	-76.87	45.39	-194.56	199.78	198.04	1.74	114.614 CC
200.00	200.00	181.52	181.49	0.32	5.27	-76.23	47.68	-194.56	200.32	194.73	5.58	35.875
300.00	300.00	281.30	281.21	0.55	9.28	-75.28	51.13	-194.56	201.17	191.37	9.80	20.520
400.00	400.00	381.24	381.09	0.77	13.29	-74.32	54.62	-194.56	202.09	188.06	14.03	14.404
500.00	500.00	481.18	480.97	0.99	17.30	-73.37	58.11	-194.56	203.06	184.80	18.26	11.123
600.00	600.00	581.12	580.85	1.22	21.32	-72.43	61.59	-194.56	204.08	181.60	22.48	9.078
700.00	700.00	681.06	680.73	1.44	25.33	-71.50	65.08	-194.56	205.17	178.46	26.70	7.683

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
800.00	800.00	781.00	780.61	1.67	29.35	-70.59	68.57	-194.56	206.30	175.37	30.93	6.670	
900.00	900.00	880.94	880.48	1.89	33.36	-69.68	72.06	-194.56	207.49	172.33	35.15	5.903	
1,000.00	1,000.00	980.88	980.36	2.12	37.37	-68.78	75.55	-194.56	208.73	169.35	39.37	5.301	
1,100.00	1,099.98	1,080.75	1,080.17	2.32	41.39	150.16	79.03	-194.56	211.53	167.88	43.65	4.846 ES	
1,200.00	1,199.84	1,180.40	1,179.76	2.50	45.39	151.63	82.51	-194.56	217.47	169.73	47.74	4.556	
1,300.00	1,299.45	1,279.72	1,279.02	2.70	49.38	153.40	85.97	-194.56	226.67	174.92	51.75	4.380	
1,400.00	1,398.70	1,378.57	1,377.81	2.93	53.35	155.34	89.42	-194.56	239.24	183.57	55.66	4.298	
1,415.82	1,414.36	1,394.16	1,393.39	2.96	53.97	155.66	89.97	-194.56	241.54	185.27	56.27	4.292	
1,500.00	1,497.66	1,477.07	1,476.25	3.18	57.30	157.37	92.86	-194.56	254.14	194.42	59.71	4.256	
1,600.00	1,596.60	1,575.55	1,574.68	3.45	61.26	159.19	96.30	-194.56	269.36	205.55	63.81	4.221	
1,700.00	1,695.55	1,674.04	1,673.11	3.74	65.22	160.81	99.74	-194.56	284.83	216.92	67.91	4.194	
1,800.00	1,794.50	1,772.53	1,771.54	4.04	69.17	162.27	103.17	-194.56	300.49	228.48	72.01	4.173	
1,900.00	1,893.45	1,871.02	1,869.96	4.34	73.13	163.59	106.61	-194.56	316.33	240.22	76.11	4.156	
2,000.00	1,992.40	1,969.51	1,968.39	4.66	77.08	164.77	110.05	-194.56	332.31	252.09	80.22	4.143	
2,100.00	2,091.35	2,068.00	2,066.82	4.98	81.04	165.85	113.49	-194.56	348.43	264.10	84.33	4.132	
2,200.00	2,190.30	2,166.49	2,165.25	5.31	85.00	166.84	116.92	-194.56	364.65	276.21	88.44	4.123	
2,300.00	2,289.24	2,264.98	2,263.68	5.64	88.95	167.74	120.36	-194.56	380.97	288.42	92.55	4.116	
2,400.00	2,388.19	2,363.47	2,362.11	5.97	92.91	168.57	123.80	-194.56	397.37	300.71	96.66	4.111	
2,500.00	2,487.14	2,461.96	2,460.54	6.31	96.86	169.33	127.23	-194.56	413.85	313.07	100.77	4.107	
2,600.00	2,586.09	2,560.45	2,558.97	6.65	100.82	170.03	130.67	-194.56	430.39	325.50	104.89	4.103	
2,700.00	2,685.04	2,658.94	2,657.40	6.99	104.78	170.68	134.11	-194.56	446.99	337.99	109.00	4.101	
2,800.00	2,783.99	2,757.43	2,755.83	7.33	108.73	171.28	137.55	-194.56	463.65	350.53	113.12	4.099	
2,900.00	2,882.93	2,855.92	2,854.26	7.68	112.69	171.85	140.98	-194.56	480.35	363.11	117.23	4.097	
3,000.00	2,981.88	2,954.41	2,952.69	8.02	116.64	172.37	144.42	-194.56	497.09	375.74	121.35	4.096	
3,100.00	3,080.83	3,052.90	3,051.12	8.37	120.60	172.86	147.86	-194.56	513.87	388.40	125.47	4.096	
3,200.00	3,179.78	3,151.39	3,149.55	8.72	124.56	173.32	151.29	-194.56	530.68	401.10	129.59	4.095	
3,300.00	3,278.73	3,249.88	3,247.98	9.07	128.51	173.75	154.73	-194.56	547.53	413.82	133.71	4.095 SF	
3,400.00	3,377.68	3,348.37	3,346.41	9.42	132.47	174.16	158.17	-194.56	564.40	426.58	137.83	4.095	
3,500.00	3,476.63	3,446.86	3,444.84	9.77	136.42	174.54	161.61	-194.56	581.31	439.36	141.95	4.095	
3,600.00	3,575.57	3,545.35	3,543.27	10.12	140.38	174.90	165.04	-194.56	598.23	452.16	146.07	4.095	
3,700.00	3,674.52	3,643.84	3,641.70	10.47	144.34	175.24	168.48	-194.56	615.18	464.98	150.19	4.096	
3,800.00	3,773.47	3,742.32	3,740.13	10.83	148.29	175.56	171.92	-194.56	632.14	477.83	154.31	4.096	
3,900.00	3,872.42	3,840.81	3,838.56	11.18	152.25	175.87	175.36	-194.56	649.13	490.69	158.44	4.097	
4,000.00	3,971.37	3,939.30	3,936.99	11.53	156.20	176.16	178.79	-194.56	666.13	503.57	162.56	4.098	
4,100.00	4,070.32	4,037.79	4,035.41	11.89	160.16	176.43	182.23	-194.56	683.14	516.46	166.68	4.099	
4,200.00	4,169.26	4,136.28	4,133.84	12.24	164.12	176.70	185.67	-194.56	700.18	529.37	170.80	4.099	
4,300.00	4,268.21	4,234.77	4,232.27	12.59	168.07	176.95	189.10	-194.56	717.22	542.29	174.93	4.100	
4,400.00	4,367.16	4,333.26	4,330.70	12.95	172.03	177.18	192.54	-194.56	734.28	555.23	179.05	4.101	
4,500.00	4,466.11	4,431.75	4,429.13	13.30	175.98	177.41	195.98	-194.56	751.35	568.17	183.18	4.102	
4,600.00	4,565.06	4,530.24	4,527.56	13.66	179.94	177.63	199.42	-194.56	768.43	581.13	187.30	4.103	
4,700.00	4,664.01	4,628.73	4,625.99	14.02	183.90	177.84	202.85	-194.56	785.52	594.09	191.43	4.104	
4,800.00	4,762.96	4,727.22	4,724.42	14.37	187.85	178.04	206.29	-194.56	802.62	607.07	195.55	4.104	
4,900.00	4,861.90	4,765.00	4,762.18	14.73	189.37	178.11	207.61	-194.56	821.98	624.69	197.28	4.166	
5,000.00	4,960.85	4,765.00	4,762.18	15.08	189.37	178.11	207.61	-194.56	851.86	654.33	197.53	4.313	
5,100.00	5,059.80	4,765.00	4,762.18	15.44	189.37	178.11	207.61	-194.56	892.01	694.23	197.77	4.510	
5,200.00	5,158.75	4,765.00	4,762.18	15.80	189.37	178.11	207.61	-194.56	941.11	743.09	198.02	4.753	
5,300.00	5,257.70	4,765.00	4,762.18	16.15	189.37	178.11	207.61	-194.56	997.85	799.59	198.27	5.033	
5,400.00	5,356.65	4,765.00	4,762.18	16.51	189.37	178.11	207.61	-194.56	1,061.00	862.49	198.51	5.345	
5,500.00	5,455.59	4,765.00	4,762.18	16.87	189.37	178.11	207.61	-194.56	1,129.49	930.73	198.76	5.683	
5,600.00	5,554.54	4,765.00	4,762.18	17.22	189.37	178.11	207.61	-194.56	1,202.40	1,003.39	199.00	6.042	
5,700.00	5,653.49	4,765.00	4,762.18	17.58	189.37	178.11	207.61	-194.56	1,278.97	1,079.72	199.25	6.419	
5,747.65	5,700.64	4,765.00	4,762.18	17.75	189.37	178.11	207.61	-194.56	1,316.57	1,117.20	199.37	6.604	

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,800.00	5,752.51	4,765.00	4,762.18	17.91	189.37	178.16	207.61	-194.56	1,358.31	1,158.32	200.00	6.792	
5,900.00	5,851.90	4,765.00	4,762.18	18.14	189.37	178.24	207.61	-194.56	1,438.47	1,237.39	201.08	7.154	
6,000.00	5,951.62	4,765.00	4,762.18	18.33	189.37	178.32	207.61	-194.56	1,519.01	1,317.10	201.91	7.523	
6,100.00	6,051.54	4,765.00	4,762.18	18.50	189.37	178.40	207.61	-194.56	1,599.79	1,397.30	202.49	7.901	
6,163.47	6,115.00	4,765.00	4,762.18	18.59	189.37	-39.39	207.61	-194.56	1,651.13	1,448.39	202.73	8.144	
6,200.00	6,151.53	4,765.00	4,762.18	18.65	189.37	-39.39	207.61	-194.56	1,680.82	1,478.01	202.80	8.288	
6,300.00	6,251.53	4,765.00	4,762.18	18.78	189.37	-39.39	207.61	-194.56	1,763.41	1,560.43	202.98	8.687	
6,400.00	6,351.53	4,765.00	4,762.18	18.92	189.37	-39.39	207.61	-194.56	1,847.73	1,644.56	203.16	9.095	
6,500.00	6,451.53	4,765.00	4,762.18	19.06	189.37	-39.39	207.61	-194.56	1,933.54	1,730.19	203.34	9.509	
6,600.00	6,551.53	4,765.00	4,762.18	19.20	189.37	-39.39	207.61	-194.56	2,020.65	1,817.12	203.53	9.928	
6,700.00	6,651.53	4,765.00	4,762.18	19.34	189.37	-39.39	207.61	-194.56	2,108.91	1,905.20	203.71	10.352	
6,800.00	6,751.53	4,765.00	4,762.18	19.48	189.37	-39.39	207.61	-194.56	2,198.18	1,994.28	203.90	10.781	
6,900.00	6,851.53	4,765.00	4,762.18	19.62	189.37	-39.39	207.61	-194.56	2,288.33	2,084.25	204.08	11.213	
7,000.00	6,951.53	4,765.00	4,762.18	19.77	189.37	-39.39	207.61	-194.56	2,379.27	2,175.00	204.27	11.648	
7,100.00	7,051.53	4,765.00	4,762.18	19.92	189.37	-39.39	207.61	-194.56	2,470.91	2,266.45	204.46	12.085	
7,200.00	7,151.53	4,765.00	4,762.18	20.07	189.37	-39.39	207.61	-194.56	2,563.17	2,358.53	204.65	12.525	
7,300.00	7,251.53	4,765.00	4,762.18	20.22	189.37	-39.39	207.61	-194.56	2,656.00	2,451.16	204.84	12.966	
7,400.00	7,351.53	4,765.00	4,762.18	20.37	189.37	-39.39	207.61	-194.56	2,749.33	2,544.30	205.03	13.410	
7,500.00	7,451.53	4,765.00	4,762.18	20.52	189.37	-39.39	207.61	-194.56	2,843.11	2,637.89	205.22	13.854	
7,600.00	7,551.53	4,765.00	4,762.18	20.68	189.37	-39.39	207.61	-194.56	2,937.30	2,731.89	205.41	14.300	
7,700.00	7,651.53	4,765.00	4,762.18	20.83	189.37	-39.39	207.61	-194.56	3,031.87	2,826.26	205.60	14.746	
7,800.00	7,751.53	4,765.00	4,762.18	20.99	189.37	-39.39	207.61	-194.56	3,126.77	2,920.97	205.80	15.193	
7,900.00	7,851.53	4,765.00	4,762.18	21.15	189.37	-39.39	207.61	-194.56	3,221.98	3,015.99	205.99	15.641	
8,000.00	7,951.53	4,765.00	4,762.18	21.31	189.37	-39.39	207.61	-194.56	3,317.47	3,111.28	206.19	16.090	
8,080.47	8,032.00	4,765.00	4,762.18	21.44	189.37	-39.39	207.61	-194.56	3,394.50	3,188.16	206.35	16.451	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-95.42	-148.21	-1,560.66	1,567.73					
100.00	100.00	90.33	90.33	0.10	1.81	-95.40	-147.50	-1,560.66	1,567.62	1,565.71	1.90	823.590		
200.00	200.00	192.92	192.88	0.32	5.73	-95.31	-144.96	-1,560.66	1,567.39	1,561.34	6.04	259.329		
300.00	300.00	293.04	292.94	0.55	9.75	-95.18	-141.47	-1,560.66	1,567.07	1,556.78	10.28	152.386		
400.00	400.00	392.98	392.82	0.77	13.76	-95.05	-137.99	-1,560.66	1,566.76	1,552.24	14.52	107.929		
500.00	500.00	492.92	492.70	0.99	17.77	-94.93	-134.50	-1,560.66	1,566.45	1,547.70	18.75	83.546		
600.00	600.00	592.85	592.57	1.22	21.79	-94.80	-131.01	-1,560.66	1,566.16	1,543.17	22.98	68.145		
700.00	700.00	692.79	692.45	1.44	25.80	-94.67	-127.52	-1,560.66	1,565.87	1,538.65	27.22	57.536		
800.00	800.00	792.73	792.33	1.67	29.82	-94.54	-124.04	-1,560.66	1,565.59	1,534.14	31.45	49.782		
900.00	900.00	892.67	892.21	1.89	33.83	-94.42	-120.55	-1,560.66	1,565.32	1,529.63	35.68	43.869		
1,000.00	1,000.00	992.61	992.09	2.12	37.85	-94.29	-117.06	-1,560.66	1,565.05	1,525.14	39.91	39.210		
1,013.47	1,013.47	1,006.07	1,005.54	2.15	38.39	123.57	-116.59	-1,560.66	1,565.03	1,524.50	40.53	38.613 CC		
1,100.00	1,099.98	1,092.48	1,091.90	2.32	41.86	123.72	-113.57	-1,560.66	1,565.76	1,521.59	44.17	35.449		
1,200.00	1,199.84	1,192.13	1,191.49	2.50	45.86	123.96	-110.10	-1,560.66	1,568.44	1,520.11	48.33	32.451 ES		
1,300.00	1,299.45	1,291.45	1,290.74	2.70	49.85	124.27	-106.63	-1,560.66	1,573.12	1,520.65	52.47	29.980		
1,400.00	1,398.70	1,390.30	1,389.54	2.93	53.82	124.64	-103.18	-1,560.66	1,579.85	1,523.27	56.58	27.921		
1,415.82	1,414.36	1,405.89	1,405.11	2.96	54.45	124.71	-102.64	-1,560.66	1,581.11	1,523.88	57.23	27.627		
1,500.00	1,497.66	1,488.80	1,487.97	3.18	57.78	125.17	-99.74	-1,560.66	1,588.00	1,527.25	60.75	26.140		
1,600.00	1,596.60	1,587.29	1,586.40	3.45	61.73	125.71	-96.31	-1,560.66	1,596.31	1,531.37	64.94	24.581		
1,700.00	1,695.55	1,685.78	1,684.83	3.74	65.69	126.25	-92.87	-1,560.66	1,604.77	1,535.63	69.14	23.209		
1,800.00	1,794.50	1,784.27	1,783.26	4.04	69.64	126.78	-89.43	-1,560.66	1,613.38	1,540.02	73.35	21.994		
1,900.00	1,893.45	1,882.76	1,881.69	4.34	73.60	127.30	-85.99	-1,560.66	1,622.12	1,544.55	77.57	20.912		
2,000.00	1,992.40	1,981.25	1,980.12	4.66	77.56	127.82	-82.56	-1,560.66	1,630.99	1,549.20	81.79	19.941		
2,100.00	2,091.35	2,079.74	2,078.55	4.98	81.51	128.34	-79.12	-1,560.66	1,640.01	1,553.99	86.01	19.067		
2,200.00	2,190.30	2,178.23	2,176.98	5.31	85.47	128.85	-75.68	-1,560.66	1,649.15	1,558.92	90.24	18.276		
2,300.00	2,289.24	2,276.71	2,275.41	5.64	89.42	129.35	-72.24	-1,560.66	1,658.43	1,563.97	94.46	17.557		
2,400.00	2,388.19	2,375.20	2,373.84	5.97	93.38	129.85	-68.81	-1,560.66	1,667.83	1,569.15	98.68	16.901		
2,500.00	2,487.14	2,473.69	2,472.27	6.31	97.34	130.34	-65.37	-1,560.66	1,677.36	1,574.45	102.91	16.299		
2,600.00	2,586.09	2,572.18	2,570.70	6.65	101.29	130.83	-61.93	-1,560.66	1,687.01	1,579.88	107.13	15.747		
2,700.00	2,685.04	2,670.67	2,669.13	6.99	105.25	131.31	-58.50	-1,560.66	1,696.79	1,585.43	111.36	15.237		
2,800.00	2,783.99	2,769.16	2,767.56	7.33	109.20	131.78	-55.06	-1,560.66	1,706.68	1,591.10	115.58	14.766		
2,900.00	2,882.93	2,867.65	2,865.99	7.68	113.16	132.25	-51.62	-1,560.66	1,716.70	1,596.90	119.80	14.330		
3,000.00	2,981.88	2,966.14	2,964.42	8.02	117.12	132.72	-48.18	-1,560.66	1,726.82	1,602.80	124.02	13.924		
3,100.00	3,080.83	3,064.63	3,062.85	8.37	121.07	133.18	-44.75	-1,560.66	1,737.07	1,608.83	128.24	13.546		
3,200.00	3,179.78	3,163.12	3,161.27	8.72	125.03	133.63	-41.31	-1,560.66	1,747.42	1,614.97	132.45	13.193		
3,300.00	3,278.73	3,261.61	3,259.70	9.07	128.98	134.08	-37.87	-1,560.66	1,757.88	1,621.21	136.67	12.862		
3,400.00	3,377.68	3,360.10	3,358.13	9.42	132.94	134.53	-34.44	-1,560.66	1,768.45	1,627.57	140.88	12.553		
3,500.00	3,476.63	3,458.59	3,456.56	9.77	136.89	134.97	-31.00	-1,560.66	1,779.13	1,634.04	145.09	12.262		
3,600.00	3,575.57	3,557.08	3,554.99	10.12	140.85	135.40	-27.56	-1,560.66	1,789.91	1,640.61	149.30	11.989		
3,700.00	3,674.52	3,655.57	3,653.42	10.47	144.81	135.83	-24.12	-1,560.66	1,800.79	1,647.28	153.51	11.731		
3,800.00	3,773.47	3,754.06	3,751.85	10.83	148.76	136.25	-20.69	-1,560.66	1,811.77	1,654.06	157.71	11.488		
3,900.00	3,872.42	3,852.55	3,850.28	11.18	152.72	136.67	-17.25	-1,560.66	1,822.85	1,660.93	161.92	11.258		
4,000.00	3,971.37	3,951.04	3,948.71	11.53	156.67	137.08	-13.81	-1,560.66	1,834.03	1,667.91	166.12	11.041		
4,100.00	4,070.32	4,049.53	4,047.14	11.89	160.63	137.49	-10.37	-1,560.66	1,845.30	1,674.98	170.32	10.834		
4,200.00	4,169.26	4,148.02	4,145.57	12.24	164.59	137.89	-6.94	-1,560.66	1,856.66	1,682.15	174.52	10.639		
4,300.00	4,268.21	4,246.51	4,244.00	12.59	168.54	138.29	-3.50	-1,560.66	1,868.12	1,689.41	178.71	10.453		
4,400.00	4,367.16	4,344.99	4,342.43	12.95	172.50	138.69	-0.06	-1,560.66	1,879.67	1,696.76	182.91	10.277		
4,500.00	4,466.11	4,443.48	4,440.86	13.30	176.45	139.08	3.37	-1,560.66	1,891.30	1,704.20	187.10	10.109		
4,600.00	4,565.06	4,541.97	4,539.29	13.66	180.41	139.46	6.81	-1,560.66	1,903.02	1,711.73	191.29	9.948		
4,700.00	4,664.01	4,640.46	4,637.72	14.02	184.37	139.84	10.25	-1,560.66	1,914.83	1,719.35	195.48	9.796		
4,800.00	4,762.96	4,738.95	4,736.15	14.37	188.32	140.22	13.69	-1,560.66	1,926.71	1,727.05	199.66	9.650		
4,900.00	4,861.90	4,837.44	4,834.58	14.73	192.28	140.59	17.12	-1,560.66	1,938.68	1,734.83	203.85	9.510		

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - HARRY S CHIKUMA #5 EXISTING - HARRY S CHIKUMA #5 EXISTING - HARR												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,960.85	4,892.00	4,889.10	15.08	194.47	140.79	19.03	-1,560.66	1,951.23	1,744.93	206.30	9.458 SF	
5,100.00	5,059.80	4,892.00	4,889.10	15.44	194.47	140.79	19.03	-1,560.66	1,968.02	1,761.42	206.60	9.526	
5,200.00	5,158.75	4,892.00	4,889.10	15.80	194.47	140.79	19.03	-1,560.66	1,989.71	1,782.80	206.91	9.616	
5,300.00	5,257.70	4,892.00	4,889.10	16.15	194.47	140.79	19.03	-1,560.66	2,016.12	1,808.92	207.21	9.730	
5,400.00	5,356.65	4,892.00	4,889.10	16.51	194.47	140.79	19.03	-1,560.66	2,047.09	1,839.58	207.51	9.865	
5,500.00	5,455.59	4,892.00	4,889.10	16.87	194.47	140.79	19.03	-1,560.66	2,082.40	1,874.59	207.81	10.020	
5,600.00	5,554.54	4,892.00	4,889.10	17.22	194.47	140.79	19.03	-1,560.66	2,121.84	1,913.73	208.12	10.195	
5,700.00	5,653.49	4,892.00	4,889.10	17.58	194.47	140.79	19.03	-1,560.66	2,165.19	1,956.77	208.42	10.389	
5,747.65	5,700.64	4,892.00	4,889.10	17.75	194.47	140.79	19.03	-1,560.66	2,187.15	1,978.59	208.57	10.487	
5,800.00	5,752.51	4,892.00	4,889.10	17.91	194.47	141.14	19.03	-1,560.66	2,211.88	2,002.98	208.90	10.588	
5,900.00	5,851.90	4,892.00	4,889.10	18.14	194.47	141.83	19.03	-1,560.66	2,259.96	2,050.57	209.39	10.793	
6,000.00	5,951.62	4,892.00	4,889.10	18.33	194.47	142.52	19.03	-1,560.66	2,309.02	2,099.25	209.76	11.008	
6,100.00	6,051.54	4,892.00	4,889.10	18.50	194.47	143.21	19.03	-1,560.66	2,358.94	2,148.88	210.06	11.230	
6,163.47	6,115.00	4,892.00	4,889.10	18.59	194.47	-74.18	19.03	-1,560.66	2,391.02	2,180.85	210.17	11.376	
6,200.00	6,151.53	4,892.00	4,889.10	18.65	194.47	-74.18	19.03	-1,560.66	2,409.77	2,199.54	210.24	11.462	
6,300.00	6,251.53	4,892.00	4,889.10	18.78	194.47	-74.18	19.03	-1,560.66	2,463.15	2,252.75	210.39	11.707	
6,400.00	6,351.53	4,892.00	4,889.10	18.92	194.47	-74.18	19.03	-1,560.66	2,519.36	2,308.81	210.55	11.966	
6,500.00	6,451.53	4,892.00	4,889.10	19.06	194.47	-74.18	19.03	-1,560.66	2,578.23	2,367.52	210.71	12.236	
6,600.00	6,551.53	4,892.00	4,889.10	19.20	194.47	-74.18	19.03	-1,560.66	2,639.57	2,428.71	210.87	12.518	
6,700.00	6,651.53	4,892.00	4,889.10	19.34	194.47	-74.18	19.03	-1,560.66	2,703.23	2,492.20	211.03	12.810	
6,800.00	6,751.53	4,892.00	4,889.10	19.48	194.47	-74.18	19.03	-1,560.66	2,769.03	2,557.84	211.19	13.111	
6,900.00	6,851.53	4,892.00	4,889.10	19.62	194.47	-74.18	19.03	-1,560.66	2,836.83	2,625.47	211.36	13.422	
7,000.00	6,951.53	4,892.00	4,889.10	19.77	194.47	-74.18	19.03	-1,560.66	2,906.49	2,694.97	211.52	13.741	
7,100.00	7,051.53	4,892.00	4,889.10	19.92	194.47	-74.18	19.03	-1,560.66	2,977.88	2,766.19	211.69	14.067	
7,200.00	7,151.53	4,892.00	4,889.10	20.07	194.47	-74.18	19.03	-1,560.66	3,050.88	2,839.02	211.86	14.401	
7,300.00	7,251.53	4,892.00	4,889.10	20.22	194.47	-74.18	19.03	-1,560.66	3,125.37	2,913.34	212.03	14.740	
7,400.00	7,351.53	4,892.00	4,889.10	20.37	194.47	-74.18	19.03	-1,560.66	3,201.25	2,989.06	212.20	15.086	
7,500.00	7,451.53	4,892.00	4,889.10	20.52	194.47	-74.18	19.03	-1,560.66	3,278.43	3,066.06	212.37	15.437	
7,600.00	7,551.53	4,892.00	4,889.10	20.68	194.47	-74.18	19.03	-1,560.66	3,356.81	3,144.27	212.54	15.794	
7,700.00	7,651.53	4,892.00	4,889.10	20.83	194.47	-74.18	19.03	-1,560.66	3,436.32	3,223.60	212.72	16.154	
7,800.00	7,751.53	4,892.00	4,889.10	20.99	194.47	-74.18	19.03	-1,560.66	3,516.87	3,303.98	212.89	16.519	
7,900.00	7,851.53	4,892.00	4,889.10	21.15	194.47	-74.18	19.03	-1,560.66	3,598.40	3,385.33	213.07	16.888	
8,000.00	7,951.53	4,892.00	4,889.10	21.31	194.47	-74.18	19.03	-1,560.66	3,680.84	3,467.59	213.25	17.261	
8,080.47	8,032.00	4,892.00	4,889.10	21.44	194.47	-74.18	19.03	-1,560.66	3,747.79	3,534.40	213.39	17.563	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design		Riverbend 7-13 PAD - HARRY S. CHIKUMA G.U. B #1 EXISTING - HARRY S. CHIKUMA G.U. B #1 EX										Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	16.57	521.28	155.08	544.16				
100.00	100.00	75.16	75.16	0.10	1.50	16.55	521.77	155.08	544.38	542.78	1.60	340.302	
200.00	200.00	166.78	166.75	0.32	4.68	16.50	523.71	155.08	546.40	541.40	5.00	109.363	
300.00	300.00	263.68	263.60	0.55	8.57	16.40	526.99	155.08	549.65	540.54	9.10	60.369	
400.00	400.00	363.62	363.48	0.77	12.58	16.30	530.48	155.08	553.00	539.66	13.34	41.464	
500.00	500.00	463.55	463.35	0.99	16.60	16.20	533.97	155.08	556.35	538.78	17.57	31.667	
600.00	600.00	563.49	563.23	1.22	20.61	16.10	537.46	155.08	559.70	537.90	21.80	25.673	
700.00	700.00	663.43	663.11	1.44	24.62	16.00	540.94	155.08	563.05	537.02	26.03	21.628	
800.00	800.00	763.37	762.99	1.67	28.64	15.90	544.43	155.08	566.41	536.14	30.27	18.715	
900.00	900.00	863.31	862.87	1.89	32.65	15.80	547.92	155.08	569.77	535.27	34.50	16.516	
1,000.00	1,000.00	963.25	962.74	2.12	36.67	15.71	551.41	155.08	573.12	534.40	38.73	14.798 ES	
1,100.00	1,099.98	1,063.12	1,062.55	2.32	40.68	-126.61	554.89	155.08	577.52	534.72	42.80	13.494	
1,200.00	1,199.84	1,162.77	1,162.15	2.50	44.68	-127.01	558.37	155.08	584.03	537.13	46.91	12.451	
1,300.00	1,299.45	1,262.09	1,261.40	2.70	48.67	-127.63	561.84	155.08	592.71	541.73	50.97	11.628	
1,400.00	1,398.70	1,360.94	1,360.19	2.93	52.64	-128.45	565.29	155.08	603.64	548.65	54.99	10.977	
1,415.82	1,414.36	1,376.53	1,375.77	2.96	53.27	-128.60	565.83	155.08	605.59	549.97	55.62	10.888	
1,500.00	1,497.66	1,459.44	1,458.63	3.18	56.60	-129.54	568.72	155.08	616.18	557.09	59.09	10.428	
1,600.00	1,596.60	1,557.93	1,557.06	3.45	60.55	-130.61	572.16	155.08	628.97	565.75	63.22	9.949	
1,700.00	1,695.55	1,656.42	1,655.49	3.74	64.51	-131.65	575.60	155.08	641.97	574.61	67.36	9.530	
1,800.00	1,794.50	1,754.91	1,753.92	4.04	68.46	-132.64	579.04	155.08	655.17	583.67	71.51	9.162	
1,900.00	1,893.45	1,853.40	1,852.35	4.34	72.42	-133.59	582.47	155.08	668.56	592.91	75.66	8.837	
2,000.00	1,992.40	1,951.88	1,950.78	4.66	76.38	-134.51	585.91	155.08	682.13	602.32	79.81	8.547	
2,100.00	2,091.35	2,050.37	2,049.21	4.98	80.33	-135.39	589.35	155.08	695.86	611.90	83.96	8.288	
2,200.00	2,190.30	2,148.86	2,147.64	5.31	84.29	-136.24	592.79	155.08	709.75	621.64	88.11	8.055	
2,300.00	2,289.24	2,247.35	2,246.07	5.64	88.24	-137.05	596.22	155.08	723.79	631.53	92.26	7.845	
2,400.00	2,388.19	2,345.84	2,344.50	5.97	92.20	-137.83	599.66	155.08	737.97	641.55	96.41	7.654	
2,500.00	2,487.14	2,444.33	2,442.92	6.31	96.16	-138.59	603.10	155.08	752.27	651.71	100.56	7.481	
2,600.00	2,586.09	2,542.82	2,541.35	6.65	100.11	-139.31	606.53	155.08	766.70	661.99	104.71	7.322	
2,700.00	2,685.04	2,641.31	2,639.78	6.99	104.07	-140.01	609.97	155.08	781.25	672.40	108.86	7.177	
2,800.00	2,783.99	2,739.80	2,738.21	7.33	108.02	-140.69	613.41	155.08	795.91	682.91	113.01	7.043	
2,900.00	2,882.93	2,838.29	2,836.64	7.68	111.98	-141.34	616.85	155.08	810.68	693.53	117.15	6.920	
3,000.00	2,981.88	2,936.78	2,935.07	8.02	115.94	-141.96	620.28	155.08	825.54	704.25	121.30	6.806	
3,100.00	3,080.83	3,035.27	3,033.50	8.37	119.89	-142.57	623.72	155.08	840.50	715.06	125.44	6.700	
3,200.00	3,179.78	3,133.76	3,131.93	8.72	123.85	-143.15	627.16	155.08	855.55	725.96	129.58	6.602	
3,300.00	3,278.73	3,232.25	3,230.36	9.07	127.80	-143.71	630.59	155.08	870.68	736.95	133.72	6.511	
3,400.00	3,377.68	3,330.74	3,328.79	9.42	131.76	-144.26	634.03	155.08	885.89	748.02	137.87	6.426	
3,500.00	3,476.63	3,429.23	3,427.22	9.77	135.72	-144.78	637.47	155.08	901.17	759.17	142.01	6.346	
3,600.00	3,575.57	3,527.72	3,525.65	10.12	139.67	-145.29	640.91	155.08	916.53	770.39	146.14	6.271	
3,700.00	3,674.52	3,626.21	3,624.08	10.47	143.63	-145.78	644.34	155.08	931.96	781.68	150.28	6.201	
3,800.00	3,773.47	3,724.70	3,722.51	10.83	147.58	-146.26	647.78	155.08	947.45	793.03	154.42	6.136	
3,900.00	3,872.42	3,823.19	3,820.94	11.18	151.54	-146.72	651.22	155.08	963.01	804.45	158.56	6.074	
4,000.00	3,971.37	3,921.68	3,919.37	11.53	155.50	-147.17	654.66	155.08	978.62	815.93	162.69	6.015	
4,100.00	4,070.32	4,020.16	4,017.80	11.89	159.45	-147.60	658.09	155.08	994.29	827.46	166.83	5.960	
4,200.00	4,169.26	4,118.65	4,116.23	12.24	163.41	-148.02	661.53	155.08	1,010.02	839.05	170.97	5.908	
4,300.00	4,268.21	4,217.14	4,214.66	12.59	167.36	-148.42	664.97	155.08	1,025.79	850.69	175.10	5.858	
4,400.00	4,367.16	4,315.63	4,313.09	12.95	171.32	-148.82	668.40	155.08	1,041.61	862.38	179.23	5.811	
4,500.00	4,466.11	4,414.12	4,411.52	13.30	175.28	-149.20	671.84	155.08	1,057.49	874.12	183.37	5.767	
4,600.00	4,565.06	4,512.61	4,509.94	13.66	179.23	-149.57	675.28	155.08	1,073.40	885.90	187.50	5.725	
4,700.00	4,664.01	4,611.10	4,608.37	14.02	183.19	-149.93	678.72	155.08	1,089.36	897.72	191.63	5.685	
4,800.00	4,762.96	4,709.59	4,706.80	14.37	187.14	-150.28	682.15	155.08	1,105.36	909.59	195.77	5.646	
4,900.00	4,861.90	4,808.08	4,805.23	14.73	191.10	-150.62	685.59	155.08	1,121.40	921.50	199.90	5.610	
5,000.00	4,960.85	4,906.57	4,903.66	15.08	195.06	-150.95	689.03	155.08	1,137.47	933.44	204.03	5.575	

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design		Riverbend 7-13 PAD - HARRY S. CHIKUMA G.U. B #1 EXISTING - HARRY S. CHIKUMA G.U. B #1 EX										Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,059.80	5,005.06	5,002.09	15.44	199.01	-151.27	692.46	155.08	1,153.58	945.42	208.16	5.542	
5,200.00	5,158.75	5,103.55	5,100.52	15.80	202.97	-151.58	695.90	155.08	1,169.73	957.43	212.29	5.510	
5,300.00	5,257.70	5,202.04	5,198.95	16.15	206.92	-151.88	699.34	155.08	1,185.91	969.48	216.42	5.480	
5,400.00	5,356.65	5,300.53	5,297.38	16.51	210.88	-152.18	702.78	155.08	1,202.12	981.56	220.56	5.450	
5,500.00	5,455.59	5,399.02	5,395.81	16.87	214.84	-152.47	706.21	155.08	1,218.36	993.67	224.69	5.422	
5,600.00	5,554.54	5,497.51	5,494.24	17.22	218.79	-152.75	709.65	155.08	1,234.63	1,005.81	228.82	5.396	
5,700.00	5,653.49	5,596.00	5,592.67	17.58	222.75	-153.02	713.09	155.08	1,250.93	1,017.98	232.95	5.370	
5,747.65	5,700.64	5,642.93	5,639.57	17.75	224.63	-153.15	714.73	155.08	1,258.70	1,023.79	234.91	5.358	
5,800.00	5,752.51	5,694.57	5,691.18	17.91	226.71	-153.35	716.53	155.08	1,266.83	1,029.20	237.63	5.331	
5,900.00	5,851.90	5,793.60	5,790.15	18.14	230.68	-153.66	719.98	155.08	1,280.02	1,037.34	242.67	5.275	
6,000.00	5,951.62	5,893.05	5,889.54	18.33	234.68	-153.86	723.46	155.08	1,290.10	1,042.58	247.52	5.212	
6,100.00	6,051.54	5,992.80	5,989.23	18.50	238.69	-153.97	726.94	155.08	1,297.07	1,044.91	252.16	5.144	
6,163.47	6,115.00	6,056.20	6,052.60	18.59	241.23	-11.83	729.15	155.08	1,299.87	1,044.88	254.99	5.098	
6,200.00	6,151.53	6,092.71	6,089.08	18.65	242.70	-11.81	730.42	155.08	1,301.12	1,044.60	256.52	5.072	
6,300.00	6,251.53	6,192.65	6,188.96	18.78	246.71	-11.78	733.91	155.08	1,304.54	1,043.85	260.69	5.004	
6,400.00	6,351.53	6,292.59	6,288.84	18.92	250.73	-11.75	737.40	155.08	1,307.95	1,043.10	264.86	4.938	
6,500.00	6,451.53	6,392.53	6,388.72	19.06	254.74	-11.72	740.89	155.08	1,311.37	1,042.34	269.03	4.874	
6,600.00	6,551.53	6,492.47	6,488.60	19.20	258.76	-11.69	744.37	155.08	1,314.79	1,041.59	273.20	4.813	
6,700.00	6,651.53	6,592.41	6,588.47	19.34	262.77	-11.66	747.86	155.08	1,318.21	1,040.83	277.37	4.752	
6,800.00	6,751.53	6,692.35	6,688.35	19.48	266.78	-11.63	751.35	155.08	1,321.62	1,040.08	281.55	4.694	
6,900.00	6,851.53	6,792.29	6,788.23	19.62	270.80	-11.60	754.84	155.08	1,325.04	1,039.32	285.72	4.637	
7,000.00	6,951.53	6,892.23	6,888.11	19.77	274.81	-11.57	758.33	155.08	1,328.46	1,038.56	289.90	4.582	
7,100.00	7,051.53	6,992.17	6,987.99	19.92	278.83	-11.54	761.81	155.08	1,331.88	1,037.80	294.08	4.529	
7,200.00	7,151.53	7,092.11	7,087.87	20.07	282.84	-11.51	765.30	155.08	1,335.30	1,037.04	298.26	4.477	
7,300.00	7,251.53	7,192.04	7,187.74	20.22	286.86	-11.48	768.79	155.08	1,338.72	1,036.28	302.44	4.426	
7,400.00	7,351.53	7,291.98	7,287.62	20.37	290.87	-11.45	772.28	155.08	1,342.14	1,035.52	306.62	4.377	
7,500.00	7,451.53	7,391.92	7,387.50	20.52	294.88	-11.42	775.77	155.08	1,345.56	1,034.76	310.80	4.329	
7,600.00	7,551.53	7,491.86	7,487.38	20.68	298.90	-11.39	779.25	155.08	1,348.98	1,034.00	314.98	4.283	
7,700.00	7,651.53	7,591.80	7,587.26	20.83	302.91	-11.36	782.74	155.08	1,352.40	1,033.24	319.17	4.237	
7,800.00	7,751.53	7,691.74	7,687.14	20.99	306.93	-11.33	786.23	155.08	1,355.83	1,032.47	323.35	4.193	
7,900.00	7,851.53	7,791.68	7,787.01	21.15	310.94	-11.30	789.72	155.08	1,359.25	1,031.71	327.54	4.150	
8,000.00	7,951.53	7,891.62	7,886.89	21.31	314.95	-11.27	793.20	155.08	1,362.67	1,030.95	331.72	4.108	
8,080.47	8,032.00	7,972.04	7,967.26	21.44	318.18	-11.25	796.01	155.08	1,365.43	1,030.33	335.09	4.075 SF	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-89.96	0.01	-16.24	16.24				
100.00	100.00	100.00	100.00	0.10	0.10	-89.96	0.01	-16.24	16.24	16.05	0.19	84.984	
200.00	200.00	200.00	200.00	0.32	0.32	-89.96	0.01	-16.24	16.24	15.60	0.64	25.346	
300.00	300.00	300.00	300.00	0.55	0.55	-89.96	0.01	-16.24	16.24	15.15	1.09	14.894	
400.00	400.00	400.00	400.00	0.77	0.77	-89.96	0.01	-16.24	16.24	14.70	1.54	10.546	
500.00	500.00	500.00	500.00	0.99	0.99	-89.96	0.01	-16.24	16.24	14.25	1.99	8.162	
600.00	600.00	600.00	600.00	1.22	1.22	-89.96	0.01	-16.24	16.24	13.80	2.44	6.658	
700.00	700.00	700.00	700.00	1.44	1.44	-89.96	0.01	-16.24	16.24	13.35	2.89	5.622	
800.00	800.00	800.00	800.00	1.67	1.67	-89.96	0.01	-16.24	16.24	12.90	3.34	4.864	
900.00	900.00	900.00	900.00	1.89	1.89	-89.96	0.01	-16.24	16.24	12.45	3.79	4.287	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-89.96	0.01	-16.24	16.24	12.00	4.24	3.832 CC, ES, SF	
1,100.00	1,099.98	1,099.45	1,099.43	2.32	2.34	135.48	1.14	-17.54	18.79	14.14	4.65	4.039	
1,200.00	1,199.84	1,198.19	1,198.04	2.50	2.56	148.89	4.49	-21.43	27.64	22.61	5.04	5.487	
1,300.00	1,299.45	1,295.53	1,295.01	2.70	2.78	158.37	9.95	-27.77	43.80	38.37	5.42	8.078	
1,400.00	1,398.70	1,390.82	1,389.61	2.93	3.01	163.76	17.39	-36.40	67.07	61.27	5.80	11.562	
1,415.82	1,414.36	1,405.66	1,404.31	2.96	3.05	164.36	18.73	-37.96	71.37	65.51	5.86	12.179	
1,500.00	1,497.66	1,483.83	1,481.54	3.18	3.27	166.79	26.62	-47.11	95.92	89.72	6.20	15.468	
1,600.00	1,596.60	1,574.94	1,571.08	3.45	3.55	168.43	37.55	-59.79	128.02	121.41	6.61	19.363	
1,700.00	1,695.55	1,664.02	1,658.09	3.74	3.85	169.39	50.02	-74.27	163.14	156.11	7.03	23.220	
1,800.00	1,794.50	1,754.42	1,745.85	4.04	4.20	170.00	64.18	-90.70	200.69	193.24	7.45	26.938	
1,900.00	1,893.45	1,846.98	1,835.64	4.34	4.58	170.43	78.83	-107.70	238.52	230.64	7.89	30.244	
2,000.00	1,992.40	1,939.53	1,925.44	4.66	4.97	170.75	93.49	-124.71	276.36	268.03	8.33	33.178	
2,100.00	2,091.35	2,032.09	2,015.23	4.98	5.38	170.98	108.14	-141.71	314.21	305.43	8.78	35.792	
2,200.00	2,190.30	2,124.64	2,105.02	5.31	5.80	171.17	122.80	-158.72	352.05	342.82	9.23	38.133	
2,300.00	2,289.24	2,217.20	2,194.81	5.64	6.23	171.32	137.45	-175.72	389.90	380.21	9.69	40.237	
2,400.00	2,388.19	2,309.75	2,284.60	5.97	6.66	171.45	152.10	-192.73	427.76	417.60	10.15	42.137	
2,500.00	2,487.14	2,402.31	2,374.40	6.31	7.10	171.55	166.76	-209.73	465.61	454.99	10.62	43.858	
2,600.00	2,586.09	2,494.87	2,464.19	6.65	7.55	171.64	181.41	-226.73	503.46	492.38	11.08	45.424	
2,700.00	2,685.04	2,587.42	2,553.98	6.99	7.99	171.71	196.07	-243.74	541.32	529.77	11.55	46.852	
2,800.00	2,783.99	2,679.98	2,643.77	7.33	8.44	171.78	210.72	-260.74	579.18	567.15	12.03	48.161	
2,900.00	2,882.93	2,772.53	2,733.57	7.68	8.90	171.84	225.37	-277.75	617.03	604.53	12.50	49.364	
3,000.00	2,981.88	2,865.09	2,823.36	8.02	9.35	171.89	240.03	-294.75	654.89	641.92	12.98	50.473	
3,100.00	3,080.83	2,957.64	2,913.15	8.37	9.81	171.93	254.68	-311.76	692.75	679.30	13.45	51.497	
3,200.00	3,179.78	3,050.20	3,002.94	8.72	10.27	171.97	269.33	-328.76	730.61	716.68	13.93	52.447	
3,300.00	3,278.73	3,142.75	3,092.73	9.07	10.73	172.01	283.99	-345.77	768.47	754.06	14.41	53.329	
3,400.00	3,377.68	3,235.31	3,182.53	9.42	11.19	172.04	298.64	-362.77	806.33	791.43	14.89	54.150	
3,500.00	3,476.63	3,327.87	3,272.32	9.77	11.65	172.07	313.30	-379.78	844.18	828.81	15.37	54.917	
3,600.00	3,575.57	3,420.42	3,362.11	10.12	12.12	172.10	327.95	-396.78	882.04	866.19	15.85	55.634	
3,700.00	3,674.52	3,512.98	3,451.90	10.47	12.58	172.13	342.60	-413.79	919.90	903.57	16.34	56.305	
3,800.00	3,773.47	3,605.53	3,541.70	10.83	13.05	172.15	357.26	-430.79	957.76	940.94	16.82	56.936	
3,900.00	3,872.42	3,698.09	3,631.49	11.18	13.51	172.17	371.91	-447.80	995.62	978.32	17.31	57.529	
4,000.00	3,971.37	3,790.64	3,721.28	11.53	13.98	172.19	386.57	-464.80	1,033.48	1,015.69	17.79	58.087	
4,100.00	4,070.32	3,883.20	3,811.07	11.89	14.45	172.21	401.22	-481.81	1,071.34	1,053.06	18.28	58.614	
4,200.00	4,169.26	3,975.75	3,900.86	12.24	14.91	172.23	415.87	-498.81	1,109.20	1,090.44	18.76	59.113	
4,300.00	4,268.21	4,068.31	3,990.66	12.59	15.38	172.25	430.53	-515.81	1,147.06	1,127.81	19.25	59.584	
4,400.00	4,367.16	4,160.87	4,080.45	12.95	15.85	172.26	445.18	-532.82	1,184.92	1,165.18	19.74	60.031	
4,500.00	4,466.11	4,253.42	4,170.24	13.30	16.32	172.27	459.84	-549.82	1,222.78	1,202.56	20.23	60.455	
4,600.00	4,565.06	4,345.98	4,260.03	13.66	16.79	172.29	474.49	-566.83	1,260.64	1,239.93	20.71	60.858	
4,700.00	4,664.01	4,438.53	4,349.82	14.02	17.26	172.30	489.14	-583.83	1,298.50	1,277.30	21.20	61.241	
4,800.00	4,762.96	4,531.09	4,439.62	14.37	17.73	172.31	503.80	-600.84	1,336.36	1,314.67	21.69	61.606	
4,900.00	4,861.90	4,623.64	4,529.41	14.73	18.20	172.32	518.45	-617.84	1,374.22	1,352.04	22.18	61.954	
5,000.00	4,960.85	4,716.20	4,619.20	15.08	18.67	172.33	533.11	-634.85	1,412.08	1,389.41	22.67	62.286	

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Riverbend 7-13 PAD - P_Riverbend 21-13 - P_Riverbend 21-13 - PLAN #1 6-21-10 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	5,059.80	4,808.75	4,708.99	15.44	19.14	172.34	547.76	-651.85	1,449.94	1,426.78	23.16	62.604	
5,200.00	5,158.75	4,901.31	4,798.79	15.80	19.61	172.35	562.41	-668.86	1,487.81	1,464.15	23.65	62.907	
5,300.00	5,257.70	4,993.87	4,888.58	16.15	20.09	172.36	577.07	-685.86	1,525.67	1,501.52	24.14	63.198	
5,400.00	5,356.65	5,086.42	4,978.37	16.51	20.56	172.37	591.72	-702.87	1,563.53	1,538.89	24.63	63.476	
5,500.00	5,455.59	5,178.98	5,068.16	16.87	21.03	172.38	606.37	-719.87	1,601.39	1,576.26	25.12	63.744	
5,600.00	5,554.54	5,271.53	5,157.95	17.22	21.50	172.39	621.03	-736.88	1,639.25	1,613.63	25.61	64.000	
5,700.00	5,653.49	5,364.09	5,247.75	17.58	21.97	172.40	635.68	-753.88	1,677.11	1,651.00	26.10	64.246	
5,747.65	5,700.64	5,408.19	5,290.53	17.75	22.20	172.40	642.67	-761.98	1,695.15	1,668.81	26.34	64.360	
5,800.00	5,752.51	5,456.82	5,337.71	17.91	22.45	172.46	650.36	-770.92	1,714.53	1,687.86	26.67	64.292	
5,900.00	5,851.90	5,550.65	5,428.74	18.14	22.93	172.54	665.22	-788.16	1,749.09	1,721.83	27.25	64.179	
6,000.00	5,951.62	5,797.49	5,670.47	18.33	23.80	172.58	697.61	-825.74	1,776.38	1,748.29	28.09	63.241	
6,100.00	6,051.54	6,058.49	5,929.69	18.50	24.42	172.59	716.94	-848.18	1,791.62	1,762.77	28.84	62.117	
6,163.47	6,115.00	6,227.29	6,098.34	18.59	24.66	-45.24	721.21	-853.13	1,794.77	1,765.49	29.28	61.303	
6,200.00	6,151.53	6,280.49	6,151.53	18.65	24.72	-45.25	721.29	-853.23	1,794.81	1,765.38	29.43	60.980	
6,300.00	6,251.53	6,380.49	6,251.53	18.78	24.84	-45.25	721.29	-853.23	1,794.81	1,765.02	29.79	60.243	
6,400.00	6,351.53	6,480.49	6,351.53	18.92	24.96	-45.25	721.29	-853.23	1,794.81	1,764.66	30.16	59.514	
6,500.00	6,451.53	6,580.49	6,451.53	19.06	25.08	-45.25	721.29	-853.23	1,794.81	1,764.29	30.53	58.797	
6,600.00	6,551.53	6,680.49	6,551.53	19.20	25.21	-45.25	721.29	-853.23	1,794.81	1,763.92	30.90	58.094	
6,700.00	6,651.53	6,780.49	6,651.53	19.34	25.33	-45.25	721.29	-853.23	1,794.81	1,763.55	31.27	57.403	
6,800.00	6,751.53	6,880.49	6,751.53	19.48	25.46	-45.25	721.29	-853.23	1,794.81	1,763.17	31.64	56.725	
6,900.00	6,851.53	6,980.49	6,851.53	19.62	25.59	-45.25	721.29	-853.23	1,794.81	1,762.80	32.02	56.059	
7,000.00	6,951.53	7,080.49	6,951.53	19.77	25.72	-45.25	721.29	-853.23	1,794.81	1,762.42	32.39	55.406	
7,100.00	7,051.53	7,180.49	7,051.53	19.92	25.85	-45.25	721.29	-853.23	1,794.81	1,762.04	32.77	54.764	
7,200.00	7,151.53	7,280.49	7,151.53	20.07	25.98	-45.25	721.29	-853.23	1,794.81	1,761.66	33.15	54.135	
7,300.00	7,251.53	7,380.49	7,251.53	20.22	26.11	-45.25	721.29	-853.23	1,794.81	1,761.28	33.54	53.517	
7,400.00	7,351.53	7,480.49	7,351.53	20.37	26.25	-45.25	721.29	-853.23	1,794.81	1,760.89	33.92	52.910	
7,500.00	7,451.53	7,580.49	7,451.53	20.52	26.38	-45.25	721.29	-853.23	1,794.81	1,760.51	34.31	52.314	
7,600.00	7,551.53	7,680.49	7,551.53	20.68	26.52	-45.25	721.29	-853.23	1,794.81	1,760.12	34.70	51.730	
7,700.00	7,651.53	7,780.49	7,651.53	20.83	26.66	-45.25	721.29	-853.23	1,794.81	1,759.73	35.09	51.156	
7,800.00	7,751.53	7,880.49	7,751.53	20.99	26.80	-45.25	721.29	-853.23	1,794.81	1,759.34	35.48	50.593	
7,900.00	7,851.53	7,980.49	7,851.53	21.15	26.94	-45.25	721.29	-853.23	1,794.81	1,758.95	35.87	50.040	
8,000.00	7,951.53	8,080.49	7,951.53	21.31	27.08	-45.25	721.29	-853.23	1,794.81	1,758.55	36.26	49.497	
8,080.47	8,032.00	8,160.95	8,032.00	21.44	27.20	-45.25	721.29	-853.23	1,794.81	1,758.24	36.58	49.068	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 25-13 - P_Riverbend 25-13 - PLAN #1 6-21-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-32.19	32.19				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-32.19	32.19	32.00	0.19	168.504	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-32.19	32.19	31.55	0.64	50.255	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-32.19	32.19	31.10	1.09	29.532	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-32.19	32.19	30.65	1.54	20.909	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-32.19	32.19	30.20	1.99	16.184	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-32.19	32.19	29.75	2.44	13.201	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-32.19	32.19	29.30	2.89	11.146	
800.00	800.00	800.00	800.00	1.67	1.67	-90.00	0.00	-32.19	32.19	28.86	3.34	9.645	
900.00	900.00	900.00	900.00	1.89	1.89	-90.00	0.00	-32.19	32.19	28.41	3.79	8.500	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.00	0.00	-32.19	32.19	27.96	4.24	7.598 CC, ES	
1,100.00	1,099.98	1,099.01	1,098.99	2.32	2.32	128.48	-0.95	-33.61	34.70	30.07	4.64	7.487 SF	
1,200.00	1,199.84	1,197.64	1,197.49	2.50	2.51	129.92	-3.80	-37.85	42.23	37.24	5.00	8.454	
1,300.00	1,299.45	1,295.52	1,295.00	2.70	2.71	131.41	-8.49	-44.83	54.78	49.41	5.37	10.198	
1,400.00	1,398.70	1,392.28	1,391.06	2.93	2.93	132.57	-14.95	-54.45	72.31	66.54	5.77	12.527	
1,415.82	1,414.36	1,407.47	1,406.09	2.96	2.97	132.72	-16.13	-56.21	75.53	69.69	5.84	12.937	
1,500.00	1,497.66	1,487.79	1,485.44	3.18	3.18	133.09	-23.10	-66.58	93.90	87.69	6.21	15.109	
1,600.00	1,596.60	1,582.15	1,578.15	3.45	3.46	132.45	-32.87	-81.12	118.01	111.32	6.69	17.635	
1,700.00	1,695.55	1,677.60	1,671.45	3.74	3.79	131.39	-44.10	-97.83	144.08	136.88	7.20	20.005	
1,800.00	1,794.50	1,774.07	1,765.72	4.04	4.14	130.60	-55.54	-114.87	170.33	162.59	7.74	22.014	
1,900.00	1,893.45	1,870.54	1,859.98	4.34	4.52	130.02	-66.98	-131.90	196.59	188.30	8.29	23.718	
2,000.00	1,992.40	1,967.01	1,954.24	4.66	4.90	129.58	-78.43	-148.94	222.88	214.02	8.85	25.174	
2,100.00	2,091.35	2,063.48	2,048.51	4.98	5.30	129.23	-89.87	-165.97	249.17	239.74	9.43	26.424	
2,200.00	2,190.30	2,159.96	2,142.77	5.31	5.71	128.95	-101.32	-183.01	275.47	265.45	10.01	27.507	
2,300.00	2,289.24	2,256.43	2,237.03	5.64	6.12	128.72	-112.76	-200.05	301.77	291.17	10.61	28.451	
2,400.00	2,388.19	2,352.90	2,331.30	5.97	6.54	128.52	-124.20	-217.08	328.08	316.87	11.21	29.280	
2,500.00	2,487.14	2,449.37	2,425.56	6.31	6.96	128.36	-135.65	-234.12	354.39	342.58	11.81	30.011	
2,600.00	2,586.09	2,545.84	2,519.82	6.65	7.39	128.21	-147.09	-251.15	380.70	368.29	12.42	30.662	
2,700.00	2,685.04	2,642.32	2,614.09	6.99	7.82	128.09	-158.54	-268.19	407.02	393.99	13.03	31.243	
2,800.00	2,783.99	2,738.79	2,708.35	7.33	8.25	127.98	-169.98	-285.22	433.34	419.70	13.64	31.765	
2,900.00	2,882.93	2,835.26	2,802.62	7.68	8.68	127.88	-181.43	-302.26	459.66	445.40	14.26	32.237	
3,000.00	2,981.88	2,931.73	2,896.88	8.02	9.12	127.80	-192.87	-319.29	485.98	471.10	14.88	32.664	
3,100.00	3,080.83	3,028.20	2,991.14	8.37	9.56	127.72	-204.31	-336.33	512.30	496.80	15.50	33.054	
3,200.00	3,179.78	3,124.67	3,085.41	8.72	10.00	127.65	-215.76	-353.37	538.62	522.50	16.12	33.411	
3,300.00	3,278.73	3,221.15	3,179.67	9.07	10.44	127.59	-227.20	-370.40	564.94	548.19	16.74	33.739	
3,400.00	3,377.68	3,317.62	3,273.93	9.42	10.88	127.53	-238.65	-387.44	591.26	573.89	17.37	34.041	
3,500.00	3,476.63	3,414.09	3,368.20	9.77	11.33	127.47	-250.09	-404.47	617.58	599.59	17.99	34.320	
3,600.00	3,575.57	3,510.56	3,462.46	10.12	11.77	127.43	-261.53	-421.51	643.91	625.29	18.62	34.580	
3,700.00	3,674.52	3,607.03	3,556.72	10.47	12.22	127.38	-272.98	-438.54	670.23	650.98	19.25	34.821	
3,800.00	3,773.47	3,703.51	3,650.99	10.83	12.66	127.34	-284.42	-455.58	696.56	676.68	19.88	35.040	
3,900.00	3,872.42	3,799.98	3,745.25	11.18	13.11	127.30	-295.87	-472.61	722.88	702.37	20.51	35.237	
4,000.00	3,971.37	3,896.45	3,839.52	11.53	13.56	127.27	-307.31	-489.65	749.21	728.05	21.15	35.420	
4,100.00	4,070.32	3,992.92	3,933.78	11.89	14.00	127.23	-318.76	-506.69	775.53	753.74	21.79	35.592	
4,200.00	4,169.26	4,089.39	4,028.04	12.24	14.45	127.20	-330.20	-523.72	801.86	779.43	22.43	35.752	
4,300.00	4,268.21	4,185.86	4,122.31	12.59	14.90	127.17	-341.64	-540.76	828.18	805.11	23.07	35.903	
4,400.00	4,367.16	4,282.34	4,216.57	12.95	15.35	127.14	-353.09	-557.79	854.51	830.80	23.71	36.044	
4,500.00	4,466.11	4,378.81	4,310.83	13.30	15.80	127.12	-364.53	-574.83	880.83	856.49	24.35	36.178	
4,600.00	4,565.06	4,475.28	4,405.10	13.66	16.25	127.10	-375.98	-591.86	907.16	882.17	24.99	36.303	
4,700.00	4,664.01	4,571.75	4,499.36	14.02	16.70	127.07	-387.42	-608.90	933.48	907.86	25.63	36.422	
4,800.00	4,762.96	4,668.22	4,593.62	14.37	17.15	127.05	-398.86	-625.93	959.81	933.54	26.27	36.534	
4,900.00	4,861.90	4,764.70	4,687.89	14.73	17.60	127.03	-410.31	-642.97	986.14	959.22	26.91	36.640	
5,000.00	4,960.85	4,861.17	4,782.15	15.08	18.05	127.01	-421.75	-660.01	1,012.46	984.91	27.56	36.741	

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 25-13 - P_Riverbend 25-13 - PLAN #1 6-21-10 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	5,059.80	4,957.64	4,876.41	15.44	18.50	126.99	-433.20	-677.04	1,038.79	1,010.59	28.20	36.836	
5,200.00	5,158.75	5,054.11	4,970.68	15.80	18.95	126.98	-444.64	-694.08	1,065.12	1,036.27	28.84	36.927	
5,300.00	5,257.70	5,150.58	5,064.94	16.15	19.40	126.96	-456.09	-711.11	1,091.44	1,061.96	29.49	37.014	
5,400.00	5,356.65	5,247.05	5,159.21	16.51	19.85	126.94	-467.53	-728.15	1,117.77	1,087.64	30.13	37.096	
5,500.00	5,455.59	5,343.53	5,253.47	16.87	20.30	126.93	-478.97	-745.18	1,144.10	1,113.32	30.78	37.175	
5,600.00	5,554.54	5,440.00	5,347.73	17.22	20.76	126.91	-490.42	-762.22	1,170.43	1,139.00	31.42	37.250	
5,700.00	5,653.49	5,536.47	5,442.00	17.58	21.21	126.90	-501.86	-779.25	1,196.75	1,164.69	32.07	37.321	
5,747.65	5,700.64	5,582.44	5,486.91	17.75	21.42	126.89	-507.32	-787.37	1,209.30	1,176.92	32.37	37.354	
5,800.00	5,752.51	5,639.07	5,542.26	17.91	21.67	127.09	-514.01	-797.33	1,222.77	1,190.02	32.75	37.332	
5,900.00	5,851.90	5,791.14	5,691.80	18.14	22.18	127.34	-529.34	-820.16	1,244.39	1,210.95	33.44	37.210	
6,000.00	5,951.62	5,946.45	5,845.82	18.33	22.55	127.50	-540.41	-836.64	1,259.55	1,225.53	34.02	37.022	
6,100.00	6,051.54	6,103.90	6,002.83	18.50	22.85	127.57	-546.87	-846.26	1,268.09	1,233.58	34.51	36.745	
6,163.47	6,115.00	6,204.42	6,103.30	18.59	22.98	-90.27	-548.48	-848.64	1,270.03	1,235.25	34.78	36.517	
6,200.00	6,151.53	6,252.66	6,151.53	18.65	23.04	-90.28	-548.57	-848.79	1,270.12	1,235.21	34.91	36.386	
6,300.00	6,251.53	6,352.66	6,251.53	18.78	23.16	-90.28	-548.57	-848.79	1,270.12	1,234.92	35.20	36.087	
6,400.00	6,351.53	6,452.66	6,351.53	18.92	23.27	-90.28	-548.57	-848.79	1,270.12	1,234.63	35.49	35.793	
6,500.00	6,451.53	6,552.66	6,451.53	19.06	23.39	-90.28	-548.57	-848.79	1,270.12	1,234.34	35.78	35.500	
6,600.00	6,551.53	6,652.66	6,551.53	19.20	23.51	-90.28	-548.57	-848.79	1,270.12	1,234.05	36.07	35.209	
6,700.00	6,651.53	6,752.66	6,651.53	19.34	23.63	-90.28	-548.57	-848.79	1,270.12	1,233.75	36.37	34.920	
6,800.00	6,751.53	6,852.66	6,751.53	19.48	23.75	-90.28	-548.57	-848.79	1,270.12	1,233.45	36.67	34.633	
6,900.00	6,851.53	6,952.66	6,851.53	19.62	23.87	-90.28	-548.57	-848.79	1,270.12	1,233.14	36.98	34.347	
7,000.00	6,951.53	7,052.66	6,951.53	19.77	24.00	-90.28	-548.57	-848.79	1,270.12	1,232.83	37.29	34.064	
7,100.00	7,051.53	7,152.66	7,051.53	19.92	24.13	-90.28	-548.57	-848.79	1,270.12	1,232.52	37.60	33.782	
7,200.00	7,151.53	7,252.66	7,151.53	20.07	24.25	-90.28	-548.57	-848.79	1,270.12	1,232.21	37.91	33.503	
7,300.00	7,251.53	7,352.66	7,251.53	20.22	24.38	-90.28	-548.57	-848.79	1,270.12	1,231.89	38.23	33.226	
7,400.00	7,351.53	7,452.66	7,351.53	20.37	24.51	-90.28	-548.57	-848.79	1,270.12	1,231.57	38.55	32.951	
7,500.00	7,451.53	7,552.66	7,451.53	20.52	24.65	-90.28	-548.57	-848.79	1,270.12	1,231.25	38.87	32.679	
7,600.00	7,551.53	7,652.66	7,551.53	20.68	24.78	-90.28	-548.57	-848.79	1,270.12	1,230.93	39.19	32.408	
7,700.00	7,651.53	7,752.66	7,651.53	20.83	24.91	-90.28	-548.57	-848.79	1,270.12	1,230.60	39.52	32.141	
7,800.00	7,751.53	7,852.66	7,751.53	20.99	25.05	-90.28	-548.57	-848.79	1,270.12	1,230.27	39.85	31.876	
7,900.00	7,851.53	7,952.66	7,851.53	21.15	25.19	-90.28	-548.57	-848.79	1,270.12	1,229.94	40.18	31.613	
8,000.00	7,951.53	8,052.66	7,951.53	21.31	25.33	-90.28	-548.57	-848.79	1,270.12	1,229.61	40.51	31.353	
8,080.47	8,032.00	8,133.12	8,032.00	21.44	25.44	-90.28	-548.57	-848.79	1,270.12	1,229.34	40.78	31.145	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 5-18 - P_Riverbend 5-1 - PLAN #1 6-21-10 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	89.35	0.36	31.91	31.91				
100.00	100.00	100.00	100.00	0.10	0.10	89.35	0.36	31.91	31.91	31.72	0.19	167.049	
200.00	200.00	200.00	200.00	0.32	0.32	89.35	0.36	31.91	31.91	31.27	0.64	49.822	
300.00	300.00	300.00	300.00	0.55	0.55	89.35	0.36	31.91	31.91	30.82	1.09	29.277 CC, ES	
400.00	400.00	398.86	398.84	0.77	0.76	89.28	0.42	33.62	33.64	32.11	1.53	22.049	
500.00	500.00	497.48	497.33	0.99	0.97	89.12	0.59	38.71	38.81	36.85	1.96	19.794	
600.00	600.00	595.64	595.12	1.22	1.21	88.94	0.88	47.15	47.41	45.00	2.41	19.670 SF	
700.00	700.00	693.11	691.88	1.44	1.48	88.76	1.27	58.83	59.40	56.52	2.88	20.647	
800.00	800.00	789.67	787.29	1.67	1.79	88.63	1.77	73.64	74.75	71.38	3.36	22.214	
900.00	900.00	885.12	881.06	1.89	2.14	88.52	2.36	91.43	93.40	89.52	3.88	24.089	
1,000.00	1,000.00	979.27	972.92	2.12	2.53	88.44	3.06	112.02	115.29	110.87	4.42	26.102	
1,100.00	1,099.98	1,072.19	1,062.87	2.32	2.98	-53.96	3.84	135.30	139.36	134.73	4.63	30.099	
1,200.00	1,199.84	1,164.00	1,150.96	2.50	3.47	-54.93	4.71	161.14	164.62	159.56	5.06	32.541	
1,300.00	1,299.45	1,254.62	1,237.05	2.70	4.02	-56.31	5.66	189.41	191.16	185.65	5.51	34.688	
1,400.00	1,398.70	1,343.96	1,321.01	2.93	4.61	-57.89	6.68	219.93	219.08	213.09	6.00	36.542	
1,415.82	1,414.36	1,357.98	1,334.09	2.96	4.71	-58.15	6.85	224.95	223.63	217.56	6.08	36.807	
1,500.00	1,497.66	1,431.88	1,402.66	3.18	5.24	-59.75	7.78	252.50	249.09	242.57	6.52	38.206	
1,600.00	1,596.60	1,518.10	1,481.73	3.45	5.92	-61.19	8.93	286.86	282.15	275.08	7.07	39.897	
1,700.00	1,695.55	1,608.26	1,563.51	3.74	6.67	-62.33	10.20	324.78	317.58	309.91	7.67	41.416	
1,800.00	1,794.50	1,701.52	1,648.04	4.04	7.47	-63.26	11.53	364.17	353.30	345.00	8.30	42.575	
1,900.00	1,893.45	1,794.79	1,732.57	4.34	8.27	-64.03	12.85	403.56	389.08	380.14	8.95	43.488	
2,000.00	1,992.40	1,888.05	1,817.09	4.66	9.08	-64.67	14.18	442.96	424.92	415.31	9.61	44.213	
2,100.00	2,091.35	1,981.31	1,901.62	4.98	9.90	-65.20	15.50	482.35	460.79	450.51	10.29	44.795	
2,200.00	2,190.30	2,074.58	1,986.14	5.31	10.71	-65.66	16.82	521.74	496.70	485.72	10.97	45.267	
2,300.00	2,289.24	2,167.84	2,070.67	5.64	11.53	-66.06	18.15	561.13	532.63	520.96	11.67	45.653	
2,400.00	2,388.19	2,261.10	2,155.19	5.97	12.35	-66.41	19.47	600.53	568.57	556.20	12.37	45.970	
2,500.00	2,487.14	2,354.37	2,239.72	6.31	13.17	-66.71	20.79	639.92	604.54	591.46	13.08	46.234	
2,600.00	2,586.09	2,447.63	2,324.24	6.65	14.00	-66.99	22.12	679.31	640.51	626.73	13.79	46.455	
2,700.00	2,685.04	2,540.89	2,408.77	6.99	14.82	-67.23	23.44	718.70	676.50	662.00	14.50	46.641	
2,800.00	2,783.99	2,634.16	2,493.29	7.33	15.65	-67.45	24.76	758.10	712.50	697.28	15.22	46.799	
2,900.00	2,882.93	2,727.42	2,577.82	7.68	16.47	-67.64	26.09	797.49	748.51	732.56	15.95	46.933	
3,000.00	2,981.88	2,820.68	2,662.34	8.02	17.30	-67.82	27.41	836.88	784.52	767.84	16.67	47.048	
3,100.00	3,080.83	2,913.95	2,746.87	8.37	18.13	-67.99	28.74	876.27	820.54	803.13	17.40	47.147	
3,200.00	3,179.78	3,007.21	2,831.39	8.72	18.96	-68.14	30.06	915.67	856.56	838.43	18.13	47.233	
3,300.00	3,278.73	3,100.47	2,915.92	9.07	19.78	-68.28	31.38	955.06	892.59	873.72	18.87	47.308	
3,400.00	3,377.68	3,193.74	3,000.44	9.42	20.61	-68.40	32.71	994.45	928.63	909.02	19.60	47.373	
3,500.00	3,476.63	3,287.00	3,084.97	9.77	21.44	-68.52	34.03	1,033.84	964.66	944.32	20.34	47.430	
3,600.00	3,575.57	3,380.26	3,169.90	10.12	22.27	-68.63	35.35	1,073.24	1,000.70	979.63	21.08	47.480	
3,700.00	3,674.52	3,473.53	3,254.02	10.47	23.10	-68.73	36.68	1,112.63	1,036.75	1,014.93	21.82	47.524	
3,800.00	3,773.47	3,566.79	3,338.55	10.83	23.93	-68.83	38.00	1,152.02	1,072.79	1,050.24	22.56	47.563	
3,900.00	3,872.42	3,660.05	3,423.07	11.18	24.76	-68.91	39.32	1,191.41	1,108.84	1,085.54	23.30	47.597	
4,000.00	3,971.37	3,753.32	3,507.60	11.53	25.59	-69.00	40.65	1,230.81	1,144.89	1,120.85	24.04	47.628	
4,100.00	4,070.32	3,846.58	3,592.12	11.89	26.42	-69.07	41.97	1,270.20	1,180.94	1,156.16	24.78	47.655	
4,200.00	4,169.26	3,939.84	3,676.65	12.24	27.25	-69.15	43.30	1,309.59	1,217.00	1,191.47	25.52	47.680	
4,300.00	4,268.21	4,033.11	3,761.17	12.59	28.08	-69.22	44.62	1,348.98	1,253.05	1,226.78	26.27	47.701	
4,400.00	4,367.16	4,126.37	3,845.70	12.95	28.92	-69.28	45.94	1,388.38	1,289.11	1,262.10	27.01	47.721	
4,500.00	4,466.11	4,219.63	3,930.22	13.30	29.75	-69.34	47.27	1,427.77	1,325.17	1,297.41	27.76	47.738	
4,600.00	4,565.06	4,312.90	4,014.75	13.66	30.58	-69.40	48.59	1,467.16	1,361.23	1,332.72	28.51	47.754	
4,700.00	4,664.01	4,406.16	4,099.27	14.02	31.41	-69.46	49.91	1,506.56	1,397.29	1,368.04	29.25	47.768	
4,800.00	4,762.96	4,499.42	4,183.80	14.37	32.24	-69.51	51.24	1,545.95	1,433.35	1,403.35	30.00	47.780	
4,900.00	4,861.90	4,592.69	4,268.32	14.73	33.07	-69.56	52.56	1,585.34	1,469.41	1,438.67	30.75	47.792	
5,000.00	4,960.85	4,685.95	4,352.85	15.08	33.90	-69.61	53.88	1,624.73	1,505.48	1,473.99	31.49	47.802	

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 5-18 - P_Riverbend 5-1 - PLAN #1 6-21-10 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	5,059.80	4,779.21	4,437.37	15.44	34.74	-69.65	55.21	1,664.13	1,541.54	1,509.30	32.24	47.811	
5,200.00	5,158.75	4,872.48	4,521.90	15.80	35.57	-69.70	56.53	1,703.52	1,577.61	1,544.62	32.99	47.820	
5,300.00	5,257.70	4,965.74	4,606.43	16.15	36.40	-69.74	57.86	1,742.91	1,613.68	1,579.94	33.74	47.827	
5,400.00	5,356.65	5,059.00	4,690.95	16.51	37.23	-69.78	59.18	1,782.30	1,649.74	1,615.25	34.49	47.834	
5,500.00	5,455.59	5,152.27	4,775.48	16.87	38.06	-69.82	60.50	1,821.70	1,685.81	1,650.57	35.24	47.840	
5,600.00	5,554.54	5,245.53	4,860.00	17.22	38.89	-69.85	61.83	1,861.09	1,721.88	1,685.89	35.99	47.846	
5,700.00	5,653.49	5,338.79	4,944.53	17.58	39.73	-69.89	63.15	1,900.48	1,757.95	1,721.21	36.74	47.851	
5,747.65	5,700.64	5,383.23	4,984.80	17.75	40.12	-69.90	63.78	1,919.25	1,775.14	1,738.04	37.10	47.853	
5,800.00	5,752.51	5,432.00	5,029.00	17.91	40.56	-70.29	64.47	1,939.85	1,794.17	1,756.62	37.55	47.782	
5,900.00	5,851.90	5,524.79	5,113.10	18.14	41.39	-70.96	65.79	1,979.04	1,831.36	1,793.02	38.34	47.770	
6,000.00	5,951.62	5,617.01	5,196.68	18.33	42.21	-71.56	67.10	2,017.99	1,869.62	1,830.53	39.08	47.838	
6,100.00	6,051.54	5,708.55	5,279.64	18.50	43.03	-72.09	68.40	2,056.66	1,908.92	1,869.13	39.78	47.983	
6,163.47	6,115.00	5,766.24	5,331.92	18.59	43.54	69.77	69.22	2,081.03	1,934.40	1,894.19	40.21	48.103	
6,200.00	6,151.53	5,799.35	5,361.93	18.65	43.84	69.91	69.69	2,095.01	1,949.20	1,908.85	40.35	48.308	
6,300.00	6,251.53	5,901.78	5,454.79	18.78	44.73	70.34	71.14	2,138.23	1,989.72	1,948.99	40.73	48.846	
6,400.00	6,351.53	6,186.20	5,718.75	18.92	46.53	71.29	74.68	2,243.75	2,025.46	1,984.06	41.39	48.933	
6,500.00	6,451.53	6,491.35	6,012.08	19.06	47.94	71.98	77.49	2,327.30	2,051.86	2,009.81	42.05	48.791	
6,600.00	6,551.53	6,812.03	6,328.07	19.20	48.88	72.40	79.29	2,380.98	2,068.03	2,025.36	42.67	48.470	
6,700.00	6,651.53	7,136.18	6,651.53	19.34	49.31	72.53	79.90	2,399.06	2,073.33	2,030.15	43.19	48.008	
6,800.00	6,751.53	7,236.18	6,751.53	19.48	49.37	72.53	79.90	2,399.06	2,073.33	2,029.89	43.45	47.723	
6,900.00	6,851.53	7,336.18	6,851.53	19.62	49.43	72.53	79.90	2,399.06	2,073.33	2,029.63	43.71	47.436	
7,000.00	6,951.53	7,436.18	6,951.53	19.77	49.50	72.53	79.90	2,399.06	2,073.33	2,029.36	43.97	47.150	
7,100.00	7,051.53	7,536.18	7,051.53	19.92	49.57	72.53	79.90	2,399.06	2,073.33	2,029.09	44.24	46.864	
7,200.00	7,151.53	7,636.18	7,151.53	20.07	49.64	72.53	79.90	2,399.06	2,073.33	2,028.82	44.51	46.579	
7,300.00	7,251.53	7,736.18	7,251.53	20.22	49.71	72.53	79.90	2,399.06	2,073.33	2,028.55	44.79	46.294	
7,400.00	7,351.53	7,836.18	7,351.53	20.37	49.78	72.53	79.90	2,399.06	2,073.33	2,028.27	45.06	46.009	
7,500.00	7,451.53	7,936.18	7,451.53	20.52	49.85	72.53	79.90	2,399.06	2,073.33	2,027.99	45.34	45.726	
7,600.00	7,551.53	8,036.18	7,551.53	20.68	49.92	72.53	79.90	2,399.06	2,073.33	2,027.71	45.62	45.443	
7,700.00	7,651.53	8,136.18	7,651.53	20.83	49.99	72.53	79.90	2,399.06	2,073.33	2,027.42	45.91	45.161	
7,800.00	7,751.53	8,236.18	7,751.53	20.99	50.07	72.53	79.90	2,399.06	2,073.33	2,027.14	46.20	44.880	
7,900.00	7,851.53	8,336.18	7,851.53	21.15	50.14	72.53	79.90	2,399.06	2,073.33	2,026.85	46.49	44.600	
8,000.00	7,951.53	8,436.18	7,951.53	21.31	50.22	72.53	79.90	2,399.06	2,073.33	2,026.55	46.78	44.321	
8,051.87	8,003.40	8,488.05	8,003.40	21.39	50.26	72.53	79.90	2,399.06	2,073.33	2,026.40	46.93	44.177	
8,080.47	8,032.00	8,511.65	8,027.00	21.44	50.27	72.53	79.90	2,399.06	2,073.34	2,026.33	47.01	44.104	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 6-13 - P_Riverbend 6-13 - PLAN #1 6-21-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.33	-0.36	-64.11	64.11				
100.00	100.00	100.00	100.00	0.10	0.10	-90.33	-0.36	-64.11	64.11	63.92	0.19	335.547	
200.00	200.00	200.00	200.00	0.32	0.32	-90.33	-0.36	-64.11	64.11	63.47	0.64	100.076	
300.00	300.00	300.00	300.00	0.55	0.55	-90.33	-0.36	-64.11	64.11	63.02	1.09	58.807 CC, ES	
400.00	400.00	397.78	397.76	0.77	0.75	-90.26	-0.30	-65.77	65.81	64.29	1.52	43.204	
500.00	500.00	495.32	495.17	0.99	0.97	-90.07	-0.09	-70.76	70.92	68.96	1.96	36.262	
600.00	600.00	592.42	591.91	1.22	1.20	-89.82	0.25	-79.00	79.42	77.02	2.40	33.073	
700.00	700.00	688.85	687.66	1.44	1.47	-89.55	0.71	-90.43	91.27	88.41	2.86	31.890	
800.00	800.00	784.40	782.09	1.67	1.78	-89.29	1.31	-104.93	106.45	103.11	3.34	31.860 SF	
900.00	900.00	878.87	874.94	1.89	2.12	-89.05	2.02	-122.34	124.90	121.06	3.84	32.515	
1,000.00	1,000.00	972.09	965.94	2.12	2.51	-88.85	2.85	-142.52	146.56	142.19	4.36	33.582	
1,100.00	1,099.98	1,063.58	1,054.57	2.32	2.95	129.18	3.78	-165.18	172.42	167.82	4.60	37.505	
1,200.00	1,199.84	1,154.60	1,142.03	2.50	3.43	129.90	4.81	-190.39	203.34	198.33	5.00	40.638	
1,300.00	1,299.45	1,248.51	1,232.05	2.70	3.96	130.95	5.91	-217.07	237.21	231.78	5.43	43.685	
1,400.00	1,398.70	1,341.43	1,321.14	2.93	4.49	132.15	6.99	-243.46	273.41	267.54	5.87	46.599	
1,415.82	1,414.36	1,356.03	1,335.13	2.96	4.57	132.35	7.16	-247.61	279.36	273.42	5.94	47.047	
1,500.00	1,497.66	1,433.65	1,409.56	3.18	5.02	133.74	8.06	-269.66	311.24	304.90	6.34	49.083	
1,600.00	1,596.60	1,525.86	1,497.96	3.45	5.56	135.07	9.14	-295.86	349.28	342.44	6.84	51.091	
1,700.00	1,695.55	1,618.07	1,586.36	3.74	6.10	136.14	10.21	-322.06	387.45	380.10	7.35	52.747	
1,800.00	1,794.50	1,710.28	1,674.77	4.04	6.64	137.02	11.28	-348.25	425.71	417.84	7.87	54.125	
1,900.00	1,893.45	1,802.49	1,763.17	4.34	7.18	137.75	12.36	-374.45	464.04	455.65	8.39	55.285	
2,000.00	1,992.40	1,894.70	1,851.58	4.66	7.73	138.37	13.43	-400.65	502.43	493.50	8.93	56.269	
2,100.00	2,091.35	1,986.91	1,939.98	4.98	8.28	138.90	14.50	-426.84	540.87	531.40	9.47	57.111	
2,200.00	2,190.30	2,079.13	2,028.39	5.31	8.83	139.37	15.58	-453.04	579.33	569.32	10.02	57.839	
2,300.00	2,289.24	2,171.34	2,116.79	5.64	9.38	139.77	16.65	-479.24	617.83	607.26	10.57	58.473	
2,400.00	2,388.19	2,263.55	2,205.20	5.97	9.93	140.13	17.73	-505.43	656.35	645.23	11.12	59.028	
2,500.00	2,487.14	2,355.76	2,293.60	6.31	10.48	140.45	18.80	-531.63	694.89	683.21	11.68	59.518	
2,600.00	2,586.09	2,447.97	2,382.01	6.65	11.03	140.73	19.87	-557.83	733.44	721.21	12.23	59.952	
2,700.00	2,685.04	2,540.18	2,470.41	6.99	11.58	140.99	20.95	-584.02	772.01	759.22	12.79	60.340	
2,800.00	2,783.99	2,632.39	2,558.82	7.33	12.14	141.22	22.02	-610.22	810.59	797.24	13.36	60.688	
2,900.00	2,882.93	2,724.60	2,647.22	7.68	12.69	141.43	23.09	-636.42	849.18	835.26	13.92	61.002	
3,000.00	2,981.88	2,816.81	2,735.63	8.02	13.24	141.62	24.17	-662.61	887.78	873.30	14.49	61.286	
3,100.00	3,080.83	2,909.02	2,824.03	8.37	13.79	141.80	25.24	-688.81	926.39	911.34	15.05	61.544	
3,200.00	3,179.78	3,001.23	2,912.44	8.72	14.35	141.96	26.32	-715.00	965.00	949.38	15.62	61.779	
3,300.00	3,278.73	3,093.44	3,000.84	9.07	14.90	142.11	27.39	-741.20	1,003.63	987.44	16.19	61.995	
3,400.00	3,377.68	3,185.65	3,089.25	9.42	15.46	142.25	28.46	-767.40	1,042.25	1,025.49	16.76	62.192	
3,500.00	3,476.63	3,277.86	3,177.65	9.77	16.01	142.38	29.54	-793.59	1,080.88	1,063.55	17.33	62.375	
3,600.00	3,575.57	3,370.08	3,266.06	10.12	16.56	142.50	30.61	-819.79	1,119.52	1,101.62	17.90	62.543	
3,700.00	3,674.52	3,462.29	3,354.46	10.47	17.12	142.61	31.68	-845.99	1,158.16	1,139.68	18.47	62.699	
3,800.00	3,773.47	3,554.50	3,442.87	10.83	17.67	142.71	32.76	-872.18	1,196.80	1,177.75	19.04	62.844	
3,900.00	3,872.42	3,646.71	3,531.27	11.18	18.23	142.81	33.83	-898.38	1,235.44	1,215.83	19.62	62.979	
4,000.00	3,971.37	3,738.92	3,619.67	11.53	18.78	142.90	34.91	-924.58	1,274.09	1,253.90	20.19	63.105	
4,100.00	4,070.32	3,831.13	3,708.08	11.89	19.34	142.99	35.98	-950.77	1,312.74	1,291.98	20.76	63.222	
4,200.00	4,169.26	3,923.34	3,796.48	12.24	19.89	143.07	37.05	-976.97	1,351.40	1,330.06	21.34	63.333	
4,300.00	4,268.21	4,015.55	3,884.89	12.59	20.45	143.15	38.13	-1,003.17	1,390.05	1,368.14	21.91	63.436	
4,400.00	4,367.16	4,107.76	3,973.29	12.95	21.00	143.22	39.20	-1,029.36	1,428.71	1,406.22	22.49	63.533	
4,500.00	4,466.11	4,199.97	4,061.70	13.30	21.56	143.29	40.27	-1,055.56	1,467.37	1,444.31	23.06	63.625	
4,600.00	4,565.06	4,292.18	4,150.10	13.66	22.11	143.36	41.35	-1,081.76	1,506.03	1,482.39	23.64	63.712	
4,700.00	4,664.01	4,384.39	4,238.51	14.02	22.67	143.42	42.42	-1,107.95	1,544.70	1,520.48	24.21	63.793	
4,800.00	4,762.96	4,476.60	4,326.91	14.37	23.22	143.48	43.50	-1,134.15	1,583.36	1,558.57	24.79	63.871	
4,900.00	4,861.90	4,568.81	4,415.32	14.73	23.78	143.54	44.57	-1,160.34	1,622.03	1,596.66	25.37	63.944	
5,000.00	4,960.85	4,661.03	4,503.72	15.08	24.33	143.59	45.64	-1,186.54	1,660.69	1,634.75	25.94	64.013	

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 6-13 - P_Riverbend 6-13 - PLAN #1 6-21-10 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	5,059.80	4,753.24	4,592.13	15.44	24.89	143.64	46.72	-1,212.74	1,699.36	1,672.84	26.52	64.079	
5,200.00	5,158.75	4,845.45	4,680.53	15.80	25.44	143.69	47.79	-1,238.93	1,738.03	1,710.94	27.10	64.142	
5,300.00	5,257.70	4,937.66	4,768.94	16.15	26.00	143.74	48.86	-1,265.13	1,776.70	1,749.03	27.67	64.202	
5,400.00	5,356.65	5,029.87	4,857.34	16.51	26.56	143.78	49.94	-1,291.33	1,815.37	1,787.12	28.25	64.259	
5,500.00	5,455.59	5,122.08	4,945.75	16.87	27.11	143.83	51.01	-1,317.52	1,854.05	1,825.22	28.83	64.313	
5,600.00	5,554.54	5,214.29	5,034.15	17.22	27.67	143.87	52.09	-1,343.72	1,892.72	1,863.31	29.41	64.365	
5,700.00	5,653.49	5,306.50	5,122.56	17.58	28.22	143.91	53.16	-1,369.92	1,931.39	1,901.41	29.98	64.415	
5,747.65	5,700.64	5,350.44	5,164.68	17.75	28.49	143.92	53.67	-1,382.40	1,949.82	1,919.56	30.26	64.438	
5,800.00	5,752.51	5,398.86	5,211.11	17.91	28.78	144.19	54.23	-1,396.16	1,969.71	1,939.06	30.65	64.263	
5,900.00	5,851.90	5,492.37	5,300.75	18.14	29.34	144.61	55.32	-1,422.72	2,005.70	1,974.36	31.34	64.005	
6,000.00	5,951.62	5,793.67	5,593.60	18.33	30.51	144.80	58.20	-1,492.96	2,034.21	2,001.83	32.38	62.818	
6,100.00	6,051.54	6,111.78	5,908.96	18.50	31.27	144.89	59.86	-1,533.36	2,049.74	2,016.48	33.26	61.620	
6,163.47	6,115.00	6,318.00	6,115.00	18.59	31.52	-72.93	60.16	-1,540.77	2,052.53	2,018.80	33.72	60.861	
6,200.00	6,151.53	6,354.53	6,151.53	18.65	31.55	-72.93	60.16	-1,540.77	2,052.53	2,018.69	33.84	60.656	
6,300.00	6,251.53	6,454.53	6,251.53	18.78	31.64	-72.93	60.16	-1,540.77	2,052.53	2,018.39	34.14	60.120	
6,400.00	6,351.53	6,554.53	6,351.53	18.92	31.74	-72.93	60.16	-1,540.77	2,052.53	2,018.08	34.45	59.587	
6,500.00	6,451.53	6,654.53	6,451.53	19.06	31.83	-72.93	60.16	-1,540.77	2,052.53	2,017.77	34.75	59.058	
6,600.00	6,551.53	6,754.53	6,551.53	19.20	31.93	-72.93	60.16	-1,540.77	2,052.53	2,017.46	35.07	58.534	
6,700.00	6,651.53	6,854.53	6,651.53	19.34	32.03	-72.93	60.16	-1,540.77	2,052.53	2,017.15	35.38	58.013	
6,800.00	6,751.53	6,954.53	6,751.53	19.48	32.12	-72.93	60.16	-1,540.77	2,052.53	2,016.83	35.70	57.497	
6,900.00	6,851.53	7,054.53	6,851.53	19.62	32.22	-72.93	60.16	-1,540.77	2,052.53	2,016.51	36.02	56.986	
7,000.00	6,951.53	7,154.53	6,951.53	19.77	32.32	-72.93	60.16	-1,540.77	2,052.53	2,016.18	36.34	56.480	
7,100.00	7,051.53	7,254.53	7,051.53	19.92	32.43	-72.93	60.16	-1,540.77	2,052.53	2,015.86	36.67	55.978	
7,200.00	7,151.53	7,354.53	7,151.53	20.07	32.53	-72.93	60.16	-1,540.77	2,052.53	2,015.53	36.99	55.481	
7,300.00	7,251.53	7,454.53	7,251.53	20.22	32.64	-72.93	60.16	-1,540.77	2,052.53	2,015.20	37.33	54.990	
7,400.00	7,351.53	7,554.53	7,351.53	20.37	32.74	-72.93	60.16	-1,540.77	2,052.53	2,014.87	37.66	54.503	
7,500.00	7,451.53	7,654.53	7,451.53	20.52	32.85	-72.93	60.16	-1,540.77	2,052.53	2,014.53	37.99	54.022	
7,600.00	7,551.53	7,754.53	7,551.53	20.68	32.96	-72.93	60.16	-1,540.77	2,052.53	2,014.19	38.33	53.545	
7,700.00	7,651.53	7,854.53	7,651.53	20.83	33.07	-72.93	60.16	-1,540.77	2,052.53	2,013.85	38.67	53.074	
7,800.00	7,751.53	7,954.53	7,751.53	20.99	33.18	-72.93	60.16	-1,540.77	2,052.53	2,013.51	39.02	52.609	
7,900.00	7,851.53	8,054.53	7,851.53	21.15	33.29	-72.93	60.16	-1,540.77	2,052.53	2,013.17	39.36	52.148	
8,000.00	7,951.53	8,154.53	7,951.53	21.31	33.40	-72.93	60.16	-1,540.77	2,052.53	2,012.82	39.71	51.693	
8,080.47	8,032.00	8,235.00	8,032.00	21.44	33.49	-72.93	60.16	-1,540.77	2,052.53	2,012.54	39.99	51.330	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 7-13 - P_Riverbend 7-13 - PLAN #1 6-21-10 RH												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	-48.15	48.15				
100.00	100.00	100.00	100.00	0.10	0.10	-90.00	0.00	-48.15	48.15	47.96	0.19	252.023	
200.00	200.00	200.00	200.00	0.32	0.32	-90.00	0.00	-48.15	48.15	47.51	0.64	75.165	
300.00	300.00	300.00	300.00	0.55	0.55	-90.00	0.00	-48.15	48.15	47.06	1.09	44.169	
400.00	400.00	400.00	400.00	0.77	0.77	-90.00	0.00	-48.15	48.15	46.61	1.54	31.273	
500.00	500.00	500.00	500.00	0.99	0.99	-90.00	0.00	-48.15	48.15	46.16	1.99	24.206	
600.00	600.00	600.00	600.00	1.22	1.22	-90.00	0.00	-48.15	48.15	45.71	2.44	19.744	
700.00	700.00	700.00	700.00	1.44	1.44	-90.00	0.00	-48.15	48.15	45.26	2.89	16.671	
800.00	800.00	800.00	800.00	1.67	1.67	-90.00	0.00	-48.15	48.15	44.81	3.34	14.426	
900.00	900.00	900.00	900.00	1.89	1.89	-90.00	0.00	-48.15	48.15	44.36	3.79	12.713	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.00	0.00	-48.15	48.15	43.91	4.24	11.364 CC, ES	
1,100.00	1,099.98	1,098.31	1,098.29	2.32	2.32	128.86	-0.41	-49.78	50.89	46.25	4.64	10.973 SF	
1,200.00	1,199.84	1,196.14	1,195.98	2.50	2.52	131.33	-1.64	-54.66	59.19	54.19	5.00	11.827	
1,300.00	1,299.45	1,295.08	1,294.68	2.70	2.73	134.63	-3.36	-61.49	71.85	66.46	5.39	13.341	
1,400.00	1,398.70	1,393.73	1,393.07	2.93	2.94	138.43	-5.08	-68.32	87.26	81.48	5.78	15.100	
1,415.82	1,414.36	1,409.28	1,408.59	2.96	2.98	139.04	-5.36	-69.39	89.97	84.13	5.84	15.400	
1,500.00	1,497.66	1,492.02	1,491.11	3.18	3.17	141.97	-6.80	-75.12	104.72	98.52	6.20	16.894	
1,600.00	1,596.60	1,590.30	1,589.14	3.45	3.39	144.54	-8.51	-81.92	122.49	115.85	6.63	18.463	
1,700.00	1,695.55	1,688.58	1,687.17	3.74	3.62	146.45	-10.23	-88.72	140.43	133.35	7.08	19.835	
1,800.00	1,794.50	1,786.86	1,785.20	4.04	3.86	147.93	-11.94	-95.52	158.50	150.97	7.53	21.037	
1,900.00	1,893.45	1,885.14	1,883.23	4.34	4.10	149.11	-13.66	-102.32	176.65	168.65	8.00	22.093	
2,000.00	1,992.40	1,983.42	1,981.27	4.66	4.34	150.06	-15.37	-109.12	194.85	186.39	8.46	23.026	
2,100.00	2,091.35	2,081.71	2,079.30	4.98	4.58	150.86	-17.09	-115.92	213.10	204.17	8.93	23.854	
2,200.00	2,190.30	2,179.99	2,177.33	5.31	4.83	151.53	-18.80	-122.72	231.38	221.98	9.41	24.592	
2,300.00	2,289.24	2,278.27	2,275.36	5.64	5.07	152.10	-20.52	-129.52	249.69	239.81	9.89	25.253	
2,400.00	2,388.19	2,376.55	2,373.39	5.97	5.32	152.59	-22.23	-136.32	268.02	257.65	10.37	25.848	
2,500.00	2,487.14	2,474.83	2,471.42	6.31	5.57	153.02	-23.95	-143.12	286.37	275.52	10.85	26.386	
2,600.00	2,586.09	2,573.11	2,569.45	6.65	5.82	153.40	-25.66	-149.92	304.73	293.39	11.34	26.874	
2,700.00	2,685.04	2,671.40	2,667.48	6.99	6.07	153.73	-27.37	-156.72	323.10	311.27	11.83	27.319	
2,800.00	2,783.99	2,769.68	2,765.51	7.33	6.32	154.03	-29.09	-163.52	341.48	329.16	12.32	27.725	
2,900.00	2,882.93	2,867.96	2,863.54	7.68	6.57	154.30	-30.80	-170.32	359.87	347.06	12.81	28.098	
3,000.00	2,981.88	2,966.24	2,961.58	8.02	6.82	154.54	-32.52	-177.12	378.26	364.96	13.30	28.441	
3,100.00	3,080.83	3,064.52	3,059.61	8.37	7.07	154.76	-34.23	-183.93	396.66	382.87	13.79	28.758	
3,200.00	3,179.78	3,162.80	3,157.64	8.72	7.33	154.96	-35.95	-190.73	415.07	400.78	14.29	29.051	
3,300.00	3,278.73	3,261.08	3,255.67	9.07	7.58	155.14	-37.66	-197.53	433.48	418.70	14.78	29.323	
3,400.00	3,377.68	3,359.37	3,353.70	9.42	7.83	155.31	-39.38	-204.33	451.90	436.62	15.28	29.575	
3,500.00	3,476.63	3,457.65	3,451.73	9.77	8.09	155.47	-41.09	-211.13	470.31	454.54	15.78	29.811	
3,600.00	3,575.57	3,555.93	3,549.76	10.12	8.34	155.61	-42.81	-217.93	488.74	472.46	16.27	30.031	
3,700.00	3,674.52	3,654.21	3,647.79	10.47	8.60	155.74	-44.52	-224.73	507.16	490.39	16.77	30.238	
3,800.00	3,773.47	3,752.49	3,745.82	10.83	8.85	155.87	-46.23	-231.53	525.59	508.32	17.27	30.431	
3,900.00	3,872.42	3,850.77	3,843.85	11.18	9.11	155.98	-47.95	-238.33	544.02	526.25	17.77	30.613	
4,000.00	3,971.37	3,949.06	3,941.89	11.53	9.36	156.09	-49.66	-245.13	562.45	544.18	18.27	30.784	
4,100.00	4,070.32	4,047.34	4,039.92	11.89	9.62	156.19	-51.38	-251.93	580.88	562.11	18.77	30.946	
4,200.00	4,169.26	4,145.62	4,137.95	12.24	9.87	156.29	-53.09	-258.73	599.31	580.04	19.27	31.098	
4,300.00	4,268.21	4,243.90	4,235.98	12.59	10.13	156.37	-54.81	-265.53	617.75	597.98	19.77	31.242	
4,400.00	4,367.16	4,342.18	4,334.01	12.95	10.39	156.46	-56.52	-272.33	636.19	615.91	20.27	31.379	
4,500.00	4,466.11	4,440.46	4,432.04	13.30	10.64	156.54	-58.24	-279.13	654.62	633.85	20.78	31.509	
4,600.00	4,565.06	4,538.74	4,530.07	13.66	10.90	156.61	-59.95	-285.93	673.06	651.79	21.28	31.632	
4,700.00	4,664.01	4,637.03	4,628.10	14.02	11.16	156.68	-61.67	-292.73	691.50	669.72	21.78	31.749	
4,800.00	4,762.96	4,735.31	4,726.13	14.37	11.41	156.75	-63.38	-299.53	709.95	687.66	22.28	31.860	
4,900.00	4,861.90	4,833.59	4,824.16	14.73	11.67	156.81	-65.09	-306.33	728.39	705.60	22.79	31.966	
5,000.00	4,960.85	4,931.87	4,922.19	15.08	11.93	156.88	-66.81	-313.13	746.83	723.54	23.29	32.068	

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 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Riverbend 7-13 PAD - P_Riverbend 7-13 - P_Riverbend 7-13 - PLAN #1 6-21-10 RH												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	5,059.80	5,030.15	5,020.23	15.44	12.18	156.93	-68.52	-319.93	765.28	741.48	23.79	32.165	
5,200.00	5,158.75	5,128.43	5,118.26	15.80	12.44	156.99	-70.24	-326.74	783.72	759.42	24.30	32.257	
5,300.00	5,257.70	5,226.72	5,216.29	16.15	12.70	157.04	-71.95	-333.54	802.17	777.37	24.80	32.346	
5,400.00	5,356.65	5,325.00	5,314.32	16.51	12.96	157.09	-73.67	-340.34	820.61	795.31	25.30	32.431	
5,500.00	5,455.59	5,423.28	5,412.35	16.87	13.21	157.14	-75.38	-347.14	839.06	813.25	25.81	32.512	
5,600.00	5,554.54	5,521.56	5,510.38	17.22	13.47	157.18	-77.10	-353.94	857.51	831.19	26.31	32.590	
5,700.00	5,653.49	5,619.84	5,608.41	17.58	13.73	157.23	-78.81	-360.74	875.95	849.14	26.82	32.665	
5,747.65	5,700.64	5,666.67	5,655.12	17.75	13.85	157.25	-79.63	-363.98	884.74	857.69	27.06	32.700	
5,800.00	5,752.51	5,718.20	5,706.52	17.91	13.99	157.33	-80.53	-367.54	893.97	866.63	27.34	32.697	
5,900.00	5,851.90	5,817.03	5,805.10	18.14	14.25	157.40	-82.25	-374.38	909.17	881.33	27.83	32.664	
6,000.00	5,951.62	5,916.28	5,904.10	18.33	14.51	157.36	-83.98	-381.25	921.17	892.88	28.30	32.555	
6,100.00	6,051.54	6,036.75	6,024.34	18.50	14.77	157.23	-85.75	-388.25	929.22	900.49	28.73	32.340	
6,163.47	6,115.00	6,119.72	6,107.29	18.59	14.92	-60.67	-86.27	-390.33	931.06	902.08	28.98	32.125	
6,200.00	6,151.53	6,163.97	6,151.53	18.65	14.99	-60.67	-86.32	-390.51	931.17	902.04	29.13	31.968	
6,300.00	6,251.53	6,263.97	6,251.53	18.78	15.17	-60.67	-86.32	-390.51	931.17	901.68	29.48	31.585	
6,400.00	6,351.53	6,363.97	6,351.53	18.92	15.35	-60.67	-86.32	-390.51	931.17	901.33	29.84	31.209	
6,500.00	6,451.53	6,463.97	6,451.53	19.06	15.54	-60.67	-86.32	-390.51	931.17	900.97	30.19	30.839	
6,600.00	6,551.53	6,563.97	6,551.53	19.20	15.72	-60.67	-86.32	-390.51	931.17	900.61	30.56	30.475	
6,700.00	6,651.53	6,663.97	6,651.53	19.34	15.91	-60.67	-86.32	-390.51	931.17	900.25	30.92	30.117	
6,800.00	6,751.53	6,763.97	6,751.53	19.48	16.09	-60.67	-86.32	-390.51	931.17	899.88	31.28	29.766	
6,900.00	6,851.53	6,863.97	6,851.53	19.62	16.28	-60.67	-86.32	-390.51	931.17	899.52	31.65	29.421	
7,000.00	6,951.53	6,963.97	6,951.53	19.77	16.47	-60.67	-86.32	-390.51	931.17	899.15	32.02	29.082	
7,100.00	7,051.53	7,063.97	7,051.53	19.92	16.66	-60.67	-86.32	-390.51	931.17	898.78	32.39	28.748	
7,200.00	7,151.53	7,163.97	7,151.53	20.07	16.85	-60.67	-86.32	-390.51	931.17	898.40	32.76	28.421	
7,300.00	7,251.53	7,263.97	7,251.53	20.22	17.04	-60.67	-86.32	-390.51	931.17	898.03	33.14	28.099	
7,400.00	7,351.53	7,363.97	7,351.53	20.37	17.23	-60.67	-86.32	-390.51	931.17	897.65	33.52	27.783	
7,500.00	7,451.53	7,463.97	7,451.53	20.52	17.42	-60.67	-86.32	-390.51	931.17	897.27	33.89	27.473	
7,600.00	7,551.53	7,563.97	7,551.53	20.68	17.61	-60.67	-86.32	-390.51	931.17	896.89	34.27	27.168	
7,700.00	7,651.53	7,663.97	7,651.53	20.83	17.81	-60.67	-86.32	-390.51	931.17	896.51	34.66	26.869	
7,800.00	7,751.53	7,763.97	7,751.53	20.99	18.00	-60.67	-86.32	-390.51	931.17	896.13	35.04	26.574	
7,900.00	7,851.53	7,863.97	7,851.53	21.15	18.20	-60.67	-86.32	-390.51	931.17	895.74	35.42	26.286	
8,000.00	7,951.53	7,963.97	7,951.53	21.31	18.39	-60.67	-86.32	-390.51	931.17	895.35	35.81	26.002	
8,080.47	8,032.00	8,044.44	8,032.00	21.44	18.55	-60.67	-86.32	-390.51	931.17	895.04	36.12	25.777	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 8-13 - P_Riverbend 8-13 - PLAN #1 6-21-10 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	88.69	0.36	15.96	15.96				
100.00	100.00	100.00	100.00	0.10	0.10	88.69	0.36	15.96	15.96	15.77	0.19	83.541	
200.00	200.00	200.00	200.00	0.32	0.32	88.69	0.36	15.96	15.96	15.32	0.64	24.916	
300.00	300.00	300.00	300.00	0.55	0.55	88.69	0.36	15.96	15.96	14.87	1.09	14.641	
400.00	400.00	400.00	400.00	0.77	0.77	88.69	0.36	15.96	15.96	14.42	1.54	10.366	
500.00	500.00	500.00	500.00	0.99	0.99	88.69	0.36	15.96	15.96	13.97	1.99	8.024	
600.00	600.00	600.00	600.00	1.22	1.22	88.69	0.36	15.96	15.96	13.52	2.44	6.545	
700.00	700.00	700.00	700.00	1.44	1.44	88.69	0.36	15.96	15.96	13.07	2.89	5.526	
800.00	800.00	800.00	800.00	1.67	1.67	88.69	0.36	15.96	15.96	12.62	3.34	4.782	
900.00	900.00	900.00	900.00	1.89	1.89	88.69	0.36	15.96	15.96	12.17	3.79	4.214	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	88.69	0.36	15.96	15.96	11.72	4.24	3.767 CC, ES	
1,100.00	1,099.98	1,099.42	1,099.40	2.32	2.33	-58.50	0.48	17.68	16.72	12.08	4.65	3.599 SF	
1,200.00	1,199.84	1,198.68	1,198.52	2.50	2.54	-70.80	0.82	22.83	19.64	14.61	5.03	3.906	
1,300.00	1,299.45	1,297.63	1,297.09	2.70	2.75	-84.02	1.39	31.37	25.85	20.41	5.44	4.753	
1,400.00	1,398.70	1,396.11	1,394.85	2.93	2.99	-94.05	2.18	43.24	35.82	29.93	5.89	6.083	
1,415.82	1,414.36	1,411.64	1,410.22	2.96	3.03	-95.30	2.32	45.41	37.74	31.78	5.96	6.328	
1,500.00	1,497.66	1,494.05	1,491.60	3.18	3.26	-99.51	3.18	58.36	49.25	42.87	6.38	7.716	
1,600.00	1,596.60	1,591.37	1,587.18	3.45	3.56	-100.50	4.40	76.64	65.28	58.36	6.91	9.441	
1,700.00	1,695.55	1,687.88	1,681.29	3.74	3.90	-99.47	5.82	97.96	83.67	76.19	7.48	11.186	
1,800.00	1,794.50	1,783.35	1,773.63	4.04	4.30	-97.57	7.43	122.16	104.49	96.42	8.07	12.941	
1,900.00	1,893.45	1,877.61	1,863.95	4.34	4.74	-95.36	9.21	149.04	127.84	119.15	8.69	14.710	
2,000.00	1,992.40	1,970.47	1,952.02	4.66	5.24	-93.10	11.17	178.41	153.80	144.48	9.33	16.493	
2,100.00	2,091.35	2,061.78	2,037.64	4.98	5.78	-90.93	13.27	210.05	182.44	172.46	9.98	18.287	
2,200.00	2,190.30	2,151.39	2,120.64	5.31	6.38	-88.91	15.51	243.73	213.77	203.13	10.64	20.099	
2,300.00	2,289.24	2,240.27	2,201.91	5.64	7.03	-87.03	17.90	279.65	247.73	236.43	11.30	21.925	
2,400.00	2,388.19	2,333.68	2,286.91	5.97	7.75	-85.41	20.47	318.27	282.75	270.76	11.99	23.578	
2,500.00	2,487.14	2,427.08	2,371.92	6.31	8.48	-84.15	23.04	356.90	317.92	305.23	12.69	25.054	
2,600.00	2,586.09	2,520.49	2,456.92	6.65	9.24	-83.14	25.61	395.52	353.21	339.81	13.39	26.375	
2,700.00	2,685.04	2,613.89	2,541.93	6.99	10.00	-82.31	28.18	434.15	388.57	374.47	14.10	27.562	
2,800.00	2,783.99	2,707.30	2,626.93	7.33	10.77	-81.62	30.74	472.78	423.99	409.18	14.81	28.633	
2,900.00	2,882.93	2,800.70	2,711.94	7.68	11.54	-81.04	33.31	511.40	459.45	443.93	15.52	29.602	
3,000.00	2,981.88	2,894.11	2,796.95	8.02	12.32	-80.54	35.88	550.03	494.95	478.71	16.24	30.483	
3,100.00	3,080.83	2,987.51	2,881.95	8.37	13.11	-80.11	38.45	588.66	530.48	513.52	16.96	31.287	
3,200.00	3,179.78	3,080.92	2,966.96	8.72	13.90	-79.73	41.02	627.28	566.03	548.36	17.68	32.023	
3,300.00	3,278.73	3,174.32	3,051.96	9.07	14.69	-79.39	43.59	665.91	601.60	583.21	18.40	32.700	
3,400.00	3,377.68	3,267.73	3,136.97	9.42	15.48	-79.10	46.16	704.54	637.19	618.07	19.12	33.324	
3,500.00	3,476.63	3,361.14	3,221.97	9.77	16.28	-78.83	48.73	743.16	672.79	652.95	19.85	33.901	
3,600.00	3,575.57	3,454.54	3,306.98	10.12	17.08	-78.59	51.29	781.79	708.40	687.83	20.57	34.436	
3,700.00	3,674.52	3,547.95	3,391.98	10.47	17.88	-78.38	53.86	820.42	744.03	722.72	21.30	34.923	
3,800.00	3,773.47	3,671.02	3,504.98	10.83	18.73	-78.20	57.10	869.05	777.95	755.86	22.09	35.215	
3,900.00	3,872.42	3,798.84	3,624.44	11.18	19.51	-78.20	60.11	914.39	808.06	785.18	22.88	35.317	
4,000.00	3,971.37	3,929.76	3,748.77	11.53	20.21	-78.36	62.83	955.28	834.20	810.52	23.68	35.235	
4,100.00	4,070.32	4,063.33	3,877.41	11.89	20.84	-78.69	65.21	991.10	856.24	831.76	24.48	34.983	
4,200.00	4,169.26	4,199.03	4,009.68	12.24	21.39	-79.17	67.22	1,021.33	874.09	848.81	25.28	34.578	
4,300.00	4,268.21	4,336.30	4,144.78	12.59	21.84	-79.80	68.83	1,045.52	887.70	861.63	26.07	34.048	
4,400.00	4,367.16	4,474.52	4,281.83	12.95	22.20	-80.60	70.02	1,063.32	897.06	870.20	26.86	33.399	
4,500.00	4,466.11	4,613.06	4,419.90	13.30	22.47	-81.56	70.76	1,074.52	902.18	874.55	27.64	32.646	
4,600.00	4,565.06	4,751.27	4,558.02	13.66	22.65	-82.69	71.06	1,079.05	903.15	874.75	28.40	31.802	
4,700.00	4,664.01	4,857.26	4,664.01	14.02	22.75	-83.65	71.07	1,079.16	901.49	872.40	29.10	30.983	
4,800.00	4,762.96	4,956.20	4,762.96	14.37	22.84	-84.56	71.07	1,079.16	899.99	870.22	29.77	30.228	
4,900.00	4,861.90	5,055.15	4,861.90	14.73	22.94	-85.47	71.07	1,079.16	898.72	868.27	30.45	29.514	
5,000.00	4,960.85	5,154.10	4,960.85	15.08	23.04	-86.38	71.07	1,079.16	897.68	866.55	31.13	28.839	

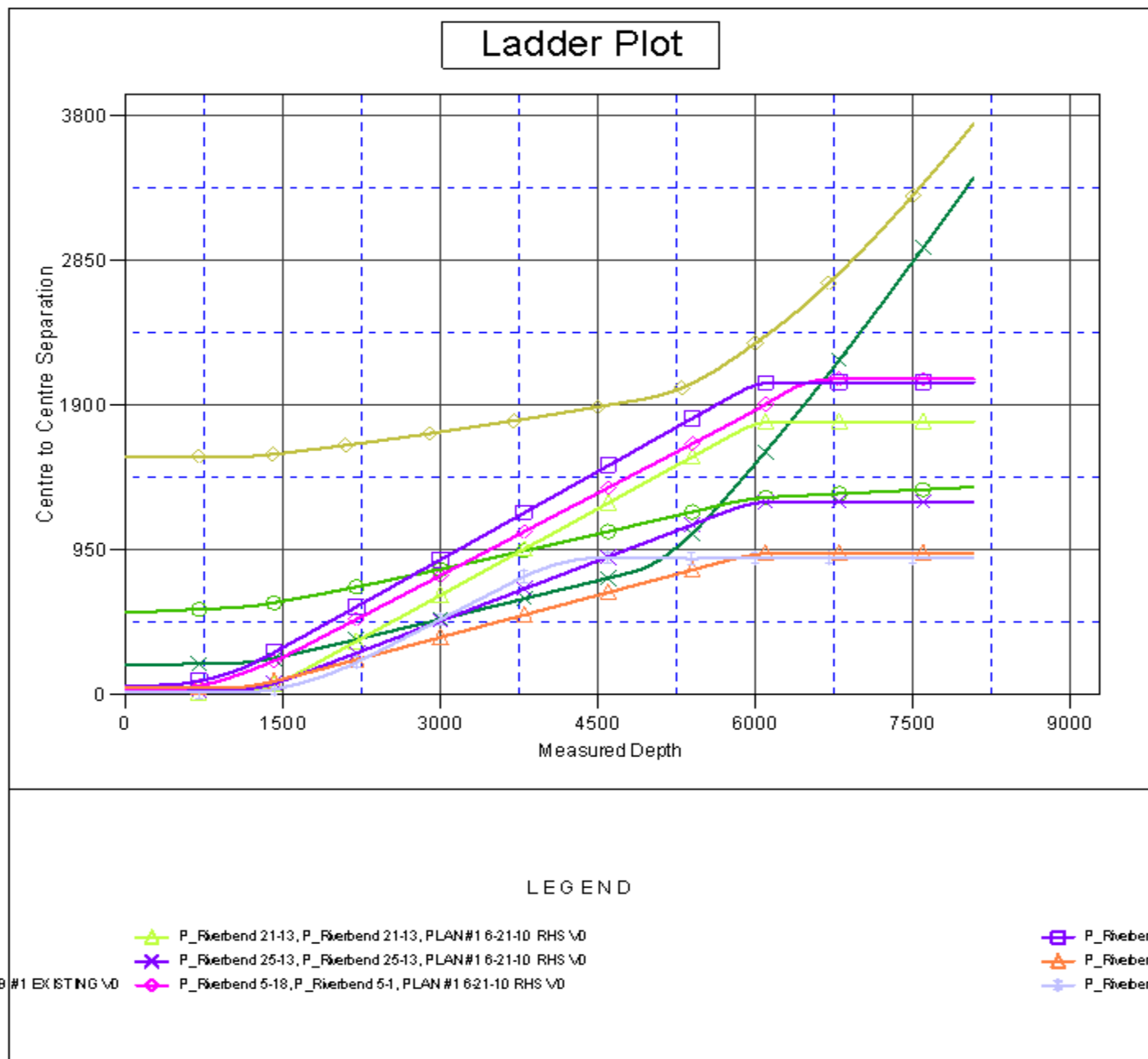
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design Riverbend 7-13 PAD - P_Riverbend 8-13 - P_Riverbend 8-13 - PLAN #1 6-21-10 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	5,059.80	5,253.05	5,059.80	15.44	23.14	-87.29	71.07	1,079.16	896.87	865.07	31.80	28.201	
5,200.00	5,158.75	5,352.00	5,158.75	15.80	23.24	-88.20	71.07	1,079.16	896.30	863.82	32.48	27.597	
5,300.00	5,257.70	5,450.95	5,257.70	16.15	23.35	-89.12	71.07	1,079.16	895.96	862.80	33.15	27.027	
5,396.45	5,353.13	5,546.38	5,353.13	16.50	23.45	-90.00	71.07	1,079.16	895.85	862.05	33.80	26.507	
5,400.00	5,356.65	5,549.90	5,356.65	16.51	23.45	-90.03	71.07	1,079.16	895.85	862.03	33.82	26.488	
5,500.00	5,455.59	5,648.84	5,455.59	16.87	23.56	-90.95	71.07	1,079.16	895.97	861.48	34.49	25.979	
5,600.00	5,554.54	5,747.79	5,554.54	17.22	23.67	-91.86	71.07	1,079.16	896.33	861.18	35.15	25.498	
5,700.00	5,653.49	5,846.74	5,653.49	17.58	23.78	-92.78	71.07	1,079.16	896.92	861.11	35.81	25.044	
5,747.65	5,700.64	5,893.89	5,700.64	17.75	23.83	-93.21	71.07	1,079.16	897.29	861.16	36.13	24.837	
5,800.00	5,752.51	5,945.76	5,752.51	17.91	23.89	-93.67	71.07	1,079.16	897.72	861.27	36.44	24.634	
5,900.00	5,851.90	6,045.15	5,851.90	18.14	24.00	-94.37	71.07	1,079.16	898.49	861.54	36.95	24.319	
6,000.00	5,951.62	6,144.87	5,951.62	18.33	24.12	-94.86	71.07	1,079.16	899.09	861.71	37.38	24.053	
6,100.00	6,051.54	6,244.79	6,051.54	18.50	24.24	-95.12	71.07	1,079.16	899.43	861.69	37.74	23.831	
6,163.47	6,115.00	6,308.25	6,115.00	18.59	24.31	47.00	71.07	1,079.16	899.49	861.55	37.94	23.707	
6,200.00	6,151.53	6,344.78	6,151.53	18.65	24.36	47.00	71.07	1,079.16	899.49	861.45	38.05	23.640	
6,300.00	6,251.53	6,444.78	6,251.53	18.78	24.48	47.00	71.07	1,079.16	899.49	861.16	38.33	23.465	
6,400.00	6,351.53	6,544.78	6,351.53	18.92	24.60	47.00	71.07	1,079.16	899.49	860.87	38.62	23.291	
6,500.00	6,451.53	6,644.78	6,451.53	19.06	24.72	47.00	71.07	1,079.16	899.49	860.58	38.91	23.117	
6,600.00	6,551.53	6,744.78	6,551.53	19.20	24.85	47.00	71.07	1,079.16	899.49	860.29	39.20	22.944	
6,700.00	6,651.53	6,844.78	6,651.53	19.34	24.98	47.00	71.07	1,079.16	899.49	859.99	39.50	22.771	
6,800.00	6,751.53	6,944.78	6,751.53	19.48	25.10	47.00	71.07	1,079.16	899.49	859.69	39.80	22.600	
6,900.00	6,851.53	7,044.78	6,851.53	19.62	25.23	47.00	71.07	1,079.16	899.49	859.39	40.10	22.430	
7,000.00	6,951.53	7,144.78	6,951.53	19.77	25.36	47.00	71.07	1,079.16	899.49	859.09	40.41	22.260	
7,100.00	7,051.53	7,244.78	7,051.53	19.92	25.49	47.00	71.07	1,079.16	899.49	858.78	40.72	22.092	
7,200.00	7,151.53	7,344.78	7,151.53	20.07	25.63	47.00	71.07	1,079.16	899.49	858.47	41.03	21.925	
7,300.00	7,251.53	7,444.78	7,251.53	20.22	25.76	47.00	71.07	1,079.16	899.49	858.16	41.34	21.759	
7,400.00	7,351.53	7,544.78	7,351.53	20.37	25.90	47.00	71.07	1,079.16	899.49	857.84	41.65	21.594	
7,500.00	7,451.53	7,644.78	7,451.53	20.52	26.03	47.00	71.07	1,079.16	899.49	857.52	41.97	21.431	
7,600.00	7,551.53	7,744.78	7,551.53	20.68	26.17	47.00	71.07	1,079.16	899.49	857.20	42.29	21.269	
7,700.00	7,651.53	7,844.78	7,651.53	20.83	26.31	47.00	71.07	1,079.16	899.49	856.88	42.61	21.108	
7,800.00	7,751.53	7,944.78	7,751.53	20.99	26.45	47.00	71.07	1,079.16	899.49	856.55	42.94	20.948	
7,900.00	7,851.53	8,044.78	7,851.53	21.15	26.59	47.00	71.07	1,079.16	899.49	856.23	43.27	20.790	
8,000.00	7,951.53	8,144.78	7,951.53	21.31	26.74	47.00	71.07	1,079.16	899.49	855.90	43.60	20.633	
8,080.47	8,032.00	8,225.25	8,032.00	21.44	26.85	47.00	71.07	1,079.16	899.49	855.63	43.86	20.507	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

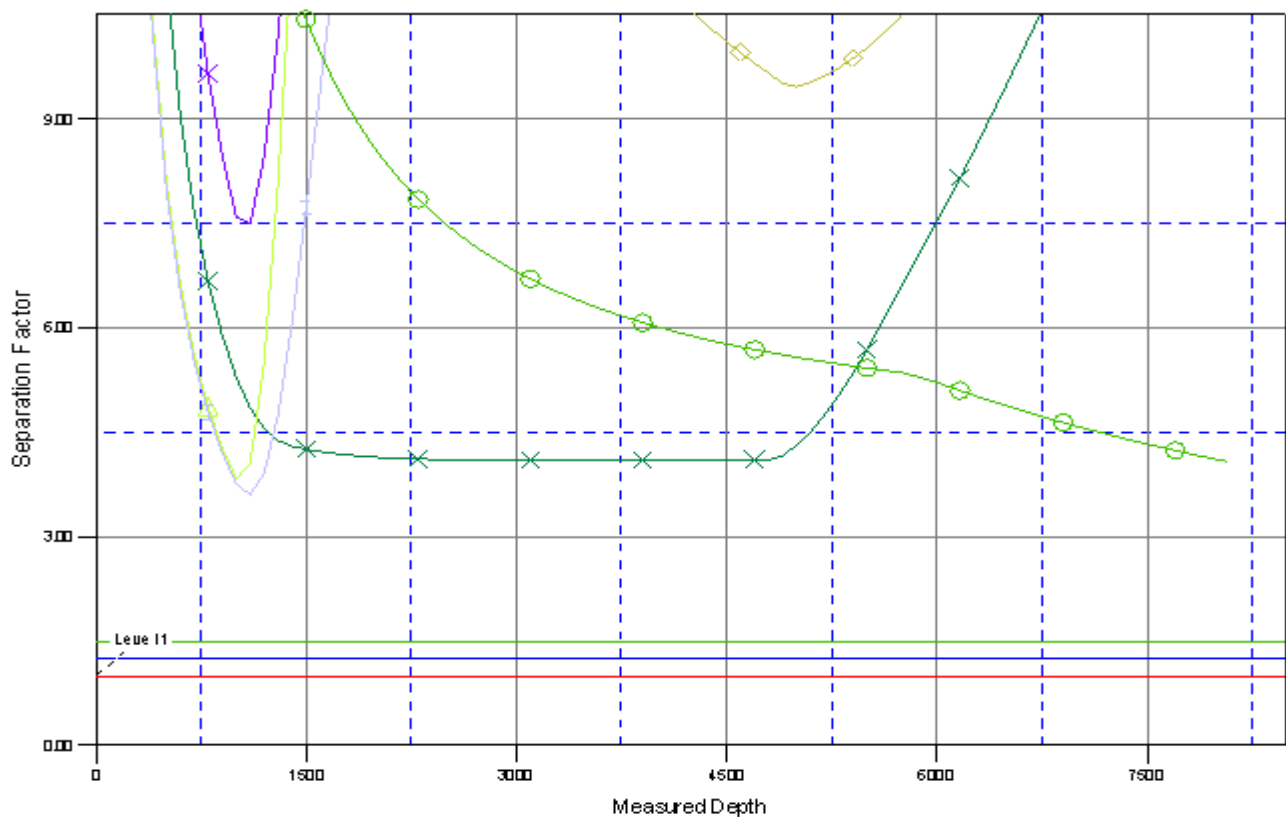
Reference Depths are relative to WELL @ 4932.00ft (Original Well Elev) Coordinates are relative to: P_Riverbend 24-13
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.43°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_Riverbend 24-13
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	WELL @ 4932.00ft (Original Well Elev)
Reference Site:	Riverbend 7-13 PAD	MD Reference:	WELL @ 4932.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_Riverbend 24-13	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_Riverbend 24-13	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 6-21-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4932.00ft (Original Well Elev) Coordinates are relative to: P_Riverbend 24-13
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 21-13, P_Riverbend 21-13, PLAN#1 6-21-10 RHS \0
- × P_Riverbend 25-13, P_Riverbend 25-13, PLAN#1 6-21-10 RHS \0
- ◆ P_Riverbend 5-18, P_Riverbend 5-1, PLAN#1 6-21-10 RHS \0
- P_Riverbend 6
- ▲ P_Riverbend 7
- P_Riverbend 8