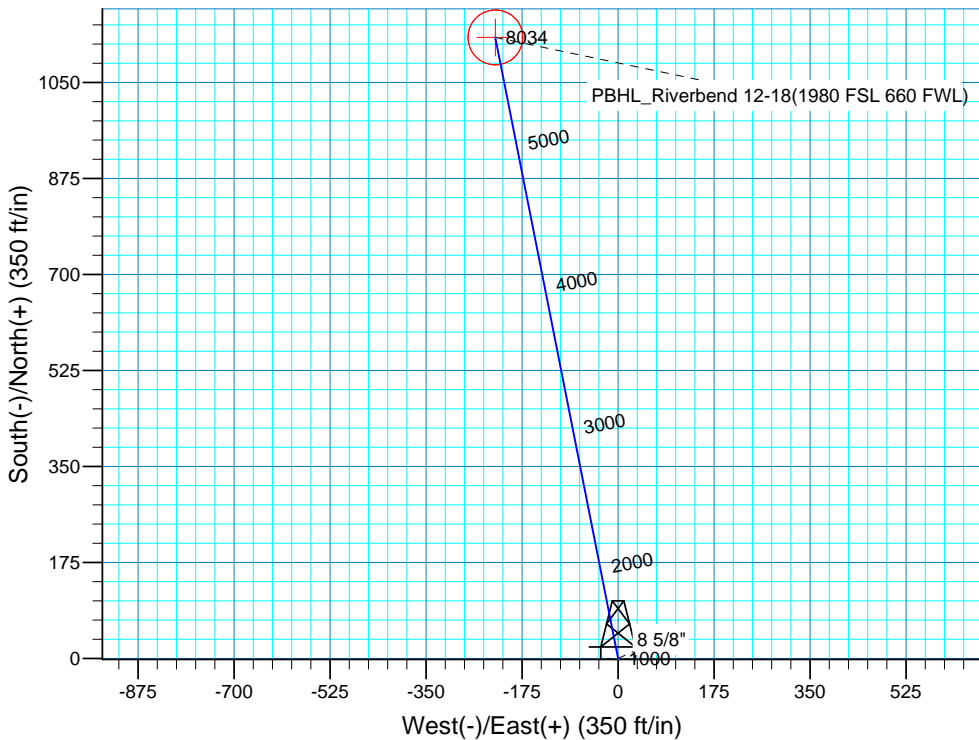
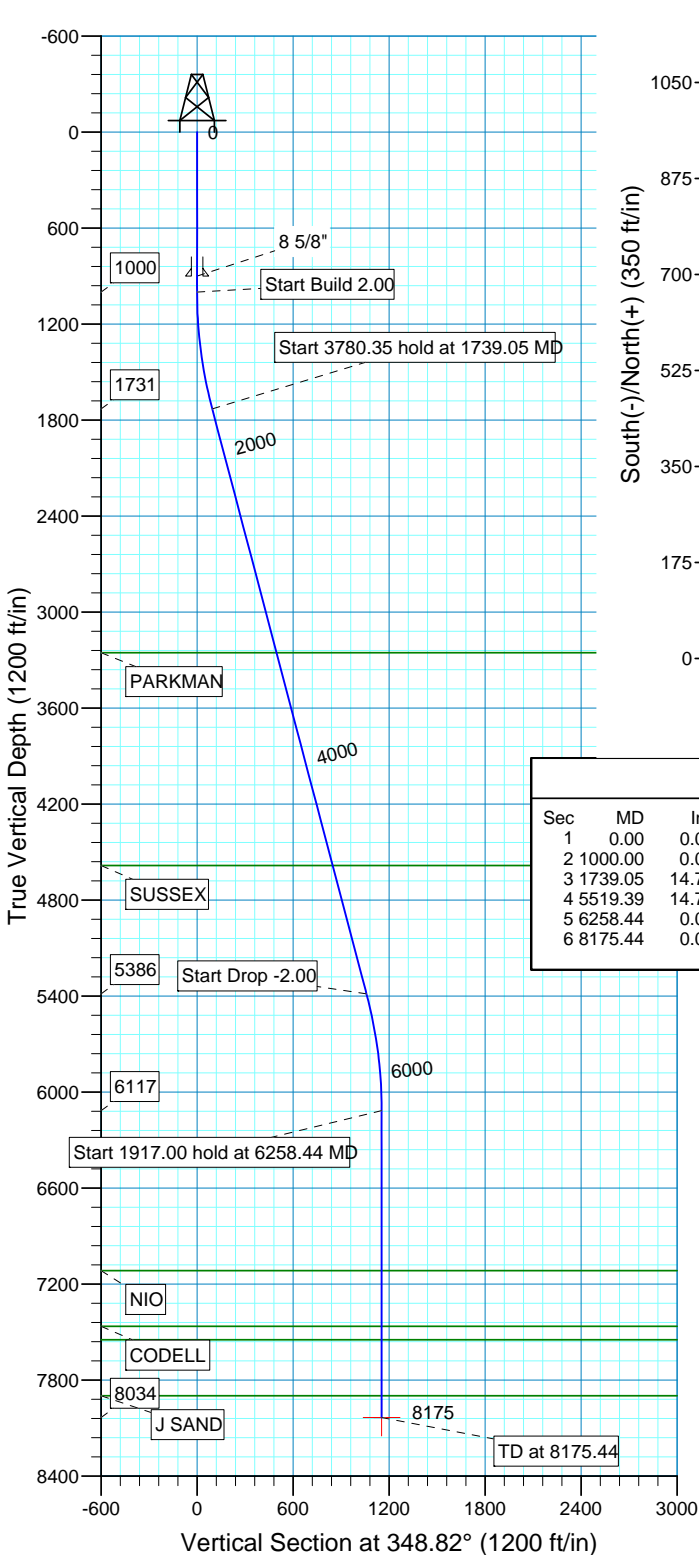


WELL DETAILS: P_Riverbend 12-18						
GL 4919' & RKB 15' @ 4934.00ft (ASSUMED) 4919.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1260381.34	3188539.61	40° 2' 46.212 N	104° 49' 35.584 W	

T M Azimuths to True North
 Magnetic North: 8.95°

Magnetic Field
 Strength: 53054.7snT
 Dip Angle: 66.79°
 Date: 07/16/2010
 Model: IGRF200510

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8034.00	1132.17	-223.68	1261511.78	3188307.34	40° 2' 57.401 N	104° 49' 38.460 W	Circle (Radius: 50.00)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
3	1739.05	14.78	348.82	1730.88	93.00	-18.37	2.00	348.82	94.80	
4	5519.39	14.78	348.82	5386.12	1039.17	-205.31	0.00	0.00	1059.26	
5	6258.44	0.00	0.00	6117.00	1132.17	-223.68	2.00	180.00	1154.06	
6	8175.44	0.00	0.00	8034.00	1132.17	-223.68	0.00	0.00	1154.06	PBHL_Riverbend 12-18(1980 FSL 660 F)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3255.00	3315.33	PARKMAN
4585.00	4690.85	SUSSEX
7117.00	7258.44	NIO
7464.00	7605.44	CODELL
7549.00	7690.44	GREENHORN
7899.00	8040.44	J SAND

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	Colorado Northern Zone
Location:	SECTION 18 T1N R66W
System Datum:	Mean Sea Level
Local North:	No north reference data is available



Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_RIVERBEND 13-8 pad

P_Riverbend 12-18

P_Riverbend 12-18

Plan: Plan #1 7-16-10 RHS

Standard Planning Report

16 July, 2010



Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 12-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 12-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 12-18		
Design:	Plan #1 7-16-10 RHS		

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

Site	WELD_RIVERBEND 13-8 pad, SECTION 18 T1N R66W				
Site Position:		Northing:	1,260,381.34ft	Latitude:	40° 2' 46.212 N
From:	Lat/Long	Easting:	3,188,539.61ft	Longitude:	104° 49' 35.584 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.44 °

Well	P_Riverbend 12-18, 846 FSL 880 FWL					
Well Position	+N/-S	0.00 ft	Northing:	1,260,381.34 ft	Latitude:	40° 2' 46.212 N
	+E/-W	0.00 ft	Easting:	3,188,539.61 ft	Longitude:	104° 49' 35.584 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,919.00ft

Wellbore	P_Riverbend 12-18				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	07/16/10	8.95	66.79	53,055

Design	Plan #1 7-16-10 RHS				
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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	348.82	

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	
1,739.05	14.78	348.82	1,730.88	93.00	-18.37	2.00	2.00	0.00	348.82	
5,519.39	14.78	348.82	5,386.12	1,039.17	-205.31	0.00	0.00	0.00	0.00	
6,258.44	0.00	0.00	6,117.00	1,132.17	-223.68	2.00	-2.00	0.00	180.00	
8,175.44	0.00	0.00	8,034.00	1,132.17	-223.68	0.00	0.00	0.00	0.00	PBHL_Riverbend 1

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well_P_Riverbend 12-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 12-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 12-18		
Design:	Plan #1 7-16-10 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
8 5/8"									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	2.00	348.82	1,099.98	1.71	-0.34	1.75	2.00	2.00	0.00
1,200.00	4.00	348.82	1,199.84	6.85	-1.35	6.98	2.00	2.00	0.00
1,300.00	6.00	348.82	1,299.45	15.40	-3.04	15.69	2.00	2.00	0.00
1,400.00	8.00	348.82	1,398.70	27.35	-5.40	27.88	2.00	2.00	0.00
1,500.00	10.00	348.82	1,497.47	42.70	-8.44	43.52	2.00	2.00	0.00
1,600.00	12.00	348.82	1,595.62	61.42	-12.13	62.60	2.00	2.00	0.00
1,700.00	14.00	348.82	1,693.06	83.48	-16.49	85.10	2.00	2.00	0.00
1,739.05	14.78	348.82	1,730.88	93.00	-18.37	94.80	2.00	2.00	0.00
Start 3780.35 hold at 1739.05 MD									
1,800.00	14.78	348.82	1,789.81	108.26	-21.39	110.35	0.00	0.00	0.00
1,900.00	14.78	348.82	1,886.50	133.29	-26.33	135.86	0.00	0.00	0.00
2,000.00	14.78	348.82	1,983.19	158.32	-31.28	161.38	0.00	0.00	0.00
2,100.00	14.78	348.82	2,079.89	183.34	-36.22	186.89	0.00	0.00	0.00
2,200.00	14.78	348.82	2,176.58	208.37	-41.17	212.40	0.00	0.00	0.00
2,300.00	14.78	348.82	2,273.27	233.40	-46.11	237.91	0.00	0.00	0.00
2,400.00	14.78	348.82	2,369.96	258.43	-51.06	263.43	0.00	0.00	0.00
2,500.00	14.78	348.82	2,466.65	283.46	-56.00	288.94	0.00	0.00	0.00
2,600.00	14.78	348.82	2,563.34	308.49	-60.95	314.45	0.00	0.00	0.00
2,700.00	14.78	348.82	2,660.03	333.52	-65.89	339.96	0.00	0.00	0.00
2,800.00	14.78	348.82	2,756.72	358.54	-70.84	365.47	0.00	0.00	0.00
2,900.00	14.78	348.82	2,853.41	383.57	-75.78	390.99	0.00	0.00	0.00
3,000.00	14.78	348.82	2,950.10	408.60	-80.73	416.50	0.00	0.00	0.00
3,100.00	14.78	348.82	3,046.79	433.63	-85.67	442.01	0.00	0.00	0.00
3,200.00	14.78	348.82	3,143.48	458.66	-90.62	467.52	0.00	0.00	0.00
3,300.00	14.78	348.82	3,240.18	483.69	-95.56	493.04	0.00	0.00	0.00
3,315.33	14.78	348.82	3,255.00	487.52	-96.32	496.95	0.00	0.00	0.00
PARKMAN									
3,400.00	14.78	348.82	3,336.87	508.72	-100.51	518.55	0.00	0.00	0.00
3,500.00	14.78	348.82	3,433.56	533.74	-105.45	544.06	0.00	0.00	0.00
3,600.00	14.78	348.82	3,530.25	558.77	-110.40	569.57	0.00	0.00	0.00
3,700.00	14.78	348.82	3,626.94	583.80	-115.34	595.09	0.00	0.00	0.00
3,800.00	14.78	348.82	3,723.63	608.83	-120.29	620.60	0.00	0.00	0.00
3,900.00	14.78	348.82	3,820.32	633.86	-125.23	646.11	0.00	0.00	0.00
4,000.00	14.78	348.82	3,917.01	658.89	-130.18	671.62	0.00	0.00	0.00
4,100.00	14.78	348.82	4,013.70	683.92	-135.12	697.14	0.00	0.00	0.00
4,200.00	14.78	348.82	4,110.39	708.94	-140.07	722.65	0.00	0.00	0.00
4,300.00	14.78	348.82	4,207.08	733.97	-145.01	748.16	0.00	0.00	0.00
4,400.00	14.78	348.82	4,303.77	759.00	-149.95	773.67	0.00	0.00	0.00
4,500.00	14.78	348.82	4,400.47	784.03	-154.90	799.19	0.00	0.00	0.00
4,600.00	14.78	348.82	4,497.16	809.06	-159.84	824.70	0.00	0.00	0.00

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 12-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 12-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 12-18		
Design:	Plan #1 7-16-10 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)
4,690.85	14.78	348.82	4,585.00	831.80	-164.34	847.88	0.00	0.00	0.00
SUSSEX									
4,700.00	14.78	348.82	4,593.85	834.09	-164.79	850.21	0.00	0.00	0.00
4,800.00	14.78	348.82	4,690.54	859.12	-169.73	875.72	0.00	0.00	0.00
4,900.00	14.78	348.82	4,787.23	884.14	-174.68	901.23	0.00	0.00	0.00
5,000.00	14.78	348.82	4,883.92	909.17	-179.62	926.75	0.00	0.00	0.00
5,100.00	14.78	348.82	4,980.61	934.20	-184.57	952.26	0.00	0.00	0.00
5,200.00	14.78	348.82	5,077.30	959.23	-189.51	977.77	0.00	0.00	0.00
5,300.00	14.78	348.82	5,173.99	984.26	-194.46	1,003.28	0.00	0.00	0.00
5,400.00	14.78	348.82	5,270.68	1,009.29	-199.40	1,028.80	0.00	0.00	0.00
5,500.00	14.78	348.82	5,367.37	1,034.32	-204.35	1,054.31	0.00	0.00	0.00
5,519.39	14.78	348.82	5,386.12	1,039.17	-205.31	1,059.26	0.00	0.00	0.00
Start Drop -2.00									
5,600.00	13.17	348.82	5,464.34	1,058.27	-209.08	1,078.72	2.00	-2.00	0.00
5,700.00	11.17	348.82	5,562.09	1,078.94	-213.17	1,099.80	2.00	-2.00	0.00
5,800.00	9.17	348.82	5,660.52	1,096.26	-216.59	1,117.45	2.00	-2.00	0.00
5,900.00	7.17	348.82	5,759.50	1,110.20	-219.34	1,131.66	2.00	-2.00	0.00
6,000.00	5.17	348.82	5,858.91	1,120.74	-221.42	1,142.41	2.00	-2.00	0.00
6,100.00	3.17	348.82	5,958.64	1,127.88	-222.83	1,149.68	2.00	-2.00	0.00
6,200.00	1.17	348.82	6,058.57	1,131.59	-223.57	1,153.46	2.00	-2.00	0.00
6,258.44	0.00	0.00	6,117.00	1,132.17	-223.68	1,154.06	2.00	-2.00	0.00
Start 1917.00 hold at 6258.44 MD									
6,300.00	0.00	0.00	6,158.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
6,400.00	0.00	0.00	6,258.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
6,500.00	0.00	0.00	6,358.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
6,600.00	0.00	0.00	6,458.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
6,700.00	0.00	0.00	6,558.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
6,800.00	0.00	0.00	6,658.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
6,900.00	0.00	0.00	6,758.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,000.00	0.00	0.00	6,858.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,100.00	0.00	0.00	6,958.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,200.00	0.00	0.00	7,058.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,258.44	0.00	0.00	7,117.00	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
NIO									
7,300.00	0.00	0.00	7,158.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,400.00	0.00	0.00	7,258.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,500.00	0.00	0.00	7,358.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,600.00	0.00	0.00	7,458.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,605.44	0.00	0.00	7,464.00	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
CODELL									
7,690.44	0.00	0.00	7,549.00	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
GREENHORN									
7,700.00	0.00	0.00	7,558.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,800.00	0.00	0.00	7,658.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
7,900.00	0.00	0.00	7,758.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
8,000.00	0.00	0.00	7,858.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
8,040.44	0.00	0.00	7,899.00	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
J SAND									
8,100.00	0.00	0.00	7,958.56	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
8,175.44	0.00	0.00	8,034.00	1,132.17	-223.68	1,154.06	0.00	0.00	0.00
PBHL_Riverbend 12-18(1980 FSL 660 FWL)									

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 12-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 15' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 12-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Riverbend 12-18		
Design:	Plan #1 7-16-10 RHS		

Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_Riverbend 12-1	- plan hits target center - Circle (radius 50.00)	0.00	0.00	8,034.00	1,132.17	-223.68	1,261,511.78	3,188,307.34	40° 2' 57.401 N	104° 49' 38.460 W

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 (°)
3,315.33	3,255.00	PARKMAN			
4,690.85	4,585.00	SUSSEX			
7,605.44	7,464.00	CODELL			
8,040.44	7,899.00	J SAND			
7,690.44	7,549.00	GREENHORN			
7,258.44	7,117.00	NIO			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
1,739.05	1,730.88	93.00	-18.37	Start 3780.35 hold at 1739.05 MD
5,519.39	5,386.12	1,039.17	-205.31	Start Drop -2.00
6,258.44	6,117.00	1,132.17	-223.68	Start 1917.00 hold at 6258.44 MD
8,175.44	8,034.00	1,132.17	-223.68	TD at 8175.44