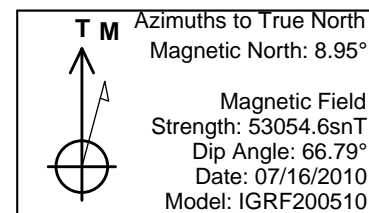
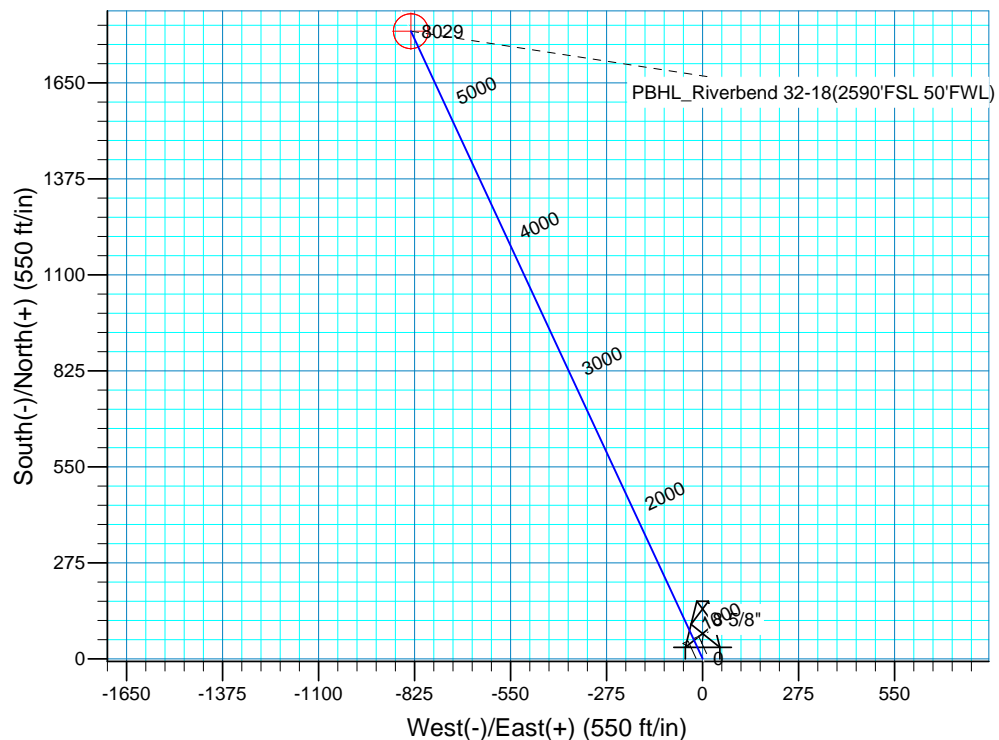
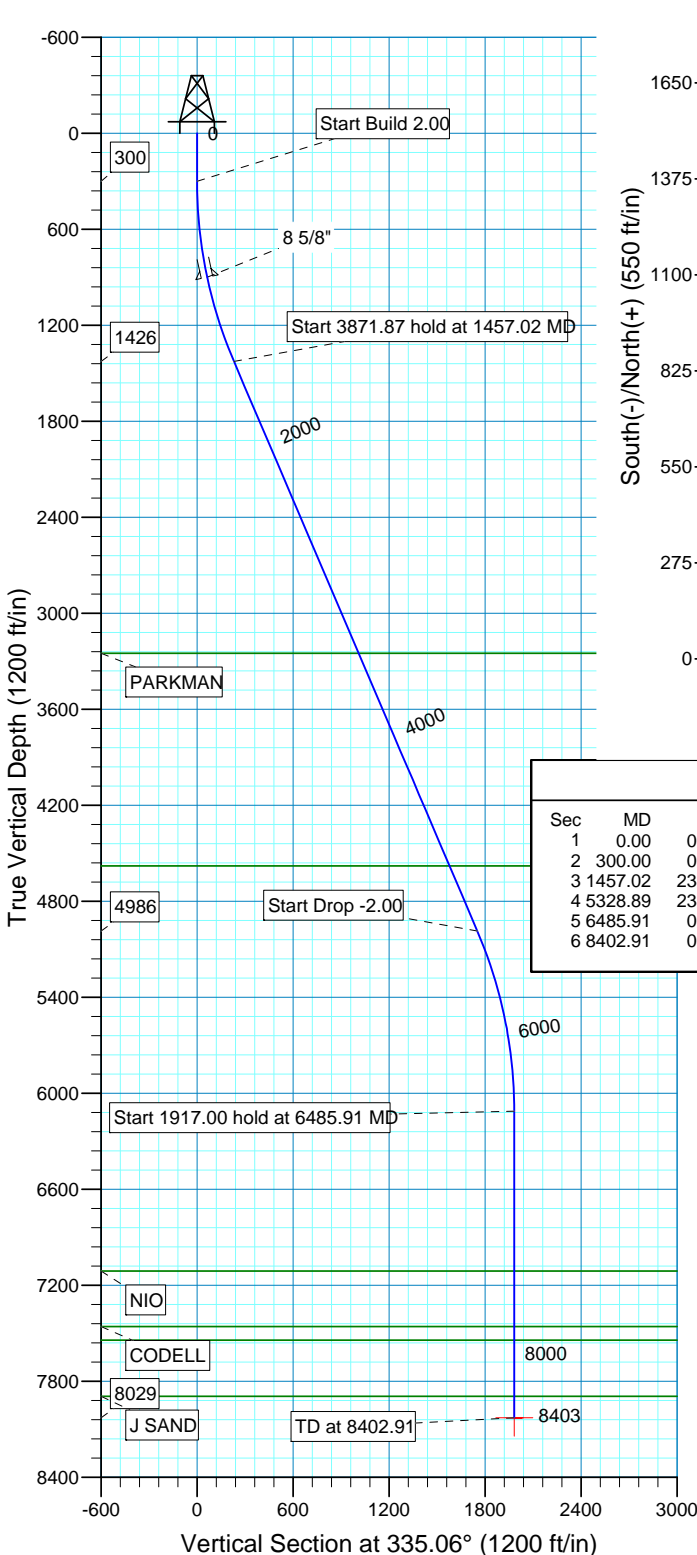


WELL DETAILS: P_Riverbend 32-18					
+N/-S	+E/-W	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED) 4919.00			
0.00	0.00	Northing	Easting	Latitude	Longitude
		1260321.22	3188540.35	40° 2' 45.618 N	104° 49' 35.580 W



WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8029.00	1797.74	-835.92	1262112.55	3187690.81	40° 3' 3.384 N	104° 49' 46.330 W	Circle (Radius: 50.00)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1457.02	23.14	335.06	1425.82	209.00	-97.18	2.00	335.06	230.49	
4	5328.89	23.14	335.06	4986.18	1588.73	-738.73	0.00	0.00	1752.08	
5	6485.91	0.00	0.00	6112.00	1797.73	-835.92	2.00	180.00	1982.57	
6	8402.91	0.00	0.00	8029.00	1797.73	-835.92	0.00	0.00	1982.57	PBHL_Riverbend 32-18(2590'FSL 50'FWL)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3250.00	3440.81	PARKMAN
4580.00	4887.17	SUSSEX
7112.00	7485.91	NIO
7459.00	7832.91	CODELL
7544.00	7917.91	GREENHORN
7894.00	8267.91	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

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_RIVERBEND 13-8 pad

P_Riverbend 32-18

Riverbend 32-18

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 32-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Riverbend 32-18		
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:	1,260,381.34 ft
From:	Lat/Long	Easting:	3,188,539.61 ft
Position Uncertainty:	0.00 ft	Slot Radius:	in
		Latitude:	40° 2' 46.212 N
		Longitude:	104° 49' 35.584 W
		Grid Convergence:	0.44 °

Well	P_Riverbend 32-18, 786 FSL 880 FWL		
Well Position	+N/-S	0.00 ft	Northing: 1,260,321.22 ft
	+E/-W	0.00 ft	Easting: 3,188,540.35 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	40° 2' 45.618 N
		Longitude:	104° 49' 35.580 W
		Ground Level:	4,919.00 ft

Wellbore	Riverbend 32-18				
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			
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	335.06

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,457.02	23.14	335.06	1,425.82	209.00	-97.18	2.00	2.00	0.00	335.06	
5,328.89	23.14	335.06	4,986.18	1,588.73	-738.73	0.00	0.00	0.00	0.00	
6,485.91	0.00	0.00	6,112.00	1,797.73	-835.92	2.00	-2.00	0.00	180.00	
8,402.91	0.00	0.00	8,029.00	1,797.73	-835.92	0.00	0.00	0.00	0.00	PBHL_Riverbend 3

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 32-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Riverbend 32-18		
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
Start Build 2.00									
400.00	2.00	335.06	399.98	1.58	-0.74	1.75	2.00	2.00	0.00
500.00	4.00	335.06	499.84	6.33	-2.94	6.98	2.00	2.00	0.00
600.00	6.00	335.06	599.45	14.23	-6.62	15.69	2.00	2.00	0.00
700.00	8.00	335.06	698.70	25.28	-11.76	27.88	2.00	2.00	0.00
800.00	10.00	335.06	797.47	39.46	-18.35	43.52	2.00	2.00	0.00
900.00	12.00	335.06	895.62	56.77	-26.40	62.60	2.00	2.00	0.00
904.48	12.09	335.06	900.00	57.61	-26.79	63.54	2.00	2.00	0.00
8 5/8"									
1,000.00	14.00	335.06	993.06	77.16	-35.88	85.10	2.00	2.00	0.00
1,100.00	16.00	335.06	1,089.64	100.63	-46.79	110.98	2.00	2.00	0.00
1,200.00	18.00	335.06	1,185.27	127.14	-59.12	140.21	2.00	2.00	0.00
1,300.00	20.00	335.06	1,279.82	156.66	-72.84	172.77	2.00	2.00	0.00
1,400.00	22.00	335.06	1,373.17	189.15	-87.95	208.60	2.00	2.00	0.00
1,457.02	23.14	335.06	1,425.82	209.00	-97.18	230.49	2.00	2.00	0.00
Start 3871.87 hold at 1457.02 MD									
1,500.00	23.14	335.06	1,465.34	224.31	-104.30	247.38	0.00	0.00	0.00
1,600.00	23.14	335.06	1,557.30	259.95	-120.87	286.68	0.00	0.00	0.00
1,700.00	23.14	335.06	1,649.25	295.58	-137.44	325.98	0.00	0.00	0.00
1,800.00	23.14	335.06	1,741.21	331.22	-154.01	365.27	0.00	0.00	0.00
1,900.00	23.14	335.06	1,833.16	366.85	-170.58	404.57	0.00	0.00	0.00
2,000.00	23.14	335.06	1,925.11	402.49	-187.15	443.87	0.00	0.00	0.00
2,100.00	23.14	335.06	2,017.07	438.12	-203.72	483.17	0.00	0.00	0.00
2,200.00	23.14	335.06	2,109.02	473.76	-220.29	522.47	0.00	0.00	0.00
2,300.00	23.14	335.06	2,200.98	509.39	-236.86	561.77	0.00	0.00	0.00
2,400.00	23.14	335.06	2,292.93	545.03	-253.43	601.07	0.00	0.00	0.00
2,500.00	23.14	335.06	2,384.89	580.66	-270.00	640.36	0.00	0.00	0.00
2,600.00	23.14	335.06	2,476.84	616.30	-286.57	679.66	0.00	0.00	0.00
2,700.00	23.14	335.06	2,568.80	651.93	-303.14	718.96	0.00	0.00	0.00
2,800.00	23.14	335.06	2,660.75	687.57	-319.71	758.26	0.00	0.00	0.00
2,900.00	23.14	335.06	2,752.70	723.20	-336.28	797.56	0.00	0.00	0.00
3,000.00	23.14	335.06	2,844.66	758.83	-352.85	836.86	0.00	0.00	0.00
3,100.00	23.14	335.06	2,936.61	794.47	-369.42	876.16	0.00	0.00	0.00
3,200.00	23.14	335.06	3,028.57	830.10	-385.99	915.45	0.00	0.00	0.00
3,300.00	23.14	335.06	3,120.52	865.74	-402.56	954.75	0.00	0.00	0.00
3,400.00	23.14	335.06	3,212.48	901.37	-419.12	994.05	0.00	0.00	0.00
3,440.81	23.14	335.06	3,250.00	915.91	-425.89	1,010.09	0.00	0.00	0.00
PARKMAN									
3,500.00	23.14	335.06	3,304.43	937.01	-435.69	1,033.35	0.00	0.00	0.00
3,600.00	23.14	335.06	3,396.39	972.64	-452.26	1,072.65	0.00	0.00	0.00
3,700.00	23.14	335.06	3,488.34	1,008.28	-468.83	1,111.95	0.00	0.00	0.00
3,800.00	23.14	335.06	3,580.29	1,043.91	-485.40	1,151.25	0.00	0.00	0.00
3,900.00	23.14	335.06	3,672.25	1,079.55	-501.97	1,190.55	0.00	0.00	0.00
4,000.00	23.14	335.06	3,764.20	1,115.18	-518.54	1,229.84	0.00	0.00	0.00
4,100.00	23.14	335.06	3,856.16	1,150.82	-535.11	1,269.14	0.00	0.00	0.00
4,200.00	23.14	335.06	3,948.11	1,186.45	-551.68	1,308.44	0.00	0.00	0.00
4,300.00	23.14	335.06	4,040.07	1,222.09	-568.25	1,347.74	0.00	0.00	0.00
4,400.00	23.14	335.06	4,132.02	1,257.72	-584.82	1,387.04	0.00	0.00	0.00
4,500.00	23.14	335.06	4,223.98	1,293.35	-601.39	1,426.34	0.00	0.00	0.00

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 32-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Riverbend 32-18		
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)
4,600.00	23.14	335.06	4,315.93	1,328.99	-617.96	1,465.64	0.00	0.00	0.00
4,700.00	23.14	335.06	4,407.88	1,364.62	-634.53	1,504.93	0.00	0.00	0.00
4,800.00	23.14	335.06	4,499.84	1,400.26	-651.10	1,544.23	0.00	0.00	0.00
4,887.17	23.14	335.06	4,580.00	1,431.32	-665.54	1,578.49	0.00	0.00	0.00
SUSSEX									
4,900.00	23.14	335.06	4,591.79	1,435.89	-667.67	1,583.53	0.00	0.00	0.00
5,000.00	23.14	335.06	4,683.75	1,471.53	-684.24	1,622.83	0.00	0.00	0.00
5,100.00	23.14	335.06	4,775.70	1,507.16	-700.81	1,662.13	0.00	0.00	0.00
5,200.00	23.14	335.06	4,867.66	1,542.80	-717.38	1,701.43	0.00	0.00	0.00
5,300.00	23.14	335.06	4,959.61	1,578.43	-733.95	1,740.73	0.00	0.00	0.00
5,328.89	23.14	335.06	4,986.18	1,588.73	-738.73	1,752.08	0.00	0.00	0.00
Start Drop -2.00									
5,400.00	21.72	335.06	5,051.91	1,613.33	-750.17	1,779.21	2.00	-2.00	0.00
5,500.00	19.72	335.06	5,145.43	1,645.41	-765.09	1,814.59	2.00	-2.00	0.00
5,600.00	17.72	335.06	5,240.14	1,674.50	-778.62	1,846.68	2.00	-2.00	0.00
5,700.00	15.72	335.06	5,335.91	1,700.59	-790.75	1,875.44	2.00	-2.00	0.00
5,800.00	13.72	335.06	5,432.62	1,723.62	-801.46	1,900.85	2.00	-2.00	0.00
5,900.00	11.72	335.06	5,530.16	1,743.59	-810.74	1,922.86	2.00	-2.00	0.00
6,000.00	9.72	335.06	5,628.41	1,760.45	-818.58	1,941.46	2.00	-2.00	0.00
6,100.00	7.72	335.06	5,727.25	1,774.19	-824.97	1,956.61	2.00	-2.00	0.00
6,200.00	5.72	335.06	5,826.56	1,784.80	-829.90	1,968.31	2.00	-2.00	0.00
6,300.00	3.72	335.06	5,926.22	1,792.26	-833.37	1,976.54	2.00	-2.00	0.00
6,400.00	1.72	335.06	6,026.10	1,796.56	-835.37	1,981.28	2.00	-2.00	0.00
6,485.91	0.00	0.00	6,112.00	1,797.73	-835.92	1,982.57	2.00	-2.00	29.03
Start 1917.00 hold at 6485.91 MD									
6,500.00	0.00	0.00	6,126.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
6,600.00	0.00	0.00	6,226.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
6,700.00	0.00	0.00	6,326.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
6,800.00	0.00	0.00	6,426.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
6,900.00	0.00	0.00	6,526.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,000.00	0.00	0.00	6,626.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,100.00	0.00	0.00	6,726.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,200.00	0.00	0.00	6,826.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,300.00	0.00	0.00	6,926.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,400.00	0.00	0.00	7,026.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,485.91	0.00	0.00	7,112.00	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
NIO									
7,500.00	0.00	0.00	7,126.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,600.00	0.00	0.00	7,226.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,700.00	0.00	0.00	7,326.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,800.00	0.00	0.00	7,426.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,832.91	0.00	0.00	7,459.00	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
CODELL									
7,900.00	0.00	0.00	7,526.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
7,917.91	0.00	0.00	7,544.00	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
GREENHORN									
8,000.00	0.00	0.00	7,626.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
8,100.00	0.00	0.00	7,726.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
8,200.00	0.00	0.00	7,826.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
8,267.91	0.00	0.00	7,894.00	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
J SAND									
8,300.00	0.00	0.00	7,926.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
8,400.00	0.00	0.00	8,026.09	1,797.73	-835.92	1,982.57	0.00	0.00	0.00

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_Riverbend 32-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4919' & RKB 25' @ 4934.00ft (ASSUMED)
Site:	WELD_RIVERBEND 13-8 pad	North Reference:	True
Well:	P_Riverbend 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Riverbend 32-18		
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)
8,402.91	0.00	0.00	8,029.00	1,797.73	-835.92	1,982.57	0.00	0.00	0.00
PBHL_Riverbend 32-18(2590'FSL 50'FWL)									

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_Riverbend 32-18 - plan hits target center - Circle (radius 50.00)	0.00	0.00	8,029.00	1,797.74	-835.92	1,262,112.55	3,187,690.81	40° 3' 3.384 N	104° 49' 46.330 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
904.48	900.00	8 5/8"	8.62	11.00

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,485.91	7,112.00	NIO			
7,832.91	7,459.00	CODELL			
8,267.91	7,894.00	J SAND			
4,887.17	4,580.00	SUSSEX			
7,917.91	7,544.00	GREENHORN			
3,440.81	3,250.00	PARKMAN			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,457.02	1,425.82	209.00	-97.18	Start 3871.87 hold at 1457.02 MD
5,328.89	4,986.18	1,588.73	-738.73	Start Drop -2.00
6,485.91	6,112.00	1,797.73	-835.92	Start 1917.00 hold at 6485.91 MD
8,402.91	8,029.00	1,797.73	-835.92	TD at 8402.91