

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_BARRON 10-18 PAD (3N66W)

P_BARRON FEDERAL 24-18

P_BARRON FEDERAL 24-18

Plan: Design #1 08-06-09 ZJRA6

Standard Planning Report - Geographic

22 September, 2009

APC

Planning Report - Geographic

Database:	edm5000p	Local Co-ordinate Reference:	Well P_BARRON FEDERAL 24-18
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4826.0ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4826.0ft (Original Well Elev)
Site:	WELD_BARRON 10-18 PAD (3N66W)	North Reference:	Grid
Well:	P_BARRON FEDERAL 24-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BARRON FEDERAL 24-18		
Design:	Design #1 08-06-09 ZJRA6		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_BARRON 10-18 PAD (3N66W)			
Site Position:		Northing:	403,803.72 m	Latitude:	40° 13' 22.76400 N
From:	Lat/Long	Easting:	972,567.49 m	Longitude:	104° 48' 59.72400 W
Position Uncertainty:	0.0 ft	Slot Radius:	0.000 in	Grid Convergence:	0.44 °

Well	P_BARRON FEDERAL 24-18					
Well Position	+N/-S	0.0 ft	Northing:	403,803.80 m	Latitude:	40° 13' 22.76384 N
	+E/-W	0.0 ft	Easting:	972,577.72 m	Longitude:	104° 48' 59.29140 W
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	4,826.0 ft

Wellbore	P_BARRON FEDERAL 24-18				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/6/2009	9.09	66.97	53,247

Design	Design #1 08-06-09 ZJRA6				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	27.81	

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,850.0	13.00	27.81	1,844.4	64.9	34.3	2.00	2.00	0.00	27.81	
4,738.1	13.00	27.81	4,658.5	639.6	337.4	0.00	0.00	0.00	0.00	
5,604.8	0.00	0.00	5,517.8	726.2	383.0	1.50	-1.50	0.00	180.00	
7,579.0	0.00	0.00	7,492.0	726.2	383.0	0.00	0.00	0.00	0.00	PBHL_BARRON 24

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Well:	P_BARRON FEDERAL 24-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_BARRON FEDERAL 24-18		
Design:	Design #1 08-06-09 ZJRA6		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	403,803.80	972,577.72	40° 13' 22.76384 N	104° 48' 59.29140 W	
800.0	0.00	0.00	800.0	0.0	0.0	403,803.80	972,577.72	40° 13' 22.76384 N	104° 48' 59.29140 W	
Surface Casing										
1,200.0	0.00	0.00	1,200.0	0.0	0.0	403,803.80	972,577.72	40° 13' 22.76384 N	104° 48' 59.29140 W	
1,850.0	13.00	27.81	1,844.4	64.9	34.3	403,823.59	972,588.16	40° 13' 23.40301 N	104° 48' 58.84333 W	
3,909.3	13.00	27.81	3,851.0	474.7	250.4	403,948.48	972,654.03	40° 13' 27.43567 N	104° 48' 56.01630 W	
Parkman										
4,356.8	13.00	27.81	4,287.0	563.7	297.3	403,975.62	972,668.35	40° 13' 28.31192 N	104° 48' 55.40202 W	
Sussex										
4,738.1	13.00	27.81	4,658.5	639.6	337.4	403,998.74	972,680.55	40° 13' 29.05855 N	104° 48' 54.87858 W	
5,604.8	0.00	0.00	5,517.8	726.2	383.0	404,025.14	972,694.47	40° 13' 29.91077 N	104° 48' 54.28113 W	
7,139.0	0.00	0.00	7,052.0	726.2	383.0	404,025.14	972,694.47	40° 13' 29.91077 N	104° 48' 54.28113 W	
Niobrara "A"										
7,419.0	0.00	0.00	7,332.0	726.2	383.0	404,025.14	972,694.47	40° 13' 29.91077 N	104° 48' 54.28113 W	
Codell										
7,579.0	0.00	0.00	7,492.0	726.2	383.0	404,025.14	972,694.47	40° 13' 29.91077 N	104° 48' 54.28113 W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (m)	Easting (m)	Latitude	Longitude	
- hit/miss target										
- Shape										
PBHL_BARRON 24-1	0.00	0.00	7,492.0	726.2	383.0	404,025.14	972,694.47	40° 13' 29.91077 N	104° 48' 54.28113 W	
- plan hits target center										
- Point										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
800.0	800.0	Surface Casing	8.625	12.250	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,909.3	3,851.0	Parkman		0.00		
4,356.8	4,287.0	Sussex		0.00		
7,139.0	7,052.0	Niobrara "A"		0.00		
7,419.0	7,332.0	Codell		0.00		