



# **US ROCKIES REGION PLANNING**

COLORADO NORTHERN ZONE - 83

WELD\_SPAUR 8-7 PAD

P\_SPAUR 17-7

P\_SPAUR 17-7

Plan: PLAN #1 4-5-10 RHS

## **Standard Planning Report**

06 April, 2010

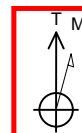




Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_SPAUR 8-7 PAD  
Well: P\_SPAUR 17-7  
Wellbore: P\_SPAUR 17-7  
Section: SECTION 7 T4N R67W  
SHL: 1989 FNL 624 FEL  
Design: PLAN #1 4-5-10 RHS  
Latitude: 40° 19' 46.045 N  
Longitude: 104° 55' 33.593 W  
GL: 4837.00  
KB: WELL @ 4852.00ft (Original Well Elev)



**Weatherford®**



Azimuths to True North  
Magnetic North: 9.10°

Magnetic Field  
Strength: 53202.3snT  
Dip Angle: 67.01°  
Date: 4/6/2010  
Model: IGRF2010

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3350.00	3376.61	PARKMAN
3880.00	3913.01	SUSSEX
4430.00	4469.65	SHANNON
6711.00	6762.55	NIO A
7024.00	7075.55	CODELL

#### CASING DETAILS

TVD	MD	Name	Size
750.00	750.00	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	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1292.88	8.86	318.63	1291.12	25.64	-22.58	2.00	318.63	34.17	Start 4026.78 hold at 1292.88 MD
5319.66	8.86	318.63	5269.88	490.93	-432.41	0.00	0.00	654.21	Start Drop -2.00
5762.55	0.00	0.00	5711.00	516.57	-454.99	2.00	180.00	688.38	Start 1474.00 hold at 5762.55 MD
7236.55	0.00	0.00	7185.00	516.57	-454.99	0.00	0.00	688.38	TD at 7236.55

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

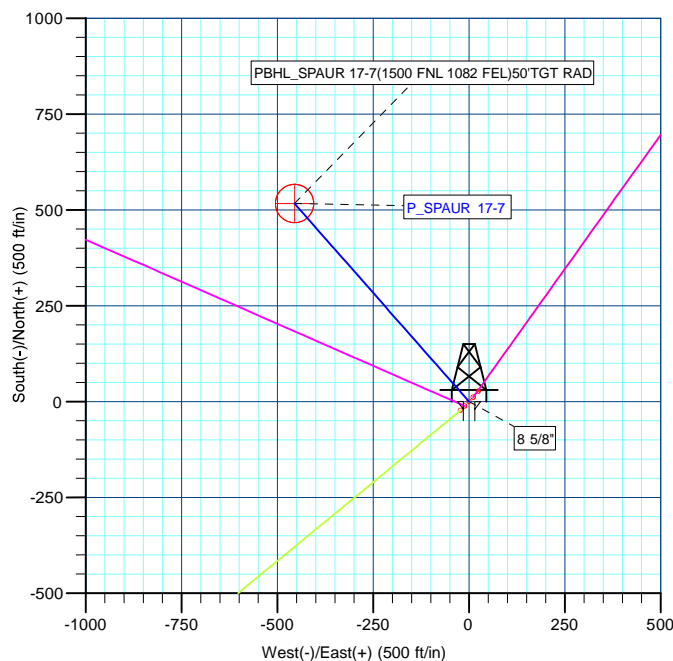
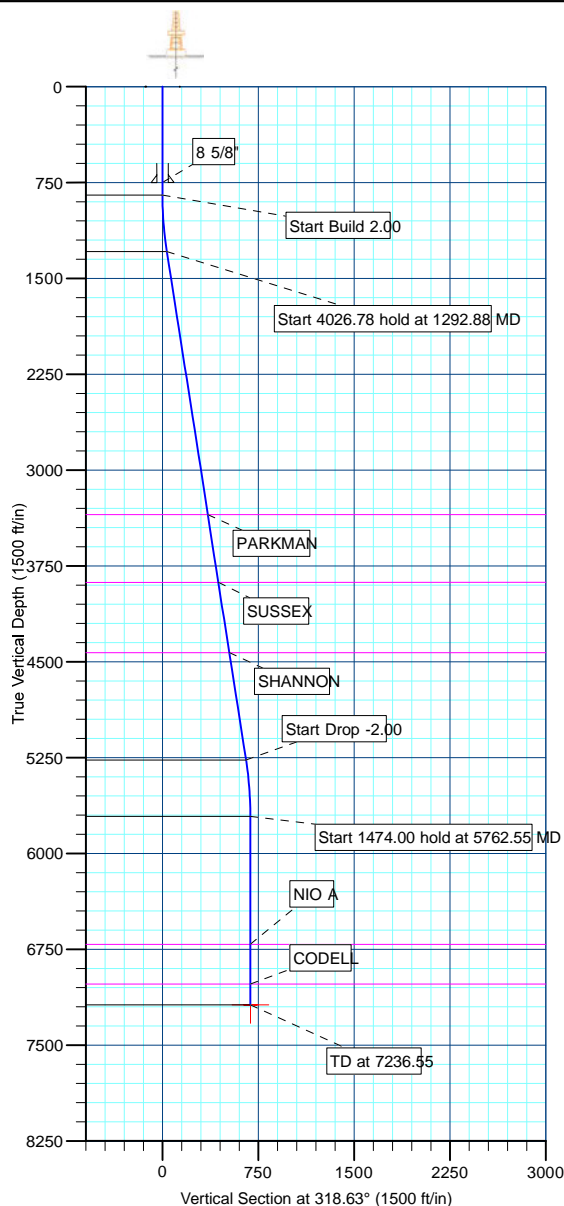
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7185.00	516.57	-454.99	40° 19' 51.150 N	104° 55' 39.468 W	Circle (Radius: 50.00)

#### WELL DETAILS: P\_SPAUR 17-7

+N/-S	+E/-W	Northing	Ground Level:	4837.00	Latitude	Longitude	Slot
0.00	0.00	1363379.94	Easting	3160030.73	40° 19' 46.045 N	104° 55' 33.593 W	

#### LEGEND

- HSR-SPAUR #7-7 EXISTING, HSR-SPAUR #7-7 EXISTING, HSR-SPAUR #7-7 EXISTING V0
- P\_SPAUR 21-7, P\_SPAUR 21-7, PLAN #1 4-5-10 RHS V0
- P\_SPAUR 24-7, P\_SPAUR 24-7, PLAN #1 4-5-10 RHS V0
- P\_SPAUR 41-7, P\_SPAUR 41-7, PLAN #1 4-5-10 RHS V0
- SPAUR O #7-8 EXISTING, SPAUR O #7-8 EXISTING, SPAUR O #7-8 EXISTING V0
- PLAN #1 4-5-10 RHS



Plan: PLAN #1 4-5-10 RHS (P\_SPAUR 17-7 / P\_SPAUR 17-7 )

Created By: Robert H. Scott Date: 10:53, April 06 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 17-7
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4852.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 17-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 17-7		
Design:	PLAN #1 4-5-10 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_SPAUR 8-7 PAD, SECTION 7 T4N R67W			
Site Position:		Northing:	1,363,379.94 ft	Latitude:	40° 19' 46.045 N
From:	Lat/Long	Easting:	3,160,030.73 ft	Longitude:	104° 55' 33.593 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.37 °

Well	P_SPAUR 17-7					
Well Position	+N/-S	0.00 ft	Northing:	1,363,379.94 ft	Latitude:	40° 19' 46.045 N
	+E/-W	0.00 ft	Easting:	3,160,030.73 ft	Longitude:	104° 55' 33.593 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,837.00 ft

Wellbore	P_SPAUR 17-7				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/6/2010	9.10	67.01	53,202

Design	PLAN #1 4-5-10 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	318.63

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	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,292.88	8.86	318.63	1,291.12	25.64	-22.58	2.00	2.00	0.00	318.63	
5,319.66	8.86	318.63	5,269.88	490.93	-432.41	0.00	0.00	0.00	0.00	
5,762.55	0.00	0.00	5,711.00	516.57	-454.99	2.00	-2.00	0.00	180.00	
7,236.55	0.00	0.00	7,185.00	516.57	-454.99	0.00	0.00	0.00	0.00	PBHL_SPAUR 17-7

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 17-7
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4852.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 17-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 17-7		
Design:	PLAN #1 4-5-10 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									
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	1.00	318.63	900.00	0.33	-0.29	0.44	2.00	2.00	0.00
1,000.00	3.00	318.63	999.93	2.95	-2.60	3.93	2.00	2.00	0.00
1,100.00	5.00	318.63	1,099.68	8.18	-7.21	10.90	2.00	2.00	0.00
1,200.00	7.00	318.63	1,199.13	16.02	-14.11	21.35	2.00	2.00	0.00
Start 4026.78 hold at 1292.88 MD									
1,292.88	8.86	318.63	1,291.12	25.64	-22.58	34.17	2.00	2.00	0.00
1,300.00	8.86	318.63	1,298.15	26.46	-23.31	35.26	0.00	0.00	0.00
1,400.00	8.86	318.63	1,396.96	38.02	-33.48	50.66	0.00	0.00	0.00
1,500.00	8.86	318.63	1,495.77	49.57	-43.66	66.06	0.00	0.00	0.00
1,600.00	8.86	318.63	1,594.58	61.13	-53.84	81.46	0.00	0.00	0.00
1,700.00	8.86	318.63	1,693.38	72.68	-64.02	96.85	0.00	0.00	0.00
1,800.00	8.86	318.63	1,792.19	84.24	-74.19	112.25	0.00	0.00	0.00
1,900.00	8.86	318.63	1,891.00	95.79	-84.37	127.65	0.00	0.00	0.00
2,000.00	8.86	318.63	1,989.80	107.35	-94.55	143.05	0.00	0.00	0.00
2,100.00	8.86	318.63	2,088.61	118.90	-104.73	158.45	0.00	0.00	0.00
2,200.00	8.86	318.63	2,187.42	130.46	-114.90	173.84	0.00	0.00	0.00
2,300.00	8.86	318.63	2,286.23	142.01	-125.08	189.24	0.00	0.00	0.00
2,400.00	8.86	318.63	2,385.03	153.57	-135.26	204.64	0.00	0.00	0.00
2,500.00	8.86	318.63	2,483.84	165.12	-145.44	220.04	0.00	0.00	0.00
2,600.00	8.86	318.63	2,582.65	176.68	-155.62	235.44	0.00	0.00	0.00
2,700.00	8.86	318.63	2,681.46	188.23	-165.79	250.83	0.00	0.00	0.00
2,800.00	8.86	318.63	2,780.26	199.79	-175.97	266.23	0.00	0.00	0.00
2,900.00	8.86	318.63	2,879.07	211.34	-186.15	281.63	0.00	0.00	0.00
3,000.00	8.86	318.63	2,977.88	222.90	-196.33	297.03	0.00	0.00	0.00
3,100.00	8.86	318.63	3,076.69	234.45	-206.50	312.43	0.00	0.00	0.00
3,200.00	8.86	318.63	3,175.49	246.01	-216.68	327.82	0.00	0.00	0.00
3,300.00	8.86	318.63	3,274.30	257.56	-226.86	343.22	0.00	0.00	0.00
PARKMAN									
3,376.61	8.86	318.63	3,350.00	266.41	-234.66	355.02	0.00	0.00	0.00
3,400.00	8.86	318.63	3,373.11	269.12	-237.04	358.62	0.00	0.00	0.00
3,500.00	8.86	318.63	3,471.92	280.67	-247.21	374.02	0.00	0.00	0.00
3,600.00	8.86	318.63	3,570.72	292.23	-257.39	389.42	0.00	0.00	0.00
3,700.00	8.86	318.63	3,669.53	303.78	-267.57	404.82	0.00	0.00	0.00
3,800.00	8.86	318.63	3,768.34	315.34	-277.75	420.21	0.00	0.00	0.00
3,900.00	8.86	318.63	3,867.15	326.89	-287.92	435.61	0.00	0.00	0.00
SUSSEX									
3,913.01	8.86	318.63	3,880.00	328.39	-289.25	437.61	0.00	0.00	0.00
4,000.00	8.86	318.63	3,965.95	338.45	-298.10	451.01	0.00	0.00	0.00
4,100.00	8.86	318.63	4,064.76	350.00	-308.28	466.41	0.00	0.00	0.00
4,200.00	8.86	318.63	4,163.57	361.56	-318.46	481.81	0.00	0.00	0.00
4,300.00	8.86	318.63	4,262.37	373.11	-328.63	497.20	0.00	0.00	0.00
4,400.00	8.86	318.63	4,361.18	384.67	-338.81	512.60	0.00	0.00	0.00
SHANNON									
4,469.65	8.86	318.63	4,430.00	392.71	-345.90	523.33	0.00	0.00	0.00
4,500.00	8.86	318.63	4,459.99	396.22	-348.99	528.00	0.00	0.00	0.00
4,600.00	8.86	318.63	4,558.80	407.78	-359.17	543.40	0.00	0.00	0.00
4,700.00	8.86	318.63	4,657.60	419.33	-369.34	558.80	0.00	0.00	0.00
4,800.00	8.86	318.63	4,756.41	430.89	-379.52	574.19	0.00	0.00	0.00
4,900.00	8.86	318.63	4,855.22	442.44	-389.70	589.59	0.00	0.00	0.00
5,000.00	8.86	318.63	4,954.03	453.99	-399.88	604.99	0.00	0.00	0.00
5,100.00	8.86	318.63	5,052.83	465.55	-410.05	620.39	0.00	0.00	0.00
5,200.00	8.86	318.63	5,151.64	477.10	-420.23	635.79	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 17-7
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4852.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 17-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 17-7		
Design:	PLAN #1 4-5-10 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)
5,300.00	8.86	318.63	5,250.45	488.66	-430.41	651.18	0.00	0.00	0.00
Start Drop -2.00									
5,319.66	8.86	318.63	5,269.88	490.93	-432.41	654.21	0.00	0.00	0.00
5,400.00	7.25	318.63	5,349.42	499.38	-439.85	665.47	2.00	-2.00	0.00
5,500.00	5.25	318.63	5,448.82	507.55	-447.05	676.36	2.00	-2.00	0.00
5,600.00	3.25	318.63	5,548.54	513.11	-451.95	683.77	2.00	-2.00	0.00
5,700.00	1.25	318.63	5,648.46	516.06	-454.54	687.70	2.00	-2.00	0.00
Start 1474.00 hold at 5762.55 MD									
5,762.55	0.00	0.00	5,711.00	516.57	-454.99	688.38	2.00	-2.00	0.00
5,800.00	0.00	0.00	5,748.45	516.57	-454.99	688.38	0.00	0.00	0.00
5,900.00	0.00	0.00	5,848.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,000.00	0.00	0.00	5,948.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,100.00	0.00	0.00	6,048.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,200.00	0.00	0.00	6,148.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,300.00	0.00	0.00	6,248.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,400.00	0.00	0.00	6,348.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,500.00	0.00	0.00	6,448.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,600.00	0.00	0.00	6,548.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,700.00	0.00	0.00	6,648.45	516.57	-454.99	688.38	0.00	0.00	0.00
NIO A									
6,762.55	0.00	0.00	6,711.00	516.57	-454.99	688.38	0.00	0.00	0.00
6,800.00	0.00	0.00	6,748.45	516.57	-454.99	688.38	0.00	0.00	0.00
6,900.00	0.00	0.00	6,848.45	516.57	-454.99	688.38	0.00	0.00	0.00
7,000.00	0.00	0.00	6,948.45	516.57	-454.99	688.38	0.00	0.00	0.00
CODELL									
7,075.55	0.00	0.00	7,024.00	516.57	-454.99	688.38	0.00	0.00	0.00
7,100.00	0.00	0.00	7,048.45	516.57	-454.99	688.38	0.00	0.00	0.00
7,200.00	0.00	0.00	7,148.45	516.57	-454.99	688.38	0.00	0.00	0.00
PBHL_SPAUR 17-7(1500 FNL 1082 FEL)50'TGT RAD									
7,236.55	0.00	0.00	7,185.00	516.57	-454.99	688.38	0.00	0.00	0.00

#### Design 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_SPAUR 17-7(1	0.00	0.00	7,185.00	516.57	-454.99	1,363,893.55	3,159,572.41	40° 19' 51.150 N	104° 55' 39.468 W
- plan hits target center									
- Circle (radius 50.00)									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
750.00	750.00	8 5/8"	8.62	11.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 17-7
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4852.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 17-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 17-7		
Design:	PLAN #1 4-5-10 RHS		

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,376.61	3,350.00	PARKMAN			
3,913.01	3,880.00	SUSSEX			
4,469.65	4,430.00	SHANNON			
6,762.55	6,711.00	NIO A			
7,075.55	7,024.00	CODELL			

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
850.00	850.00	0.00	0.00	Start Build 2.00
1,292.88	1,291.12	25.64	-22.58	Start 4026.78 hold at 1292.88 MD
5,319.66	5,269.88	490.93	-432.41	Start Drop -2.00
5,762.55	5,711.00	516.57	-454.99	Start 1474.00 hold at 5762.55 MD
7,236.55	7,185.00	516.57	-454.99	TD at 7236.55