



# **US ROCKIES REGION PLANNING**

COLORADO NORTHERN ZONE - 83

WELD\_SPAUR 8-7 PAD

P\_SPAUR 24-7

P\_SPAUR 24-7

Plan: PLAN #1 4-5-10 RHS

## **Standard Planning Report**

06 April, 2010

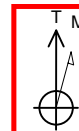




Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_SPAUR 8-7 PAD  
Well: P\_SPAUR 24-7  
Wellbore: P\_SPAUR 24-7  
Section: SECTION 7 T4N R67W  
SHL: 2013 FNL 646 FEL  
Design: PLAN #1 4-5-10 RHS  
Latitude: 40° 19' 45.815 N  
Longitude: 104° 55' 33.877 W  
GL: 4837.00  
KB: WELL @ 4852.00ft (Original Well Elev)



**Weatherford**



Azimuths to True North  
Magnetic North: 9.10°

Magnetic Field  
Strength: 53202.2snT  
Dip Angle: 67.01°  
Date: 4/6/2010  
Model: IGRF2010

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3340.00	3382.58	PARKMAN
3870.00	3923.28	SUSSEX
4420.00	4484.38	SHANNON
6696.00	6778.45	NIO A
7009.00	7091.45	CODELL
7449.00	7531.45	JSAND

#### 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
1420.79	11.42	230.58	1417.02	-35.98	-43.79	2.00	230.58	56.67	Start 3786.88 hold at 1420.79 MD
5207.67	11.42	230.58	5128.98	-511.89	-622.84	0.00	0.00	806.20	Start Drop -2.00
5778.45	0.00	0.00	5696.00	-547.87	-666.63	2.00	180.00	862.88	Start 1904.00 hold at 5778.45 MD
7682.45	0.00	0.00	7600.00	-547.87	-666.63	0.00	0.00	862.88	TD at 7682.45

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

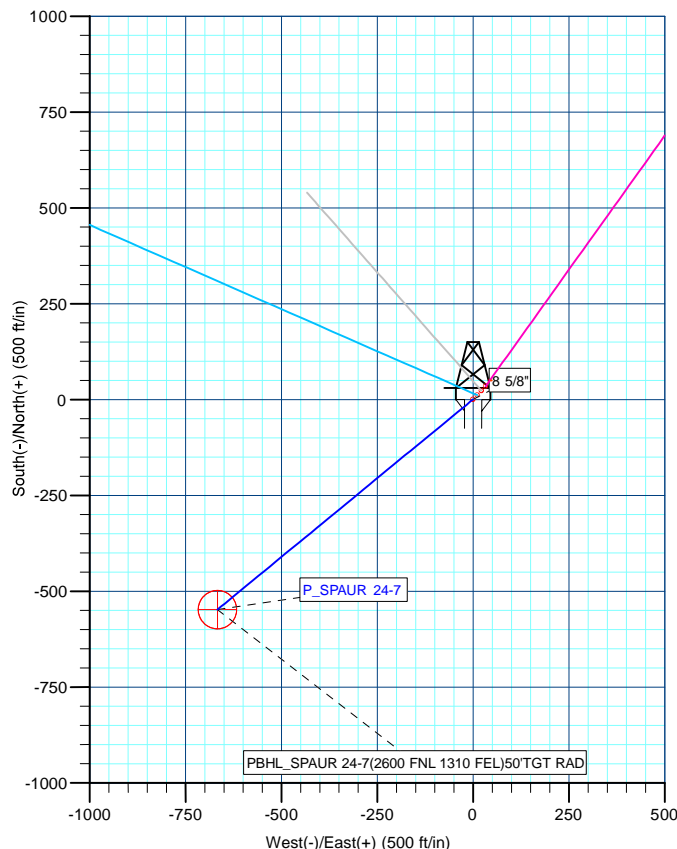
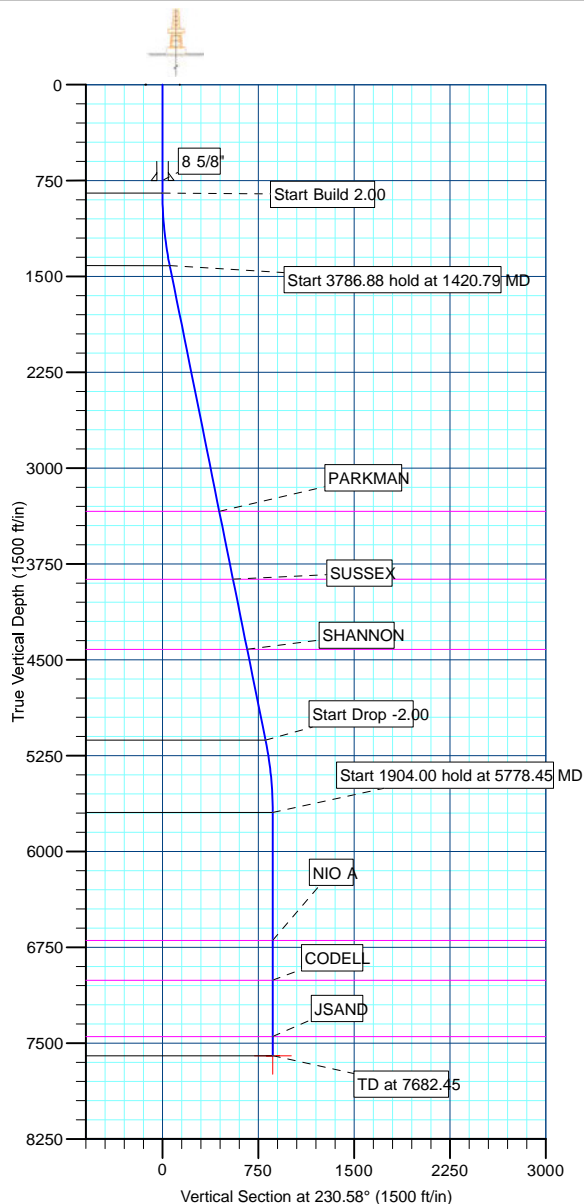
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7600.00	-547.87	-666.63	40° 19' 40.400 N	104° 55' 42.485 W	Circle (Radius: 50.00)

#### LEGEND

- HSR-SPAUR #7-7 EXISTING, HSR-SPAUR #7-7 EXISTING, HSR-SPAUR #7-7 EXISTING V0
- P\_SPAUR 17-7, P\_SPAUR 17-7, PLAN #1 4-5-10 RHS V0
- P\_SPAUR 21-7, P\_SPAUR 21-7, 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

#### WELL DETAILS: P\_SPAUR 24-7

+N/-S	+E/-W	Northing	Ground Level:	4837.00	Latitude	Longitude	Slot
0.00	0.00	1363356.47	Easting	3160008.86	40° 19' 45.815 N	104° 55' 33.877 W	



Plan: PLAN #1 4-5-10 RHS (P\_SPAUR 24-7 / P\_SPAUR 24-7 )

Created By: Robert H. Scott Date: 11:03, April 06 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 24-7
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 24-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 24-7		
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 24-7					
Well Position	+N/-S	-23.33 ft	Northing:	1,363,356.47 ft	Latitude:	40° 19' 45.815 N
	+E/-W	-22.03 ft	Easting:	3,160,008.86 ft	Longitude:	104° 55' 33.877 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,837.00 ft

Wellbore	P_SPAUR 24-7				
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	230.58

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	
1,420.79	11.42	230.58	1,417.02	-35.98	-43.79	2.00	2.00	0.00	230.58	
5,207.67	11.42	230.58	5,128.98	-511.89	-622.84	0.00	0.00	0.00	0.00	
5,778.45	0.00	0.00	5,696.00	-547.87	-666.63	2.00	-2.00	0.00	180.00	
7,682.45	0.00	0.00	7,600.00	-547.87	-666.63	0.00	0.00	0.00	0.00	PBHL_SPAUR 24-7

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 24-7
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 24-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 24-7		
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	230.58	900.00	-0.28	-0.34	0.44	2.00	2.00	0.00
1,000.00	3.00	230.58	999.93	-2.49	-3.03	3.93	2.00	2.00	0.00
1,100.00	5.00	230.58	1,099.68	-6.92	-8.42	10.90	2.00	2.00	0.00
1,200.00	7.00	230.58	1,199.13	-13.56	-16.50	21.35	2.00	2.00	0.00
1,300.00	9.00	230.58	1,298.15	-22.39	-27.25	35.27	2.00	2.00	0.00
1,400.00	11.00	230.58	1,396.63	-33.42	-40.66	52.63	2.00	2.00	0.00
Start 3786.88 hold at 1420.79 MD									
1,420.79	11.42	230.58	1,417.02	-35.98	-43.79	56.67	2.00	2.00	0.00
1,500.00	11.42	230.58	1,494.66	-45.94	-55.90	72.35	0.00	0.00	0.00
1,600.00	11.42	230.58	1,592.69	-58.51	-71.19	92.15	0.00	0.00	0.00
1,700.00	11.42	230.58	1,690.71	-71.07	-86.48	111.94	0.00	0.00	0.00
1,800.00	11.42	230.58	1,788.73	-83.64	-101.77	131.73	0.00	0.00	0.00
1,900.00	11.42	230.58	1,886.75	-96.21	-117.06	151.52	0.00	0.00	0.00
2,000.00	11.42	230.58	1,984.77	-108.77	-132.35	171.32	0.00	0.00	0.00
2,100.00	11.42	230.58	2,082.79	-121.34	-147.64	191.11	0.00	0.00	0.00
2,200.00	11.42	230.58	2,180.82	-133.91	-162.94	210.90	0.00	0.00	0.00
2,300.00	11.42	230.58	2,278.84	-146.48	-178.23	230.69	0.00	0.00	0.00
2,400.00	11.42	230.58	2,376.86	-159.04	-193.52	250.49	0.00	0.00	0.00
2,500.00	11.42	230.58	2,474.88	-171.61	-208.81	270.28	0.00	0.00	0.00
2,600.00	11.42	230.58	2,572.90	-184.18	-224.10	290.07	0.00	0.00	0.00
2,700.00	11.42	230.58	2,670.92	-196.74	-239.39	309.87	0.00	0.00	0.00
2,800.00	11.42	230.58	2,768.95	-209.31	-254.68	329.66	0.00	0.00	0.00
2,900.00	11.42	230.58	2,866.97	-221.88	-269.97	349.45	0.00	0.00	0.00
3,000.00	11.42	230.58	2,964.99	-234.45	-285.26	369.24	0.00	0.00	0.00
3,100.00	11.42	230.58	3,063.01	-247.01	-300.56	389.04	0.00	0.00	0.00
3,200.00	11.42	230.58	3,161.03	-259.58	-315.85	408.83	0.00	0.00	0.00
3,300.00	11.42	230.58	3,259.05	-272.15	-331.14	428.62	0.00	0.00	0.00
PARKMAN									
3,382.58	11.42	230.58	3,340.00	-282.52	-343.77	444.97	0.00	0.00	0.00
3,400.00	11.42	230.58	3,357.08	-284.71	-346.43	448.41	0.00	0.00	0.00
3,500.00	11.42	230.58	3,455.10	-297.28	-361.72	468.21	0.00	0.00	0.00
3,600.00	11.42	230.58	3,553.12	-309.85	-377.01	488.00	0.00	0.00	0.00
3,700.00	11.42	230.58	3,651.14	-322.42	-392.30	507.79	0.00	0.00	0.00
3,800.00	11.42	230.58	3,749.16	-334.98	-407.59	527.59	0.00	0.00	0.00
3,900.00	11.42	230.58	3,847.18	-347.55	-422.89	547.38	0.00	0.00	0.00
SUSSEX									
3,923.28	11.42	230.58	3,870.00	-350.47	-426.44	551.99	0.00	0.00	0.00
4,000.00	11.42	230.58	3,945.21	-360.12	-438.18	567.17	0.00	0.00	0.00
4,100.00	11.42	230.58	4,043.23	-372.68	-453.47	586.96	0.00	0.00	0.00
4,200.00	11.42	230.58	4,141.25	-385.25	-468.76	606.76	0.00	0.00	0.00
4,300.00	11.42	230.58	4,239.27	-397.82	-484.05	626.55	0.00	0.00	0.00
4,400.00	11.42	230.58	4,337.29	-410.39	-499.34	646.34	0.00	0.00	0.00
SHANNON									
4,484.38	11.42	230.58	4,420.00	-420.99	-512.24	663.04	0.00	0.00	0.00
4,500.00	11.42	230.58	4,435.31	-422.95	-514.63	666.13	0.00	0.00	0.00
4,600.00	11.42	230.58	4,533.34	-435.52	-529.92	685.93	0.00	0.00	0.00
4,700.00	11.42	230.58	4,631.36	-448.09	-545.21	705.72	0.00	0.00	0.00
4,800.00	11.42	230.58	4,729.38	-460.65	-560.51	725.51	0.00	0.00	0.00
4,900.00	11.42	230.58	4,827.40	-473.22	-575.80	745.31	0.00	0.00	0.00
5,000.00	11.42	230.58	4,925.42	-485.79	-591.09	765.10	0.00	0.00	0.00
5,100.00	11.42	230.58	5,023.44	-498.35	-606.38	784.89	0.00	0.00	0.00
5,200.00	11.42	230.58	5,121.47	-510.92	-621.67	804.68	0.00	0.00	0.00

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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 24-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 24-7		
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 Drop -2.00									
5,207.67	11.42	230.58	5,128.98	-511.89	-622.84	806.20	0.00	0.00	0.00
5,300.00	9.57	230.58	5,219.77	-522.56	-635.83	823.01	2.00	-2.00	0.00
5,400.00	7.57	230.58	5,318.65	-532.02	-647.34	837.91	2.00	-2.00	0.00
5,500.00	5.57	230.58	5,417.98	-539.28	-656.18	849.35	2.00	-2.00	0.00
5,600.00	3.57	230.58	5,517.66	-544.34	-662.34	857.32	2.00	-2.00	0.00
5,700.00	1.57	230.58	5,617.55	-547.19	-665.80	861.80	2.00	-2.00	0.00
Start 1904.00 hold at 5778.45 MD									
5,778.45	0.00	0.00	5,696.00	-547.87	-666.63	862.88	2.00	-2.00	0.00
5,800.00	0.00	0.00	5,717.55	-547.87	-666.63	862.88	0.00	0.00	0.00
5,900.00	0.00	0.00	5,817.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,000.00	0.00	0.00	5,917.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,100.00	0.00	0.00	6,017.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,200.00	0.00	0.00	6,117.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,300.00	0.00	0.00	6,217.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,400.00	0.00	0.00	6,317.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,500.00	0.00	0.00	6,417.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,600.00	0.00	0.00	6,517.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,700.00	0.00	0.00	6,617.55	-547.87	-666.63	862.88	0.00	0.00	0.00
NIO A									
6,778.45	0.00	0.00	6,696.00	-547.87	-666.63	862.88	0.00	0.00	0.00
6,800.00	0.00	0.00	6,717.55	-547.87	-666.63	862.88	0.00	0.00	0.00
6,900.00	0.00	0.00	6,817.55	-547.87	-666.63	862.88	0.00	0.00	0.00
7,000.00	0.00	0.00	6,917.55	-547.87	-666.63	862.88	0.00	0.00	0.00
CODELL									
7,091.45	0.00	0.00	7,009.00	-547.87	-666.63	862.88	0.00	0.00	0.00
7,100.00	0.00	0.00	7,017.55	-547.87	-666.63	862.88	0.00	0.00	0.00
7,200.00	0.00	0.00	7,117.55	-547.87	-666.63	862.88	0.00	0.00	0.00
7,300.00	0.00	0.00	7,217.55	-547.87	-666.63	862.88	0.00	0.00	0.00
7,400.00	0.00	0.00	7,317.55	-547.87	-666.63	862.88	0.00	0.00	0.00
7,500.00	0.00	0.00	7,417.55	-547.87	-666.63	862.88	0.00	0.00	0.00
JSAND									
7,531.45	0.00	0.00	7,449.00	-547.87	-666.63	862.88	0.00	0.00	0.00
7,600.00	0.00	0.00	7,517.55	-547.87	-666.63	862.88	0.00	0.00	0.00
PBHL_SPAUR 24-7(2600 FNL 1310 FEL)50'TGT RAD									
7,682.45	0.00	0.00	7,600.00	-547.87	-666.63	862.88	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_SPAUR 24-7(2	0.00	0.00	7,600.00	-547.87	-666.63	1,362,804.29	3,159,345.79	40° 19' 40.400 N	104° 55' 42.485 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 24-7
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 24-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 24-7		
Design:	PLAN #1 4-5-10 RHS		

#### 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

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,382.58	3,340.00	PARKMAN			
3,923.28	3,870.00	SUSSEX			
4,484.38	4,420.00	SHANNON			
6,778.45	6,696.00	NIO A			
7,091.45	7,009.00	CODELL			
7,531.45	7,449.00	JSAND			

#### 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
1,420.79	1,417.02	-35.98	-43.79	Start 3786.88 hold at 1420.79 MD
5,207.67	5,128.98	-511.89	-622.84	Start Drop -2.00
5,778.45	5,696.00	-547.87	-666.63	Start 1904.00 hold at 5778.45 MD
7,682.45	7,600.00	-547.87	-666.63	TD at 7682.45