



# **US ROCKIES REGION PLANNING**

COLORADO NORTHERN ZONE - 83

WELD\_SPAUR 8-7 PAD

P\_SPAUR 41-7

P\_SPAUR 41-7

Plan: PLAN #1 4-5-10 RHS

## **Standard Planning Report**

06 April, 2010

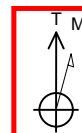




Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_SPAUR 8-7 PAD  
Well: P\_SPAUR 41-7  
Wellbore: P\_SPAUR 41-7  
Section: SECTION 7 T4N R67W  
SHL: 1977 FNL 613 FEL  
Design: PLAN #1 4-5-10 RHS  
Latitude: 40° 19' 46.157 N  
Longitude: 104° 55' 33.449 W  
GL: 4837.00  
KB: WELL @ 4852.00ft (Original 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	3405.36	PARKMAN
3880.00	3949.59	SUSSEX
4430.00	4514.35	SHANNON
6696.00	6802.59	NIO A
7009.00	7115.59	CODELL
7439.00	7545.59	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
1506.43	13.13	35.54	1500.70	60.93	43.53	2.00	35.54	74.88	Start 3639.73 hold at 1506.43 MD
5146.16	13.13	35.54	5045.30	733.62	524.09	0.00	0.00	901.60	Start Drop -2.00
5802.59	0.00	0.00	5896.00	794.55	567.62	2.00	180.00	976.48	Start 1894.00 hold at 5802.59 MD
7696.59	0.00	0.00	7590.00	794.55	567.62	0.00	0.00	976.48	TD at 7696.59

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

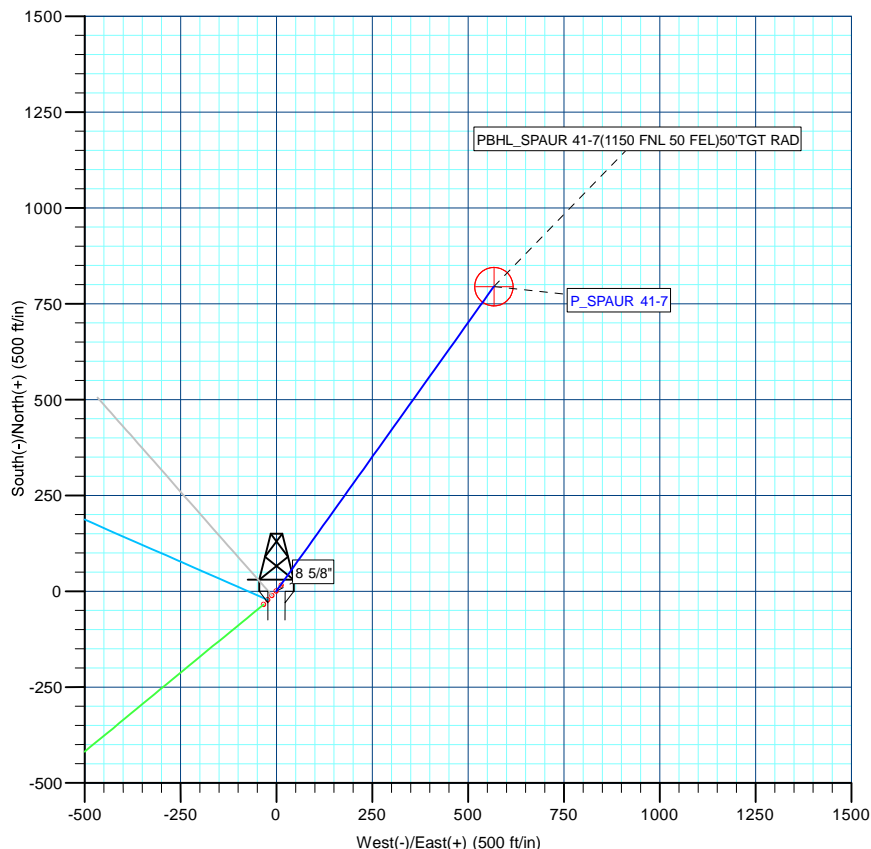
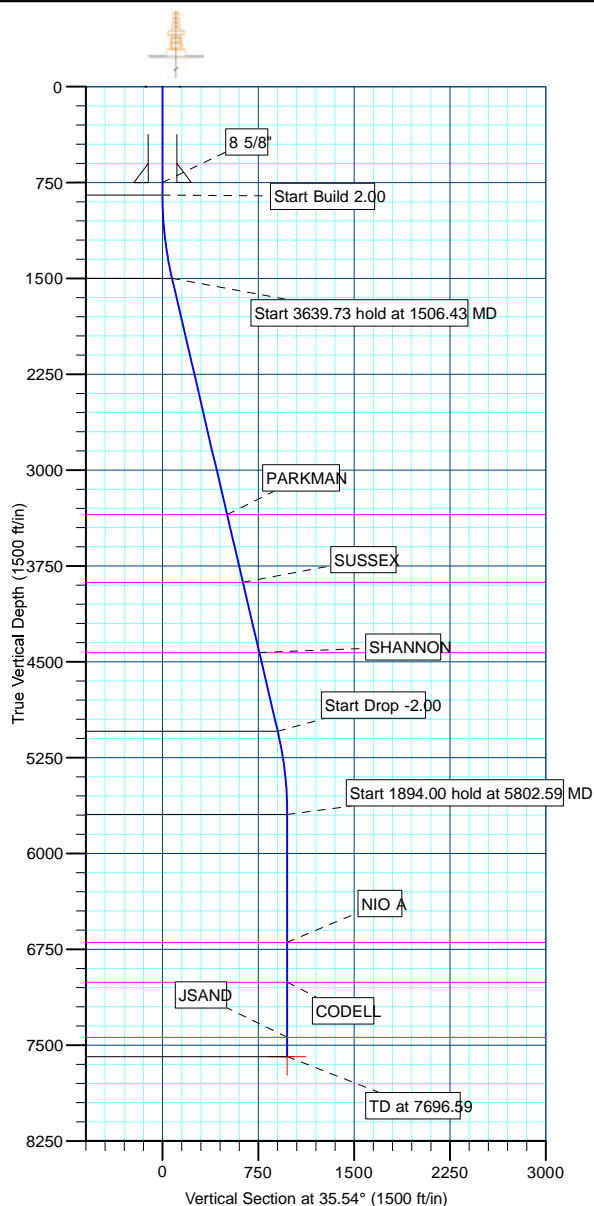
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7590.00	794.55	567.62	40° 19' 54.008 N	104° 55' 26.119 W	Circle (Radius: 50.00)

#### 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 24-7, P\_SPAUR 24-7, 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 41-7

+N/-S	+E/-W	Northing	Ground Level:	4837.00	Latitude	Longitude	Slot
0.00	0.00	1363391.28	Easting	3160041.81	40° 19' 46.157 N	104° 55' 33.449 W	



Plan: PLAN #1 4-5-10 RHS (P\_SPAUR 41-7/P\_SPAUR 41-7)

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

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 41-7
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 41-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 41-7		
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 41-7					
Well Position	+N/-S	11.27 ft	Northing:	1,363,391.28 ft	Latitude:	40° 19' 46.157 N
	+E/-W	11.15 ft	Easting:	3,160,041.81 ft	Longitude:	104° 55' 33.449 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,837.00 ft

Wellbore	P_SPAUR 41-7				
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	35.54

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	
1,506.43	13.13	35.54	1,500.70	60.93	43.53	2.00	2.00	0.00	35.54	
5,146.16	13.13	35.54	5,045.30	733.62	524.09	0.00	0.00	0.00	0.00	
5,802.59	0.00	0.00	5,696.00	794.55	567.62	2.00	-2.00	0.00	180.00	
7,696.59	0.00	0.00	7,590.00	794.55	567.62	0.00	0.00	0.00	0.00	PBHL_SPAUR 41-7

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 41-7
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 41-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 41-7		
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	35.54	900.00	0.36	0.25	0.44	2.00	2.00	0.00
1,000.00	3.00	35.54	999.93	3.19	2.28	3.93	2.00	2.00	0.00
1,100.00	5.00	35.54	1,099.68	8.87	6.34	10.90	2.00	2.00	0.00
1,200.00	7.00	35.54	1,199.13	17.38	12.41	21.35	2.00	2.00	0.00
1,300.00	9.00	35.54	1,298.15	28.70	20.50	35.27	2.00	2.00	0.00
1,400.00	11.00	35.54	1,396.63	42.83	30.60	52.63	2.00	2.00	0.00
1,500.00	13.00	35.54	1,494.44	59.74	42.68	73.42	2.00	2.00	0.00
Start 3639.73 hold at 1506.43 MD									
1,506.43	13.13	35.54	1,500.70	60.93	43.53	74.88	2.00	2.00	0.00
1,600.00	13.13	35.54	1,591.83	78.22	55.88	96.13	0.00	0.00	0.00
1,700.00	13.13	35.54	1,689.21	96.70	69.08	118.84	0.00	0.00	0.00
1,800.00	13.13	35.54	1,786.60	115.19	82.29	141.56	0.00	0.00	0.00
1,900.00	13.13	35.54	1,883.98	133.67	95.49	164.27	0.00	0.00	0.00
2,000.00	13.13	35.54	1,981.37	152.15	108.69	186.99	0.00	0.00	0.00
2,100.00	13.13	35.54	2,078.76	170.63	121.90	209.70	0.00	0.00	0.00
2,200.00	13.13	35.54	2,176.14	189.11	135.10	232.41	0.00	0.00	0.00
2,300.00	13.13	35.54	2,273.53	207.60	148.30	255.13	0.00	0.00	0.00
2,400.00	13.13	35.54	2,370.92	226.08	161.51	277.84	0.00	0.00	0.00
2,500.00	13.13	35.54	2,468.30	244.56	174.71	300.56	0.00	0.00	0.00
2,600.00	13.13	35.54	2,565.69	263.04	187.91	323.27	0.00	0.00	0.00
2,700.00	13.13	35.54	2,663.07	281.52	201.12	345.98	0.00	0.00	0.00
2,800.00	13.13	35.54	2,760.46	300.01	214.32	368.70	0.00	0.00	0.00
2,900.00	13.13	35.54	2,857.85	318.49	227.52	391.41	0.00	0.00	0.00
3,000.00	13.13	35.54	2,955.23	336.97	240.73	414.12	0.00	0.00	0.00
3,100.00	13.13	35.54	3,052.62	355.45	253.93	436.84	0.00	0.00	0.00
3,200.00	13.13	35.54	3,150.01	373.93	267.13	459.55	0.00	0.00	0.00
3,300.00	13.13	35.54	3,247.39	392.42	280.34	482.27	0.00	0.00	0.00
3,400.00	13.13	35.54	3,344.78	410.90	293.54	504.98	0.00	0.00	0.00
PARKMAN									
3,405.36	13.13	35.54	3,350.00	411.89	294.25	506.20	0.00	0.00	0.00
3,500.00	13.13	35.54	3,442.16	429.38	306.74	527.69	0.00	0.00	0.00
3,600.00	13.13	35.54	3,539.55	447.86	319.95	550.41	0.00	0.00	0.00
3,700.00	13.13	35.54	3,636.94	466.34	333.15	573.12	0.00	0.00	0.00
3,800.00	13.13	35.54	3,734.32	484.83	346.35	595.83	0.00	0.00	0.00
3,900.00	13.13	35.54	3,831.71	503.31	359.56	618.55	0.00	0.00	0.00
SUSSEX									
3,949.59	13.13	35.54	3,880.00	512.47	366.11	629.81	0.00	0.00	0.00
4,000.00	13.13	35.54	3,929.10	521.79	372.76	641.26	0.00	0.00	0.00
4,100.00	13.13	35.54	4,026.48	540.27	385.97	663.98	0.00	0.00	0.00
4,200.00	13.13	35.54	4,123.87	558.76	399.17	686.69	0.00	0.00	0.00
4,300.00	13.13	35.54	4,221.25	577.24	412.37	709.40	0.00	0.00	0.00
4,400.00	13.13	35.54	4,318.64	595.72	425.58	732.12	0.00	0.00	0.00
4,500.00	13.13	35.54	4,416.03	614.20	438.78	754.83	0.00	0.00	0.00
SHANNON									
4,514.35	13.13	35.54	4,430.00	616.85	440.67	758.09	0.00	0.00	0.00
4,600.00	13.13	35.54	4,513.41	632.68	451.98	777.54	0.00	0.00	0.00
4,700.00	13.13	35.54	4,610.80	651.17	465.19	800.26	0.00	0.00	0.00
4,800.00	13.13	35.54	4,708.19	669.65	478.39	822.97	0.00	0.00	0.00
4,900.00	13.13	35.54	4,805.57	688.13	491.59	845.69	0.00	0.00	0.00
5,000.00	13.13	35.54	4,902.96	706.61	504.80	868.40	0.00	0.00	0.00
5,100.00	13.13	35.54	5,000.34	725.09	518.00	891.11	0.00	0.00	0.00

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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 41-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 41-7		
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									
5,146.16	13.13	35.54	5,045.30	733.62	524.09	901.60	0.00	0.00	0.00
5,200.00	12.05	35.54	5,097.84	743.17	530.92	913.33	2.00	-2.00	0.00
5,300.00	10.05	35.54	5,195.98	758.77	542.06	932.50	2.00	-2.00	0.00
5,400.00	8.05	35.54	5,294.73	771.57	551.20	948.23	2.00	-2.00	0.00
5,500.00	6.05	35.54	5,393.97	781.56	558.34	960.51	2.00	-2.00	0.00
5,600.00	4.05	35.54	5,493.58	788.73	563.46	969.32	2.00	-2.00	0.00
5,700.00	2.05	35.54	5,593.43	793.06	566.55	974.64	2.00	-2.00	0.00
5,800.00	0.05	35.54	5,693.41	794.55	567.62	976.48	2.00	-2.00	0.00
Start 1894.00 hold at 5802.59 MD									
5,802.59	0.00	0.00	5,696.00	794.55	567.62	976.48	2.00	-2.00	-1,371.56
5,900.00	0.00	0.00	5,793.41	794.55	567.62	976.48	0.00	0.00	0.00
6,000.00	0.00	0.00	5,893.41	794.55	567.62	976.48	0.00	0.00	0.00
6,100.00	0.00	0.00	5,993.41	794.55	567.62	976.48	0.00	0.00	0.00
6,200.00	0.00	0.00	6,093.41	794.55	567.62	976.48	0.00	0.00	0.00
6,300.00	0.00	0.00	6,193.41	794.55	567.62	976.48	0.00	0.00	0.00
6,400.00	0.00	0.00	6,293.41	794.55	567.62	976.48	0.00	0.00	0.00
6,500.00	0.00	0.00	6,393.41	794.55	567.62	976.48	0.00	0.00	0.00
6,600.00	0.00	0.00	6,493.41	794.55	567.62	976.48	0.00	0.00	0.00
6,700.00	0.00	0.00	6,593.41	794.55	567.62	976.48	0.00	0.00	0.00
6,800.00	0.00	0.00	6,693.41	794.55	567.62	976.48	0.00	0.00	0.00
NIO A									
6,802.59	0.00	0.00	6,696.00	794.55	567.62	976.48	0.00	0.00	0.00
6,900.00	0.00	0.00	6,793.41	794.55	567.62	976.48	0.00	0.00	0.00
7,000.00	0.00	0.00	6,893.41	794.55	567.62	976.48	0.00	0.00	0.00
7,100.00	0.00	0.00	6,993.41	794.55	567.62	976.48	0.00	0.00	0.00
CODELL									
7,115.59	0.00	0.00	7,009.00	794.55	567.62	976.48	0.00	0.00	0.00
7,200.00	0.00	0.00	7,093.41	794.55	567.62	976.48	0.00	0.00	0.00
7,300.00	0.00	0.00	7,193.41	794.55	567.62	976.48	0.00	0.00	0.00
7,400.00	0.00	0.00	7,293.41	794.55	567.62	976.48	0.00	0.00	0.00
7,500.00	0.00	0.00	7,393.41	794.55	567.62	976.48	0.00	0.00	0.00
JSAND									
7,545.59	0.00	0.00	7,439.00	794.55	567.62	976.48	0.00	0.00	0.00
7,600.00	0.00	0.00	7,493.41	794.55	567.62	976.48	0.00	0.00	0.00
PBHL_SPAUR 41-7(1150 FNL 50 FEL)50'TGT RAD									
7,696.59	0.00	0.00	7,590.00	794.55	567.62	976.48	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 41-7(1	0.00	0.00	7,590.00	794.55	567.62	1,364,189.49	3,160,604.27	40° 19' 54.008 N	104° 55' 26.119 W
- plan hits target center									
- Circle (radius 50.00)									

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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 41-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 41-7		
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 (°)
3,405.36	3,350.00	PARKMAN			
3,949.59	3,880.00	SUSSEX			
4,514.35	4,430.00	SHANNON			
6,802.59	6,696.00	NIO A			
7,115.59	7,009.00	CODELL			
7,545.59	7,439.00	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
1,506.43	1,500.70	60.93	43.53	Start 3639.73 hold at 1506.43 MD
5,146.16	5,045.30	733.62	524.09	Start Drop -2.00
5,802.59	5,696.00	794.55	567.62	Start 1894.00 hold at 5802.59 MD
7,696.59	7,590.00	794.55	567.62	TD at 7696.59