

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_SPARBOE 3 PAD**

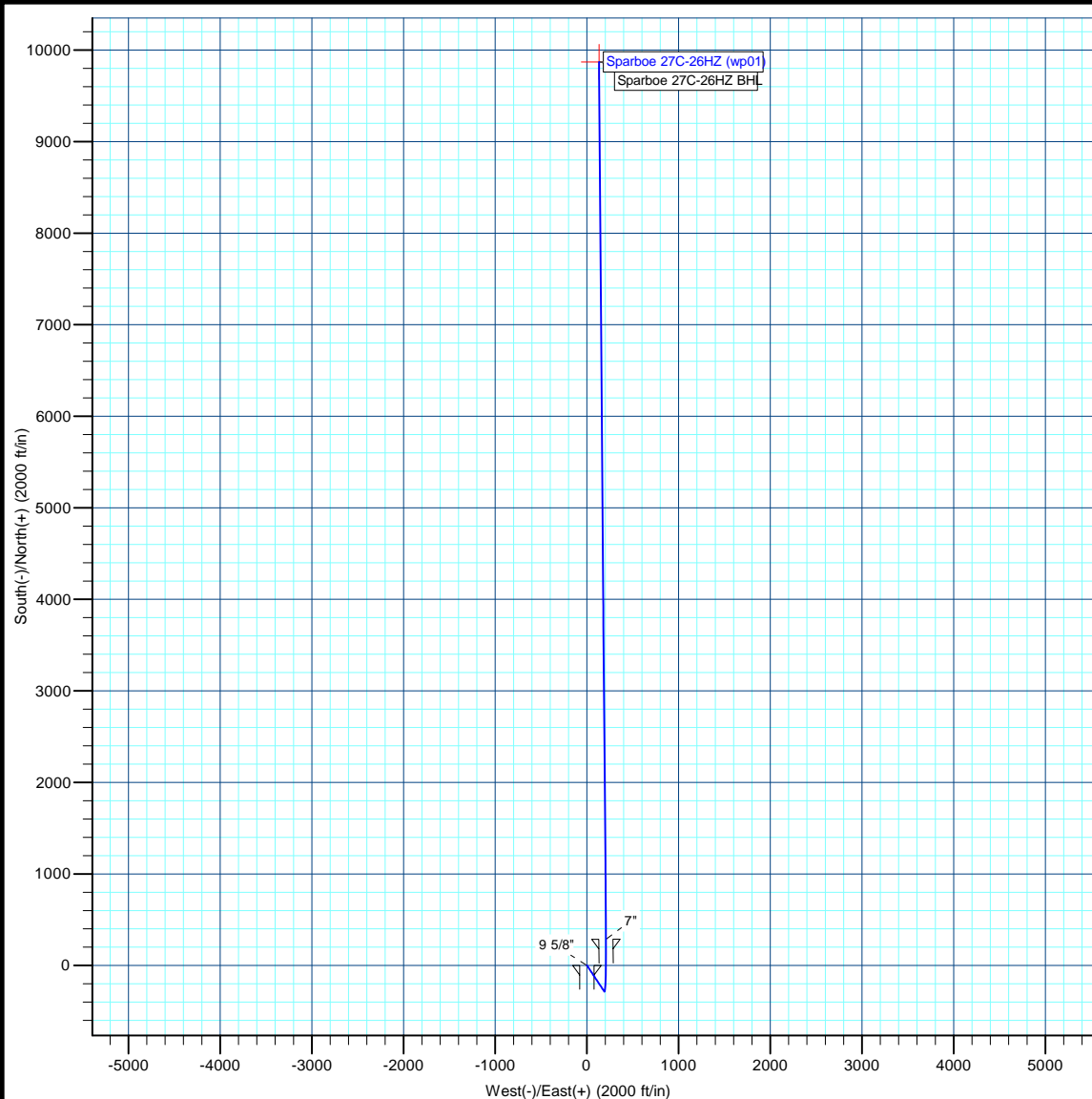
**Sparboe 27C-26HZ**

**Sparboe 27C-26HZ**

**Plan: Sparboe 27C-26HZ (wp01)**

## **Standard Planning Report**

**25 July, 2012**



**Azimuths to True North**  
Magnetic North: 8.62°

**Magnetic Field**  
Strength: 52864.0snT  
Dip Angle: 66.78°  
Date: 7/25/2012  
Model: IGRF2010

**Project:** COLORADO NORTHERN ZONE - 83  
**Site:** WELD SPARBOE 3 PAD  
**Well:** Sparboe 27C-26HZ  
**Wellbore:** Sparboe 27C-26HZ  
**Section:**  
**SHL:**  
**Design:** Sparboe 27C-26HZ (wp01)  
**Latitude:** 40.088446  
**Longitude:** -104.628189  
**GL:** 4953.00  
**KB:** rkb + gl @ 4970.00ft

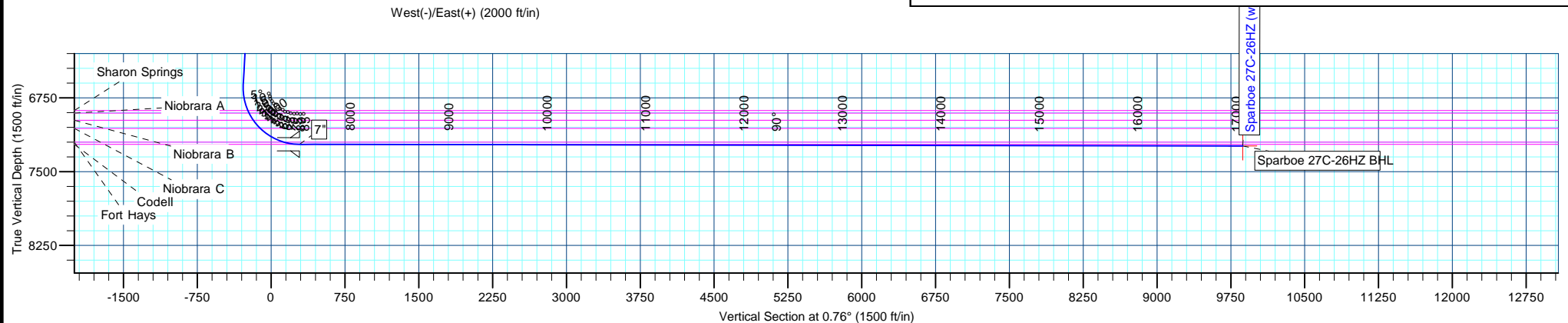
WELL DETAILS: Sparboe 27C-26HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4953.00	Latitude	Longitude
0.00	0.00	1276264.60	3243920.29	40.088446	-104.628189	Slot

CASING DETAILS			
TVD	MD	Name	Size
1300.00	1300.00	9 5/8"	9-5/8
7223.00	7561.14	7"	7

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
816.00	816.00	Fox Hills
4969.00	4976.81	Sussex
6880.00	6898.51	Sharon Springs
6905.00	6926.12	Niobrara A
6979.00	7012.33	Niobrara B
7061.00	7120.26	Niobrara C
7201.00	7402.80	Fort Hays
7223.00	7561.14	Codell

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Sparboe 27C-26HZ BHL	7240.00	9869.05	131.45	40.115538	-104.627719	Point

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	
1695.70	3.91	146.43	1695.55	-5.57	3.69	2.00	146.43	-5.52	
6629.37	3.91	146.43	6617.71	-286.18	189.90	0.00	0.00	-283.63	
7561.14	89.90	359.55	7223.00	285.00	208.00	10.00	-146.83	287.74	
7561.92	89.90	359.54	7223.00	285.78	207.99	1.00	-102.04	288.52	
17145.52	89.90	359.54	7240.00	9869.05	131.45	0.00	0.00	9869.93	



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Sparboe 27C-26HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4970.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4970.00ft
<b>Site:</b>	WELD_SPARBOE 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Sparboe 27C-26HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sparboe 27C-26HZ		
<b>Design:</b>	Sparboe 27C-26HZ (wp01)		

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

<b>Site</b>	WELD_SPARBOE 3 PAD			
<b>Site Position:</b>		<b>Northing:</b>	1,276,264.61 usft	<b>Latitude:</b> 40.088446
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,243,920.30 usft	<b>Longitude:</b> -104.628189
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.56 °

<b>Well</b>	Sparboe 27C-26HZ			
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,276,264.60 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,243,920.30 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 4,953.00 ft

<b>Wellbore</b>	Sparboe 27C-26HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/25/2012	8.61	66.78	52,864

<b>Design</b>	Sparboe 27C-26HZ (wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	0.76

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,695.70	3.91	146.43	1,695.55	-5.57	3.69	2.00	2.00	0.00	146.43	
6,629.37	3.91	146.43	6,617.71	-286.18	189.90	0.00	0.00	0.00	0.00	
7,561.14	89.90	359.55	7,223.00	285.00	208.00	10.00	9.23	-15.76	-146.83	
7,561.92	89.90	359.54	7,223.00	285.78	207.99	1.00	-0.21	-0.98	-102.04	
17,145.52	89.90	359.54	7,240.00	9,869.05	131.45	0.00	0.00	0.00	0.00	Sparboe 27C-26HZ B

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Sparboe 27C-26HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4970.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4970.00ft
<b>Site:</b>	WELD_SPARBOE 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Sparboe 27C-26HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sparboe 27C-26HZ		
<b>Design:</b>	Sparboe 27C-26HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
816.00	0.00	0.00	816.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,600.00	2.00	146.43	1,599.98	-1.45	0.96	-1.44	2.00	2.00	0.00
1,695.70	3.91	146.43	1,695.55	-5.57	3.69	-5.52	2.00	2.00	0.00
Start 4933.66 hold at 1695.70 MD									
1,700.00	3.91	146.43	1,699.84	-5.81	3.86	-5.76	0.00	0.00	0.00
1,800.00	3.91	146.43	1,799.60	-11.50	7.63	-11.40	0.00	0.00	0.00
1,900.00	3.91	146.43	1,899.37	-17.19	11.40	-17.03	0.00	0.00	0.00
2,000.00	3.91	146.43	1,999.14	-22.88	15.18	-22.67	0.00	0.00	0.00
2,100.00	3.91	146.43	2,098.90	-28.56	18.95	-28.31	0.00	0.00	0.00
2,200.00	3.91	146.43	2,198.67	-34.25	22.73	-33.95	0.00	0.00	0.00
2,300.00	3.91	146.43	2,298.44	-39.94	26.50	-39.58	0.00	0.00	0.00
2,400.00	3.91	146.43	2,398.21	-45.63	30.28	-45.22	0.00	0.00	0.00
2,500.00	3.91	146.43	2,497.97	-51.31	34.05	-50.86	0.00	0.00	0.00
2,600.00	3.91	146.43	2,597.74	-57.00	37.82	-56.49	0.00	0.00	0.00
2,700.00	3.91	146.43	2,697.51	-62.69	41.60	-62.13	0.00	0.00	0.00
2,800.00	3.91	146.43	2,797.27	-68.38	45.37	-67.77	0.00	0.00	0.00
2,900.00	3.91	146.43	2,897.04	-74.07	49.15	-73.40	0.00	0.00	0.00
3,000.00	3.91	146.43	2,996.81	-79.75	52.92	-79.04	0.00	0.00	0.00
3,100.00	3.91	146.43	3,096.57	-85.44	56.69	-84.68	0.00	0.00	0.00
3,200.00	3.91	146.43	3,196.34	-91.13	60.47	-90.31	0.00	0.00	0.00
3,300.00	3.91	146.43	3,296.11	-96.82	64.24	-95.95	0.00	0.00	0.00
3,400.00	3.91	146.43	3,395.87	-102.50	68.02	-101.59	0.00	0.00	0.00
3,500.00	3.91	146.43	3,495.64	-108.19	71.79	-107.23	0.00	0.00	0.00
3,600.00	3.91	146.43	3,595.41	-113.88	75.57	-112.86	0.00	0.00	0.00
3,700.00	3.91	146.43	3,695.17	-119.57	79.34	-118.50	0.00	0.00	0.00
3,800.00	3.91	146.43	3,794.94	-125.25	83.11	-124.14	0.00	0.00	0.00
3,900.00	3.91	146.43	3,894.71	-130.94	86.89	-129.77	0.00	0.00	0.00
4,000.00	3.91	146.43	3,994.47	-136.63	90.66	-135.41	0.00	0.00	0.00
4,100.00	3.91	146.43	4,094.24	-142.32	94.44	-141.05	0.00	0.00	0.00
4,200.00	3.91	146.43	4,194.01	-148.01	98.21	-146.68	0.00	0.00	0.00
4,300.00	3.91	146.43	4,293.77	-153.69	101.98	-152.32	0.00	0.00	0.00
4,400.00	3.91	146.43	4,393.54	-159.38	105.76	-157.96	0.00	0.00	0.00
4,500.00	3.91	146.43	4,493.31	-165.07	109.53	-163.60	0.00	0.00	0.00
4,600.00	3.91	146.43	4,593.07	-170.76	113.31	-169.23	0.00	0.00	0.00
4,700.00	3.91	146.43	4,692.84	-176.44	117.08	-174.87	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Sparboe 27C-26HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4970.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4970.00ft
<b>Site:</b>	WELD_SPARBOE 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Sparboe 27C-26HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sparboe 27C-26HZ		
<b>Design:</b>	Sparboe 27C-26HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	3.91	146.43	4,792.61	-182.13	120.86	-180.51	0.00	0.00	0.00
4,900.00	3.91	146.43	4,892.37	-187.82	124.63	-186.14	0.00	0.00	0.00
4,976.81	3.91	146.43	4,969.00	-192.19	127.53	-190.47	0.00	0.00	0.00
<b>Sussex</b>									
5,000.00	3.91	146.43	4,992.14	-193.51	128.40	-191.78	0.00	0.00	0.00
5,100.00	3.91	146.43	5,091.91	-199.20	132.18	-197.42	0.00	0.00	0.00
5,200.00	3.91	146.43	5,191.67	-204.88	135.95	-203.05	0.00	0.00	0.00
5,300.00	3.91	146.43	5,291.44	-210.57	139.73	-208.69	0.00	0.00	0.00
5,400.00	3.91	146.43	5,391.21	-216.26	143.50	-214.33	0.00	0.00	0.00
5,500.00	3.91	146.43	5,490.97	-221.95	147.27	-219.97	0.00	0.00	0.00
5,600.00	3.91	146.43	5,590.74	-227.63	151.05	-225.60	0.00	0.00	0.00
5,700.00	3.91	146.43	5,690.51	-233.32	154.82	-231.24	0.00	0.00	0.00
5,800.00	3.91	146.43	5,790.27	-239.01	158.60	-236.88	0.00	0.00	0.00
5,900.00	3.91	146.43	5,890.04	-244.70	162.37	-242.51	0.00	0.00	0.00
6,000.00	3.91	146.43	5,989.81	-250.39	166.15	-248.15	0.00	0.00	0.00
6,100.00	3.91	146.43	6,089.58	-256.07	169.92	-253.79	0.00	0.00	0.00
6,200.00	3.91	146.43	6,189.34	-261.76	173.69	-259.42	0.00	0.00	0.00
6,300.00	3.91	146.43	6,289.11	-267.45	177.47	-265.06	0.00	0.00	0.00
6,400.00	3.91	146.43	6,388.88	-273.14	181.24	-270.70	0.00	0.00	0.00
6,500.00	3.91	146.43	6,488.64	-278.82	185.02	-276.34	0.00	0.00	0.00
6,600.00	3.91	146.43	6,588.41	-284.51	188.79	-281.97	0.00	0.00	0.00
6,629.37	3.91	146.43	6,617.71	-286.18	189.90	-283.63	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -146.83</b>									
6,650.00	2.46	119.12	6,638.31	-286.98	190.68	-284.42	10.00	-7.04	-132.37
6,700.00	4.35	28.99	6,688.25	-285.85	192.53	-283.26	10.00	3.77	-180.26
6,750.00	9.04	13.13	6,737.89	-280.36	194.34	-277.75	10.00	9.39	-31.71
6,800.00	13.95	8.20	6,786.88	-270.57	196.10	-267.93	10.00	9.81	-9.86
6,850.00	18.90	5.81	6,834.82	-256.53	197.78	-253.88	10.00	9.91	-4.78
6,898.51	23.73	4.42	6,880.00	-238.98	199.33	-236.30	10.00	9.95	-2.86
<b>Sharon Springs</b>									
6,900.00	23.88	4.39	6,881.36	-238.38	199.38	-235.70	10.00	9.96	-2.29
6,926.12	26.48	3.85	6,905.00	-227.29	200.17	-224.61	10.00	9.96	-2.07
<b>Niobrara A</b>									
6,950.00	28.86	3.44	6,926.15	-216.23	200.87	-213.53	10.00	9.97	-1.74
7,000.00	33.85	2.74	6,968.84	-190.26	202.26	-187.55	10.00	9.97	-1.39
7,012.33	35.08	2.60	6,979.00	-183.29	202.59	-180.58	10.00	9.98	-1.17
<b>Niobrara B</b>									
7,050.00	38.84	2.21	7,009.10	-160.67	203.53	-157.94	10.00	9.98	-1.04
7,100.00	43.83	1.78	7,046.63	-127.68	204.68	-124.94	10.00	9.98	-0.86
7,120.26	45.85	1.63	7,061.00	-113.39	205.10	-110.65	10.00	9.99	-0.75
<b>Niobrara C</b>									
7,150.00	48.82	1.42	7,081.15	-91.54	205.68	-88.79	10.00	9.99	-0.69
7,200.00	53.81	1.11	7,112.39	-52.53	206.54	-49.77	10.00	9.99	-0.61
7,250.00	58.81	0.84	7,140.11	-10.95	207.25	-8.18	10.00	9.99	-0.54
7,300.00	63.81	0.60	7,164.11	32.90	207.80	35.66	10.00	9.99	-0.49
7,350.00	68.80	0.38	7,184.20	78.67	208.18	81.43	10.00	9.99	-0.45
7,400.00	73.80	0.17	7,200.23	126.01	208.41	128.77	10.00	9.99	-0.42
7,402.80	74.08	0.16	7,201.00	128.70	208.42	131.46	10.00	9.99	-0.40
<b>Fort Hays</b>									
7,450.00	78.79	359.97	7,212.07	174.57	208.47	177.33	10.00	9.99	-0.40
7,500.00	83.79	359.78	7,219.64	223.98	208.36	226.73	10.00	9.99	-0.38
7,550.00	88.79	359.59	7,222.87	273.86	208.08	276.60	10.00	9.99	-0.38
7,561.14	89.90	359.55	7,223.00	285.00	208.00	287.74	10.00	9.99	-0.37

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Sparboe 27C-26HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4970.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4970.00ft
<b>Site:</b>	WELD_SPARBOE 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Sparboe 27C-26HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sparboe 27C-26HZ		
<b>Design:</b>	Sparboe 27C-26HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>Start DLS 1.00 TFO -102.04 - Codell - 7"</b>									
7,561.92	89.90	359.54	7,223.00	285.78	207.99	288.52	0.99	-0.16	-0.98
<b>Start 9583.59 hold at 7561.92 MD</b>									
7,600.00	89.90	359.54	7,223.07	323.86	207.69	326.59	0.00	0.00	0.00
7,700.00	89.90	359.54	7,223.25	423.85	206.89	426.57	0.00	0.00	0.00
7,800.00	89.90	359.54	7,223.42	523.85	206.09	526.55	0.00	0.00	0.00
7,900.00	89.90	359.54	7,223.60	623.85	205.29	626.52	0.00	0.00	0.00
8,000.00	89.90	359.54	7,223.78	723.84	204.49	726.50	0.00	0.00	0.00
8,100.00	89.90	359.54	7,223.96	823.84	203.70	826.48	0.00	0.00	0.00
8,200.00	89.90	359.54	7,224.13	923.84	202.90	926.46	0.00	0.00	0.00
8,300.00	89.90	359.54	7,224.31	1,023.83	202.10	1,026.43	0.00	0.00	0.00
8,400.00	89.90	359.54	7,224.49	1,123.83	201.30	1,126.41	0.00	0.00	0.00
8,500.00	89.90	359.54	7,224.67	1,223.83	200.50	1,226.39	0.00	0.00	0.00
8,600.00	89.90	359.54	7,224.84	1,323.82	199.70	1,326.36	0.00	0.00	0.00
8,700.00	89.90	359.54	7,225.02	1,423.82	198.90	1,426.34	0.00	0.00	0.00
8,800.00	89.90	359.54	7,225.20	1,523.82	198.11	1,526.32	0.00	0.00	0.00
8,900.00	89.90	359.54	7,225.37	1,623.81	197.31	1,626.30	0.00	0.00	0.00
9,000.00	89.90	359.54	7,225.55	1,723.81	196.51	1,726.27	0.00	0.00	0.00
9,100.00	89.90	359.54	7,225.73	1,823.81	195.71	1,826.25	0.00	0.00	0.00
9,200.00	89.90	359.54	7,225.91	1,923.80	194.91	1,926.23	0.00	0.00	0.00
9,300.00	89.90	359.54	7,226.08	2,023.80	194.11	2,026.20	0.00	0.00	0.00
9,400.00	89.90	359.54	7,226.26	2,123.80	193.31	2,126.18	0.00	0.00	0.00
9,500.00	89.90	359.54	7,226.44	2,223.79	192.51	2,226.16	0.00	0.00	0.00
9,600.00	89.90	359.54	7,226.62	2,323.79	191.72	2,326.14	0.00	0.00	0.00
9,700.00	89.90	359.54	7,226.79	2,423.79	190.92	2,426.11	0.00	0.00	0.00
9,800.00	89.90	359.54	7,226.97	2,523.78	190.12	2,526.09	0.00	0.00	0.00
9,900.00	89.90	359.54	7,227.15	2,623.78	189.32	2,626.07	0.00	0.00	0.00
10,000.00	89.90	359.54	7,227.33	2,723.78	188.52	2,726.04	0.00	0.00	0.00
10,100.00	89.90	359.54	7,227.50	2,823.77	187.72	2,826.02	0.00	0.00	0.00
10,200.00	89.90	359.54	7,227.68	2,923.77	186.92	2,926.00	0.00	0.00	0.00
10,300.00	89.90	359.54	7,227.86	3,023.77	186.12	3,025.98	0.00	0.00	0.00
10,400.00	89.90	359.54	7,228.04	3,123.76	185.33	3,125.95	0.00	0.00	0.00
10,500.00	89.90	359.54	7,228.21	3,223.76	184.53	3,225.93	0.00	0.00	0.00
10,600.00	89.90	359.54	7,228.39	3,323.76	183.73	3,325.91	0.00	0.00	0.00
10,700.00	89.90	359.54	7,228.57	3,423.75	182.93	3,425.88	0.00	0.00	0.00
10,800.00	89.90	359.54	7,228.74	3,523.75	182.13	3,525.86	0.00	0.00	0.00
10,900.00	89.90	359.54	7,228.92	3,623.74	181.33	3,625.84	0.00	0.00	0.00
11,000.00	89.90	359.54	7,229.10	3,723.74	180.53	3,725.82	0.00	0.00	0.00
11,100.00	89.90	359.54	7,229.28	3,823.74	179.74	3,825.79	0.00	0.00	0.00
11,200.00	89.90	359.54	7,229.45	3,923.73	178.94	3,925.77	0.00	0.00	0.00
11,300.00	89.90	359.54	7,229.63	4,023.73	178.14	4,025.75	0.00	0.00	0.00
11,400.00	89.90	359.54	7,229.81	4,123.73	177.34	4,125.72	0.00	0.00	0.00
11,500.00	89.90	359.54	7,229.99	4,223.72	176.54	4,225.70	0.00	0.00	0.00
11,600.00	89.90	359.54	7,230.16	4,323.72	175.74	4,325.68	0.00	0.00	0.00
11,700.00	89.90	359.54	7,230.34	4,423.72	174.94	4,425.66	0.00	0.00	0.00
11,800.00	89.90	359.54	7,230.52	4,523.71	174.14	4,525.63	0.00	0.00	0.00
11,900.00	89.90	359.54	7,230.70	4,623.71	173.35	4,625.61	0.00	0.00	0.00
12,000.00	89.90	359.54	7,230.87	4,723.71	172.55	4,725.59	0.00	0.00	0.00
12,100.00	89.90	359.54	7,231.05	4,823.70	171.75	4,825.56	0.00	0.00	0.00
12,200.00	89.90	359.54	7,231.23	4,923.70	170.95	4,925.54	0.00	0.00	0.00
12,300.00	89.90	359.54	7,231.41	5,023.70	170.15	5,025.52	0.00	0.00	0.00
12,400.00	89.90	359.54	7,231.58	5,123.69	169.35	5,125.50	0.00	0.00	0.00
12,500.00	89.90	359.54	7,231.76	5,223.69	168.55	5,225.47	0.00	0.00	0.00
12,600.00	89.90	359.54	7,231.94	5,323.69	167.75	5,325.45	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Sparboe 27C-26HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4970.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4970.00ft
<b>Site:</b>	WELD_SPARBOE 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Sparboe 27C-26HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sparboe 27C-26HZ		
<b>Design:</b>	Sparboe 27C-26HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,700.00	89.90	359.54	7,232.12	5,423.68	166.96	5,425.43	0.00	0.00	0.00
12,800.00	89.90	359.54	7,232.29	5,523.68	166.16	5,525.40	0.00	0.00	0.00
12,900.00	89.90	359.54	7,232.47	5,623.68	165.36	5,625.38	0.00	0.00	0.00
13,000.00	89.90	359.54	7,232.65	5,723.67	164.56	5,725.36	0.00	0.00	0.00
13,100.00	89.90	359.54	7,232.82	5,823.67	163.76	5,825.34	0.00	0.00	0.00
13,200.00	89.90	359.54	7,233.00	5,923.67	162.96	5,925.31	0.00	0.00	0.00
13,300.00	89.90	359.54	7,233.18	6,023.66	162.16	6,025.29	0.00	0.00	0.00
13,400.00	89.90	359.54	7,233.36	6,123.66	161.36	6,125.27	0.00	0.00	0.00
13,500.00	89.90	359.54	7,233.53	6,223.66	160.57	6,225.24	0.00	0.00	0.00
13,600.00	89.90	359.54	7,233.71	6,323.65	159.77	6,325.22	0.00	0.00	0.00
13,700.00	89.90	359.54	7,233.89	6,423.65	158.97	6,425.20	0.00	0.00	0.00
13,800.00	89.90	359.54	7,234.07	6,523.65	158.17	6,525.18	0.00	0.00	0.00
13,900.00	89.90	359.54	7,234.24	6,623.64	157.37	6,625.15	0.00	0.00	0.00
14,000.00	89.90	359.54	7,234.42	6,723.64	156.57	6,725.13	0.00	0.00	0.00
14,100.00	89.90	359.54	7,234.60	6,823.64	155.77	6,825.11	0.00	0.00	0.00
14,200.00	89.90	359.54	7,234.78	6,923.63	154.98	6,925.08	0.00	0.00	0.00
14,300.00	89.90	359.54	7,234.95	7,023.63	154.18	7,025.06	0.00	0.00	0.00
14,400.00	89.90	359.54	7,235.13	7,123.63	153.38	7,125.04	0.00	0.00	0.00
14,500.00	89.90	359.54	7,235.31	7,223.62	152.58	7,225.02	0.00	0.00	0.00
14,600.00	89.90	359.54	7,235.49	7,323.62	151.78	7,324.99	0.00	0.00	0.00
14,700.00	89.90	359.54	7,235.66	7,423.62	150.98	7,424.97	0.00	0.00	0.00
14,800.00	89.90	359.54	7,235.84	7,523.61	150.18	7,524.95	0.00	0.00	0.00
14,900.00	89.90	359.54	7,236.02	7,623.61	149.38	7,624.92	0.00	0.00	0.00
15,000.00	89.90	359.54	7,236.19	7,723.61	148.59	7,724.90	0.00	0.00	0.00
15,100.00	89.90	359.54	7,236.37	7,823.60	147.79	7,824.88	0.00	0.00	0.00
15,200.00	89.90	359.54	7,236.55	7,923.60	146.99	7,924.86	0.00	0.00	0.00
15,300.00	89.90	359.54	7,236.73	8,023.60	146.19	8,024.83	0.00	0.00	0.00
15,400.00	89.90	359.54	7,236.90	8,123.59	145.39	8,124.81	0.00	0.00	0.00
15,500.00	89.90	359.54	7,237.08	8,223.59	144.59	8,224.79	0.00	0.00	0.00
15,600.00	89.90	359.54	7,237.26	8,323.59	143.79	8,324.76	0.00	0.00	0.00
15,700.00	89.90	359.54	7,237.44	8,423.58	142.99	8,424.74	0.00	0.00	0.00
15,800.00	89.90	359.54	7,237.61	8,523.58	142.20	8,524.72	0.00	0.00	0.00
15,900.00	89.90	359.54	7,237.79	8,623.58	141.40	8,624.70	0.00	0.00	0.00
16,000.00	89.90	359.54	7,237.97	8,723.57	140.60	8,724.67	0.00	0.00	0.00
16,100.00	89.90	359.54	7,238.15	8,823.57	139.80	8,824.65	0.00	0.00	0.00
16,200.00	89.90	359.54	7,238.32	8,923.57	139.00	8,924.63	0.00	0.00	0.00
16,300.00	89.90	359.54	7,238.50	9,023.56	138.20	9,024.60	0.00	0.00	0.00
16,400.00	89.90	359.54	7,238.68	9,123.56	137.40	9,124.58	0.00	0.00	0.00
16,500.00	89.90	359.54	7,238.86	9,223.56	136.61	9,224.56	0.00	0.00	0.00
16,600.00	89.90	359.54	7,239.03	9,323.55	135.81	9,324.54	0.00	0.00	0.00
16,700.00	89.90	359.54	7,239.21	9,423.55	135.01	9,424.51	0.00	0.00	0.00
16,800.00	89.90	359.54	7,239.39	9,523.55	134.21	9,524.49	0.00	0.00	0.00
16,900.00	89.90	359.54	7,239.56	9,623.54	133.41	9,624.47	0.00	0.00	0.00
17,000.00	89.90	359.54	7,239.74	9,723.54	132.61	9,724.44	0.00	0.00	0.00
17,100.00	89.90	359.54	7,239.92	9,823.54	131.81	9,824.42	0.00	0.00	0.00
17,145.51	89.90	359.54	7,240.00	9,869.05	131.45	9,869.93	0.00	0.00	0.00
TD at 17145.51 - Sparboe 27C-26HZ BHL									

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Sparboe 27C-26HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4970.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4970.00ft
<b>Site:</b>	WELD_SPARBOE 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Sparboe 27C-26HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Sparboe 27C-26HZ		
<b>Design:</b>	Sparboe 27C-26HZ (wp01)		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Sparboe 27C-26HZ BHL	0.00	0.00	7,240.00	9,869.05	131.45	1,286,134.45	3,243,954.71	40.115538	-104.627719
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
1,300.00	1,300.00	9 5/8"		9-5/8	12-1/4
7,561.14	7,223.00	7"		7	8-3/4

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
816.00	816.00	Fox Hills				
4,976.81	4,969.00	Sussex				
6,898.51	6,880.00	Sharon Springs				
6,926.12	6,905.00	Niobrara A				
7,012.33	6,979.00	Niobrara B				
7,120.26	7,061.00	Niobrara C				
7,402.80	7,201.00	Fort Hays				
7,561.14	7,223.00	Codell				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
1,500.00	1,500.00	0.00	0.00	Start Build 2.00	
1,695.70	1,695.55	-5.57	3.69	Start 4933.66 hold at 1695.70 MD	
6,629.37	6,617.71	-286.18	189.90	Start DLS 10.00 TFO -146.83	
7,561.14	7,223.00	285.00	208.00	Start DLS 1.00 TFO -102.04	
7,561.92	7,223.00	285.78	207.99	Start 9583.59 hold at 7561.92 MD	
17,145.51	7,240.00	9,869.05	131.45	TD at 17145.51	