

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_HAYMAKER 13-9HZ PAD**

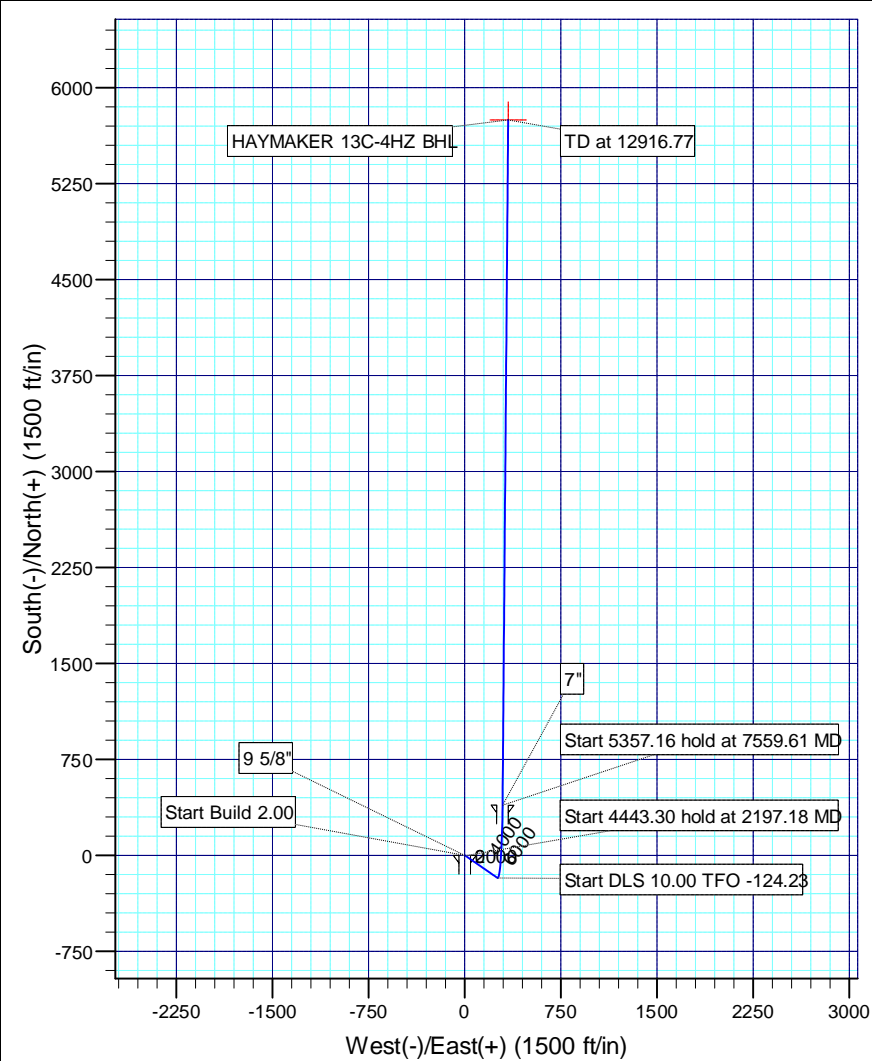
**HAYMAKER 13C-4HZ**

**HAYMAKER 13C-4HZ**

**Plan: HAYMAKER 13C-4HZ (wp01)**

## **Standard Planning Report**

**23 February, 2012**



# PROJECT DETAILS: COLORADO NORTHERN ZONE - 83

Site: WELD\_HAYMAKER 13-9HZ PAD  
 Well: HAYMAKER 13C-4HZ  
 Wellbore: HAYMAKER 13C-4HZ  
 Design: HAYMAKER 13C-4HZ (wp01)  
 Latitude: 40.147113  
 Longitude: -104.677164  
 GL: 4897.00  
 KB: 17' RKB + GL @ 4914.00ft



## WELL DETAILS: HAYMAKER 13C-4HZ

Ground Level: 4897.00		Latitude	Longitude
+N-S	+E-W	North	East
0.00	0.00	1297503.90	3230019.89
		40.147113	-104.677164

## DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape Point
HAYMAKER 13C-4HZ BHL	7254.00	5748.01	339.02	40.162892	-104.675951	

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2197.18	3.94	124.75	2197.03	-3.87	5.57	2.00	124.75	-3.53	
4	6640.49	3.94	124.75	6629.81	-178.04	256.67	0.00	0.00	-162.62	
5	7559.49	89.68	0.47	7224.00	391.00	295.00	10.00	-124.23	407.69	
6	7579.21	89.68	0.47	7224.11	410.72	295.16	0.00	0.00	427.39	
7	12916.77	89.68	0.47	7254.00	5748.01	339.02	0.00	0.00	5758.00	HAYMAKER 13C-4HZ BHL

## CASING DETAILS

TVD	MD	Name	Size
890.00	890.00	9 5/8"	9-5/8
7224.00	7559.49	7"	7

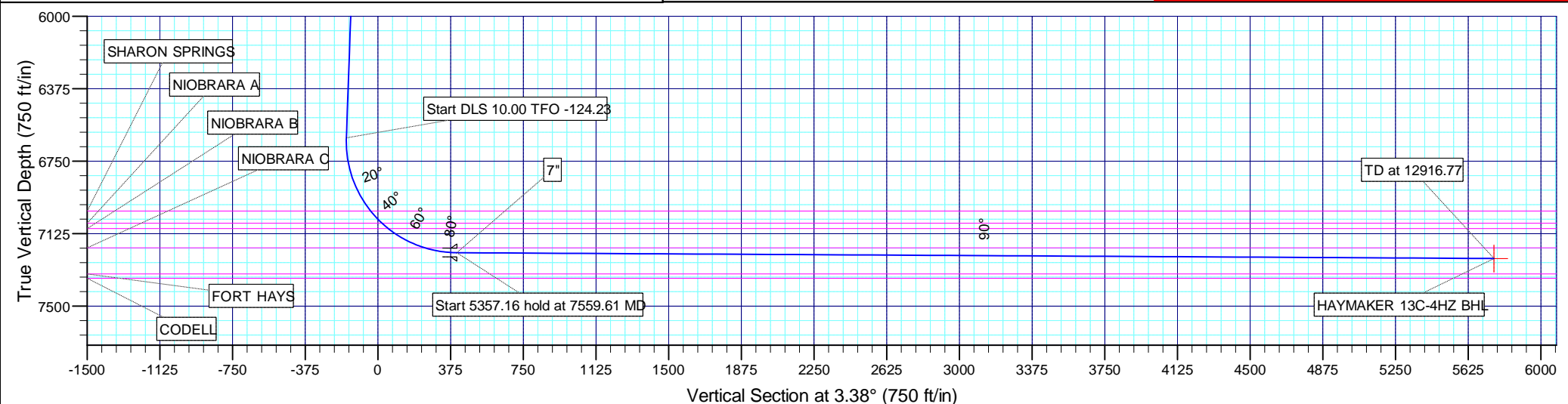
## FORMATION TOP DETAILS

TVDPth	MDPath	Formation
4077.00	4081.62	PARKMAN
4576.00	4581.80	SUSSEX
7008.00	7047.60	SHARON SPRINGS
7071.00	7133.67	NIOBRARA A
7099.00	7176.65	NIOBRARA B
7199.00	7392.65	NIOBRARA C



Azimuths to True North  
 Magnetic North: 8.70°

Magnetic Field  
 Strength: 52934.5snT  
 Dip Angle: 66.84°  
 Date: 2/22/2012  
 Model: IGRF2010



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13C-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Site:</b>	WELD_HAYMAKER 13-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HAYMAKER 13C-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13C-4HZ		
<b>Design:</b>	HAYMAKER 13C-4HZ (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_HAYMAKER 13-9HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	1,297,525.21 usft	<b>Latitude:</b> 40.147172
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,229,999.00 usft	<b>Longitude:</b> -104.677238
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.53 °

<b>Well</b>	HAYMAKER 13C-4HZ			
<b>Well Position</b>	<b>+N/-S</b>	-21.51 ft	<b>Northing:</b>	1,297,503.89 usft
	<b>+E/-W</b>	20.69 ft	<b>Easting:</b>	3,230,019.89 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 40.147113
				<b>Longitude:</b> -104.677164
				<b>Ground Level:</b> 4,897.00 ft

<b>Wellbore</b>	HAYMAKER 13C-4HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/22/2012	8.70	66.84	52,935

<b>Design</b>	HAYMAKER 13C-4HZ (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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	3.38

<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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,197.18	3.94	124.75	2,197.03	-3.87	5.57	2.00	2.00	0.00	124.75	
6,640.49	3.94	124.75	6,629.81	-178.04	256.67	0.00	0.00	0.00	0.00	
7,559.49	89.68	0.47	7,224.00	391.00	295.00	10.00	9.33	-13.52	-124.23	
7,579.21	89.68	0.47	7,224.11	410.72	295.16	0.00	0.00	0.00	0.00	
12,916.77	89.68	0.47	7,254.00	5,748.01	339.02	0.00	0.00	0.00	0.00	HAYMAKER 13C-4HZ

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13C-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Site:</b>	WELD_HAYMAKER 13-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HAYMAKER 13C-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13C-4HZ		
<b>Design:</b>	HAYMAKER 13C-4HZ (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
890.00	0.00	0.00	890.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
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
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
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,100.00	2.00	124.75	2,099.98	-0.99	1.43	-0.91	2.00	2.00	0.00
2,197.18	3.94	124.75	2,197.03	-3.87	5.57	-3.53	2.00	2.00	0.00
Start 4443.30 hold at 2197.18 MD									
2,200.00	3.94	124.75	2,199.84	-3.98	5.73	-3.63	0.00	0.00	0.00
2,300.00	3.94	124.75	2,299.60	-7.90	11.38	-7.21	0.00	0.00	0.00
2,400.00	3.94	124.75	2,399.36	-11.82	17.04	-10.79	0.00	0.00	0.00
2,500.00	3.94	124.75	2,499.13	-15.74	22.69	-14.37	0.00	0.00	0.00
2,600.00	3.94	124.75	2,598.89	-19.66	28.34	-17.95	0.00	0.00	0.00
2,700.00	3.94	124.75	2,698.65	-23.58	33.99	-21.53	0.00	0.00	0.00
2,800.00	3.94	124.75	2,798.42	-27.50	39.64	-25.11	0.00	0.00	0.00
2,900.00	3.94	124.75	2,898.18	-31.42	45.29	-28.69	0.00	0.00	0.00
3,000.00	3.94	124.75	2,997.94	-35.34	50.94	-32.28	0.00	0.00	0.00
3,100.00	3.94	124.75	3,097.71	-39.26	56.59	-35.86	0.00	0.00	0.00
3,200.00	3.94	124.75	3,197.47	-43.18	62.24	-39.44	0.00	0.00	0.00
3,300.00	3.94	124.75	3,297.23	-47.10	67.90	-43.02	0.00	0.00	0.00
3,400.00	3.94	124.75	3,397.00	-51.02	73.55	-46.60	0.00	0.00	0.00
3,500.00	3.94	124.75	3,496.76	-54.94	79.20	-50.18	0.00	0.00	0.00
3,600.00	3.94	124.75	3,596.52	-58.86	84.85	-53.76	0.00	0.00	0.00
3,700.00	3.94	124.75	3,696.29	-62.77	90.50	-57.34	0.00	0.00	0.00
3,800.00	3.94	124.75	3,796.05	-66.69	96.15	-60.92	0.00	0.00	0.00
3,900.00	3.94	124.75	3,895.81	-70.61	101.80	-64.50	0.00	0.00	0.00
4,000.00	3.94	124.75	3,995.58	-74.53	107.45	-68.08	0.00	0.00	0.00
4,081.62	3.94	124.75	4,077.00	-77.73	112.07	-71.00	0.00	0.00	0.00
PARKMAN									
4,100.00	3.94	124.75	4,095.34	-78.45	113.10	-71.66	0.00	0.00	0.00
4,200.00	3.94	124.75	4,195.10	-82.37	118.76	-75.24	0.00	0.00	0.00
4,300.00	3.94	124.75	4,294.87	-86.29	124.41	-78.82	0.00	0.00	0.00
4,400.00	3.94	124.75	4,394.63	-90.21	130.06	-82.40	0.00	0.00	0.00
4,500.00	3.94	124.75	4,494.39	-94.13	135.71	-85.98	0.00	0.00	0.00
4,581.80	3.94	124.75	4,576.00	-97.34	140.33	-88.91	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13C-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Site:</b>	WELD_HAYMAKER 13-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HAYMAKER 13C-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13C-4HZ		
<b>Design:</b>	HAYMAKER 13C-4HZ (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>SUSSEX</b>									
4,600.00	3.94	124.75	4,594.15	-98.05	141.36	-89.56	0.00	0.00	0.00
4,700.00	3.94	124.75	4,693.92	-101.97	147.01	-93.14	0.00	0.00	0.00
4,800.00	3.94	124.75	4,793.68	-105.89	152.66	-96.72	0.00	0.00	0.00
4,900.00	3.94	124.75	4,893.44	-109.81	158.31	-100.30	0.00	0.00	0.00
5,000.00	3.94	124.75	4,993.21	-113.73	163.96	-103.88	0.00	0.00	0.00
5,100.00	3.94	124.75	5,092.97	-117.65	169.62	-107.46	0.00	0.00	0.00
5,200.00	3.94	124.75	5,192.73	-121.57	175.27	-111.04	0.00	0.00	0.00
5,300.00	3.94	124.75	5,292.50	-125.49	180.92	-114.62	0.00	0.00	0.00
5,400.00	3.94	124.75	5,392.26	-129.41	186.57	-118.20	0.00	0.00	0.00
5,500.00	3.94	124.75	5,492.02	-133.33	192.22	-121.78	0.00	0.00	0.00
5,600.00	3.94	124.75	5,591.79	-137.25	197.87	-125.36	0.00	0.00	0.00
5,700.00	3.94	124.75	5,691.55	-141.17	203.52	-128.95	0.00	0.00	0.00
5,800.00	3.94	124.75	5,791.31	-145.09	209.17	-132.53	0.00	0.00	0.00
5,900.00	3.94	124.75	5,891.08	-149.01	214.82	-136.11	0.00	0.00	0.00
6,000.00	3.94	124.75	5,990.84	-152.93	220.48	-139.69	0.00	0.00	0.00
6,100.00	3.94	124.75	6,090.60	-156.85	226.13	-143.27	0.00	0.00	0.00
6,200.00	3.94	124.75	6,190.37	-160.77	231.78	-146.85	0.00	0.00	0.00
6,300.00	3.94	124.75	6,290.13	-164.69	237.43	-150.43	0.00	0.00	0.00
6,400.00	3.94	124.75	6,389.89	-168.61	243.08	-154.01	0.00	0.00	0.00
6,500.00	3.94	124.75	6,489.66	-172.53	248.73	-157.59	0.00	0.00	0.00
6,600.00	3.94	124.75	6,589.42	-176.45	254.38	-161.17	0.00	0.00	0.00
6,640.49	3.94	124.75	6,629.81	-178.04	256.67	-162.62	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -124.23</b>									
6,700.00	4.95	41.54	6,689.20	-177.28	260.06	-161.66	10.00	1.70	-139.81
6,800.00	14.10	13.55	6,787.75	-162.17	265.79	-146.24	10.00	9.15	-27.99
6,900.00	23.94	7.82	6,882.18	-130.14	271.42	-113.93	10.00	9.84	-5.73
7,000.00	33.87	5.32	6,969.62	-82.17	276.78	-65.73	10.00	9.93	-2.50
7,047.60	38.61	4.54	7,008.00	-54.15	279.19	-37.61	10.00	9.95	-1.63
<b>SHARON SPRINGS</b>									
7,100.00	43.83	3.85	7,047.40	-19.72	281.70	-3.10	10.00	9.96	-1.31
7,133.67	47.18	3.48	7,071.00	4.24	283.24	20.91	10.00	9.97	-1.12
<b>NIOBRARA A</b>									
7,176.65	51.47	3.05	7,099.00	36.78	285.09	53.50	10.00	9.97	-0.99
<b>NIOBRARA B</b>									
7,200.00	53.80	2.84	7,113.17	55.31	286.04	72.06	10.00	9.97	-0.90
7,300.00	63.78	2.06	7,164.93	140.65	289.66	157.46	10.00	9.98	-0.78
7,392.65	73.02	1.45	7,199.00	226.66	292.28	243.47	10.00	9.98	-0.66
<b>NIOBRARA C</b>									
7,400.00	73.76	1.40	7,201.10	233.70	292.46	250.51	10.00	9.98	-0.62
7,500.00	83.74	0.81	7,220.59	331.64	294.34	348.39	10.00	9.98	-0.59
7,559.49	89.68	0.47	7,224.00	391.00	295.00	407.69	10.00	9.98	-0.57
<b>7"</b>									
7,559.61	89.68	0.47	7,224.00	391.11	295.00	407.80	0.16	0.16	-0.01
<b>Start 5357.16 hold at 7559.61 MD</b>									
7,579.21	89.68	0.47	7,224.11	410.72	295.16	427.39	0.00	0.00	0.00
7,600.00	89.68	0.47	7,224.23	431.51	295.33	448.15	0.00	0.00	0.00
7,700.00	89.68	0.47	7,224.79	531.50	296.15	548.02	0.00	0.00	0.00
7,800.00	89.68	0.47	7,225.34	631.50	296.97	647.89	0.00	0.00	0.00
7,900.00	89.68	0.47	7,225.90	731.49	297.79	747.76	0.00	0.00	0.00
8,000.00	89.68	0.47	7,226.46	831.49	298.61	847.63	0.00	0.00	0.00
8,100.00	89.68	0.47	7,227.02	931.48	299.43	947.50	0.00	0.00	0.00
8,200.00	89.68	0.47	7,227.58	1,031.48	300.25	1,047.37	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13C-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Site:</b>	WELD_HAYMAKER 13-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HAYMAKER 13C-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13C-4HZ		
<b>Design:</b>	HAYMAKER 13C-4HZ (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)
8,300.00	89.68	0.47	7,228.14	1,131.47	301.07	1,147.24	0.00	0.00	0.00
8,400.00	89.68	0.47	7,228.69	1,231.47	301.89	1,247.11	0.00	0.00	0.00
8,500.00	89.68	0.47	7,229.25	1,331.46	302.71	1,346.98	0.00	0.00	0.00
8,600.00	89.68	0.47	7,229.81	1,431.46	303.54	1,446.85	0.00	0.00	0.00
8,700.00	89.68	0.47	7,230.37	1,531.45	304.36	1,546.71	0.00	0.00	0.00
8,800.00	89.68	0.47	7,230.93	1,631.45	305.18	1,646.58	0.00	0.00	0.00
8,900.00	89.68	0.47	7,231.49	1,731.44	306.00	1,746.45	0.00	0.00	0.00
9,000.00	89.68	0.47	7,232.05	1,831.44	306.82	1,846.32	0.00	0.00	0.00
9,100.00	89.68	0.47	7,232.60	1,931.43	307.64	1,946.19	0.00	0.00	0.00
9,200.00	89.68	0.47	7,233.16	2,031.43	308.46	2,046.06	0.00	0.00	0.00
9,300.00	89.68	0.47	7,233.72	2,131.42	309.28	2,145.93	0.00	0.00	0.00
9,400.00	89.68	0.47	7,234.28	2,231.42	310.10	2,245.80	0.00	0.00	0.00
9,500.00	89.68	0.47	7,234.84	2,331.41	310.92	2,345.67	0.00	0.00	0.00
9,600.00	89.68	0.47	7,235.40	2,431.41	311.74	2,445.54	0.00	0.00	0.00
9,700.00	89.68	0.47	7,235.96	2,531.40	312.56	2,545.41	0.00	0.00	0.00
9,800.00	89.68	0.47	7,236.51	2,631.40	313.38	2,645.28	0.00	0.00	0.00
9,900.00	89.68	0.47	7,237.07	2,731.39	314.20	2,745.15	0.00	0.00	0.00
10,000.00	89.68	0.47	7,237.63	2,831.39	315.02	2,845.02	0.00	0.00	0.00
10,100.00	89.68	0.47	7,238.19	2,931.38	315.84	2,944.89	0.00	0.00	0.00
10,200.00	89.68	0.47	7,238.75	3,031.38	316.66	3,044.76	0.00	0.00	0.00
10,300.00	89.68	0.47	7,239.31	3,131.37	317.48	3,144.63	0.00	0.00	0.00
10,400.00	89.68	0.47	7,239.86	3,231.37	318.30	3,244.50	0.00	0.00	0.00
10,500.00	89.68	0.47	7,240.42	3,331.36	319.12	3,344.37	0.00	0.00	0.00
10,600.00	89.68	0.47	7,240.98	3,431.36	319.94	3,444.24	0.00	0.00	0.00
10,700.00	89.68	0.47	7,241.54	3,531.35	320.76	3,544.11	0.00	0.00	0.00
10,800.00	89.68	0.47	7,242.10	3,631.35	321.58	3,643.98	0.00	0.00	0.00
10,900.00	89.68	0.47	7,242.66	3,731.34	322.40	3,743.85	0.00	0.00	0.00
11,000.00	89.68	0.47	7,243.22	3,831.34	323.22	3,843.72	0.00	0.00	0.00
11,100.00	89.68	0.47	7,243.77	3,931.33	324.04	3,943.59	0.00	0.00	0.00
11,200.00	89.68	0.47	7,244.33	4,031.33	324.86	4,043.46	0.00	0.00	0.00
11,300.00	89.68	0.47	7,244.89	4,131.32	325.68	4,143.33	0.00	0.00	0.00
11,400.00	89.68	0.47	7,245.45	4,231.32	326.50	4,243.20	0.00	0.00	0.00
11,500.00	89.68	0.47	7,246.01	4,331.31	327.32	4,343.07	0.00	0.00	0.00
11,600.00	89.68	0.47	7,246.57	4,431.31	328.14	4,442.94	0.00	0.00	0.00
11,700.00	89.68	0.47	7,247.13	4,531.30	328.96	4,542.81	0.00	0.00	0.00
11,800.00	89.68	0.47	7,247.68	4,631.30	329.78	4,642.68	0.00	0.00	0.00
11,900.00	89.68	0.47	7,248.24	4,731.29	330.60	4,742.55	0.00	0.00	0.00
12,000.00	89.68	0.47	7,248.80	4,831.29	331.42	4,842.42	0.00	0.00	0.00
12,100.00	89.68	0.47	7,249.36	4,931.28	332.25	4,942.29	0.00	0.00	0.00
12,200.00	89.68	0.47	7,249.92	5,031.28	333.07	5,042.16	0.00	0.00	0.00
12,300.00	89.68	0.47	7,250.48	5,131.27	333.89	5,142.03	0.00	0.00	0.00
12,400.00	89.68	0.47	7,251.03	5,231.27	334.71	5,241.90	0.00	0.00	0.00
12,500.00	89.68	0.47	7,251.59	5,331.26	335.53	5,341.77	0.00	0.00	0.00
12,600.00	89.68	0.47	7,252.15	5,431.26	336.35	5,441.64	0.00	0.00	0.00
12,700.00	89.68	0.47	7,252.71	5,531.26	337.17	5,541.51	0.00	0.00	0.00
12,800.00	89.68	0.47	7,253.27	5,631.25	337.99	5,641.38	0.00	0.00	0.00
12,900.00	89.68	0.47	7,253.83	5,731.25	338.81	5,741.25	0.00	0.00	0.00
12,916.77	89.68	0.47	7,253.92	5,748.01	338.94	5,758.00	0.00	0.00	0.00
TD at 12916.77 - HAYMAKER 13C-4HZ BHL									

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13C-4HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 4914.00ft
<b>Site:</b>	WELD_HAYMAKER 13-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HAYMAKER 13C-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13C-4HZ		
<b>Design:</b>	HAYMAKER 13C-4HZ (wp01)		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
HAYMAKER 13C-4HZ B	0.00	0.00	7,254.00	5,748.01	339.02	1,303,254.79	3,230,305.55	40.162892	-104.675951
- plan misses target center by 0.11ft at 12916.77ft MD (7253.92 TVD, 5748.01 N, 338.94 E)									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
		Name			
890.00	890.00	9 5/8"		9-5/8	13-1/2
7,559.49	7,224.00	7"		7	8-3/4

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)			Lithology	(°)	(°)
		Name				
4,081.62	4,077.00	PARKMAN			0.00	
4,581.80	4,576.00	SUSSEX			0.00	
7,047.60	7,008.00	SHARON SPRINGS			0.00	
7,133.67	7,071.00	NIOBRARA A			0.00	
7,176.65	7,099.00	NIOBRARA B			0.00	
7,392.65	7,199.00	NIOBRARA C			0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)	Comment	
2,000.00	2,000.00	0.00	0.00	Start Build 2.00	
2,197.18	2,197.03	-3.87	5.57	Start 4443.30 hold at 2197.18 MD	
6,640.49	6,629.81	-178.04	256.67	Start DLS 10.00 TFO -124.23	
7,559.61	7,224.00	391.11	295.00	Start 5357.16 hold at 7559.61 MD	
12,916.77	7,254.00	5,748.01	339.02	TD at 12916.77	