

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

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

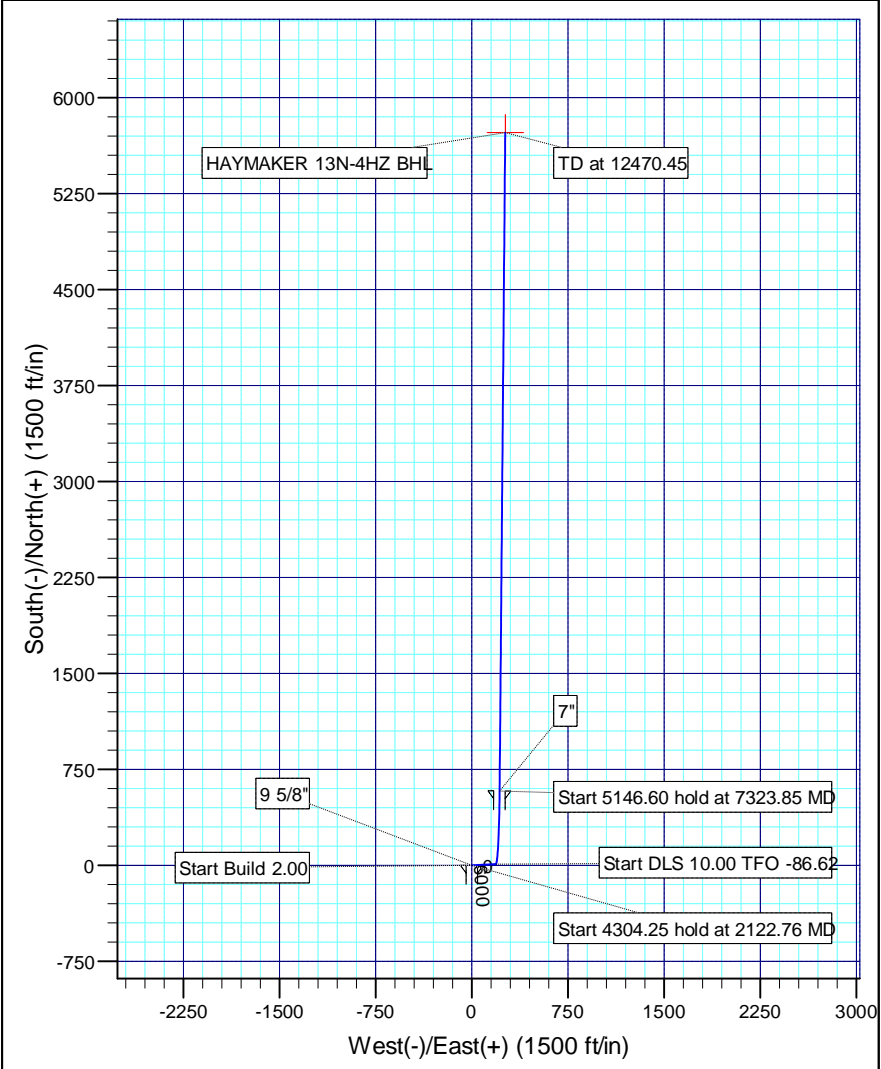
**HAYMAKER 13N-4HZ**

**HAYMAKER 13N-4HZ**

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

## **Standard Planning Report**

**23 February, 2012**



# PROJECT DETAILS: COLORADO NORTHERN ZONE - 83

Site: WELD\_HAYMAKER 13-9HZ PAD  
 Well: HAYMAKER 13N-4HZ  
 Wellbore: HAYMAKER 13N-4HZ  
 Design: HAYMAKER 13N-4HZ (wp01)  
 Latitude: 40.147172  
 Longitude: -104.677238  
 GL: 4897.00  
 KB: 17' RKB + GL @ 4914.00ft



## WELL DETAILS: HAYMAKER 13N-4HZ

		Ground Level: 4897.00		Latitude	Longitude
+N-S	+E-W	Northing	Easting		
0.00	0.00	1297525.20	3229999.00	40.147172	-104.677238

## DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape Point
HAYMAKER 13N-4HZ BHL	7014.00	5726.87	259.64	40.162893	-104.676309	

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	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	2122.76	2.46	87.10	2122.72	0.13	2.63	2.00	87.10	0.25	
4	6427.01	2.46	87.10	6423.02	9.47	186.77	0.00	0.00	17.92	
5	7323.36	89.78	0.49	6994.00	580.00	216.00	10.00	-86.62	589.19	
6	7323.85	89.78	0.49	6994.00	580.49	216.00	1.00	-122.17	589.68	
7	12470.45	89.78	0.49	7014.00	5726.87	259.64	0.00	0.00	5732.76	HAYMAKER 13N-4HZ BHL

## CASING DETAILS

TVD	MD	Name	Size
890.00	890.00	9 5/8"	9-5/8
6994.00	7323.36	7"	7

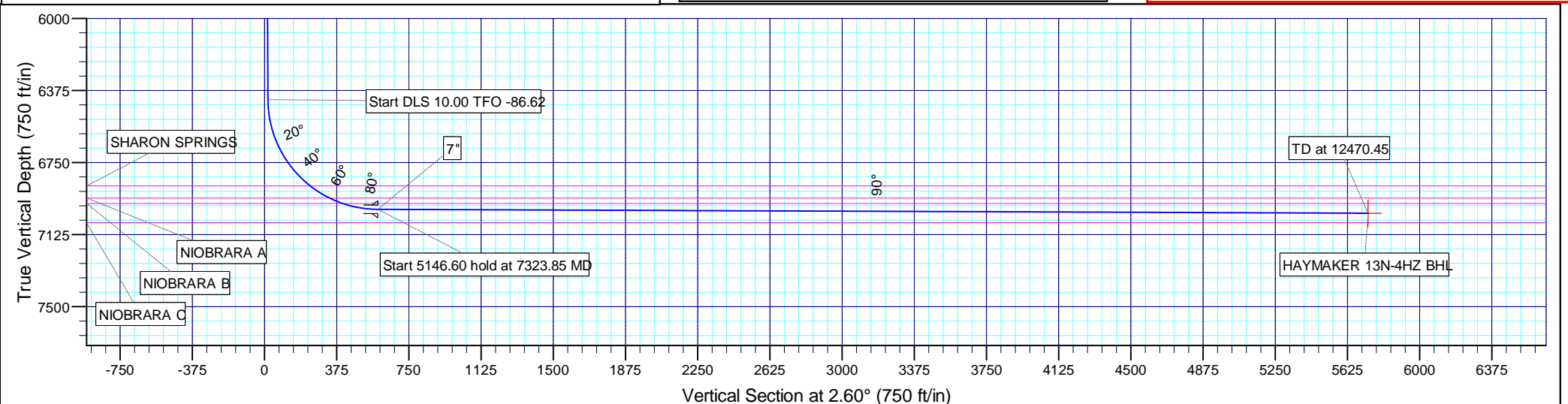
## FORMATION TOP DETAILS

TVDPth	MDPath	Formation
3941.00	3942.71	PARKMAN
4440.00	4442.17	SUSSEX
6872.00	6944.50	SHARON SPRINGS
6935.00	7063.12	NIOBRARA A
6963.00	7136.12	NIOBRARA B



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 13N-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 13N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13N-4HZ		
<b>Design:</b>	HAYMAKER 13N-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 13N-4HZ			
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,297,525.20 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,229,999.00 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 4,897.00 ft

<b>Wellbore</b>	HAYMAKER 13N-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 13N-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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	2.60

<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	
2,122.76	2.46	87.10	2,122.72	0.13	2.63	2.00	2.00	0.00	87.10	
6,427.01	2.46	87.10	6,423.02	9.47	186.77	0.00	0.00	0.00	0.00	
7,323.36	89.78	0.49	6,994.00	580.00	216.00	10.00	9.74	-9.66	-86.62	
7,323.85	89.78	0.49	6,994.00	580.49	216.00	1.00	-0.53	-0.85	-122.17	
12,470.45	89.78	0.49	7,014.00	5,726.87	259.64	0.00	0.00	0.00	0.00	HAYMAKER 13N-4HZ

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13N-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 13N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13N-4HZ		
<b>Design:</b>	HAYMAKER 13N-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	87.10	2,099.98	0.09	1.74	0.17	2.00	2.00	0.00
2,122.76	2.46	87.10	2,122.72	0.13	2.63	0.25	2.00	2.00	0.00
Start 4304.25 hold at 2122.76 MD									
2,200.00	2.46	87.10	2,199.89	0.30	5.93	0.57	0.00	0.00	0.00
2,300.00	2.46	87.10	2,299.80	0.52	10.21	0.98	0.00	0.00	0.00
2,400.00	2.46	87.10	2,399.71	0.73	14.49	1.39	0.00	0.00	0.00
2,500.00	2.46	87.10	2,499.62	0.95	18.77	1.80	0.00	0.00	0.00
2,600.00	2.46	87.10	2,599.52	1.17	23.04	2.21	0.00	0.00	0.00
2,700.00	2.46	87.10	2,699.43	1.39	27.32	2.62	0.00	0.00	0.00
2,800.00	2.46	87.10	2,799.34	1.60	31.60	3.03	0.00	0.00	0.00
2,900.00	2.46	87.10	2,899.25	1.82	35.88	3.44	0.00	0.00	0.00
3,000.00	2.46	87.10	2,999.16	2.04	40.16	3.85	0.00	0.00	0.00
3,100.00	2.46	87.10	3,099.07	2.25	44.44	4.26	0.00	0.00	0.00
3,200.00	2.46	87.10	3,198.97	2.47	48.71	4.67	0.00	0.00	0.00
3,300.00	2.46	87.10	3,298.88	2.69	52.99	5.08	0.00	0.00	0.00
3,400.00	2.46	87.10	3,398.79	2.90	57.27	5.49	0.00	0.00	0.00
3,500.00	2.46	87.10	3,498.70	3.12	61.55	5.91	0.00	0.00	0.00
3,600.00	2.46	87.10	3,598.61	3.34	65.83	6.32	0.00	0.00	0.00
3,700.00	2.46	87.10	3,698.51	3.55	70.11	6.73	0.00	0.00	0.00
3,800.00	2.46	87.10	3,798.42	3.77	74.38	7.14	0.00	0.00	0.00
3,900.00	2.46	87.10	3,898.33	3.99	78.66	7.55	0.00	0.00	0.00
3,942.71	2.46	87.10	3,941.00	4.08	80.49	7.72	0.00	0.00	0.00
PARKMAN									
4,000.00	2.46	87.10	3,998.24	4.21	82.94	7.96	0.00	0.00	0.00
4,100.00	2.46	87.10	4,098.15	4.42	87.22	8.37	0.00	0.00	0.00
4,200.00	2.46	87.10	4,198.06	4.64	91.50	8.78	0.00	0.00	0.00
4,300.00	2.46	87.10	4,297.96	4.86	95.77	9.19	0.00	0.00	0.00
4,400.00	2.46	87.10	4,397.87	5.07	100.05	9.60	0.00	0.00	0.00
4,442.17	2.46	87.10	4,440.00	5.16	101.86	9.77	0.00	0.00	0.00
SUSSEX									

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13N-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 13N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13N-4HZ		
<b>Design:</b>	HAYMAKER 13N-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)
4,500.00	2.46	87.10	4,497.78	5.29	104.33	10.01	0.00	0.00	0.00
4,600.00	2.46	87.10	4,597.69	5.51	108.61	10.42	0.00	0.00	0.00
4,700.00	2.46	87.10	4,697.60	5.72	112.89	10.83	0.00	0.00	0.00
4,800.00	2.46	87.10	4,797.50	5.94	117.17	11.24	0.00	0.00	0.00
4,900.00	2.46	87.10	4,897.41	6.16	121.44	11.65	0.00	0.00	0.00
5,000.00	2.46	87.10	4,997.32	6.37	125.72	12.06	0.00	0.00	0.00
5,100.00	2.46	87.10	5,097.23	6.59	130.00	12.47	0.00	0.00	0.00
5,200.00	2.46	87.10	5,197.14	6.81	134.28	12.88	0.00	0.00	0.00
5,300.00	2.46	87.10	5,297.05	7.03	138.56	13.29	0.00	0.00	0.00
5,400.00	2.46	87.10	5,396.95	7.24	142.84	13.70	0.00	0.00	0.00
5,500.00	2.46	87.10	5,496.86	7.46	147.11	14.11	0.00	0.00	0.00
5,600.00	2.46	87.10	5,596.77	7.68	151.39	14.52	0.00	0.00	0.00
5,700.00	2.46	87.10	5,696.68	7.89	155.67	14.94	0.00	0.00	0.00
5,800.00	2.46	87.10	5,796.59	8.11	159.95	15.35	0.00	0.00	0.00
5,900.00	2.46	87.10	5,896.50	8.33	164.23	15.76	0.00	0.00	0.00
6,000.00	2.46	87.10	5,996.40	8.54	168.51	16.17	0.00	0.00	0.00
6,100.00	2.46	87.10	6,096.31	8.76	172.78	16.58	0.00	0.00	0.00
6,200.00	2.46	87.10	6,196.22	8.98	177.06	16.99	0.00	0.00	0.00
6,300.00	2.46	87.10	6,296.13	9.19	181.34	17.40	0.00	0.00	0.00
6,400.00	2.46	87.10	6,396.04	9.41	185.62	17.81	0.00	0.00	0.00
6,427.01	2.46	87.10	6,423.02	9.47	186.77	17.92	0.00	0.00	0.00
Start DLS 10.00 TFO -86.62									
6,500.00	7.84	18.60	6,495.74	14.27	189.93	22.86	10.00	7.37	-93.84
6,600.00	17.61	8.23	6,593.17	35.76	194.28	44.52	10.00	9.78	-10.37
6,700.00	27.55	5.19	6,685.40	73.85	198.55	82.77	10.00	9.93	-3.04
6,800.00	37.51	3.68	6,769.60	127.40	202.60	136.45	10.00	9.97	-1.51
6,900.00	47.49	2.73	6,843.24	194.77	206.32	203.92	10.00	9.98	-0.95
6,944.50	51.93	2.40	6,872.00	228.67	207.83	237.85	10.00	9.98	-0.74
SHARON SPRINGS									
7,000.00	57.48	2.04	6,904.06	273.92	209.58	283.14	10.00	9.99	-0.64
7,063.12	63.78	1.69	6,935.00	328.88	211.37	338.11	10.00	9.99	-0.56
NIOBRARA A									
7,100.00	67.47	1.50	6,950.22	362.45	212.30	371.69	10.00	9.99	-0.52
7,136.12	71.07	1.32	6,963.00	396.21	213.13	405.46	10.00	9.99	-0.49
NIOBRARA B									
7,200.00	77.46	1.03	6,980.31	457.66	214.39	466.90	10.00	9.99	-0.46
7,300.00	87.45	0.59	6,993.43	556.65	215.78	565.85	10.00	9.99	-0.44
7,323.36	89.78	0.49	6,994.00	580.00	216.00	589.19	10.00	9.99	-0.43
7"									
7,323.85	89.78	0.49	6,994.00	580.49	216.00	589.68	1.01	-0.54	-0.85
Start 5146.60 hold at 7323.85 MD									
7,400.00	89.78	0.49	6,994.30	656.64	216.65	665.78	0.00	0.00	0.00
7,500.00	89.78	0.49	6,994.69	756.64	217.50	765.71	0.00	0.00	0.00
7,600.00	89.78	0.49	6,995.08	856.63	218.35	865.64	0.00	0.00	0.00
7,700.00	89.78	0.49	6,995.46	956.63	219.19	965.57	0.00	0.00	0.00
7,800.00	89.78	0.49	6,995.85	1,056.62	220.04	1,065.50	0.00	0.00	0.00
7,900.00	89.78	0.49	6,996.24	1,156.62	220.89	1,165.44	0.00	0.00	0.00
8,000.00	89.78	0.49	6,996.63	1,256.61	221.74	1,265.37	0.00	0.00	0.00
8,100.00	89.78	0.49	6,997.02	1,356.61	222.59	1,365.30	0.00	0.00	0.00
8,200.00	89.78	0.49	6,997.41	1,456.61	223.43	1,465.23	0.00	0.00	0.00
8,300.00	89.78	0.49	6,997.80	1,556.60	224.28	1,565.16	0.00	0.00	0.00
8,400.00	89.78	0.49	6,998.18	1,656.60	225.13	1,665.09	0.00	0.00	0.00
8,500.00	89.78	0.49	6,998.57	1,756.59	225.98	1,765.02	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

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<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 13N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13N-4HZ		
<b>Design:</b>	HAYMAKER 13N-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)	
8,600.00	89.78	0.49	6,998.96	1,856.59	226.82	1,864.96	0.00	0.00	0.00	
8,700.00	89.78	0.49	6,999.35	1,956.58	227.67	1,964.89	0.00	0.00	0.00	
8,800.00	89.78	0.49	6,999.74	2,056.58	228.52	2,064.82	0.00	0.00	0.00	
8,900.00	89.78	0.49	7,000.13	2,156.57	229.37	2,164.75	0.00	0.00	0.00	
9,000.00	89.78	0.49	7,000.52	2,256.57	230.22	2,264.68	0.00	0.00	0.00	
9,100.00	89.78	0.49	7,000.90	2,356.57	231.06	2,364.61	0.00	0.00	0.00	
9,200.00	89.78	0.49	7,001.29	2,456.56	231.91	2,464.54	0.00	0.00	0.00	
9,300.00	89.78	0.49	7,001.68	2,556.56	232.76	2,564.48	0.00	0.00	0.00	
9,400.00	89.78	0.49	7,002.07	2,656.55	233.61	2,664.41	0.00	0.00	0.00	
9,500.00	89.78	0.49	7,002.46	2,756.55	234.46	2,764.34	0.00	0.00	0.00	
9,600.00	89.78	0.49	7,002.85	2,856.54	235.30	2,864.27	0.00	0.00	0.00	
9,700.00	89.78	0.49	7,003.24	2,956.54	236.15	2,964.20	0.00	0.00	0.00	
9,800.00	89.78	0.49	7,003.62	3,056.54	237.00	3,064.13	0.00	0.00	0.00	
9,900.00	89.78	0.49	7,004.01	3,156.53	237.85	3,164.06	0.00	0.00	0.00	
10,000.00	89.78	0.49	7,004.40	3,256.53	238.69	3,264.00	0.00	0.00	0.00	
10,100.00	89.78	0.49	7,004.79	3,356.52	239.54	3,363.93	0.00	0.00	0.00	
10,200.00	89.78	0.49	7,005.18	3,456.52	240.39	3,463.86	0.00	0.00	0.00	
10,300.00	89.78	0.49	7,005.57	3,556.51	241.24	3,563.79	0.00	0.00	0.00	
10,400.00	89.78	0.49	7,005.96	3,656.51	242.09	3,663.72	0.00	0.00	0.00	
10,500.00	89.78	0.49	7,006.34	3,756.51	242.93	3,763.65	0.00	0.00	0.00	
10,600.00	89.78	0.49	7,006.73	3,856.50	243.78	3,863.58	0.00	0.00	0.00	
10,700.00	89.78	0.49	7,007.12	3,956.50	244.63	3,963.52	0.00	0.00	0.00	
10,800.00	89.78	0.49	7,007.51	4,056.49	245.48	4,063.45	0.00	0.00	0.00	
10,900.00	89.78	0.49	7,007.90	4,156.49	246.33	4,163.38	0.00	0.00	0.00	
11,000.00	89.78	0.49	7,008.29	4,256.48	247.17	4,263.31	0.00	0.00	0.00	
11,100.00	89.78	0.49	7,008.68	4,356.48	248.02	4,363.24	0.00	0.00	0.00	
11,200.00	89.78	0.49	7,009.06	4,456.47	248.87	4,463.17	0.00	0.00	0.00	
11,300.00	89.78	0.49	7,009.45	4,556.47	249.72	4,563.10	0.00	0.00	0.00	
11,400.00	89.78	0.49	7,009.84	4,656.47	250.57	4,663.04	0.00	0.00	0.00	
11,500.00	89.78	0.49	7,010.23	4,756.46	251.41	4,762.97	0.00	0.00	0.00	
11,600.00	89.78	0.49	7,010.62	4,856.46	252.26	4,862.90	0.00	0.00	0.00	
11,700.00	89.78	0.49	7,011.01	4,956.45	253.11	4,962.83	0.00	0.00	0.00	
11,800.00	89.78	0.49	7,011.39	5,056.45	253.96	5,062.76	0.00	0.00	0.00	
11,900.00	89.78	0.49	7,011.78	5,156.44	254.80	5,162.69	0.00	0.00	0.00	
12,000.00	89.78	0.49	7,012.17	5,256.44	255.65	5,262.62	0.00	0.00	0.00	
12,100.00	89.78	0.49	7,012.56	5,356.44	256.50	5,362.56	0.00	0.00	0.00	
12,200.00	89.78	0.49	7,012.95	5,456.43	257.35	5,462.49	0.00	0.00	0.00	
12,300.00	89.78	0.49	7,013.34	5,556.43	258.20	5,562.42	0.00	0.00	0.00	
12,400.00	89.78	0.49	7,013.73	5,656.42	259.04	5,662.35	0.00	0.00	0.00	
12,470.45	89.78	0.49	7,014.00	5,726.87	259.64	5,732.76	0.00	0.00	0.00	
TD at 12470.45 - HAYMAKER 13N-4HZ BHL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
HAYMAKER 13N-4HZ B	0.00	0.00	7,014.00	5,726.87	259.64	1,303,254.23	3,230,205.50	40.162893	-104.676309	
- hit/miss target										
- Shape										
- plan hits target center										
- Point										

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well HAYMAKER 13N-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 13N-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HAYMAKER 13N-4HZ		
<b>Design:</b>	HAYMAKER 13N-4HZ (wp01)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)		Name	Casing Diameter (")	Hole Diameter (")
890.00	890.00	9 5/8"		9-5/8	13-1/2
7,323.36	6,994.00	7"		7	8-3/4

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,942.71	3,941.00	PARKMAN		0.00	
4,442.17	4,440.00	SUSSEX		0.00	
6,944.50	6,872.00	SHARON SPRINGS		0.00	
7,063.12	6,935.00	NIOBRARA A		0.00	
7,136.12	6,963.00	NIOBRARA B		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.00	2,000.00	0.00	0.00	Start Build 2.00	
2,122.76	2,122.72	0.13	2.63	Start 4304.25 hold at 2122.76 MD	
6,427.01	6,423.02	9.47	186.77	Start DLS 10.00 TFO -86.62	
7,323.85	6,994.00	580.49	216.00	Start 5146.60 hold at 7323.85 MD	
12,470.45	7,014.00	5,726.87	259.64	TD at 12470.45	