

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Hudson 4W-26HZ Pad**

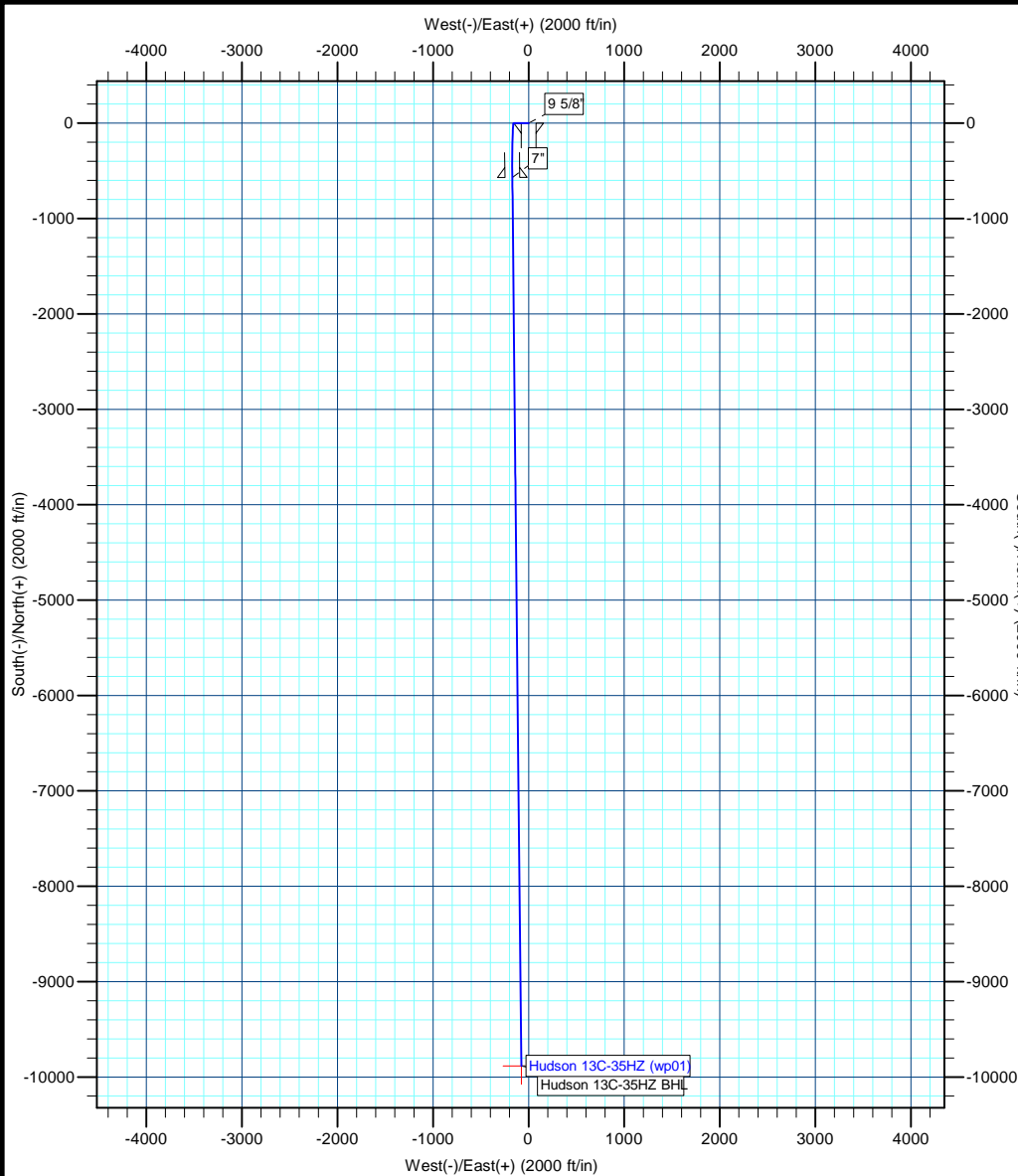
**Hudson 13C-35HZ**

**Hudson 13C-35HZ**

**Plan: Hudson 13C-35HZ (wp01)**

## **Standard Planning Report**

**26 April, 2012**



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Azimuths to True North

Magnetic North: 8.66°

Magnetic Field

Strength: 52903.6snT

Dip Angle: 66.81°

Date: 4/26/2012

Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83

Site: WELD\_Hudson 4W-26HZ Pad

Well: Hudson 13C-35HZ

Wellbore: Hudson 13C-35HZ

Section:

SHL:

Design: Hudson 13C-35HZ (wp01)

Latitude: 40.115880

Longitude: -104.638917

GL: 4908.00

KB: GL + RKB @ 4925.00ft

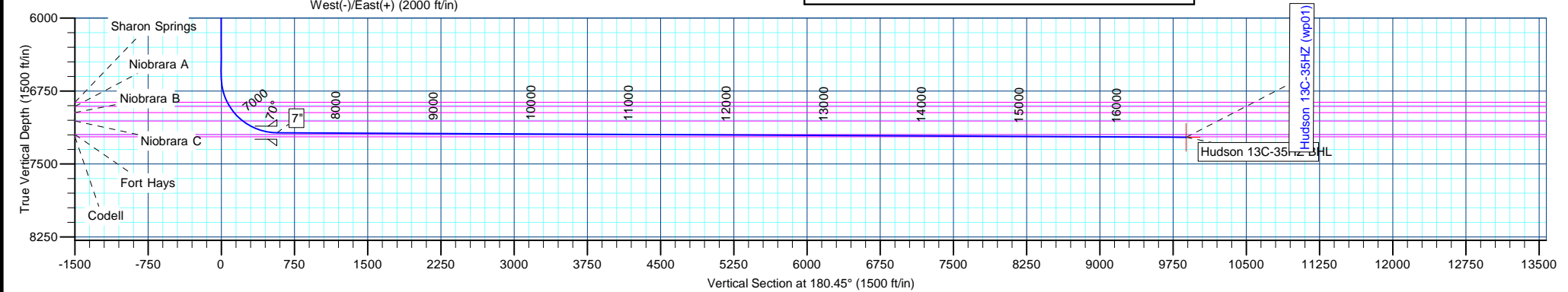
WELL DETAILS: Hudson 13C-35HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4908.00 Latitude	Longitude	Slot
0.00	0.00	1286228.42	3240821.80	40.115880	-104.638917	

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
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00
2200.53	2.01	270.51	2200.51	0.02	-1.76	2.00	270.51	0.00
6608.76	2.01	270.51	6606.03	1.40	-156.41	0.00	0.00	-0.18
7506.41	89.73	179.45	7179.00	-569.00	-171.00	10.00	-91.07	570.31
7510.13	89.71	179.42	7179.02	-572.72	-170.96	1.00	-116.55	574.04
16821.98	89.71	179.42	7226.00	-9883.97	-76.94	0.00	0.00	9884.27

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Hudson 13C-35HZ BHL	7226.00	-9883.97	-76.94	40.088747	-104.639192	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
766.00	766.00	Fox Hills
2857.00	2857.43	Parkman
4551.00	4552.47	Sussex
6866.00	6878.73	Sharon Springs
6908.00	6926.97	Niobrara A
6973.00	7007.23	Niobrara B
7058.00	7129.75	Niobrara C
7198.00	11272.34	Fort Hays
7221.00	15830.97	Codell

CASING DETAILS			
TVD	MD	Name	Size
1300.00	1300.00	9 5/8"	9-5/8
7179.00	7506.41	7"	7



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Hudson 13C-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL + RKB @ 4925.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL + RKB @ 4925.00ft
<b>Site:</b>	WELD_Hudson 4W-26HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Hudson 13C-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hudson 13C-35HZ		
<b>Design:</b>	Hudson 13C-35HZ (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_Hudson 4W-26HZ Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,286,228.42 usft	<b>Latitude:</b> 40.115880
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,240,821.81 usft	<b>Longitude:</b> -104.638917
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.56 °

<b>Well</b>	Hudson 13C-35HZ			
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,286,228.42 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,240,821.81 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b> 4,908.00 ft

<b>Wellbore</b>	Hudson 13C-35HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/26/2012	8.66	66.81	52,904

<b>Design</b>	Hudson 13C-35HZ (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	180.45

<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	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.53	2.01	270.51	2,200.51	0.02	-1.76	2.00	2.00	0.00	270.51	
6,608.76	2.01	270.51	6,606.03	1.40	-156.41	0.00	0.00	0.00	0.00	
7,506.41	89.73	179.45	7,179.00	-569.00	-171.00	10.00	9.77	-10.14	-91.07	
7,510.13	89.71	179.42	7,179.02	-572.72	-170.96	1.00	-0.45	-0.89	-116.55	
16,821.98	89.71	179.42	7,226.00	-9,883.97	-76.94	0.00	0.00	0.00	0.00	Hudson 13C-35HZ Bt

# Anadarko Petroleum Corp

## Planning Report

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL + RKB @ 4925.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL + RKB @ 4925.00ft
<b>Site:</b>	WELD_Hudson 4W-26HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Hudson 13C-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hudson 13C-35HZ		
<b>Design:</b>	Hudson 13C-35HZ (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
766.00	0.00	0.00	766.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
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
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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,200.00	2.00	270.51	2,199.98	0.02	-1.75	0.00	2.00	2.00	0.00
2,200.53	2.01	270.51	2,200.51	0.02	-1.76	0.00	2.00	2.00	0.00
Start 4408.23 hold at 2200.53 MD									
2,300.00	2.01	270.51	2,299.92	0.05	-5.25	-0.01	0.00	0.00	0.00
2,400.00	2.01	270.51	2,399.86	0.08	-8.76	-0.01	0.00	0.00	0.00
2,500.00	2.01	270.51	2,499.80	0.11	-12.27	-0.01	0.00	0.00	0.00
2,600.00	2.01	270.51	2,599.73	0.14	-15.78	-0.02	0.00	0.00	0.00
2,700.00	2.01	270.51	2,699.67	0.17	-19.29	-0.02	0.00	0.00	0.00
2,800.00	2.01	270.51	2,799.61	0.20	-22.79	-0.03	0.00	0.00	0.00
2,857.43	2.01	270.51	2,857.00	0.22	-24.81	-0.03	0.00	0.00	0.00
Parkman									
2,900.00	2.01	270.51	2,899.55	0.24	-26.30	-0.03	0.00	0.00	0.00
3,000.00	2.01	270.51	2,999.49	0.27	-29.81	-0.03	0.00	0.00	0.00
3,100.00	2.01	270.51	3,099.43	0.30	-33.32	-0.04	0.00	0.00	0.00
3,200.00	2.01	270.51	3,199.36	0.33	-36.83	-0.04	0.00	0.00	0.00
3,300.00	2.01	270.51	3,299.30	0.36	-40.33	-0.05	0.00	0.00	0.00
3,400.00	2.01	270.51	3,399.24	0.39	-43.84	-0.05	0.00	0.00	0.00
3,500.00	2.01	270.51	3,499.18	0.42	-47.35	-0.06	0.00	0.00	0.00
3,600.00	2.01	270.51	3,599.12	0.46	-50.86	-0.06	0.00	0.00	0.00
3,700.00	2.01	270.51	3,699.06	0.49	-54.37	-0.06	0.00	0.00	0.00
3,800.00	2.01	270.51	3,798.99	0.52	-57.88	-0.07	0.00	0.00	0.00
3,900.00	2.01	270.51	3,898.93	0.55	-61.38	-0.07	0.00	0.00	0.00
4,000.00	2.01	270.51	3,998.87	0.58	-64.89	-0.08	0.00	0.00	0.00
4,100.00	2.01	270.51	4,098.81	0.61	-68.40	-0.08	0.00	0.00	0.00
4,200.00	2.01	270.51	4,198.75	0.64	-71.91	-0.08	0.00	0.00	0.00
4,300.00	2.01	270.51	4,298.69	0.68	-75.42	-0.09	0.00	0.00	0.00
4,400.00	2.01	270.51	4,398.63	0.71	-78.92	-0.09	0.00	0.00	0.00
4,500.00	2.01	270.51	4,498.56	0.74	-82.43	-0.10	0.00	0.00	0.00

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## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Hudson 13C-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL + RKB @ 4925.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL + RKB @ 4925.00ft
<b>Site:</b>	WELD_Hudson 4W-26HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Hudson 13C-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hudson 13C-35HZ		
<b>Design:</b>	Hudson 13C-35HZ (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)
4,552.47	2.01	270.51	4,551.00	0.75	-84.27	-0.10	0.00	0.00	0.00
<b>Sussex</b>									
4,600.00	2.01	270.51	4,598.50	0.77	-85.94	-0.10	0.00	0.00	0.00
4,700.00	2.01	270.51	4,698.44	0.80	-89.45	-0.10	0.00	0.00	0.00
4,800.00	2.01	270.51	4,798.38	0.83	-92.96	-0.11	0.00	0.00	0.00
4,900.00	2.01	270.51	4,898.32	0.86	-96.47	-0.11	0.00	0.00	0.00
5,000.00	2.01	270.51	4,998.26	0.90	-99.97	-0.12	0.00	0.00	0.00
5,100.00	2.01	270.51	5,098.19	0.93	-103.48	-0.12	0.00	0.00	0.00
5,200.00	2.01	270.51	5,198.13	0.96	-106.99	-0.13	0.00	0.00	0.00
5,300.00	2.01	270.51	5,298.07	0.99	-110.50	-0.13	0.00	0.00	0.00
5,400.00	2.01	270.51	5,398.01	1.02	-114.01	-0.13	0.00	0.00	0.00
5,500.00	2.01	270.51	5,497.95	1.05	-117.51	-0.14	0.00	0.00	0.00
5,600.00	2.01	270.51	5,597.89	1.08	-121.02	-0.14	0.00	0.00	0.00
5,700.00	2.01	270.51	5,697.83	1.12	-124.53	-0.15	0.00	0.00	0.00
5,800.00	2.01	270.51	5,797.76	1.15	-128.04	-0.15	0.00	0.00	0.00
5,900.00	2.01	270.51	5,897.70	1.18	-131.55	-0.15	0.00	0.00	0.00
6,000.00	2.01	270.51	5,997.64	1.21	-135.06	-0.16	0.00	0.00	0.00
6,100.00	2.01	270.51	6,097.58	1.24	-138.56	-0.16	0.00	0.00	0.00
6,200.00	2.01	270.51	6,197.52	1.27	-142.07	-0.17	0.00	0.00	0.00
6,300.00	2.01	270.51	6,297.46	1.30	-145.58	-0.17	0.00	0.00	0.00
6,400.00	2.01	270.51	6,397.39	1.34	-149.09	-0.17	0.00	0.00	0.00
6,500.00	2.01	270.51	6,497.33	1.37	-152.60	-0.18	0.00	0.00	0.00
6,600.00	2.01	270.51	6,597.27	1.40	-156.10	-0.18	0.00	0.00	0.00
6,608.76	2.01	270.51	6,606.03	1.40	-156.41	-0.18	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -91.07</b>									
6,700.00	9.30	191.82	6,696.83	-5.82	-159.53	7.06	10.00	7.99	-86.25
6,800.00	19.19	185.23	6,793.64	-30.16	-162.69	31.42	10.00	9.88	-6.58
6,878.73	27.03	183.39	6,866.00	-60.95	-164.93	62.23	10.00	9.96	-2.34
<b>Sharon Springs</b>									
6,900.00	29.15	183.05	6,884.76	-70.95	-165.49	72.23	10.00	9.97	-1.58
6,926.97	31.84	182.69	6,908.00	-84.62	-166.18	85.91	10.00	9.98	-1.36
<b>Niobrara A</b>									
7,000.00	39.13	181.92	6,967.42	-126.95	-167.85	128.25	10.00	9.98	-1.05
7,007.23	39.85	181.86	6,973.00	-131.54	-168.01	132.84	10.00	9.98	-0.87
<b>Niobrara B</b>									
7,100.00	49.12	181.19	7,039.12	-196.45	-169.70	197.77	10.00	9.99	-0.72
7,129.75	52.09	181.01	7,058.00	-219.44	-170.14	220.76	10.00	9.99	-0.59
<b>Niobrara C</b>									
7,200.00	59.11	180.65	7,097.66	-277.36	-170.97	278.68	10.00	9.99	-0.52
7,300.00	69.10	180.21	7,141.28	-367.20	-171.63	368.52	10.00	9.99	-0.44
7,400.00	79.09	179.83	7,168.65	-463.25	-171.66	464.57	10.00	9.99	-0.38
7,500.00	89.09	179.48	7,178.93	-562.59	-171.06	563.90	10.00	9.99	-0.36
7,506.41	89.73	179.45	7,179.00	-569.00	-171.00	570.31	10.00	9.99	-0.35
<b>Start DLS 1.00 TFO -116.55 - 7"</b>									
7,510.13	89.71	179.42	7,179.02	-572.72	-170.96	574.04	1.00	-0.45	-0.89
<b>Start 9311.84 hold at 7510.13 MD</b>									
7,600.00	89.71	179.42	7,179.47	-662.58	-170.06	663.89	0.00	0.00	0.00
7,700.00	89.71	179.42	7,179.98	-762.58	-169.05	763.87	0.00	0.00	0.00
7,800.00	89.71	179.42	7,180.48	-862.57	-168.04	863.85	0.00	0.00	0.00
7,900.00	89.71	179.42	7,180.99	-962.56	-167.03	963.84	0.00	0.00	0.00
8,000.00	89.71	179.42	7,181.49	-1,062.56	-166.02	1,063.82	0.00	0.00	0.00
8,100.00	89.71	179.42	7,181.99	-1,162.55	-165.01	1,163.80	0.00	0.00	0.00
8,200.00	89.71	179.42	7,182.50	-1,262.55	-164.00	1,263.78	0.00	0.00	0.00

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## Planning Report

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL + RKB @ 4925.00ft
<b>Site:</b>	WELD_Hudson 4W-26HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Hudson 13C-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hudson 13C-35HZ		
<b>Design:</b>	Hudson 13C-35HZ (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	89.71	179.42	7,183.00	-1,362.54	-162.99	1,363.77	0.00	0.00	0.00
8,400.00	89.71	179.42	7,183.51	-1,462.53	-161.98	1,463.75	0.00	0.00	0.00
8,500.00	89.71	179.42	7,184.01	-1,562.53	-160.97	1,563.73	0.00	0.00	0.00
8,600.00	89.71	179.42	7,184.52	-1,662.52	-159.96	1,663.71	0.00	0.00	0.00
8,700.00	89.71	179.42	7,185.02	-1,762.51	-158.95	1,763.70	0.00	0.00	0.00
8,800.00	89.71	179.42	7,185.53	-1,862.51	-157.94	1,863.68	0.00	0.00	0.00
8,900.00	89.71	179.42	7,186.03	-1,962.50	-156.93	1,963.66	0.00	0.00	0.00
9,000.00	89.71	179.42	7,186.54	-2,062.49	-155.92	2,063.65	0.00	0.00	0.00
9,100.00	89.71	179.42	7,187.04	-2,162.49	-154.91	2,163.63	0.00	0.00	0.00
9,200.00	89.71	179.42	7,187.54	-2,262.48	-153.90	2,263.61	0.00	0.00	0.00
9,300.00	89.71	179.42	7,188.05	-2,362.48	-152.89	2,363.59	0.00	0.00	0.00
9,400.00	89.71	179.42	7,188.55	-2,462.47	-151.88	2,463.58	0.00	0.00	0.00
9,500.00	89.71	179.42	7,189.06	-2,562.46	-150.87	2,563.56	0.00	0.00	0.00
9,600.00	89.71	179.42	7,189.56	-2,662.46	-149.86	2,663.54	0.00	0.00	0.00
9,700.00	89.71	179.42	7,190.07	-2,762.45	-148.85	2,763.52	0.00	0.00	0.00
9,800.00	89.71	179.42	7,190.57	-2,862.44	-147.84	2,863.51	0.00	0.00	0.00
9,900.00	89.71	179.42	7,191.08	-2,962.44	-146.83	2,963.49	0.00	0.00	0.00
10,000.00	89.71	179.42	7,191.58	-3,062.43	-145.82	3,063.47	0.00	0.00	0.00
10,100.00	89.71	179.42	7,192.09	-3,162.42	-144.81	3,163.46	0.00	0.00	0.00
10,200.00	89.71	179.42	7,192.59	-3,262.42	-143.80	3,263.44	0.00	0.00	0.00
10,300.00	89.71	179.42	7,193.09	-3,362.41	-142.79	3,363.42	0.00	0.00	0.00
10,400.00	89.71	179.42	7,193.60	-3,462.41	-141.78	3,463.40	0.00	0.00	0.00
10,500.00	89.71	179.42	7,194.10	-3,562.40	-140.77	3,563.39	0.00	0.00	0.00
10,600.00	89.71	179.42	7,194.61	-3,662.39	-139.77	3,663.37	0.00	0.00	0.00
10,700.00	89.71	179.42	7,195.11	-3,762.39	-138.76	3,763.35	0.00	0.00	0.00
10,800.00	89.71	179.42	7,195.62	-3,862.38	-137.75	3,863.34	0.00	0.00	0.00
10,900.00	89.71	179.42	7,196.12	-3,962.37	-136.74	3,963.32	0.00	0.00	0.00
11,000.00	89.71	179.42	7,196.63	-4,062.37	-135.73	4,063.30	0.00	0.00	0.00
11,100.00	89.71	179.42	7,197.13	-4,162.36	-134.72	4,163.28	0.00	0.00	0.00
11,200.00	89.71	179.42	7,197.64	-4,262.35	-133.71	4,263.27	0.00	0.00	0.00
11,272.34	89.71	179.42	7,198.00	-4,334.69	-132.98	4,335.59	0.00	0.00	0.00
Fort Hays									
11,300.00	89.71	179.42	7,198.14	-4,362.35	-132.70	4,363.25	0.00	0.00	0.00
11,400.00	89.71	179.42	7,198.64	-4,462.34	-131.69	4,463.23	0.00	0.00	0.00
11,500.00	89.71	179.42	7,199.15	-4,562.34	-130.68	4,563.21	0.00	0.00	0.00
11,600.00	89.71	179.42	7,199.65	-4,662.33	-129.67	4,663.20	0.00	0.00	0.00
11,700.00	89.71	179.42	7,200.16	-4,762.32	-128.66	4,763.18	0.00	0.00	0.00
11,800.00	89.71	179.42	7,200.66	-4,862.32	-127.65	4,863.16	0.00	0.00	0.00
11,900.00	89.71	179.42	7,201.17	-4,962.31	-126.64	4,963.15	0.00	0.00	0.00
12,000.00	89.71	179.42	7,201.67	-5,062.30	-125.63	5,063.13	0.00	0.00	0.00
12,100.00	89.71	179.42	7,202.18	-5,162.30	-124.62	5,163.11	0.00	0.00	0.00
12,200.00	89.71	179.42	7,202.68	-5,262.29	-123.61	5,263.09	0.00	0.00	0.00
12,300.00	89.71	179.42	7,203.19	-5,362.28	-122.60	5,363.08	0.00	0.00	0.00
12,400.00	89.71	179.42	7,203.69	-5,462.28	-121.59	5,463.06	0.00	0.00	0.00
12,500.00	89.71	179.42	7,204.19	-5,562.27	-120.58	5,563.04	0.00	0.00	0.00
12,600.00	89.71	179.42	7,204.70	-5,662.27	-119.57	5,663.02	0.00	0.00	0.00
12,700.00	89.71	179.42	7,205.20	-5,762.26	-118.56	5,763.01	0.00	0.00	0.00
12,800.00	89.71	179.42	7,205.71	-5,862.25	-117.55	5,862.99	0.00	0.00	0.00
12,900.00	89.71	179.42	7,206.21	-5,962.25	-116.54	5,962.97	0.00	0.00	0.00
13,000.00	89.71	179.42	7,206.72	-6,062.24	-115.53	6,062.96	0.00	0.00	0.00
13,100.00	89.71	179.42	7,207.22	-6,162.23	-114.52	6,162.94	0.00	0.00	0.00
13,200.00	89.71	179.42	7,207.73	-6,262.23	-113.51	6,262.92	0.00	0.00	0.00
13,300.00	89.71	179.42	7,208.23	-6,362.22	-112.50	6,362.90	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Hudson 13C-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL + RKB @ 4925.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL + RKB @ 4925.00ft
<b>Site:</b>	WELD_Hudson 4W-26HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Hudson 13C-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hudson 13C-35HZ		
<b>Design:</b>	Hudson 13C-35HZ (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)	
13,400.00	89.71	179.42	7,208.74	-6,462.21	-111.49	6,462.89	0.00	0.00	0.00	
13,500.00	89.71	179.42	7,209.24	-6,562.21	-110.48	6,562.87	0.00	0.00	0.00	
13,600.00	89.71	179.42	7,209.74	-6,662.20	-109.47	6,662.85	0.00	0.00	0.00	
13,700.00	89.71	179.42	7,210.25	-6,762.20	-108.46	6,762.83	0.00	0.00	0.00	
13,800.00	89.71	179.42	7,210.75	-6,862.19	-107.45	6,862.82	0.00	0.00	0.00	
13,900.00	89.71	179.42	7,211.26	-6,962.18	-106.45	6,962.80	0.00	0.00	0.00	
14,000.00	89.71	179.42	7,211.76	-7,062.18	-105.44	7,062.78	0.00	0.00	0.00	
14,100.00	89.71	179.42	7,212.27	-7,162.17	-104.43	7,162.77	0.00	0.00	0.00	
14,200.00	89.71	179.42	7,212.77	-7,262.16	-103.42	7,262.75	0.00	0.00	0.00	
14,300.00	89.71	179.42	7,213.28	-7,362.16	-102.41	7,362.73	0.00	0.00	0.00	
14,400.00	89.71	179.42	7,213.78	-7,462.15	-101.40	7,462.71	0.00	0.00	0.00	
14,500.00	89.71	179.42	7,214.28	-7,562.14	-100.39	7,562.70	0.00	0.00	0.00	
14,600.00	89.71	179.42	7,214.79	-7,662.14	-99.38	7,662.68	0.00	0.00	0.00	
14,700.00	89.71	179.42	7,215.29	-7,762.13	-98.37	7,762.66	0.00	0.00	0.00	
14,800.00	89.71	179.42	7,215.80	-7,862.13	-97.36	7,862.64	0.00	0.00	0.00	
14,900.00	89.71	179.42	7,216.30	-7,962.12	-96.35	7,962.63	0.00	0.00	0.00	
15,000.00	89.71	179.42	7,216.81	-8,062.11	-95.34	8,062.61	0.00	0.00	0.00	
15,100.00	89.71	179.42	7,217.31	-8,162.11	-94.33	8,162.59	0.00	0.00	0.00	
15,200.00	89.71	179.42	7,217.82	-8,262.10	-93.32	8,262.58	0.00	0.00	0.00	
15,300.00	89.71	179.42	7,218.32	-8,362.09	-92.31	8,362.56	0.00	0.00	0.00	
15,400.00	89.71	179.42	7,218.83	-8,462.09	-91.30	8,462.54	0.00	0.00	0.00	
15,500.00	89.71	179.42	7,219.33	-8,562.08	-90.29	8,562.52	0.00	0.00	0.00	
15,600.00	89.71	179.42	7,219.83	-8,662.07	-89.28	8,662.51	0.00	0.00	0.00	
15,700.00	89.71	179.42	7,220.34	-8,762.07	-88.27	8,762.49	0.00	0.00	0.00	
15,800.00	89.71	179.42	7,220.84	-8,862.06	-87.26	8,862.47	0.00	0.00	0.00	
15,830.97	89.71	179.42	7,221.00	-8,893.03	-86.95	8,893.44	0.00	0.00	0.00	
<b>Codell</b>										
15,900.00	89.71	179.42	7,221.35	-8,962.05	-86.25	8,962.45	0.00	0.00	0.00	
16,000.00	89.71	179.42	7,221.85	-9,062.05	-85.24	9,062.44	0.00	0.00	0.00	
16,100.00	89.71	179.42	7,222.36	-9,162.04	-84.23	9,162.42	0.00	0.00	0.00	
16,200.00	89.71	179.42	7,222.86	-9,262.04	-83.22	9,262.40	0.00	0.00	0.00	
16,300.00	89.71	179.42	7,223.37	-9,362.03	-82.21	9,362.39	0.00	0.00	0.00	
16,400.00	89.71	179.42	7,223.87	-9,462.02	-81.20	9,462.37	0.00	0.00	0.00	
16,500.00	89.71	179.42	7,224.38	-9,562.02	-80.19	9,562.35	0.00	0.00	0.00	
16,600.00	89.71	179.42	7,224.88	-9,662.01	-79.18	9,662.33	0.00	0.00	0.00	
16,700.00	89.71	179.42	7,225.38	-9,762.00	-78.17	9,762.32	0.00	0.00	0.00	
16,800.00	89.71	179.42	7,225.89	-9,862.00	-77.16	9,862.30	0.00	0.00	0.00	
16,821.98	89.71	179.42	7,226.00	-9,883.97	-76.94	9,884.27	0.00	0.00	0.00	
<b>TD at 16821.98 - Hudson 13C-35HZ BHL</b>										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Hudson 13C-35HZ BHL	0.00	0.00	7,226.00	-9,883.97	-76.94	1,276,344.18	3,240,840.85	40.088747	-104.639192
- plan hits target center									
- Point									

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Hudson 13C-35HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL + RKB @ 4925.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL + RKB @ 4925.00ft
<b>Site:</b>	WELD_Hudson 4W-26HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Hudson 13C-35HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hudson 13C-35HZ		
<b>Design:</b>	Hudson 13C-35HZ (wp01)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,300.00	1,300.00	9 5/8"	9-5/8	12-1/4	
7,506.41	7,179.00	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
766.00	766.00	Fox Hills			
2,857.43	2,857.00	Parkman			
4,552.47	4,551.00	Sussex			
6,878.73	6,866.00	Sharon Springs			
6,926.97	6,908.00	Niobrara A			
7,007.23	6,973.00	Niobrara B			
7,129.75	7,058.00	Niobrara C			
11,272.34	7,198.00	Fort Hays			
15,830.97	7,221.00	Codell			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,100.00	2,100.00	0.00	0.00	Start Build 2.00	
2,200.53	2,200.51	0.02	-1.76	Start 4408.23 hold at 2200.53 MD	
6,608.76	6,606.03	1.40	-156.41	Start DLS 10.00 TFO -91.07	
7,506.41	7,179.00	-569.00	-171.00	Start DLS 1.00 TFO -116.55	
7,510.13	7,179.02	-572.72	-170.96	Start 9311.84 hold at 7510.13 MD	
16,821.98	7,226.00	-9,883.97	-76.94	TD at 16821.98	