

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_DOVE 4-12HZ PAD**

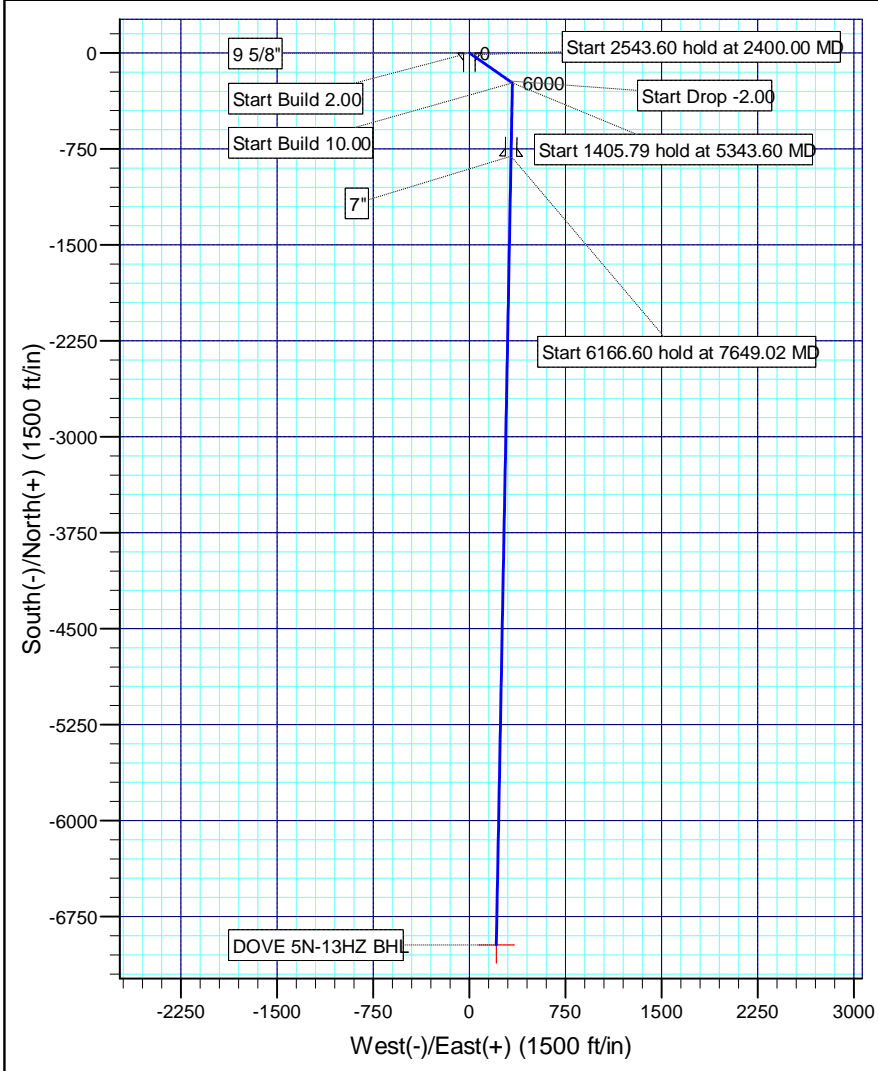
**DOVE 5N-13HZ**

**DOVE 5N-13HZ**

**Plan: DOVE 5N-13HZ (wp01)**

## **Standard Planning Report**

**14 February, 2012**



PROJECT DETAILS: COLORADO NORTHERN ZONE - 83					
Site: WELD DOVE 4-12HZ PAD					
Well: DOVE 5N-13HZ					
Wellbore: DOVE 5N-13HZ					
Design: DOVE 5N-13HZ (wp01)					
Latitude: 40.158768					
Longitude: -104.732747					
GL: 4999.00					
KB: 17' RKB + GL @ 5016.00ft (Original Well Elev)					



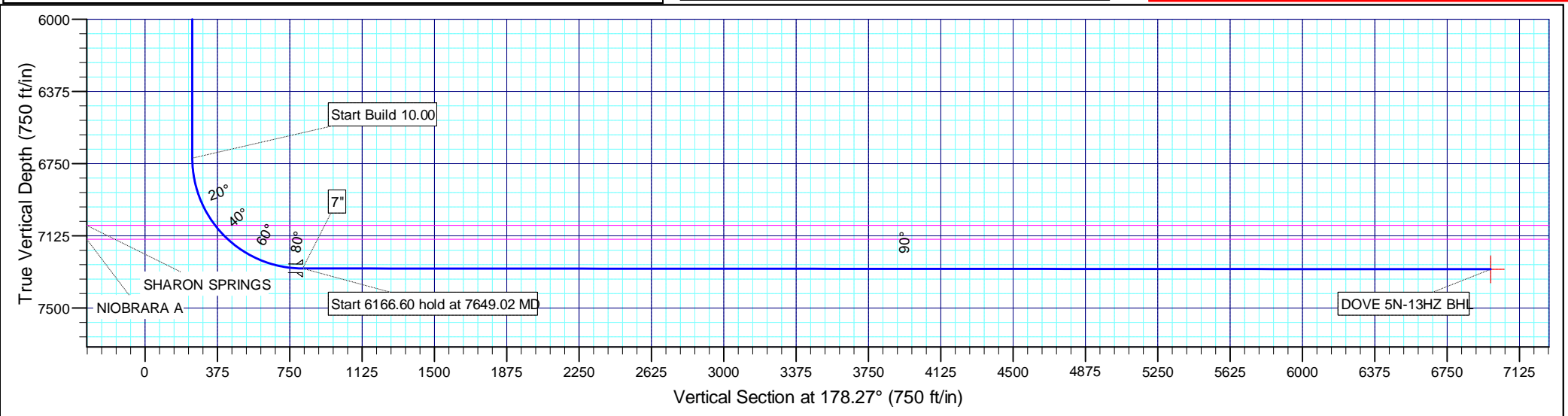
WELL DETAILS: DOVE 5N-13HZ					
Ground Level: 4999.00					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1301610.11	3214445.59	40.158768	-104.732747

DESIGN TARGET DETAILS						
Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape Point
DOVE 5N-13HZ BHL	7299.00	-6973.05	210.24	40.139626	-104.731995	

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	2400.00	8.00	125.00	2398.70	-15.99	22.84	2.00	125.00	16.67	
4	4943.60	8.00	125.00	4917.55	-219.04	312.82	0.00	0.00	228.37	
5	5343.60	0.00	0.00	5316.25	-235.03	335.66	2.00	180.00	245.04	
6	6749.39	0.00	0.00	6722.04	-235.03	335.66	0.00	0.00	245.04	
7	7649.02	89.96	181.07	7295.00	-807.52	325.00	10.00	181.07	816.94	
8	13815.62	89.96	181.07	7299.00	-6973.05	210.24	0.00	0.00	6976.22	DOVE 5N-13HZ BHL

CASING DETAILS				
TVD	MD	Name	Size	
1000.00	1000.00	9 5/8"	9-5/8	
7295.00	7649.02	7"	7	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
706.00	706.00	FOX HILLS
3369.00	3379.83	PARKMAN
4407.00	4428.04	SUSSEX
7071.00	7124.60	SHARON SPRINGS
7143.00	7222.22	NIOBRARA A



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well DOVE 5N-13HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Site:</b>	WELD_DOVE 4-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DOVE 5N-13HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DOVE 5N-13HZ		
<b>Design:</b>	DOVE 5N-13HZ (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		

Site		WELD_DOVE 4-12HZ PAD			
Site Position:		Northing:	1,301,610.75 usft	Latitude:	40.158769
From:	Lat/Long	Easting:	3,214,475.49 usft	Longitude:	-104.732640
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.50 °

Well	DOVE 5N-13HZ					
Well Position	+N/-S	-0.39 ft	Northing:	1,301,610.11 usft	Latitude:	40.158768
	+E/-W	-29.91 ft	Easting:	3,214,445.59 usft	Longitude:	-104.732747
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,999.00 ft

<b>Wellbore</b>	DOVE 5N-13HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/9/2012	8.74	66.84	52,938

<b>Design</b>	DOVE 5N-13HZ (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	178.27

<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	
2,400.00	8.00	125.00	2,398.70	-15.99	22.84	2.00	2.00	0.00	125.00	
4,943.60	8.00	125.00	4,917.55	-219.04	312.82	0.00	0.00	0.00	0.00	
5,343.60	0.00	0.00	5,316.25	-235.03	335.66	2.00	-2.00	0.00	180.00	
6,749.39	0.00	0.00	6,722.04	-235.03	335.66	0.00	0.00	0.00	0.00	
7,649.02	89.96	181.07	7,295.00	-807.52	325.00	10.00	10.00	0.00	181.07	
13,815.62	89.96	181.07	7,299.00	-6,973.05	210.24	0.00	0.00	0.00	0.00	DOVE 5N-13HZ BHL

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well DOVE 5N-13HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Site:</b>	WELD_DOVE 4-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DOVE 5N-13HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DOVE 5N-13HZ		
<b>Design:</b>	DOVE 5N-13HZ (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
706.00	0.00	0.00	706.00	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
9 5/8"									
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	125.00	2,099.98	-1.00	1.43	1.04	2.00	2.00	0.00
2,200.00	4.00	125.00	2,199.84	-4.00	5.72	4.17	2.00	2.00	0.00
2,300.00	6.00	125.00	2,299.45	-9.00	12.86	9.38	2.00	2.00	0.00
2,400.00	8.00	125.00	2,398.70	-15.99	22.84	16.67	2.00	2.00	0.00
Start 2543.60 hold at 2400.00 MD									
2,500.00	8.00	125.00	2,497.73	-23.97	34.24	24.99	0.00	0.00	0.00
2,600.00	8.00	125.00	2,596.76	-31.96	45.64	33.32	0.00	0.00	0.00
2,700.00	8.00	125.00	2,695.78	-39.94	57.04	41.64	0.00	0.00	0.00
2,800.00	8.00	125.00	2,794.81	-47.92	68.44	49.96	0.00	0.00	0.00
2,900.00	8.00	125.00	2,893.84	-55.90	79.84	58.29	0.00	0.00	0.00
3,000.00	8.00	125.00	2,992.86	-63.89	91.24	66.61	0.00	0.00	0.00
3,100.00	8.00	125.00	3,091.89	-71.87	102.64	74.93	0.00	0.00	0.00
3,200.00	8.00	125.00	3,190.92	-79.85	114.04	83.25	0.00	0.00	0.00
3,300.00	8.00	125.00	3,289.94	-87.84	125.44	91.58	0.00	0.00	0.00
3,379.83	8.00	125.00	3,369.00	-94.21	134.54	98.22	0.00	0.00	0.00
PARKMAN									
3,400.00	8.00	125.00	3,388.97	-95.82	136.84	99.90	0.00	0.00	0.00
3,500.00	8.00	125.00	3,488.00	-103.80	148.24	108.22	0.00	0.00	0.00
3,600.00	8.00	125.00	3,587.02	-111.78	159.64	116.54	0.00	0.00	0.00
3,700.00	8.00	125.00	3,686.05	-119.77	171.04	124.87	0.00	0.00	0.00
3,800.00	8.00	125.00	3,785.08	-127.75	182.44	133.19	0.00	0.00	0.00
3,900.00	8.00	125.00	3,884.10	-135.73	193.84	141.51	0.00	0.00	0.00
4,000.00	8.00	125.00	3,983.13	-143.71	205.24	149.83	0.00	0.00	0.00
4,100.00	8.00	125.00	4,082.16	-151.70	216.64	158.16	0.00	0.00	0.00
4,200.00	8.00	125.00	4,181.18	-159.68	228.04	166.48	0.00	0.00	0.00
4,300.00	8.00	125.00	4,280.21	-167.66	239.45	174.80	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Site:</b>	WELD_DOVE 4-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DOVE 5N-13HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DOVE 5N-13HZ		
<b>Design:</b>	DOVE 5N-13HZ (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)
4,400.00	8.00	125.00	4,379.24	-175.64	250.85	183.12	0.00	0.00	0.00
4,428.04	8.00	125.00	4,407.00	-177.88	254.04	185.46	0.00	0.00	0.00
<b>SUSSEX</b>									
4,500.00	8.00	125.00	4,478.26	-183.63	262.25	191.45	0.00	0.00	0.00
4,600.00	8.00	125.00	4,577.29	-191.61	273.65	199.77	0.00	0.00	0.00
4,700.00	8.00	125.00	4,676.32	-199.59	285.05	208.09	0.00	0.00	0.00
4,800.00	8.00	125.00	4,775.35	-207.57	296.45	216.41	0.00	0.00	0.00
4,900.00	8.00	125.00	4,874.37	-215.56	307.85	224.74	0.00	0.00	0.00
4,943.60	8.00	125.00	4,917.55	-219.04	312.82	228.37	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,000.00	6.87	125.00	4,973.47	-223.22	318.80	232.73	2.00	-2.00	0.00
5,100.00	4.87	125.00	5,072.94	-229.09	327.18	238.85	2.00	-2.00	0.00
5,200.00	2.87	125.00	5,172.71	-232.97	332.71	242.89	2.00	-2.00	0.00
5,300.00	0.87	125.00	5,272.65	-234.84	335.38	244.84	2.00	-2.00	0.00
5,343.60	0.00	0.00	5,316.25	-235.03	335.66	245.04	2.00	-2.00	0.00
<b>Start 1405.79 hold at 5343.60 MD</b>									
5,400.00	0.00	0.00	5,372.65	-235.03	335.66	245.04	0.00	0.00	0.00
5,500.00	0.00	0.00	5,472.65	-235.03	335.66	245.04	0.00	0.00	0.00
5,600.00	0.00	0.00	5,572.65	-235.03	335.66	245.04	0.00	0.00	0.00
5,700.00	0.00	0.00	5,672.65	-235.03	335.66	245.04	0.00	0.00	0.00
5,800.00	0.00	0.00	5,772.65	-235.03	335.66	245.04	0.00	0.00	0.00
5,900.00	0.00	0.00	5,872.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,000.00	0.00	0.00	5,972.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,100.00	0.00	0.00	6,072.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,200.00	0.00	0.00	6,172.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,300.00	0.00	0.00	6,272.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,400.00	0.00	0.00	6,372.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,500.00	0.00	0.00	6,472.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,600.00	0.00	0.00	6,572.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,700.00	0.00	0.00	6,672.65	-235.03	335.66	245.04	0.00	0.00	0.00
6,749.39	0.00	0.00	6,722.04	-235.03	335.66	245.04	0.00	0.00	0.00
<b>Start Build 10.00</b>									
6,800.00	5.06	181.07	6,772.58	-237.26	335.61	247.27	10.00	10.00	0.00
6,900.00	15.06	181.07	6,870.92	-254.71	335.29	264.70	10.00	10.00	0.00
7,000.00	25.06	181.07	6,964.73	-288.96	334.65	298.91	10.00	10.00	0.00
7,100.00	35.06	181.07	7,051.17	-338.98	333.72	348.88	10.00	10.00	0.00
7,124.60	37.52	181.07	7,071.00	-353.54	333.45	363.43	10.00	10.00	0.00
<b>SHARON SPRINGS</b>									
7,200.00	45.06	181.07	7,127.61	-403.25	332.53	413.09	10.00	10.00	0.00
7,222.22	47.28	181.07	7,143.00	-419.28	332.23	429.10	10.00	10.00	0.00
<b>NIORARA A</b>									
7,300.00	55.06	181.07	7,191.73	-479.81	331.10	489.57	10.00	10.00	0.00
7,400.00	65.06	181.07	7,241.57	-566.34	329.49	576.01	10.00	10.00	0.00
7,500.00	75.06	181.07	7,275.63	-660.21	327.74	669.79	10.00	10.00	0.00
7,600.00	85.06	181.07	7,292.87	-758.57	325.91	768.05	10.00	10.00	0.00
7,649.02	89.96	181.07	7,295.00	-807.52	325.00	816.95	10.00	10.00	0.00
<b>Start 6166.60 hold at 7649.02 MD - 7"</b>									
7,700.00	89.96	181.07	7,295.03	-858.49	324.05	867.87	0.00	0.00	0.00
7,800.00	89.96	181.07	7,295.09	-958.47	322.19	967.75	0.00	0.00	0.00
7,900.00	89.96	181.07	7,295.16	-1,058.46	320.33	1,067.63	0.00	0.00	0.00
8,000.00	89.96	181.07	7,295.22	-1,158.44	318.47	1,167.51	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 @ 5016.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Site:</b>	WELD_DOVE 4-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DOVE 5N-13HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DOVE 5N-13HZ		
<b>Design:</b>	DOVE 5N-13HZ (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)
8,100.00	89.96	181.07	7,295.29	-1,258.42	316.61	1,267.39	0.00	0.00	0.00
8,200.00	89.96	181.07	7,295.35	-1,358.40	314.75	1,367.27	0.00	0.00	0.00
8,300.00	89.96	181.07	7,295.42	-1,458.39	312.89	1,467.15	0.00	0.00	0.00
8,400.00	89.96	181.07	7,295.48	-1,558.37	311.03	1,567.03	0.00	0.00	0.00
8,500.00	89.96	181.07	7,295.55	-1,658.35	309.16	1,666.92	0.00	0.00	0.00
8,600.00	89.96	181.07	7,295.61	-1,758.33	307.30	1,766.80	0.00	0.00	0.00
8,700.00	89.96	181.07	7,295.68	-1,858.32	305.44	1,866.68	0.00	0.00	0.00
8,800.00	89.96	181.07	7,295.74	-1,958.30	303.58	1,966.56	0.00	0.00	0.00
8,900.00	89.96	181.07	7,295.81	-2,058.28	301.72	2,066.44	0.00	0.00	0.00
9,000.00	89.96	181.07	7,295.87	-2,158.26	299.86	2,166.32	0.00	0.00	0.00
9,100.00	89.96	181.07	7,295.94	-2,258.25	298.00	2,266.20	0.00	0.00	0.00
9,200.00	89.96	181.07	7,296.00	-2,358.23	296.14	2,366.08	0.00	0.00	0.00
9,300.00	89.96	181.07	7,296.07	-2,458.21	294.28	2,465.96	0.00	0.00	0.00
9,400.00	89.96	181.07	7,296.13	-2,558.20	292.42	2,565.85	0.00	0.00	0.00
9,500.00	89.96	181.07	7,296.20	-2,658.18	290.56	2,665.73	0.00	0.00	0.00
9,600.00	89.96	181.07	7,296.26	-2,758.16	288.69	2,765.61	0.00	0.00	0.00
9,700.00	89.96	181.07	7,296.33	-2,858.14	286.83	2,865.49	0.00	0.00	0.00
9,800.00	89.96	181.07	7,296.39	-2,958.13	284.97	2,965.37	0.00	0.00	0.00
9,900.00	89.96	181.07	7,296.46	-3,058.11	283.11	3,065.25	0.00	0.00	0.00
10,000.00	89.96	181.07	7,296.52	-3,158.09	281.25	3,165.13	0.00	0.00	0.00
10,100.00	89.96	181.07	7,296.59	-3,258.07	279.39	3,265.01	0.00	0.00	0.00
10,200.00	89.96	181.07	7,296.65	-3,358.06	277.53	3,364.89	0.00	0.00	0.00
10,300.00	89.96	181.07	7,296.72	-3,458.04	275.67	3,464.78	0.00	0.00	0.00
10,400.00	89.96	181.07	7,296.78	-3,558.02	273.81	3,564.66	0.00	0.00	0.00
10,500.00	89.96	181.07	7,296.85	-3,658.00	271.95	3,664.54	0.00	0.00	0.00
10,600.00	89.96	181.07	7,296.91	-3,757.99	270.09	3,764.42	0.00	0.00	0.00
10,700.00	89.96	181.07	7,296.98	-3,857.97	268.22	3,864.30	0.00	0.00	0.00
10,800.00	89.96	181.07	7,297.04	-3,957.95	266.36	3,964.18	0.00	0.00	0.00
10,900.00	89.96	181.07	7,297.11	-4,057.93	264.50	4,064.06	0.00	0.00	0.00
11,000.00	89.96	181.07	7,297.17	-4,157.92	262.64	4,163.94	0.00	0.00	0.00
11,100.00	89.96	181.07	7,297.24	-4,257.90	260.78	4,263.83	0.00	0.00	0.00
11,200.00	89.96	181.07	7,297.30	-4,357.88	258.92	4,363.71	0.00	0.00	0.00
11,300.00	89.96	181.07	7,297.37	-4,457.87	257.06	4,463.59	0.00	0.00	0.00
11,400.00	89.96	181.07	7,297.43	-4,557.85	255.20	4,563.47	0.00	0.00	0.00
11,500.00	89.96	181.07	7,297.50	-4,657.83	253.34	4,663.35	0.00	0.00	0.00
11,600.00	89.96	181.07	7,297.56	-4,757.81	251.48	4,763.23	0.00	0.00	0.00
11,700.00	89.96	181.07	7,297.63	-4,857.80	249.61	4,863.11	0.00	0.00	0.00
11,800.00	89.96	181.07	7,297.69	-4,957.78	247.75	4,962.99	0.00	0.00	0.00
11,900.00	89.96	181.07	7,297.76	-5,057.76	245.89	5,062.87	0.00	0.00	0.00
12,000.00	89.96	181.07	7,297.82	-5,157.74	244.03	5,162.76	0.00	0.00	0.00
12,100.00	89.96	181.07	7,297.89	-5,257.73	242.17	5,262.64	0.00	0.00	0.00
12,200.00	89.96	181.07	7,297.95	-5,357.71	240.31	5,362.52	0.00	0.00	0.00
12,300.00	89.96	181.07	7,298.02	-5,457.69	238.45	5,462.40	0.00	0.00	0.00
12,400.00	89.96	181.07	7,298.08	-5,557.67	236.59	5,562.28	0.00	0.00	0.00
12,500.00	89.96	181.07	7,298.15	-5,657.66	234.73	5,662.16	0.00	0.00	0.00
12,600.00	89.96	181.07	7,298.21	-5,757.64	232.87	5,762.04	0.00	0.00	0.00
12,700.00	89.96	181.07	7,298.28	-5,857.62	231.01	5,861.92	0.00	0.00	0.00
12,800.00	89.96	181.07	7,298.34	-5,957.61	229.14	5,961.81	0.00	0.00	0.00
12,900.00	89.96	181.07	7,298.41	-6,057.59	227.28	6,061.69	0.00	0.00	0.00
13,000.00	89.96	181.07	7,298.47	-6,157.57	225.42	6,161.57	0.00	0.00	0.00
13,100.00	89.96	181.07	7,298.54	-6,257.55	223.56	6,261.45	0.00	0.00	0.00
13,200.00	89.96	181.07	7,298.60	-6,357.54	221.70	6,361.33	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well DOVE 5N-13HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + GL @ 5016.00ft (Original Well Elev)
<b>Site:</b>	WELD_DOVE 4-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	DOVE 5N-13HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DOVE 5N-13HZ		
<b>Design:</b>	DOVE 5N-13HZ (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)
13,300.00	89.96	181.07	7,298.67	-6,457.52	219.84	6,461.21	0.00	0.00	0.00
13,400.00	89.96	181.07	7,298.73	-6,557.50	217.98	6,561.09	0.00	0.00	0.00
13,500.00	89.96	181.07	7,298.80	-6,657.48	216.12	6,660.97	0.00	0.00	0.00
13,600.00	89.96	181.07	7,298.86	-6,757.47	214.26	6,760.85	0.00	0.00	0.00
13,700.00	89.96	181.07	7,298.93	-6,857.45	212.40	6,860.74	0.00	0.00	0.00
13,800.00	89.96	181.07	7,298.99	-6,957.43	210.54	6,960.62	0.00	0.00	0.00
13,815.62	89.96	181.07	7,299.00	-6,973.05	210.24	6,976.22	0.00	0.00	0.00
TD at 13815.62 - DOVE 5N-13HZ BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
DOVE 5N-13HZ BHL	0.00	0.00	7,299.00	-6,973.05	210.24	1,294,639.15	3,214,716.16	40.139626	-104.731995
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,000.00	1,000.00	9 5/8"	9-5/8	13-1/2	
7,649.02	7,295.00	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
706.00	706.00	FOX HILLS		0.00	
3,379.83	3,369.00	PARKMAN		0.00	
4,428.04	4,407.00	SUSSEX		0.00	
7,124.60	7,071.00	SHARON SPRINGS		0.00	
7,222.22	7,143.00	NIOBRARA A		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	
2,400.00	2,398.70	-15.99	22.84	Start 2543.60 hold at 2400.00 MD	
4,943.60	4,917.55	-219.04	312.82	Start Drop -2.00	
5,343.60	5,316.25	-235.03	335.66	Start 1405.79 hold at 5343.60 MD	
6,749.39	6,722.04	-235.03	335.66	Start Build 10.00	
7,649.02	7,295.00	-807.52	325.00	Start 6166.60 hold at 7649.02 MD	
13,815.62	7,299.00	-6,973.05	210.24	TD at 13815.62	