

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_VONDERLAGE 14-31HZ**

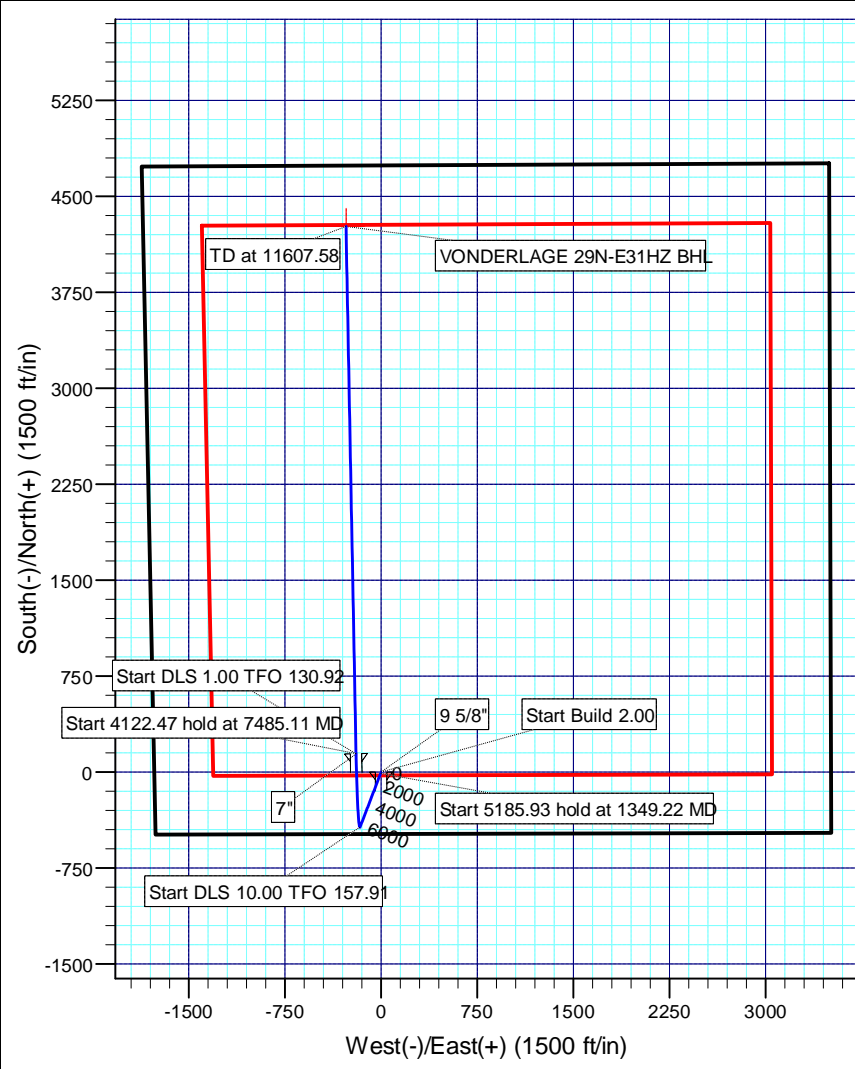
**VONDERLAGE 29N-E31HZ**

**VONDERLAGE 29N-E31HZ**

**Plan: VONDERLAGE 29N-E31HZ (wp01)**

## **Standard Planning Report**

**07 February, 2012**



PROJECT DETAILS: COLORADO NORTHERN ZONE - 83	
Site:	WELD_VONDERLAGE 14-31HZ
Well:	VONDERLAGE 29N-E31HZ
Wellbore:	VONDERLAGE 29N-E31HZ
Design:	VONDERLAGE 29N-E31HZ (wp01)
Latitude:	40.175335
Longitude:	-104.823165
GL:	4843.00
KB:	16' RKB + GL @ 4859.00ft



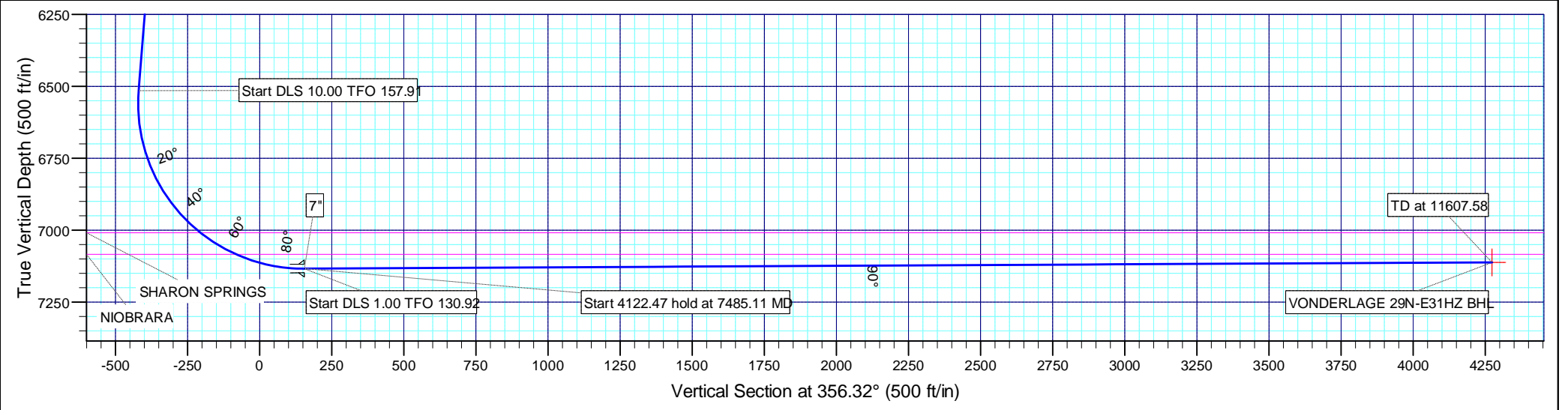
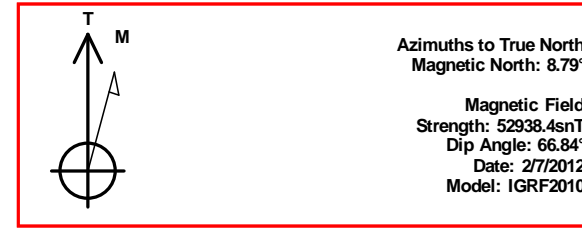
SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
3	1349.22	4.98	200.92	1348.91	-10.12	-3.87	2.00	200.92	-9.85	
4	6535.16	4.98	200.92	6515.23	-431.00	-164.75	0.00	0.00	-419.55	
5	7484.46	90.31	358.91	7134.00	142.70	-196.00	10.00	157.91	154.98	
6	7485.11	90.31	358.91	7134.00	143.35	-196.01	1.00	130.92	155.63	
7	11607.58	90.31	358.91	7112.00	4265.02	-274.08	0.00	0.00	4273.82	VONDERLAGE 29N-E31HZ BHL

DESIGN TARGET DETAILS						
Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape Point
VONDERLAGE 29N-E31HZ BHL	7112.00	4265.02	-274.08	40.187043	-104.824146	

WELL DETAILS: VONDERLAGE 29N-E31HZ						
Ground Level: 4843.00						
+N-S	+E-W	North	East	Latitude	Longitude	
0.00	0.00	1307439.22	3189128.41	40.175335	-104.823165	

CASING DETAILS				
TVD	MD	Name	Size	
850.00	850.00	9 5/8"	9-5/8	
7134.00	7484.46	7"	7	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3907.00	3917.02	PARKMAN
4262.00	4273.37	SUSSEX
7009.00	7095.52	SHARON SPRINGS
7084.00	7240.13	NIORARA



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well VONDERLAGE 29N-E31HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Site:</b>	WELD_VONDERLAGE 14-31HZ	<b>North Reference:</b>	True
<b>Well:</b>	VONDERLAGE 29N-E31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	VONDERLAGE 29N-E31HZ		
<b>Design:</b>	VONDERLAGE 29N-E31HZ (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_VONDERLAGE 14-31HZ			
<b>Site Position:</b>		<b>Northing:</b>	1,307,439.22 usft	<b>Latitude:</b> 40.175335
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,189,128.41 usft	<b>Longitude:</b> -104.823165
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.44 °

<b>Well</b>	VONDERLAGE 29N-E31HZ			
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,307,439.22 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,189,128.41 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 4,843.00 ft

<b>Wellbore</b>	VONDERLAGE 29N-E31HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/7/2012	8.79	66.84	52,938

<b>Design</b>	VONDERLAGE 29N-E31HZ (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	356.32

<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	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,349.22	4.98	200.92	1,348.91	-10.12	-3.87	2.00	2.00	0.00	200.92	
6,535.16	4.98	200.92	6,515.23	-431.00	-164.75	0.00	0.00	0.00	0.00	
7,484.46	90.31	358.91	7,134.00	142.70	-196.00	10.00	8.99	16.64	157.91	
7,485.11	90.31	358.91	7,134.00	143.35	-196.01	1.00	-0.66	0.76	130.92	
11,607.58	90.31	358.91	7,112.00	4,265.02	-274.08	0.00	0.00	0.00	0.00	VONDERLAGE 29N-I

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well VONDERLAGE 29N-E31HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Site:</b>	WELD_VONDERLAGE 14-31HZ	<b>North Reference:</b>	True
<b>Well:</b>	VONDERLAGE 29N-E31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	VONDERLAGE 29N-E31HZ		
<b>Design:</b>	VONDERLAGE 29N-E31HZ (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
850.00	0.00	0.00	850.00	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
Start Build 2.00									
1,200.00	2.00	200.92	1,199.98	-1.63	-0.62	-1.59	2.00	2.00	0.00
1,300.00	4.00	200.92	1,299.84	-6.52	-2.49	-6.35	2.00	2.00	0.00
1,349.22	4.98	200.92	1,348.91	-10.12	-3.87	-9.85	2.00	2.00	0.00
Start 5185.93 hold at 1349.22 MD									
1,400.00	4.98	200.92	1,399.49	-14.24	-5.44	-13.86	0.00	0.00	0.00
1,500.00	4.98	200.92	1,499.12	-22.36	-8.55	-21.76	0.00	0.00	0.00
1,600.00	4.98	200.92	1,598.74	-30.47	-11.65	-29.66	0.00	0.00	0.00
1,700.00	4.98	200.92	1,698.36	-38.59	-14.75	-37.56	0.00	0.00	0.00
1,800.00	4.98	200.92	1,797.98	-46.70	-17.85	-45.46	0.00	0.00	0.00
1,900.00	4.98	200.92	1,897.60	-54.82	-20.95	-53.36	0.00	0.00	0.00
2,000.00	4.98	200.92	1,997.22	-62.94	-24.06	-61.26	0.00	0.00	0.00
2,100.00	4.98	200.92	2,096.85	-71.05	-27.16	-69.16	0.00	0.00	0.00
2,200.00	4.98	200.92	2,196.47	-79.17	-30.26	-77.06	0.00	0.00	0.00
2,300.00	4.98	200.92	2,296.09	-87.28	-33.36	-84.96	0.00	0.00	0.00
2,400.00	4.98	200.92	2,395.71	-95.40	-36.47	-92.86	0.00	0.00	0.00
2,500.00	4.98	200.92	2,495.33	-103.52	-39.57	-100.77	0.00	0.00	0.00
2,600.00	4.98	200.92	2,594.96	-111.63	-42.67	-108.67	0.00	0.00	0.00
2,700.00	4.98	200.92	2,694.58	-119.75	-45.77	-116.57	0.00	0.00	0.00
2,800.00	4.98	200.92	2,794.20	-127.86	-48.87	-124.47	0.00	0.00	0.00
2,900.00	4.98	200.92	2,893.82	-135.98	-51.98	-132.37	0.00	0.00	0.00
3,000.00	4.98	200.92	2,993.44	-144.10	-55.08	-140.27	0.00	0.00	0.00
3,100.00	4.98	200.92	3,093.06	-152.21	-58.18	-148.17	0.00	0.00	0.00
3,200.00	4.98	200.92	3,192.69	-160.33	-61.28	-156.07	0.00	0.00	0.00
3,300.00	4.98	200.92	3,292.31	-168.44	-64.39	-163.97	0.00	0.00	0.00
3,400.00	4.98	200.92	3,391.93	-176.56	-67.49	-171.87	0.00	0.00	0.00
3,500.00	4.98	200.92	3,491.55	-184.67	-70.59	-179.77	0.00	0.00	0.00
3,600.00	4.98	200.92	3,591.17	-192.79	-73.69	-187.67	0.00	0.00	0.00
3,700.00	4.98	200.92	3,690.80	-200.91	-76.79	-195.57	0.00	0.00	0.00
3,800.00	4.98	200.92	3,790.42	-209.02	-79.90	-203.47	0.00	0.00	0.00
3,900.00	4.98	200.92	3,890.04	-217.14	-83.00	-211.37	0.00	0.00	0.00
3,917.03	4.98	200.92	3,907.00	-218.52	-83.53	-212.71	0.00	0.00	0.00
PARKMAN									
4,000.00	4.98	200.92	3,989.66	-225.25	-86.10	-219.27	0.00	0.00	0.00
4,100.00	4.98	200.92	4,089.28	-233.37	-89.20	-227.17	0.00	0.00	0.00
4,200.00	4.98	200.92	4,188.91	-241.49	-92.31	-235.07	0.00	0.00	0.00
4,273.37	4.98	200.92	4,262.00	-247.44	-94.58	-240.87	0.00	0.00	0.00
SUSSEX									
4,300.00	4.98	200.92	4,288.53	-249.60	-95.41	-242.97	0.00	0.00	0.00
4,400.00	4.98	200.92	4,388.15	-257.72	-98.51	-250.87	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well VONDERLAGE 29N-E31HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Site:</b>	WELD_VONDERLAGE 14-31HZ	<b>North Reference:</b>	True
<b>Well:</b>	VONDERLAGE 29N-E31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	VONDERLAGE 29N-E31HZ		
<b>Design:</b>	VONDERLAGE 29N-E31HZ (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	4.98	200.92	4,487.77	-265.83	-101.61	-258.77	0.00	0.00	0.00
4,600.00	4.98	200.92	4,587.39	-273.95	-104.71	-266.67	0.00	0.00	0.00
4,700.00	4.98	200.92	4,687.01	-282.07	-107.82	-274.57	0.00	0.00	0.00
4,800.00	4.98	200.92	4,786.64	-290.18	-110.92	-282.47	0.00	0.00	0.00
4,900.00	4.98	200.92	4,886.26	-298.30	-114.02	-290.37	0.00	0.00	0.00
5,000.00	4.98	200.92	4,985.88	-306.41	-117.12	-298.27	0.00	0.00	0.00
5,100.00	4.98	200.92	5,085.50	-314.53	-120.23	-306.17	0.00	0.00	0.00
5,200.00	4.98	200.92	5,185.12	-322.64	-123.33	-314.07	0.00	0.00	0.00
5,300.00	4.98	200.92	5,284.75	-330.76	-126.43	-321.97	0.00	0.00	0.00
5,400.00	4.98	200.92	5,384.37	-338.88	-129.53	-329.87	0.00	0.00	0.00
5,500.00	4.98	200.92	5,483.99	-346.99	-132.63	-337.77	0.00	0.00	0.00
5,600.00	4.98	200.92	5,583.61	-355.11	-135.74	-345.67	0.00	0.00	0.00
5,700.00	4.98	200.92	5,683.23	-363.22	-138.84	-353.57	0.00	0.00	0.00
5,800.00	4.98	200.92	5,782.85	-371.34	-141.94	-361.47	0.00	0.00	0.00
5,900.00	4.98	200.92	5,882.48	-379.46	-145.04	-369.37	0.00	0.00	0.00
6,000.00	4.98	200.92	5,982.10	-387.57	-148.14	-377.27	0.00	0.00	0.00
6,100.00	4.98	200.92	6,081.72	-395.69	-151.25	-385.17	0.00	0.00	0.00
6,200.00	4.98	200.92	6,181.34	-403.80	-154.35	-393.07	0.00	0.00	0.00
6,300.00	4.98	200.92	6,280.96	-411.92	-157.45	-400.97	0.00	0.00	0.00
6,400.00	4.98	200.92	6,380.59	-420.04	-160.55	-408.87	0.00	0.00	0.00
6,500.00	4.98	200.92	6,480.21	-428.15	-163.66	-416.77	0.00	0.00	0.00
6,535.16	4.98	200.92	6,515.23	-431.00	-164.75	-419.55	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 157.91</b>									
6,600.00	2.64	313.79	6,579.99	-432.60	-166.83	-421.01	10.00	-3.61	174.06
6,700.00	12.01	350.06	6,679.09	-420.73	-170.30	-408.94	10.00	9.37	36.27
6,800.00	21.94	354.24	6,774.62	-391.82	-173.98	-379.86	10.00	9.93	4.19
6,900.00	31.91	355.89	6,863.66	-346.76	-177.76	-334.64	10.00	9.97	1.65
7,000.00	41.90	356.81	6,943.53	-286.90	-181.52	-274.67	10.00	9.98	0.92
7,095.53	51.44	357.41	7,009.00	-217.58	-184.99	-205.27	10.00	9.99	0.62
<b>SHARON SPRINGS</b>									
7,100.00	51.89	357.43	7,011.78	-214.08	-185.15	-201.76	10.00	9.99	0.53
7,200.00	61.88	357.90	7,066.34	-130.49	-188.54	-118.13	10.00	9.99	0.47
7,240.13	65.89	358.06	7,084.00	-94.49	-189.81	-82.12	10.00	9.99	0.41
<b>NIOBRARA</b>									
7,300.00	71.87	358.29	7,105.56	-38.70	-191.59	-26.33	10.00	9.99	0.38
7,400.00	81.87	358.63	7,128.25	58.53	-194.20	70.87	10.00	9.99	0.35
7,484.46	90.31	358.91	7,134.00	142.70	-196.00	154.98	10.00	9.99	0.33
<b>Start DLS 1.00 TFO 130.92 - 7"</b>									
7,485.11	90.31	358.91	7,134.00	143.35	-196.01	155.63	1.00	-0.66	0.76
<b>Start 4122.47 hold at 7485.11 MD</b>									
7,500.00	90.31	358.91	7,133.92	158.24	-196.29	170.50	0.00	0.00	0.00
7,600.00	90.31	358.91	7,133.38	258.22	-198.19	270.40	0.00	0.00	0.00
7,700.00	90.31	358.91	7,132.85	358.20	-200.08	370.29	0.00	0.00	0.00
7,800.00	90.31	358.91	7,132.32	458.18	-201.98	470.19	0.00	0.00	0.00
7,900.00	90.31	358.91	7,131.78	558.16	-203.87	570.08	0.00	0.00	0.00
8,000.00	90.31	358.91	7,131.25	658.14	-205.76	669.98	0.00	0.00	0.00
8,100.00	90.31	358.91	7,130.72	758.12	-207.66	769.88	0.00	0.00	0.00
8,200.00	90.31	358.91	7,130.18	858.10	-209.55	869.77	0.00	0.00	0.00
8,300.00	90.31	358.91	7,129.65	958.08	-211.44	969.67	0.00	0.00	0.00
8,400.00	90.31	358.91	7,129.12	1,058.06	-213.34	1,069.57	0.00	0.00	0.00
8,500.00	90.31	358.91	7,128.58	1,158.04	-215.23	1,169.46	0.00	0.00	0.00
8,600.00	90.31	358.91	7,128.05	1,258.02	-217.12	1,269.36	0.00	0.00	0.00
8,700.00	90.31	358.91	7,127.51	1,358.01	-219.02	1,369.26	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well VONDERLAGE 29N-E31HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Site:</b>	WELD_VONDERLAGE 14-31HZ	<b>North Reference:</b>	True
<b>Well:</b>	VONDERLAGE 29N-E31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	VONDERLAGE 29N-E31HZ		
<b>Design:</b>	VONDERLAGE 29N-E31HZ (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)	
8,800.00	90.31	358.91	7,126.98	1,457.99	-220.91	1,469.15	0.00	0.00	0.00	
8,900.00	90.31	358.91	7,126.45	1,557.97	-222.81	1,569.05	0.00	0.00	0.00	
9,000.00	90.31	358.91	7,125.91	1,657.95	-224.70	1,668.94	0.00	0.00	0.00	
9,100.00	90.31	358.91	7,125.38	1,757.93	-226.59	1,768.84	0.00	0.00	0.00	
9,200.00	90.31	358.91	7,124.85	1,857.91	-228.49	1,868.74	0.00	0.00	0.00	
9,300.00	90.31	358.91	7,124.31	1,957.89	-230.38	1,968.63	0.00	0.00	0.00	
9,400.00	90.31	358.91	7,123.78	2,057.87	-232.27	2,068.53	0.00	0.00	0.00	
9,500.00	90.31	358.91	7,123.25	2,157.85	-234.17	2,168.43	0.00	0.00	0.00	
9,600.00	90.31	358.91	7,122.71	2,257.83	-236.06	2,268.32	0.00	0.00	0.00	
9,700.00	90.31	358.91	7,122.18	2,357.81	-237.95	2,368.22	0.00	0.00	0.00	
9,800.00	90.31	358.91	7,121.64	2,457.79	-239.85	2,468.11	0.00	0.00	0.00	
9,900.00	90.31	358.91	7,121.11	2,557.77	-241.74	2,568.01	0.00	0.00	0.00	
10,000.00	90.31	358.91	7,120.58	2,657.75	-243.64	2,667.91	0.00	0.00	0.00	
10,100.00	90.31	358.91	7,120.04	2,757.73	-245.53	2,767.80	0.00	0.00	0.00	
10,200.00	90.31	358.91	7,119.51	2,857.71	-247.42	2,867.70	0.00	0.00	0.00	
10,300.00	90.31	358.91	7,118.98	2,957.70	-249.32	2,967.60	0.00	0.00	0.00	
10,400.00	90.31	358.91	7,118.44	3,057.68	-251.21	3,067.49	0.00	0.00	0.00	
10,500.00	90.31	358.91	7,117.91	3,157.66	-253.10	3,167.39	0.00	0.00	0.00	
10,600.00	90.31	358.91	7,117.38	3,257.64	-255.00	3,267.28	0.00	0.00	0.00	
10,700.00	90.31	358.91	7,116.84	3,357.62	-256.89	3,367.18	0.00	0.00	0.00	
10,800.00	90.31	358.91	7,116.31	3,457.60	-258.78	3,467.08	0.00	0.00	0.00	
10,900.00	90.31	358.91	7,115.78	3,557.58	-260.68	3,566.97	0.00	0.00	0.00	
11,000.00	90.31	358.91	7,115.24	3,657.56	-262.57	3,666.87	0.00	0.00	0.00	
11,100.00	90.31	358.91	7,114.71	3,757.54	-264.47	3,766.77	0.00	0.00	0.00	
11,200.00	90.31	358.91	7,114.17	3,857.52	-266.36	3,866.66	0.00	0.00	0.00	
11,300.00	90.31	358.91	7,113.64	3,957.50	-268.25	3,966.56	0.00	0.00	0.00	
11,400.00	90.31	358.91	7,113.11	4,057.48	-270.15	4,066.45	0.00	0.00	0.00	
11,500.00	90.31	358.91	7,112.57	4,157.46	-272.04	4,166.35	0.00	0.00	0.00	
11,600.00	90.31	358.91	7,112.04	4,257.44	-273.93	4,266.25	0.00	0.00	0.00	
11,607.58	90.31	358.91	7,112.00	4,265.02	-274.08	4,273.82	0.00	0.00	0.00	
TD at 11607.58 - VONDERLAGE 29N-E31HZ BHL										

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									
VONDERLAGE 29N-E31	0.00	0.00	7,112.00	4,265.02	-274.08	1,311,702.02	3,188,821.79	40.187043	-104.824146
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
850.00	850.00	9 5/8"	9-5/8	13-1/2	
7,484.46	7,134.00	7"	7	8-3/4	

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well VONDERLAGE 29N-E31HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	16' RKB + GL @ 4859.00ft
<b>Site:</b>	WELD_VONDERLAGE 14-31HZ	<b>North Reference:</b>	True
<b>Well:</b>	VONDERLAGE 29N-E31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	VONDERLAGE 29N-E31HZ		
<b>Design:</b>	VONDERLAGE 29N-E31HZ (wp01)		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,917.03	3,907.00	PARKMAN		0.00	
4,273.37	4,262.00	SUSSEX		0.00	
7,095.53	7,009.00	SHARON SPRINGS		0.00	
7,240.13	7,084.00	NIOBRARA		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,100.00	1,100.00	0.00	0.00	Start Build 2.00	
1,349.22	1,348.91	-10.12	-3.87	Start 5185.93 hold at 1349.22 MD	
6,535.16	6,515.23	-431.00	-164.75	Start DLS 10.00 TFO 157.91	
7,484.46	7,134.00	142.70	-196.00	Start DLS 1.00 TFO 130.92	
7,485.11	7,134.00	143.35	-196.01	Start 4122.47 hold at 7485.11 MD	
11,607.58	7,112.00	4,265.02	-274.08	TD at 11607.58	