

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**CAMENISCH 19-2-9F pad**

**CAMENISCH 23-2**

**Camenisch 23-2**

**Plan: Camenisch 23-2 (wp01)**

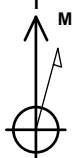
## **Standard Planning Report**

**26 September, 2011**

Project: COLORADO NORTHERN ZONE - 83  
Site: CAMENISCH 19-2-9F pad  
Well: CAMENISCH 23-2  
Wellbore: Camenisch 23-2  
Section:  
SHL:  
Design: Camenisch 23-2 (wp01)  
Latitude: 40.075531  
Longitude: -104.863677  
GL: 5032.00  
KB: 15' rkb + 5032' gl @ 5047.00ft

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4131.00	4306.58	PK
4591.00	4791.71	SX
7311.00	7561.18	NIO
7621.00	7871.18	CD
7709.00	7959.18	GH
8061.00	8311.18	J

CASING DETAILS
No casing data is available



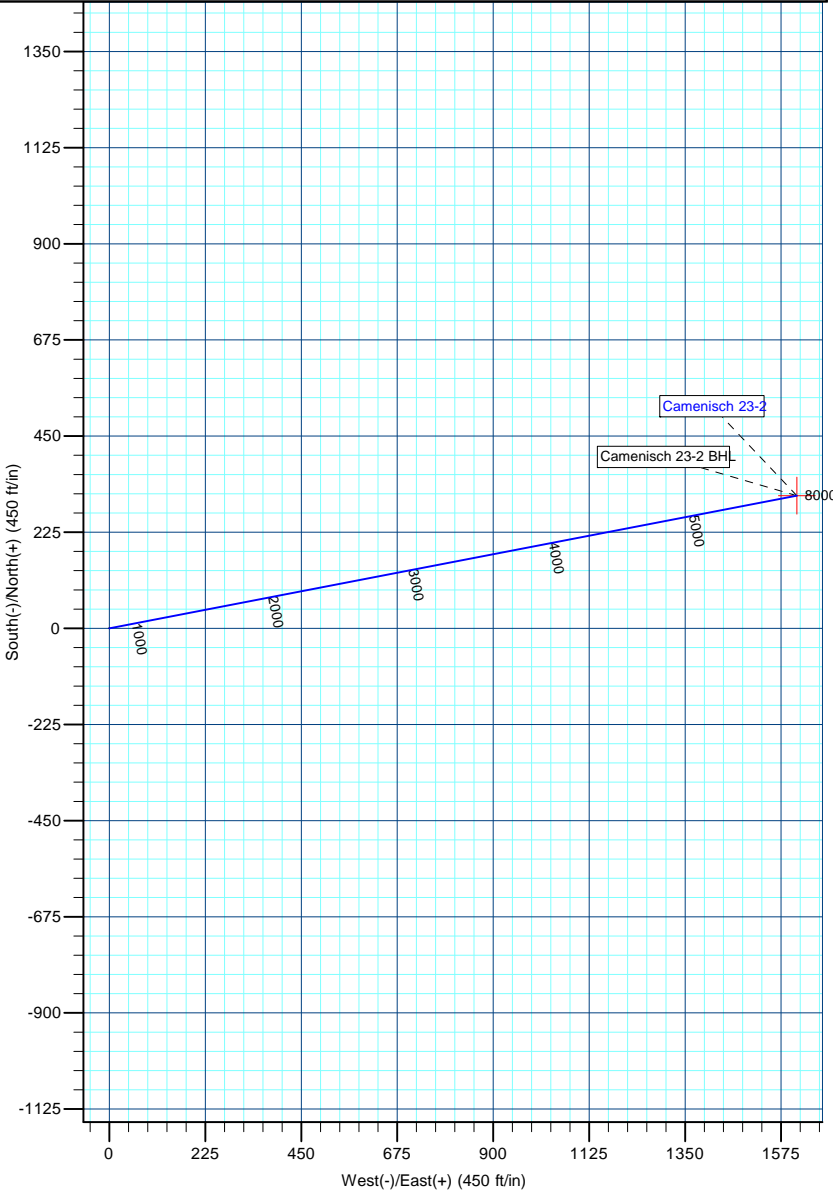
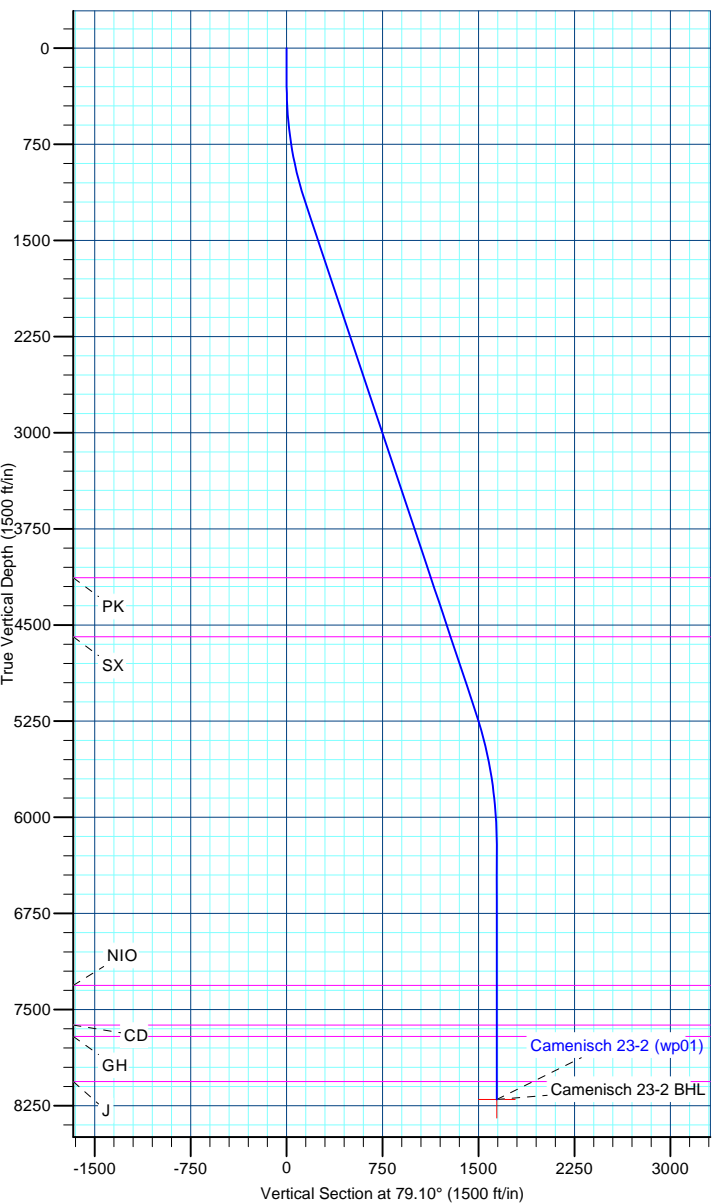
Azimuths to True North  
Magnetic North: 8.85°

Magnetic Field  
Strength: 52918.3snT  
Dip Angle: 66.76°  
Date: 9/26/2011  
Model: IGRF2010

WELL DETAILS: CAMENISCH 23-2						
+N/-S	+E/-W	Northing	Ground Level: Easting	5032.00 Latitude	Longitude	Slot
0.00	0.00	1270999.80	3178069.21	40.075531	-104.863677	

DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Camenisch 23-2 BHL	8201.00	310.43	1611.88	1271321.79	3179678.82	40.076383	-104.857917	

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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
1226.03	18.52	79.10	1209.99	28.06	145.69	2.00	79.10	148.37
5392.86	18.52	79.10	5161.02	278.36	1445.38	0.00	0.00	1471.94
6451.18	0.00	0.00	6201.00	310.43	1611.88	1.75	180.00	1641.50
8451.18	0.00	0.00	8201.00	310.43	1611.88	0.00	0.00	1641.50



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 23-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Site:</b>	CAMENISCH 19-2-9F pad	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 23-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 23-2		
<b>Design:</b>	Camenisch 23-2 (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>	CAMENISCH 19-2-9F pad			
<b>Site Position:</b>		<b>Northing:</b>	1,271,059.92 usft	<b>Latitude:</b> 40.075696
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,178,068.22 usft	<b>Longitude:</b> -104.863679
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.41 °

<b>Well</b>	CAMENISCH 23-2			
<b>Well Position</b>	<b>+N/-S</b>	-60.12 ft	<b>Northing:</b>	1,270,999.80 usft
	<b>+E/-W</b>	0.56 ft	<b>Easting:</b>	3,178,069.21 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 5,032.00 ft

<b>Wellbore</b>	Camenisch 23-2				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	9/26/2011	8.85	66.76	52,918

<b>Design</b>	Camenisch 23-2 (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	79.10

<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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,226.03	18.52	79.10	1,209.99	28.06	145.69	2.00	2.00	0.00	79.10	
5,392.86	18.52	79.10	5,161.02	278.36	1,445.38	0.00	0.00	0.00	0.00	
6,451.18	0.00	0.00	6,201.00	310.43	1,611.88	1.75	-1.75	0.00	180.00	
8,451.18	0.00	0.00	8,201.00	310.43	1,611.88	0.00	0.00	0.00	0.00	Camenisch 23-2 BHL

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 23-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Site:</b>	CAMENISCH 19-2-9F pad	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 23-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 23-2		
<b>Design:</b>	Camenisch 23-2 (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
Start Build 2.00									
400.00	2.00	79.10	399.98	0.33	1.71	1.75	2.00	2.00	0.00
500.00	4.00	79.10	499.84	1.32	6.85	6.98	2.00	2.00	0.00
600.00	6.00	79.10	599.45	2.97	15.41	15.69	2.00	2.00	0.00
700.00	8.00	79.10	698.70	5.27	27.38	27.88	2.00	2.00	0.00
800.00	10.00	79.10	797.47	8.23	42.74	43.52	2.00	2.00	0.00
900.00	12.00	79.10	895.62	11.84	61.47	62.60	2.00	2.00	0.00
1,000.00	14.00	79.10	993.06	16.09	83.56	85.10	2.00	2.00	0.00
1,100.00	16.00	79.10	1,089.64	20.99	108.97	110.98	2.00	2.00	0.00
1,200.00	18.00	79.10	1,185.27	26.52	137.68	140.21	2.00	2.00	0.00
1,226.03	18.52	79.10	1,209.99	28.06	145.69	148.37	2.00	2.00	0.00
Start 4166.83 hold at 1226.03 MD									
1,300.00	18.52	79.10	1,280.13	32.50	168.76	171.86	0.00	0.00	0.00
1,400.00	18.52	79.10	1,374.95	38.51	199.95	203.63	0.00	0.00	0.00
1,500.00	18.52	79.10	1,469.77	44.52	231.15	235.39	0.00	0.00	0.00
1,600.00	18.52	79.10	1,564.59	50.52	262.34	267.16	0.00	0.00	0.00
1,700.00	18.52	79.10	1,659.41	56.53	293.53	298.92	0.00	0.00	0.00
1,800.00	18.52	79.10	1,754.23	62.54	324.72	330.69	0.00	0.00	0.00
1,900.00	18.52	79.10	1,849.05	68.54	355.91	362.45	0.00	0.00	0.00
2,000.00	18.52	79.10	1,943.87	74.55	387.10	394.22	0.00	0.00	0.00
2,100.00	18.52	79.10	2,038.69	80.56	418.29	425.98	0.00	0.00	0.00
2,200.00	18.52	79.10	2,133.52	86.57	449.48	457.74	0.00	0.00	0.00
2,300.00	18.52	79.10	2,228.34	92.57	480.68	489.51	0.00	0.00	0.00
2,400.00	18.52	79.10	2,323.16	98.58	511.87	521.27	0.00	0.00	0.00
2,500.00	18.52	79.10	2,417.98	104.59	543.06	553.04	0.00	0.00	0.00
2,600.00	18.52	79.10	2,512.80	110.59	574.25	584.80	0.00	0.00	0.00
2,700.00	18.52	79.10	2,607.62	116.60	605.44	616.57	0.00	0.00	0.00
2,800.00	18.52	79.10	2,702.44	122.61	636.63	648.33	0.00	0.00	0.00
2,900.00	18.52	79.10	2,797.26	128.62	667.82	680.10	0.00	0.00	0.00
3,000.00	18.52	79.10	2,892.08	134.62	699.01	711.86	0.00	0.00	0.00
3,100.00	18.52	79.10	2,986.90	140.63	730.21	743.62	0.00	0.00	0.00
3,200.00	18.52	79.10	3,081.73	146.64	761.40	775.39	0.00	0.00	0.00
3,300.00	18.52	79.10	3,176.55	152.64	792.59	807.15	0.00	0.00	0.00
3,400.00	18.52	79.10	3,271.37	158.65	823.78	838.92	0.00	0.00	0.00
3,500.00	18.52	79.10	3,366.19	164.66	854.97	870.68	0.00	0.00	0.00
3,600.00	18.52	79.10	3,461.01	170.66	886.16	902.45	0.00	0.00	0.00
3,700.00	18.52	79.10	3,555.83	176.67	917.35	934.21	0.00	0.00	0.00
3,800.00	18.52	79.10	3,650.65	182.68	948.54	965.98	0.00	0.00	0.00
3,900.00	18.52	79.10	3,745.47	188.69	979.74	997.74	0.00	0.00	0.00
4,000.00	18.52	79.10	3,840.29	194.69	1,010.93	1,029.50	0.00	0.00	0.00
4,100.00	18.52	79.10	3,935.11	200.70	1,042.12	1,061.27	0.00	0.00	0.00
4,200.00	18.52	79.10	4,029.94	206.71	1,073.31	1,093.03	0.00	0.00	0.00
4,300.00	18.52	79.10	4,124.76	212.71	1,104.50	1,124.80	0.00	0.00	0.00
4,306.58	18.52	79.10	4,131.00	213.11	1,106.55	1,126.89	0.00	0.00	0.00
PK									
4,400.00	18.52	79.10	4,219.58	218.72	1,135.69	1,156.56	0.00	0.00	0.00
4,500.00	18.52	79.10	4,314.40	224.73	1,166.88	1,188.33	0.00	0.00	0.00
4,600.00	18.52	79.10	4,409.22	230.74	1,198.07	1,220.09	0.00	0.00	0.00
4,700.00	18.52	79.10	4,504.04	236.74	1,229.27	1,251.86	0.00	0.00	0.00

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 23-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Site:</b>	CAMENISCH 19-2-9F pad	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 23-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 23-2		
<b>Design:</b>	Camenisch 23-2 (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)	
4,791.71	18.52	79.10	4,591.00	242.25	1,257.87	1,280.99	0.00	0.00	0.00	
<b>SX</b>										
4,800.00	18.52	79.10	4,598.86	242.75	1,260.46	1,283.62	0.00	0.00	0.00	
4,900.00	18.52	79.10	4,693.68	248.76	1,291.65	1,315.38	0.00	0.00	0.00	
5,000.00	18.52	79.10	4,788.50	254.76	1,322.84	1,347.15	0.00	0.00	0.00	
5,100.00	18.52	79.10	4,883.32	260.77	1,354.03	1,378.91	0.00	0.00	0.00	
5,200.00	18.52	79.10	4,978.15	266.78	1,385.22	1,410.68	0.00	0.00	0.00	
5,300.00	18.52	79.10	5,072.97	272.78	1,416.41	1,442.44	0.00	0.00	0.00	
5,392.86	18.52	79.10	5,161.02	278.36	1,445.38	1,471.94	0.00	0.00	0.00	
<b>Start Drop -1.75</b>										
5,400.00	18.40	79.10	5,167.79	278.79	1,447.60	1,474.20	1.75	-1.75	0.00	
5,500.00	16.65	79.10	5,263.15	284.48	1,477.16	1,504.30	1.75	-1.75	0.00	
5,600.00	14.90	79.10	5,359.38	289.62	1,503.84	1,531.48	1.75	-1.75	0.00	
5,700.00	13.15	79.10	5,456.40	294.20	1,527.63	1,555.71	1.75	-1.75	0.00	
5,800.00	11.40	79.10	5,554.11	298.22	1,548.50	1,576.96	1.75	-1.75	0.00	
5,900.00	9.65	79.10	5,652.42	301.68	1,566.43	1,595.22	1.75	-1.75	0.00	
6,000.00	7.90	79.10	5,751.25	304.56	1,581.40	1,610.46	1.75	-1.75	0.00	
6,100.00	6.15	79.10	5,850.50	306.87	1,593.40	1,622.69	1.75	-1.75	0.00	
6,200.00	4.40	79.10	5,950.07	308.61	1,602.42	1,631.87	1.75	-1.75	0.00	
6,300.00	2.65	79.10	6,049.88	309.77	1,608.45	1,638.01	1.75	-1.75	0.00	
6,400.00	0.90	79.10	6,149.83	310.35	1,611.49	1,641.10	1.75	-1.75	0.00	
6,451.18	0.00	0.00	6,201.00	310.43	1,611.88	1,641.50	1.75	-1.75	0.00	
<b>Start 2000.00 hold at 6451.18 MD</b>										
6,500.00	0.00	0.00	6,249.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,349.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,449.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,549.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,649.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,749.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,849.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,949.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,049.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,149.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,249.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,561.18	0.00	0.00	7,311.00	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
<b>NIO</b>										
7,600.00	0.00	0.00	7,349.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,449.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,549.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,871.18	0.00	0.00	7,621.00	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
<b>CD</b>										
7,900.00	0.00	0.00	7,649.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
7,959.18	0.00	0.00	7,709.00	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
<b>GH</b>										
8,000.00	0.00	0.00	7,749.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,849.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
8,200.00	0.00	0.00	7,949.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,049.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
8,311.18	0.00	0.00	8,061.00	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
<b>J</b>										
8,400.00	0.00	0.00	8,149.82	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
8,451.18	0.00	0.00	8,201.00	310.43	1,611.88	1,641.50	0.00	0.00	0.00	
<b>TD at 8451.18 - Camenisch 23-2 BHL</b>										

# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 23-2
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5032' gl @ 5047.00ft
<b>Site:</b>	CAMENISCH 19-2-9F pad	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 23-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 23-2		
<b>Design:</b>	Camenisch 23-2 (wp01)		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Camenisch 23-2 BHL	0.00	0.00	8,201.00	310.43	1,611.88	1,271,321.79	3,179,678.82	40.076383	-104.857917
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
4,306.58	4,131.00	PK				
4,791.71	4,591.00	SX				
7,561.18	7,311.00	NIO				
7,871.18	7,621.00	CD				
7,959.18	7,709.00	GH				
8,311.18	8,061.00	J				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,226.03	1,209.99	28.06	145.69	Start 4166.83 hold at 1226.03 MD
5,392.86	5,161.02	278.36	1,445.38	Start Drop -1.75
6,451.18	6,201.00	310.43	1,611.88	Start 2000.00 hold at 6451.18 MD
8,451.18	8,201.00	310.43	1,611.88	TD at 8451.18