

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

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

**Camenisch 32-2**

**Camenisch 32-2**

**Plan: Camenisch 32-2 (wp01)**

## **Standard Planning Report**

**26 September, 2011**

Project: COLORADO NORTHERN ZONE - 83  
Site: CAMENISCH 19-2-9F pad  
Well: Camenisch 32-2  
Wellbore: Camenisch 32-2  
Section:  
SHL:  
Design: Camenisch 32-2 (wp01)  
Latitude: 40.075490  
Longitude: -104.863677  
GL: 5032.00  
KB: 15' rkb + 5032' gl @ 5047.00ft

TVDPath	MDPath	Formation
4131.00	4326.16	PK
4591.00	4814.40	SX
7311.00	7618.22	NIO
7621.00	7928.22	CD
7709.00	8016.22	GH
8061.00	8368.22	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 32-2

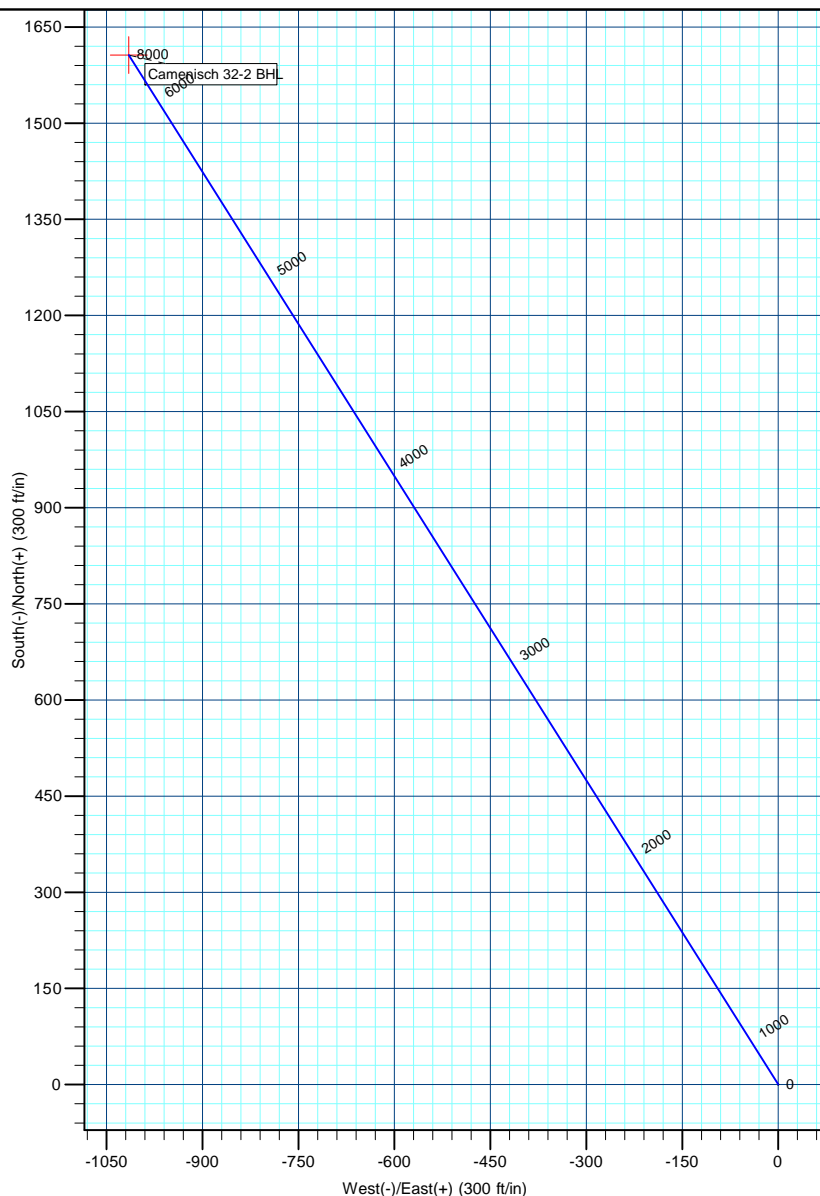
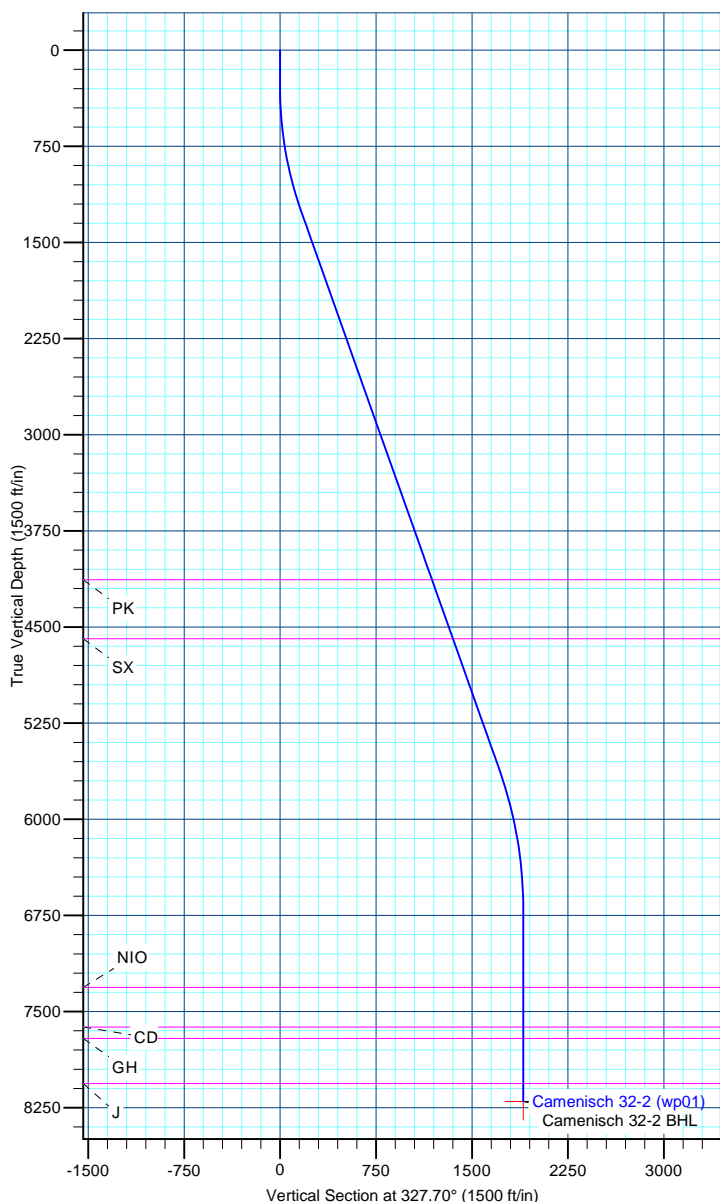
+N/-S	+E/-W	Northing	Ground Level: Easting	5032.00 Latitude	Longitude	Slot
0.00	0.00	1270984.87	3178069.31	40.075490	-104.863677	

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Camenisch 32-2 BHL	8201.00	1606.14	-1015.21	1272583.67	3177042.61	40.079899	-104.867305	

#### 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
1279.05	19.58	327.70	1260.10	140.04	-88.52	2.00	327.70	165.67
5889.30	19.58	327.70	5603.74	1446.09	-914.04	0.00	0.00	1710.74
7008.22	0.00	0.00	6701.00	1606.14	-1015.21	1.75	180.00	1900.09
8508.22	0.00	0.00	8201.00	1606.14	-1015.21	0.00	0.00	1900.09



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Camenisch 32-2
<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 32-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 32-2		
<b>Design:</b>	Camenisch 32-2 (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		

Site		CAMENISCH 19-2-9F pad			
Site Position:		Northing:	1,271,059.92 usft	Latitude:	40.075696
From:	Lat/Long	Easting:	3,178,068.22 usft	Longitude:	-104.863679
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well	Camenisch 32-2					
Well Position	+N/-S	-75.06 ft	Northing:	1,270,984.86 usft	Latitude:	40.075490
	+E/-W	0.56 ft	Easting:	3,178,069.32 usft	Longitude:	-104.863677
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,032.00 ft

<b>Wellbore</b>	Camenisch 32-2				
<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 32-2 (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	327.70

<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	
1,279.05	19.58	327.70	1,260.10	140.04	-88.52	2.00	2.00	0.00	327.70	
5,889.30	19.58	327.70	5,603.74	1,446.09	-914.04	0.00	0.00	0.00	0.00	
7,008.22	0.00	0.00	6,701.00	1,606.14	-1,015.21	1.75	-1.75	0.00	180.00	
8,508.22	0.00	0.00	8,201.00	1,606.14	-1,015.21	0.00	0.00	0.00	0.00	Camenisch 32-2 BHL

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## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Camenisch 32-2
<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 32-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 32-2		
<b>Design:</b>	Camenisch 32-2 (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	327.70	399.98	1.48	-0.93	1.75	2.00	2.00	0.00
500.00	4.00	327.70	499.84	5.90	-3.73	6.98	2.00	2.00	0.00
600.00	6.00	327.70	599.45	13.27	-8.39	15.69	2.00	2.00	0.00
700.00	8.00	327.70	698.70	23.57	-14.90	27.88	2.00	2.00	0.00
800.00	10.00	327.70	797.47	36.79	-23.25	43.52	2.00	2.00	0.00
900.00	12.00	327.70	895.62	52.92	-33.45	62.60	2.00	2.00	0.00
1,000.00	14.00	327.70	993.06	71.93	-45.47	85.10	2.00	2.00	0.00
1,100.00	16.00	327.70	1,089.64	93.81	-59.29	110.98	2.00	2.00	0.00
1,200.00	18.00	327.70	1,185.27	118.52	-74.91	140.21	2.00	2.00	0.00
1,279.05	19.58	327.70	1,260.10	140.04	-88.52	165.67	2.00	2.00	0.00
Start 4610.26 hold at 1279.05 MD									
1,300.00	19.58	327.70	1,279.84	145.98	-92.27	172.70	0.00	0.00	0.00
1,400.00	19.58	327.70	1,374.06	174.31	-110.18	206.21	0.00	0.00	0.00
1,500.00	19.58	327.70	1,468.28	202.64	-128.08	239.72	0.00	0.00	0.00
1,600.00	19.58	327.70	1,562.49	230.97	-145.99	273.24	0.00	0.00	0.00
1,700.00	19.58	327.70	1,656.71	259.30	-163.90	306.75	0.00	0.00	0.00
1,800.00	19.58	327.70	1,750.93	287.62	-181.80	340.26	0.00	0.00	0.00
1,900.00	19.58	327.70	1,845.14	315.95	-199.71	373.78	0.00	0.00	0.00
2,000.00	19.58	327.70	1,939.36	344.28	-217.61	407.29	0.00	0.00	0.00
2,100.00	19.58	327.70	2,033.58	372.61	-235.52	440.81	0.00	0.00	0.00
2,200.00	19.58	327.70	2,127.79	400.94	-253.43	474.32	0.00	0.00	0.00
2,300.00	19.58	327.70	2,222.01	429.27	-271.33	507.83	0.00	0.00	0.00
2,400.00	19.58	327.70	2,316.23	457.60	-289.24	541.35	0.00	0.00	0.00
2,500.00	19.58	327.70	2,410.44	485.93	-307.15	574.86	0.00	0.00	0.00
2,600.00	19.58	327.70	2,504.66	514.26	-325.05	608.37	0.00	0.00	0.00
2,700.00	19.58	327.70	2,598.88	542.59	-342.96	641.89	0.00	0.00	0.00
2,800.00	19.58	327.70	2,693.10	570.92	-360.86	675.40	0.00	0.00	0.00
2,900.00	19.58	327.70	2,787.31	599.24	-378.77	708.92	0.00	0.00	0.00
3,000.00	19.58	327.70	2,881.53	627.57	-396.68	742.43	0.00	0.00	0.00
3,100.00	19.58	327.70	2,975.75	655.90	-414.58	775.94	0.00	0.00	0.00
3,200.00	19.58	327.70	3,069.96	684.23	-432.49	809.46	0.00	0.00	0.00
3,300.00	19.58	327.70	3,164.18	712.56	-450.40	842.97	0.00	0.00	0.00
3,400.00	19.58	327.70	3,258.40	740.89	-468.30	876.48	0.00	0.00	0.00
3,500.00	19.58	327.70	3,352.61	769.22	-486.21	910.00	0.00	0.00	0.00
3,600.00	19.58	327.70	3,446.83	797.55	-504.11	943.51	0.00	0.00	0.00
3,700.00	19.58	327.70	3,541.05	825.88	-522.02	977.03	0.00	0.00	0.00
3,800.00	19.58	327.70	3,635.26	854.21	-539.93	1,010.54	0.00	0.00	0.00
3,900.00	19.58	327.70	3,729.48	882.54	-557.83	1,044.05	0.00	0.00	0.00
4,000.00	19.58	327.70	3,823.70	910.87	-575.74	1,077.57	0.00	0.00	0.00
4,100.00	19.58	327.70	3,917.92	939.19	-593.65	1,111.08	0.00	0.00	0.00
4,200.00	19.58	327.70	4,012.13	967.52	-611.55	1,144.60	0.00	0.00	0.00
4,300.00	19.58	327.70	4,106.35	995.85	-629.46	1,178.11	0.00	0.00	0.00
4,326.16	19.58	327.70	4,131.00	1,003.26	-634.14	1,186.88	0.00	0.00	0.00
PK									
4,400.00	19.58	327.70	4,200.57	1,024.18	-647.37	1,211.62	0.00	0.00	0.00
4,500.00	19.58	327.70	4,294.78	1,052.51	-665.27	1,245.14	0.00	0.00	0.00
4,600.00	19.58	327.70	4,389.00	1,080.84	-683.18	1,278.65	0.00	0.00	0.00
4,700.00	19.58	327.70	4,483.22	1,109.17	-701.08	1,312.16	0.00	0.00	0.00

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## Planning Report

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<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 32-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 32-2		
<b>Design:</b>	Camenisch 32-2 (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)
4,800.00	19.58	327.70	4,577.43	1,137.50	-718.99	1,345.68	0.00	0.00	0.00
4,814.40	19.58	327.70	4,591.00	1,141.58	-721.57	1,350.50	0.00	0.00	0.00
<b>SX</b>									
4,900.00	19.58	327.70	4,671.65	1,165.83	-736.90	1,379.19	0.00	0.00	0.00
5,000.00	19.58	327.70	4,765.87	1,194.16	-754.80	1,412.71	0.00	0.00	0.00
5,100.00	19.58	327.70	4,860.08	1,222.49	-772.71	1,446.22	0.00	0.00	0.00
5,200.00	19.58	327.70	4,954.30	1,250.81	-790.62	1,479.73	0.00	0.00	0.00
5,300.00	19.58	327.70	5,048.52	1,279.14	-808.52	1,513.25	0.00	0.00	0.00
5,400.00	19.58	327.70	5,142.73	1,307.47	-826.43	1,546.76	0.00	0.00	0.00
5,500.00	19.58	327.70	5,236.95	1,335.80	-844.33	1,580.27	0.00	0.00	0.00
5,600.00	19.58	327.70	5,331.17	1,364.13	-862.24	1,613.79	0.00	0.00	0.00
5,700.00	19.58	327.70	5,425.39	1,392.46	-880.15	1,647.30	0.00	0.00	0.00
5,800.00	19.58	327.70	5,519.60	1,420.79	-898.05	1,680.82	0.00	0.00	0.00
5,889.30	19.58	327.70	5,603.74	1,446.09	-914.04	1,710.74	0.00	0.00	0.00
<b>Start Drop -1.75</b>									
5,900.00	19.39	327.70	5,613.83	1,449.10	-915.95	1,714.31	1.75	-1.75	0.00
6,000.00	17.64	327.70	5,708.64	1,475.95	-932.92	1,746.07	1.75	-1.75	0.00
6,100.00	15.89	327.70	5,804.39	1,500.34	-948.33	1,774.92	1.75	-1.75	0.00
6,200.00	14.14	327.70	5,900.97	1,522.24	-962.18	1,800.84	1.75	-1.75	0.00
6,300.00	12.39	327.70	5,998.29	1,541.64	-974.44	1,823.79	1.75	-1.75	0.00
6,400.00	10.64	327.70	6,096.28	1,558.52	-985.11	1,843.75	1.75	-1.75	0.00
6,500.00	8.89	327.70	6,194.82	1,572.86	-994.18	1,860.72	1.75	-1.75	0.00
6,600.00	7.14	327.70	6,293.84	1,584.65	-1,001.63	1,874.67	1.75	-1.75	0.00
6,700.00	5.39	327.70	6,393.24	1,593.88	-1,007.46	1,885.59	1.75	-1.75	0.00
6,800.00	3.64	327.70	6,492.92	1,600.54	-1,011.67	1,893.47	1.75	-1.75	0.00
6,900.00	1.89	327.70	6,592.80	1,604.63	-1,014.25	1,898.30	1.75	-1.75	0.00
7,000.00	0.14	327.70	6,692.78	1,606.13	-1,015.20	1,900.08	1.75	-1.75	0.00
7,008.22	0.00	0.00	6,701.00	1,606.14	-1,015.21	1,900.09	1.75	-1.75	0.00
<b>Start 1500.00 hold at 7008.22 MD</b>									
7,100.00	0.00	0.00	6,792.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,200.00	0.00	0.00	6,892.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,300.00	0.00	0.00	6,992.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,400.00	0.00	0.00	7,092.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,500.00	0.00	0.00	7,192.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,600.00	0.00	0.00	7,292.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,618.22	0.00	0.00	7,311.00	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
<b>NIO</b>									
7,700.00	0.00	0.00	7,392.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,800.00	0.00	0.00	7,492.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,900.00	0.00	0.00	7,592.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
7,928.22	0.00	0.00	7,621.00	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
<b>CD</b>									
8,000.00	0.00	0.00	7,692.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
8,016.22	0.00	0.00	7,709.00	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
<b>GH</b>									
8,100.00	0.00	0.00	7,792.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
8,200.00	0.00	0.00	7,892.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
8,300.00	0.00	0.00	7,992.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
8,368.22	0.00	0.00	8,061.00	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
<b>J</b>									
8,400.00	0.00	0.00	8,092.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
8,500.00	0.00	0.00	8,192.78	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00
8,508.22	0.00	0.00	8,201.00	1,606.14	-1,015.21	1,900.09	0.00	0.00	0.00

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## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Camenisch 32-2
<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 32-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Camenisch 32-2		
<b>Design:</b>	Camenisch 32-2 (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)
TD at 8508.22 - Camenisch 32-2 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									
Camenisch 32-2 BHL	0.00	0.00	8,201.00	1,606.14	-1,015.21	1,272,583.67	3,177,042.61	40.079899	-104.867305
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,326.16	4,131.00	PK				
4,814.40	4,591.00	SX				
7,618.22	7,311.00	NIO				
7,928.22	7,621.00	CD				
8,016.22	7,709.00	GH				
8,368.22	8,061.00	J				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,279.05	1,260.10	140.04	-88.52	Start 4610.26 hold at 1279.05 MD
5,889.30	5,603.74	1,446.09	-914.04	Start Drop -1.75
7,008.22	6,701.00	1,606.14	-1,015.21	Start 1500.00 hold at 7008.22 MD
8,508.22	8,201.00	1,606.14	-1,015.21	TD at 8508.22