

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**4N-67W-33 CAMENISCH 10-33HZ PAD**

**CAMENISCH 33-2HZ**

**Plan B**

**Plan: Permit Rev-1**

## **Standard Planning Report**

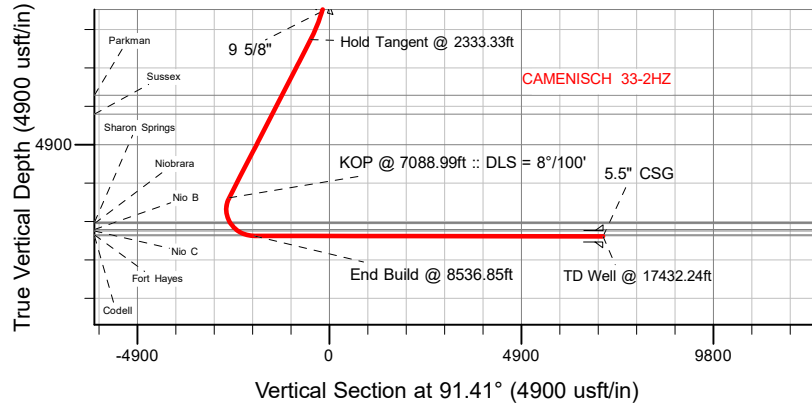
**06 February, 2024**

Project: WELD-NAD83-UTMFT13N  
Site: 4N-67W-33 CAMENISCH 10-33HZ PAD  
Well: CAMENISCH 33-2HZ  
Wellbore: Plan B  
Design: Permit Rev-1

# US ROCKIES WATTENBERG PLANNING

## CASING DETAILS

TVD	MD	Name	Size
1500.00	1526.50	9 5/8"	9-5/8
7244.00	17432.24	5.5" CSG	5-1/2



## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	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	
2333.33	32.00	237.00	2224.14	-316.12	-486.78	1.50	237.00	-478.85	
7088.99	32.00	237.00	6257.17	-1688.67	-2600.32	0.00	0.00	-2557.98	
8536.85	89.90	91.41	7228.00	-2046.39	-1966.00	8.00	-141.11	-1915.05	
17432.24	89.90	91.41	7244.00	-2264.61	6926.69	0.00	0.00	6980.32	CAMENISCH 33-2HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

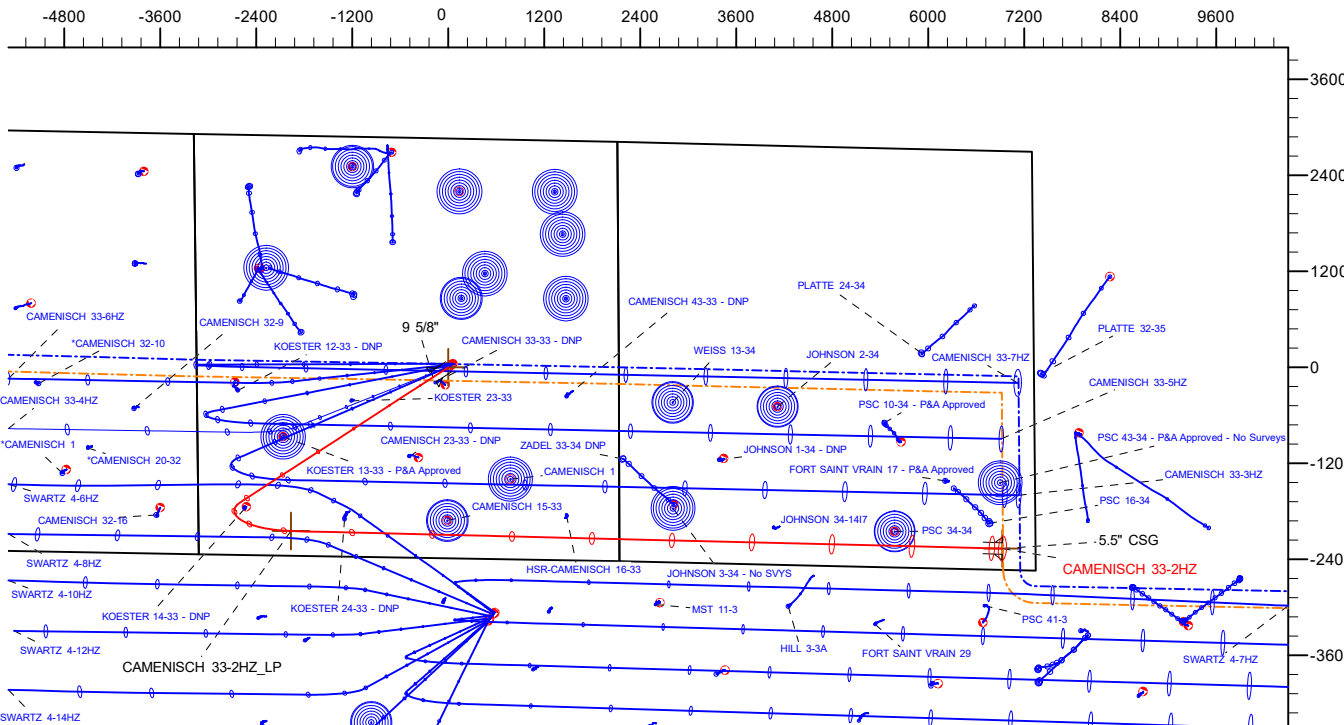
Name	TVD	Northing	Easting	Latitude	Longitude
CAMENISCH 33-2HZ_SHL	0.00	14624606.30	1670071.60	40.268723	-104.893691
CAMENISCH 33-2HZ_LP	7228.00	14622557.55	1668108.06	40.263103	-104.900738
CAMENISCH 33-2HZ_BHL	7244.00	14622350.00	1677001.00	40.262501	-104.868862

SHL  
2388' FSL  
2132 FEL

LP  
308' FSL  
1155 FWL

BHL  
266' FSL  
415' FEL

## West(-)/East(+) (2400 usft/in)



## WELL DETAILS: CAMENISCH 33-2HZ

GL = 4870'

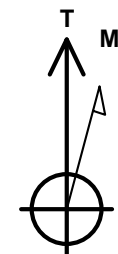
RKB = 17" @ 4887.00usft (RIG)

Plan: Permit Rev-1 (CAMENISCH 33-2HZ/Plan B)

Date: 2/6/2024

## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
752.00	753.94	Fox Hills
3643.00	4006.42	Parkman
4125.00	4574.78	Sussex
6886.00	7782.97	Sharon Springs
6916.00	7820.11	Niobrara
7068.00	8034.95	Nio B
7100.00	8090.01	Nio C
7202.00	8338.85	Fort Hayes
7223.00	8451.02	Codell



Azimuths to True North  
Magnetic North: 7.63°

Magnetic Field  
Strength: 51592.5nT  
Dip Angle: 66.42°  
Date: 2/6/2024  
Model: IGRF2020

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Site:</b>	4N-67W-33 CAMENISCH 10-33HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 33-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

<b>Project</b>	WELD-NAD83-UTMFT13N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

Site		4N-67W-33 CAMENISCH 10-33HZ PAD				
Site Position:		Northing:	14,624,597.34	usft	Latitude:	40.268698
From:	Map	Easting:	1,670,059.57	usft	Longitude:	-104.893734
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well		CAMENISCH 33-2HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,624,606.30 usft	Latitude:	40.268723
	+E/-W	0.00 usft	Easting:	1,670,071.60 usft	Longitude:	-104.893691
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,870.00 usft
Grid Convergence:		0.07 °				

<b>Wellbore</b>	Plan B				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF202013	2/6/2024	7.63	66.42	51,592.45930356

<b>Design</b>	Permit Rev-1				
<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	91.41	

<b>Plan Survey Tool Program</b>	<b>Date</b>	2/6/2024			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	2,000.00	Permit Rev-1 (Plan B)	APC_ISCWSA REV 2 MWD+I	Fixed:v2:crustal field declinatio
2	2,000.00	17,432.24	Permit Rev-1 (Plan B)	APC_ISCWSA REV 2 MWD+I	Fixed:v2:Rockies, crustal dec +

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4887.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4887.00usft (RIG)
Site:	4N-67W-33 CAMENISCH 10-33HZ PAD	North Reference:	True
Well:	CAMENISCH 33-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,333.33	32.00	237.00	2,224.14	-316.12	-486.78	1.50	1.50	0.00	237.00	
7,088.99	32.00	237.00	6,257.17	-1,688.67	-2,600.32	0.00	0.00	0.00	0.00	
8,536.85	89.90	91.41	7,228.00	-2,046.39	-1,966.00	8.00	4.00	-10.06	-141.11	
17,432.24	89.90	91.41	7,244.00	-2,264.61	6,926.69	0.00	0.00	0.00	0.00	CAMENISCH 33-2HZ

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Site:</b>	4N-67W-33 CAMENISCH 10-33HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 33-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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
Begin Nudge @ 200.00ft									
300.00	1.50	237.00	299.99	-0.71	-1.10	-1.08	1.50	1.50	0.00
400.00	3.00	237.00	399.91	-2.85	-4.39	-4.32	1.50	1.50	0.00
500.00	4.50	237.00	499.69	-6.41	-9.88	-9.71	1.50	1.50	0.00
600.00	6.00	237.00	599.27	-11.40	-17.55	-17.26	1.50	1.50	0.00
700.00	7.50	237.00	698.57	-17.80	-27.41	-26.96	1.50	1.50	0.00
753.94	8.31	237.00	752.00	-21.84	-33.63	-33.08	1.50	1.50	0.00
Fox Hills									
800.00	9.00	237.00	797.54	-25.61	-39.44	-38.80	1.50	1.50	0.00
900.00	10.50	237.00	896.09	-34.84	-53.64	-52.77	1.50	1.50	0.00
1,000.00	12.00	237.00	994.16	-45.46	-70.00	-68.86	1.50	1.50	0.00
1,100.00	13.50	237.00	1,091.70	-57.48	-88.51	-87.07	1.50	1.50	0.00
1,200.00	15.00	237.00	1,188.62	-70.89	-109.16	-107.38	1.50	1.50	0.00
1,300.00	16.50	237.00	1,284.86	-85.67	-131.92	-129.77	1.50	1.50	0.00
1,400.00	18.00	237.00	1,380.36	-101.82	-156.79	-154.24	1.50	1.50	0.00
1,500.00	19.50	237.00	1,475.05	-119.33	-183.75	-180.76	1.50	1.50	0.00
1,526.50	19.90	237.00	1,500.00	-124.19	-191.24	-188.13	1.50	1.50	0.00
9 5/8"									
1,600.00	21.00	237.00	1,568.86	-138.18	-212.77	-209.31	1.50	1.50	0.00
1,700.00	22.50	237.00	1,661.74	-158.36	-243.85	-239.88	1.50	1.50	0.00
1,800.00	24.00	237.00	1,753.62	-179.86	-276.96	-272.45	1.50	1.50	0.00
1,900.00	25.50	237.00	1,844.43	-202.66	-312.07	-306.99	1.50	1.50	0.00
2,000.00	27.00	237.00	1,934.12	-226.75	-349.16	-343.47	1.50	1.50	0.00
2,100.00	28.50	237.00	2,022.61	-252.10	-388.21	-381.89	1.50	1.50	0.00
2,200.00	30.00	237.00	2,109.86	-278.72	-429.19	-422.20	1.50	1.50	0.00
2,300.00	31.50	237.00	2,195.80	-306.56	-472.07	-464.38	1.50	1.50	0.00
2,333.33	32.00	237.00	2,224.14	-316.12	-486.78	-478.85	1.50	1.50	0.00
Hold Tangent @ 2333.33ft									
2,400.00	32.00	237.00	2,280.68	-335.36	-516.40	-508.00	0.00	0.00	0.00
2,500.00	32.00	237.00	2,365.48	-364.22	-560.85	-551.72	0.00	0.00	0.00
2,600.00	32.00	237.00	2,450.29	-393.08	-605.29	-595.43	0.00	0.00	0.00
2,700.00	32.00	237.00	2,535.09	-421.94	-649.73	-639.15	0.00	0.00	0.00
2,800.00	32.00	237.00	2,619.90	-450.80	-694.18	-682.87	0.00	0.00	0.00
2,900.00	32.00	237.00	2,704.70	-479.66	-738.62	-726.59	0.00	0.00	0.00
3,000.00	32.00	237.00	2,789.51	-508.53	-783.06	-770.31	0.00	0.00	0.00
3,100.00	32.00	237.00	2,874.31	-537.39	-827.50	-814.03	0.00	0.00	0.00
3,200.00	32.00	237.00	2,959.12	-566.25	-871.95	-857.75	0.00	0.00	0.00
3,300.00	32.00	237.00	3,043.92	-595.11	-916.39	-901.47	0.00	0.00	0.00
3,400.00	32.00	237.00	3,128.73	-623.97	-960.83	-945.19	0.00	0.00	0.00
3,500.00	32.00	237.00	3,213.53	-652.83	-1,005.27	-988.91	0.00	0.00	0.00
3,600.00	32.00	237.00	3,298.34	-681.69	-1,049.72	-1,032.63	0.00	0.00	0.00
3,700.00	32.00	237.00	3,383.14	-710.56	-1,094.16	-1,076.34	0.00	0.00	0.00
3,800.00	32.00	237.00	3,467.95	-739.42	-1,138.60	-1,120.06	0.00	0.00	0.00
3,900.00	32.00	237.00	3,552.75	-768.28	-1,183.05	-1,163.78	0.00	0.00	0.00
4,000.00	32.00	237.00	3,637.56	-797.14	-1,227.49	-1,207.50	0.00	0.00	0.00
4,006.42	32.00	237.00	3,643.00	-798.99	-1,230.34	-1,210.31	0.00	0.00	0.00
Parkman									
4,100.00	32.00	237.00	3,722.36	-826.00	-1,271.93	-1,251.22	0.00	0.00	0.00
4,200.00	32.00	237.00	3,807.17	-854.86	-1,316.37	-1,294.94	0.00	0.00	0.00
4,300.00	32.00	237.00	3,891.97	-883.72	-1,360.82	-1,338.66	0.00	0.00	0.00
4,400.00	32.00	237.00	3,976.78	-912.59	-1,405.26	-1,382.38	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Site:</b>	4N-67W-33 CAMENISCH 10-33HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 33-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.00	32.00	237.00	4,061.58	-941.45	-1,449.70	-1,426.10	0.00	0.00	0.00
4,574.78	32.00	237.00	4,125.00	-963.03	-1,482.94	-1,458.79	0.00	0.00	0.00
Sussex									
4,600.00	32.00	237.00	4,146.38	-970.31	-1,494.15	-1,469.82	0.00	0.00	0.00
4,700.00	32.00	237.00	4,231.19	-999.17	-1,538.59	-1,513.54	0.00	0.00	0.00
4,800.00	32.00	237.00	4,315.99	-1,028.03	-1,583.03	-1,557.25	0.00	0.00	0.00
4,900.00	32.00	237.00	4,400.80	-1,056.89	-1,627.47	-1,600.97	0.00	0.00	0.00
5,000.00	32.00	237.00	4,485.60	-1,085.76	-1,671.92	-1,644.69	0.00	0.00	0.00
5,100.00	32.00	237.00	4,570.41	-1,114.62	-1,716.36	-1,688.41	0.00	0.00	0.00
5,200.00	32.00	237.00	4,655.21	-1,143.48	-1,760.80	-1,732.13	0.00	0.00	0.00
5,300.00	32.00	237.00	4,740.02	-1,172.34	-1,805.24	-1,775.85	0.00	0.00	0.00
5,400.00	32.00	237.00	4,824.82	-1,201.20	-1,849.69	-1,819.57	0.00	0.00	0.00
5,500.00	32.00	237.00	4,909.63	-1,230.06	-1,894.13	-1,863.29	0.00	0.00	0.00
5,600.00	32.00	237.00	4,994.43	-1,258.92	-1,938.57	-1,907.01	0.00	0.00	0.00
5,700.00	32.00	237.00	5,079.24	-1,287.79	-1,983.02	-1,950.73	0.00	0.00	0.00
5,800.00	32.00	237.00	5,164.04	-1,316.65	-2,027.46	-1,994.45	0.00	0.00	0.00
5,900.00	32.00	237.00	5,248.85	-1,345.51	-2,071.90	-2,038.17	0.00	0.00	0.00
6,000.00	32.00	237.00	5,333.65	-1,374.37	-2,116.34	-2,081.88	0.00	0.00	0.00
6,100.00	32.00	237.00	5,418.46	-1,403.23	-2,160.79	-2,125.60	0.00	0.00	0.00
6,200.00	32.00	237.00	5,503.26	-1,432.09	-2,205.23	-2,169.32	0.00	0.00	0.00
6,300.00	32.00	237.00	5,588.07	-1,460.95	-2,249.67	-2,213.04	0.00	0.00	0.00
6,400.00	32.00	237.00	5,672.87	-1,489.82	-2,294.12	-2,256.76	0.00	0.00	0.00
6,500.00	32.00	237.00	5,757.68	-1,518.68	-2,338.56	-2,300.48	0.00	0.00	0.00
6,600.00	32.00	237.00	5,842.48	-1,547.54	-2,383.00	-2,344.20	0.00	0.00	0.00
6,700.00	32.00	237.00	5,927.29	-1,576.40	-2,427.44	-2,387.92	0.00	0.00	0.00
6,800.00	32.00	237.00	6,012.09	-1,605.26	-2,471.89	-2,431.64	0.00	0.00	0.00
6,900.00	32.00	237.00	6,096.90	-1,634.12	-2,516.33	-2,475.36	0.00	0.00	0.00
7,000.00	32.00	237.00	6,181.70	-1,662.98	-2,560.77	-2,519.08	0.00	0.00	0.00
7,088.99	32.00	237.00	6,257.17	-1,688.67	-2,600.32	-2,557.98	0.00	0.00	0.00
KOP @ 7088.99ft :: DLS = 8°/100'									
7,100.00	31.32	235.94	6,266.54	-1,691.86	-2,605.14	-2,562.72	8.00	-6.19	-9.66
7,150.00	28.35	230.54	6,309.92	-1,706.69	-2,625.08	-2,582.29	8.00	-5.94	-10.79
7,200.00	25.64	224.06	6,354.48	-1,722.01	-2,641.77	-2,598.60	8.00	-5.43	-12.97
7,250.00	23.27	216.25	6,400.00	-1,737.76	-2,655.14	-2,611.57	8.00	-4.73	-15.61
7,300.00	21.36	206.97	6,446.27	-1,753.84	-2,665.11	-2,621.15	8.00	-3.81	-18.56
7,350.00	20.05	196.27	6,493.05	-1,770.20	-2,671.65	-2,627.28	8.00	-2.62	-21.41
7,400.00	19.46	184.55	6,540.13	-1,786.73	-2,674.71	-2,629.93	8.00	-1.19	-23.44
7,450.00	19.64	172.59	6,587.26	-1,803.38	-2,674.29	-2,629.10	8.00	0.37	-23.92
7,500.00	20.59	161.27	6,634.23	-1,820.04	-2,670.38	-2,624.78	8.00	1.89	-22.64
7,550.00	22.20	151.20	6,680.80	-1,836.65	-2,663.00	-2,617.00	8.00	3.21	-20.12
7,600.00	24.33	142.63	6,726.75	-1,853.12	-2,652.19	-2,605.79	8.00	4.28	-17.15
7,650.00	26.88	135.48	6,771.84	-1,869.37	-2,638.01	-2,591.21	8.00	5.09	-14.31
7,700.00	29.72	129.53	6,815.87	-1,885.33	-2,620.52	-2,573.33	8.00	5.69	-11.89
7,750.00	32.79	124.57	6,858.62	-1,900.91	-2,599.80	-2,552.24	8.00	6.13	-9.92
7,782.97	34.90	121.74	6,886.00	-1,910.93	-2,584.43	-2,536.63	8.00	6.41	-8.59
Sharon Springs									
7,800.00	36.02	120.40	6,899.87	-1,916.03	-2,575.97	-2,528.04	8.00	6.55	-7.91
7,820.11	37.35	118.90	6,916.00	-1,921.97	-2,565.52	-2,517.45	8.00	6.64	-7.46
Niobrara									
7,850.00	39.37	116.83	6,939.44	-1,930.63	-2,549.12	-2,500.85	8.00	6.75	-6.91
7,900.00	42.82	113.74	6,977.11	-1,944.64	-2,519.41	-2,470.79	8.00	6.90	-6.17
7,950.00	46.34	111.04	7,012.72	-1,957.98	-2,486.96	-2,438.02	8.00	7.04	-5.41
8,000.00	49.92	108.64	7,046.09	-1,970.59	-2,451.94	-2,402.70	8.00	7.16	-4.81

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Site:</b>	4N-67W-33 CAMENISCH 10-33HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 33-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,034.95	52.45	107.10	7,068.00	-1,978.94	-2,426.02	-2,376.59	8.00	7.23	-4.39
<b>Nio B</b>									
8,050.00	53.54	106.48	7,077.06	-1,982.41	-2,414.51	-2,365.00	8.00	7.27	-4.17
8,090.01	56.47	104.89	7,100.00	-1,991.26	-2,382.96	-2,333.24	8.00	7.31	-3.97
<b>Nio C</b>									
8,100.00	57.20	104.51	7,105.46	-1,993.38	-2,374.87	-2,325.10	8.00	7.34	-3.80
8,150.00	60.89	102.70	7,131.18	-2,003.45	-2,333.20	-2,283.20	8.00	7.37	-3.62
8,200.00	64.60	101.01	7,154.08	-2,012.57	-2,289.71	-2,239.49	8.00	7.42	-3.37
8,250.00	68.32	99.43	7,174.04	-2,020.70	-2,244.61	-2,194.20	8.00	7.45	-3.17
8,300.00	72.07	97.92	7,190.98	-2,027.78	-2,198.11	-2,147.55	8.00	7.48	-3.01
8,338.85	74.98	96.80	7,202.00	-2,032.55	-2,161.17	-2,110.50	8.00	7.50	-2.89
<b>Fort Hayes</b>									
8,350.00	75.82	96.48	7,204.81	-2,033.80	-2,150.45	-2,099.75	8.00	7.51	-2.84
8,400.00	79.58	95.09	7,215.46	-2,038.72	-2,101.86	-2,051.05	8.00	7.52	-2.79
8,450.00	83.35	93.73	7,222.88	-2,042.52	-2,052.57	-2,001.68	8.00	7.53	-2.72
8,451.02	83.42	93.70	7,223.00	-2,042.58	-2,051.56	-2,000.67	8.00	7.54	-2.70
<b>Codell</b>									
8,500.00	87.12	92.39	7,227.04	-2,045.17	-2,002.82	-1,951.89	8.00	7.54	-2.68
8,536.85	89.90	91.41	7,228.00	-2,046.39	-1,966.00	-1,915.05	8.00	7.54	-2.66
<b>End Build @ 8536.85ft</b>									
8,600.00	89.90	91.41	7,228.11	-2,047.94	-1,902.88	-1,851.91	0.00	0.00	0.00
8,700.00	89.90	91.41	7,228.29	-2,050.40	-1,802.91	-1,751.91	0.00	0.00	0.00
8,800.00	89.90	91.41	7,228.47	-2,052.85	-1,702.94	-1,651.91	0.00	0.00	0.00
8,900.00	89.90	91.41	7,228.65	-2,055.30	-1,602.97	-1,551.91	0.00	0.00	0.00
9,000.00	89.90	91.41	7,228.83	-2,057.76	-1,503.00	-1,451.91	0.00	0.00	0.00
9,100.00	89.90	91.41	7,229.01	-2,060.21	-1,403.03	-1,351.91	0.00	0.00	0.00
9,200.00	89.90	91.41	7,229.19	-2,062.66	-1,303.06	-1,251.91	0.00	0.00	0.00
9,300.00	89.90	91.41	7,229.37	-2,065.11	-1,203.09	-1,151.91	0.00	0.00	0.00
9,400.00	89.90	91.41	7,229.55	-2,067.57	-1,103.12	-1,051.91	0.00	0.00	0.00
9,500.00	89.90	91.41	7,229.73	-2,070.02	-1,003.15	-951.91	0.00	0.00	0.00
9,600.00	89.90	91.41	7,229.91	-2,072.47	-903.18	-851.91	0.00	0.00	0.00
9,700.00	89.90	91.41	7,230.09	-2,074.93	-803.21	-751.91	0.00	0.00	0.00
9,800.00	89.90	91.41	7,230.27	-2,077.38	-703.24	-651.91	0.00	0.00	0.00
9,900.00	89.90	91.41	7,230.45	-2,079.83	-603.27	-551.91	0.00	0.00	0.00
10,000.00	89.90	91.41	7,230.63	-2,082.29	-503.30	-451.91	0.00	0.00	0.00
10,100.00	89.90	91.41	7,230.81	-2,084.74	-403.33	-351.91	0.00	0.00	0.00
10,200.00	89.90	91.41	7,230.99	-2,087.19	-303.36	-251.91	0.00	0.00	0.00
10,300.00	89.90	91.41	7,231.17	-2,089.65	-203.39	-151.91	0.00	0.00	0.00
10,400.00	89.90	91.41	7,231.35	-2,092.10	-103.42	-51.91	0.00	0.00	0.00
10,500.00	89.90	91.41	7,231.53	-2,094.55	-3.45	48.09	0.00	0.00	0.00
10,600.00	89.90	91.41	7,231.71	-2,097.01	96.52	148.09	0.00	0.00	0.00
10,700.00	89.90	91.41	7,231.89	-2,099.46	196.49	248.09	0.00	0.00	0.00
10,800.00	89.90	91.41	7,232.07	-2,101.91	296.46	348.09	0.00	0.00	0.00
10,900.00	89.90	91.41	7,232.25	-2,104.36	396.43	448.09	0.00	0.00	0.00
11,000.00	89.90	91.41	7,232.43	-2,106.82	496.40	548.09	0.00	0.00	0.00
11,100.00	89.90	91.41	7,232.61	-2,109.27	596.37	648.09	0.00	0.00	0.00
11,200.00	89.90	91.41	7,232.79	-2,111.72	696.34	748.09	0.00	0.00	0.00
11,300.00	89.90	91.41	7,232.97	-2,114.18	796.31	848.09	0.00	0.00	0.00
11,400.00	89.90	91.41	7,233.15	-2,116.63	896.28	948.09	0.00	0.00	0.00
11,500.00	89.90	91.41	7,233.33	-2,119.08	996.25	1,048.09	0.00	0.00	0.00
11,600.00	89.90	91.41	7,233.51	-2,121.54	1,096.22	1,148.09	0.00	0.00	0.00
11,700.00	89.90	91.41	7,233.69	-2,123.99	1,196.19	1,248.09	0.00	0.00	0.00
11,800.00	89.90	91.41	7,233.87	-2,126.44	1,296.16	1,348.09	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Site:</b>	4N-67W-33 CAMENISCH 10-33HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 33-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,900.00	89.90	91.41	7,234.05	-2,128.90	1,396.13	1,448.09	0.00	0.00	0.00
12,000.00	89.90	91.41	7,234.23	-2,131.35	1,496.10	1,548.09	0.00	0.00	0.00
12,100.00	89.90	91.41	7,234.41	-2,133.80	1,596.07	1,648.09	0.00	0.00	0.00
12,200.00	89.90	91.41	7,234.59	-2,136.26	1,696.03	1,748.09	0.00	0.00	0.00
12,300.00	89.90	91.41	7,234.77	-2,138.71	1,796.00	1,848.09	0.00	0.00	0.00
12,400.00	89.90	91.41	7,234.95	-2,141.16	1,895.97	1,948.09	0.00	0.00	0.00
12,500.00	89.90	91.41	7,235.13	-2,143.62	1,995.94	2,048.09	0.00	0.00	0.00
12,600.00	89.90	91.41	7,235.31	-2,146.07	2,095.91	2,148.09	0.00	0.00	0.00
12,700.00	89.90	91.41	7,235.49	-2,148.52	2,195.88	2,248.09	0.00	0.00	0.00
12,800.00	89.90	91.41	7,235.67	-2,150.97	2,295.85	2,348.09	0.00	0.00	0.00
12,900.00	89.90	91.41	7,235.85	-2,153.43	2,395.82	2,448.09	0.00	0.00	0.00
13,000.00	89.90	91.41	7,236.03	-2,155.88	2,495.79	2,548.09	0.00	0.00	0.00
13,100.00	89.90	91.41	7,236.21	-2,158.33	2,595.76	2,648.09	0.00	0.00	0.00
13,200.00	89.90	91.41	7,236.39	-2,160.79	2,695.73	2,748.09	0.00	0.00	0.00
13,300.00	89.90	91.41	7,236.57	-2,163.24	2,795.70	2,848.09	0.00	0.00	0.00
13,400.00	89.90	91.41	7,236.75	-2,165.69	2,895.67	2,948.09	0.00	0.00	0.00
13,500.00	89.90	91.41	7,236.93	-2,168.15	2,995.64	3,048.09	0.00	0.00	0.00
13,600.00	89.90	91.41	7,237.11	-2,170.60	3,095.61	3,148.09	0.00	0.00	0.00
13,700.00	89.90	91.41	7,237.29	-2,173.05	3,195.58	3,248.09	0.00	0.00	0.00
13,800.00	89.90	91.41	7,237.47	-2,175.51	3,295.55	3,348.08	0.00	0.00	0.00
13,900.00	89.90	91.41	7,237.65	-2,177.96	3,395.52	3,448.08	0.00	0.00	0.00
14,000.00	89.90	91.41	7,237.83	-2,180.41	3,495.49	3,548.08	0.00	0.00	0.00
14,100.00	89.90	91.41	7,238.01	-2,182.87	3,595.46	3,648.08	0.00	0.00	0.00
14,200.00	89.90	91.41	7,238.19	-2,185.32	3,695.43	3,748.08	0.00	0.00	0.00
14,300.00	89.90	91.41	7,238.37	-2,187.77	3,795.40	3,848.08	0.00	0.00	0.00
14,400.00	89.90	91.41	7,238.55	-2,190.22	3,895.37	3,948.08	0.00	0.00	0.00
14,500.00	89.90	91.41	7,238.73	-2,192.68	3,995.34	4,048.08	0.00	0.00	0.00
14,600.00	89.90	91.41	7,238.91	-2,195.13	4,095.31	4,148.08	0.00	0.00	0.00
14,700.00	89.90	91.41	7,239.09	-2,197.58	4,195.28	4,248.08	0.00	0.00	0.00
14,800.00	89.90	91.41	7,239.27	-2,200.04	4,295.25	4,348.08	0.00	0.00	0.00
14,900.00	89.90	91.41	7,239.45	-2,202.49	4,395.22	4,448.08	0.00	0.00	0.00
15,000.00	89.90	91.41	7,239.63	-2,204.94	4,495.19	4,548.08	0.00	0.00	0.00
15,100.00	89.90	91.41	7,239.80	-2,207.40	4,595.16	4,648.08	0.00	0.00	0.00
15,200.00	89.90	91.41	7,239.98	-2,209.85	4,695.13	4,748.08	0.00	0.00	0.00
15,300.00	89.90	91.41	7,240.16	-2,212.30	4,795.10	4,848.08	0.00	0.00	0.00
15,400.00	89.90	91.41	7,240.34	-2,214.76	4,895.07	4,948.08	0.00	0.00	0.00
15,500.00	89.90	91.41	7,240.52	-2,217.21	4,995.04	5,048.08	0.00	0.00	0.00
15,600.00	89.90	91.41	7,240.70	-2,219.66	5,095.01	5,148.08	0.00	0.00	0.00
15,700.00	89.90	91.41	7,240.88	-2,222.12	5,194.98	5,248.08	0.00	0.00	0.00
15,800.00	89.90	91.41	7,241.06	-2,224.57	5,294.95	5,348.08	0.00	0.00	0.00
15,900.00	89.90	91.41	7,241.24	-2,227.02	5,394.92	5,448.08	0.00	0.00	0.00
16,000.00	89.90	91.41	7,241.42	-2,229.47	5,494.89	5,548.08	0.00	0.00	0.00
16,100.00	89.90	91.41	7,241.60	-2,231.93	5,594.86	5,648.08	0.00	0.00	0.00
16,200.00	89.90	91.41	7,241.78	-2,234.38	5,694.82	5,748.08	0.00	0.00	0.00
16,300.00	89.90	91.41	7,241.96	-2,236.83	5,794.79	5,848.08	0.00	0.00	0.00
16,400.00	89.90	91.41	7,242.14	-2,239.29	5,894.76	5,948.08	0.00	0.00	0.00
16,500.00	89.90	91.41	7,242.32	-2,241.74	5,994.73	6,048.08	0.00	0.00	0.00
16,600.00	89.90	91.41	7,242.50	-2,244.19	6,094.70	6,148.08	0.00	0.00	0.00
16,700.00	89.90	91.41	7,242.68	-2,246.65	6,194.67	6,248.08	0.00	0.00	0.00
16,800.00	89.90	91.41	7,242.86	-2,249.10	6,294.64	6,348.08	0.00	0.00	0.00
16,900.00	89.90	91.41	7,243.04	-2,251.55	6,394.61	6,448.08	0.00	0.00	0.00
17,000.00	89.90	91.41	7,243.22	-2,254.01	6,494.58	6,548.08	0.00	0.00	0.00
17,100.00	89.90	91.41	7,243.40	-2,256.46	6,594.55	6,648.08	0.00	0.00	0.00
17,200.00	89.90	91.41	7,243.58	-2,258.91	6,694.52	6,748.08	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4887.00usft (RIG)
<b>Site:</b>	4N-67W-33 CAMENISCH 10-33HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CAMENISCH 33-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,300.00	89.90	91.41	7,243.76	-2,261.37	6,794.49	6,848.08	0.00	0.00	0.00
17,400.00	89.90	91.41	7,243.94	-2,263.82	6,894.46	6,948.08	0.00	0.00	0.00
17,432.24	89.90	91.41	7,244.00	-2,264.61	6,926.69	6,980.32	0.00	0.00	0.00
TD Well @ 17432.24ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,526.50	1,500.00	9 5/8"	9-5/8	13-1/2
17,432.24	7,244.00	5.5" CSG	5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
753.94	752.00	Fox Hills			
4,006.42	3,643.00	Parkman			
4,574.78	4,125.00	Sussex			
7,782.97	6,886.00	Sharon Springs			
7,820.11	6,916.00	Niobrara			
8,034.95	7,068.00	Nio B			
8,090.01	7,100.00	Nio C			
8,338.85	7,202.00	Fort Hayes			
8,451.02	7,223.00	Codell			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Begin Nudge @ 200.00ft
2,333.33	2,224.14	-316.12	-486.78	Hold Tangent @ 2333.33ft
7,088.99	6,257.17	-1,688.67	-2,600.32	KOP @ 7088.99ft :: DLS = 8°/100'
8,536.85	7,228.00	-2,046.39	-1,966.00	End Build @ 8536.85ft
17,432.24	7,244.00	-2,264.61	6,926.69	TD Well @ 17432.24ft