

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

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

**CAMENISCH 33-3HZ**

**Plan A**

**Plan: Permit Rev-2**

## **Standard Planning Report**

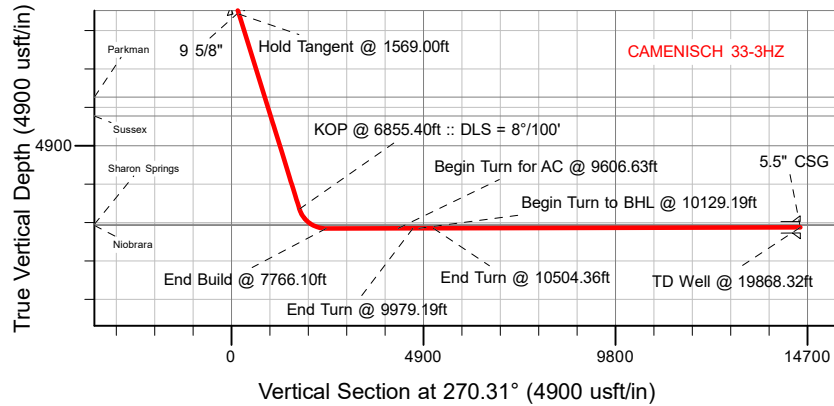
**16 December, 2021**

Project: WELD-NAD83-UTMFT13N  
Site: 4N-67W-33 CAMENISCH 10-33HZ PAD  
Well: CAMENISCH 33-3HZ  
Wellbore: Plan A  
Design: Permit Rev-2

# US ROCKIES WATTENBERG PLANNING

## CASING DETAILS

TVD	MD	Name	Size
1500.00	1523.40	9 5/8"	9-5/8
6986.00	19868.32	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	
251.00	0.00	0.00	251.00	0.00	0.00	0.00	0.00	0.00	
1569.00	19.77	239.94	1543.00	-112.78	-194.86	1.50	239.94	194.25	
6855.40	19.77	239.94	6517.81	-1008.45	-1742.46	0.00	0.00	1736.98	
7766.10	90.13	268.55	7014.00	-1111.39	-2425.60	8.00	30.07	2419.55	
9606.63	90.13	268.55	7009.74	-1158.00	-4265.53	0.00	0.00	4259.20	CAMENISCH 33-3HZ_Lat Tgt 1
9979.19	90.13	276.00	7008.88	-1143.23	-4637.53	2.00	90.01	4631.28	
10129.19	90.13	276.00	7008.54	-1127.55	-4786.72	0.00	0.00	4780.55	
10504.36	90.13	270.37	7007.68	-1106.70	-5161.15	1.50	-89.97	5155.09	
19868.32	90.13	270.37	6986.00	-1045.83	-14524.89	0.00	0.00	14519.01	CAMENISCH 33-3HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
CAMENISCH 33-3HZ_SHL	0.00	14624615.26	1670083.62	40.268747	-104.893648
CAMENISCH 33-3HZ_LP	7014.00	14623500.96	1667659.36	40.265695	-104.902343
CAMENISCH 33-3HZ_BHL	6986.00	14623552.00	1655560.00	40.265864	-104.945715

## WELL DETAILS: CAMENISCH 33-3HZ

GL = 4870'

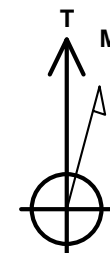
RKB = 17" @ 4887.00usft (RIG)

Plan: Permit Rev-2 (CAMENISCH 33-3HZ/Plan A)

Date: 12/16/2021

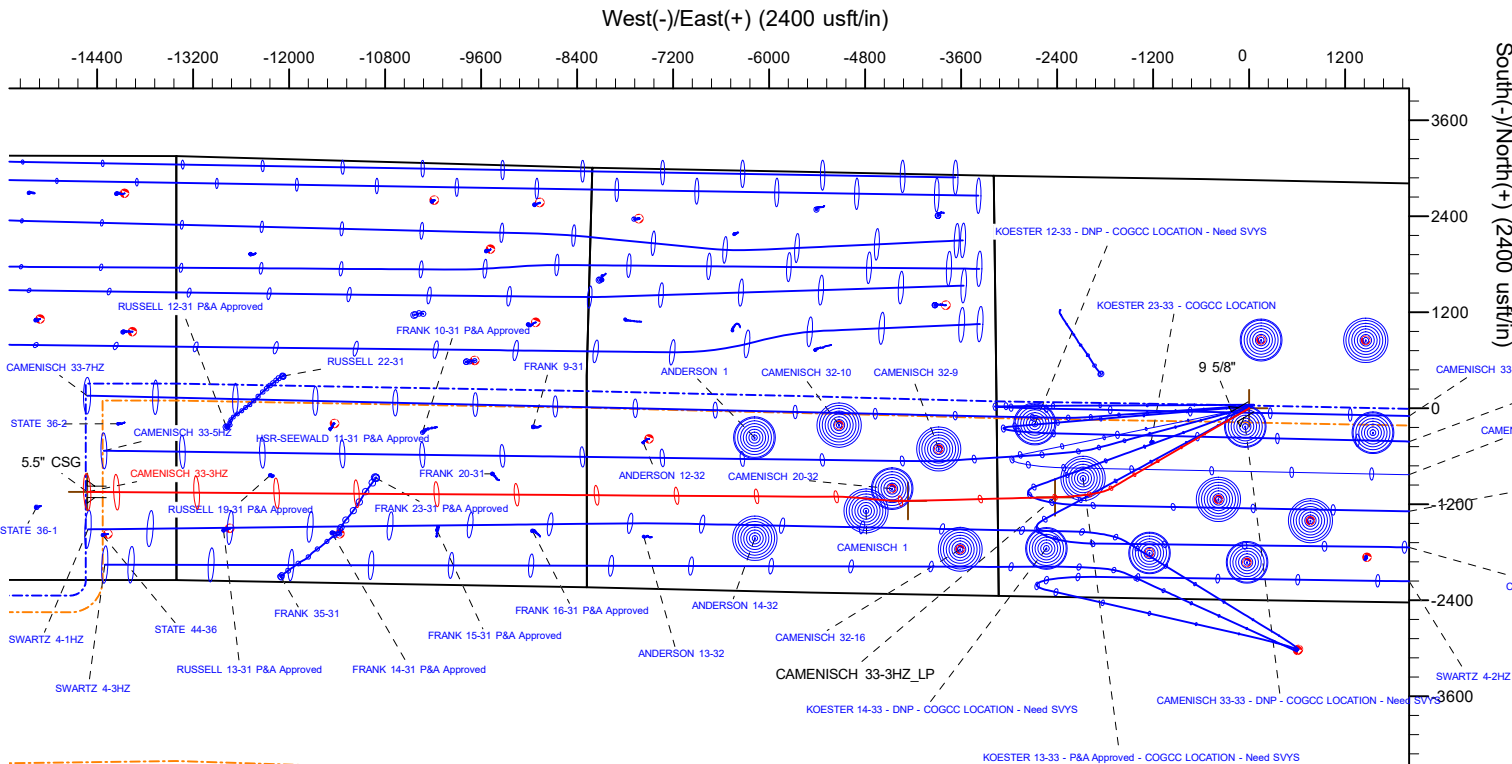
## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
772.00	773.63	Fox Hills
3663.00	3821.78	Parkman
4145.00	4333.97	Sussex
6906.00	7362.99	Sharon Springs
6936.00	7424.53	Niobrara



Azimuths to True North  
Magnetic North: 7.86°

Magnetic Field  
Strength: 51820.6nT  
Dip Angle: 66.51°  
Date: 12/8/2021  
Model: IGRF2020



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-3HZ
<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

<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 33-3HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,624,615.26 usft	Latitude:	40.268747
	+E/-W	0.00 usft	Easting:	1,670,083.62 usft	Longitude:	-104.893648
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,870.00 usft
Grid Convergence:		0.07 °				

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF202013	12/8/2021	7.86	66.51	51,820.56293306

<b>Design</b>	Permit Rev-2				
<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	270.31	

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/15/2021			
<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-2 (Plan A)	APC_ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	2,000.00	19,868.32	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +	

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-3HZ
<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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	
251.00	0.00	0.00	251.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,569.00	19.77	239.94	1,543.00	-112.78	-194.86	1.50	1.50	0.00	239.94	
6,855.40	19.77	239.94	6,517.81	-1,008.45	-1,742.46	0.00	0.00	0.00	0.00	
7,766.10	90.13	268.55	7,014.00	-1,111.39	-2,425.60	8.00	7.73	3.14	30.07	
9,606.63	90.13	268.55	7,009.74	-1,158.00	-4,265.53	0.00	0.00	0.00	0.00	CAMENISCH 33-3HZ
9,979.19	90.13	276.00	7,008.88	-1,143.23	-4,637.53	2.00	0.00	2.00	90.01	
10,129.19	90.13	276.00	7,008.54	-1,127.55	-4,786.72	0.00	0.00	0.00	0.00	
10,504.36	90.13	270.37	7,007.68	-1,106.70	-5,161.15	1.50	0.00	-1.50	-89.97	
19,868.32	90.13	270.37	6,986.00	-1,045.83	-14,524.89	0.00	0.00	0.00	0.00	CAMENISCH 33-3HZ

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-3HZ
<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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
251.00	0.00	0.00	251.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 251.00ft									
300.00	0.74	239.94	300.00	-0.16	-0.27	0.27	1.50	1.50	0.00
400.00	2.24	239.94	399.96	-1.46	-2.51	2.51	1.50	1.50	0.00
500.00	3.74	239.94	499.82	-4.06	-7.02	7.00	1.50	1.50	0.00
600.00	5.24	239.94	599.51	-7.98	-13.79	13.75	1.50	1.50	0.00
700.00	6.74	239.94	698.97	-13.20	-22.81	22.74	1.50	1.50	0.00
773.63	7.84	239.94	772.00	-17.88	-30.90	30.80	1.50	1.50	0.00
Fox Hills									
800.00	8.24	239.94	798.11	-19.73	-34.09	33.98	1.50	1.50	0.00
900.00	9.74	239.94	896.88	-27.55	-47.60	47.46	1.50	1.50	0.00
1,000.00	11.24	239.94	995.21	-36.67	-63.35	63.16	1.50	1.50	0.00
1,100.00	12.74	239.94	1,093.03	-47.07	-81.33	81.07	1.50	1.50	0.00
1,200.00	14.24	239.94	1,190.27	-58.75	-101.51	101.19	1.50	1.50	0.00
1,300.00	15.74	239.94	1,286.86	-71.70	-123.89	123.50	1.50	1.50	0.00
1,400.00	17.24	239.94	1,382.75	-85.91	-148.45	147.98	1.50	1.50	0.00
1,500.00	18.74	239.94	1,477.86	-101.38	-175.17	174.62	1.50	1.50	0.00
1,523.40	19.09	239.94	1,500.00	-105.18	-181.73	181.16	1.50	1.50	0.00
9 5/8"									
1,569.00	19.77	239.94	1,543.00	-112.78	-194.86	194.25	1.50	1.50	0.00
Hold Tangent @ 1569.00ft									
1,600.00	19.77	239.94	1,572.17	-118.03	-203.94	203.29	0.00	0.00	0.00
1,700.00	19.77	239.94	1,666.28	-134.97	-233.21	232.48	0.00	0.00	0.00
1,800.00	19.77	239.94	1,760.39	-151.91	-262.49	261.66	0.00	0.00	0.00
1,900.00	19.77	239.94	1,854.49	-168.86	-291.76	290.84	0.00	0.00	0.00
2,000.00	19.77	239.94	1,948.60	-185.80	-321.04	320.03	0.00	0.00	0.00
2,100.00	19.77	239.94	2,042.70	-202.74	-350.31	349.21	0.00	0.00	0.00
2,200.00	19.77	239.94	2,136.81	-219.68	-379.59	378.39	0.00	0.00	0.00
2,300.00	19.77	239.94	2,230.92	-236.63	-408.86	407.58	0.00	0.00	0.00
2,400.00	19.77	239.94	2,325.02	-253.57	-438.14	436.76	0.00	0.00	0.00
2,500.00	19.77	239.94	2,419.13	-270.51	-467.41	465.94	0.00	0.00	0.00
2,600.00	19.77	239.94	2,513.23	-287.46	-496.69	495.13	0.00	0.00	0.00
2,700.00	19.77	239.94	2,607.34	-304.40	-525.96	524.31	0.00	0.00	0.00
2,800.00	19.77	239.94	2,701.44	-321.34	-555.24	553.49	0.00	0.00	0.00
2,900.00	19.77	239.94	2,795.55	-338.29	-584.51	582.67	0.00	0.00	0.00
3,000.00	19.77	239.94	2,889.66	-355.23	-613.79	611.86	0.00	0.00	0.00
3,100.00	19.77	239.94	2,983.76	-372.17	-643.06	641.04	0.00	0.00	0.00
3,200.00	19.77	239.94	3,077.87	-389.11	-672.34	670.22	0.00	0.00	0.00
3,300.00	19.77	239.94	3,171.97	-406.06	-701.61	699.41	0.00	0.00	0.00
3,400.00	19.77	239.94	3,266.08	-423.00	-730.89	728.59	0.00	0.00	0.00
3,500.00	19.77	239.94	3,360.18	-439.94	-760.16	757.77	0.00	0.00	0.00
3,600.00	19.77	239.94	3,454.29	-456.89	-789.44	786.96	0.00	0.00	0.00
3,700.00	19.77	239.94	3,548.40	-473.83	-818.71	816.14	0.00	0.00	0.00
3,800.00	19.77	239.94	3,642.50	-490.77	-847.99	845.32	0.00	0.00	0.00
3,821.78	19.77	239.94	3,663.00	-494.46	-854.37	851.68	0.00	0.00	0.00
Parkman									
3,900.00	19.77	239.94	3,736.61	-507.71	-877.26	874.50	0.00	0.00	0.00
4,000.00	19.77	239.94	3,830.71	-524.66	-906.54	903.69	0.00	0.00	0.00
4,100.00	19.77	239.94	3,924.82	-541.60	-935.82	932.87	0.00	0.00	0.00
4,200.00	19.77	239.94	4,018.93	-558.54	-965.09	962.05	0.00	0.00	0.00
4,300.00	19.77	239.94	4,113.03	-575.49	-994.37	991.24	0.00	0.00	0.00

## Planning Report

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<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

## 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)
4,333.97	19.77	239.94	4,145.00	-581.24	-1,004.31	1,001.15	0.00	0.00	0.00
Sussex									
4,400.00	19.77	239.94	4,207.14	-592.43	-1,023.64	1,020.42	0.00	0.00	0.00
4,500.00	19.77	239.94	4,301.24	-609.37	-1,052.92	1,049.60	0.00	0.00	0.00
4,600.00	19.77	239.94	4,395.35	-626.32	-1,082.19	1,078.79	0.00	0.00	0.00
4,700.00	19.77	239.94	4,489.45	-643.26	-1,111.47	1,107.97	0.00	0.00	0.00
4,800.00	19.77	239.94	4,583.56	-660.20	-1,140.74	1,137.15	0.00	0.00	0.00
4,900.00	19.77	239.94	4,677.67	-677.14	-1,170.02	1,166.34	0.00	0.00	0.00
5,000.00	19.77	239.94	4,771.77	-694.09	-1,199.29	1,195.52	0.00	0.00	0.00
5,100.00	19.77	239.94	4,865.88	-711.03	-1,228.57	1,224.70	0.00	0.00	0.00
5,200.00	19.77	239.94	4,959.98	-727.97	-1,257.84	1,253.88	0.00	0.00	0.00
5,300.00	19.77	239.94	5,054.09	-744.92	-1,287.12	1,283.07	0.00	0.00	0.00
5,400.00	19.77	239.94	5,148.19	-761.86	-1,316.39	1,312.25	0.00	0.00	0.00
5,500.00	19.77	239.94	5,242.30	-778.80	-1,345.67	1,341.43	0.00	0.00	0.00
5,600.00	19.77	239.94	5,336.41	-795.74	-1,374.94	1,370.62	0.00	0.00	0.00
5,700.00	19.77	239.94	5,430.51	-812.69	-1,404.22	1,399.80	0.00	0.00	0.00
5,800.00	19.77	239.94	5,524.62	-829.63	-1,433.49	1,428.98	0.00	0.00	0.00
5,900.00	19.77	239.94	5,618.72	-846.57	-1,462.77	1,458.17	0.00	0.00	0.00
6,000.00	19.77	239.94	5,712.83	-863.52	-1,492.04	1,487.35	0.00	0.00	0.00
6,100.00	19.77	239.94	5,806.94	-880.46	-1,521.32	1,516.53	0.00	0.00	0.00
6,200.00	19.77	239.94	5,901.04	-897.40	-1,550.59	1,545.72	0.00	0.00	0.00
6,300.00	19.77	239.94	5,995.15	-914.34	-1,579.87	1,574.90	0.00	0.00	0.00
6,400.00	19.77	239.94	6,089.25	-931.29	-1,609.14	1,604.08	0.00	0.00	0.00
6,500.00	19.77	239.94	6,183.36	-948.23	-1,638.42	1,633.26	0.00	0.00	0.00
6,600.00	19.77	239.94	6,277.46	-965.17	-1,667.69	1,662.45	0.00	0.00	0.00
6,700.00	19.77	239.94	6,371.57	-982.12	-1,696.97	1,691.63	0.00	0.00	0.00
6,800.00	19.77	239.94	6,465.68	-999.06	-1,726.24	1,720.81	0.00	0.00	0.00
6,855.40	19.77	239.94	6,517.81	-1,008.45	-1,742.46	1,736.98	0.00	0.00	0.00
KOP @ 6855.40ft :: DLS = 8°/100'									
6,900.00	22.92	244.53	6,559.35	-1,015.96	-1,756.84	1,751.32	8.00	7.07	10.30
6,950.00	26.58	248.42	6,604.75	-1,024.27	-1,776.04	1,770.47	8.00	7.31	7.78
7,000.00	30.32	251.42	6,648.71	-1,032.40	-1,798.41	1,792.80	8.00	7.47	6.00
7,050.00	34.11	253.82	6,691.00	-1,040.34	-1,823.85	1,818.19	8.00	7.58	4.79
7,100.00	37.94	255.78	6,731.44	-1,048.02	-1,852.22	1,846.53	8.00	7.66	3.93
7,150.00	41.80	257.43	6,769.81	-1,055.43	-1,883.40	1,877.66	8.00	7.71	3.31
7,200.00	45.67	258.86	6,805.93	-1,062.51	-1,917.22	1,911.45	8.00	7.76	2.84
7,250.00	49.57	260.10	6,839.62	-1,069.24	-1,953.53	1,947.72	8.00	7.79	2.49
7,300.00	53.47	261.21	6,870.73	-1,075.59	-1,992.15	1,986.30	8.00	7.81	2.22
7,350.00	57.39	262.21	6,899.10	-1,081.51	-2,032.88	2,027.00	8.00	7.83	2.00
7,362.99	58.40	262.45	6,906.00	-1,082.98	-2,043.78	2,037.89	8.00	7.84	1.89
Sharon Springs									
7,400.00	61.31	263.12	6,924.59	-1,087.00	-2,075.53	2,069.62	8.00	7.84	1.81
7,424.53	63.23	263.55	6,936.00	-1,089.52	-2,097.10	2,091.17	8.00	7.85	1.73
Niobrara									
7,450.00	65.23	263.98	6,947.07	-1,092.01	-2,119.90	2,113.96	8.00	7.86	1.67
7,500.00	69.17	264.77	6,966.44	-1,096.52	-2,165.76	2,159.80	8.00	7.86	1.60
7,550.00	73.10	265.53	6,982.61	-1,100.51	-2,212.90	2,206.91	8.00	7.87	1.52
7,600.00	77.04	266.26	6,995.48	-1,103.97	-2,261.07	2,255.07	8.00	7.88	1.45
7,650.00	80.98	266.96	7,005.01	-1,106.87	-2,310.06	2,304.04	8.00	7.88	1.41
7,700.00	84.92	267.65	7,011.15	-1,109.20	-2,359.62	2,353.58	8.00	7.88	1.38
7,750.00	88.86	268.33	7,013.86	-1,110.95	-2,409.50	2,403.46	8.00	7.88	1.36
7,766.10	90.13	268.55	7,014.00	-1,111.39	-2,425.60	2,419.55	8.00	7.88	1.36
End Build @ 7766.10ft									

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-3HZ
<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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)
7,800.00	90.13	268.55	7,013.92	-1,112.25	-2,459.49	2,453.43	0.00	0.00	0.00
7,900.00	90.13	268.55	7,013.69	-1,114.78	-2,559.45	2,553.39	0.00	0.00	0.00
8,000.00	90.13	268.55	7,013.46	-1,117.31	-2,659.42	2,653.34	0.00	0.00	0.00
8,100.00	90.13	268.55	7,013.23	-1,119.84	-2,759.39	2,753.29	0.00	0.00	0.00
8,200.00	90.13	268.55	7,013.00	-1,122.38	-2,859.36	2,853.24	0.00	0.00	0.00
8,300.00	90.13	268.55	7,012.77	-1,124.91	-2,959.32	2,953.20	0.00	0.00	0.00
8,400.00	90.13	268.55	7,012.53	-1,127.44	-3,059.29	3,053.15	0.00	0.00	0.00
8,500.00	90.13	268.55	7,012.30	-1,129.97	-3,159.26	3,153.10	0.00	0.00	0.00
8,600.00	90.13	268.55	7,012.07	-1,132.51	-3,259.23	3,253.05	0.00	0.00	0.00
8,700.00	90.13	268.55	7,011.84	-1,135.04	-3,359.20	3,353.01	0.00	0.00	0.00
8,800.00	90.13	268.55	7,011.61	-1,137.57	-3,459.16	3,452.96	0.00	0.00	0.00
8,900.00	90.13	268.55	7,011.38	-1,140.10	-3,559.13	3,552.91	0.00	0.00	0.00
9,000.00	90.13	268.55	7,011.14	-1,142.64	-3,659.10	3,652.86	0.00	0.00	0.00
9,100.00	90.13	268.55	7,010.91	-1,145.17	-3,759.07	3,752.82	0.00	0.00	0.00
9,200.00	90.13	268.55	7,010.68	-1,147.70	-3,859.03	3,852.77	0.00	0.00	0.00
9,300.00	90.13	268.55	7,010.45	-1,150.23	-3,959.00	3,952.72	0.00	0.00	0.00
9,400.00	90.13	268.55	7,010.22	-1,152.77	-4,058.97	4,052.67	0.00	0.00	0.00
9,500.00	90.13	268.55	7,009.99	-1,155.30	-4,158.94	4,152.63	0.00	0.00	0.00
9,606.63	90.13	268.55	7,009.74	-1,158.00	-4,265.53	4,259.20	0.00	0.00	0.00
Begin Turn for AC @ 9606.63ft									
9,700.00	90.13	270.42	7,009.52	-1,158.84	-4,358.89	4,352.56	2.00	0.00	2.00
9,800.00	90.13	272.42	7,009.29	-1,156.37	-4,458.86	4,452.54	2.00	0.00	2.00
9,900.00	90.13	274.42	7,009.07	-1,150.41	-4,558.68	4,552.38	2.00	0.00	2.00
9,979.19	90.13	276.00	7,008.88	-1,143.23	-4,637.53	4,631.28	2.00	0.00	2.00
End Turn @ 9979.19ft									
10,000.00	90.13	276.00	7,008.84	-1,141.05	-4,658.23	4,651.99	0.00	0.00	0.00
10,100.00	90.13	276.00	7,008.61	-1,130.60	-4,757.68	4,751.50	0.00	0.00	0.00
10,129.19	90.13	276.00	7,008.54	-1,127.55	-4,786.72	4,780.55	0.00	0.00	0.00
Begin Turn to BHL @ 10129.19ft									
10,200.00	90.13	274.94	7,008.38	-1,120.80	-4,857.20	4,851.06	1.50	0.00	-1.50
10,300.00	90.13	273.44	7,008.15	-1,113.49	-4,956.93	4,950.83	1.50	0.00	-1.50
10,400.00	90.13	271.94	7,007.93	-1,108.81	-5,056.82	5,050.74	1.50	0.00	-1.50
10,504.36	90.13	270.37	7,007.68	-1,106.70	-5,161.15	5,155.09	1.50	0.00	-1.50
End Turn @ 10504.36ft									
10,600.00	90.13	270.37	7,007.46	-1,106.08	-5,256.79	5,250.73	0.00	0.00	0.00
10,700.00	90.13	270.37	7,007.23	-1,105.43	-5,356.79	5,350.73	0.00	0.00	0.00
10,800.00	90.13	270.37	7,007.00	-1,104.78	-5,456.78	5,450.73	0.00	0.00	0.00
10,900.00	90.13	270.37	7,006.77	-1,104.13	-5,556.78	5,550.73	0.00	0.00	0.00
11,000.00	90.13	270.37	7,006.54	-1,103.48	-5,656.78	5,650.73	0.00	0.00	0.00
11,100.00	90.13	270.37	7,006.30	-1,102.83	-5,756.78	5,750.73	0.00	0.00	0.00
11,200.00	90.13	270.37	7,006.07	-1,102.18	-5,856.78	5,850.73	0.00	0.00	0.00
11,300.00	90.13	270.37	7,005.84	-1,101.53	-5,956.77	5,950.73	0.00	0.00	0.00
11,400.00	90.13	270.37	7,005.61	-1,100.88	-6,056.77	6,050.73	0.00	0.00	0.00
11,500.00	90.13	270.37	7,005.38	-1,100.23	-6,156.77	6,150.73	0.00	0.00	0.00
11,600.00	90.13	270.37	7,005.15	-1,099.58	-6,256.77	6,250.73	0.00	0.00	0.00
11,700.00	90.13	270.37	7,004.92	-1,098.93	-6,356.76	6,350.72	0.00	0.00	0.00
11,800.00	90.13	270.37	7,004.68	-1,098.28	-6,456.76	6,450.72	0.00	0.00	0.00
11,900.00	90.13	270.37	7,004.45	-1,097.63	-6,556.76	6,550.72	0.00	0.00	0.00
12,000.00	90.13	270.37	7,004.22	-1,096.98	-6,656.76	6,650.72	0.00	0.00	0.00
12,100.00	90.13	270.37	7,003.99	-1,096.33	-6,756.75	6,750.72	0.00	0.00	0.00
12,200.00	90.13	270.37	7,003.76	-1,095.68	-6,856.75	6,850.72	0.00	0.00	0.00
12,300.00	90.13	270.37	7,003.53	-1,095.03	-6,956.75	6,950.72	0.00	0.00	0.00
12,400.00	90.13	270.37	7,003.29	-1,094.38	-7,056.75	7,050.72	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 33-3HZ
<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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)	
12,500.00	90.13	270.37	7,003.06	-1,093.73	-7,156.74	7,150.72	0.00	0.00	0.00	
12,600.00	90.13	270.37	7,002.83	-1,093.08	-7,256.74	7,250.72	0.00	0.00	0.00	
12,700.00	90.13	270.37	7,002.60	-1,092.43	-7,356.74	7,350.72	0.00	0.00	0.00	
12,800.00	90.13	270.37	7,002.37	-1,091.78	-7,456.74	7,450.72	0.00	0.00	0.00	
12,900.00	90.13	270.37	7,002.14	-1,091.13	-7,556.74	7,550.72	0.00	0.00	0.00	
13,000.00	90.13	270.37	7,001.90	-1,090.48	-7,656.73	7,650.72	0.00	0.00	0.00	
13,100.00	90.13	270.37	7,001.67	-1,089.83	-7,756.73	7,750.72	0.00	0.00	0.00	
13,200.00	90.13	270.37	7,001.44	-1,089.18	-7,856.73	7,850.72	0.00	0.00	0.00	
13,300.00	90.13	270.37	7,001.21	-1,088.53	-7,956.73	7,950.72	0.00	0.00	0.00	
13,400.00	90.13	270.37	7,000.98	-1,087.88	-8,056.72	8,050.72	0.00	0.00	0.00	
13,500.00	90.13	270.37	7,000.75	-1,087.23	-8,156.72	8,150.72	0.00	0.00	0.00	
13,600.00	90.13	270.37	7,000.52	-1,086.58	-8,256.72	8,250.72	0.00	0.00	0.00	
13,700.00	90.13	270.37	7,000.28	-1,085.93	-8,356.72	8,350.72	0.00	0.00	0.00	
13,800.00	90.13	270.37	7,000.05	-1,085.28	-8,456.71	8,450.72	0.00	0.00	0.00	
13,900.00	90.13	270.37	6,999.82	-1,084.63	-8,556.71	8,550.72	0.00	0.00	0.00	
14,000.00	90.13	270.37	6,999.59	-1,083.98	-8,656.71	8,650.72	0.00	0.00	0.00	
14,100.00	90.13	270.37	6,999.36	-1,083.33	-8,756.71	8,750.72	0.00	0.00	0.00	
14,200.00	90.13	270.37	6,999.13	-1,082.68	-8,856.70	8,850.72	0.00	0.00	0.00	
14,300.00	90.13	270.37	6,998.89	-1,082.03	-8,956.70	8,950.72	0.00	0.00	0.00	
14,400.00	90.13	270.37	6,998.66	-1,081.38	-9,056.70	9,050.72	0.00	0.00	0.00	
14,500.00	90.13	270.37	6,998.43	-1,080.73	-9,156.70	9,150.72	0.00	0.00	0.00	
14,600.00	90.13	270.37	6,998.20	-1,080.08	-9,256.69	9,250.72	0.00	0.00	0.00	
14,700.00	90.13	270.37	6,997.97	-1,079.43	-9,356.69	9,350.72	0.00	0.00	0.00	
14,800.00	90.13	270.37	6,997.74	-1,078.78	-9,456.69	9,450.71	0.00	0.00	0.00	
14,900.00	90.13	270.37	6,997.51	-1,078.13	-9,556.69	9,550.71	0.00	0.00	0.00	
15,000.00	90.13	270.37	6,997.27	-1,077.48	-9,656.69	9,650.71	0.00	0.00	0.00	
15,100.00	90.13	270.37	6,997.04	-1,076.83	-9,756.68	9,750.71	0.00	0.00	0.00	
15,200.00	90.13	270.37	6,996.81	-1,076.18	-9,856.68	9,850.71	0.00	0.00	0.00	
15,300.00	90.13	270.37	6,996.58	-1,075.53	-9,956.68	9,950.71	0.00	0.00	0.00	
15,400.00	90.13	270.37	6,996.35	-1,074.88	-10,056.68	10,050.71	0.00	0.00	0.00	
15,500.00	90.13	270.37	6,996.12	-1,074.23	-10,156.67	10,150.71	0.00	0.00	0.00	
15,600.00	90.13	270.37	6,995.88	-1,073.58	-10,256.67	10,250.71	0.00	0.00	0.00	
15,700.00	90.13	270.37	6,995.65	-1,072.93	-10,356.67	10,350.71	0.00	0.00	0.00	
15,800.00	90.13	270.37	6,995.42	-1,072.28	-10,456.67	10,450.71	0.00	0.00	0.00	
15,900.00	90.13	270.37	6,995.19	-1,071.63	-10,556.66	10,550.71	0.00	0.00	0.00	
16,000.00	90.13	270.37	6,994.96	-1,070.98	-10,656.66	10,650.71	0.00	0.00	0.00	
16,100.00	90.13	270.37	6,994.73	-1,070.33	-10,756.66	10,750.71	0.00	0.00	0.00	
16,200.00	90.13	270.37	6,994.49	-1,069.68	-10,856.66	10,850.71	0.00	0.00	0.00	
16,300.00	90.13	270.37	6,994.26	-1,069.03	-10,956.65	10,950.71	0.00	0.00	0.00	
16,400.00	90.13	270.37	6,994.03	-1,068.38	-11,056.65	11,050.71	0.00	0.00	0.00	
16,500.00	90.13	270.37	6,993.80	-1,067.73	-11,156.65	11,150.71	0.00	0.00	0.00	
16,600.00	90.13	270.37	6,993.57	-1,067.08	-11,256.65	11,250.71	0.00	0.00	0.00	
16,700.00	90.13	270.37	6,993.34	-1,066.43	-11,356.64	11,350.71	0.00	0.00	0.00	
16,800.00	90.13	270.37	6,993.11	-1,065.78	-11,456.64	11,450.71	0.00	0.00	0.00	
16,900.00	90.13	270.37	6,992.87	-1,065.13	-11,556.64	11,550.71	0.00	0.00	0.00	
17,000.00	90.13	270.37	6,992.64	-1,064.48	-11,656.64	11,650.71	0.00	0.00	0.00	
17,100.00	90.13	270.37	6,992.41	-1,063.83	-11,756.64	11,750.71	0.00	0.00	0.00	
17,200.00	90.13	270.37	6,992.18	-1,063.18	-11,856.63	11,850.71	0.00	0.00	0.00	
17,300.00	90.13	270.37	6,991.95	-1,062.53	-11,956.63	11,950.71	0.00	0.00	0.00	
17,400.00	90.13	270.37	6,991.72	-1,061.88	-12,056.63	12,050.71	0.00	0.00	0.00	
17,500.00	90.13	270.37	6,991.48	-1,061.23	-12,156.63	12,150.71	0.00	0.00	0.00	
17,600.00	90.13	270.37	6,991.25	-1,060.58	-12,256.62	12,250.71	0.00	0.00	0.00	
17,700.00	90.13	270.37	6,991.02	-1,059.93	-12,356.62	12,350.71	0.00	0.00	0.00	
17,800.00	90.13	270.37	6,990.79	-1,059.28	-12,456.62	12,450.70	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 33-3HZ
<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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)	
17,900.00	90.13	270.37	6,990.56	-1,058.63	-12,556.62	12,550.70	0.00	0.00	0.00	
18,000.00	90.13	270.37	6,990.33	-1,057.98	-12,656.61	12,650.70	0.00	0.00	0.00	
18,100.00	90.13	270.37	6,990.09	-1,057.33	-12,756.61	12,750.70	0.00	0.00	0.00	
18,200.00	90.13	270.37	6,989.86	-1,056.68	-12,856.61	12,850.70	0.00	0.00	0.00	
18,300.00	90.13	270.37	6,989.63	-1,056.03	-12,956.61	12,950.70	0.00	0.00	0.00	
18,400.00	90.13	270.37	6,989.40	-1,055.38	-13,056.60	13,050.70	0.00	0.00	0.00	
18,500.00	90.13	270.37	6,989.17	-1,054.73	-13,156.60	13,150.70	0.00	0.00	0.00	
18,600.00	90.13	270.37	6,988.94	-1,054.08	-13,256.60	13,250.70	0.00	0.00	0.00	
18,700.00	90.13	270.37	6,988.71	-1,053.43	-13,356.60	13,350.70	0.00	0.00	0.00	
18,800.00	90.13	270.37	6,988.47	-1,052.78	-13,456.59	13,450.70	0.00	0.00	0.00	
18,900.00	90.13	270.37	6,988.24	-1,052.13	-13,556.59	13,550.70	0.00	0.00	0.00	
19,000.00	90.13	270.37	6,988.01	-1,051.48	-13,656.59	13,650.70	0.00	0.00	0.00	
19,100.00	90.13	270.37	6,987.78	-1,050.83	-13,756.59	13,750.70	0.00	0.00	0.00	
19,200.00	90.13	270.37	6,987.55	-1,050.18	-13,856.59	13,850.70	0.00	0.00	0.00	
19,300.00	90.13	270.37	6,987.32	-1,049.53	-13,956.58	13,950.70	0.00	0.00	0.00	
19,400.00	90.13	270.37	6,987.08	-1,048.88	-14,056.58	14,050.70	0.00	0.00	0.00	
19,500.00	90.13	270.37	6,986.85	-1,048.23	-14,156.58	14,150.70	0.00	0.00	0.00	
19,600.00	90.13	270.37	6,986.62	-1,047.58	-14,256.58	14,250.70	0.00	0.00	0.00	
19,700.00	90.13	270.37	6,986.39	-1,046.93	-14,356.57	14,350.70	0.00	0.00	0.00	
19,800.00	90.13	270.37	6,986.16	-1,046.28	-14,456.57	14,450.70	0.00	0.00	0.00	
19,868.32	90.13	270.37	6,986.00	-1,045.83	-14,524.89	14,519.01	0.00	0.00	0.00	
TD Well @ 19868.32ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.40	1,500.00	9 5/8"	9-5/8	13-1/2	
19,868.32	6,986.00	5.5" CSG	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
773.63	772.00	Fox Hills				
3,821.78	3,663.00	Parkman				
4,333.97	4,145.00	Sussex				
7,362.99	6,906.00	Sharon Springs				
7,424.53	6,936.00	Niobrara				

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-3HZ
<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 33-3HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
251.00	251.00	0.00	0.00	Begin Nudge @ 251.00ft
1,569.00	1,543.00	-112.78	-194.86	Hold Tangent @ 1569.00ft
6,855.40	6,517.81	-1,008.45	-1,742.46	KOP @ 6855.40ft :: DLS = 8"/100'
7,766.10	7,014.00	-1,111.39	-2,425.60	End Build @ 7766.10ft
9,606.63	7,009.74	-1,158.00	-4,265.53	Begin Turn for AC @ 9606.63ft
9,979.19	7,008.88	-1,143.23	-4,637.53	End Turn @ 9979.19ft
10,129.19	7,008.54	-1,127.55	-4,786.72	Begin Turn to BHL @ 10129.19ft
10,504.36	7,007.68	-1,106.70	-5,161.15	End Turn @ 10504.36ft
19,868.32	6,986.00	-1,045.83	-14,524.89	TD Well @ 19868.32ft