

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

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

**CAMENISCH 33-2HZ**

**Plan A**

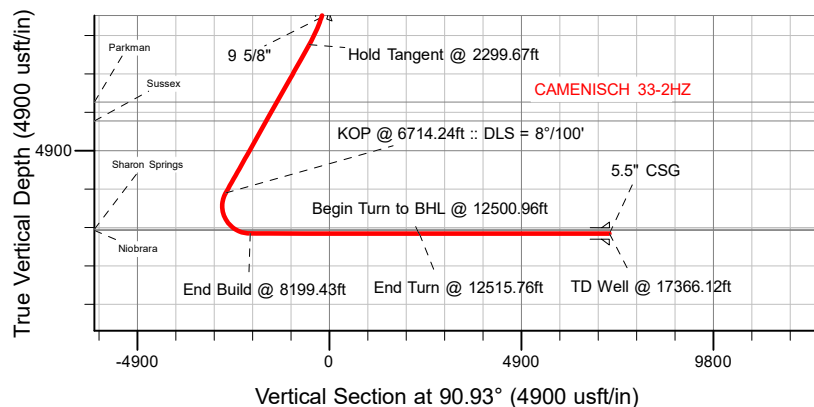
**Plan: Permit Rev-1**

## **Standard Planning Report**

**13 December, 2021**

# US ROCKIES WATTENBERG PLANNING

CASING DETAILS			
TVD	MD	Name	Size
1500.00	1524.95	9 5/8"	9-5/8
7020.05	17366.12	5.5" CSG	5-1/2



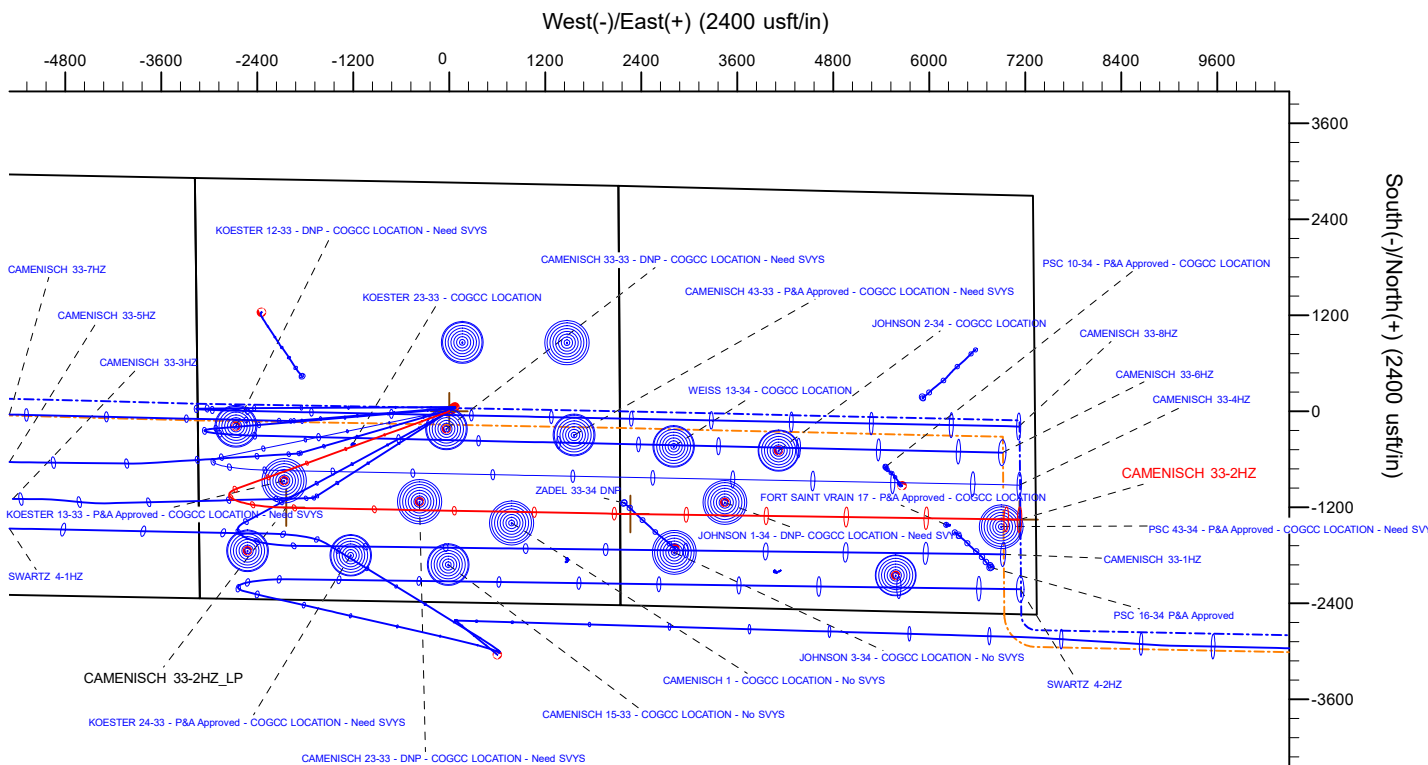
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	
2299.67	31.12	250.00	2199.15	-188.01	-516.56	1.50	250.00	-513.44	
6714.24	31.12	250.00	5978.41	-968.36	-2660.55	0.00	0.00	-2644.49	
8199.43	89.97	91.04	7016.00	-1204.58	-2037.69	8.00	-155.81	-2017.88	
12500.96	89.97	91.04	7017.89	-1282.99	2263.12	0.00	0.00	2283.65	CAMENISCH 33-2HZ_Lat Tgt
12515.76	89.97	90.82	7017.90	-1283.23	2277.92	1.50	-90.05	2298.45	
17366.12	89.97	90.82	7020.05	-1352.85	7127.78	0.00	0.00	7148.80	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	7016.00	14623399.28	1668035.36	40.265415	-104.900995
CAMENISCH 33-2HZ_BHL	7020.05	14623262.00	1677201.00	40.265005	-104.868140

SHL  
2388' FSL  
2132 FEL

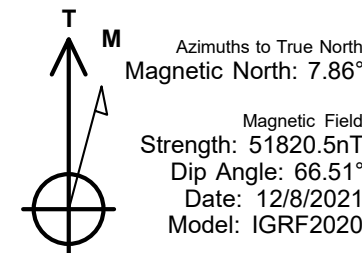
LP  
1150' FSL  
1094' FWL

**BHL**  
**1183' FSL**  
**205' FEL**



WELL DETAILS: CAMENISCH 33-2HZ
GL = 4870'
RKB = 17' @ 4887.00usft (RIG)
Plan: Permit Rev-1 (CAMENISCH 33-2HZ/Plan A)
Date: 12/14/2021

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
772.00	773.89	Fox Hills
3663.00	4009.59	Parkman
4145.00	4572.62	Sussex
6906.00	7792.78	Sharon Springs
6936.00	7853.99	Niobrara



## 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 A		
<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 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	51,820.54554723

<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	90.93	

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/13/2021			
<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-1 (Plan A)	APC_ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	2,000.00	17,366.12	Permit Rev-1 (Plan A)	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 A		
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	
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,299.67	31.12	250.00	2,199.15	-188.01	-516.56	1.50	1.50	0.00	250.00	
6,714.24	31.12	250.00	5,978.41	-968.36	-2,660.55	0.00	0.00	0.00	0.00	
8,199.43	89.97	91.04	7,016.00	-1,204.58	-2,037.69	8.00	3.96	-10.70	-155.81	
12,500.96	89.97	91.04	7,017.89	-1,282.99	2,263.12	0.00	0.00	0.00	0.00	CAMENISCH 33-2HZ
12,515.76	89.97	90.82	7,017.90	-1,283.23	2,277.92	1.50	0.00	-1.50	-90.05	
17,366.12	89.97	90.82	7,020.05	-1,352.85	7,127.78	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 A		
<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
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 225.00ft									
300.00	1.13	250.00	300.00	-0.25	-0.69	-0.69	1.50	1.50	0.00
400.00	2.63	250.00	399.94	-1.37	-3.77	-3.74	1.50	1.50	0.00
500.00	4.13	250.00	499.76	-3.38	-9.30	-9.24	1.50	1.50	0.00
600.00	5.63	250.00	599.40	-6.29	-17.28	-17.18	1.50	1.50	0.00
700.00	7.13	250.00	698.78	-10.09	-27.72	-27.55	1.50	1.50	0.00
773.89	8.23	250.00	772.00	-13.47	-36.99	-36.77	1.50	1.50	0.00
Fox Hills									
800.00	8.63	250.00	797.83	-14.77	-40.59	-40.35	1.50	1.50	0.00
900.00	10.13	250.00	896.49	-20.35	-55.90	-55.56	1.50	1.50	0.00
1,000.00	11.63	250.00	994.69	-26.80	-73.63	-73.18	1.50	1.50	0.00
1,100.00	13.13	250.00	1,092.37	-34.13	-93.76	-93.20	1.50	1.50	0.00
1,200.00	14.63	250.00	1,189.45	-42.33	-116.30	-115.60	1.50	1.50	0.00
1,300.00	16.13	250.00	1,285.87	-51.40	-141.21	-140.36	1.50	1.50	0.00
1,400.00	17.63	250.00	1,381.56	-61.33	-168.49	-167.47	1.50	1.50	0.00
1,500.00	19.13	250.00	1,476.46	-72.11	-198.11	-196.91	1.50	1.50	0.00
1,524.95	19.50	250.00	1,500.00	-74.93	-205.86	-204.62	1.50	1.50	0.00
9 5/8"									
1,600.00	20.63	250.00	1,570.50	-83.73	-230.06	-228.67	1.50	1.50	0.00
1,700.00	22.13	250.00	1,663.61	-96.20	-264.30	-262.71	1.50	1.50	0.00
1,800.00	23.63	250.00	1,755.75	-109.49	-300.83	-299.01	1.50	1.50	0.00
1,900.00	25.13	250.00	1,846.83	-123.61	-339.61	-337.56	1.50	1.50	0.00
2,000.00	26.63	250.00	1,936.80	-138.53	-380.62	-378.32	1.50	1.50	0.00
2,100.00	28.13	250.00	2,025.60	-154.26	-423.83	-421.27	1.50	1.50	0.00
2,200.00	29.63	250.00	2,113.17	-170.78	-469.20	-466.37	1.50	1.50	0.00
2,299.67	31.12	250.00	2,199.15	-188.01	-516.56	-513.44	1.50	1.50	0.00
Hold Tangent @ 2299.67ft									
2,400.00	31.12	250.00	2,285.05	-205.75	-565.28	-561.87	0.00	0.00	0.00
2,500.00	31.12	250.00	2,370.66	-223.42	-613.85	-610.14	0.00	0.00	0.00
2,600.00	31.12	250.00	2,456.26	-241.10	-662.42	-658.42	0.00	0.00	0.00
2,700.00	31.12	250.00	2,541.87	-258.78	-710.98	-706.69	0.00	0.00	0.00
2,800.00	31.12	250.00	2,627.48	-276.45	-759.55	-754.96	0.00	0.00	0.00
2,900.00	31.12	250.00	2,713.09	-294.13	-808.12	-803.24	0.00	0.00	0.00
3,000.00	31.12	250.00	2,798.70	-311.81	-856.68	-851.51	0.00	0.00	0.00
3,100.00	31.12	250.00	2,884.31	-329.48	-905.25	-899.78	0.00	0.00	0.00
3,200.00	31.12	250.00	2,969.92	-347.16	-953.82	-948.06	0.00	0.00	0.00
3,300.00	31.12	250.00	3,055.53	-364.84	-1,002.38	-996.33	0.00	0.00	0.00
3,400.00	31.12	250.00	3,141.13	-382.51	-1,050.95	-1,044.60	0.00	0.00	0.00
3,500.00	31.12	250.00	3,226.74	-400.19	-1,099.51	-1,092.87	0.00	0.00	0.00
3,600.00	31.12	250.00	3,312.35	-417.87	-1,148.08	-1,141.15	0.00	0.00	0.00
3,700.00	31.12	250.00	3,397.96	-435.54	-1,196.65	-1,189.42	0.00	0.00	0.00
3,800.00	31.12	250.00	3,483.57	-453.22	-1,245.21	-1,237.69	0.00	0.00	0.00
3,900.00	31.12	250.00	3,569.18	-470.90	-1,293.78	-1,285.97	0.00	0.00	0.00
4,000.00	31.12	250.00	3,654.79	-488.57	-1,342.35	-1,334.24	0.00	0.00	0.00
4,009.59	31.12	250.00	3,663.00	-490.27	-1,347.01	-1,338.87	0.00	0.00	0.00
Parkman									
4,100.00	31.12	250.00	3,740.40	-506.25	-1,390.91	-1,382.51	0.00	0.00	0.00
4,200.00	31.12	250.00	3,826.00	-523.93	-1,439.48	-1,430.79	0.00	0.00	0.00
4,300.00	31.12	250.00	3,911.61	-541.60	-1,488.05	-1,479.06	0.00	0.00	0.00
4,400.00	31.12	250.00	3,997.22	-559.28	-1,536.61	-1,527.33	0.00	0.00	0.00

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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 33-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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	31.12	250.00	4,082.83	-576.96	-1,585.18	-1,575.60	0.00	0.00	0.00
4,572.62	31.12	250.00	4,145.00	-589.79	-1,620.45	-1,610.66	0.00	0.00	0.00
Sussex									
4,600.00	31.12	250.00	4,168.44	-594.63	-1,633.74	-1,623.88	0.00	0.00	0.00
4,700.00	31.12	250.00	4,254.05	-612.31	-1,682.31	-1,672.15	0.00	0.00	0.00
4,800.00	31.12	250.00	4,339.66	-629.99	-1,730.88	-1,720.42	0.00	0.00	0.00
4,900.00	31.12	250.00	4,425.26	-647.66	-1,779.44	-1,768.70	0.00	0.00	0.00
5,000.00	31.12	250.00	4,510.87	-665.34	-1,828.01	-1,816.97	0.00	0.00	0.00
5,100.00	31.12	250.00	4,596.48	-683.02	-1,876.58	-1,865.24	0.00	0.00	0.00
5,200.00	31.12	250.00	4,682.09	-700.69	-1,925.14	-1,913.52	0.00	0.00	0.00
5,300.00	31.12	250.00	4,767.70	-718.37	-1,973.71	-1,961.79	0.00	0.00	0.00
5,400.00	31.12	250.00	4,853.31	-736.05	-2,022.28	-2,010.06	0.00	0.00	0.00
5,500.00	31.12	250.00	4,938.92	-753.72	-2,070.84	-2,058.34	0.00	0.00	0.00
5,600.00	31.12	250.00	5,024.53	-771.40	-2,119.41	-2,106.61	0.00	0.00	0.00
5,700.00	31.12	250.00	5,110.13	-789.08	-2,167.97	-2,154.88	0.00	0.00	0.00
5,800.00	31.12	250.00	5,195.74	-806.75	-2,216.54	-2,203.15	0.00	0.00	0.00
5,900.00	31.12	250.00	5,281.35	-824.43	-2,265.11	-2,251.43	0.00	0.00	0.00
6,000.00	31.12	250.00	5,366.96	-842.11	-2,313.67	-2,299.70	0.00	0.00	0.00
6,100.00	31.12	250.00	5,452.57	-859.78	-2,362.24	-2,347.97	0.00	0.00	0.00
6,200.00	31.12	250.00	5,538.18	-877.46	-2,410.81	-2,396.25	0.00	0.00	0.00
6,300.00	31.12	250.00	5,623.79	-895.14	-2,459.37	-2,444.52	0.00	0.00	0.00
6,400.00	31.12	250.00	5,709.39	-912.82	-2,507.94	-2,492.79	0.00	0.00	0.00
6,500.00	31.12	250.00	5,795.00	-930.49	-2,556.50	-2,541.07	0.00	0.00	0.00
6,600.00	31.12	250.00	5,880.61	-948.17	-2,605.07	-2,589.34	0.00	0.00	0.00
6,700.00	31.12	250.00	5,966.22	-965.85	-2,653.64	-2,637.61	0.00	0.00	0.00
6,714.24	31.12	250.00	5,978.41	-968.36	-2,660.55	-2,644.49	0.00	0.00	0.00
KOP @ 6714.24ft :: DLS = 8°/100'									
6,750.00	28.53	247.55	6,009.43	-974.79	-2,677.13	-2,660.96	8.00	-7.24	-6.86
6,800.00	25.00	243.35	6,054.07	-984.09	-2,697.62	-2,681.29	8.00	-7.05	-8.39
6,850.00	21.63	237.91	6,099.99	-993.73	-2,714.88	-2,698.39	8.00	-6.75	-10.88
6,900.00	18.49	230.65	6,146.95	-1,003.66	-2,728.83	-2,712.18	8.00	-6.27	-14.52
6,950.00	15.74	220.76	6,194.75	-1,013.83	-2,739.39	-2,722.57	8.00	-5.51	-19.78
7,000.00	13.59	207.35	6,243.13	-1,024.19	-2,746.52	-2,729.53	8.00	-4.29	-26.81
7,050.00	12.39	190.31	6,291.87	-1,034.68	-2,750.18	-2,733.02	8.00	-2.41	-34.09
7,100.00	12.39	171.59	6,340.72	-1,045.27	-2,750.35	-2,733.02	8.00	0.01	-37.45
7,150.00	13.61	154.57	6,389.46	-1,055.90	-2,747.04	-2,729.54	8.00	2.44	-34.03
7,200.00	15.76	141.21	6,437.83	-1,066.51	-2,740.26	-2,722.59	8.00	4.30	-26.73
7,250.00	18.52	131.35	6,485.62	-1,077.05	-2,730.04	-2,712.20	8.00	5.52	-19.72
7,300.00	21.66	124.11	6,532.58	-1,087.48	-2,716.43	-2,698.42	8.00	6.28	-14.48
7,350.00	25.04	118.68	6,578.48	-1,097.73	-2,699.50	-2,681.32	8.00	6.75	-10.85
7,400.00	28.57	114.50	6,623.11	-1,107.77	-2,679.33	-2,660.99	8.00	7.06	-8.37
7,450.00	32.20	111.17	6,666.23	-1,117.55	-2,656.02	-2,637.53	8.00	7.26	-6.65
7,500.00	35.90	108.46	6,707.66	-1,127.00	-2,629.68	-2,611.04	8.00	7.40	-5.42
7,550.00	39.65	106.20	6,747.17	-1,136.10	-2,600.44	-2,581.66	8.00	7.51	-4.53
7,600.00	43.44	104.27	6,784.59	-1,144.79	-2,568.45	-2,549.53	8.00	7.58	-3.86
7,650.00	47.26	102.59	6,819.72	-1,153.03	-2,533.85	-2,514.80	8.00	7.64	-3.35
7,700.00	51.10	101.11	6,852.40	-1,160.79	-2,496.83	-2,477.66	8.00	7.68	-2.96
7,750.00	54.96	99.78	6,882.46	-1,168.02	-2,457.55	-2,438.26	8.00	7.71	-2.66
7,792.78	58.27	98.74	6,906.00	-1,173.76	-2,422.30	-2,402.93	8.00	7.74	-2.43
Sharon Springs									
7,800.00	58.83	98.57	6,909.77	-1,174.69	-2,416.21	-2,396.82	8.00	7.75	-2.33
7,850.00	62.71	97.46	6,934.18	-1,180.76	-2,373.01	-2,353.53	8.00	7.76	-2.23
7,853.99	63.02	97.37	6,936.00	-1,181.22	-2,369.49	-2,350.00	8.00	7.77	-2.14

## 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 A		
<b>Design:</b>	Permit Rev-1		

## Planned Survey

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
Niobrara									
7,900.00	66.60	96.42	6,955.58	-1,186.21	-2,328.16	-2,308.60	8.00	7.78	-2.07
7,950.00	70.49	95.44	6,973.87	-1,191.02	-2,281.89	-2,262.25	8.00	7.79	-1.96
8,000.00	74.39	94.51	6,988.95	-1,195.15	-2,234.40	-2,214.71	8.00	7.80	-1.87
8,050.00	78.30	93.61	7,000.75	-1,198.58	-2,185.95	-2,166.21	8.00	7.81	-1.80
8,100.00	82.20	92.74	7,009.22	-1,201.31	-2,136.76	-2,116.98	8.00	7.81	-1.75
8,150.00	86.11	91.88	7,014.31	-1,203.32	-2,087.07	-2,067.26	8.00	7.82	-1.71
8,199.43	89.97	91.04	7,016.00	-1,204.58	-2,037.69	-2,017.88	8.00	7.82	-1.70
End Build @ 8199.43ft									
8,300.00	89.97	91.04	7,016.04	-1,206.41	-1,937.14	-1,917.30	0.00	0.00	0.00
8,400.00	89.97	91.04	7,016.08	-1,208.23	-1,837.16	-1,817.30	0.00	0.00	0.00
8,500.00	89.97	91.04	7,016.13	-1,210.06	-1,737.17	-1,717.30	0.00	0.00	0.00
8,600.00	89.97	91.04	7,016.17	-1,211.88	-1,637.19	-1,617.30	0.00	0.00	0.00
8,700.00	89.97	91.04	7,016.22	-1,213.70	-1,537.21	-1,517.30	0.00	0.00	0.00
8,800.00	89.97	91.04	7,016.26	-1,215.53	-1,437.22	-1,417.30	0.00	0.00	0.00
8,900.00	89.97	91.04	7,016.30	-1,217.35	-1,337.24	-1,317.30	0.00	0.00	0.00
9,000.00	89.97	91.04	7,016.35	-1,219.17	-1,237.26	-1,217.30	0.00	0.00	0.00
9,100.00	89.97	91.04	7,016.39	-1,220.99	-1,137.27	-1,117.30	0.00	0.00	0.00
9,200.00	89.97	91.04	7,016.44	-1,222.82	-1,037.29	-1,017.30	0.00	0.00	0.00
9,300.00	89.97	91.04	7,016.48	-1,224.64	-937.31	-917.31	0.00	0.00	0.00
9,400.00	89.97	91.04	7,016.52	-1,226.46	-837.32	-817.31	0.00	0.00	0.00
9,500.00	89.97	91.04	7,016.57	-1,228.29	-737.34	-717.31	0.00	0.00	0.00
9,600.00	89.97	91.04	7,016.61	-1,230.11	-637.36	-617.31	0.00	0.00	0.00
9,700.00	89.97	91.04	7,016.66	-1,231.93	-537.37	-517.31	0.00	0.00	0.00
9,800.00	89.97	91.04	7,016.70	-1,233.75	-437.39	-417.31	0.00	0.00	0.00
9,900.00	89.97	91.04	7,016.74	-1,235.58	-337.41	-317.31	0.00	0.00	0.00
10,000.00	89.97	91.04	7,016.79	-1,237.40	-237.42	-217.31	0.00	0.00	0.00
10,100.00	89.97	91.04	7,016.83	-1,239.22	-137.44	-117.31	0.00	0.00	0.00
10,200.00	89.97	91.04	7,016.88	-1,241.05	-37.46	-17.31	0.00	0.00	0.00
10,300.00	89.97	91.04	7,016.92	-1,242.87	62.53	82.69	0.00	0.00	0.00
10,400.00	89.97	91.04	7,016.97	-1,244.69	162.51	182.69	0.00	0.00	0.00
10,500.00	89.97	91.04	7,017.01	-1,246.51	262.49	282.69	0.00	0.00	0.00
10,600.00	89.97	91.04	7,017.05	-1,248.34	362.48	382.69	0.00	0.00	0.00
10,700.00	89.97	91.04	7,017.10	-1,250.16	462.46	482.69	0.00	0.00	0.00
10,800.00	89.97	91.04	7,017.14	-1,251.98	562.45	582.69	0.00	0.00	0.00
10,900.00	89.97	91.04	7,017.19	-1,253.81	662.43	682.69	0.00	0.00	0.00
11,000.00	89.97	91.04	7,017.23	-1,255.63	762.41	782.69	0.00	0.00	0.00
11,100.00	89.97	91.04	7,017.27	-1,257.45	862.40	882.69	0.00	0.00	0.00
11,200.00	89.97	91.04	7,017.32	-1,259.27	962.38	982.69	0.00	0.00	0.00
11,300.00	89.97	91.04	7,017.36	-1,261.10	1,062.36	1,082.69	0.00	0.00	0.00
11,400.00	89.97	91.04	7,017.41	-1,262.92	1,162.35	1,182.69	0.00	0.00	0.00
11,500.00	89.97	91.04	7,017.45	-1,264.74	1,262.33	1,282.69	0.00	0.00	0.00
11,600.00	89.97	91.04	7,017.49	-1,266.57	1,362.31	1,382.69	0.00	0.00	0.00
11,700.00	89.97	91.04	7,017.54	-1,268.39	1,462.30	1,482.69	0.00	0.00	0.00
11,800.00	89.97	91.04	7,017.58	-1,270.21	1,562.28	1,582.69	0.00	0.00	0.00
11,900.00	89.97	91.04	7,017.63	-1,272.04	1,662.26	1,682.69	0.00	0.00	0.00
12,000.00	89.97	91.04	7,017.67	-1,273.86	1,762.25	1,782.69	0.00	0.00	0.00
12,100.00	89.97	91.04	7,017.71	-1,275.68	1,862.23	1,882.69	0.00	0.00	0.00
12,200.00	89.97	91.04	7,017.76	-1,277.50	1,962.21	1,982.69	0.00	0.00	0.00
12,300.00	89.97	91.04	7,017.80	-1,279.33	2,062.20	2,082.69	0.00	0.00	0.00
12,400.00	89.97	91.04	7,017.85	-1,281.15	2,162.18	2,182.69	0.00	0.00	0.00
12,500.96	89.97	91.04	7,017.89	-1,282.99	2,263.12	2,283.65	0.00	0.00	0.00
Begin Turn to BHL @ 12500.96ft									

## 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 A		
<b>Design:</b>	Permit Rev-1		

## Planned Survey

Measured	Vertical			Vertical			Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
12,515.76	89.97	90.82	7,017.90	-1,283.23	2,277.92	2,298.45	1.50	0.00	-1.50
End Turn @ 12515.76ft									
12,600.00	89.97	90.82	7,017.93	-1,284.44	2,362.15	2,382.69	0.00	0.00	0.00
12,700.00	89.97	90.82	7,017.98	-1,285.88	2,462.14	2,482.69	0.00	0.00	0.00
12,800.00	89.97	90.82	7,018.02	-1,287.31	2,562.13	2,582.69	0.00	0.00	0.00
12,900.00	89.97	90.82	7,018.07	-1,288.75	2,662.12	2,682.69	0.00	0.00	0.00
13,000.00	89.97	90.82	7,018.11	-1,290.18	2,762.11	2,782.69	0.00	0.00	0.00
13,100.00	89.97	90.82	7,018.16	-1,291.62	2,862.10	2,882.69	0.00	0.00	0.00
13,200.00	89.97	90.82	7,018.20	-1,293.05	2,962.09	2,982.69	0.00	0.00	0.00
13,300.00	89.97	90.82	7,018.24	-1,294.49	3,062.08	3,082.69	0.00	0.00	0.00
13,400.00	89.97	90.82	7,018.29	-1,295.92	3,162.07	3,182.69	0.00	0.00	0.00
13,500.00	89.97	90.82	7,018.33	-1,297.36	3,262.06	3,282.69	0.00	0.00	0.00
13,600.00	89.97	90.82	7,018.38	-1,298.79	3,362.05	3,382.69	0.00	0.00	0.00
13,700.00	89.97	90.82	7,018.42	-1,300.23	3,462.04	3,482.69	0.00	0.00	0.00
13,800.00	89.97	90.82	7,018.47	-1,301.66	3,562.03	3,582.69	0.00	0.00	0.00
13,900.00	89.97	90.82	7,018.51	-1,303.10	3,662.02	3,682.69	0.00	0.00	0.00
14,000.00	89.97	90.82	7,018.56	-1,304.53	3,762.01	3,782.69	0.00	0.00	0.00
14,100.00	89.97	90.82	7,018.60	-1,305.97	3,862.00	3,882.69	0.00	0.00	0.00
14,200.00	89.97	90.82	7,018.64	-1,307.41	3,961.99	3,982.69	0.00	0.00	0.00
14,300.00	89.97	90.82	7,018.69	-1,308.84	4,061.98	4,082.68	0.00	0.00	0.00
14,400.00	89.97	90.82	7,018.73	-1,310.28	4,161.97	4,182.68	0.00	0.00	0.00
14,500.00	89.97	90.82	7,018.78	-1,311.71	4,261.96	4,282.68	0.00	0.00	0.00
14,600.00	89.97	90.82	7,018.82	-1,313.15	4,361.95	4,382.68	0.00	0.00	0.00
14,700.00	89.97	90.82	7,018.87	-1,314.58	4,461.94	4,482.68	0.00	0.00	0.00
14,800.00	89.97	90.82	7,018.91	-1,316.02	4,561.92	4,582.68	0.00	0.00	0.00
14,900.00	89.97	90.82	7,018.96	-1,317.45	4,661.91	4,682.68	0.00	0.00	0.00
15,000.00	89.97	90.82	7,019.00	-1,318.89	4,761.90	4,782.68	0.00	0.00	0.00
15,100.00	89.97	90.82	7,019.04	-1,320.32	4,861.89	4,882.68	0.00	0.00	0.00
15,200.00	89.97	90.82	7,019.09	-1,321.76	4,961.88	4,982.68	0.00	0.00	0.00
15,300.00	89.97	90.82	7,019.13	-1,323.19	5,061.87	5,082.68	0.00	0.00	0.00
15,400.00	89.97	90.82	7,019.18	-1,324.63	5,161.86	5,182.68	0.00	0.00	0.00
15,500.00	89.97	90.82	7,019.22	-1,326.06	5,261.85	5,282.68	0.00	0.00	0.00
15,600.00	89.97	90.82	7,019.27	-1,327.50	5,361.84	5,382.68	0.00	0.00	0.00
15,700.00	89.97	90.82	7,019.31	-1,328.94	5,461.83	5,482.68	0.00	0.00	0.00
15,800.00	89.97	90.82	7,019.35	-1,330.37	5,561.82	5,582.68	0.00	0.00	0.00
15,900.00	89.97	90.82	7,019.40	-1,331.81	5,661.81	5,682.68	0.00	0.00	0.00
16,000.00	89.97	90.82	7,019.44	-1,333.24	5,761.80	5,782.68	0.00	0.00	0.00
16,100.00	89.97	90.82	7,019.49	-1,334.68	5,861.79	5,882.68	0.00	0.00	0.00
16,200.00	89.97	90.82	7,019.53	-1,336.11	5,961.78	5,982.68	0.00	0.00	0.00
16,300.00	89.97	90.82	7,019.58	-1,337.55	6,061.77	6,082.68	0.00	0.00	0.00
16,400.00	89.97	90.82	7,019.62	-1,338.98	6,161.76	6,182.68	0.00	0.00	0.00
16,500.00	89.97	90.82	7,019.67	-1,340.42	6,261.75	6,282.68	0.00	0.00	0.00
16,600.00	89.97	90.82	7,019.71	-1,341.85	6,361.74	6,382.68	0.00	0.00	0.00
16,700.00	89.97	90.82	7,019.75	-1,343.29	6,461.73	6,482.68	0.00	0.00	0.00
16,800.00	89.97	90.82	7,019.80	-1,344.72	6,561.72	6,582.68	0.00	0.00	0.00
16,900.00	89.97	90.82	7,019.84	-1,346.16	6,661.71	6,682.68	0.00	0.00	0.00
17,000.00	89.97	90.82	7,019.89	-1,347.59	6,761.70	6,782.68	0.00	0.00	0.00
17,100.00	89.97	90.82	7,019.93	-1,349.03	6,861.69	6,882.68	0.00	0.00	0.00
17,200.00	89.97	90.82	7,019.98	-1,350.47	6,961.68	6,982.68	0.00	0.00	0.00
17,300.00	89.97	90.82	7,020.02	-1,351.90	7,061.67	7,082.68	0.00	0.00	0.00
17,366.12	89.97	90.82	7,020.05	-1,352.85	7,127.78	7,148.80	0.00	0.00	0.00
TD Well @ 17366.12ft - 5.5" CSG									



## 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 A		
<b>Design:</b>	Permit Rev-1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,524.95	1,500.00	9 5/8"		9-5/8	13-1/2
17,366.12	7,020.05	5.5" CSG		5-1/2	7-7/8

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
773.89	772.00	Fox Hills				
4,009.59	3,663.00	Parkman				
4,572.62	4,145.00	Sussex				
7,792.78	6,906.00	Sharon Springs				
7,853.99	6,936.00	Niobrara				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
225.00	225.00	0.00	0.00	Begin Nudge @ 225.00ft	
2,299.67	2,199.15	-188.01	-516.56	Hold Tangent @ 2299.67ft	
6,714.24	5,978.41	-968.36	-2,660.55	KOP @ 6714.24ft :: DLS = 8°/100'	
8,199.43	7,016.00	-1,204.58	-2,037.69	End Build @ 8199.43ft	
12,500.96	7,017.89	-1,282.99	2,263.12	Begin Turn to BHL @ 12500.96ft	
12,515.76	7,017.90	-1,283.23	2,277.92	End Turn @ 12515.76ft	
17,366.12	7,020.05	-1,352.85	7,127.78	TD Well @ 17366.12ft	