

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

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

**CAMENISCH 33-5HZ**

**Plan B**

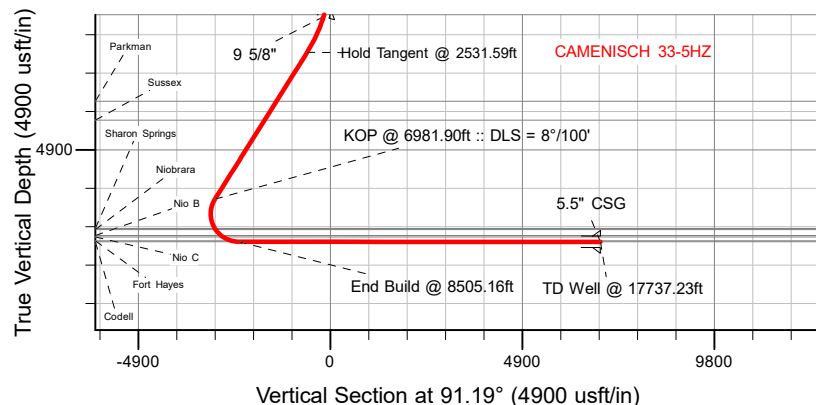
**Plan: Permit Rev-1**

## **Standard Planning Report**

**22 June, 2023**

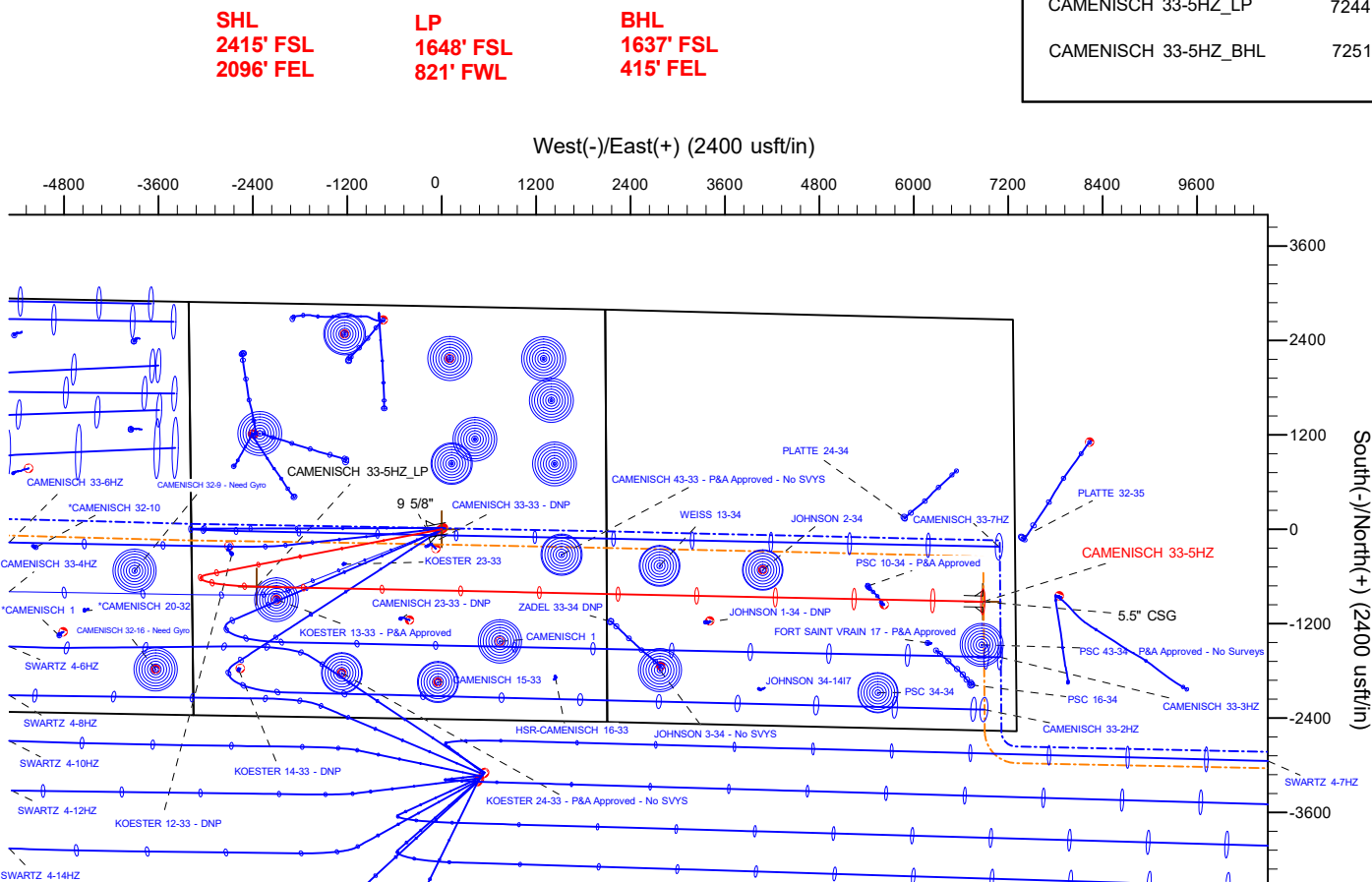
# US ROCKIES WATTENBERG PLANNING

CASING DETAILS			
TVD	MD	Name	Size
1500.00	1518.11	9 5/8"	9-5/8
7251.00	17737.23	5.5" CSG	5-1/2



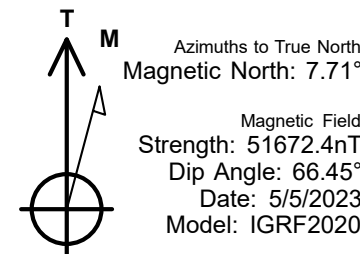
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
350.26	0.00	0.00	350.26	0.00	0.00	0.00	0.00	0.00	
2531.59	32.72	259.08	2414.95	-114.82	-595.13	1.50	259.08	-592.62	
6981.90	32.72	259.08	6159.09	-570.52	-2957.11	0.00	0.00	-2944.63	
8505.16	89.96	91.19	7244.00	-729.27	-2352.82	8.00	-165.70	-2337.17	
17737.23	89.96	91.19	7251.00	-921.44	6877.24	0.00	0.00	6894.89	CAMENISCH 33-5HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	Northing	Easting	Latitude	Longitude
CAMENISCH 33-5HZ_SHL	0.00	14624633.18	1670107.66	40.268796	-104.893561
CAMENISCH 33-5HZ_LP	7244.00	14623901.09	1667755.72	40.266793	-104.901996
CAMENISCH 33-5HZ_BHL	7251.00	14623720.00	1676986.00	40.266263	-104.868908



WELL DETAILS: CAMENISCH 33-5HZ
GL = 4870'
RKB = 17' @ 4887.00usft (RIG)
Plan: Permit Rev-1 (CAMENISCH 33-5HZ/Plan B)
Date: 6/22/2023

FORMATION TOP DETAILS		
TVDPPath	MDPath	Formation
772.00	772.86	Fox Hills
3663.00	4015.03	Parkman
4145.00	4587.94	Sussex
6906.00	7775.55	Sharon Springs
6936.00	7811.66	Niobrara
7088.00	8021.71	Nio B
7120.00	8075.95	Nio C
7222.00	8326.93	Fort Hayes
7243.00	8467.70	Codell



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-5HZ
<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 33-5HZ	<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 33-5HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,624,633.18 usft	Latitude:	40.268796
	+E/-W	0.00 usft	Easting:	1,670,107.66 usft	Longitude:	-104.893562
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	5/5/2023	7.71	66.45	51,672.43876862

<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	91.19	

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/19/2023			
<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	17,737.23	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 33-5HZ
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 33-5HZ	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	
350.26	0.00	0.00	350.26	0.00	0.00	0.00	0.00	0.00	0.00	
2,531.59	32.72	259.08	2,414.95	-114.82	-595.13	1.50	1.50	0.00	259.08	
6,981.90	32.72	259.08	6,159.09	-570.52	-2,957.11	0.00	0.00	0.00	0.00	
8,505.16	89.96	91.19	7,244.00	-729.27	-2,352.82	8.00	3.76	-11.02	-165.70	
17,737.23	89.96	91.19	7,251.00	-921.44	6,877.24	0.00	0.00	0.00	0.00	CAMENISCH 33-5HZ

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-5HZ
<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 33-5HZ	<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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
350.26	0.00	0.00	350.26	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 350.26ft									
400.00	0.75	259.08	400.00	-0.06	-0.32	-0.32	1.50	1.50	0.00
500.00	2.25	259.08	499.96	-0.56	-2.88	-2.87	1.50	1.50	0.00
600.00	3.75	259.08	599.82	-1.55	-8.01	-7.98	1.50	1.50	0.00
700.00	5.25	259.08	699.51	-3.03	-15.71	-15.64	1.50	1.50	0.00
772.86	6.34	259.08	772.00	-4.42	-22.93	-22.83	1.50	1.50	0.00
Fox Hills									
800.00	6.75	259.08	798.96	-5.01	-25.97	-25.86	1.50	1.50	0.00
900.00	8.25	259.08	898.10	-7.48	-38.78	-38.61	1.50	1.50	0.00
1,000.00	9.75	259.08	996.87	-10.44	-54.13	-53.90	1.50	1.50	0.00
1,100.00	11.25	259.08	1,095.20	-13.89	-72.02	-71.71	1.50	1.50	0.00
1,200.00	12.75	259.08	1,193.01	-17.83	-92.42	-92.03	1.50	1.50	0.00
1,300.00	14.25	259.08	1,290.24	-22.25	-115.34	-114.85	1.50	1.50	0.00
1,400.00	15.75	259.08	1,386.84	-27.15	-140.74	-140.15	1.50	1.50	0.00
1,500.00	17.25	259.08	1,482.72	-32.53	-168.62	-167.91	1.50	1.50	0.00
1,518.11	17.52	259.08	1,500.00	-33.56	-173.94	-173.20	1.50	1.50	0.00
9 5/8"									
1,600.00	18.75	259.08	1,577.82	-38.39	-198.96	-198.12	1.50	1.50	0.00
1,700.00	20.25	259.08	1,672.09	-44.71	-231.73	-230.75	1.50	1.50	0.00
1,800.00	21.75	259.08	1,765.44	-51.50	-266.91	-265.78	1.50	1.50	0.00
1,900.00	23.25	259.08	1,857.83	-58.74	-304.48	-303.19	1.50	1.50	0.00
2,000.00	24.75	259.08	1,949.19	-66.45	-344.41	-342.95	1.50	1.50	0.00
2,100.00	26.25	259.08	2,039.45	-74.60	-386.67	-385.04	1.50	1.50	0.00
2,200.00	27.75	259.08	2,128.55	-83.20	-431.24	-429.42	1.50	1.50	0.00
2,300.00	29.25	259.08	2,216.43	-92.24	-478.09	-476.07	1.50	1.50	0.00
2,400.00	30.75	259.08	2,303.03	-101.71	-527.17	-524.95	1.50	1.50	0.00
2,500.00	32.25	259.08	2,388.30	-111.61	-578.47	-576.03	1.50	1.50	0.00
2,531.59	32.72	259.08	2,414.95	-114.82	-595.13	-592.62	1.50	1.50	0.00
Hold Tangent @ 2531.59ft									
2,600.00	32.72	259.08	2,472.50	-121.82	-631.44	-628.77	0.00	0.00	0.00
2,700.00	32.72	259.08	2,556.63	-132.06	-684.51	-681.62	0.00	0.00	0.00
2,800.00	32.72	259.08	2,640.76	-142.30	-737.59	-734.47	0.00	0.00	0.00
2,900.00	32.72	259.08	2,724.90	-152.54	-790.66	-787.32	0.00	0.00	0.00
3,000.00	32.72	259.08	2,809.03	-162.78	-843.73	-840.17	0.00	0.00	0.00
3,100.00	32.72	259.08	2,893.16	-173.02	-896.81	-893.02	0.00	0.00	0.00
3,200.00	32.72	259.08	2,977.29	-183.26	-949.88	-945.87	0.00	0.00	0.00
3,300.00	32.72	259.08	3,061.43	-193.50	-1,002.96	-998.72	0.00	0.00	0.00
3,400.00	32.72	259.08	3,145.56	-203.74	-1,056.03	-1,051.57	0.00	0.00	0.00
3,500.00	32.72	259.08	3,229.69	-213.98	-1,109.11	-1,104.42	0.00	0.00	0.00
3,600.00	32.72	259.08	3,313.82	-224.22	-1,162.18	-1,157.28	0.00	0.00	0.00
3,700.00	32.72	259.08	3,397.95	-234.46	-1,215.26	-1,210.13	0.00	0.00	0.00
3,800.00	32.72	259.08	3,482.09	-244.70	-1,268.33	-1,262.98	0.00	0.00	0.00
3,900.00	32.72	259.08	3,566.22	-254.94	-1,321.41	-1,315.83	0.00	0.00	0.00
4,000.00	32.72	259.08	3,650.35	-265.18	-1,374.48	-1,368.68	0.00	0.00	0.00
4,015.03	32.72	259.08	3,663.00	-266.72	-1,382.46	-1,376.62	0.00	0.00	0.00
Parkman									
4,100.00	32.72	259.08	3,734.48	-275.42	-1,427.56	-1,421.53	0.00	0.00	0.00
4,200.00	32.72	259.08	3,818.62	-285.66	-1,480.63	-1,474.38	0.00	0.00	0.00
4,300.00	32.72	259.08	3,902.75	-295.90	-1,533.71	-1,527.23	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 33-5HZ	<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)
4,400.00	32.72	259.08	3,986.88	-306.14	-1,586.78	-1,580.08	0.00	0.00	0.00
4,500.00	32.72	259.08	4,071.01	-316.38	-1,639.85	-1,632.93	0.00	0.00	0.00
4,587.94	32.72	259.08	4,145.00	-325.39	-1,686.53	-1,679.41	0.00	0.00	0.00
Sussex									
4,600.00	32.72	259.08	4,155.14	-326.62	-1,692.93	-1,685.78	0.00	0.00	0.00
4,700.00	32.72	259.08	4,239.28	-336.86	-1,746.00	-1,738.63	0.00	0.00	0.00
4,800.00	32.72	259.08	4,323.41	-347.10	-1,799.08	-1,791.48	0.00	0.00	0.00
4,900.00	32.72	259.08	4,407.54	-357.34	-1,852.15	-1,844.33	0.00	0.00	0.00
5,000.00	32.72	259.08	4,491.67	-367.58	-1,905.23	-1,897.18	0.00	0.00	0.00
5,100.00	32.72	259.08	4,575.81	-377.82	-1,958.30	-1,950.03	0.00	0.00	0.00
5,200.00	32.72	259.08	4,659.94	-388.06	-2,011.38	-2,002.88	0.00	0.00	0.00
5,300.00	32.72	259.08	4,744.07	-398.30	-2,064.45	-2,055.73	0.00	0.00	0.00
5,400.00	32.72	259.08	4,828.20	-408.54	-2,117.53	-2,108.59	0.00	0.00	0.00
5,500.00	32.72	259.08	4,912.33	-418.78	-2,170.60	-2,161.44	0.00	0.00	0.00
5,600.00	32.72	259.08	4,996.47	-429.02	-2,223.68	-2,214.29	0.00	0.00	0.00
5,700.00	32.72	259.08	5,080.60	-439.26	-2,276.75	-2,267.14	0.00	0.00	0.00
5,800.00	32.72	259.08	5,164.73	-449.50	-2,329.82	-2,319.99	0.00	0.00	0.00
5,900.00	32.72	259.08	5,248.86	-459.74	-2,382.90	-2,372.84	0.00	0.00	0.00
6,000.00	32.72	259.08	5,333.00	-469.98	-2,435.97	-2,425.69	0.00	0.00	0.00
6,100.00	32.72	259.08	5,417.13	-480.22	-2,489.05	-2,478.54	0.00	0.00	0.00
6,200.00	32.72	259.08	5,501.26	-490.46	-2,542.12	-2,531.39	0.00	0.00	0.00
6,300.00	32.72	259.08	5,585.39	-500.70	-2,595.20	-2,584.24	0.00	0.00	0.00
6,400.00	32.72	259.08	5,669.52	-510.94	-2,648.27	-2,637.09	0.00	0.00	0.00
6,500.00	32.72	259.08	5,753.66	-521.18	-2,701.35	-2,689.94	0.00	0.00	0.00
6,600.00	32.72	259.08	5,837.79	-531.42	-2,754.42	-2,742.79	0.00	0.00	0.00
6,700.00	32.72	259.08	5,921.92	-541.66	-2,807.50	-2,795.64	0.00	0.00	0.00
6,800.00	32.72	259.08	6,006.05	-551.89	-2,860.57	-2,848.49	0.00	0.00	0.00
6,900.00	32.72	259.08	6,090.19	-562.13	-2,913.65	-2,901.34	0.00	0.00	0.00
6,981.90	32.72	259.08	6,159.09	-570.52	-2,957.11	-2,944.63	0.00	0.00	0.00
KOP @ 6981.90ft :: DLS = 8°/100'									
7,000.00	31.32	258.39	6,174.44	-572.39	-2,966.53	-2,954.00	8.00	-7.74	-3.80
7,050.00	27.47	256.17	6,217.99	-577.77	-2,990.46	-2,977.82	8.00	-7.70	-4.45
7,100.00	23.67	253.28	6,263.09	-583.42	-3,011.28	-2,998.51	8.00	-7.61	-5.77
7,150.00	19.94	249.38	6,309.51	-589.31	-3,028.88	-3,015.99	8.00	-7.46	-7.80
7,200.00	16.33	243.80	6,357.02	-595.42	-3,043.17	-3,030.15	8.00	-7.22	-11.15
7,250.00	12.95	235.30	6,405.39	-601.71	-3,054.08	-3,040.93	8.00	-6.77	-17.01
7,300.00	10.02	221.47	6,454.40	-608.16	-3,061.57	-3,048.28	8.00	-5.86	-27.66
7,350.00	8.06	199.00	6,503.79	-614.73	-3,065.59	-3,052.17	8.00	-3.92	-44.94
7,400.00	7.83	169.78	6,553.33	-621.40	-3,066.13	-3,052.56	8.00	-0.46	-58.43
7,450.00	9.46	145.18	6,602.78	-628.12	-3,063.18	-3,049.47	8.00	3.26	-49.20
7,500.00	12.22	129.65	6,651.89	-634.88	-3,056.76	-3,042.91	8.00	5.53	-31.06
7,550.00	15.53	120.19	6,700.43	-641.62	-3,046.89	-3,032.91	8.00	6.61	-18.92
7,600.00	19.10	114.09	6,748.16	-648.33	-3,033.63	-3,019.51	8.00	7.14	-12.21
7,650.00	22.81	109.88	6,794.85	-654.97	-3,017.04	-3,002.79	8.00	7.42	-8.42
7,700.00	26.60	106.80	6,840.27	-661.50	-2,997.21	-2,982.82	8.00	7.58	-6.15
7,750.00	30.44	104.45	6,884.20	-667.90	-2,974.22	-2,959.70	8.00	7.68	-4.71
7,775.55	32.41	103.44	6,906.00	-671.10	-2,961.29	-2,946.71	8.00	7.73	-3.93
Sharon Springs									
7,800.00	34.31	102.58	6,926.42	-674.13	-2,948.19	-2,933.55	8.00	7.76	-3.54
7,811.67	35.22	102.19	6,936.00	-675.55	-2,941.69	-2,927.03	8.00	7.78	-3.29
Niobrara									
7,850.00	38.21	101.04	6,966.73	-680.16	-2,919.25	-2,904.49	8.00	7.80	-2.99
7,900.00	42.12	99.76	7,004.93	-685.97	-2,887.54	-2,872.67	8.00	7.83	-2.57

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-5HZ
<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 33-5HZ	<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)
7,950.00	46.04	98.65	7,040.84	-691.52	-2,853.20	-2,838.23	8.00	7.85	-2.21
8,000.00	49.98	97.68	7,074.29	-696.79	-2,816.42	-2,801.35	8.00	7.87	-1.94
8,021.71	51.69	97.30	7,088.00	-698.98	-2,799.73	-2,784.61	8.00	7.88	-1.78
Nio B									
8,050.00	53.92	96.82	7,105.10	-701.75	-2,777.37	-2,762.20	8.00	7.89	-1.68
8,075.95	55.97	96.41	7,120.00	-704.19	-2,756.27	-2,741.06	8.00	7.89	-1.59
Nio C									
8,100.00	57.87	96.04	7,133.13	-706.38	-2,736.24	-2,720.98	8.00	7.90	-1.52
8,150.00	61.82	95.33	7,158.24	-710.65	-2,693.23	-2,677.89	8.00	7.90	-1.43
8,200.00	65.78	94.66	7,180.31	-714.56	-2,648.55	-2,633.13	8.00	7.91	-1.33
8,250.00	69.73	94.04	7,199.24	-718.06	-2,602.41	-2,586.93	8.00	7.92	-1.25
8,300.00	73.69	93.45	7,214.92	-721.16	-2,555.04	-2,539.52	8.00	7.92	-1.19
8,326.93	75.83	93.14	7,222.00	-722.65	-2,529.10	-2,513.55	8.00	7.92	-1.15
Fort Hayes									
8,350.00	77.66	92.88	7,227.29	-723.83	-2,506.68	-2,491.11	8.00	7.92	-1.13
8,400.00	81.62	92.32	7,236.28	-726.06	-2,457.56	-2,441.95	8.00	7.93	-1.10
8,450.00	85.58	91.78	7,241.85	-727.83	-2,407.91	-2,392.28	8.00	7.93	-1.08
8,467.70	86.99	91.59	7,243.00	-728.36	-2,390.26	-2,374.62	8.00	7.93	-1.07
Codell									
8,500.00	89.55	91.25	7,243.98	-729.16	-2,357.98	-2,342.33	8.00	7.93	-1.07
8,505.16	89.96	91.19	7,244.00	-729.27	-2,352.82	-2,337.17	8.00	7.93	-1.07
End Build @ 8505.16ft									
8,600.00	89.96	91.19	7,244.07	-731.24	-2,258.01	-2,242.33	0.00	0.00	0.00
8,700.00	89.96	91.19	7,244.15	-733.32	-2,158.03	-2,142.33	0.00	0.00	0.00
8,800.00	89.96	91.19	7,244.22	-735.40	-2,058.05	-2,042.33	0.00	0.00	0.00
8,900.00	89.96	91.19	7,244.30	-737.48	-1,958.07	-1,942.33	0.00	0.00	0.00
9,000.00	89.96	91.19	7,244.37	-739.57	-1,858.09	-1,842.33	0.00	0.00	0.00
9,100.00	89.96	91.19	7,244.45	-741.65	-1,758.11	-1,742.33	0.00	0.00	0.00
9,200.00	89.96	91.19	7,244.53	-743.73	-1,658.14	-1,642.33	0.00	0.00	0.00
9,300.00	89.96	91.19	7,244.60	-745.81	-1,558.16	-1,542.33	0.00	0.00	0.00
9,400.00	89.96	91.19	7,244.68	-747.89	-1,458.18	-1,442.33	0.00	0.00	0.00
9,500.00	89.96	91.19	7,244.75	-749.97	-1,358.20	-1,342.33	0.00	0.00	0.00
9,600.00	89.96	91.19	7,244.83	-752.06	-1,258.22	-1,242.33	0.00	0.00	0.00
9,700.00	89.96	91.19	7,244.91	-754.14	-1,158.24	-1,142.33	0.00	0.00	0.00
9,800.00	89.96	91.19	7,244.98	-756.22	-1,058.27	-1,042.33	0.00	0.00	0.00
9,900.00	89.96	91.19	7,245.06	-758.30	-958.29	-942.33	0.00	0.00	0.00
10,000.00	89.96	91.19	7,245.13	-760.38	-858.31	-842.33	0.00	0.00	0.00
10,100.00	89.96	91.19	7,245.21	-762.46	-758.33	-742.33	0.00	0.00	0.00
10,200.00	89.96	91.19	7,245.28	-764.55	-658.35	-642.33	0.00	0.00	0.00
10,300.00	89.96	91.19	7,245.36	-766.63	-558.38	-542.33	0.00	0.00	0.00
10,400.00	89.96	91.19	7,245.44	-768.71	-458.40	-442.33	0.00	0.00	0.00
10,500.00	89.96	91.19	7,245.51	-770.79	-358.42	-342.33	0.00	0.00	0.00
10,600.00	89.96	91.19	7,245.59	-772.87	-258.44	-242.33	0.00	0.00	0.00
10,700.00	89.96	91.19	7,245.66	-774.95	-158.46	-142.33	0.00	0.00	0.00
10,800.00	89.96	91.19	7,245.74	-777.03	-58.48	-42.33	0.00	0.00	0.00
10,900.00	89.96	91.19	7,245.82	-779.12	41.49	57.67	0.00	0.00	0.00
11,000.00	89.96	91.19	7,245.89	-781.20	141.47	157.67	0.00	0.00	0.00
11,100.00	89.96	91.19	7,245.97	-783.28	241.45	257.67	0.00	0.00	0.00
11,200.00	89.96	91.19	7,246.04	-785.36	341.43	357.67	0.00	0.00	0.00
11,300.00	89.96	91.19	7,246.12	-787.44	441.41	457.67	0.00	0.00	0.00
11,400.00	89.96	91.19	7,246.19	-789.52	541.39	557.67	0.00	0.00	0.00
11,500.00	89.96	91.19	7,246.27	-791.61	641.36	657.67	0.00	0.00	0.00
11,600.00	89.96	91.19	7,246.35	-793.69	741.34	757.67	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 33-5HZ
<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 33-5HZ	<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)
11,700.00	89.96	91.19	7,246.42	-795.77	841.32	857.67	0.00	0.00	0.00
11,800.00	89.96	91.19	7,246.50	-797.85	941.30	957.67	0.00	0.00	0.00
11,900.00	89.96	91.19	7,246.57	-799.93	1,041.28	1,057.67	0.00	0.00	0.00
12,000.00	89.96	91.19	7,246.65	-802.01	1,141.26	1,157.67	0.00	0.00	0.00
12,100.00	89.96	91.19	7,246.73	-804.10	1,241.23	1,257.67	0.00	0.00	0.00
12,200.00	89.96	91.19	7,246.80	-806.18	1,341.21	1,357.67	0.00	0.00	0.00
12,300.00	89.96	91.19	7,246.88	-808.26	1,441.19	1,457.67	0.00	0.00	0.00
12,400.00	89.96	91.19	7,246.95	-810.34	1,541.17	1,557.67	0.00	0.00	0.00
12,500.00	89.96	91.19	7,247.03	-812.42	1,641.15	1,657.67	0.00	0.00	0.00
12,600.00	89.96	91.19	7,247.10	-814.50	1,741.13	1,757.67	0.00	0.00	0.00
12,700.00	89.96	91.19	7,247.18	-816.58	1,841.10	1,857.67	0.00	0.00	0.00
12,800.00	89.96	91.19	7,247.26	-818.67	1,941.08	1,957.67	0.00	0.00	0.00
12,900.00	89.96	91.19	7,247.33	-820.75	2,041.06	2,057.67	0.00	0.00	0.00
13,000.00	89.96	91.19	7,247.41	-822.83	2,141.04	2,157.67	0.00	0.00	0.00
13,100.00	89.96	91.19	7,247.48	-824.91	2,241.02	2,257.67	0.00	0.00	0.00
13,200.00	89.96	91.19	7,247.56	-826.99	2,341.00	2,357.67	0.00	0.00	0.00
13,300.00	89.96	91.19	7,247.64	-829.07	2,440.97	2,457.67	0.00	0.00	0.00
13,400.00	89.96	91.19	7,247.71	-831.16	2,540.95	2,557.67	0.00	0.00	0.00
13,500.00	89.96	91.19	7,247.79	-833.24	2,640.93	2,657.67	0.00	0.00	0.00
13,600.00	89.96	91.19	7,247.86	-835.32	2,740.91	2,757.67	0.00	0.00	0.00
13,700.00	89.96	91.19	7,247.94	-837.40	2,840.89	2,857.67	0.00	0.00	0.00
13,800.00	89.96	91.19	7,248.01	-839.48	2,940.87	2,957.67	0.00	0.00	0.00
13,900.00	89.96	91.19	7,248.09	-841.56	3,040.84	3,057.67	0.00	0.00	0.00
14,000.00	89.96	91.19	7,248.17	-843.65	3,140.82	3,157.67	0.00	0.00	0.00
14,100.00	89.96	91.19	7,248.24	-845.73	3,240.80	3,257.67	0.00	0.00	0.00
14,200.00	89.96	91.19	7,248.32	-847.81	3,340.78	3,357.67	0.00	0.00	0.00
14,300.00	89.96	91.19	7,248.39	-849.89	3,440.76	3,457.67	0.00	0.00	0.00
14,400.00	89.96	91.19	7,248.47	-851.97	3,540.74	3,557.67	0.00	0.00	0.00
14,500.00	89.96	91.19	7,248.55	-854.05	3,640.71	3,657.67	0.00	0.00	0.00
14,600.00	89.96	91.19	7,248.62	-856.14	3,740.69	3,757.67	0.00	0.00	0.00
14,700.00	89.96	91.19	7,248.70	-858.22	3,840.67	3,857.67	0.00	0.00	0.00
14,800.00	89.96	91.19	7,248.77	-860.30	3,940.65	3,957.67	0.00	0.00	0.00
14,900.00	89.96	91.19	7,248.85	-862.38	4,040.63	4,057.67	0.00	0.00	0.00
15,000.00	89.96	91.19	7,248.92	-864.46	4,140.61	4,157.67	0.00	0.00	0.00
15,100.00	89.96	91.19	7,249.00	-866.54	4,240.58	4,257.67	0.00	0.00	0.00
15,200.00	89.96	91.19	7,249.08	-868.62	4,340.56	4,357.67	0.00	0.00	0.00
15,300.00	89.96	91.19	7,249.15	-870.71	4,440.54	4,457.67	0.00	0.00	0.00
15,400.00	89.96	91.19	7,249.23	-872.79	4,540.52	4,557.67	0.00	0.00	0.00
15,500.00	89.96	91.19	7,249.30	-874.87	4,640.50	4,657.67	0.00	0.00	0.00
15,600.00	89.96	91.19	7,249.38	-876.95	4,740.48	4,757.67	0.00	0.00	0.00
15,700.00	89.96	91.19	7,249.46	-879.03	4,840.45	4,857.67	0.00	0.00	0.00
15,800.00	89.96	91.19	7,249.53	-881.11	4,940.43	4,957.67	0.00	0.00	0.00
15,900.00	89.96	91.19	7,249.61	-883.20	5,040.41	5,057.67	0.00	0.00	0.00
16,000.00	89.96	91.19	7,249.68	-885.28	5,140.39	5,157.67	0.00	0.00	0.00
16,100.00	89.96	91.19	7,249.76	-887.36	5,240.37	5,257.67	0.00	0.00	0.00
16,200.00	89.96	91.19	7,249.83	-889.44	5,340.34	5,357.67	0.00	0.00	0.00
16,300.00	89.96	91.19	7,249.91	-891.52	5,440.32	5,457.66	0.00	0.00	0.00
16,400.00	89.96	91.19	7,249.99	-893.60	5,540.30	5,557.66	0.00	0.00	0.00
16,500.00	89.96	91.19	7,250.06	-895.69	5,640.28	5,657.66	0.00	0.00	0.00
16,600.00	89.96	91.19	7,250.14	-897.77	5,740.26	5,757.66	0.00	0.00	0.00
16,700.00	89.96	91.19	7,250.21	-899.85	5,840.24	5,857.66	0.00	0.00	0.00
16,800.00	89.96	91.19	7,250.29	-901.93	5,940.21	5,957.66	0.00	0.00	0.00
16,900.00	89.96	91.19	7,250.37	-904.01	6,040.19	6,057.66	0.00	0.00	0.00
17,000.00	89.96	91.19	7,250.44	-906.09	6,140.17	6,157.66	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 33-5HZ
<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 33-5HZ	<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)
17,100.00	89.96	91.19	7,250.52	-908.17	6,240.15	6,257.66	0.00	0.00	0.00
17,200.00	89.96	91.19	7,250.59	-910.26	6,340.13	6,357.66	0.00	0.00	0.00
17,300.00	89.96	91.19	7,250.67	-912.34	6,440.11	6,457.66	0.00	0.00	0.00
17,400.00	89.96	91.19	7,250.74	-914.42	6,540.08	6,557.66	0.00	0.00	0.00
17,500.00	89.96	91.19	7,250.82	-916.50	6,640.06	6,657.66	0.00	0.00	0.00
17,600.00	89.96	91.19	7,250.90	-918.58	6,740.04	6,757.66	0.00	0.00	0.00
17,700.00	89.96	91.19	7,250.97	-920.66	6,840.02	6,857.66	0.00	0.00	0.00
17,737.23	89.96	91.19	7,251.00	-921.44	6,877.24	6,894.89	0.00	0.00	0.00
TD Well @ 17737.23ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,518.11	1,500.00	9 5/8"	9-5/8	13-1/2
17,737.23	7,251.00	5.5" CSG	5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
772.86	772.00	Fox Hills			
4,015.03	3,663.00	Parkman			
4,587.94	4,145.00	Sussex			
7,775.55	6,906.00	Sharon Springs			
7,811.67	6,936.00	Niobrara			
8,021.71	7,088.00	Nio B			
8,075.95	7,120.00	Nio C			
8,326.93	7,222.00	Fort Hayes			
8,467.70	7,243.00	Codell			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
350.26	350.26	0.00	0.00	Begin Nudge @ 350.26ft
2,531.59	2,414.95	-114.82	-595.13	Hold Tangent @ 2531.59ft
6,981.90	6,159.09	-570.52	-2,957.11	KOP @ 6981.90ft :: DLS = 8°/100'
8,505.16	7,244.00	-729.27	-2,352.82	End Build @ 8505.16ft
17,737.23	7,251.00	-921.44	6,877.24	TD Well @ 17737.23ft