

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

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

**CAMENISCH 33-4HZ**

**Plan B**

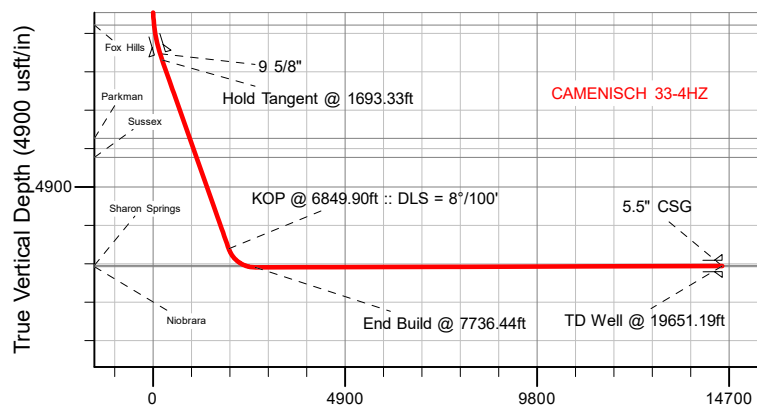
**Plan: Permit Rev-1**

## **Standard Planning Report**

**22 June, 2023**

# US ROCKIES WATTENBERG PLANNING

CASING DETAILS			
TVD	MD	Name	Size
1500.00	1520.67	9 5/8"	9-5/8
6920.00	19651.19	5.5" CSG	5-1/2



Vertical Section at 270.89° (4900 usft/in)

SHL  
2406' FSL  
2108' FEL

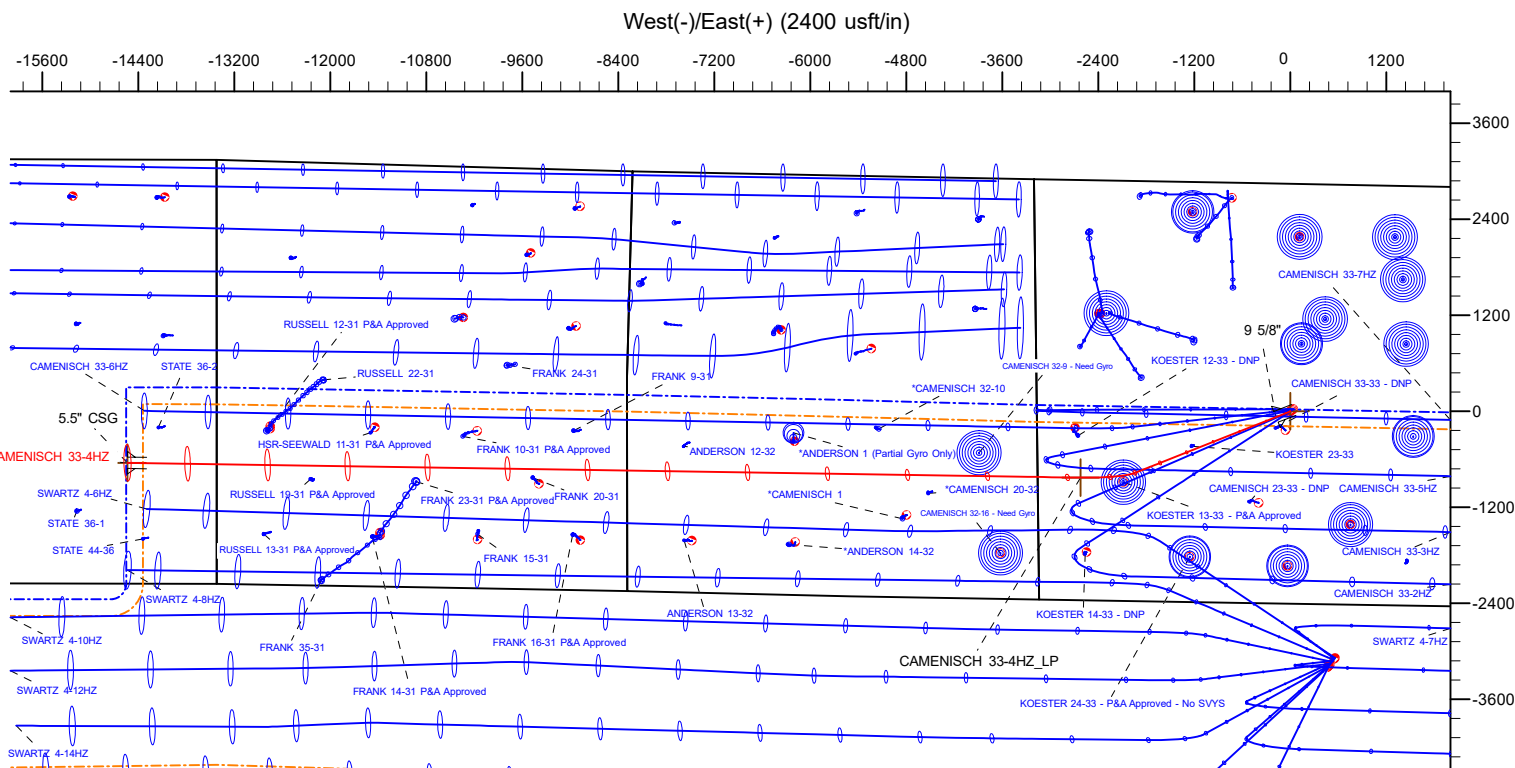
LP  
1534' FSL  
537' FWL

**BHL**  
**1512' FSL**  
**1115' FEL**

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1693.33	20.90	248.39	1662.64	-92.56	-233.66	1.50	248.39	232.19	
6849.90	20.90	248.39	6479.93	-770.04	-1943.90	0.00	0.00	1931.71	
7736.44	90.17	270.89	6955.00	-829.12	-2623.17	8.00	23.89	2609.97	
19651.19	90.17	270.89	6920.00	-643.77	-14536.42	0.00	0.00	14524.67	CAMENISCH 33-4HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
CAMENISCH 33-4HZ_SHL	0.00	14624624.22	1670095.64	40.268772	-104.893605
CAMENISCH 33-4HZ_LP	6955.00	14623791.95	1667473.47	40.266494	-104.903008
CAMENISCH 33-4HZ_BHL	6920.00	14623963.00	1655560.00	40.266992	-104.945715



South(-)/North(+) (2400 usft/in)

WELL DETAILS: CAMENISCH 33-4HZ
GL = 4870'
RKB = 17' @ 4887.00usft (RIG)
Plan: Permit Rev-1 (CAMENISCH 33-4HZ/Plan B)
Date: 6/22/2023

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
772.00	773.21	Fox Hills
3663.00	3834.58	Parkman
4145.00	4350.53	Sussex
6906.00	7466.42	Sharon Springs
6936.00	7568.09	Niobrara



M Azimuths to True North  
Magnetic North:  $7.71^\circ$

Magnetic Field  
Strength: 51672.4nT  
Dip Angle: 66.45°  
Date: 5/5/2023  
Model: IGRF2020

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-4HZ
<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 33-4HZ	<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 33-4HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,624,624.22 usft	Latitude:	40.268772
	+E/-W	0.00 usft	Easting:	1,670,095.64 usft	Longitude:	-104.893605
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	51,672.42141100

<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	270.89	

<b>Plan Survey Tool Program</b>		<b>Date</b>	6/22/2023		
<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 Fixed:v2:standard declination	
2	2,000.00	19,651.19	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 33-4HZ
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 33-4HZ	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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,693.33	20.90	248.39	1,662.64	-92.56	-233.66	1.50	1.50	0.00	248.39	
6,849.90	20.90	248.39	6,479.93	-770.04	-1,943.90	0.00	0.00	0.00	0.00	
7,736.44	90.17	270.89	6,955.00	-829.12	-2,623.17	8.00	7.81	2.54	23.89	
19,651.19	90.17	270.89	6,920.00	-643.77	-14,536.42	0.00	0.00	0.00	0.00	CAMENISCH 33-4HZ

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CAMENISCH 33-4HZ
<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 33-4HZ	<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
<b>Begin Nudge @ 300.00ft</b>									
400.00	1.50	248.39	399.99	-0.48	-1.22	1.21	1.50	1.50	0.00
500.00	3.00	248.39	499.91	-1.93	-4.87	4.84	1.50	1.50	0.00
600.00	4.50	248.39	599.69	-4.34	-10.95	10.88	1.50	1.50	0.00
700.00	6.00	248.39	699.27	-7.71	-19.45	19.33	1.50	1.50	0.00
773.21	7.10	248.39	772.00	-10.78	-27.22	27.05	1.50	1.50	0.00
<b>Fox Hills</b>									
800.00	7.50	248.39	798.57	-12.03	-30.38	30.19	1.50	1.50	0.00
900.00	9.00	248.39	897.54	-17.32	-43.72	43.45	1.50	1.50	0.00
1,000.00	10.50	248.39	996.09	-23.56	-59.47	59.09	1.50	1.50	0.00
1,100.00	12.00	248.39	1,094.16	-30.74	-77.60	77.12	1.50	1.50	0.00
1,200.00	13.50	248.39	1,191.70	-38.87	-98.12	97.51	1.50	1.50	0.00
1,300.00	15.00	248.39	1,288.62	-47.93	-121.01	120.25	1.50	1.50	0.00
1,400.00	16.50	248.39	1,384.86	-57.93	-146.24	145.32	1.50	1.50	0.00
1,500.00	18.00	248.39	1,480.36	-68.85	-173.81	172.72	1.50	1.50	0.00
1,520.67	18.31	248.39	1,500.00	-71.22	-179.80	178.67	1.50	1.50	0.00
<b>9 5/8"</b>									
1,600.00	19.50	248.39	1,575.05	-80.69	-203.69	202.42	1.50	1.50	0.00
1,693.33	20.90	248.39	1,662.64	-92.56	-233.66	232.19	1.50	1.50	0.00
<b>Hold Tangent @ 1693.33ft</b>									
1,700.00	20.90	248.39	1,668.87	-93.43	-235.87	234.39	0.00	0.00	0.00
1,800.00	20.90	248.39	1,762.29	-106.57	-269.03	267.35	0.00	0.00	0.00
1,900.00	20.90	248.39	1,855.71	-119.71	-302.20	300.30	0.00	0.00	0.00
2,000.00	20.90	248.39	1,949.13	-132.85	-335.37	333.26	0.00	0.00	0.00
2,100.00	20.90	248.39	2,042.55	-145.99	-368.53	366.22	0.00	0.00	0.00
2,200.00	20.90	248.39	2,135.97	-159.12	-401.70	399.18	0.00	0.00	0.00
2,300.00	20.90	248.39	2,229.39	-172.26	-434.86	432.14	0.00	0.00	0.00
2,400.00	20.90	248.39	2,322.81	-185.40	-468.03	465.10	0.00	0.00	0.00
2,500.00	20.90	248.39	2,416.23	-198.54	-501.20	498.05	0.00	0.00	0.00
2,600.00	20.90	248.39	2,509.65	-211.68	-534.36	531.01	0.00	0.00	0.00
2,700.00	20.90	248.39	2,603.07	-224.82	-567.53	563.97	0.00	0.00	0.00
2,800.00	20.90	248.39	2,696.49	-237.95	-600.70	596.93	0.00	0.00	0.00
2,900.00	20.90	248.39	2,789.91	-251.09	-633.86	629.89	0.00	0.00	0.00
3,000.00	20.90	248.39	2,883.33	-264.23	-667.03	662.84	0.00	0.00	0.00
3,100.00	20.90	248.39	2,976.75	-277.37	-700.20	695.80	0.00	0.00	0.00
3,200.00	20.90	248.39	3,070.17	-290.51	-733.36	728.76	0.00	0.00	0.00
3,300.00	20.90	248.39	3,163.59	-303.64	-766.53	761.72	0.00	0.00	0.00
3,400.00	20.90	248.39	3,257.01	-316.78	-799.70	794.68	0.00	0.00	0.00
3,500.00	20.90	248.39	3,350.43	-329.92	-832.86	827.64	0.00	0.00	0.00
3,600.00	20.90	248.39	3,443.86	-343.06	-866.03	860.59	0.00	0.00	0.00
3,700.00	20.90	248.39	3,537.28	-356.20	-899.19	893.55	0.00	0.00	0.00
3,800.00	20.90	248.39	3,630.70	-369.34	-932.36	926.51	0.00	0.00	0.00
3,834.58	20.90	248.39	3,663.00	-373.88	-943.83	937.91	0.00	0.00	0.00
<b>Parkman</b>									
3,900.00	20.90	248.39	3,724.12	-382.47	-965.53	959.47	0.00	0.00	0.00
4,000.00	20.90	248.39	3,817.54	-395.61	-998.69	992.43	0.00	0.00	0.00
4,100.00	20.90	248.39	3,910.96	-408.75	-1,031.86	1,025.39	0.00	0.00	0.00
4,200.00	20.90	248.39	4,004.38	-421.89	-1,065.03	1,058.34	0.00	0.00	0.00
4,300.00	20.90	248.39	4,097.80	-435.03	-1,098.19	1,091.30	0.00	0.00	0.00
4,350.53	20.90	248.39	4,145.00	-441.67	-1,114.95	1,107.96	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 33-4HZ	<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)
<b>Sussex</b>									
4,400.00	20.90	248.39	4,191.22	-448.17	-1,131.36	1,124.26	0.00	0.00	0.00
4,500.00	20.90	248.39	4,284.64	-461.30	-1,164.53	1,157.22	0.00	0.00	0.00
4,600.00	20.90	248.39	4,378.06	-474.44	-1,197.69	1,190.18	0.00	0.00	0.00
4,700.00	20.90	248.39	4,471.48	-487.58	-1,230.86	1,223.14	0.00	0.00	0.00
4,800.00	20.90	248.39	4,564.90	-500.72	-1,264.02	1,256.09	0.00	0.00	0.00
4,900.00	20.90	248.39	4,658.32	-513.86	-1,297.19	1,289.05	0.00	0.00	0.00
5,000.00	20.90	248.39	4,751.74	-526.99	-1,330.36	1,322.01	0.00	0.00	0.00
5,100.00	20.90	248.39	4,845.16	-540.13	-1,363.52	1,354.97	0.00	0.00	0.00
5,200.00	20.90	248.39	4,938.58	-553.27	-1,396.69	1,387.93	0.00	0.00	0.00
5,300.00	20.90	248.39	5,032.00	-566.41	-1,429.86	1,420.89	0.00	0.00	0.00
5,400.00	20.90	248.39	5,125.42	-579.55	-1,463.02	1,453.84	0.00	0.00	0.00
5,500.00	20.90	248.39	5,218.84	-592.69	-1,496.19	1,486.80	0.00	0.00	0.00
5,600.00	20.90	248.39	5,312.26	-605.82	-1,529.36	1,519.76	0.00	0.00	0.00
5,700.00	20.90	248.39	5,405.68	-618.96	-1,562.52	1,552.72	0.00	0.00	0.00
5,800.00	20.90	248.39	5,499.11	-632.10	-1,595.69	1,585.68	0.00	0.00	0.00
5,900.00	20.90	248.39	5,592.53	-645.24	-1,628.85	1,618.64	0.00	0.00	0.00
6,000.00	20.90	248.39	5,685.95	-658.38	-1,662.02	1,651.59	0.00	0.00	0.00
6,100.00	20.90	248.39	5,779.37	-671.51	-1,695.19	1,684.55	0.00	0.00	0.00
6,200.00	20.90	248.39	5,872.79	-684.65	-1,728.35	1,717.51	0.00	0.00	0.00
6,300.00	20.90	248.39	5,966.21	-697.79	-1,761.52	1,750.47	0.00	0.00	0.00
6,400.00	20.90	248.39	6,059.63	-710.93	-1,794.69	1,783.43	0.00	0.00	0.00
6,500.00	20.90	248.39	6,153.05	-724.07	-1,827.85	1,816.39	0.00	0.00	0.00
6,600.00	20.90	248.39	6,246.47	-737.21	-1,861.02	1,849.34	0.00	0.00	0.00
6,700.00	20.90	248.39	6,339.89	-750.34	-1,894.19	1,882.30	0.00	0.00	0.00
6,800.00	20.90	248.39	6,433.31	-763.48	-1,927.35	1,915.26	0.00	0.00	0.00
6,849.90	20.90	248.39	6,479.93	-770.04	-1,943.90	1,931.71	0.00	0.00	0.00
<b>KOP @ 6849.90ft :: DLS = 8°/100'</b>									
6,900.00	24.62	252.29	6,526.12	-776.51	-1,962.16	1,949.86	8.00	7.42	7.78
6,950.00	28.40	255.20	6,570.86	-782.71	-1,983.58	1,971.18	8.00	7.57	5.83
7,000.00	32.23	257.48	6,614.01	-788.64	-2,008.10	1,995.61	8.00	7.66	4.55
7,050.00	36.10	259.32	6,655.38	-794.27	-2,035.60	2,023.02	8.00	7.73	3.68
7,100.00	39.98	260.84	6,694.75	-799.56	-2,065.95	2,053.28	8.00	7.78	3.05
7,150.00	43.89	262.14	6,731.94	-804.49	-2,098.99	2,086.24	8.00	7.81	2.59
7,200.00	47.81	263.26	6,766.76	-809.03	-2,134.57	2,121.75	8.00	7.84	2.25
7,250.00	51.74	264.25	6,799.05	-813.17	-2,172.51	2,159.62	8.00	7.86	1.99
7,300.00	55.67	265.15	6,828.64	-816.89	-2,212.63	2,199.67	8.00	7.87	1.78
7,350.00	59.61	265.96	6,855.40	-820.16	-2,254.73	2,241.72	8.00	7.88	1.62
7,400.00	63.56	266.70	6,879.18	-822.97	-2,298.60	2,285.54	8.00	7.89	1.50
7,450.00	67.51	267.40	6,899.89	-825.30	-2,344.04	2,330.94	8.00	7.90	1.40
7,466.42	68.80	267.62	6,906.00	-825.96	-2,359.27	2,346.16	8.00	7.90	1.34
<b>Sharon Springs</b>									
7,500.00	71.46	268.06	6,917.41	-827.15	-2,390.83	2,377.69	8.00	7.91	1.31
7,550.00	75.41	268.69	6,931.66	-828.51	-2,438.72	2,425.56	8.00	7.91	1.26
7,568.09	76.84	268.91	6,936.00	-828.88	-2,456.28	2,443.11	8.00	7.91	1.23
<b>Niobrara</b>									
7,600.00	79.37	269.30	6,942.58	-829.36	-2,487.50	2,474.32	8.00	7.91	1.21
7,650.00	83.33	269.89	6,950.10	-829.71	-2,536.92	2,523.73	8.00	7.91	1.18
7,700.00	87.28	270.47	6,954.19	-829.56	-2,586.74	2,573.54	8.00	7.92	1.16
7,736.44	90.17	270.89	6,955.00	-829.12	-2,623.17	2,609.97	8.00	7.92	1.16
<b>End Build @ 7736.44ft</b>									
7,800.00	90.17	270.89	6,954.81	-828.14	-2,686.72	2,673.53	0.00	0.00	0.00
7,900.00	90.17	270.89	6,954.52	-826.58	-2,786.70	2,773.53	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 33-4HZ
<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 33-4HZ	<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)	
8,000.00	90.17	270.89	6,954.22	-825.02	-2,886.69	2,873.53	0.00	0.00	0.00	
8,100.00	90.17	270.89	6,953.93	-823.47	-2,986.68	2,973.53	0.00	0.00	0.00	
8,200.00	90.17	270.89	6,953.64	-821.91	-3,086.67	3,073.53	0.00	0.00	0.00	
8,300.00	90.17	270.89	6,953.34	-820.36	-3,186.65	3,173.53	0.00	0.00	0.00	
8,400.00	90.17	270.89	6,953.05	-818.80	-3,286.64	3,273.53	0.00	0.00	0.00	
8,500.00	90.17	270.89	6,952.76	-817.25	-3,386.63	3,373.53	0.00	0.00	0.00	
8,600.00	90.17	270.89	6,952.46	-815.69	-3,486.62	3,473.53	0.00	0.00	0.00	
8,700.00	90.17	270.89	6,952.17	-814.13	-3,586.60	3,573.53	0.00	0.00	0.00	
8,800.00	90.17	270.89	6,951.87	-812.58	-3,686.59	3,673.53	0.00	0.00	0.00	
8,900.00	90.17	270.89	6,951.58	-811.02	-3,786.58	3,773.53	0.00	0.00	0.00	
9,000.00	90.17	270.89	6,951.29	-809.47	-3,886.57	3,873.52	0.00	0.00	0.00	
9,100.00	90.17	270.89	6,950.99	-807.91	-3,986.55	3,973.52	0.00	0.00	0.00	
9,200.00	90.17	270.89	6,950.70	-806.36	-4,086.54	4,073.52	0.00	0.00	0.00	
9,300.00	90.17	270.89	6,950.41	-804.80	-4,186.53	4,173.52	0.00	0.00	0.00	
9,400.00	90.17	270.89	6,950.11	-803.24	-4,286.52	4,273.52	0.00	0.00	0.00	
9,500.00	90.17	270.89	6,949.82	-801.69	-4,386.50	4,373.52	0.00	0.00	0.00	
9,600.00	90.17	270.89	6,949.52	-800.13	-4,486.49	4,473.52	0.00	0.00	0.00	
9,700.00	90.17	270.89	6,949.23	-798.58	-4,586.48	4,573.52	0.00	0.00	0.00	
9,800.00	90.17	270.89	6,948.94	-797.02	-4,686.47	4,673.52	0.00	0.00	0.00	
9,900.00	90.17	270.89	6,948.64	-795.47	-4,786.45	4,773.52	0.00	0.00	0.00	
10,000.00	90.17	270.89	6,948.35	-793.91	-4,886.44	4,873.52	0.00	0.00	0.00	
10,100.00	90.17	270.89	6,948.06	-792.36	-4,986.43	4,973.52	0.00	0.00	0.00	
10,200.00	90.17	270.89	6,947.76	-790.80	-5,086.42	5,073.52	0.00	0.00	0.00	
10,300.00	90.17	270.89	6,947.47	-789.24	-5,186.40	5,173.52	0.00	0.00	0.00	
10,400.00	90.17	270.89	6,947.17	-787.69	-5,286.39	5,273.52	0.00	0.00	0.00	
10,500.00	90.17	270.89	6,946.88	-786.13	-5,386.38	5,373.52	0.00	0.00	0.00	
10,600.00	90.17	270.89	6,946.59	-784.58	-5,486.37	5,473.52	0.00	0.00	0.00	
10,700.00	90.17	270.89	6,946.29	-783.02	-5,586.35	5,573.52	0.00	0.00	0.00	
10,800.00	90.17	270.89	6,946.00	-781.47	-5,686.34	5,673.52	0.00	0.00	0.00	
10,900.00	90.17	270.89	6,945.71	-779.91	-5,786.33	5,773.52	0.00	0.00	0.00	
11,000.00	90.17	270.89	6,945.41	-778.35	-5,886.32	5,873.52	0.00	0.00	0.00	
11,100.00	90.17	270.89	6,945.12	-776.80	-5,986.30	5,973.52	0.00	0.00	0.00	
11,200.00	90.17	270.89	6,944.82	-775.24	-6,086.29	6,073.52	0.00	0.00	0.00	
11,300.00	90.17	270.89	6,944.53	-773.69	-6,186.28	6,173.52	0.00	0.00	0.00	
11,400.00	90.17	270.89	6,944.24	-772.13	-6,286.27	6,273.51	0.00	0.00	0.00	
11,500.00	90.17	270.89	6,943.94	-770.58	-6,386.25	6,373.51	0.00	0.00	0.00	
11,600.00	90.17	270.89	6,943.65	-769.02	-6,486.24	6,473.51	0.00	0.00	0.00	
11,700.00	90.17	270.89	6,943.36	-767.46	-6,586.23	6,573.51	0.00	0.00	0.00	
11,800.00	90.17	270.89	6,943.06	-765.91	-6,686.22	6,673.51	0.00	0.00	0.00	
11,900.00	90.17	270.89	6,942.77	-764.35	-6,786.20	6,773.51	0.00	0.00	0.00	
12,000.00	90.17	270.89	6,942.47	-762.80	-6,886.19	6,873.51	0.00	0.00	0.00	
12,100.00	90.17	270.89	6,942.18	-761.24	-6,986.18	6,973.51	0.00	0.00	0.00	
12,200.00	90.17	270.89	6,941.89	-759.69	-7,086.17	7,073.51	0.00	0.00	0.00	
12,300.00	90.17	270.89	6,941.59	-758.13	-7,186.15	7,173.51	0.00	0.00	0.00	
12,400.00	90.17	270.89	6,941.30	-756.58	-7,286.14	7,273.51	0.00	0.00	0.00	
12,500.00	90.17	270.89	6,941.01	-755.02	-7,386.13	7,373.51	0.00	0.00	0.00	
12,600.00	90.17	270.89	6,940.71	-753.46	-7,486.12	7,473.51	0.00	0.00	0.00	
12,700.00	90.17	270.89	6,940.42	-751.91	-7,586.10	7,573.51	0.00	0.00	0.00	
12,800.00	90.17	270.89	6,940.12	-750.35	-7,686.09	7,673.51	0.00	0.00	0.00	
12,900.00	90.17	270.89	6,939.83	-748.80	-7,786.08	7,773.51	0.00	0.00	0.00	
13,000.00	90.17	270.89	6,939.54	-747.24	-7,886.07	7,873.51	0.00	0.00	0.00	
13,100.00	90.17	270.89	6,939.24	-745.69	-7,986.05	7,973.51	0.00	0.00	0.00	
13,200.00	90.17	270.89	6,938.95	-744.13	-8,086.04	8,073.51	0.00	0.00	0.00	
13,300.00	90.17	270.89	6,938.66	-742.57	-8,186.03	8,173.51	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 33-4HZ
<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 33-4HZ	<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)
13,400.00	90.17	270.89	6,938.36	-741.02	-8,286.02	8,273.51	0.00	0.00	0.00
13,500.00	90.17	270.89	6,938.07	-739.46	-8,386.00	8,373.51	0.00	0.00	0.00
13,600.00	90.17	270.89	6,937.78	-737.91	-8,485.99	8,473.51	0.00	0.00	0.00
13,700.00	90.17	270.89	6,937.48	-736.35	-8,585.98	8,573.50	0.00	0.00	0.00
13,800.00	90.17	270.89	6,937.19	-734.80	-8,685.97	8,673.50	0.00	0.00	0.00
13,900.00	90.17	270.89	6,936.89	-733.24	-8,785.95	8,773.50	0.00	0.00	0.00
14,000.00	90.17	270.89	6,936.60	-731.68	-8,885.94	8,873.50	0.00	0.00	0.00
14,100.00	90.17	270.89	6,936.31	-730.13	-8,985.93	8,973.50	0.00	0.00	0.00
14,200.00	90.17	270.89	6,936.01	-728.57	-9,085.92	9,073.50	0.00	0.00	0.00
14,300.00	90.17	270.89	6,935.72	-727.02	-9,185.90	9,173.50	0.00	0.00	0.00
14,400.00	90.17	270.89	6,935.43	-725.46	-9,285.89	9,273.50	0.00	0.00	0.00
14,500.00	90.17	270.89	6,935.13	-723.91	-9,385.88	9,373.50	0.00	0.00	0.00
14,600.00	90.17	270.89	6,934.84	-722.35	-9,485.87	9,473.50	0.00	0.00	0.00
14,700.00	90.17	270.89	6,934.54	-720.80	-9,585.85	9,573.50	0.00	0.00	0.00
14,800.00	90.17	270.89	6,934.25	-719.24	-9,685.84	9,673.50	0.00	0.00	0.00
14,900.00	90.17	270.89	6,933.96	-717.68	-9,785.83	9,773.50	0.00	0.00	0.00
15,000.00	90.17	270.89	6,933.66	-716.13	-9,885.82	9,873.50	0.00	0.00	0.00
15,100.00	90.17	270.89	6,933.37	-714.57	-9,985.80	9,973.50	0.00	0.00	0.00
15,200.00	90.17	270.89	6,933.08	-713.02	-10,085.79	10,073.50	0.00	0.00	0.00
15,300.00	90.17	270.89	6,932.78	-711.46	-10,185.78	10,173.50	0.00	0.00	0.00
15,400.00	90.17	270.89	6,932.49	-709.91	-10,285.77	10,273.50	0.00	0.00	0.00
15,500.00	90.17	270.89	6,932.19	-708.35	-10,385.75	10,373.50	0.00	0.00	0.00
15,600.00	90.17	270.89	6,931.90	-706.79	-10,485.74	10,473.50	0.00	0.00	0.00
15,700.00	90.17	270.89	6,931.61	-705.24	-10,585.73	10,573.50	0.00	0.00	0.00
15,800.00	90.17	270.89	6,931.31	-703.68	-10,685.72	10,673.50	0.00	0.00	0.00
15,900.00	90.17	270.89	6,931.02	-702.13	-10,785.70	10,773.50	0.00	0.00	0.00
16,000.00	90.17	270.89	6,930.73	-700.57	-10,885.69	10,873.49	0.00	0.00	0.00
16,100.00	90.17	270.89	6,930.43	-699.02	-10,985.68	10,973.49	0.00	0.00	0.00
16,200.00	90.17	270.89	6,930.14	-697.46	-11,085.66	11,073.49	0.00	0.00	0.00
16,300.00	90.17	270.89	6,929.84	-695.90	-11,185.65	11,173.49	0.00	0.00	0.00
16,400.00	90.17	270.89	6,929.55	-694.35	-11,285.64	11,273.49	0.00	0.00	0.00
16,500.00	90.17	270.89	6,929.26	-692.79	-11,385.63	11,373.49	0.00	0.00	0.00
16,600.00	90.17	270.89	6,928.96	-691.24	-11,485.61	11,473.49	0.00	0.00	0.00
16,700.00	90.17	270.89	6,928.67	-689.68	-11,585.60	11,573.49	0.00	0.00	0.00
16,800.00	90.17	270.89	6,928.38	-688.13	-11,685.59	11,673.49	0.00	0.00	0.00
16,900.00	90.17	270.89	6,928.08	-686.57	-11,785.58	11,773.49	0.00	0.00	0.00
17,000.00	90.17	270.89	6,927.79	-685.02	-11,885.56	11,873.49	0.00	0.00	0.00
17,100.00	90.17	270.89	6,927.49	-683.46	-11,985.55	11,973.49	0.00	0.00	0.00
17,200.00	90.17	270.89	6,927.20	-681.90	-12,085.54	12,073.49	0.00	0.00	0.00
17,300.00	90.17	270.89	6,926.91	-680.35	-12,185.53	12,173.49	0.00	0.00	0.00
17,400.00	90.17	270.89	6,926.61	-678.79	-12,285.51	12,273.49	0.00	0.00	0.00
17,500.00	90.17	270.89	6,926.32	-677.24	-12,385.50	12,373.49	0.00	0.00	0.00
17,600.00	90.17	270.89	6,926.03	-675.68	-12,485.49	12,473.49	0.00	0.00	0.00
17,700.00	90.17	270.89	6,925.73	-674.13	-12,585.48	12,573.49	0.00	0.00	0.00
17,800.00	90.17	270.89	6,925.44	-672.57	-12,685.46	12,673.49	0.00	0.00	0.00
17,900.00	90.17	270.89	6,925.14	-671.01	-12,785.45	12,773.49	0.00	0.00	0.00
18,000.00	90.17	270.89	6,924.85	-669.46	-12,885.44	12,873.49	0.00	0.00	0.00
18,100.00	90.17	270.89	6,924.56	-667.90	-12,985.43	12,973.49	0.00	0.00	0.00
18,200.00	90.17	270.89	6,924.26	-666.35	-13,085.41	13,073.49	0.00	0.00	0.00
18,300.00	90.17	270.89	6,923.97	-664.79	-13,185.40	13,173.49	0.00	0.00	0.00
18,400.00	90.17	270.89	6,923.68	-663.24	-13,285.39	13,273.48	0.00	0.00	0.00
18,500.00	90.17	270.89	6,923.38	-661.68	-13,385.38	13,373.48	0.00	0.00	0.00
18,600.00	90.17	270.89	6,923.09	-660.12	-13,485.36	13,473.48	0.00	0.00	0.00
18,700.00	90.17	270.89	6,922.79	-658.57	-13,585.35	13,573.48	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 33-4HZ
<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 33-4HZ	<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)
18,800.00	90.17	270.89	6,922.50	-657.01	-13,685.34	13,673.48	0.00	0.00	0.00
18,900.00	90.17	270.89	6,922.21	-655.46	-13,785.33	13,773.48	0.00	0.00	0.00
19,000.00	90.17	270.89	6,921.91	-653.90	-13,885.31	13,873.48	0.00	0.00	0.00
19,100.00	90.17	270.89	6,921.62	-652.35	-13,985.30	13,973.48	0.00	0.00	0.00
19,200.00	90.17	270.89	6,921.33	-650.79	-14,085.29	14,073.48	0.00	0.00	0.00
19,300.00	90.17	270.89	6,921.03	-649.23	-14,185.28	14,173.48	0.00	0.00	0.00
19,400.00	90.17	270.89	6,920.74	-647.68	-14,285.26	14,273.48	0.00	0.00	0.00
19,500.00	90.17	270.89	6,920.44	-646.12	-14,385.25	14,373.48	0.00	0.00	0.00
19,600.00	90.17	270.89	6,920.15	-644.57	-14,485.24	14,473.48	0.00	0.00	0.00
19,651.19	90.17	270.89	6,920.00	-643.77	-14,536.42	14,524.67	0.00	0.00	0.00
TD Well @ 19651.19ft - 5.5" CSG									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,520.67	1,500.00	9 5/8"	9-5/8	13-1/2
19,651.19	6,920.00	5.5" CSG	5-1/2	7-7/8

Formations				
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip Direction (°)
773.21	772.00	Fox Hills		
3,834.58	3,663.00	Parkman		
4,350.53	4,145.00	Sussex		
7,466.42	6,906.00	Sharon Springs		
7,568.09	6,936.00	Niobrara		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
300.00	300.00	0.00	0.00	Begin Nudge @ 300.00ft
1,693.33	1,662.64	-92.56	-233.66	Hold Tangent @ 1693.33ft
6,849.90	6,479.93	-770.04	-1,943.90	KOP @ 6849.90ft :: DLS = 8°/100'
7,736.44	6,955.00	-829.12	-2,623.17	End Build @ 7736.44ft
19,651.19	6,920.00	-643.77	-14,536.42	TD Well @ 19651.19ft