

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

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

CAMENISCH 33-6HZ

Plan A

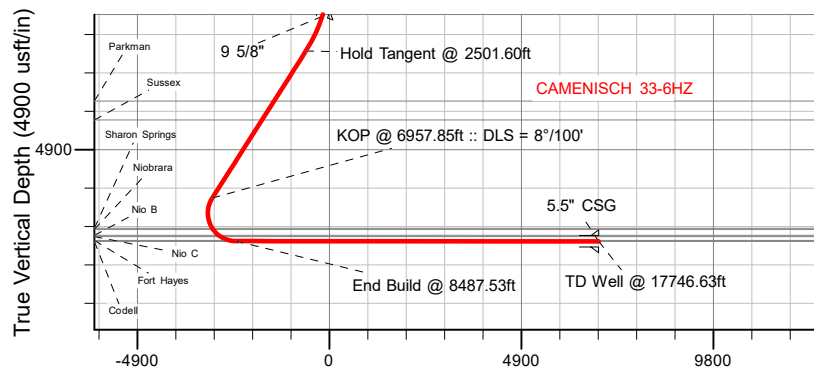
Plan: Permit Rev-1

Standard Planning Report

13 December, 2021

US ROCKIES WATTENBERG PLANNING

CASING DETAILS			
TVD	MD	Name	Size
1500.00	1519.34	9 5/8"	9-5/8
7245.00	17746.63	5.5" CSG	5-1/2



Vertical Section at 91.30° (4900 usft/in)

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSept	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
325.60	0.00	0.00	325.60	0.00	0.00	0.00	0.00	0.00	
2501.60	32.64	265.16	2385.80	-50.90	-601.07	1.50	265.16	-599.76	
6957.85	32.64	265.16	6138.30	-253.69	-2996.02	0.00	0.00	-2989.49	
8487.53	89.94	91.30	7236.00	-342.46	-2394.07	8.00	-172.73	-2385.68	
17746.63	89.94	91.30	7245.00	-552.38	6862.65	0.00	0.00	6873.42	CAMENISCH 33-6HZ_BHL

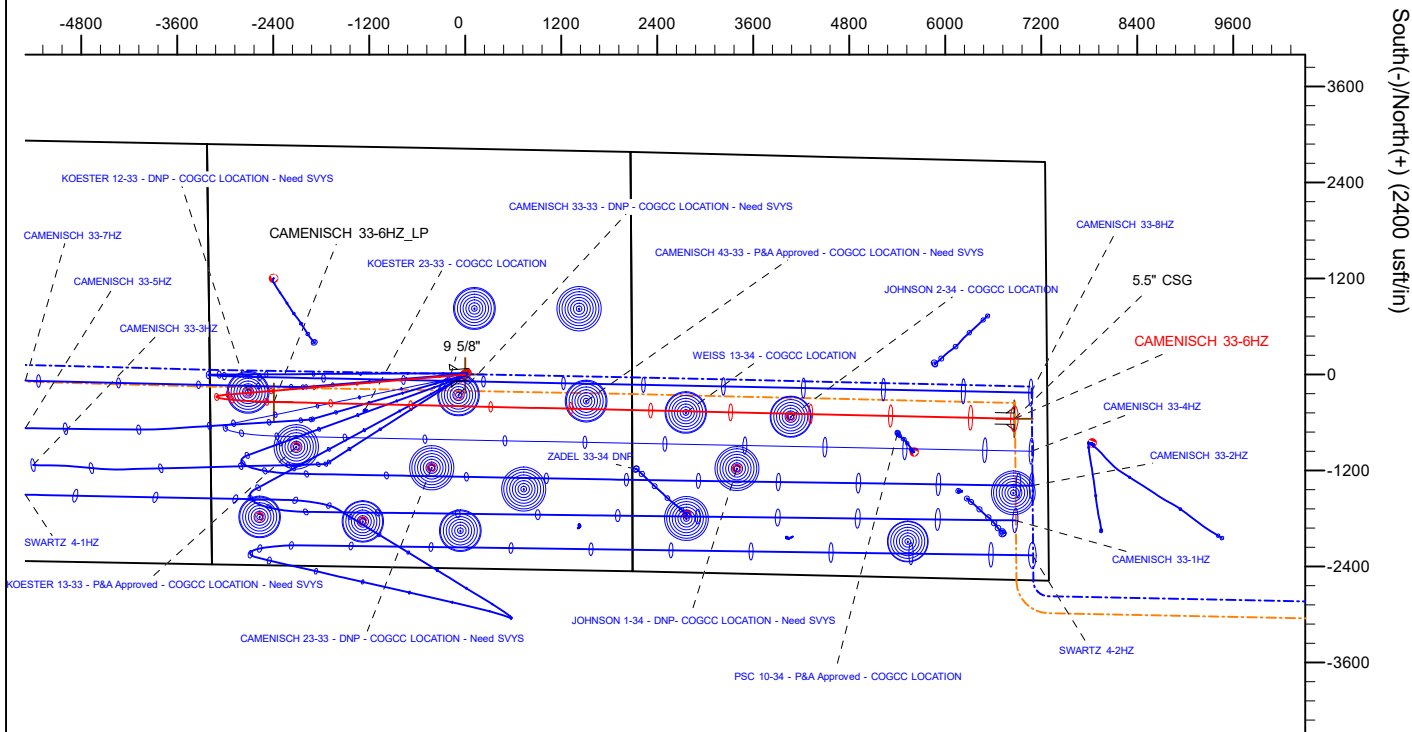
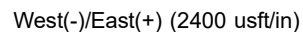
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
CAMENISCH 33-6HZ_SHL	0.00	14624642.14	1670119.69	40.268821	-104.893518
CAMENISCH 33-6HZ_LP	7236.00	14624296.80	1667726.03	40.267880	-104.902101
CAMENISCH 33-6HZ_BHL	7245.00	14624098.00	1676983.00	40.267301	-104.868917

SHL
2425' FSL
2084' FEL

LP
2043' FSL
796' FWL

BHL
2014' FSL
414' FEL



WELL DETAILS: CAMENISCH 33-6HZ

GL = 4870'

RKB = 17' @ 4887.00usft (RIG)

Plan: Permit Rev-1 (CAMENISCH 33-6HZ/Plan A)

Date: 12/14/2021

FORMATION TOP DETAILS

TVDPPath	MDPPath	Formation
772.00	773.02	Fox Hills
3663.00	4018.33	Parkman
4145.00	4590.72	Sussex
6906.00	7770.20	Sharon Springs
6936.00	7806.48	Niobrara
7088.00	8018.90	Nio B
7120.00	8074.39	Nio C
7222.00	8346.20	Fort Hayes
7243.00	15688.38	Codell



M 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

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-6HZ
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 33-6HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 33-6HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,624,642.14 usft	Latitude:	40.268821
	+E/-W	0.00 usft	Easting:	1,670,119.69 usft	Longitude:	-104.893519
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,870.00 usft
Grid Convergence:		0.07 °				

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	12/8/2021	7.86	66.51	51,820.61509412

Design	Permit Rev-1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	91.30	

Plan Survey Tool Program	Date	12/13/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,000.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination
2	2,000.00	17,746.63	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II	Fixed:v2:Rockies, crustal dec +

Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4887.00usft (RIG)
Site:	4N-67W-33 CAMENISCH 10-33HZ PAD	North Reference:	True
Well:	CAMENISCH 33-6HZ	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	
325.60	0.00	0.00	325.60	0.00	0.00	0.00	0.00	0.00	0.00	
2,501.60	32.64	265.16	2,385.80	-50.90	-601.07	1.50	1.50	0.00	265.16	
6,957.85	32.64	265.16	6,138.30	-253.69	-2,996.02	0.00	0.00	0.00	0.00	
8,487.53	89.94	91.30	7,236.00	-342.46	-2,394.07	8.00	3.75	-11.37	-172.73	
17,746.63	89.94	91.30	7,245.00	-552.38	6,862.65	0.00	0.00	0.00	0.00	CAMENISCH 33-6HZ

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-6HZ
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 33-6HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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
325.60	0.00	0.00	325.60	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 325.60ft									
400.00	1.12	265.16	400.00	-0.06	-0.72	-0.72	1.50	1.50	0.00
500.00	2.62	265.16	499.94	-0.34	-3.97	-3.96	1.50	1.50	0.00
600.00	4.12	265.16	599.76	-0.83	-9.82	-9.80	1.50	1.50	0.00
700.00	5.62	265.16	699.40	-1.55	-18.27	-18.23	1.50	1.50	0.00
773.02	6.71	265.16	772.00	-2.21	-26.08	-26.02	1.50	1.50	0.00
Fox Hills									
800.00	7.12	265.16	798.78	-2.48	-29.32	-29.25	1.50	1.50	0.00
900.00	8.62	265.16	897.84	-3.64	-42.95	-42.86	1.50	1.50	0.00
1,000.00	10.12	265.16	996.50	-5.01	-59.17	-59.04	1.50	1.50	0.00
1,100.00	11.62	265.16	1,094.71	-6.60	-77.95	-77.78	1.50	1.50	0.00
1,200.00	13.12	265.16	1,192.38	-8.41	-99.29	-99.07	1.50	1.50	0.00
1,300.00	14.62	265.16	1,289.47	-10.43	-123.17	-122.90	1.50	1.50	0.00
1,400.00	16.12	265.16	1,385.89	-12.67	-149.57	-149.25	1.50	1.50	0.00
1,500.00	17.62	265.16	1,481.58	-15.11	-178.48	-178.09	1.50	1.50	0.00
1,519.34	17.91	265.16	1,500.00	-15.61	-184.36	-183.96	1.50	1.50	0.00
9 5/8"									
1,600.00	19.12	265.16	1,576.49	-17.77	-209.88	-209.42	1.50	1.50	0.00
1,700.00	20.62	265.16	1,670.53	-20.64	-243.74	-243.21	1.50	1.50	0.00
1,800.00	22.12	265.16	1,763.66	-23.71	-280.04	-279.43	1.50	1.50	0.00
1,900.00	23.62	265.16	1,855.80	-26.99	-318.76	-318.06	1.50	1.50	0.00
2,000.00	25.12	265.16	1,946.89	-30.47	-359.87	-359.08	1.50	1.50	0.00
2,100.00	26.62	265.16	2,036.87	-34.15	-403.34	-402.46	1.50	1.50	0.00
2,200.00	28.12	265.16	2,125.67	-38.03	-449.14	-448.16	1.50	1.50	0.00
2,300.00	29.62	265.16	2,213.25	-42.10	-497.24	-496.16	1.50	1.50	0.00
2,400.00	31.12	265.16	2,299.53	-46.37	-547.61	-546.42	1.50	1.50	0.00
2,501.60	32.64	265.16	2,385.80	-50.90	-601.07	-599.76	1.50	1.50	0.00
Hold Tangent @ 2501.60ft									
2,600.00	32.64	265.16	2,468.66	-55.37	-653.96	-652.53	0.00	0.00	0.00
2,700.00	32.64	265.16	2,552.87	-59.92	-707.70	-706.16	0.00	0.00	0.00
2,800.00	32.64	265.16	2,637.07	-64.48	-761.44	-759.79	0.00	0.00	0.00
2,900.00	32.64	265.16	2,721.28	-69.03	-815.19	-813.41	0.00	0.00	0.00
3,000.00	32.64	265.16	2,805.49	-73.58	-868.93	-867.04	0.00	0.00	0.00
3,100.00	32.64	265.16	2,889.70	-78.13	-922.68	-920.67	0.00	0.00	0.00
3,200.00	32.64	265.16	2,973.90	-82.68	-976.42	-974.29	0.00	0.00	0.00
3,300.00	32.64	265.16	3,058.11	-87.23	-1,030.16	-1,027.92	0.00	0.00	0.00
3,400.00	32.64	265.16	3,142.32	-91.78	-1,083.91	-1,081.54	0.00	0.00	0.00
3,500.00	32.64	265.16	3,226.53	-96.33	-1,137.65	-1,135.17	0.00	0.00	0.00
3,600.00	32.64	265.16	3,310.74	-100.88	-1,191.39	-1,188.80	0.00	0.00	0.00
3,700.00	32.64	265.16	3,394.94	-105.43	-1,245.14	-1,242.42	0.00	0.00	0.00
3,800.00	32.64	265.16	3,479.15	-109.98	-1,298.88	-1,296.05	0.00	0.00	0.00
3,900.00	32.64	265.16	3,563.36	-114.53	-1,352.62	-1,349.68	0.00	0.00	0.00
4,000.00	32.64	265.16	3,647.57	-119.08	-1,406.37	-1,403.30	0.00	0.00	0.00
4,018.33	32.64	265.16	3,663.00	-119.92	-1,416.22	-1,413.13	0.00	0.00	0.00
Parkman									
4,100.00	32.64	265.16	3,731.77	-123.64	-1,460.11	-1,456.93	0.00	0.00	0.00
4,200.00	32.64	265.16	3,815.98	-128.19	-1,513.85	-1,510.56	0.00	0.00	0.00
4,300.00	32.64	265.16	3,900.19	-132.74	-1,567.60	-1,564.18	0.00	0.00	0.00
4,400.00	32.64	265.16	3,984.40	-137.29	-1,621.34	-1,617.81	0.00	0.00	0.00

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Site:	4N-67W-33 CAMENISCH 10-33HZ PAD	North Reference:	True
Well:	CAMENISCH 33-6HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.00	32.64	265.16	4,068.60	-141.84	-1,675.09	-1,671.44	0.00	0.00	0.00
4,590.72	32.64	265.16	4,145.00	-145.97	-1,723.84	-1,720.09	0.00	0.00	0.00
Sussex									
4,600.00	32.64	265.16	4,152.81	-146.39	-1,728.83	-1,725.06	0.00	0.00	0.00
4,700.00	32.64	265.16	4,237.02	-150.94	-1,782.57	-1,778.69	0.00	0.00	0.00
4,800.00	32.64	265.16	4,321.23	-155.49	-1,836.32	-1,832.32	0.00	0.00	0.00
4,900.00	32.64	265.16	4,405.43	-160.04	-1,890.06	-1,885.94	0.00	0.00	0.00
5,000.00	32.64	265.16	4,489.64	-164.59	-1,943.80	-1,939.57	0.00	0.00	0.00
5,100.00	32.64	265.16	4,573.85	-169.14	-1,997.55	-1,993.20	0.00	0.00	0.00
5,200.00	32.64	265.16	4,658.06	-173.69	-2,051.29	-2,046.82	0.00	0.00	0.00
5,300.00	32.64	265.16	4,742.26	-178.24	-2,105.03	-2,100.45	0.00	0.00	0.00
5,400.00	32.64	265.16	4,826.47	-182.80	-2,158.78	-2,154.07	0.00	0.00	0.00
5,500.00	32.64	265.16	4,910.68	-187.35	-2,212.52	-2,207.70	0.00	0.00	0.00
5,600.00	32.64	265.16	4,994.89	-191.90	-2,266.26	-2,261.33	0.00	0.00	0.00
5,700.00	32.64	265.16	5,079.10	-196.45	-2,320.01	-2,314.95	0.00	0.00	0.00
5,800.00	32.64	265.16	5,163.30	-201.00	-2,373.75	-2,368.58	0.00	0.00	0.00
5,900.00	32.64	265.16	5,247.51	-205.55	-2,427.50	-2,422.21	0.00	0.00	0.00
6,000.00	32.64	265.16	5,331.72	-210.10	-2,481.24	-2,475.83	0.00	0.00	0.00
6,100.00	32.64	265.16	5,415.93	-214.65	-2,534.98	-2,529.46	0.00	0.00	0.00
6,200.00	32.64	265.16	5,500.13	-219.20	-2,588.73	-2,583.09	0.00	0.00	0.00
6,300.00	32.64	265.16	5,584.34	-223.75	-2,642.47	-2,636.71	0.00	0.00	0.00
6,400.00	32.64	265.16	5,668.55	-228.30	-2,696.21	-2,690.34	0.00	0.00	0.00
6,500.00	32.64	265.16	5,752.76	-232.85	-2,749.96	-2,743.97	0.00	0.00	0.00
6,600.00	32.64	265.16	5,836.96	-237.40	-2,803.70	-2,797.59	0.00	0.00	0.00
6,700.00	32.64	265.16	5,921.17	-241.96	-2,857.44	-2,851.22	0.00	0.00	0.00
6,800.00	32.64	265.16	6,005.38	-246.51	-2,911.19	-2,904.85	0.00	0.00	0.00
6,900.00	32.64	265.16	6,089.59	-251.06	-2,964.93	-2,958.47	0.00	0.00	0.00
6,957.85	32.64	265.16	6,138.30	-253.69	-2,996.02	-2,989.49	0.00	0.00	0.00
KOP @ 6957.85ft :: DLS = 8°/100'									
7,000.00	29.30	264.29	6,174.44	-255.68	-3,017.62	-3,011.04	8.00	-7.93	-2.07
7,050.00	25.34	262.98	6,218.85	-258.20	-3,040.42	-3,033.78	8.00	-7.91	-2.61
7,100.00	21.40	261.24	6,264.74	-260.90	-3,060.06	-3,053.36	8.00	-7.88	-3.50
7,150.00	17.49	258.75	6,311.88	-263.76	-3,076.46	-3,069.68	8.00	-7.83	-4.98
7,200.00	13.62	254.89	6,360.04	-266.76	-3,089.51	-3,082.67	8.00	-7.73	-7.72
7,250.00	9.86	248.11	6,408.99	-269.89	-3,099.18	-3,092.25	8.00	-7.52	-13.56
7,300.00	6.39	233.64	6,458.48	-273.14	-3,105.39	-3,098.40	8.00	-6.94	-28.93
7,350.00	4.06	196.43	6,508.28	-276.49	-3,108.14	-3,101.06	8.00	-4.67	-74.43
7,400.00	4.90	144.33	6,558.15	-279.92	-3,107.39	-3,100.24	8.00	1.68	-104.19
7,450.00	7.97	120.58	6,607.84	-283.42	-3,103.16	-3,095.93	8.00	6.14	-47.50
7,500.00	11.61	110.75	6,657.11	-286.96	-3,095.47	-3,088.16	8.00	7.30	-19.67
7,550.00	15.44	105.65	6,705.71	-290.54	-3,084.35	-3,076.97	8.00	7.64	-10.20
7,600.00	19.33	102.55	6,753.42	-294.14	-3,069.86	-3,062.40	8.00	7.79	-6.20
7,650.00	23.26	100.46	6,800.00	-297.73	-3,052.07	-3,044.53	8.00	7.86	-4.18
7,700.00	27.20	98.95	6,845.22	-301.30	-3,031.07	-3,023.45	8.00	7.90	-3.02
7,750.00	31.16	97.79	6,888.87	-304.84	-3,006.95	-2,999.26	8.00	7.92	-2.31
7,770.20	32.77	97.40	6,906.00	-306.25	-2,996.35	-2,988.63	8.00	7.93	-1.95
Sharon Springs									
7,800.00	35.13	96.88	6,930.72	-308.31	-2,979.84	-2,972.08	8.00	7.94	-1.75
7,806.48	35.65	96.77	6,936.00	-308.76	-2,976.11	-2,968.34	8.00	7.94	-1.63
Niobrara									
7,850.00	39.11	96.13	6,970.58	-311.72	-2,949.86	-2,942.03	8.00	7.95	-1.49
7,900.00	43.09	95.49	7,008.25	-315.04	-2,917.17	-2,909.27	8.00	7.96	-1.27
7,950.00	47.07	94.95	7,043.55	-318.25	-2,881.92	-2,873.96	8.00	7.96	-1.09

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-6HZ
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 33-6HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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	51.05	94.47	7,076.31	-321.35	-2,844.29	-2,836.27	8.00	7.97	-0.96
8,018.90	52.56	94.30	7,088.00	-322.48	-2,829.48	-2,821.43	8.00	7.97	-0.88
Nio B									
8,050.00	55.04	94.04	7,106.37	-324.31	-2,804.45	-2,796.37	8.00	7.97	-0.84
8,074.39	56.98	93.85	7,120.00	-325.70	-2,784.28	-2,776.18	8.00	7.97	-0.79
Nio C									
8,100.00	59.02	93.65	7,133.57	-327.12	-2,762.61	-2,754.48	8.00	7.97	-0.76
8,150.00	63.01	93.29	7,157.80	-329.76	-2,718.96	-2,710.78	8.00	7.98	-0.71
8,200.00	67.00	92.96	7,178.92	-332.23	-2,673.72	-2,665.49	8.00	7.98	-0.67
8,250.00	70.99	92.65	7,196.84	-334.51	-2,627.11	-2,618.84	8.00	7.98	-0.63
8,300.00	74.98	92.35	7,211.47	-336.59	-2,579.35	-2,571.05	8.00	7.98	-0.60
8,346.20	78.66	92.08	7,222.00	-338.33	-2,534.41	-2,526.08	8.00	7.98	-0.58
Fort Hayes									
8,350.00	78.97	92.06	7,222.74	-338.47	-2,530.68	-2,522.35	8.00	7.98	-0.57
8,400.00	82.96	91.78	7,230.59	-340.12	-2,481.34	-2,472.99	8.00	7.98	-0.56
8,450.00	86.95	91.50	7,234.99	-341.55	-2,431.57	-2,423.19	8.00	7.98	-0.55
8,487.53	89.94	91.30	7,236.00	-342.46	-2,394.07	-2,385.68	8.00	7.98	-0.55
End Build @ 8487.53ft									
8,500.00	89.94	91.30	7,236.02	-342.75	-2,381.60	-2,373.21	0.00	0.00	0.00
8,600.00	89.94	91.30	7,236.11	-345.01	-2,281.62	-2,273.21	0.00	0.00	0.00
8,700.00	89.94	91.30	7,236.21	-347.28	-2,181.65	-2,173.21	0.00	0.00	0.00
8,800.00	89.94	91.30	7,236.31	-349.55	-2,081.68	-2,073.21	0.00	0.00	0.00
8,900.00	89.94	91.30	7,236.40	-351.82	-1,981.70	-1,973.21	0.00	0.00	0.00
9,000.00	89.94	91.30	7,236.50	-354.08	-1,881.73	-1,873.21	0.00	0.00	0.00
9,100.00	89.94	91.30	7,236.60	-356.35	-1,781.75	-1,773.21	0.00	0.00	0.00
9,200.00	89.94	91.30	7,236.70	-358.62	-1,681.78	-1,673.21	0.00	0.00	0.00
9,300.00	89.94	91.30	7,236.79	-360.88	-1,581.81	-1,573.21	0.00	0.00	0.00
9,400.00	89.94	91.30	7,236.89	-363.15	-1,481.83	-1,473.21	0.00	0.00	0.00
9,500.00	89.94	91.30	7,236.99	-365.42	-1,381.86	-1,373.21	0.00	0.00	0.00
9,600.00	89.94	91.30	7,237.08	-367.69	-1,281.88	-1,273.21	0.00	0.00	0.00
9,700.00	89.94	91.30	7,237.18	-369.95	-1,181.91	-1,173.21	0.00	0.00	0.00
9,800.00	89.94	91.30	7,237.28	-372.22	-1,081.93	-1,073.21	0.00	0.00	0.00
9,900.00	89.94	91.30	7,237.38	-374.49	-981.96	-973.21	0.00	0.00	0.00
10,000.00	89.94	91.30	7,237.47	-376.75	-881.99	-873.21	0.00	0.00	0.00
10,100.00	89.94	91.30	7,237.57	-379.02	-782.01	-773.21	0.00	0.00	0.00
10,200.00	89.94	91.30	7,237.67	-381.29	-682.04	-673.21	0.00	0.00	0.00
10,300.00	89.94	91.30	7,237.76	-383.56	-582.06	-573.21	0.00	0.00	0.00
10,400.00	89.94	91.30	7,237.86	-385.82	-482.09	-473.21	0.00	0.00	0.00
10,500.00	89.94	91.30	7,237.96	-388.09	-382.11	-373.21	0.00	0.00	0.00
10,600.00	89.94	91.30	7,238.06	-390.36	-282.14	-273.21	0.00	0.00	0.00
10,700.00	89.94	91.30	7,238.15	-392.62	-182.17	-173.21	0.00	0.00	0.00
10,800.00	89.94	91.30	7,238.25	-394.89	-82.19	-73.21	0.00	0.00	0.00
10,900.00	89.94	91.30	7,238.35	-397.16	17.78	26.79	0.00	0.00	0.00
11,000.00	89.94	91.30	7,238.44	-399.43	117.76	126.79	0.00	0.00	0.00
11,100.00	89.94	91.30	7,238.54	-401.69	217.73	226.79	0.00	0.00	0.00
11,200.00	89.94	91.30	7,238.64	-403.96	317.71	326.79	0.00	0.00	0.00
11,300.00	89.94	91.30	7,238.74	-406.23	417.68	426.79	0.00	0.00	0.00
11,400.00	89.94	91.30	7,238.83	-408.49	517.65	526.79	0.00	0.00	0.00
11,500.00	89.94	91.30	7,238.93	-410.76	617.63	626.79	0.00	0.00	0.00
11,600.00	89.94	91.30	7,239.03	-413.03	717.60	726.79	0.00	0.00	0.00
11,700.00	89.94	91.30	7,239.12	-415.30	817.58	826.79	0.00	0.00	0.00
11,800.00	89.94	91.30	7,239.22	-417.56	917.55	926.79	0.00	0.00	0.00
11,900.00	89.94	91.30	7,239.32	-419.83	1,017.53	1,026.79	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-6HZ
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 33-6HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)	
12,000.00	89.94	91.30	7,239.42	-422.10	1,117.50	1,126.79	0.00	0.00	0.00	
12,100.00	89.94	91.30	7,239.51	-424.37	1,217.47	1,226.79	0.00	0.00	0.00	
12,200.00	89.94	91.30	7,239.61	-426.63	1,317.45	1,326.79	0.00	0.00	0.00	
12,300.00	89.94	91.30	7,239.71	-428.90	1,417.42	1,426.79	0.00	0.00	0.00	
12,400.00	89.94	91.30	7,239.80	-431.17	1,517.40	1,526.79	0.00	0.00	0.00	
12,500.00	89.94	91.30	7,239.90	-433.43	1,617.37	1,626.79	0.00	0.00	0.00	
12,600.00	89.94	91.30	7,240.00	-435.70	1,717.35	1,726.79	0.00	0.00	0.00	
12,700.00	89.94	91.30	7,240.10	-437.97	1,817.32	1,826.79	0.00	0.00	0.00	
12,800.00	89.94	91.30	7,240.19	-440.24	1,917.29	1,926.79	0.00	0.00	0.00	
12,900.00	89.94	91.30	7,240.29	-442.50	2,017.27	2,026.79	0.00	0.00	0.00	
13,000.00	89.94	91.30	7,240.39	-444.77	2,117.24	2,126.79	0.00	0.00	0.00	
13,100.00	89.94	91.30	7,240.49	-447.04	2,217.22	2,226.79	0.00	0.00	0.00	
13,200.00	89.94	91.30	7,240.58	-449.30	2,317.19	2,326.79	0.00	0.00	0.00	
13,300.00	89.94	91.30	7,240.68	-451.57	2,417.17	2,426.79	0.00	0.00	0.00	
13,400.00	89.94	91.30	7,240.78	-453.84	2,517.14	2,526.79	0.00	0.00	0.00	
13,500.00	89.94	91.30	7,240.87	-456.11	2,617.11	2,626.79	0.00	0.00	0.00	
13,600.00	89.94	91.30	7,240.97	-458.37	2,717.09	2,726.79	0.00	0.00	0.00	
13,700.00	89.94	91.30	7,241.07	-460.64	2,817.06	2,826.79	0.00	0.00	0.00	
13,800.00	89.94	91.30	7,241.17	-462.91	2,917.04	2,926.79	0.00	0.00	0.00	
13,900.00	89.94	91.30	7,241.26	-465.17	3,017.01	3,026.79	0.00	0.00	0.00	
14,000.00	89.94	91.30	7,241.36	-467.44	3,116.98	3,126.79	0.00	0.00	0.00	
14,100.00	89.94	91.30	7,241.46	-469.71	3,216.96	3,226.79	0.00	0.00	0.00	
14,200.00	89.94	91.30	7,241.55	-471.98	3,316.93	3,326.79	0.00	0.00	0.00	
14,300.00	89.94	91.30	7,241.65	-474.24	3,416.91	3,426.79	0.00	0.00	0.00	
14,400.00	89.94	91.30	7,241.75	-476.51	3,516.88	3,526.79	0.00	0.00	0.00	
14,500.00	89.94	91.30	7,241.85	-478.78	3,616.86	3,626.79	0.00	0.00	0.00	
14,600.00	89.94	91.30	7,241.94	-481.04	3,716.83	3,726.79	0.00	0.00	0.00	
14,700.00	89.94	91.30	7,242.04	-483.31	3,816.80	3,826.79	0.00	0.00	0.00	
14,800.00	89.94	91.30	7,242.14	-485.58	3,916.78	3,926.79	0.00	0.00	0.00	
14,900.00	89.94	91.30	7,242.23	-487.85	4,016.75	4,026.79	0.00	0.00	0.00	
15,000.00	89.94	91.30	7,242.33	-490.11	4,116.73	4,126.79	0.00	0.00	0.00	
15,100.00	89.94	91.30	7,242.43	-492.38	4,216.70	4,226.79	0.00	0.00	0.00	
15,200.00	89.94	91.30	7,242.53	-494.65	4,316.68	4,326.79	0.00	0.00	0.00	
15,300.00	89.94	91.30	7,242.62	-496.92	4,416.65	4,426.79	0.00	0.00	0.00	
15,400.00	89.94	91.30	7,242.72	-499.18	4,516.62	4,526.79	0.00	0.00	0.00	
15,500.00	89.94	91.30	7,242.82	-501.45	4,616.60	4,626.79	0.00	0.00	0.00	
15,600.00	89.94	91.30	7,242.91	-503.72	4,716.57	4,726.79	0.00	0.00	0.00	
15,688.38	89.94	91.30	7,243.00	-505.72	4,804.93	4,815.17	0.00	0.00	0.00	
Codell										
15,700.00	89.94	91.30	7,243.01	-505.98	4,816.55	4,826.79	0.00	0.00	0.00	
15,800.00	89.94	91.30	7,243.11	-508.25	4,916.52	4,926.79	0.00	0.00	0.00	
15,900.00	89.94	91.30	7,243.21	-510.52	5,016.50	5,026.79	0.00	0.00	0.00	
16,000.00	89.94	91.30	7,243.30	-512.79	5,116.47	5,126.79	0.00	0.00	0.00	
16,100.00	89.94	91.30	7,243.40	-515.05	5,216.44	5,226.79	0.00	0.00	0.00	
16,200.00	89.94	91.30	7,243.50	-517.32	5,316.42	5,326.79	0.00	0.00	0.00	
16,300.00	89.94	91.30	7,243.59	-519.59	5,416.39	5,426.79	0.00	0.00	0.00	
16,400.00	89.94	91.30	7,243.69	-521.85	5,516.37	5,526.79	0.00	0.00	0.00	
16,500.00	89.94	91.30	7,243.79	-524.12	5,616.34	5,626.79	0.00	0.00	0.00	
16,600.00	89.94	91.30	7,243.89	-526.39	5,716.32	5,726.79	0.00	0.00	0.00	
16,700.00	89.94	91.30	7,243.98	-528.66	5,816.29	5,826.79	0.00	0.00	0.00	
16,800.00	89.94	91.30	7,244.08	-530.92	5,916.26	5,926.79	0.00	0.00	0.00	
16,900.00	89.94	91.30	7,244.18	-533.19	6,016.24	6,026.79	0.00	0.00	0.00	
17,000.00	89.94	91.30	7,244.27	-535.46	6,116.21	6,126.79	0.00	0.00	0.00	
17,100.00	89.94	91.30	7,244.37	-537.72	6,216.19	6,226.79	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-6HZ
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 33-6HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)
17,200.00	89.94	91.30	7,244.47	-539.99	6,316.16	6,326.79	0.00	0.00	0.00
17,300.00	89.94	91.30	7,244.57	-542.26	6,416.14	6,426.79	0.00	0.00	0.00
17,400.00	89.94	91.30	7,244.66	-544.53	6,516.11	6,526.79	0.00	0.00	0.00
17,500.00	89.94	91.30	7,244.76	-546.79	6,616.08	6,626.79	0.00	0.00	0.00
17,600.00	89.94	91.30	7,244.86	-549.06	6,716.06	6,726.79	0.00	0.00	0.00
17,700.00	89.94	91.30	7,244.95	-551.33	6,816.03	6,826.79	0.00	0.00	0.00
17,746.63	89.94	91.30	7,245.00	-552.38	6,862.65	6,873.42	0.00	0.00	0.00
TD Well @ 17746.63ft - 5.5" CSG									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,519.34	1,500.00	9 5/8"	9-5/8	13-1/2
17,746.63	7,245.00	5.5" CSG	5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
773.02	772.00	Fox Hills			
4,018.33	3,663.00	Parkman			
4,590.72	4,145.00	Sussex			
7,770.20	6,906.00	Sharon Springs			
7,806.48	6,936.00	Niobrara			
8,018.90	7,088.00	Nio B			
8,074.39	7,120.00	Nio C			
8,346.20	7,222.00	Fort Hayes			
15,688.38	7,243.00	Codell			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
325.60	325.60	0.00	0.00	Begin Nudge @ 325.60ft
2,501.60	2,385.80	-50.90	-601.07	Hold Tangent @ 2501.60ft
6,957.85	6,138.30	-253.69	-2,996.02	KOP @ 6957.85ft :: DLS = 8°/100'
8,487.53	7,236.00	-342.46	-2,394.07	End Build @ 8487.53ft
17,746.63	7,245.00	-552.38	6,862.65	TD Well @ 17746.63ft