

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

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

CAMENISCH 33-7HZ

Plan A

Plan: Permit Rev-2

Standard Planning Report

16 December, 2021

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-7HZ
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 33-7HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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 33-7HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,624,651.10 usft	Latitude:	40.268846
	+E/-W	0.00 usft	Easting:	1,670,131.71 usft	Longitude:	-104.893475
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	51,820.63247984

Design	Permit Rev-2				
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	271.31	

Plan Survey Tool Program	Date	12/15/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,000.00	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	2,000.00	19,653.61	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +	

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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	
376.35	0.00	0.00	376.35	0.00	0.00	0.00	0.00	0.00	0.00	
1,759.02	20.74	265.93	1,729.02	-17.57	-246.90	1.50	1.50	0.00	265.93	
6,968.17	20.74	265.93	6,600.60	-148.50	-2,086.96	0.00	0.00	0.00	0.00	
7,836.21	90.09	271.31	7,064.00	-149.58	-2,758.46	8.00	7.99	0.62	5.75	
19,653.61	90.09	271.31	7,046.00	121.59	-14,572.74	0.00	0.00	0.00	0.00	CAMENISCH 33-7HZ

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Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
376.35	0.00	0.00	376.35	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 376.35ft									
400.00	0.35	265.93	400.00	-0.01	-0.07	0.07	1.50	1.50	0.00
500.00	1.85	265.93	499.98	-0.14	-2.00	1.99	1.50	1.50	0.00
600.00	3.35	265.93	599.87	-0.46	-6.53	6.52	1.50	1.50	0.00
700.00	4.85	265.93	699.61	-0.97	-13.67	13.64	1.50	1.50	0.00
772.71	5.95	265.93	772.00	-1.46	-20.49	20.46	1.50	1.50	0.00
Fox Hills									
800.00	6.35	265.93	799.13	-1.67	-23.41	23.37	1.50	1.50	0.00
900.00	7.85	265.93	898.36	-2.54	-35.75	35.68	1.50	1.50	0.00
1,000.00	9.35	265.93	997.23	-3.61	-50.67	50.58	1.50	1.50	0.00
1,100.00	10.85	265.93	1,095.68	-4.85	-68.17	68.04	1.50	1.50	0.00
1,200.00	12.35	265.93	1,193.63	-6.28	-88.24	88.07	1.50	1.50	0.00
1,300.00	13.85	265.93	1,291.02	-7.89	-110.85	110.64	1.50	1.50	0.00
1,400.00	15.35	265.93	1,387.79	-9.68	-136.00	135.74	1.50	1.50	0.00
1,500.00	16.85	265.93	1,483.86	-11.65	-163.67	163.36	1.50	1.50	0.00
1,516.87	17.11	265.93	1,500.00	-12.00	-168.59	168.27	1.50	1.50	0.00
9 5/8"									
1,600.00	18.35	265.93	1,579.18	-13.79	-193.84	193.47	1.50	1.50	0.00
1,700.00	19.85	265.93	1,673.67	-16.12	-226.48	226.06	1.50	1.50	0.00
1,759.02	20.74	265.93	1,729.02	-17.57	-246.90	246.44	1.50	1.50	0.00
Hold Tangent @ 1759.02ft									
1,800.00	20.74	265.93	1,767.35	-18.60	-261.38	260.89	0.00	0.00	0.00
1,900.00	20.74	265.93	1,860.87	-21.11	-296.71	296.14	0.00	0.00	0.00
2,000.00	20.74	265.93	1,954.39	-23.63	-332.03	331.40	0.00	0.00	0.00
2,100.00	20.74	265.93	2,047.91	-26.14	-367.35	366.66	0.00	0.00	0.00
2,200.00	20.74	265.93	2,141.42	-28.65	-402.68	401.92	0.00	0.00	0.00
2,300.00	20.74	265.93	2,234.94	-31.17	-438.00	437.17	0.00	0.00	0.00
2,400.00	20.74	265.93	2,328.46	-33.68	-473.32	472.43	0.00	0.00	0.00
2,500.00	20.74	265.93	2,421.98	-36.19	-508.65	507.69	0.00	0.00	0.00
2,600.00	20.74	265.93	2,515.50	-38.71	-543.97	542.94	0.00	0.00	0.00
2,700.00	20.74	265.93	2,609.02	-41.22	-579.29	578.20	0.00	0.00	0.00
2,800.00	20.74	265.93	2,702.54	-43.73	-614.62	613.46	0.00	0.00	0.00
2,900.00	20.74	265.93	2,796.06	-46.25	-649.94	648.71	0.00	0.00	0.00
3,000.00	20.74	265.93	2,889.58	-48.76	-685.26	683.97	0.00	0.00	0.00
3,100.00	20.74	265.93	2,983.10	-51.27	-720.59	719.23	0.00	0.00	0.00
3,200.00	20.74	265.93	3,076.62	-53.79	-755.91	754.48	0.00	0.00	0.00
3,300.00	20.74	265.93	3,170.14	-56.30	-791.23	789.74	0.00	0.00	0.00
3,400.00	20.74	265.93	3,263.66	-58.81	-826.56	825.00	0.00	0.00	0.00
3,500.00	20.74	265.93	3,357.18	-61.33	-861.88	860.25	0.00	0.00	0.00
3,600.00	20.74	265.93	3,450.70	-63.84	-897.20	895.51	0.00	0.00	0.00
3,700.00	20.74	265.93	3,544.22	-66.35	-932.53	930.77	0.00	0.00	0.00
3,800.00	20.74	265.93	3,637.74	-68.87	-967.85	966.02	0.00	0.00	0.00
3,827.01	20.74	265.93	3,663.00	-69.55	-977.39	975.55	0.00	0.00	0.00
Parkman									
3,900.00	20.74	265.93	3,731.26	-71.38	-1,003.17	1,001.28	0.00	0.00	0.00
4,000.00	20.74	265.93	3,824.78	-73.89	-1,038.50	1,036.54	0.00	0.00	0.00
4,100.00	20.74	265.93	3,918.30	-76.41	-1,073.82	1,071.79	0.00	0.00	0.00
4,200.00	20.74	265.93	4,011.82	-78.92	-1,109.15	1,107.05	0.00	0.00	0.00
4,300.00	20.74	265.93	4,105.34	-81.43	-1,144.47	1,142.31	0.00	0.00	0.00

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Wellbore:	Plan A		
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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)
4,342.41	20.74	265.93	4,145.00	-82.50	-1,159.45	1,157.26	0.00	0.00	0.00
Sussex									
4,400.00	20.74	265.93	4,198.86	-83.95	-1,179.79	1,177.56	0.00	0.00	0.00
4,500.00	20.74	265.93	4,292.38	-86.46	-1,215.12	1,212.82	0.00	0.00	0.00
4,600.00	20.74	265.93	4,385.90	-88.97	-1,250.44	1,248.08	0.00	0.00	0.00
4,700.00	20.74	265.93	4,479.42	-91.49	-1,285.76	1,283.33	0.00	0.00	0.00
4,800.00	20.74	265.93	4,572.94	-94.00	-1,321.09	1,318.59	0.00	0.00	0.00
4,900.00	20.74	265.93	4,666.46	-96.51	-1,356.41	1,353.85	0.00	0.00	0.00
5,000.00	20.74	265.93	4,759.98	-99.03	-1,391.73	1,389.11	0.00	0.00	0.00
5,100.00	20.74	265.93	4,853.50	-101.54	-1,427.06	1,424.36	0.00	0.00	0.00
5,200.00	20.74	265.93	4,947.02	-104.06	-1,462.38	1,459.62	0.00	0.00	0.00
5,300.00	20.74	265.93	5,040.54	-106.57	-1,497.70	1,494.88	0.00	0.00	0.00
5,400.00	20.74	265.93	5,134.06	-109.08	-1,533.03	1,530.13	0.00	0.00	0.00
5,500.00	20.74	265.93	5,227.58	-111.60	-1,568.35	1,565.39	0.00	0.00	0.00
5,600.00	20.74	265.93	5,321.09	-114.11	-1,603.67	1,600.65	0.00	0.00	0.00
5,700.00	20.74	265.93	5,414.61	-116.62	-1,639.00	1,635.90	0.00	0.00	0.00
5,800.00	20.74	265.93	5,508.13	-119.14	-1,674.32	1,671.16	0.00	0.00	0.00
5,900.00	20.74	265.93	5,601.65	-121.65	-1,709.64	1,706.42	0.00	0.00	0.00
6,000.00	20.74	265.93	5,695.17	-124.16	-1,744.97	1,741.67	0.00	0.00	0.00
6,100.00	20.74	265.93	5,788.69	-126.68	-1,780.29	1,776.93	0.00	0.00	0.00
6,200.00	20.74	265.93	5,882.21	-129.19	-1,815.61	1,812.19	0.00	0.00	0.00
6,300.00	20.74	265.93	5,975.73	-131.70	-1,850.94	1,847.44	0.00	0.00	0.00
6,400.00	20.74	265.93	6,069.25	-134.22	-1,886.26	1,882.70	0.00	0.00	0.00
6,500.00	20.74	265.93	6,162.77	-136.73	-1,921.58	1,917.96	0.00	0.00	0.00
6,600.00	20.74	265.93	6,256.29	-139.24	-1,956.91	1,953.21	0.00	0.00	0.00
6,700.00	20.74	265.93	6,349.81	-141.76	-1,992.23	1,988.47	0.00	0.00	0.00
6,800.00	20.74	265.93	6,443.33	-144.27	-2,027.56	2,023.73	0.00	0.00	0.00
6,900.00	20.74	265.93	6,536.85	-146.78	-2,062.88	2,058.98	0.00	0.00	0.00
6,968.17	20.74	265.93	6,600.60	-148.50	-2,086.96	2,083.02	0.00	0.00	0.00
KOP @ 6968.17ft :: DLS = 8°/100'									
7,000.00	23.27	266.58	6,630.11	-149.27	-2,098.86	2,094.90	8.00	7.96	2.03
7,050.00	27.26	267.36	6,675.32	-150.39	-2,120.17	2,116.18	8.00	7.97	1.57
7,100.00	31.25	267.96	6,718.93	-151.38	-2,144.58	2,140.56	8.00	7.98	1.19
7,150.00	35.24	268.43	6,760.74	-152.24	-2,171.97	2,167.92	8.00	7.98	0.95
7,200.00	39.24	268.82	6,800.54	-152.96	-2,202.21	2,198.14	8.00	7.99	0.78
7,250.00	43.23	269.15	6,838.13	-153.54	-2,235.16	2,231.06	8.00	7.99	0.65
7,300.00	47.22	269.43	6,873.34	-153.98	-2,270.64	2,266.53	8.00	7.99	0.56
7,350.00	51.22	269.68	6,905.99	-154.27	-2,308.50	2,304.37	8.00	7.99	0.50
7,350.01	51.22	269.68	6,906.00	-154.27	-2,308.51	2,304.38	0.00	0.00	0.00
Sharon Springs									
7,400.00	55.22	269.90	6,935.92	-154.42	-2,348.53	2,344.39	8.00	7.99	0.44
7,400.13	55.22	269.90	6,936.00	-154.42	-2,348.64	2,344.50	0.00	0.00	0.00
Niobrara									
7,450.00	59.21	270.10	6,962.99	-154.42	-2,390.56	2,386.40	8.02	8.01	0.40
7,500.00	63.21	270.28	6,987.07	-154.27	-2,434.37	2,430.21	8.00	7.99	0.37
7,550.00	67.21	270.46	7,008.03	-153.98	-2,479.75	2,475.58	8.00	7.99	0.34
7,600.00	71.20	270.62	7,025.78	-153.54	-2,526.48	2,522.31	8.00	7.99	0.33
7,650.00	75.20	270.77	7,040.23	-152.95	-2,574.34	2,570.17	8.00	7.99	0.31
7,700.00	79.20	270.92	7,051.30	-152.23	-2,623.08	2,618.91	8.00	7.99	0.30
7,750.00	83.20	271.07	7,058.95	-151.37	-2,672.47	2,668.31	8.00	7.99	0.29
7,800.00	87.19	271.21	7,063.14	-150.38	-2,722.28	2,718.13	8.00	7.99	0.29
7,836.21	90.09	271.31	7,064.00	-149.58	-2,758.46	2,754.32	8.00	7.99	0.28
End Build @ 7836.21ft									

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Planned Survey										
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7,900.00	90.09	271.31	7,063.90	-148.12	-2,822.24	2,818.11	0.00	0.00	0.00	
8,000.00	90.09	271.31	7,063.75	-145.82	-2,922.21	2,918.11	0.00	0.00	0.00	
8,100.00	90.09	271.31	7,063.60	-143.53	-3,022.18	3,018.11	0.00	0.00	0.00	
8,200.00	90.09	271.31	7,063.45	-141.23	-3,122.16	3,118.11	0.00	0.00	0.00	
8,300.00	90.09	271.31	7,063.29	-138.94	-3,222.13	3,218.11	0.00	0.00	0.00	
8,400.00	90.09	271.31	7,063.14	-136.65	-3,322.10	3,318.11	0.00	0.00	0.00	
8,500.00	90.09	271.31	7,062.99	-134.35	-3,422.08	3,418.11	0.00	0.00	0.00	
8,600.00	90.09	271.31	7,062.84	-132.06	-3,522.05	3,518.11	0.00	0.00	0.00	
8,700.00	90.09	271.31	7,062.68	-129.76	-3,622.02	3,618.11	0.00	0.00	0.00	
8,800.00	90.09	271.31	7,062.53	-127.47	-3,722.00	3,718.11	0.00	0.00	0.00	
8,900.00	90.09	271.31	7,062.38	-125.17	-3,821.97	3,818.11	0.00	0.00	0.00	
9,000.00	90.09	271.31	7,062.23	-122.88	-3,921.94	3,918.11	0.00	0.00	0.00	
9,100.00	90.09	271.31	7,062.08	-120.58	-4,021.92	4,018.11	0.00	0.00	0.00	
9,200.00	90.09	271.31	7,061.92	-118.29	-4,121.89	4,118.11	0.00	0.00	0.00	
9,300.00	90.09	271.31	7,061.77	-115.99	-4,221.87	4,218.11	0.00	0.00	0.00	
9,400.00	90.09	271.31	7,061.62	-113.70	-4,321.84	4,318.11	0.00	0.00	0.00	
9,500.00	90.09	271.31	7,061.47	-111.40	-4,421.81	4,418.11	0.00	0.00	0.00	
9,600.00	90.09	271.31	7,061.31	-109.11	-4,521.79	4,518.11	0.00	0.00	0.00	
9,700.00	90.09	271.31	7,061.16	-106.81	-4,621.76	4,618.11	0.00	0.00	0.00	
9,800.00	90.09	271.31	7,061.01	-104.52	-4,721.73	4,718.11	0.00	0.00	0.00	
9,900.00	90.09	271.31	7,060.86	-102.22	-4,821.71	4,818.11	0.00	0.00	0.00	
10,000.00	90.09	271.31	7,060.70	-99.93	-4,921.68	4,918.11	0.00	0.00	0.00	
10,100.00	90.09	271.31	7,060.55	-97.64	-5,021.65	5,018.11	0.00	0.00	0.00	
10,200.00	90.09	271.31	7,060.40	-95.34	-5,121.63	5,118.11	0.00	0.00	0.00	
10,300.00	90.09	271.31	7,060.25	-93.05	-5,221.60	5,218.11	0.00	0.00	0.00	
10,400.00	90.09	271.31	7,060.10	-90.75	-5,321.57	5,318.11	0.00	0.00	0.00	
10,500.00	90.09	271.31	7,059.94	-88.46	-5,421.55	5,418.11	0.00	0.00	0.00	
10,600.00	90.09	271.31	7,059.79	-86.16	-5,521.52	5,518.11	0.00	0.00	0.00	
10,700.00	90.09	271.31	7,059.64	-83.87	-5,621.50	5,618.11	0.00	0.00	0.00	
10,800.00	90.09	271.31	7,059.49	-81.57	-5,721.47	5,718.11	0.00	0.00	0.00	
10,900.00	90.09	271.31	7,059.33	-79.28	-5,821.44	5,818.11	0.00	0.00	0.00	
11,000.00	90.09	271.31	7,059.18	-76.98	-5,921.42	5,918.11	0.00	0.00	0.00	
11,100.00	90.09	271.31	7,059.03	-74.69	-6,021.39	6,018.11	0.00	0.00	0.00	
11,200.00	90.09	271.31	7,058.88	-72.39	-6,121.36	6,118.11	0.00	0.00	0.00	
11,300.00	90.09	271.31	7,058.72	-70.10	-6,221.34	6,218.11	0.00	0.00	0.00	
11,400.00	90.09	271.31	7,058.57	-67.80	-6,321.31	6,318.11	0.00	0.00	0.00	
11,500.00	90.09	271.31	7,058.42	-65.51	-6,421.28	6,418.11	0.00	0.00	0.00	
11,600.00	90.09	271.31	7,058.27	-63.22	-6,521.26	6,518.11	0.00	0.00	0.00	
11,700.00	90.09	271.31	7,058.12	-60.92	-6,621.23	6,618.11	0.00	0.00	0.00	
11,800.00	90.09	271.31	7,057.96	-58.63	-6,721.20	6,718.11	0.00	0.00	0.00	
11,900.00	90.09	271.31	7,057.81	-56.33	-6,821.18	6,818.11	0.00	0.00	0.00	
12,000.00	90.09	271.31	7,057.66	-54.04	-6,921.15	6,918.11	0.00	0.00	0.00	
12,100.00	90.09	271.31	7,057.51	-51.74	-7,021.12	7,018.11	0.00	0.00	0.00	
12,200.00	90.09	271.31	7,057.35	-49.45	-7,121.10	7,118.11	0.00	0.00	0.00	
12,300.00	90.09	271.31	7,057.20	-47.15	-7,221.07	7,218.11	0.00	0.00	0.00	
12,400.00	90.09	271.31	7,057.05	-44.86	-7,321.05	7,318.11	0.00	0.00	0.00	
12,500.00	90.09	271.31	7,056.90	-42.56	-7,421.02	7,418.11	0.00	0.00	0.00	
12,600.00	90.09	271.31	7,056.74	-40.27	-7,520.99	7,518.11	0.00	0.00	0.00	
12,700.00	90.09	271.31	7,056.59	-37.97	-7,620.97	7,618.11	0.00	0.00	0.00	
12,800.00	90.09	271.31	7,056.44	-35.68	-7,720.94	7,718.11	0.00	0.00	0.00	
12,900.00	90.09	271.31	7,056.29	-33.38	-7,820.91	7,818.11	0.00	0.00	0.00	
13,000.00	90.09	271.31	7,056.13	-31.09	-7,920.89	7,918.11	0.00	0.00	0.00	
13,100.00	90.09	271.31	7,055.98	-28.79	-8,020.86	8,018.11	0.00	0.00	0.00	
13,200.00	90.09	271.31	7,055.83	-26.50	-8,120.83	8,118.11	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-7HZ
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 33-7HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,300.00	90.09	271.31	7,055.68	-24.21	-8,220.81	8,218.11	0.00	0.00	0.00	
13,400.00	90.09	271.31	7,055.53	-21.91	-8,320.78	8,318.11	0.00	0.00	0.00	
13,500.00	90.09	271.31	7,055.37	-19.62	-8,420.75	8,418.11	0.00	0.00	0.00	
13,600.00	90.09	271.31	7,055.22	-17.32	-8,520.73	8,518.11	0.00	0.00	0.00	
13,700.00	90.09	271.31	7,055.07	-15.03	-8,620.70	8,618.11	0.00	0.00	0.00	
13,800.00	90.09	271.31	7,054.92	-12.73	-8,720.68	8,718.10	0.00	0.00	0.00	
13,900.00	90.09	271.31	7,054.76	-10.44	-8,820.65	8,818.10	0.00	0.00	0.00	
14,000.00	90.09	271.31	7,054.61	-8.14	-8,920.62	8,918.10	0.00	0.00	0.00	
14,100.00	90.09	271.31	7,054.46	-5.85	-9,020.60	9,018.10	0.00	0.00	0.00	
14,200.00	90.09	271.31	7,054.31	-3.55	-9,120.57	9,118.10	0.00	0.00	0.00	
14,300.00	90.09	271.31	7,054.15	-1.26	-9,220.54	9,218.10	0.00	0.00	0.00	
14,400.00	90.09	271.31	7,054.00	1.04	-9,320.52	9,318.10	0.00	0.00	0.00	
14,500.00	90.09	271.31	7,053.85	3.33	-9,420.49	9,418.10	0.00	0.00	0.00	
14,600.00	90.09	271.31	7,053.70	5.63	-9,520.46	9,518.10	0.00	0.00	0.00	
14,700.00	90.09	271.31	7,053.55	7.92	-9,620.44	9,618.10	0.00	0.00	0.00	
14,800.00	90.09	271.31	7,053.39	10.21	-9,720.41	9,718.10	0.00	0.00	0.00	
14,900.00	90.09	271.31	7,053.24	12.51	-9,820.38	9,818.10	0.00	0.00	0.00	
15,000.00	90.09	271.31	7,053.09	14.80	-9,920.36	9,918.10	0.00	0.00	0.00	
15,100.00	90.09	271.31	7,052.94	17.10	-10,020.33	10,018.10	0.00	0.00	0.00	
15,200.00	90.09	271.31	7,052.78	19.39	-10,120.31	10,118.10	0.00	0.00	0.00	
15,300.00	90.09	271.31	7,052.63	21.69	-10,220.28	10,218.10	0.00	0.00	0.00	
15,400.00	90.09	271.31	7,052.48	23.98	-10,320.25	10,318.10	0.00	0.00	0.00	
15,500.00	90.09	271.31	7,052.33	26.28	-10,420.23	10,418.10	0.00	0.00	0.00	
15,600.00	90.09	271.31	7,052.17	28.57	-10,520.20	10,518.10	0.00	0.00	0.00	
15,700.00	90.09	271.31	7,052.02	30.87	-10,620.17	10,618.10	0.00	0.00	0.00	
15,800.00	90.09	271.31	7,051.87	33.16	-10,720.15	10,718.10	0.00	0.00	0.00	
15,900.00	90.09	271.31	7,051.72	35.46	-10,820.12	10,818.10	0.00	0.00	0.00	
16,000.00	90.09	271.31	7,051.57	37.75	-10,920.09	10,918.10	0.00	0.00	0.00	
16,100.00	90.09	271.31	7,051.41	40.05	-11,020.07	11,018.10	0.00	0.00	0.00	
16,200.00	90.09	271.31	7,051.26	42.34	-11,120.04	11,118.10	0.00	0.00	0.00	
16,300.00	90.09	271.31	7,051.11	44.64	-11,220.01	11,218.10	0.00	0.00	0.00	
16,400.00	90.09	271.31	7,050.96	46.93	-11,319.99	11,318.10	0.00	0.00	0.00	
16,500.00	90.09	271.31	7,050.80	49.22	-11,419.96	11,418.10	0.00	0.00	0.00	
16,600.00	90.09	271.31	7,050.65	51.52	-11,519.93	11,518.10	0.00	0.00	0.00	
16,700.00	90.09	271.31	7,050.50	53.81	-11,619.91	11,618.10	0.00	0.00	0.00	
16,800.00	90.09	271.31	7,050.35	56.11	-11,719.88	11,718.10	0.00	0.00	0.00	
16,900.00	90.09	271.31	7,050.19	58.40	-11,819.86	11,818.10	0.00	0.00	0.00	
17,000.00	90.09	271.31	7,050.04	60.70	-11,919.83	11,918.10	0.00	0.00	0.00	
17,100.00	90.09	271.31	7,049.89	62.99	-12,019.80	12,018.10	0.00	0.00	0.00	
17,200.00	90.09	271.31	7,049.74	65.29	-12,119.78	12,118.10	0.00	0.00	0.00	
17,300.00	90.09	271.31	7,049.59	67.58	-12,219.75	12,218.10	0.00	0.00	0.00	
17,400.00	90.09	271.31	7,049.43	69.88	-12,319.72	12,318.10	0.00	0.00	0.00	
17,500.00	90.09	271.31	7,049.28	72.17	-12,419.70	12,418.10	0.00	0.00	0.00	
17,600.00	90.09	271.31	7,049.13	74.47	-12,519.67	12,518.10	0.00	0.00	0.00	
17,700.00	90.09	271.31	7,048.98	76.76	-12,619.64	12,618.10	0.00	0.00	0.00	
17,800.00	90.09	271.31	7,048.82	79.06	-12,719.62	12,718.10	0.00	0.00	0.00	
17,900.00	90.09	271.31	7,048.67	81.35	-12,819.59	12,818.10	0.00	0.00	0.00	
18,000.00	90.09	271.31	7,048.52	83.64	-12,919.56	12,918.10	0.00	0.00	0.00	
18,100.00	90.09	271.31	7,048.37	85.94	-13,019.54	13,018.10	0.00	0.00	0.00	
18,200.00	90.09	271.31	7,048.21	88.23	-13,119.51	13,118.10	0.00	0.00	0.00	
18,300.00	90.09	271.31	7,048.06	90.53	-13,219.49	13,218.10	0.00	0.00	0.00	
18,400.00	90.09	271.31	7,047.91	92.82	-13,319.46	13,318.10	0.00	0.00	0.00	
18,500.00	90.09	271.31	7,047.76	95.12	-13,419.43	13,418.10	0.00	0.00	0.00	
18,600.00	90.09	271.31	7,047.61	97.41	-13,519.41	13,518.10	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CAMENISCH 33-7HZ
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 33-7HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
18,700.00	90.09	271.31	7,047.45	99.71	-13,619.38	13,618.10	0.00	0.00	0.00	
18,800.00	90.09	271.31	7,047.30	102.00	-13,719.35	13,718.10	0.00	0.00	0.00	
18,900.00	90.09	271.31	7,047.15	104.30	-13,819.33	13,818.10	0.00	0.00	0.00	
19,000.00	90.09	271.31	7,047.00	106.59	-13,919.30	13,918.10	0.00	0.00	0.00	
19,100.00	90.09	271.31	7,046.84	108.89	-14,019.27	14,018.10	0.00	0.00	0.00	
19,200.00	90.09	271.31	7,046.69	111.18	-14,119.25	14,118.10	0.00	0.00	0.00	
19,300.00	90.09	271.31	7,046.54	113.48	-14,219.22	14,218.10	0.00	0.00	0.00	
19,400.00	90.09	271.31	7,046.39	115.77	-14,319.19	14,318.10	0.00	0.00	0.00	
19,500.00	90.09	271.31	7,046.23	118.07	-14,419.17	14,418.10	0.00	0.00	0.00	
19,600.00	90.09	271.31	7,046.08	120.36	-14,519.14	14,518.10	0.00	0.00	0.00	
19,653.61	90.09	271.31	7,046.00	121.59	-14,572.74	14,571.71	0.00	0.00	0.00	
TD Well @ 19653.61ft - 5.5" CSG										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,516.87	1,500.00	9 5/8"	9-5/8	13-1/2	
19,653.61	7,046.00	5.5" CSG	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
772.71	772.00	Fox Hills				
3,827.01	3,663.00	Parkman				
4,342.41	4,145.00	Sussex				
7,350.01	6,906.00	Sharon Springs				
7,400.13	6,936.00	Niobrara				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
376.35	376.35	0.00	0.00	Begin Nudge @ 376.35ft	
1,759.02	1,729.02	-17.57	-246.90	Hold Tangent @ 1759.02ft	
6,968.17	6,600.60	-148.50	-2,086.96	KOP @ 6968.17ft :: DLS = 8°/100'	
7,836.21	7,064.00	-149.58	-2,758.46	End Build @ 7836.21ft	
19,653.61	7,046.00	121.59	-14,572.74	TD Well @ 19653.61ft	