

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

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

CAMENISCH 33-4HZ

Plan A

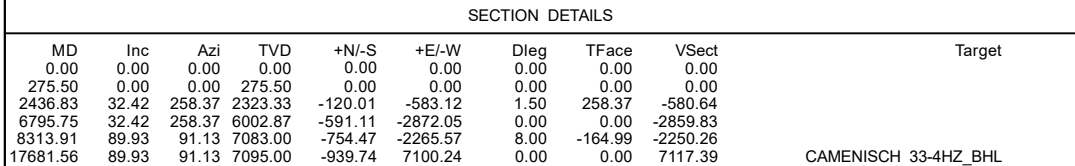
Plan: Permit Rev-1

Standard Planning Report

13 December, 2021

US ROCKIES WATTENBERG PLANNING

CASING DETAILS			
TVD	MD	Name	Size
1500.00	1522.01	9 5/8"	9-5/8
7095.00	17681.56	5.5" CSG	5-1/2

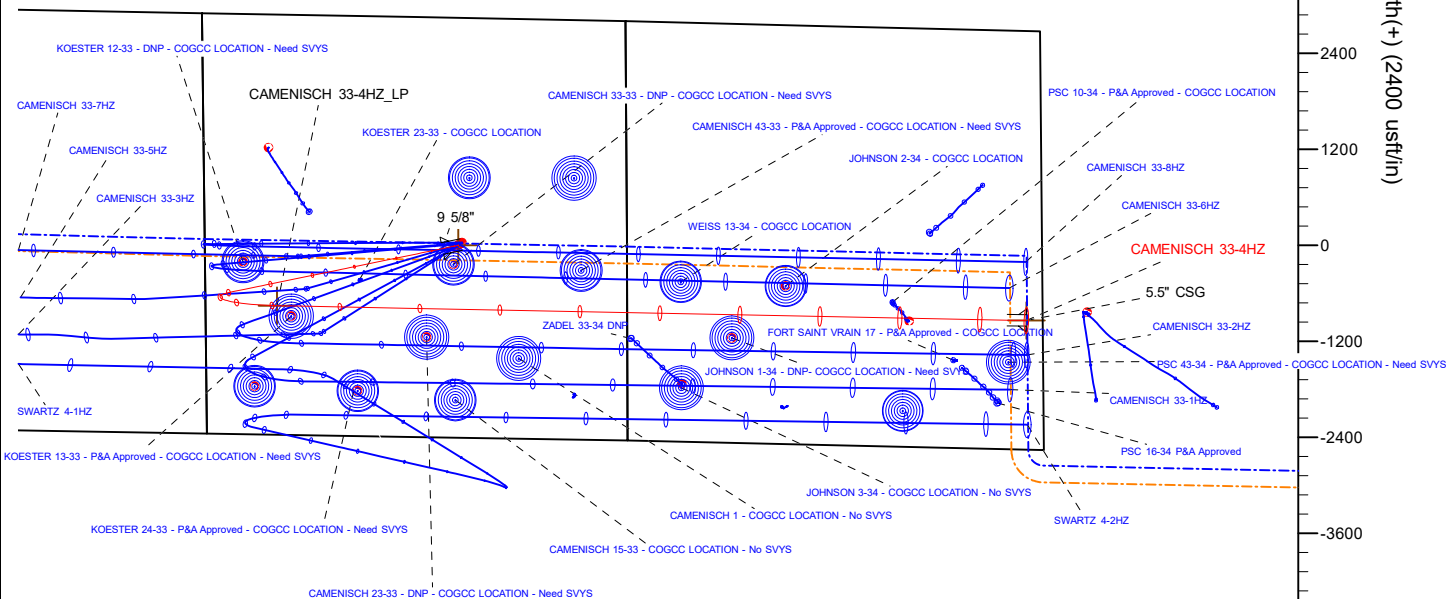
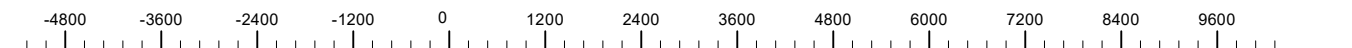


WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
CAMENISCH 33-4HZ_SHL	0.00	14624624.22	1670095.64	40.268772	-104.893605
CAMENISCH 33-4HZ_LP	7083.00	14623867.03	1667830.98	40.266700	-104.901726
CAMENISCH 33-4HZ_BHL	7095.00	14623693.00	1677197.00	40.266188	-104.868152

LP
1615' FSL
896' FWL

BHL
1614' FSL
204' FEL



WELL DETAILS: CAMENISCH 33-4HZ

GL = 4870'

RKB = 17' @ 4887.00usft (RIG)

Plan: Permit Rev-1 (CAMENISCH 33-4HZ/Plan A)

Date: 12/14/2021

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
772.00	773.41	Fox Hills
3663.00	4023.85	Parkman
4145.00	4594.85	Sussex
6906.00	7797.69	Sharon Springs
6936.00	7845.36	Niobrara
7088.00	12216.11	Nio B



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 33-4HZ
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 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 33-4HZ				
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 °				

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	12/8/2021	7.86	66.51	51,820.58031887

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	91.13	

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	17,681.56	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +	

Planning Report

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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 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	
275.50	0.00	0.00	275.50	0.00	0.00	0.00	0.00	0.00	0.00	
2,436.83	32.42	258.37	2,323.33	-120.01	-583.12	1.50	1.50	0.00	258.37	
6,795.75	32.42	258.37	6,002.87	-591.11	-2,872.05	0.00	0.00	0.00	0.00	
8,313.91	89.93	91.13	7,083.00	-754.47	-2,265.57	8.00	3.79	-11.02	-164.99	
17,681.56	89.93	91.13	7,095.00	-939.74	7,100.24	0.00	0.00	0.00	0.00	CAMENISCH 33-4HZ

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 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
275.50	0.00	0.00	275.50	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 275.50ft									
300.00	0.37	258.37	300.00	-0.02	-0.08	-0.08	1.50	1.50	0.00
400.00	1.87	258.37	399.98	-0.41	-1.99	-1.98	1.50	1.50	0.00
500.00	3.37	258.37	499.87	-1.33	-6.46	-6.43	1.50	1.50	0.00
600.00	4.87	258.37	599.61	-2.78	-13.49	-13.44	1.50	1.50	0.00
700.00	6.37	258.37	699.13	-4.75	-23.08	-22.98	1.50	1.50	0.00
773.41	7.47	258.37	772.00	-6.53	-31.74	-31.61	1.50	1.50	0.00
Fox Hills									
800.00	7.87	258.37	798.35	-7.25	-35.22	-35.07	1.50	1.50	0.00
900.00	9.37	258.37	897.22	-10.27	-49.89	-49.68	1.50	1.50	0.00
1,000.00	10.87	258.37	995.66	-13.81	-67.10	-66.81	1.50	1.50	0.00
1,100.00	12.37	258.37	1,093.61	-17.87	-86.82	-86.45	1.50	1.50	0.00
1,200.00	13.87	258.37	1,191.00	-22.44	-109.05	-108.59	1.50	1.50	0.00
1,300.00	15.37	258.37	1,287.76	-27.53	-133.77	-133.20	1.50	1.50	0.00
1,400.00	16.87	258.37	1,383.83	-33.13	-160.96	-160.27	1.50	1.50	0.00
1,500.00	18.37	258.37	1,479.13	-39.23	-190.60	-189.79	1.50	1.50	0.00
1,522.01	18.70	258.37	1,500.00	-40.64	-197.45	-196.61	1.50	1.50	0.00
9 5/8"									
1,600.00	19.87	258.37	1,573.62	-45.83	-222.68	-221.73	1.50	1.50	0.00
1,700.00	21.37	258.37	1,667.21	-52.93	-257.17	-256.07	1.50	1.50	0.00
1,800.00	22.87	258.37	1,759.85	-60.52	-294.04	-292.79	1.50	1.50	0.00
1,900.00	24.37	258.37	1,851.47	-68.60	-333.28	-331.87	1.50	1.50	0.00
2,000.00	25.87	258.37	1,942.01	-77.15	-374.86	-373.26	1.50	1.50	0.00
2,100.00	27.37	258.37	2,031.41	-86.18	-418.74	-416.96	1.50	1.50	0.00
2,200.00	28.87	258.37	2,119.61	-95.68	-464.90	-462.92	1.50	1.50	0.00
2,300.00	30.37	258.37	2,206.54	-105.65	-513.30	-511.12	1.50	1.50	0.00
2,400.00	31.87	258.37	2,292.15	-116.06	-563.92	-561.52	1.50	1.50	0.00
2,436.83	32.42	258.37	2,323.33	-120.01	-583.12	-580.64	1.50	1.50	0.00
Hold Tangent @ 2436.83ft									
2,500.00	32.42	258.37	2,376.65	-126.84	-616.29	-613.66	0.00	0.00	0.00
2,600.00	32.42	258.37	2,461.07	-137.65	-668.80	-665.95	0.00	0.00	0.00
2,700.00	32.42	258.37	2,545.48	-148.46	-721.31	-718.24	0.00	0.00	0.00
2,800.00	32.42	258.37	2,629.90	-159.26	-773.82	-770.53	0.00	0.00	0.00
2,900.00	32.42	258.37	2,714.31	-170.07	-826.33	-822.82	0.00	0.00	0.00
3,000.00	32.42	258.37	2,798.73	-180.88	-878.84	-875.10	0.00	0.00	0.00
3,100.00	32.42	258.37	2,883.14	-191.69	-931.35	-927.39	0.00	0.00	0.00
3,200.00	32.42	258.37	2,967.55	-202.50	-983.87	-979.68	0.00	0.00	0.00
3,300.00	32.42	258.37	3,051.97	-213.30	-1,036.38	-1,031.97	0.00	0.00	0.00
3,400.00	32.42	258.37	3,136.38	-224.11	-1,088.89	-1,084.26	0.00	0.00	0.00
3,500.00	32.42	258.37	3,220.80	-234.92	-1,141.40	-1,136.55	0.00	0.00	0.00
3,600.00	32.42	258.37	3,305.21	-245.73	-1,193.91	-1,188.83	0.00	0.00	0.00
3,700.00	32.42	258.37	3,389.62	-256.53	-1,246.42	-1,241.12	0.00	0.00	0.00
3,800.00	32.42	258.37	3,474.04	-267.34	-1,298.93	-1,293.41	0.00	0.00	0.00
3,900.00	32.42	258.37	3,558.45	-278.15	-1,351.45	-1,345.70	0.00	0.00	0.00
4,000.00	32.42	258.37	3,642.87	-288.96	-1,403.96	-1,397.99	0.00	0.00	0.00
4,023.85	32.42	258.37	3,663.00	-291.54	-1,416.48	-1,410.46	0.00	0.00	0.00
Parkman									
4,100.00	32.42	258.37	3,727.28	-299.77	-1,456.47	-1,450.27	0.00	0.00	0.00
4,200.00	32.42	258.37	3,811.69	-310.57	-1,508.98	-1,502.56	0.00	0.00	0.00
4,300.00	32.42	258.37	3,896.11	-321.38	-1,561.49	-1,554.85	0.00	0.00	0.00

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 A		
Design:	Permit Rev-1		

Planned Survey

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
4,400.00	32.42	258.37	3,980.52	-332.19	-1,614.00	-1,607.14	0.00	0.00	0.00
4,500.00	32.42	258.37	4,064.94	-343.00	-1,666.52	-1,659.43	0.00	0.00	0.00
4,594.85	32.42	258.37	4,145.00	-353.25	-1,716.32	-1,709.02	0.00	0.00	0.00
Sussex									
4,600.00	32.42	258.37	4,149.35	-353.80	-1,719.03	-1,711.72	0.00	0.00	0.00
4,700.00	32.42	258.37	4,233.76	-364.61	-1,771.54	-1,764.00	0.00	0.00	0.00
4,800.00	32.42	258.37	4,318.18	-375.42	-1,824.05	-1,816.29	0.00	0.00	0.00
4,900.00	32.42	258.37	4,402.59	-386.23	-1,876.56	-1,868.58	0.00	0.00	0.00
5,000.00	32.42	258.37	4,487.01	-397.03	-1,929.07	-1,920.87	0.00	0.00	0.00
5,100.00	32.42	258.37	4,571.42	-407.84	-1,981.58	-1,973.16	0.00	0.00	0.00
5,200.00	32.42	258.37	4,655.84	-418.65	-2,034.10	-2,025.44	0.00	0.00	0.00
5,300.00	32.42	258.37	4,740.25	-429.46	-2,086.61	-2,077.73	0.00	0.00	0.00
5,400.00	32.42	258.37	4,824.66	-440.27	-2,139.12	-2,130.02	0.00	0.00	0.00
5,500.00	32.42	258.37	4,909.08	-451.07	-2,191.63	-2,182.31	0.00	0.00	0.00
5,600.00	32.42	258.37	4,993.49	-461.88	-2,244.14	-2,234.60	0.00	0.00	0.00
5,700.00	32.42	258.37	5,077.91	-472.69	-2,296.65	-2,286.88	0.00	0.00	0.00
5,800.00	32.42	258.37	5,162.32	-483.50	-2,349.16	-2,339.17	0.00	0.00	0.00
5,900.00	32.42	258.37	5,246.73	-494.30	-2,401.68	-2,391.46	0.00	0.00	0.00
6,000.00	32.42	258.37	5,331.15	-505.11	-2,454.19	-2,443.75	0.00	0.00	0.00
6,100.00	32.42	258.37	5,415.56	-515.92	-2,506.70	-2,496.04	0.00	0.00	0.00
6,200.00	32.42	258.37	5,499.98	-526.73	-2,559.21	-2,548.33	0.00	0.00	0.00
6,300.00	32.42	258.37	5,584.39	-537.53	-2,611.72	-2,600.61	0.00	0.00	0.00
6,400.00	32.42	258.37	5,668.80	-548.34	-2,664.23	-2,652.90	0.00	0.00	0.00
6,500.00	32.42	258.37	5,753.22	-559.15	-2,716.74	-2,705.19	0.00	0.00	0.00
6,600.00	32.42	258.37	5,837.63	-569.96	-2,769.26	-2,757.48	0.00	0.00	0.00
6,700.00	32.42	258.37	5,922.05	-580.77	-2,821.77	-2,809.77	0.00	0.00	0.00
6,795.75	32.42	258.37	6,002.87	-591.11	-2,872.05	-2,859.83	0.00	0.00	0.00
KOP @ 6795.75ft :: DLS = 8°/100'									
6,800.00	32.09	258.20	6,006.47	-591.57	-2,874.27	-2,862.04	8.00	-7.72	-3.90
6,850.00	28.25	256.00	6,049.69	-597.15	-2,898.76	-2,886.42	8.00	-7.69	-4.41
6,900.00	24.45	253.16	6,094.49	-603.02	-2,920.15	-2,907.69	8.00	-7.60	-5.67
6,950.00	20.72	249.37	6,140.65	-609.13	-2,938.34	-2,925.76	8.00	-7.45	-7.58
7,000.00	17.11	244.03	6,187.94	-615.47	-2,953.24	-2,940.53	8.00	-7.22	-10.67
7,050.00	13.71	236.05	6,236.14	-622.01	-2,964.78	-2,951.93	8.00	-6.80	-15.96
7,100.00	10.72	223.37	6,285.01	-628.70	-2,972.89	-2,959.91	8.00	-5.98	-25.37
7,150.00	8.59	202.97	6,334.31	-635.52	-2,977.54	-2,964.43	8.00	-4.27	-40.79
7,200.00	8.02	175.29	6,383.81	-642.44	-2,978.72	-2,965.47	8.00	-1.14	-55.38
7,250.00	9.31	149.89	6,433.26	-649.42	-2,976.40	-2,963.01	8.00	2.58	-50.80
7,300.00	11.87	132.97	6,482.41	-656.43	-2,970.60	-2,957.08	8.00	5.11	-33.84
7,350.00	15.06	122.53	6,531.04	-663.43	-2,961.36	-2,947.70	8.00	6.38	-20.88
7,400.00	18.56	115.80	6,578.90	-670.39	-2,948.71	-2,934.92	8.00	7.00	-13.45
7,450.00	22.23	111.19	6,625.76	-677.27	-2,932.72	-2,918.80	8.00	7.33	-9.23
7,500.00	25.99	107.84	6,671.39	-684.05	-2,913.47	-2,899.41	8.00	7.52	-6.70
7,550.00	29.81	105.29	6,715.58	-690.68	-2,891.05	-2,876.86	8.00	7.64	-5.10
7,600.00	33.66	103.27	6,758.09	-697.14	-2,865.56	-2,851.26	8.00	7.72	-4.03
7,650.00	37.55	101.63	6,798.74	-703.40	-2,837.14	-2,822.72	8.00	7.77	-3.29
7,700.00	41.45	100.26	6,837.31	-709.42	-2,805.92	-2,791.38	8.00	7.81	-2.75
7,750.00	45.37	99.08	6,873.63	-715.18	-2,772.05	-2,757.41	8.00	7.83	-2.36
7,797.69	49.12	98.09	6,906.00	-720.40	-2,737.43	-2,722.69	8.00	7.86	-2.06
Sharon Springs									
7,800.00	49.30	98.05	6,907.51	-720.64	-2,735.70	-2,720.96	8.00	7.86	-1.94
7,845.36	52.87	97.22	6,936.00	-725.32	-2,700.73	-2,685.90	8.00	7.87	-1.84
Niobrara									

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 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)
7,850.00	53.23	97.14	6,938.79	-725.78	-2,697.05	-2,682.21	8.00	7.88	-1.74
7,900.00	57.18	96.31	6,967.32	-730.58	-2,656.28	-2,641.36	8.00	7.88	-1.65
7,950.00	61.12	95.56	6,992.95	-735.02	-2,613.59	-2,598.59	8.00	7.89	-1.51
8,000.00	65.07	94.86	7,015.57	-739.06	-2,569.20	-2,554.12	8.00	7.90	-1.40
8,050.00	69.03	94.20	7,035.06	-742.69	-2,523.31	-2,508.17	8.00	7.91	-1.31
8,100.00	72.98	93.58	7,051.33	-745.90	-2,476.15	-2,460.96	8.00	7.91	-1.24
8,150.00	76.94	92.99	7,064.30	-748.66	-2,427.95	-2,412.71	8.00	7.92	-1.19
8,200.00	80.90	92.41	7,073.91	-750.97	-2,378.94	-2,363.67	8.00	7.92	-1.15
8,250.00	84.86	91.85	7,080.10	-752.81	-2,329.37	-2,314.07	8.00	7.92	-1.13
8,300.00	88.82	91.29	7,082.85	-754.17	-2,279.48	-2,264.16	8.00	7.92	-1.11
8,313.91	89.93	91.13	7,083.00	-754.47	-2,265.57	-2,250.26	8.00	7.92	-1.11
End Build @ 8313.91ft									
8,400.00	89.93	91.13	7,083.11	-756.17	-2,179.50	-2,164.16	0.00	0.00	0.00
8,500.00	89.93	91.13	7,083.24	-758.15	-2,079.52	-2,064.16	0.00	0.00	0.00
8,600.00	89.93	91.13	7,083.37	-760.12	-1,979.54	-1,964.16	0.00	0.00	0.00
8,700.00	89.93	91.13	7,083.50	-762.10	-1,879.56	-1,864.16	0.00	0.00	0.00
8,800.00	89.93	91.13	7,083.62	-764.08	-1,779.58	-1,764.16	0.00	0.00	0.00
8,900.00	89.93	91.13	7,083.75	-766.06	-1,679.60	-1,664.16	0.00	0.00	0.00
9,000.00	89.93	91.13	7,083.88	-768.04	-1,579.62	-1,564.16	0.00	0.00	0.00
9,100.00	89.93	91.13	7,084.01	-770.01	-1,479.64	-1,464.16	0.00	0.00	0.00
9,200.00	89.93	91.13	7,084.14	-771.99	-1,379.66	-1,364.16	0.00	0.00	0.00
9,300.00	89.93	91.13	7,084.27	-773.97	-1,279.68	-1,264.16	0.00	0.00	0.00
9,400.00	89.93	91.13	7,084.39	-775.95	-1,179.70	-1,164.16	0.00	0.00	0.00
9,500.00	89.93	91.13	7,084.52	-777.92	-1,079.72	-1,064.16	0.00	0.00	0.00
9,600.00	89.93	91.13	7,084.65	-779.90	-979.73	-964.16	0.00	0.00	0.00
9,700.00	89.93	91.13	7,084.78	-781.88	-879.75	-864.16	0.00	0.00	0.00
9,800.00	89.93	91.13	7,084.91	-783.86	-779.77	-764.16	0.00	0.00	0.00
9,900.00	89.93	91.13	7,085.03	-785.84	-679.79	-664.16	0.00	0.00	0.00
10,000.00	89.93	91.13	7,085.16	-787.81	-579.81	-564.16	0.00	0.00	0.00
10,100.00	89.93	91.13	7,085.29	-789.79	-479.83	-464.16	0.00	0.00	0.00
10,200.00	89.93	91.13	7,085.42	-791.77	-379.85	-364.16	0.00	0.00	0.00
10,300.00	89.93	91.13	7,085.55	-793.75	-279.87	-264.16	0.00	0.00	0.00
10,400.00	89.93	91.13	7,085.67	-795.73	-179.89	-164.16	0.00	0.00	0.00
10,500.00	89.93	91.13	7,085.80	-797.70	-79.91	-64.16	0.00	0.00	0.00
10,600.00	89.93	91.13	7,085.93	-799.68	20.07	35.84	0.00	0.00	0.00
10,700.00	89.93	91.13	7,086.06	-801.66	120.05	135.84	0.00	0.00	0.00
10,800.00	89.93	91.13	7,086.19	-803.64	220.03	235.84	0.00	0.00	0.00
10,900.00	89.93	91.13	7,086.31	-805.61	320.01	335.84	0.00	0.00	0.00
11,000.00	89.93	91.13	7,086.44	-807.59	419.99	435.84	0.00	0.00	0.00
11,100.00	89.93	91.13	7,086.57	-809.57	519.97	535.83	0.00	0.00	0.00
11,200.00	89.93	91.13	7,086.70	-811.55	619.95	635.83	0.00	0.00	0.00
11,300.00	89.93	91.13	7,086.83	-813.53	719.93	735.83	0.00	0.00	0.00
11,400.00	89.93	91.13	7,086.95	-815.50	819.91	835.83	0.00	0.00	0.00
11,500.00	89.93	91.13	7,087.08	-817.48	919.89	935.83	0.00	0.00	0.00
11,600.00	89.93	91.13	7,087.21	-819.46	1,019.87	1,035.83	0.00	0.00	0.00
11,700.00	89.93	91.13	7,087.34	-821.44	1,119.85	1,135.83	0.00	0.00	0.00
11,800.00	89.93	91.13	7,087.47	-823.42	1,219.83	1,235.83	0.00	0.00	0.00
11,900.00	89.93	91.13	7,087.60	-825.39	1,319.81	1,335.83	0.00	0.00	0.00
12,000.00	89.93	91.13	7,087.72	-827.37	1,419.79	1,435.83	0.00	0.00	0.00
12,100.00	89.93	91.13	7,087.85	-829.35	1,519.77	1,535.83	0.00	0.00	0.00
12,200.00	89.93	91.13	7,087.98	-831.33	1,619.75	1,635.83	0.00	0.00	0.00
12,216.11	89.93	91.13	7,088.00	-831.65	1,635.86	1,651.94	0.00	0.00	0.00
Nio B									
12,300.00	89.93	91.13	7,088.11	-833.30	1,719.73	1,735.83	0.00	0.00	0.00

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 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)
12,400.00	89.93	91.13	7,088.24	-835.28	1,819.72	1,835.83	0.00	0.00	0.00
12,500.00	89.93	91.13	7,088.36	-837.26	1,919.70	1,935.83	0.00	0.00	0.00
12,600.00	89.93	91.13	7,088.49	-839.24	2,019.68	2,035.83	0.00	0.00	0.00
12,700.00	89.93	91.13	7,088.62	-841.22	2,119.66	2,135.83	0.00	0.00	0.00
12,800.00	89.93	91.13	7,088.75	-843.19	2,219.64	2,235.83	0.00	0.00	0.00
12,900.00	89.93	91.13	7,088.88	-845.17	2,319.62	2,335.83	0.00	0.00	0.00
13,000.00	89.93	91.13	7,089.00	-847.15	2,419.60	2,435.83	0.00	0.00	0.00
13,100.00	89.93	91.13	7,089.13	-849.13	2,519.58	2,535.83	0.00	0.00	0.00
13,200.00	89.93	91.13	7,089.26	-851.10	2,619.56	2,635.83	0.00	0.00	0.00
13,300.00	89.93	91.13	7,089.39	-853.08	2,719.54	2,735.83	0.00	0.00	0.00
13,400.00	89.93	91.13	7,089.52	-855.06	2,819.52	2,835.83	0.00	0.00	0.00
13,500.00	89.93	91.13	7,089.64	-857.04	2,919.50	2,935.83	0.00	0.00	0.00
13,600.00	89.93	91.13	7,089.77	-859.02	3,019.48	3,035.83	0.00	0.00	0.00
13,700.00	89.93	91.13	7,089.90	-860.99	3,119.46	3,135.83	0.00	0.00	0.00
13,800.00	89.93	91.13	7,090.03	-862.97	3,219.44	3,235.83	0.00	0.00	0.00
13,900.00	89.93	91.13	7,090.16	-864.95	3,319.42	3,335.83	0.00	0.00	0.00
14,000.00	89.93	91.13	7,090.28	-866.93	3,419.40	3,435.83	0.00	0.00	0.00
14,100.00	89.93	91.13	7,090.41	-868.91	3,519.38	3,535.83	0.00	0.00	0.00
14,200.00	89.93	91.13	7,090.54	-870.88	3,619.36	3,635.83	0.00	0.00	0.00
14,300.00	89.93	91.13	7,090.67	-872.86	3,719.34	3,735.83	0.00	0.00	0.00
14,400.00	89.93	91.13	7,090.80	-874.84	3,819.32	3,835.83	0.00	0.00	0.00
14,500.00	89.93	91.13	7,090.93	-876.82	3,919.30	3,935.83	0.00	0.00	0.00
14,600.00	89.93	91.13	7,091.05	-878.79	4,019.28	4,035.83	0.00	0.00	0.00
14,700.00	89.93	91.13	7,091.18	-880.77	4,119.26	4,135.83	0.00	0.00	0.00
14,800.00	89.93	91.13	7,091.31	-882.75	4,219.24	4,235.83	0.00	0.00	0.00
14,900.00	89.93	91.13	7,091.44	-884.73	4,319.22	4,335.83	0.00	0.00	0.00
15,000.00	89.93	91.13	7,091.57	-886.71	4,419.20	4,435.83	0.00	0.00	0.00
15,100.00	89.93	91.13	7,091.69	-888.68	4,519.18	4,535.83	0.00	0.00	0.00
15,200.00	89.93	91.13	7,091.82	-890.66	4,619.17	4,635.83	0.00	0.00	0.00
15,300.00	89.93	91.13	7,091.95	-892.64	4,719.15	4,735.83	0.00	0.00	0.00
15,400.00	89.93	91.13	7,092.08	-894.62	4,819.13	4,835.83	0.00	0.00	0.00
15,500.00	89.93	91.13	7,092.21	-896.60	4,919.11	4,935.83	0.00	0.00	0.00
15,600.00	89.93	91.13	7,092.33	-898.57	5,019.09	5,035.83	0.00	0.00	0.00
15,700.00	89.93	91.13	7,092.46	-900.55	5,119.07	5,135.83	0.00	0.00	0.00
15,800.00	89.93	91.13	7,092.59	-902.53	5,219.05	5,235.83	0.00	0.00	0.00
15,900.00	89.93	91.13	7,092.72	-904.51	5,319.03	5,335.83	0.00	0.00	0.00
16,000.00	89.93	91.13	7,092.85	-906.48	5,419.01	5,435.83	0.00	0.00	0.00
16,100.00	89.93	91.13	7,092.97	-908.46	5,518.99	5,535.83	0.00	0.00	0.00
16,200.00	89.93	91.13	7,093.10	-910.44	5,618.97	5,635.83	0.00	0.00	0.00
16,300.00	89.93	91.13	7,093.23	-912.42	5,718.95	5,735.83	0.00	0.00	0.00
16,400.00	89.93	91.13	7,093.36	-914.40	5,818.93	5,835.83	0.00	0.00	0.00
16,500.00	89.93	91.13	7,093.49	-916.37	5,918.91	5,935.83	0.00	0.00	0.00
16,600.00	89.93	91.13	7,093.61	-918.35	6,018.89	6,035.83	0.00	0.00	0.00
16,700.00	89.93	91.13	7,093.74	-920.33	6,118.87	6,135.83	0.00	0.00	0.00
16,800.00	89.93	91.13	7,093.87	-922.31	6,218.85	6,235.83	0.00	0.00	0.00
16,900.00	89.93	91.13	7,094.00	-924.29	6,318.83	6,335.83	0.00	0.00	0.00
17,000.00	89.93	91.13	7,094.13	-926.26	6,418.81	6,435.83	0.00	0.00	0.00
17,100.00	89.93	91.13	7,094.26	-928.24	6,518.79	6,535.83	0.00	0.00	0.00
17,200.00	89.93	91.13	7,094.38	-930.22	6,618.77	6,635.83	0.00	0.00	0.00
17,300.00	89.93	91.13	7,094.51	-932.20	6,718.75	6,735.83	0.00	0.00	0.00
17,400.00	89.93	91.13	7,094.64	-934.17	6,818.73	6,835.83	0.00	0.00	0.00
17,500.00	89.93	91.13	7,094.77	-936.15	6,918.71	6,935.83	0.00	0.00	0.00
17,600.00	89.93	91.13	7,094.90	-938.13	7,018.69	7,035.83	0.00	0.00	0.00
17,681.56	89.93	91.13	7,095.00	-939.74	7,100.24	7,117.39	0.00	0.00	0.00

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 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)
TD Well @ 17681.56ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,522.01	1,500.00	9 5/8"	9-5/8	13-1/2	
17,681.56	7,095.00	5.5" CSG	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
773.41	772.00	Fox Hills			
4,023.85	3,663.00	Parkman			
4,594.85	4,145.00	Sussex			
7,797.69	6,906.00	Sharon Springs			
7,845.36	6,936.00	Niobrara			
12,216.11	7,088.00	Nio B			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
275.50	275.50	0.00	0.00	Begin Nudge @ 275.50ft
2,436.83	2,323.33	-120.01	-583.12	Hold Tangent @ 2436.83ft
6,795.75	6,002.87	-591.11	-2,872.05	KOP @ 6795.75ft :: DLS = 8°/100'
8,313.91	7,083.00	-754.47	-2,265.57	End Build @ 8313.91ft
17,681.56	7,095.00	-939.74	7,100.24	TD Well @ 17681.56ft