

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

2N-68W-15 Camenisch 7-15 Pad

CAMENISCH 15N-22HZ

Plan A

Plan: Permit Rev-1

Standard Planning Report

22 September, 2015

Project: WELD-NAD83-UTMFT13N
 Site: 2N-68W-15 Camenisch 7-15 Pad
 Well: CAMENISCH 15N-22HZ
 Wellbore: Plan A
 Design: Permit Rev-1

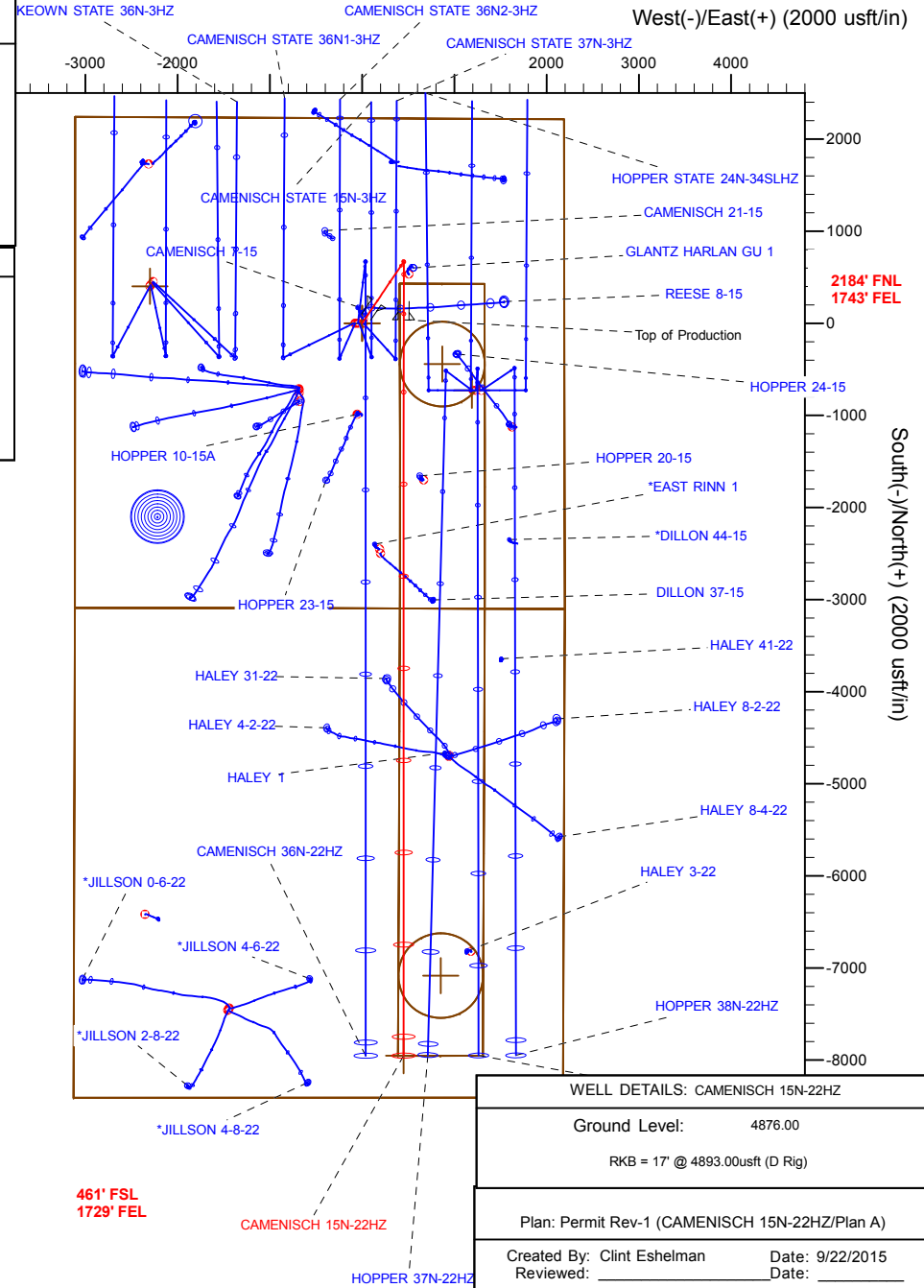
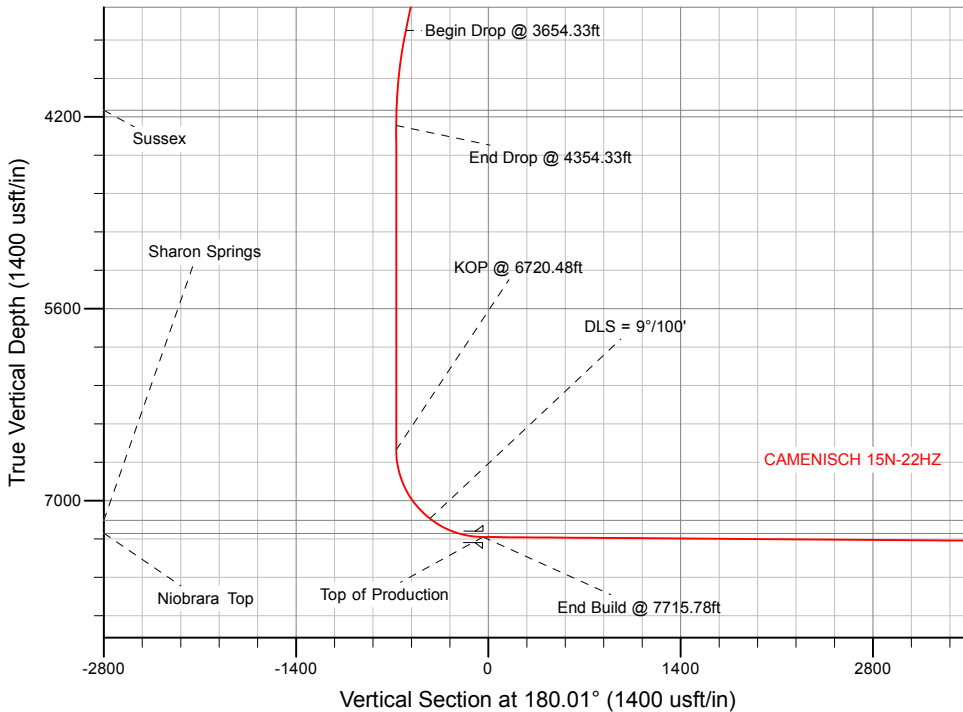
US ROCKIES WATTENBERG PLANNING

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1133.33	14.00	34.00	1124.07	94.06	63.45	1.50	34.00	-94.08	
4	3654.33	14.00	34.00	3570.19	599.68	404.49	0.00	0.00	-599.75	
5	4354.33	0.00	0.00	4263.24	670.23	452.08	2.00	180.00	-670.31	
6	6720.48	0.00	0.00	6629.39	670.23	452.08	0.00	0.00	-670.31	
7	7715.78	89.58	180.01	7266.00	38.31	451.98	9.00	180.01	-38.39	
8	15705.49	89.58	180.01	7325.00	-7951.18	450.78	0.00	0.00	7951.10	CAMENISCH 15N-22HZ_Bhl

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
CAMENISCH 15N-22HZ_SHL	0.00	0.00	0.00	40.139979	-104.987606	Point
CAMENISCH 15N-22HZ_Bhl	7325.00	-7951.18	450.78	40.118144	-104.985994	Point



WELL DETAILS: CAMENISCH 15N-22HZ	
Ground Level:	4876.00
RKB = 17' @ 4893.00usft (D Rig)	
Plan:	Permit Rev-1 (CAMENISCH 15N-22HZ/Plan A)
Created By:	Clint Eshelman
Reviewed:	
Date:	9/22/2015
Date:	

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 15N-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Site:	2N-68W-15 Camenisch 7-15 Pad	North Reference:	True
Well:	CAMENISCH 15N-22HZ	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	2N-68W-15 Camenisch 7-15 Pad				
Site Position:		Northing:	14,577,706.69 usft	Latitude:	40.139980
From:	Lat/Long	Easting:	1,643,790.52 usft	Longitude:	-104.987928
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.01 °

Well	CAMENISCH 15N-22HZ					
Well Position	+N-S	-0.36 usft	Northing:	14,577,706.34 usft	Latitude:	40.139979
	+E-W	89.99 usft	Easting:	1,643,880.52 usft	Longitude:	-104.987606
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,876.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/22/2015	8.39	66.66	52,521

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	180.01

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,133.33	14.00	34.00	1,124.07	94.06	63.45	1.50	1.50	0.00	34.00	
3,654.33	14.00	34.00	3,570.19	599.68	404.49	0.00	0.00	0.00	0.00	
4,354.33	0.00	0.00	4,263.24	670.23	452.08	2.00	-2.00	0.00	180.00	
6,720.48	0.00	0.00	6,629.39	670.23	452.08	0.00	0.00	0.00	0.00	
7,715.78	89.58	180.01	7,266.00	38.31	451.98	9.00	9.00	-18.08	180.01	
15,705.49	89.58	180.01	7,325.00	-7,951.18	450.78	0.00	0.00	0.00	0.00	CAMENISCH 15N-22

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 15N-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Site:	2N-68W-15 Camenisch 7-15 Pad	North Reference:	True
Well:	CAMENISCH 15N-22HZ	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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
Begin Nudge @ 200.00ft										
300.00	1.50	34.00	299.99	1.09	0.73	-1.09	1.50	1.50	0.00	0.00
400.00	3.00	34.00	399.91	4.34	2.93	-4.34	1.50	1.50	0.00	0.00
500.00	4.50	34.00	499.69	9.76	6.58	-9.76	1.50	1.50	0.00	0.00
600.00	6.00	34.00	599.27	17.35	11.70	-17.35	1.50	1.50	0.00	0.00
700.00	7.50	34.00	698.57	27.09	18.27	-27.09	1.50	1.50	0.00	0.00
800.00	9.00	34.00	797.54	38.99	26.30	-38.99	1.50	1.50	0.00	0.00
819.61	9.29	34.00	816.90	41.57	28.04	-41.58	1.50	1.50	0.00	0.00
Fox Hills										
900.00	10.50	34.00	896.09	53.03	35.77	-53.03	1.50	1.50	0.00	0.00
1,000.00	12.00	34.00	994.16	69.20	46.68	-69.21	1.50	1.50	0.00	0.00
1,100.00	13.50	34.00	1,091.70	87.50	59.02	-87.51	1.50	1.50	0.00	0.00
1,133.33	14.00	34.00	1,124.07	94.06	63.45	-94.07	1.50	1.50	0.00	0.00
End Nudge @ 1133.33ft										
1,200.00	14.00	34.00	1,188.76	107.44	72.47	-107.45	0.00	0.00	0.00	0.00
1,300.00	14.00	34.00	1,285.79	127.49	85.99	-127.51	0.00	0.00	0.00	0.00
1,400.00	14.00	34.00	1,382.82	147.55	99.52	-147.56	0.00	0.00	0.00	0.00
1,500.00	14.00	34.00	1,479.85	167.60	113.05	-167.62	0.00	0.00	0.00	0.00
1,600.00	14.00	34.00	1,576.88	187.66	126.58	-187.68	0.00	0.00	0.00	0.00
1,700.00	14.00	34.00	1,673.91	207.72	140.11	-207.74	0.00	0.00	0.00	0.00
1,800.00	14.00	34.00	1,770.94	227.77	153.63	-227.80	0.00	0.00	0.00	0.00
1,829.95	14.00	34.00	1,800.00	233.78	157.69	-233.81	0.00	0.00	0.00	0.00
9 5/8"										
1,900.00	14.00	34.00	1,867.97	247.83	167.16	-247.86	0.00	0.00	0.00	0.00
2,000.00	14.00	34.00	1,965.00	267.88	180.69	-267.92	0.00	0.00	0.00	0.00
2,100.00	14.00	34.00	2,062.03	287.94	194.22	-287.98	0.00	0.00	0.00	0.00
2,200.00	14.00	34.00	2,159.06	308.00	207.75	-308.03	0.00	0.00	0.00	0.00
2,300.00	14.00	34.00	2,256.09	328.05	221.27	-328.09	0.00	0.00	0.00	0.00
2,400.00	14.00	34.00	2,353.11	348.11	234.80	-348.15	0.00	0.00	0.00	0.00
2,500.00	14.00	34.00	2,450.14	368.17	248.33	-368.21	0.00	0.00	0.00	0.00
2,600.00	14.00	34.00	2,547.17	388.22	261.86	-388.27	0.00	0.00	0.00	0.00
2,700.00	14.00	34.00	2,644.20	408.28	275.39	-408.33	0.00	0.00	0.00	0.00
2,800.00	14.00	34.00	2,741.23	428.33	288.92	-428.39	0.00	0.00	0.00	0.00
2,900.00	14.00	34.00	2,838.26	448.39	302.44	-448.44	0.00	0.00	0.00	0.00
3,000.00	14.00	34.00	2,935.29	468.45	315.97	-468.50	0.00	0.00	0.00	0.00
3,100.00	14.00	34.00	3,032.32	488.50	329.50	-488.56	0.00	0.00	0.00	0.00
3,200.00	14.00	34.00	3,129.35	508.56	343.03	-508.62	0.00	0.00	0.00	0.00
3,300.00	14.00	34.00	3,226.38	528.62	356.56	-528.68	0.00	0.00	0.00	0.00
3,400.00	14.00	34.00	3,323.41	548.67	370.08	-548.74	0.00	0.00	0.00	0.00
3,500.00	14.00	34.00	3,420.44	568.73	383.61	-568.80	0.00	0.00	0.00	0.00
3,600.00	14.00	34.00	3,517.47	588.78	397.14	-588.85	0.00	0.00	0.00	0.00
3,654.33	14.00	34.00	3,570.19	599.68	404.49	-599.75	0.00	0.00	0.00	0.00
Begin Drop @ 3654.33ft										
3,700.00	13.09	34.00	3,614.59	608.55	410.47	-608.62	2.00	-2.00	0.00	0.00
3,800.00	11.09	34.00	3,712.36	625.91	422.18	-625.98	2.00	-2.00	0.00	0.00
3,900.00	9.09	34.00	3,810.81	640.43	431.97	-640.50	2.00	-2.00	0.00	0.00
4,000.00	7.09	34.00	3,909.81	652.09	439.84	-652.16	2.00	-2.00	0.00	0.00
4,100.00	5.09	34.00	4,009.25	660.88	445.77	-660.95	2.00	-2.00	0.00	0.00
4,200.00	3.09	34.00	4,108.99	666.78	449.75	-666.86	2.00	-2.00	0.00	0.00
4,244.06	2.21	34.00	4,153.00	668.47	450.89	-668.55	2.00	-2.00	0.00	0.00

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Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Site:	2N-68W-15 Camenisch 7-15 Pad	North Reference:	True
Well:	CAMENISCH 15N-22HZ	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)	
Sussex										
4,300.00	1.09	34.00	4,208.91	669.80	451.79	-669.88	2.00	-2.00		0.00
4,354.33	0.00	0.00	4,263.24	670.23	452.08	-670.31	2.00	-2.00		-62.58
End Drop @ 4354.33ft										
4,400.00	0.00	0.00	4,308.91	670.23	452.08	-670.31	0.00	0.00		0.00
4,500.00	0.00	0.00	4,408.91	670.23	452.08	-670.31	0.00	0.00		0.00
4,600.00	0.00	0.00	4,508.91	670.23	452.08	-670.31	0.00	0.00		0.00
4,700.00	0.00	0.00	4,608.91	670.23	452.08	-670.31	0.00	0.00		0.00
4,800.00	0.00	0.00	4,708.91	670.23	452.08	-670.31	0.00	0.00		0.00
4,900.00	0.00	0.00	4,808.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,000.00	0.00	0.00	4,908.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,100.00	0.00	0.00	5,008.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,200.00	0.00	0.00	5,108.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,300.00	0.00	0.00	5,208.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,400.00	0.00	0.00	5,308.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,500.00	0.00	0.00	5,408.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,600.00	0.00	0.00	5,508.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,700.00	0.00	0.00	5,608.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,800.00	0.00	0.00	5,708.91	670.23	452.08	-670.31	0.00	0.00		0.00
5,900.00	0.00	0.00	5,808.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,000.00	0.00	0.00	5,908.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,100.00	0.00	0.00	6,008.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,200.00	0.00	0.00	6,108.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,300.00	0.00	0.00	6,208.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,400.00	0.00	0.00	6,308.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,500.00	0.00	0.00	6,408.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,600.00	0.00	0.00	6,508.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,700.00	0.00	0.00	6,608.91	670.23	452.08	-670.31	0.00	0.00		0.00
6,720.48	0.00	0.00	6,629.39	670.23	452.08	-670.31	0.00	0.00		0.00
KOP @ 6720.48ft										
6,800.00	7.16	180.01	6,708.70	665.27	452.08	-665.35	9.00	9.00		0.00
6,900.00	16.16	180.01	6,806.54	645.09	452.07	-645.17	9.00	9.00		0.00
7,000.00	25.16	180.01	6,900.02	609.85	452.07	-609.93	9.00	9.00		0.00
7,100.00	34.16	180.01	6,986.83	560.42	452.06	-560.50	9.00	9.00		0.00
7,200.00	43.16	180.01	7,064.84	498.02	452.05	-498.10	9.00	9.00		0.00
7,300.00	52.16	180.01	7,132.13	424.18	452.04	-424.26	9.00	9.00		0.00
DLS = 9°/100'										
7,320.26	53.98	180.01	7,144.30	407.99	452.04	-408.06	9.00	9.00		0.00
Sharon Springs										
7,400.00	61.16	180.01	7,187.04	340.73	452.03	-340.81	9.00	9.00		0.00
7,500.00	70.16	180.01	7,228.21	249.71	452.01	-249.79	9.00	9.00		0.00
7,535.41	73.34	180.01	7,239.30	216.09	452.01	-216.17	9.00	9.00		0.00
Niobrara Top										
7,600.00	79.16	180.01	7,254.65	153.38	452.00	-153.45	9.00	9.00		0.00
7,700.00	88.16	180.01	7,265.68	54.09	451.98	-54.17	9.00	9.00		0.00
7,715.78	89.58	180.01	7,266.00	38.31	451.98	-38.39	9.00	9.00		0.00
End Build @ 7715.78ft - Top of Production										
7,800.00	89.58	180.01	7,266.62	-45.90	451.97	45.83	0.00	0.00		0.00
7,900.00	89.58	180.01	7,267.36	-145.90	451.95	145.82	0.00	0.00		0.00
8,000.00	89.58	180.01	7,268.10	-245.90	451.94	245.82	0.00	0.00		0.00
8,100.00	89.58	180.01	7,268.83	-345.90	451.92	345.82	0.00	0.00		0.00
8,200.00	89.58	180.01	7,269.57	-445.89	451.91	445.81	0.00	0.00		0.00
8,300.00	89.58	180.01	7,270.31	-545.89	451.89	545.81	0.00	0.00		0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 15N-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Site:	2N-68W-15 Camenisch 7-15 Pad	North Reference:	True
Well:	CAMENISCH 15N-22HZ	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)
8,400.00	89.58	180.01	7,271.05	-645.89	451.88	645.81	0.00	0.00	0.00
8,500.00	89.58	180.01	7,271.79	-745.89	451.86	745.81	0.00	0.00	0.00
8,600.00	89.58	180.01	7,272.53	-845.88	451.85	845.80	0.00	0.00	0.00
8,700.00	89.58	180.01	7,273.27	-945.88	451.83	945.80	0.00	0.00	0.00
8,800.00	89.58	180.01	7,274.00	-1,045.88	451.82	1,045.80	0.00	0.00	0.00
8,900.00	89.58	180.01	7,274.74	-1,145.87	451.80	1,145.80	0.00	0.00	0.00
9,000.00	89.58	180.01	7,275.48	-1,245.87	451.79	1,245.79	0.00	0.00	0.00
9,100.00	89.58	180.01	7,276.22	-1,345.87	451.77	1,345.79	0.00	0.00	0.00
9,200.00	89.58	180.01	7,276.96	-1,445.87	451.76	1,445.79	0.00	0.00	0.00
9,300.00	89.58	180.01	7,277.70	-1,545.86	451.74	1,545.78	0.00	0.00	0.00
9,400.00	89.58	180.01	7,278.43	-1,645.86	451.73	1,645.78	0.00	0.00	0.00
9,500.00	89.58	180.01	7,279.17	-1,745.86	451.71	1,745.78	0.00	0.00	0.00
9,600.00	89.58	180.01	7,279.91	-1,845.86	451.70	1,845.78	0.00	0.00	0.00
9,700.00	89.58	180.01	7,280.65	-1,945.85	451.68	1,945.77	0.00	0.00	0.00
9,800.00	89.58	180.01	7,281.39	-2,045.85	451.67	2,045.77	0.00	0.00	0.00
9,900.00	89.58	180.01	7,282.13	-2,145.85	451.65	2,145.77	0.00	0.00	0.00
10,000.00	89.58	180.01	7,282.87	-2,245.84	451.64	2,245.77	0.00	0.00	0.00
10,100.00	89.58	180.01	7,283.60	-2,345.84	451.62	2,345.76	0.00	0.00	0.00
10,200.00	89.58	180.01	7,284.34	-2,445.84	451.61	2,445.76	0.00	0.00	0.00
10,300.00	89.58	180.01	7,285.08	-2,545.84	451.59	2,545.76	0.00	0.00	0.00
10,400.00	89.58	180.01	7,285.82	-2,645.83	451.58	2,645.75	0.00	0.00	0.00
10,500.00	89.58	180.01	7,286.56	-2,745.83	451.56	2,745.75	0.00	0.00	0.00
10,600.00	89.58	180.01	7,287.30	-2,845.83	451.55	2,845.75	0.00	0.00	0.00
10,700.00	89.58	180.01	7,288.04	-2,945.83	451.53	2,945.75	0.00	0.00	0.00
10,800.00	89.58	180.01	7,288.77	-3,045.82	451.52	3,045.74	0.00	0.00	0.00
10,900.00	89.58	180.01	7,289.51	-3,145.82	451.50	3,145.74	0.00	0.00	0.00
11,000.00	89.58	180.01	7,290.25	-3,245.82	451.49	3,245.74	0.00	0.00	0.00
11,100.00	89.58	180.01	7,290.99	-3,345.81	451.47	3,345.74	0.00	0.00	0.00
11,200.00	89.58	180.01	7,291.73	-3,445.81	451.46	3,445.73	0.00	0.00	0.00
11,300.00	89.58	180.01	7,292.47	-3,545.81	451.44	3,545.73	0.00	0.00	0.00
11,400.00	89.58	180.01	7,293.20	-3,645.81	451.43	3,645.73	0.00	0.00	0.00
11,500.00	89.58	180.01	7,293.94	-3,745.80	451.41	3,745.72	0.00	0.00	0.00
11,600.00	89.58	180.01	7,294.68	-3,845.80	451.40	3,845.72	0.00	0.00	0.00
11,700.00	89.58	180.01	7,295.42	-3,945.80	451.38	3,945.72	0.00	0.00	0.00
11,800.00	89.58	180.01	7,296.16	-4,045.80	451.37	4,045.72	0.00	0.00	0.00
11,900.00	89.58	180.01	7,296.90	-4,145.79	451.35	4,145.71	0.00	0.00	0.00
12,000.00	89.58	180.01	7,297.64	-4,245.79	451.34	4,245.71	0.00	0.00	0.00
12,100.00	89.58	180.01	7,298.37	-4,345.79	451.32	4,345.71	0.00	0.00	0.00
12,200.00	89.58	180.01	7,299.11	-4,445.78	451.31	4,445.71	0.00	0.00	0.00
12,300.00	89.58	180.01	7,299.85	-4,545.78	451.29	4,545.70	0.00	0.00	0.00
12,400.00	89.58	180.01	7,300.59	-4,645.78	451.28	4,645.70	0.00	0.00	0.00
12,500.00	89.58	180.01	7,301.33	-4,745.78	451.26	4,745.70	0.00	0.00	0.00
12,600.00	89.58	180.01	7,302.07	-4,845.77	451.25	4,845.69	0.00	0.00	0.00
12,700.00	89.58	180.01	7,302.80	-4,945.77	451.23	4,945.69	0.00	0.00	0.00
12,800.00	89.58	180.01	7,303.54	-5,045.77	451.22	5,045.69	0.00	0.00	0.00
12,900.00	89.58	180.01	7,304.28	-5,145.77	451.20	5,145.69	0.00	0.00	0.00
13,000.00	89.58	180.01	7,305.02	-5,245.76	451.19	5,245.68	0.00	0.00	0.00
13,100.00	89.58	180.01	7,305.76	-5,345.76	451.17	5,345.68	0.00	0.00	0.00
13,200.00	89.58	180.01	7,306.50	-5,445.76	451.16	5,445.68	0.00	0.00	0.00
13,300.00	89.58	180.01	7,307.24	-5,545.75	451.14	5,545.68	0.00	0.00	0.00
13,400.00	89.58	180.01	7,307.97	-5,645.75	451.13	5,645.67	0.00	0.00	0.00
13,500.00	89.58	180.01	7,308.71	-5,745.75	451.11	5,745.67	0.00	0.00	0.00
13,600.00	89.58	180.01	7,309.45	-5,845.75	451.10	5,845.67	0.00	0.00	0.00
13,700.00	89.58	180.01	7,310.19	-5,945.74	451.08	5,945.66	0.00	0.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 15N-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Site:	2N-68W-15 Camenisch 7-15 Pad	North Reference:	True
Well:	CAMENISCH 15N-22HZ	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)	
13,800.00	89.58	180.01	7,310.93	-6,045.74	451.07	6,045.66	0.00	0.00	0.00	
13,900.00	89.58	180.01	7,311.67	-6,145.74	451.05	6,145.66	0.00	0.00	0.00	
14,000.00	89.58	180.01	7,312.41	-6,245.74	451.04	6,245.66	0.00	0.00	0.00	
14,100.00	89.58	180.01	7,313.14	-6,345.73	451.02	6,345.65	0.00	0.00	0.00	
14,200.00	89.58	180.01	7,313.88	-6,445.73	451.01	6,445.65	0.00	0.00	0.00	
14,300.00	89.58	180.01	7,314.62	-6,545.73	450.99	6,545.65	0.00	0.00	0.00	
14,400.00	89.58	180.01	7,315.36	-6,645.72	450.98	6,645.65	0.00	0.00	0.00	
14,500.00	89.58	180.01	7,316.10	-6,745.72	450.96	6,745.64	0.00	0.00	0.00	
14,600.00	89.58	180.01	7,316.84	-6,845.72	450.95	6,845.64	0.00	0.00	0.00	
14,700.00	89.58	180.01	7,317.57	-6,945.72	450.93	6,945.64	0.00	0.00	0.00	
14,800.00	89.58	180.01	7,318.31	-7,045.71	450.92	7,045.63	0.00	0.00	0.00	
14,900.00	89.58	180.01	7,319.05	-7,145.71	450.90	7,145.63	0.00	0.00	0.00	
15,000.00	89.58	180.01	7,319.79	-7,245.71	450.89	7,245.63	0.00	0.00	0.00	
15,100.00	89.58	180.01	7,320.53	-7,345.71	450.87	7,345.63	0.00	0.00	0.00	
15,200.00	89.58	180.01	7,321.27	-7,445.70	450.86	7,445.62	0.00	0.00	0.00	
15,300.00	89.58	180.01	7,322.01	-7,545.70	450.84	7,545.62	0.00	0.00	0.00	
15,400.00	89.58	180.01	7,322.74	-7,645.70	450.83	7,645.62	0.00	0.00	0.00	
15,500.00	89.58	180.01	7,323.48	-7,745.69	450.81	7,745.62	0.00	0.00	0.00	
15,600.00	89.58	180.01	7,324.22	-7,845.69	450.80	7,845.61	0.00	0.00	0.00	
15,700.00	89.58	180.01	7,324.96	-7,945.69	450.78	7,945.61	0.00	0.00	0.00	
15,705.49	89.58	180.01	7,325.00	-7,951.18	450.78	7,951.10	0.00	0.00	0.00	
TD Well @ 15705.49ft										

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 15N-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Site:	2N-68W-15 Camenisch 7-15 Pad	North Reference:	True
Well:	CAMENISCH 15N-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
- Shape										
CAMENISCH 15N-22HZ - plan misses target center by 7133.66usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	-7,082.46	853.16	14,570,624.00	1,644,734.67	40.120530	-104.984554	
CAMENISCH 15N-22HZ - plan hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	14,577,706.34	1,643,880.52	40.139979	-104.987606	
Point 1			0.00	-7,953.80	389.98	14,569,752.59	1,644,271.61			
Point 2			0.00	-7,083.06	393.15	14,570,623.33	1,644,274.65			
Point 3			0.00	-5,752.31	398.01	14,571,954.09	1,644,279.33			
Point 4			0.00	-4,425.48	404.99	14,573,280.92	1,644,286.12			
Point 5			0.00	-3,098.66	411.99	14,574,607.74	1,644,292.94			
Point 6			0.00	-1,769.69	410.85	14,575,936.71	1,644,291.61			
Point 7			0.00	-440.72	409.73	14,577,265.68	1,644,290.31			
Point 8			0.00	432.54	407.93	14,578,138.94	1,644,288.39			
Point 9			0.00	431.04	867.94	14,578,137.50	1,644,748.40			
Point 10			0.00	429.56	1,327.94	14,578,136.09	1,645,208.40			
Point 11			0.00	-442.36	1,329.74	14,577,264.17	1,645,210.32			
Point 12			0.00	-1,771.77	1,330.86	14,575,934.76	1,645,211.62			
Point 13			0.00	-3,101.18	1,331.99	14,574,605.35	1,645,212.94			
Point 14			0.00	-4,427.22	1,325.00	14,573,279.30	1,645,206.13			
Point 15			0.00	-5,753.26	1,318.02	14,571,953.26	1,645,199.34			
Point 16			0.00	-7,081.88	1,313.16	14,570,624.64	1,645,194.66			
Point 17			0.00	-7,950.48	1,310.00	14,569,756.04	1,645,191.63			
Point 18			0.00	-7,952.13	849.99	14,569,754.33	1,644,731.62			
Point 19			0.00	-7,953.80	389.98	14,569,752.59	1,644,271.61			
CAMENISCH 15N-22HZ - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,577,706.34	1,643,880.52	40.139979	-104.987606	
CAMENISCH 15N-22HZ - plan misses target center by 975.39usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	-441.54	869.73	14,577,264.93	1,644,750.31	40.138767	-104.984494	
2N-R68W-Sec. 15_Secti - plan misses target center by 2334.17usft at 4.00usft MD (4.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	4.00	403.95	-2,298.95	14,578,109.97	1,641,581.51	40.141088	-104.995832	
Point 1			4.00	1,838.97	-809.58	14,579,948.82	1,640,771.67			
Point 2			4.00	1,825.91	1,838.52	14,579,936.13	1,643,419.78			
Point 3			4.00	1,813.87	4,487.46	14,579,924.46	1,646,068.72			
Point 4			4.00	-845.15	4,491.86	14,577,265.44	1,646,073.49			
Point 5			4.00	-3,504.52	4,495.41	14,574,606.07	1,646,077.41			
Point 6			4.00	-3,497.58	1,841.43	14,574,612.64	1,643,423.43			
Point 7			4.00	-3,492.17	-813.11	14,574,617.68	1,640,768.89			
Point 8			4.00	-835.71	-811.34	14,577,274.14	1,640,770.29			
2N-R68W-Sec. 22_Secti - plan misses target center by 1394.65usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	-17.00	-726.08	1,190.61	14,576,980.42	1,645,071.23	40.137985	-104.983346	
Point 1			-17.00	-2,361.86	-4,303.11	14,574,617.96	1,640,768.45			
Point 2			-17.00	-2,367.64	-1,648.57	14,574,612.55	1,643,422.99			
Point 3			-17.00	-2,374.95	1,005.41	14,574,605.61	1,646,076.97			
Point 4			-17.00	-7,681.33	986.34	14,569,299.23	1,646,058.64			
Point 5			-17.00	-7,682.80	-4,316.88	14,569,297.02	1,640,755.42			
CAMENISCH 15N-22HZ - plan hits target center - Point	0.00	0.00	7,325.00	-7,951.18	450.78	14,569,755.22	1,644,332.41	40.118144	-104.985994	

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 15N-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4893.00usft (D Rig)
Site:	2N-68W-15 Camenisch 7-15 Pad	North Reference:	True
Well:	CAMENISCH 15N-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,829.95	1,800.00	9 5/8"	9-5/8	13-1/2	
7,715.78	7,266.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
819.61	816.90	Fox Hills			
4,244.06	4,153.00	Sussex			
7,320.26	7,144.30	Sharon Springs			
7,535.41	7,239.30	Niobrara Top			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200.00	200.00	0.00	0.00	Begin Nudge @ 200.00ft	
1,133.33	1,124.07	94.06	63.45	End Nudge @ 1133.33ft	
3,654.33	3,570.19	599.68	404.49	Begin Drop @ 3654.33ft	
4,354.33	4,263.24	670.23	452.08	End Drop @ 4354.33ft	
6,720.48	6,629.39	670.23	452.08	KOP @ 6720.48ft	
7,300.00	7,132.13	424.18	452.04	DLS = 9°/100'	
7,715.78	7,266.00	38.31	451.98	End Build @ 7715.78ft	
15,705.49	7,325.00	-7,951.18	450.78	TD Well @ 15705.49ft	