



US ROCKIES WATTENBERG PLANNING
Project: WELD-NAD83-UTMFT13N
Site: 2N-68W-15 Camenisch 7-15 Pad
Well: CAMENISCH 36N-22HZ
Wellbore: Original Hole
Design: Original Hole

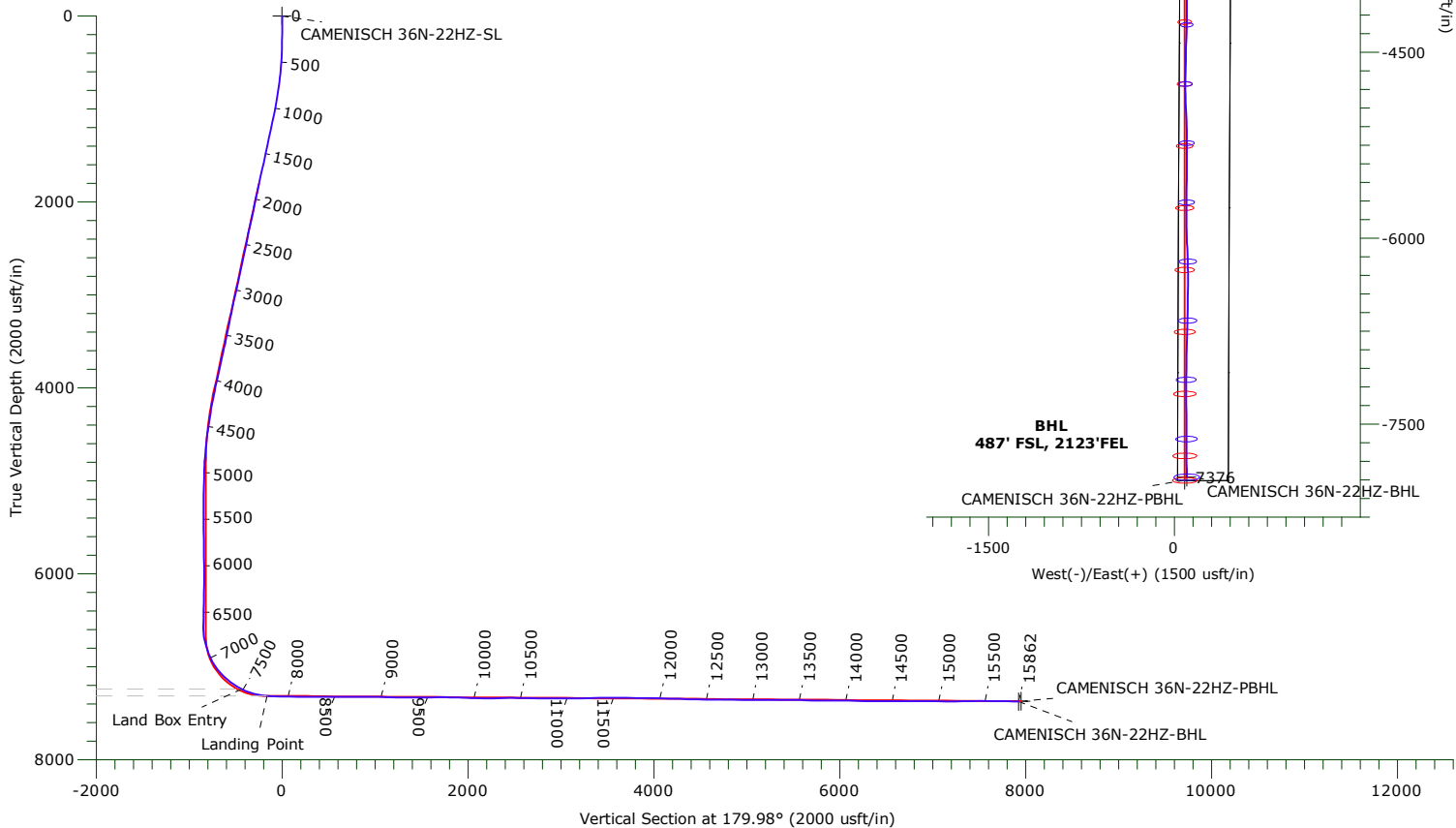
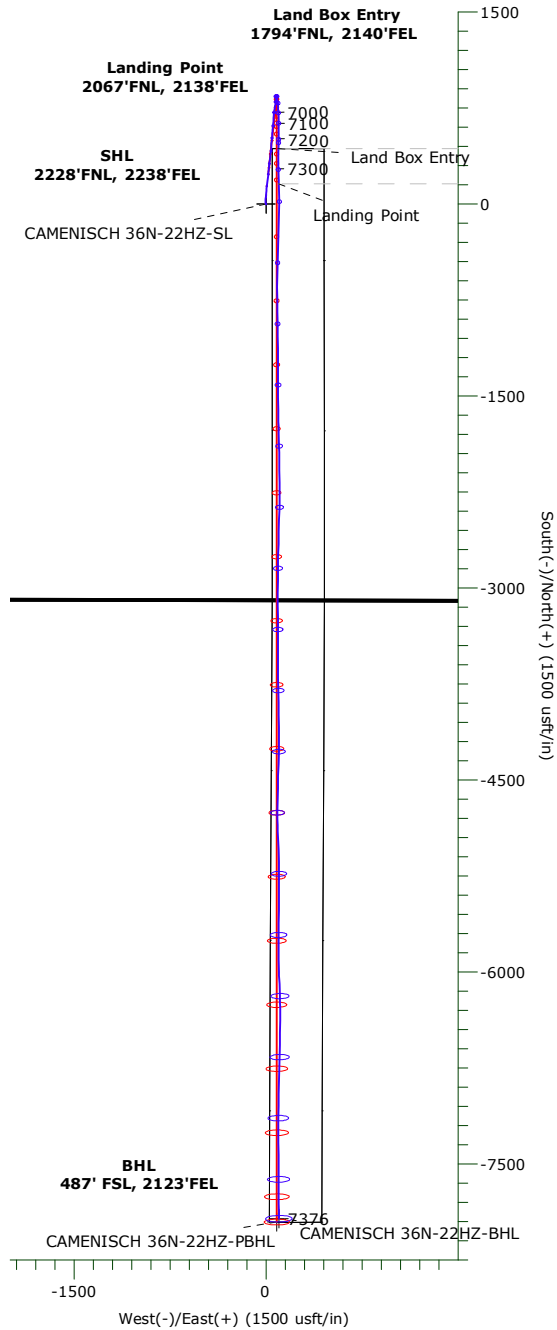


Precision
 Directional Services

TVD	MD	ANNOTATIONS		Annotation
		+N/-S	+E/-W	
7242.523	7487.000	433.290	96.829	Land Box Entry
7316.643	7772.000	160.300	98.814	Landing Point

LEGEND

- CAMENISCH 36N-22HZ, Original Hole, Plan #2 V0
- + Original Hole



WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
CAMENISCH 36N-22HZ-SL	0.000	0.000	0.000	14577706.70	1643835.52	40.139980°N	104.987767°W	Point
CAMENISCH 36N-22HZ-PBHL	7373.000	-7952.640	84.790	14569754.07	1643921.41	40.118141°N	104.987464°W	Point
CAMENISCH 36N-22HZ-BHL	7376.141	-7926.815	101.150	14569779.90	1643937.77	40.118212°N	104.987405°W	Point

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
2N-68W-15 Camenisch 7-15 Pad
CAMENISCH 36N-22HZ**

Original Hole

Design: Original Hole

Standard Survey Report

03 May, 2017

Precision Drilling Corporation

Survey Report

Company: US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference: Well CAMENISCH 36N-22HZ
Project: WELD-NAD83-UTMFT13N	TVD Reference: 4876'GL+30'KB @ 4906.000usft (SD 105)
Site: 2N-68W-15 Camenisch 7-15 Pad	MD Reference: 4876'GL+30'KB @ 4906.000usft (SD 105)
Well: CAMENISCH 36N-22HZ	North Reference: True
Wellbore: Original Hole	Survey Calculation Method: Minimum Curvature
Design: Original Hole	Database: Local Database

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°N
From: Lat/Long	Easting: 1,643,790.52 usft	Longitude: 104.987928°W
Position Uncertainty: 0.000 usft	Slot Radius: 13.20 in	Grid Convergence: 0.01 °

Well CAMENISCH 36N-22HZ			
Well Position +N/-S	0.000 usft	Northing: 14,577,706.70 usft	Latitude: 40.139980°N
+E/-W	0.000 usft	Easting: 1,643,835.52 usft	Longitude: 104.987767°W
Position Uncertainty	3.280 usft	Wellhead Elevation: 0.000 usft	Ground Level: 4,876.000 usft

Wellbore Original Hole					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	09/22/15	8.39	66.66	52,521

Design Original Hole					
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.000
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.000	0.000	0.000	179.98	

Survey Program		Date 05/03/17		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
18.000	1,830.000	Survey #1 (Original Hole)	ISCWSA MWD	MWD - ISCWSA
1,926.000	15,812.000	Survey #2 (Original Hole)	APC_ISCWSA REV 2 MM	Fixed:v2:Rockies, crustal dec + 3-axis correction
15,862.000	15,862.000	Survey #3 (Original Hole)	APC_BLIND	OWSG BLIND

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)
0.000	0.00	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00
18.000	0.00	0.00	18.000	0.000	0.000	0.000	0.00	0.00	0.00
187.000	0.20	193.75	187.000	-0.287	-0.070	0.286	0.12	0.12	0.00
275.000	0.78	324.16	274.997	0.050	-0.457	-0.050	1.05	0.66	148.19
364.000	1.86	347.62	363.973	1.952	-1.122	-1.952	1.33	1.21	26.36
453.000	2.50	356.27	452.908	5.300	-1.558	-5.300	0.81	0.72	9.72
537.000	4.04	353.00	536.769	10.065	-2.037	-10.066	1.85	1.83	-3.89
626.000	5.87	356.16	625.433	17.718	-2.724	-17.719	2.08	2.06	3.55
713.000	7.55	1.72	711.835	27.871	-2.851	-27.872	2.07	1.93	6.39

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 36N-22HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4876'GL+30'KB @ 4906.000usft (SD 105)
Site:	2N-68W-15 Camenisch 7-15 Pad	MD Reference:	4876'GL+30'KB @ 4906.000usft (SD 105)
Well:	CAMENISCH 36N-22HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Local Database

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)	
801.000	8.32	3.80	798.992	40.003	-2.255	-40.003	0.93	0.88	2.36	
888.000	9.42	5.07	884.950	53.375	-1.209	-53.376	1.28	1.26	1.46	
973.000	10.77	5.34	968.632	68.212	0.145	-68.212	1.59	1.59	0.32	
1,061.000	11.43	3.89	1,054.985	85.098	1.502	-85.098	0.81	0.75	-1.65	
1,148.000	12.30	6.04	1,140.126	102.915	3.062	-102.914	1.12	1.00	2.47	
1,235.000	12.71	4.51	1,225.062	121.671	4.789	-121.670	0.61	0.47	-1.76	
1,323.000	12.53	7.65	1,310.937	140.783	6.821	-140.781	0.81	-0.20	3.57	
1,412.000	12.08	7.47	1,397.893	159.586	9.317	-159.582	0.51	-0.51	-0.20	
1,501.000	11.74	7.13	1,484.977	177.804	11.652	-177.800	0.39	-0.38	-0.38	
1,588.000	12.47	6.63	1,570.042	195.917	13.835	-195.912	0.85	0.84	-0.57	
1,672.000	12.56	6.88	1,652.046	213.993	15.976	-213.987	0.13	0.11	0.30	
1,761.000	12.61	5.33	1,738.908	233.273	18.038	-233.267	0.38	0.06	-1.74	
1,830.000	12.36	5.20	1,806.276	248.127	19.407	-248.120	0.36	-0.36	-0.19	
1,926.000	12.19	2.98	1,900.082	268.481	20.865	-268.474	0.52	-0.18	-2.31	
1,965.000	12.22	3.04	1,938.200	276.714	21.298	-276.707	0.08	0.08	0.15	
2,060.000	12.06	9.54	2,031.080	296.543	23.476	-296.534	1.45	-0.17	6.84	
2,156.000	11.48	8.75	2,125.061	315.875	26.591	-315.866	0.63	-0.60	-0.82	
2,251.000	12.73	5.79	2,217.948	335.633	29.086	-335.623	1.47	1.32	-3.12	
2,346.000	12.42	6.91	2,310.669	356.189	31.371	-356.178	0.42	-0.33	1.18	
2,442.000	11.10	8.97	2,404.652	375.567	34.054	-375.555	1.44	-1.38	2.15	
2,538.000	12.41	7.22	2,498.637	394.929	36.791	-394.916	1.41	1.36	-1.82	
2,633.000	12.01	8.35	2,591.488	414.835	39.509	-414.822	0.49	-0.42	1.19	
2,729.000	12.79	2.69	2,685.251	435.333	41.459	-435.319	1.50	0.81	-5.90	
2,824.000	12.15	359.61	2,778.011	455.835	41.884	-455.820	0.97	-0.67	-3.24	
2,920.000	11.59	7.05	2,871.963	475.509	42.999	-475.494	1.70	-0.58	7.75	
3,016.000	12.86	2.85	2,965.786	495.751	44.714	-495.735	1.61	1.32	-4.38	
3,111.000	12.42	10.18	3,058.490	516.367	47.045	-516.350	1.75	-0.46	7.72	
3,207.000	11.51	2.75	3,152.409	536.096	49.330	-536.079	1.86	-0.95	-7.74	
3,303.000	12.52	3.28	3,246.304	556.052	50.385	-556.034	1.06	1.05	0.55	
3,398.000	10.91	1.12	3,339.323	575.322	51.150	-575.304	1.76	-1.69	-2.27	
3,494.000	10.76	11.32	3,433.620	593.194	53.086	-593.175	2.00	-0.16	10.63	
3,589.000	12.06	6.15	3,526.743	611.758	55.890	-611.738	1.74	1.37	-5.44	
3,685.000	13.51	4.01	3,620.361	632.916	57.749	-632.896	1.59	1.51	-2.23	
3,780.000	12.42	1.32	3,712.939	654.200	58.760	-654.180	1.31	-1.15	-2.83	
3,876.000	12.20	2.26	3,806.732	674.657	59.398	-674.636	0.31	-0.23	0.98	
3,971.000	12.78	4.60	3,899.484	695.161	60.637	-695.140	0.81	0.61	2.46	
4,067.000	12.56	10.03	3,993.149	716.024	63.306	-716.002	1.26	-0.23	5.66	
4,162.000	11.33	8.92	4,086.091	735.415	66.553	-735.392	1.32	-1.29	-1.17	
4,258.000	10.83	11.46	4,180.301	753.571	69.807	-753.546	0.73	-0.52	2.65	
4,353.000	9.42	9.68	4,273.820	769.982	72.887	-769.957	1.52	-1.48	-1.87	
4,449.000	8.50	4.61	4,368.649	784.799	74.779	-784.773	1.26	-0.96	-5.28	
4,544.000	8.11	2.27	4,462.653	798.493	75.608	-798.467	0.54	-0.41	-2.46	
4,640.000	6.06	5.20	4,557.915	810.307	76.336	-810.281	2.17	-2.14	3.05	

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Survey Report

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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)	
4,736.000	5.87	0.57	4,653.395	820.263	76.844	-820.236	0.54	-0.20	-4.82	
4,831.000	4.60	2.29	4,747.997	828.927	77.045	-828.900	1.35	-1.34	1.81	
4,927.000	3.13	16.77	4,843.779	835.284	77.955	-835.256	1.83	-1.53	15.08	
5,046.000	0.81	9.42	4,962.700	839.224	79.030	-839.197	1.96	-1.95	-6.18	
5,142.000	0.90	358.11	5,058.690	840.647	79.116	-840.620	0.20	0.09	-11.78	
5,237.000	1.01	354.01	5,153.676	842.226	79.004	-842.198	0.14	0.12	-4.32	
5,333.000	0.61	210.04	5,249.672	842.625	78.660	-842.597	1.61	-0.42	-149.97	
5,428.000	0.29	239.72	5,344.669	842.066	78.199	-842.039	0.41	-0.34	31.24	
5,524.000	0.33	306.72	5,440.668	842.109	77.768	-842.082	0.36	0.04	69.79	
5,619.000	0.29	141.34	5,535.667	842.085	77.699	-842.057	0.65	-0.04	-174.08	
5,715.000	0.06	13.87	5,631.667	841.944	77.862	-841.916	0.34	-0.24	-132.78	
5,810.000	1.28	132.59	5,726.659	841.274	78.656	-841.246	1.38	1.28	124.97	
5,906.000	0.78	118.52	5,822.644	840.236	80.019	-840.208	0.58	-0.52	-14.66	
6,002.000	0.69	107.71	5,918.636	839.748	81.144	-839.720	0.17	-0.09	-11.26	
6,097.000	0.51	114.80	6,013.631	839.397	82.073	-839.368	0.20	-0.19	7.46	
6,193.000	0.56	51.13	6,109.627	839.512	82.826	-839.483	0.59	0.05	-66.32	
6,288.000	0.59	19.52	6,204.623	840.265	83.351	-840.235	0.33	0.03	-33.27	
6,384.000	0.79	21.80	6,300.616	841.345	83.762	-841.316	0.21	0.21	2.38	
6,479.000	1.02	15.94	6,395.604	842.766	84.237	-842.737	0.26	0.24	-6.17	
6,575.000	1.12	4.30	6,491.587	844.523	84.542	-844.494	0.25	0.10	-12.13	
6,671.000	1.08	0.46	6,587.569	846.364	84.620	-846.334	0.09	-0.04	-4.00	
6,766.000	8.51	169.10	6,682.258	840.342	85.959	-840.312	10.07	7.82	177.52	
6,862.000	16.34	171.56	6,775.937	819.978	89.290	-819.947	8.17	8.16	2.56	
6,957.000	21.83	175.32	6,865.685	789.130	92.695	-789.098	5.92	5.78	3.96	
7,053.000	30.46	177.89	6,951.784	746.943	95.052	-746.910	9.06	8.99	2.68	
7,149.000	38.48	177.59	7,030.864	692.697	97.207	-692.663	8.36	8.35	-0.31	
7,244.000	44.03	179.27	7,102.257	630.104	98.872	-630.069	5.96	5.84	1.77	
7,340.000	52.45	179.86	7,166.137	558.561	99.391	-558.526	8.78	8.77	0.61	
7,435.000	60.87	181.91	7,218.307	479.284	98.097	-479.250	9.04	8.86	2.16	
7,487.000	63.62	181.26	7,242.522	433.290	96.829	-433.256	5.39	5.28	-1.25	
Land Box Entry										
7,531.000	65.94	180.73	7,261.271	393.494	96.140	-393.460	5.39	5.28	-1.20	
7,626.000	74.68	179.81	7,293.249	304.137	95.739	-304.104	9.24	9.20	-0.97	
7,722.000	83.25	178.60	7,311.608	210.011	97.059	-209.977	9.01	8.93	-1.26	
7,772.000	85.19	177.36	7,316.643	160.300	98.814	-160.265	4.60	3.88	-2.48	
Landing Point										
7,817.000	86.94	176.25	7,319.731	115.478	101.316	-115.443	4.60	3.89	-2.47	
7,913.000	89.55	180.13	7,322.671	19.598	104.344	-19.561	4.87	2.72	4.04	
8,008.000	89.78	181.62	7,323.227	-75.387	102.893	75.423	1.59	0.24	1.57	
8,104.000	89.16	182.05	7,324.115	-171.333	99.819	171.368	0.79	-0.65	0.45	
8,200.000	90.56	182.47	7,324.350	-267.255	96.034	267.289	1.52	1.46	0.44	
8,295.000	89.55	181.45	7,324.258	-362.197	92.785	362.230	1.51	-1.06	-1.07	
8,391.000	90.06	181.34	7,324.585	-458.168	90.447	458.199	0.54	0.53	-0.11	
8,486.000	90.06	181.47	7,324.486	-553.139	88.118	553.170	0.14	0.00	0.14	

Precision Drilling Corporation

Survey Report

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Well:	CAMENISCH 36N-22HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Local Database

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)
8,582.000	89.83	179.53	7,324.578	-649.131	87.280	649.161	2.03	-0.24	-2.02
8,677.000	90.73	179.36	7,324.113	-744.124	88.201	744.155	0.96	0.95	-0.18
8,773.000	89.27	179.27	7,324.113	-840.115	89.348	840.146	1.52	-1.52	-0.09
8,869.000	89.22	179.63	7,325.378	-936.102	90.270	936.133	0.38	-0.05	0.38
8,964.000	88.76	179.13	7,327.053	-1,031.081	91.297	1,031.113	0.72	-0.48	-0.53
9,060.000	88.43	178.94	7,329.407	-1,127.038	92.914	1,127.071	0.40	-0.34	-0.20
9,155.000	88.37	179.72	7,332.059	-1,221.994	94.024	1,222.027	0.82	-0.06	0.82
9,251.000	90.45	179.76	7,333.048	-1,317.983	94.460	1,318.016	2.17	2.17	0.04
9,346.000	90.90	180.20	7,331.929	-1,412.976	94.493	1,413.009	0.66	0.47	0.46
9,442.000	90.45	179.70	7,330.798	-1,508.968	94.577	1,509.001	0.70	-0.47	-0.52
9,537.000	89.94	179.08	7,330.475	-1,603.962	95.588	1,603.995	0.85	-0.54	-0.65
9,633.000	90.95	179.27	7,329.729	-1,699.948	96.970	1,699.981	1.07	1.05	0.20
9,728.000	88.37	178.13	7,330.293	-1,794.912	99.125	1,794.946	2.97	-2.72	-1.20
9,824.000	88.03	178.27	7,333.308	-1,890.817	102.139	1,890.852	0.38	-0.35	0.15
9,920.000	87.87	180.25	7,336.742	-1,986.743	103.378	1,986.779	2.07	-0.17	2.06
10,015.000	89.33	178.96	7,339.064	-2,081.707	104.033	2,081.744	2.05	1.54	-1.36
10,111.000	88.99	179.18	7,340.471	-2,177.684	105.591	2,177.721	0.42	-0.35	0.23
10,207.000	91.01	179.74	7,340.471	-2,273.675	106.496	2,273.712	2.18	2.10	0.58
10,302.000	91.46	181.58	7,338.423	-2,368.642	105.402	2,368.679	1.99	0.47	1.94
10,398.000	89.49	181.78	7,337.627	-2,464.593	102.588	2,464.628	2.06	-2.05	0.21
10,493.000	89.61	181.60	7,338.374	-2,559.548	99.786	2,559.583	0.23	0.13	-0.19
10,589.000	89.27	181.46	7,339.312	-2,655.509	97.223	2,655.543	0.38	-0.35	-0.15
10,684.000	89.16	181.00	7,340.613	-2,750.478	95.184	2,750.511	0.50	-0.12	-0.48
10,779.000	89.16	180.72	7,342.006	-2,845.457	93.758	2,845.490	0.29	0.00	-0.29
10,875.000	88.99	180.40	7,343.556	-2,941.440	92.820	2,941.472	0.38	-0.18	-0.33
10,970.000	90.73	180.14	7,343.788	-3,036.435	92.373	3,036.467	1.85	1.83	-0.27
11,066.000	91.07	179.94	7,342.280	-3,132.423	92.306	3,132.455	0.41	0.35	-0.21
11,161.000	90.95	179.77	7,340.606	-3,227.408	92.546	3,227.440	0.22	-0.13	-0.18
11,257.000	91.23	179.99	7,338.779	-3,323.390	92.747	3,323.422	0.37	0.29	0.23
11,352.000	90.62	180.05	7,337.246	-3,418.377	92.714	3,418.409	0.65	-0.64	0.06
11,448.000	90.22	179.42	7,336.542	-3,514.373	93.158	3,514.405	0.78	-0.42	-0.66
11,543.000	91.01	179.56	7,335.522	-3,609.363	94.003	3,609.395	0.84	0.83	0.15
11,639.000	88.88	179.36	7,335.614	-3,705.353	94.908	3,705.386	2.23	-2.22	-0.21
11,734.000	87.98	178.65	7,338.217	-3,800.301	96.557	3,800.335	1.21	-0.95	-0.75
11,829.000	90.51	179.45	7,339.469	-3,895.272	98.132	3,895.306	2.79	2.66	0.84
11,925.000	88.88	179.29	7,339.980	-3,991.261	99.187	3,991.296	1.71	-1.70	-0.17
12,020.000	88.82	178.74	7,341.887	-4,086.228	100.820	4,086.263	0.58	-0.06	-0.58
12,116.000	88.32	180.68	7,344.283	-4,182.192	101.306	4,182.227	2.09	-0.52	2.02
12,211.000	88.37	180.63	7,347.026	-4,277.146	100.220	4,277.180	0.07	0.05	-0.05
12,307.000	88.03	181.81	7,350.042	-4,373.075	98.177	4,373.109	1.28	-0.35	1.23
12,402.000	88.54	181.55	7,352.885	-4,467.991	95.394	4,468.024	0.60	0.54	-0.27
12,498.000	88.65	181.33	7,355.239	-4,563.932	92.982	4,563.964	0.26	0.11	-0.23
12,593.000	88.77	181.59	7,357.378	-4,658.877	90.562	4,658.908	0.30	0.13	0.27

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 36N-22HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4876'GL+30'KB @ 4906.000usft (SD 105)
Site:	2N-68W-15 Camenisch 7-15 Pad	MD Reference:	4876'GL+30'KB @ 4906.000usft (SD 105)
Well:	CAMENISCH 36N-22HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Local Database

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)	
12,689.000	90.67	180.30	7,357.847	-4,754.856	88.979	4,754.887	2.39	1.98	-1.34	
12,784.000	89.49	178.75	7,357.714	-4,849.848	89.766	4,849.879	2.05	-1.24	-1.63	
12,880.000	89.38	177.04	7,358.661	-4,945.775	93.292	4,945.807	1.78	-0.11	-1.78	
12,975.000	89.94	178.03	7,359.225	-5,040.684	97.378	5,040.718	1.20	0.59	1.04	
13,071.000	90.11	178.83	7,359.183	-5,136.647	100.008	5,136.682	0.85	0.18	0.83	
13,166.000	90.56	179.03	7,358.627	-5,231.629	101.782	5,231.664	0.52	0.47	0.21	
13,262.000	88.77	180.17	7,359.189	-5,327.619	102.452	5,327.655	2.21	-1.86	1.19	
13,358.000	90.84	180.50	7,359.515	-5,423.612	101.891	5,423.647	2.18	2.16	0.34	
13,453.000	89.78	181.30	7,359.001	-5,518.596	100.399	5,518.631	1.40	-1.12	0.84	
13,549.000	87.87	180.17	7,360.970	-5,614.562	99.167	5,614.597	2.31	-1.99	-1.18	
13,644.000	87.75	180.94	7,364.600	-5,709.488	98.248	5,709.522	0.82	-0.13	0.81	
13,740.000	89.10	179.39	7,367.239	-5,805.446	97.972	5,805.480	2.14	1.41	-1.61	
13,835.000	90.56	178.83	7,367.521	-5,900.431	99.448	5,900.465	1.65	1.54	-0.59	
13,931.000	90.79	178.74	7,366.390	-5,996.403	101.483	5,996.438	0.26	0.24	-0.09	
14,026.000	88.43	177.53	7,367.036	-6,091.342	104.574	6,091.378	2.79	-2.48	-1.27	
14,122.000	88.88	177.82	7,369.290	-6,187.236	108.468	6,187.273	0.56	0.47	0.30	
14,217.000	88.20	178.96	7,371.710	-6,282.165	111.136	6,282.204	1.40	-0.72	1.20	
14,313.000	90.11	181.12	7,373.126	-6,378.145	111.069	6,378.183	3.00	1.99	2.25	
14,408.000	90.06	180.91	7,372.985	-6,473.130	109.386	6,473.168	0.23	-0.05	-0.22	
14,504.000	89.83	180.61	7,373.077	-6,569.121	108.112	6,569.158	0.39	-0.24	-0.31	
14,599.000	89.94	181.58	7,373.268	-6,664.102	106.297	6,664.139	1.03	0.12	1.02	
14,694.000	90.11	181.81	7,373.227	-6,759.061	103.487	6,759.096	0.30	0.18	0.24	
14,789.000	90.28	181.38	7,372.903	-6,854.023	100.843	6,854.058	0.49	0.18	-0.45	
14,885.000	90.00	181.36	7,372.669	-6,949.995	98.547	6,950.029	0.29	-0.29	-0.02	
14,981.000	88.93	180.30	7,373.565	-7,045.978	97.157	7,046.012	1.57	-1.11	-1.10	
15,076.000	89.33	180.84	7,375.008	-7,140.962	96.212	7,140.995	0.71	0.42	0.57	
15,172.000	91.01	179.79	7,374.723	-7,236.955	95.684	7,236.988	2.06	1.75	-1.09	
15,267.000	91.12	179.60	7,372.957	-7,331.938	96.190	7,331.971	0.23	0.12	-0.20	
15,363.000	91.29	179.29	7,370.938	-7,427.912	97.119	7,427.945	0.37	0.18	-0.32	
15,458.000	89.94	179.77	7,369.919	-7,522.901	97.899	7,522.934	1.51	-1.42	0.51	
15,554.000	89.72	180.25	7,370.203	-7,618.900	97.882	7,618.933	0.55	-0.23	0.50	
15,650.000	88.99	179.34	7,371.284	-7,714.891	98.225	7,714.925	1.22	-0.76	-0.95	
15,745.000	88.60	179.07	7,373.282	-7,809.861	99.543	7,809.895	0.50	-0.41	-0.28	
15,812.000	88.60	179.27	7,374.919	-7,876.834	100.513	7,876.869	0.30	0.00	0.30	
15,862.000	88.60	179.27	7,376.140	-7,926.815	101.150	7,926.850	0.00	0.00	0.00	

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well CAMENISCH 36N-22HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4876'GL+30'KB @ 4906.000usft (SD 105)
Site:	2N-68W-15 Camenisch 7-15 Pad	MD Reference:	4876'GL+30'KB @ 4906.000usft (SD 105)
Well:	CAMENISCH 36N-22HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Local Database

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 36N-22 - actual wellpath hits target center - Point	0.00	0.00	0.000	0.000	0.000	14,577,706.70	1,643,835.52	40.139980°N	104.987767°W
CAMENISCH 36N-22 - actual wellpath misses target center by 30.732usft at 15862.000usft MD (7376.141 TVD, -7926.815 N, 101.150 E) - Point	0.00	0.00	7,373.00 0	-7,952.640	84.790	14,569,754.07	1,643,921.41	40.118141°N	104.987464°W
CAMENISCH 36N-22 - actual wellpath hits target center - Point	0.00	0.00	7,376.14 1	-7,926.815	101.150	14,569,779.90	1,643,937.76	40.118212°N	104.987405°W

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
7,487.000	7,242.522	433.290	96.829	Land Box Entry
7,772.000	7,316.643	160.300	98.814	Landing Point