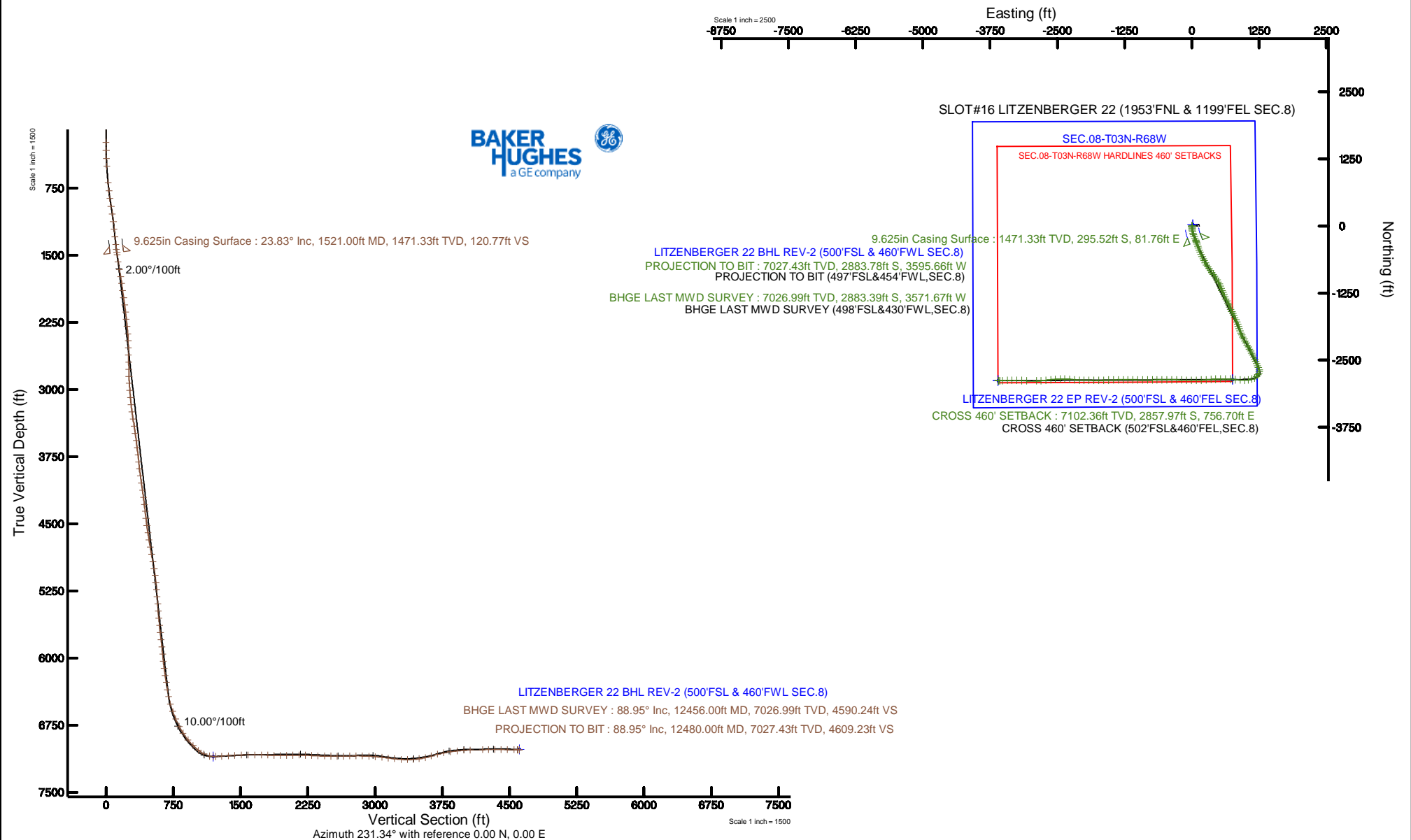


Location:	COLORADO	Slot:	SLOT#16 LITZENBERGER 22 (1953/FNL & 1199/FEL SEC.8)
Field:	WELD COUNTY (NAD83, TRUE NORTH)	Well:	LITZENBERGER 22
Facility:	SEC.08-T03N-R68W	Wellbore:	LITZENBERGER 22 PWB

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Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Bushjamh
Scale	0.999957	Report Generated	10/17/2017 at 7:59:56 AM
Convergence at slot	0.31° East	Database/Source file	Denver/LITZENBERGER_22_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-25.50	-16.75	3133467.77	1331456.93	40°14'32.136"N	105°01'18.804"W
Facility Reference Pt			3133484.38	1331482.52	40°14'32.388"N	105°01'18.588"W
Field Reference Pt			3133072.77	1341057.53	40°16'07.032"N	105°01'23.232"W

WELLPATH DATUM

Calculation method	Minimum curvature	XTREME 18 (17') (RKB) to Facility Vertical Datum	5099.00ft
Horizontal Reference Pt	Slot	XTREME 18 (17') (RKB) to Mean Sea Level	5099.00ft
Vertical Reference Pt	XTREME 18 (17') (RKB)	XTREME 18 (17') (RKB) to Mud Line at Slot (SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8))	5099.00ft
MD Reference Pt	XTREME 18 (17') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	231.34°

Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	133.570	0.00	0.00	0.00	0.00	40°14'32.136"N	105°01'18.804"W	0.00	
17.00	0.000	133.570	17.00	0.00	0.00	0.00	40°14'32.136"N	105°01'18.804"W	0.00	
237.00	0.830	133.570	236.99	-0.22	-1.10	1.15	40°14'32.125"N	105°01'18.789"W	0.38	
328.00	1.640	209.870	327.98	0.91	-2.68	0.98	40°14'32.109"N	105°01'18.791"W	1.82	
418.00	2.780	186.580	417.91	3.66	-5.97	0.09	40°14'32.077"N	105°01'18.803"W	1.59	
507.00	5.080	180.310	506.69	7.67	-12.05	-0.18	40°14'32.017"N	105°01'18.806"W	2.63	
690.00	10.500	175.210	687.94	22.07	-36.79	1.17	40°14'31.772"N	105°01'18.789"W	2.98	
782.00	13.290	170.680	777.96	31.92	-55.58	3.59	40°14'31.587"N	105°01'18.758"W	3.20	
874.00	16.370	170.740	866.88	43.47	-78.82	7.39	40°14'31.357"N	105°01'18.709"W	3.35	
964.00	18.610	168.710	952.72	56.30	-105.42	12.24	40°14'31.094"N	105°01'18.646"W	2.58	
1056.00	20.060	165.550	1039.53	69.52	-135.10	19.05	40°14'30.801"N	105°01'18.558"W	1.94	
1148.00	20.950	158.490	1125.71	80.84	-165.69	29.02	40°14'30.499"N	105°01'18.430"W	2.85	
1239.00	21.070	157.570	1210.66	90.21	-195.94	41.23	40°14'30.200"N	105°01'18.272"W	0.39	
1331.00	21.960	156.740	1296.25	99.40	-227.03	54.33	40°14'29.892"N	105°01'18.103"W	1.02	
1422.00	22.750	157.970	1380.41	108.95	-258.98	67.65	40°14'29.577"N	105°01'17.932"W	1.01	
1480.00	23.430	159.140	1433.76	115.69	-280.15	75.96	40°14'29.368"N	105°01'17.824"W	1.41	
1545.00	24.060	159.810	1493.26	123.84	-304.66	85.14	40°14'29.125"N	105°01'17.706"W	1.05	
1635.00	24.410	160.230	1575.33	135.67	-339.38	97.76	40°14'28.782"N	105°01'17.543"W	0.43	
1726.00	25.480	161.210	1657.84	148.41	-375.61	110.42	40°14'28.424"N	105°01'17.380"W	1.26	
1816.00	27.390	161.230	1738.43	162.04	-413.54	123.32	40°14'28.049"N	105°01'17.214"W	2.12	
1903.00	28.230	155.750	1815.39	173.97	-451.25	138.22	40°14'27.677"N	105°01'17.022"W	3.09	
1995.00	28.040	155.900	1896.52	184.82	-490.83	155.98	40°14'27.286"N	105°01'16.793"W	0.22	
2085.00	28.790	157.280	1975.68	196.09	-530.13	172.99	40°14'26.897"N	105°01'16.573"W	1.11	
2177.00	28.720	155.420	2056.33	207.55	-570.67	190.74	40°14'26.497"N	105°01'16.344"W	0.98	
2268.00	28.800	152.490	2136.11	217.11	-609.99	209.96	40°14'26.108"N	105°01'16.097"W	1.55	
2359.00	27.140	152.630	2216.48	225.41	-647.87	229.63	40°14'25.734"N	105°01'15.843"W	1.83	
2451.00	29.200	153.470	2297.58	234.23	-686.59	249.30	40°14'25.351"N	105°01'15.589"W	2.28	
2543.00	28.800	151.070	2378.05	242.69	-726.06	270.05	40°14'24.961"N	105°01'15.322"W	1.34	
2633.00	28.880	143.720	2456.91	247.26	-762.57	293.40	40°14'24.600"N	105°01'15.021"W	3.94	
2723.00	28.000	142.940	2536.05	248.75	-796.95	319.00	40°14'24.261"N	105°01'14.691"W	1.06	

Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

WELLPATH DATA (139 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2815.00	28.720	144.000	2617.00	250.38	-832.07	345.00	40°14'23.914"N	105°01'14.355"W	0.95	
2904.00	28.570	144.070	2695.11	252.39	-866.60	370.06	40°14'23.572"N	105°01'14.032"W	0.17	
2994.00	28.660	143.250	2774.12	254.13	-901.32	395.60	40°14'23.229"N	105°01'13.703"W	0.45	
3085.00	28.510	144.280	2854.03	255.97	-936.43	421.34	40°14'22.882"N	105°01'13.371"W	0.57	
3171.00	28.230	147.950	2929.70	259.37	-970.34	444.12	40°14'22.547"N	105°01'13.077"W	2.05	
3262.00	28.550	150.030	3009.76	265.13	-1007.42	466.40	40°14'22.181"N	105°01'12.790"W	1.14	
3354.00	28.390	150.520	3090.64	271.94	-1045.51	488.15	40°14'21.804"N	105°01'12.509"W	0.31	
3444.00	27.870	153.110	3170.01	279.65	-1082.90	508.19	40°14'21.435"N	105°01'12.251"W	1.47	
3534.00	27.050	157.300	3249.87	289.56	-1120.54	525.60	40°14'21.063"N	105°01'12.026"W	2.33	
3624.00	28.520	158.170	3329.50	301.41	-1159.37	541.49	40°14'20.679"N	105°01'11.822"W	1.69	
3716.00	28.250	157.570	3410.43	313.86	-1199.88	557.97	40°14'20.279"N	105°01'11.609"W	0.43	
3808.00	28.560	155.990	3491.36	325.50	-1240.10	575.22	40°14'19.881"N	105°01'11.387"W	0.88	
3900.00	28.910	155.020	3572.03	336.33	-1280.34	593.56	40°14'19.484"N	105°01'11.150"W	0.63	
3991.00	28.440	156.570	3651.87	347.22	-1320.16	611.47	40°14'19.090"N	105°01'10.919"W	0.97	
4081.00	28.800	151.960	3730.88	356.85	-1358.97	630.18	40°14'18.707"N	105°01'10.678"W	2.49	
4170.00	28.680	151.560	3808.92	364.59	-1396.67	650.43	40°14'18.334"N	105°01'10.417"W	0.25	
4259.00	28.360	153.350	3887.12	372.77	-1434.34	670.08	40°14'17.962"N	105°01'10.164"W	1.03	
4351.00	28.640	157.470	3967.98	383.45	-1474.24	688.33	40°14'17.568"N	105°01'09.928"W	2.16	
4440.00	28.780	157.320	4046.04	395.27	-1513.71	704.77	40°14'17.178"N	105°01'09.716"W	0.18	
4531.00	28.670	155.470	4125.84	406.63	-1553.78	722.28	40°14'16.782"N	105°01'09.491"W	0.98	
4620.00	28.840	155.080	4203.87	416.94	-1592.67	740.19	40°14'16.397"N	105°01'09.260"W	0.28	
4712.00	28.900	154.390	4284.43	427.23	-1632.84	759.14	40°14'16.000"N	105°01'09.015"W	0.37	
4802.00	28.780	152.910	4363.27	436.49	-1671.74	778.41	40°14'15.616"N	105°01'08.767"W	0.80	
4891.00	28.810	153.750	4441.27	445.39	-1710.05	797.65	40°14'15.237"N	105°01'08.519"W	0.46	
4981.00	28.650	156.400	4520.19	455.66	-1749.27	815.88	40°14'14.850"N	105°01'08.284"W	1.43	
5071.00	28.900	157.530	4599.08	467.33	-1789.14	832.83	40°14'14.456"N	105°01'08.065"W	0.67	
5163.00	28.440	158.340	4679.80	479.93	-1830.04	849.42	40°14'14.052"N	105°01'07.851"W	0.65	
5255.00	28.340	159.940	4760.73	493.30	-1870.91	864.99	40°14'13.648"N	105°01'07.650"W	0.83	
5346.00	28.330	161.500	4840.83	507.63	-1911.68	879.25	40°14'13.245"N	105°01'07.467"W	0.81	
5439.00	28.470	160.540	4922.64	522.53	-1953.50	893.64	40°14'12.831"N	105°01'07.281"W	0.51	

Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5527.00	28.250	158.220	5000.08	535.47	-1992.62	908.35	40°14'12.445"N	105°01'07.091"W	1.28	
5616.00	28.320	154.490	5078.46	546.39	-2031.24	925.26	40°14'12.063"N	105°01'06.873"W	1.99	
5706.00	28.240	152.590	5157.72	555.40	-2069.41	944.26	40°14'11.686"N	105°01'06.629"W	1.00	
5797.00	28.300	150.850	5237.87	563.16	-2107.36	964.68	40°14'11.311"N	105°01'06.365"W	0.91	
5887.00	28.320	149.960	5317.10	569.89	-2144.47	985.76	40°14'10.944"N	105°01'06.093"W	0.47	
5977.00	28.240	149.970	5396.36	576.28	-2181.38	1007.10	40°14'10.580"N	105°01'05.818"W	0.09	
6069.00	28.230	148.510	5477.42	582.26	-2218.78	1029.36	40°14'10.210"N	105°01'05.531"W	0.75	
6159.00	28.340	151.090	5556.67	588.54	-2255.64	1050.80	40°14'09.846"N	105°01'05.255"W	1.36	
6251.00	28.100	152.500	5637.74	596.43	-2293.97	1071.36	40°14'09.467"N	105°01'04.990"W	0.77	
6342.00	28.250	153.490	5717.96	605.11	-2332.25	1090.87	40°14'09.089"N	105°01'04.738"W	0.54	
6432.00	28.320	153.750	5797.21	614.18	-2370.46	1109.82	40°14'08.711"N	105°01'04.494"W	0.16	
6522.00	28.320	152.540	5876.44	622.92	-2408.55	1129.11	40°14'08.335"N	105°01'04.245"W	0.64	
6614.00	28.360	151.310	5957.41	630.94	-2447.08	1149.66	40°14'07.954"N	105°01'03.980"W	0.64	
6705.00	28.190	152.530	6037.56	638.85	-2485.11	1169.95	40°14'07.578"N	105°01'03.719"W	0.66	
6797.00	28.090	155.470	6118.69	648.35	-2524.09	1188.97	40°14'07.193"N	105°01'03.473"W	1.51	
6885.00	28.240	157.510	6196.27	659.21	-2562.18	1205.53	40°14'06.816"N	105°01'03.260"W	1.11	
6973.00	28.240	158.630	6273.79	671.20	-2600.80	1221.08	40°14'06.435"N	105°01'03.059"W	0.60	
7065.00	28.200	160.760	6354.86	684.89	-2641.60	1236.18	40°14'06.032"N	105°01'02.865"W	1.10	
7153.00	26.730	161.140	6432.94	698.51	-2679.96	1249.43	40°14'05.653"N	105°01'02.694"W	1.68	
7243.00	22.500	182.370	6514.90	716.71	-2716.41	1255.27	40°14'05.292"N	105°01'02.619"W	10.82	
7333.00	20.730	210.890	6598.80	743.02	-2747.37	1246.36	40°14'04.986"N	105°01'02.734"W	11.73	
7423.00	23.480	221.380	6682.21	775.62	-2774.51	1226.32	40°14'04.718"N	105°01'02.992"W	5.33	
7515.00	27.480	224.630	6765.25	814.77	-2803.38	1199.28	40°14'04.433"N	105°01'03.341"W	4.60	
7604.00	33.220	240.150	6842.14	859.36	-2830.19	1163.62	40°14'04.168"N	105°01'03.800"W	10.87	
7696.00	40.790	250.870	6915.63	912.72	-2852.64	1113.25	40°14'03.946"N	105°01'04.450"W	10.79	
7786.00	49.400	259.480	6979.17	970.72	-2868.55	1051.70	40°14'03.789"N	105°01'05.243"W	11.71	
7878.00	58.360	271.000	7033.46	1031.93	-2874.27	977.90	40°14'03.733"N	105°01'06.195"W	14.02	
7968.00	68.580	274.480	7073.62	1092.16	-2870.32	897.60	40°14'03.772"N	105°01'07.231"W	11.87	
8060.00	81.540	275.480	7097.29	1156.34	-2862.60	809.23	40°14'03.848"N	105°01'08.370"W	14.13	
8113.00†	87.462	274.601	7102.36	1194.46	-2857.97	756.70	40°14'03.894"N	105°01'09.047"W	11.29	CROSS 460' SETBACK (502'FSL&460'FEL, SEC.8)

Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

WELLPATH DATA (139 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8152.00	91.820	273.960	7102.61	1223.01	-2855.06	717.82	40°14'03.922"N	105°01'09.549"W	11.29	
8243.00	93.080	270.640	7098.72	1291.65	-2851.41	626.99	40°14'03.959"N	105°01'10.720"W	3.90	
8335.00	93.020	268.530	7093.82	1363.80	-2852.07	535.13	40°14'03.952"N	105°01'11.904"W	2.29	
8426.00	92.530	267.580	7089.42	1436.66	-2855.16	444.29	40°14'03.922"N	105°01'13.075"W	1.17	
8516.00	92.460	266.770	7085.50	1509.56	-2859.59	354.49	40°14'03.878"N	105°01'14.233"W	0.90	
8608.00	90.460	265.600	7083.15	1585.03	-2865.71	262.73	40°14'03.817"N	105°01'15.416"W	2.52	
8700.00	89.480	267.270	7083.20	1660.30	-2871.43	170.91	40°14'03.761"N	105°01'16.600"W	2.10	
8789.00	89.750	268.950	7083.80	1731.59	-2874.36	81.96	40°14'03.732"N	105°01'17.747"W	1.91	
8881.00	88.210	270.810	7085.44	1803.53	-2874.56	-10.01	40°14'03.730"N	105°01'18.933"W	2.62	
8971.00	88.210	271.620	7088.25	1872.57	-2872.65	-99.95	40°14'03.749"N	105°01'20.093"W	0.90	
9063.00	90.580	272.230	7089.22	1942.43	-2869.56	-191.89	40°14'03.779"N	105°01'21.278"W	2.66	
9155.00	90.680	271.590	7088.21	2012.31	-2866.49	-283.83	40°14'03.810"N	105°01'22.464"W	0.70	
9246.00	90.740	270.790	7087.08	2082.17	-2864.60	-374.80	40°14'03.828"N	105°01'23.637"W	0.88	
9338.00	90.650	269.860	7085.97	2153.67	-2864.08	-466.79	40°14'03.833"N	105°01'24.823"W	1.02	
9428.00	87.970	269.410	7087.05	2224.30	-2864.65	-556.77	40°14'03.828"N	105°01'25.983"W	3.02	
9518.00	87.720	269.100	7090.43	2295.25	-2865.82	-646.70	40°14'03.816"N	105°01'27.142"W	0.44	
9607.00	87.810	269.220	7093.90	2365.50	-2867.13	-735.63	40°14'03.803"N	105°01'28.289"W	0.17	
9696.00	89.420	269.680	7096.06	2435.51	-2867.98	-824.59	40°14'03.795"N	105°01'29.436"W	1.88	
9788.00	89.260	269.920	7097.11	2507.54	-2868.30	-916.59	40°14'03.792"N	105°01'30.622"W	0.31	
9880.00	89.350	271.300	7098.23	2578.76	-2867.32	-1008.57	40°14'03.801"N	105°01'31.808"W	1.50	
9969.00	91.170	271.630	7097.83	2646.81	-2865.05	-1097.54	40°14'03.824"N	105°01'32.955"W	2.08	
10059.00	90.950	270.240	7096.16	2716.15	-2863.58	-1187.51	40°14'03.838"N	105°01'34.116"W	1.56	
10148.00	90.830	269.370	7094.78	2785.83	-2863.88	-1276.50	40°14'03.835"N	105°01'35.263"W	0.99	
10240.00	88.950	267.960	7094.96	2858.98	-2866.02	-1368.46	40°14'03.814"N	105°01'36.449"W	2.55	
10330.00	87.040	268.530	7098.10	2930.90	-2868.78	-1458.36	40°14'03.787"N	105°01'37.608"W	2.21	
10422.00	87.040	267.920	7102.86	3004.39	-2871.63	-1550.20	40°14'03.758"N	105°01'38.792"W	0.66	
10514.00	84.510	268.000	7109.63	3078.02	-2874.89	-1641.88	40°14'03.726"N	105°01'39.974"W	2.75	
10603.00	84.420	269.270	7118.22	3148.49	-2877.00	-1730.44	40°14'03.705"N	105°01'41.116"W	1.42	
10694.00	84.610	271.800	7126.92	3218.69	-2876.16	-1821.01	40°14'03.713"N	105°01'42.284"W	2.78	
10786.00	86.860	270.140	7133.76	3289.34	-2874.60	-1912.73	40°14'03.729"N	105°01'43.466"W	3.04	

Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

WELLPATH DATA (139 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10878.00	90.250	269.750	7136.08	3361.20	-2874.69	-2004.69	40°14'03.728"N	105°01'44.652"W	3.71	
10966.00	92.930	273.710	7133.64	3428.19	-2872.04	-2092.59	40°14'03.754"N	105°01'45.785"W	5.43	
11056.00	96.080	274.910	7126.57	3493.83	-2865.30	-2182.05	40°14'03.820"N	105°01'46.939"W	3.74	
11148.00	98.930	274.370	7114.55	3560.20	-2857.92	-2272.95	40°14'03.893"N	105°01'48.111"W	3.15	
11240.00	103.480	272.150	7096.68	3627.32	-2852.78	-2363.02	40°14'03.944"N	105°01'49.272"W	5.48	
11330.00	102.000	267.340	7076.82	3696.10	-2853.18	-2450.77	40°14'03.940"N	105°01'50.404"W	5.47	
11419.00	99.560	265.850	7060.17	3767.48	-2858.37	-2538.04	40°14'03.888"N	105°01'51.529"W	3.20	
11506.00	97.030	263.280	7047.62	3839.49	-2866.53	-2623.72	40°14'03.808"N	105°01'52.634"W	4.12	
11597.00	94.960	264.510	7038.12	3915.77	-2876.16	-2713.71	40°14'03.713"N	105°01'53.794"W	2.64	
11689.00	92.920	266.500	7031.80	3991.70	-2883.35	-2805.20	40°14'03.641"N	105°01'54.974"W	3.09	
11776.00	91.050	268.900	7028.78	4061.71	-2886.83	-2892.07	40°14'03.607"N	105°01'56.094"W	3.50	
11954.00	91.080	273.000	7025.47	4198.79	-2883.88	-3069.97	40°14'03.636"N	105°01'58.388"W	2.30	
12045.00	91.080	272.370	7023.76	4267.10	-2879.62	-3160.86	40°14'03.678"N	105°01'59.560"W	0.69	
12135.00	89.450	270.870	7023.34	4335.75	-2877.08	-3250.81	40°14'03.703"N	105°02'00.719"W	2.46	
12226.00	89.570	269.860	7024.12	4406.45	-2876.50	-3341.81	40°14'03.708"N	105°02'01.893"W	1.12	
12315.00	89.540	267.400	7024.81	4477.25	-2878.63	-3430.77	40°14'03.687"N	105°02'03.040"W	2.76	
12407.00	88.890	268.150	7026.07	4551.26	-2882.20	-3522.69	40°14'03.652"N	105°02'04.225"W	1.08	
12456.00	88.950	269.060	7026.99	4590.24	-2883.39	-3571.67	40°14'03.640"N	105°02'04.856"W	1.86	BHGE LAST MWD SURVEY (498'FSL&430'FWL,SEC.8)
12480.00	88.950	269.060	7027.43	4609.23	-2883.78	-3595.66	40°14'03.636"N	105°02'05.166"W	0.00	PROJECTION TO BIT (497'FSL&454'FWL,SEC.8)

HOLE & CASING SECTIONS - Ref Wellbore: LITZENBERGER 22 AWB Ref Wellpath: LITZENBERGER 22 AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	17.00	1531.00	1514.00	17.00	1480.47	0.00	0.00	-299.32	83.17
9.625in Casing Surface	17.00	1521.00	1504.00	17.00	1471.33	0.00	0.00	-295.52	81.76
8.5in Open Hole	1531.00	12480.00	10949.00	1480.47	7027.43	-299.32	83.17	-2883.78	-3595.66

Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.08-T03N-R68W	0.00	25.50	16.75	3133484.38	1331482.52	40°14'32.388"N	105°01'18.588"W	polygon
LITZENBERGER 22 BHL REV-1 (500'FSL & 460'FWL SEC.8)	6994.90	-2881.37	-3601.72	3129881.79	1328556.32	40°14'03.660"N	105°02'05.244"W	point
LITZENBERGER 22 BHL REV-2 (500'FSL & 460'FWL SEC.8)	7021.00	-2881.37	-3601.73	3129881.79	1328556.32	40°14'03.660"N	105°02'05.244"W	point
LITZENBERGER 22 EP REV-1 (500'FSL & 460'FEL SEC.8)	7071.00	-2859.76	756.64	3134239.78	1328601.42	40°14'03.876"N	105°01'09.048"W	point
LITZENBERGER 22 EP REV-2 (500'FSL & 460'FEL SEC.8)	7102.00	-2859.76	756.64	3134239.78	1328601.42	40°14'03.876"N	105°01'09.048"W	point
SEC.08-T03N-R68W HARDLINES 460' SETBACKS	7316.00	25.50	16.75	3133484.38	1331482.52	40°14'32.388"N	105°01'18.588"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: LITZENBERGER 22 AWB Ref Wellpath: LITZENBERGER 22 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1480.00	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model) <237'-1480'>	LITZENBERGER 22 AWB
1480.00	12456.00	Custom BHI AutoTrak Curve (Short) (Rockies 0.03Gt model)	BHI ATC 8 1/2" (SHORT, ROCKIES GT)<1545-12456>	LITZENBERGER 22 AWB
12456.00	12480.00	Blind Drilling (std)	Projection to bit	LITZENBERGER 22 AWB

Actual Wellpath Report

LITZENBERGER 22 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	CUB CREEK ENERGY, LLC	Slot	SLOT#16 LITZENBERGER 22 (1953'FNL & 1199'FEL SEC.8)
Area	COLORADO	Well	LITZENBERGER 22
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	LITZENBERGER 22 AWB
Facility	SEC.08-T03N-R68W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
8113.00	87.462	274.601	7102.36	CROSS 460' SETBACK (502'FSL&460'FEL,SEC.8)
12456.00	88.950	269.060	7026.99	BHGE LAST MWD SURVEY (498'FSL&430'FWL,SEC.8)
12480.00	88.950	269.060	7027.43	PROJECTION TO BIT (497'FSL&454'FWL,SEC.8)