

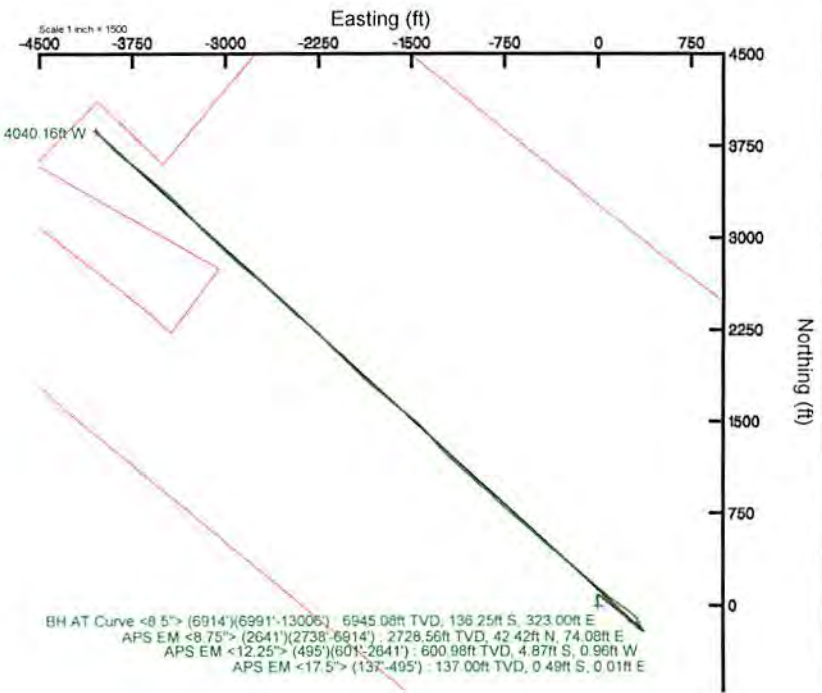
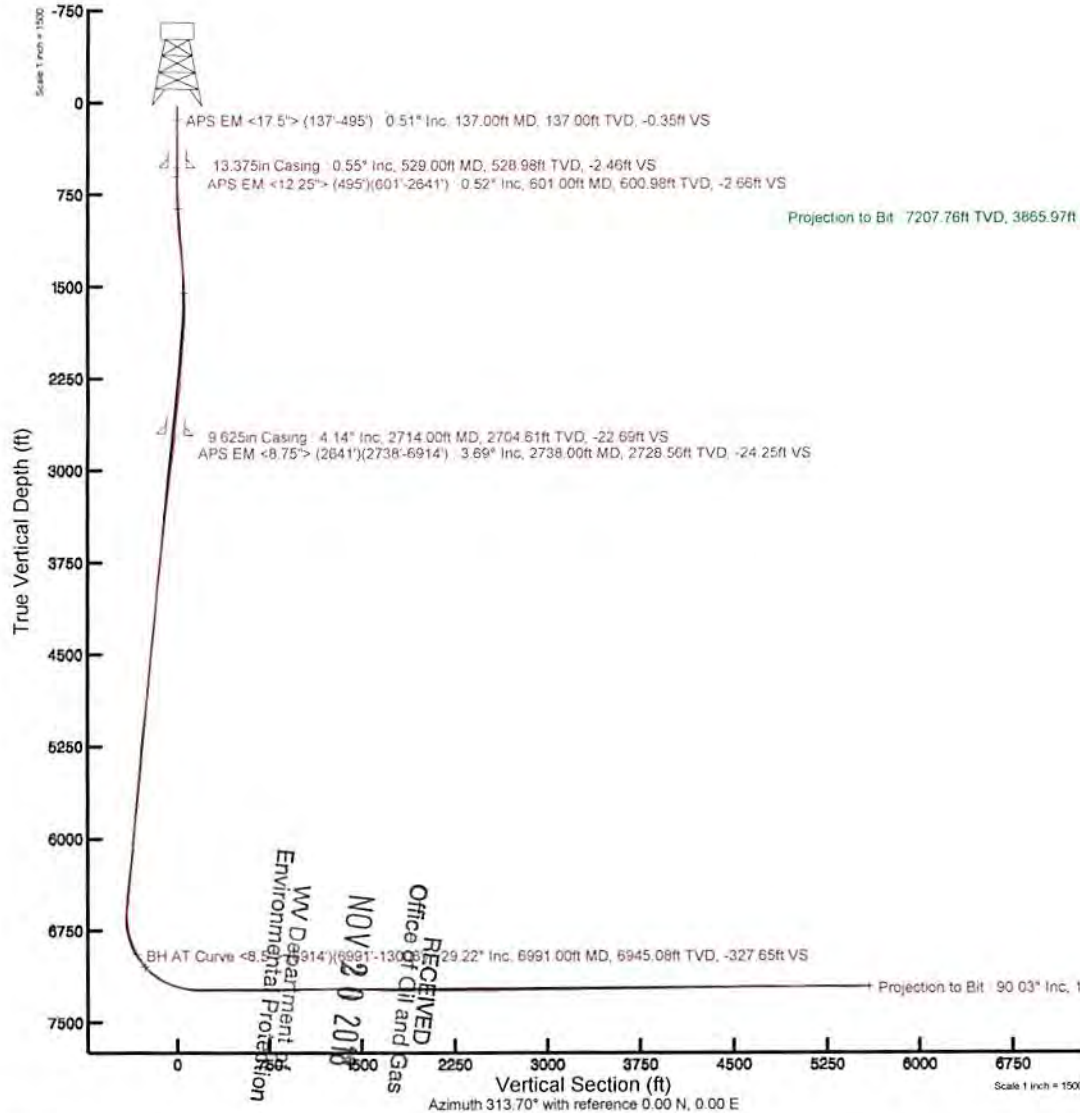
# SOUTHWESTERN ENERGY

Location: Wetzel County, WV      Slot: Slot 101H  
 Field: Wetzel      Well: Daniel Durig WTZ 101H  
 Facility: Daniel Durig Pad      Wellbore: Daniel Durig WTZ 101H PWB

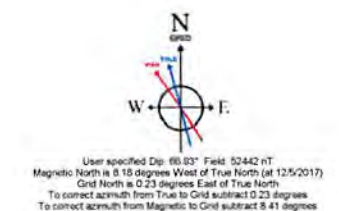


Plot reference wellbore is Daniel Durig WTZ 101H PWB from 8	Grid System: NAD83 (101W Zone 17 North US feet)
True vertical depths are referenced to Rig on Slot 101H (88)	* x,y West/East are transformed from a different grid/basis system
Measured depths are referenced to Rig on Slot 101H (88)	North Reference: Grid north
Rig on Slot 101H (88) to Mean Sea Level: 1437 feet	Scale: True distance
Mean Sea Level to Ground level (at Slot 101H): 1401 feet	Depth: sea to feet
Coordinates are in feet referenced to 8004	Created by: Promislic on 2017-12-22
	Danville, VA, Pennsylvania

API: 47-103-03815-0000  
 Job #: 8881605  
 Rig: SDC 46  
 Duration: 12/07/2017 - 12/18/2017



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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 101H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 101H
Field	Wetzel	Wellbore	Daniel Durig WTZ 101H AWB
Facility	Daniel Durig Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Thomsuzc
Scale	0.999612	Report Generated	12/22/2017 at 9:07:12 AM
Convergence at slot	0.24° East	Database/Source file	WA_Pennsylvania/Daniel_Durig_WTZ_101H_AWP_Proj__13030_MD.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	22.86	-26.11	1741875.55	14423843.48	39°43'00.756"N	80°38'21.116"W
Facility Reference Pt			1741901.66	14423820.63	39°43'00.529"N	80°38'20.783"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on Slot 101H (KB) to Facility Vertical Datum	1427.00ft
Horizontal Reference Pt	Slot	Rig on Slot 101H (KB) to Mean Sea Level	1427.00ft
Vertical Reference Pt	Rig on Slot 101H (KB)	Rig on Slot 101H (KB) to Ground Level at Slot (Slot 101H)	26.00ft
MD Reference Pt	Rig on Slot 101H (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	313.70°

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# Actual Wellpath Report

Daniel Durig WZ 101H AWP Proj: 13030'MD  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 101H
Area	Wetzel County, WV	Well	Daniel Durig WZ 101H
Field	Wetzel	Wellbore	Daniel Durig WZ 101H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	178.770	0.00	0.00	0.00	0.00	1741875.55	14423843.48	39°43'00.756"N	80°38'21.116"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	178.770	26.00	0.00	0.00	0.00	1741875.55	14423843.48	39°43'00.756"N	80°38'21.116"W	0.00	0.000	0.00	0.00	0.00
137.00	0.510	178.770	137.00	-0.35	-0.49	0.01	1741875.56	14423842.99	39°43'00.751"N	80°38'21.116"W	0.49	178.770	0.46	0.46	161.05
218.00	0.520	171.830	218.00	-0.89	-1.22	0.07	1741875.62	14423842.26	39°43'00.744"N	80°38'21.115"W	1.22	176.684	0.08	0.01	-8.57
310.00	0.690	199.930	309.99	-1.44	-2.15	-0.06	1741875.49	14423841.33	39°43'00.735"N	80°38'21.117"W	2.15	181.568	0.37	0.18	30.54
402.00	0.530	196.000	401.99	-1.87	-3.08	-0.37	1741875.19	14423840.40	39°43'00.726"N	80°38'21.121"W	3.10	186.755	0.18	-0.17	-4.27
495.00	0.570	192.890	494.98	-2.30	-3.95	-0.59	1741874.97	14423839.54	39°43'00.717"N	80°38'21.124"W	3.99	188.457	0.05	0.04	-3.34
601.00	0.520	212.630	600.98	-2.66	-4.87	-0.96	1741874.59	14423838.62	39°43'00.708"N	80°38'21.129"W	4.96	191.204	0.18	-0.05	18.62
694.00	0.420	333.480	693.97	-2.43	-4.92	-1.34	1741874.21	14423838.57	39°43'00.707"N	80°38'21.133"W	5.10	195.286	0.88	-0.11	129.95
786.00	1.520	4.890	785.96	-1.34	-3.40	-1.39	1741874.16	14423840.09	39°43'00.722"N	80°38'21.134"W	3.67	202.247	1.28	1.20	34.14
879.00	3.070	2.630	878.88	1.07	0.32	-1.17	1741874.38	14423843.80	39°43'00.759"N	80°38'21.131"W	1.21	285.225	1.67	1.67	-2.43
972.00	5.200	358.020	971.64	5.72	7.02	-1.20	1741874.35	14423850.50	39°43'00.825"N	80°38'21.131"W	7.12	350.282	2.32	2.29	-4.96
1064.00	8.300	355.370	1062.99	13.66	17.81	-1.88	1741873.67	14423861.28	39°43'00.932"N	80°38'21.139"W	17.91	353.966	3.39	3.37	-2.88
1157.00	9.050	354.100	1154.92	24.25	31.77	-3.18	1741872.38	14423875.24	39°43'01.070"N	80°38'21.155"W	31.93	354.292	0.83	0.81	-1.37
1250.00	8.380	353.580	1246.85	35.02	45.78	-4.69	1741870.87	14423889.25	39°43'01.209"N	80°38'21.174"W	46.02	354.157	0.73	-0.72	-0.56
1343.00	6.910	355.250	1339.02	44.41	58.09	-5.91	1741869.65	14423901.55	39°43'01.330"N	80°38'21.189"W	58.39	354.194	1.60	-1.58	1.80
1435.00	5.740	359.000	1430.46	51.79	68.21	-6.45	1741869.11	14423911.66	39°43'01.430"N	80°38'21.195"W	68.51	354.602	1.35	-1.27	4.08
1528.00	4.960	5.720	1523.05	57.53	76.86	-6.13	1741869.43	14423920.31	39°43'01.516"N	80°38'21.190"W	77.10	355.443	1.07	-0.84	7.23
1621.00	3.360	25.400	1615.81	60.86	83.32	-4.56	1741871.00	14423926.77	39°43'01.580"N	80°38'21.170"W	83.45	356.870	2.28	-1.72	21.16
1714.00	2.640	57.640	1708.69	61.20	86.93	-1.58	1741873.98	14423930.38	39°43'01.615"N	80°38'21.132"W	86.95	358.960	1.94	-0.77	34.67
1806.00	2.910	96.010	1800.59	58.84	87.82	2.54	1741878.09	14423931.27	39°43'01.624"N	80°38'21.079"W	87.86	1.654	2.00	0.29	41.71
1899.00	4.290	117.980	1893.41	53.63	85.94	7.96	1741883.50	14423929.39	39°43'01.605"N	80°38'21.010"W	86.31	5.289	2.07	1.48	23.62
1992.00	4.780	127.310	1986.12	46.43	81.96	14.11	1741889.66	14423925.41	39°43'01.565"N	80°38'20.931"W	83.17	9.767	0.95	0.53	10.03
2085.00	4.880	133.880	2078.79	38.62	76.87	20.04	1741895.59	14423920.32	39°43'01.515"N	80°38'20.856"W	79.44	14.613	0.60	0.11	7.06
2178.00	5.040	131.390	2171.44	30.58	71.43	25.96	1741901.50	14423914.88	39°43'01.461"N	80°38'20.780"W	76.00	19.972	0.29	0.17	-2.68
2270.00	5.460	122.810	2263.05	22.25	66.38	32.67	1741908.21	14423909.84	39°43'01.411"N	80°38'20.695"W	73.99	26.203	0.97	0.46	-9.33
2363.00	6.470	120.150	2355.55	12.81	61.35	40.92	1741916.45	14423904.81	39°43'01.361"N	80°38'20.589"W	73.75	33.700	1.13	1.09	-2.86
2455.00	6.330	114.990	2446.98	2.97	56.61	50.00	1741925.53	14423900.07	39°43'01.313"N	80°38'20.473"W	75.53	41.452	0.64	-0.15	-5.61
2548.00	6.540	121.930	2539.39	-7.07	51.64	59.14	1741934.67	14423895.10	39°43'01.264"N	80°38'20.357"W	78.51	48.872	0.87	0.23	7.46
2641.00	5.540	123.930	2631.87	-16.68	46.33	67.36	1741942.89	14423889.80	39°43'01.211"N	80°38'20.252"W	81.76	55.477	1.10	-1.08	2.15

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 101H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 101H
Field	Wetzel	Wellbore	Daniel Durig WTZ 101H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (148 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
2738.00	3.690	114.540	2728.56	-24.25	42.42	74.08	1741949.61	14423885.89	39°43'01.172"N	80°38'20.166"W	85.37	60.203	2.05	-1.91	-9.68	
2830.00	4.950	133.030	2820.30	-31.01	38.49	79.68	1741955.20	14423881.95	39°43'01.133"N	80°38'20.094"W	88.49	64.219	2.02	1.37	20.10	
2923.00	7.480	133.690	2912.74	-41.08	31.57	86.99	1741962.51	14423875.04	39°43'01.064"N	80°38'20.001"W	92.54	70.056	2.72	2.72	0.71	
3016.00	7.500	130.050	3004.95	-53.19	23.48	96.01	1741971.53	14423866.95	39°43'00.984"N	80°38'19.886"W	98.84	76.259	0.51	0.02	-3.91	
3109.00	6.290	124.260	3097.28	-64.27	16.70	104.87	1741980.38	14423860.18	39°43'00.917"N	80°38'19.773"W	106.19	80.950	1.50	-1.30	-6.23	
3202.00	6.910	133.860	3189.66	-74.89	9.96	113.12	1741988.62	14423853.44	39°43'00.850"N	80°38'19.668"W	113.55	84.968	1.36	0.67	10.32	
3294.00	6.930	131.480	3280.99	-85.97	2.45	121.26	1741996.77	14423845.93	39°43'00.775"N	80°38'19.564"W	121.29	88.843	0.31	0.02	-2.59	
3387.00	5.910	123.230	3373.41	-96.29	-3.89	129.47	1742004.97	14423839.59	39°43'00.712"N	80°38'19.459"W	129.53	91.721	1.48	-1.10	-8.87	
3480.00	6.760	138.880	3465.85	-106.45	-10.64	137.08	1742012.58	14423832.85	39°43'00.645"N	80°38'19.362"W	137.49	94.438	2.06	0.91	16.83	
3573.00	6.610	136.760	3558.22	-117.25	-18.66	144.35	1742019.84	14423824.83	39°43'00.566"N	80°38'19.270"W	145.55	97.367	0.31	-0.16	-2.28	
3666.00	6.210	131.260	3650.64	-127.62	-25.88	151.79	1742027.29	14423817.61	39°43'00.494"N	80°38'19.175"W	153.98	99.675	0.79	-0.43	-5.91	
3758.00	5.760	127.820	3742.14	-137.18	-31.99	159.18	1742034.67	14423811.50	39°43'00.434"N	80°38'19.081"W	162.36	101.363	0.63	-0.49	-3.74	
3851.00	5.960	146.270	3834.66	-146.54	-38.87	165.55	1742041.04	14423804.63	39°43'00.365"N	80°38'19.000"W	170.05	103.213	2.03	0.22	19.84	
3947.00	5.860	147.490	3930.15	-156.16	-47.15	170.95	1742046.44	14423796.35	39°43'00.283"N	80°38'18.931"W	177.33	105.418	0.17	-0.10	1.27	
4039.00	5.580	141.920	4021.69	-165.15	-54.63	176.23	1742051.72	14423788.88	39°43'00.209"N	80°38'18.864"W	184.51	107.222	0.68	-0.30	-6.05	
4132.00	5.480	139.260	4114.26	-174.04	-61.55	181.92	1742057.40	14423781.95	39°43'00.140"N	80°38'18.791"W	192.05	108.693	0.30	-0.11	-2.86	
4225.00	5.070	130.230	4206.87	-182.56	-67.57	187.96	1742063.43	14423775.94	39°43'00.081"N	80°38'18.714"W	199.73	109.774	0.99	-0.44	-9.71	
4317.00	4.720	120.870	4298.53	-190.31	-72.14	194.31	1742069.78	14423771.37	39°43'00.035"N	80°38'18.633"W	207.27	110.368	0.95	-0.38	-10.17	
4410.00	5.530	135.580	4391.16	-198.52	-77.30	200.73	1742076.20	14423766.21	39°42'59.984"N	80°38'18.551"W	215.10	111.062	1.65	0.87	15.82	
4503.00	5.920	134.960	4483.70	-207.80	-83.89	207.26	1742082.73	14423759.62	39°42'59.919"N	80°38'18.468"W	223.59	112.036	0.42	0.42	-0.67	
4595.00	5.900	133.810	4575.21	-217.27	-90.52	214.03	1742089.50	14423753.00	39°42'59.853"N	80°38'18.382"W	232.38	112.925	0.13	-0.02	-1.25	
4688.00	4.770	133.110	4667.80	-225.92	-96.47	220.30	1742095.77	14423747.05	39°42'59.794"N	80°38'18.302"W	240.50	113.648	1.22	-1.22	-0.75	
4780.00	6.310	140.060	4759.37	-234.77	-102.96	226.34	1742101.80	14423740.56	39°42'59.729"N	80°38'18.225"W	248.66	114.460	1.82	1.67	7.55	
4873.00	6.490	141.710	4851.79	-245.05	-111.00	232.88	1742108.34	14423732.52	39°42'59.650"N	80°38'18.142"W	257.98	115.485	0.28	0.19	1.77	
4965.00	6.740	143.230	4943.18	-255.52	-119.41	239.33	1742114.79	14423724.12	39°42'59.566"N	80°38'18.059"W	267.47	116.516	0.33	0.27	1.65	
5059.00	7.380	133.850	5036.47	-267.00	-128.01	246.99	1742122.44	14423715.52	39°42'59.481"N	80°38'17.962"W	278.19	117.397	1.40	0.68	-9.98	
5152.00	6.820	128.820	5128.76	-278.48	-135.61	255.60	1742131.05	14423707.92	39°42'59.406"N	80°38'17.852"W	289.34	117.949	0.90	-0.60	-5.41	
5244.00	4.710	126.620	5220.29	-287.67	-141.29	262.89	1742138.33	14423702.25	39°42'59.349"N	80°38'17.759"W	298.45	118.256	2.31	-2.29	-2.39	
5337.00	4.280	135.760	5313.00	-294.92	-146.05	268.37	1742143.82	14423697.49	39°42'59.302"N	80°38'17.689"W	305.54	118.556	0.90	-0.46	9.83	
5430.00	5.490	126.680	5405.67	-302.81	-151.20	274.36	1742149.81	14423692.34	39°42'59.251"N	80°38'17.613"W	313.26	118.859	1.54	1.30	-9.76	



REFERENCE WELLPATH IDENTIFICATION			
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Area	Wetzel County, WV	Well	Daniel Durig WTZ 101H
Field	Wetzel	Wellbore	Daniel Durig WTZ 101H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (148 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
5523.00	5.150	122.640	5498.26	-311.32	-156.10	281.44	1742156.88	14423687.44	39°42'59.202"N	80°38'17.522"W	321.84	119.015	0.54	-0.37	-4.34	
5616.00	5.590	137.150	5590.86	-319.94	-161.68	288.04	1742163.48	14423681.87	39°42'59.147"N	80°38'17.438"W	330.31	119.306	1.53	0.47	15.60	
5708.00	5.000	131.850	5682.47	-328.42	-167.64	294.07	1742169.51	14423675.91	39°42'59.088"N	80°38'17.361"W	338.50	119.686	0.83	-0.64	-5.76	
5801.00	4.290	139.550	5775.16	-335.93	-172.99	299.35	1742174.78	14423670.56	39°42'59.034"N	80°38'17.294"W	345.74	120.023	1.01	-0.76	8.28	
5894.00	4.760	128.470	5867.87	-343.23	-178.04	304.63	1742180.06	14423665.52	39°42'58.984"N	80°38'17.227"W	352.84	120.304	1.06	0.51	-11.91	
5987.00	4.600	126.780	5960.56	-350.78	-182.67	310.63	1742186.06	14423660.88	39°42'58.938"N	80°38'17.150"W	360.36	120.458	0.23	-0.17	-1.82	
6079.00	5.100	129.550	6052.24	-358.52	-187.48	316.74	1742192.17	14423656.07	39°42'58.891"N	80°38'17.072"W	368.07	120.622	0.60	0.54	3.01	
6172.00	6.820	129.200	6144.73	-368.15	-193.60	324.21	1742199.63	14423649.95	39°42'58.830"N	80°38'16.977"W	377.62	120.844	1.85	1.85	-0.38	
6265.00	7.290	125.680	6237.03	-379.49	-200.54	333.28	1742208.70	14423643.02	39°42'58.761"N	80°38'16.861"W	388.96	121.035	0.69	0.51	-3.78	
6358.00	6.790	126.830	6329.32	-390.79	-207.27	342.47	1742217.89	14423636.29	39°42'58.694"N	80°38'16.744"W	400.31	121.183	0.56	-0.54	1.24	
6447.00	5.950	120.510	6417.77	-400.51	-212.77	350.66	1742226.08	14423630.80	39°42'58.639"N	80°38'16.640"W	410.16	121.248	1.23	-0.94	-7.10	
6540.00	4.320	107.060	6510.40	-408.33	-216.24	358.16	1742233.57	14423627.32	39°42'58.605"N	80°38'16.544"W	418.38	121.122	2.17	-1.75	-14.46	
6636.00	2.380	69.090	6606.24	-412.42	-216.59	363.48	1742238.89	14423626.97	39°42'58.601"N	80°38'16.476"W	423.12	120.790	2.97	-2.02	-39.55	
6729.00	7.010	331.850	6698.99	-407.85	-210.89	362.61	1742238.02	14423632.67	39°42'58.657"N	80°38'16.487"W	419.47	120.182	8.26	4.98	-104.56	
6822.00	15.730	326.430	6790.08	-390.13	-195.35	352.94	1742228.35	14423648.20	39°42'58.811"N	80°38'16.610"W	403.40	118.965	9.44	9.38	-5.83	
6914.00	24.490	333.440	6876.40	-359.95	-167.85	337.49	1742212.91	14423675.70	39°42'59.084"N	80°38'16.806"W	376.92	116.444	9.86	9.52	7.62	
6991.00	29.220	337.020	6945.08	-327.65	-136.25	323.00	1742198.43	14423707.28	39°42'59.397"N	80°38'16.990"W	350.56	112.871	6.49	6.14	4.65	
7084.00	37.280	320.500	7022.95	-278.65	-93.46	296.13	1742171.56	14423750.06	39°42'59.821"N	80°38'17.331"W	310.52	107.517	12.97	8.67	-17.76	
7130.00	41.070	312.060	7058.63	-249.68	-72.57	276.02	1742151.47	14423770.94	39°43'00.028"N	80°38'17.588"W	285.40	104.730	14.21	8.24	-18.35	
7176.00	47.190	306.520	7091.65	-217.80	-52.38	251.21	1742126.67	14423791.13	39°43'00.228"N	80°38'17.904"W	256.61	101.777	15.72	13.30	-12.04	
7223.00	53.520	305.700	7121.62	-181.94	-31.07	221.98	1742097.45	14423812.43	39°43'00.440"N	80°38'18.277"W	224.15	97.967	13.53	13.47	-1.74	
7269.00	59.550	305.330	7146.97	-143.98	-8.79	190.76	1742066.24	14423834.70	39°43'00.662"N	80°38'18.675"W	190.96	92.638	13.13	13.11	-0.80	
7315.00	65.380	305.730	7168.23	-103.62	14.91	157.58	1742033.07	14423858.38	39°43'00.897"N	80°38'19.099"W	158.28	84.596	12.70	12.67	0.87	
7362.00	69.270	306.750	7186.35	-60.63	40.54	122.61	1741998.12	14423884.01	39°43'01.152"N	80°38'19.545"W	129.14	71.703	8.52	8.28	2.17	
7408.00	72.950	308.140	7201.24	-17.37	67.00	88.07	1741963.59	14423910.46	39°43'01.415"N	80°38'19.986"W	110.66	52.736	8.50	8.00	3.02	
7454.00	75.690	309.380	7213.67	26.74	94.73	53.54	1741929.07	14423938.18	39°43'01.690"N	80°38'20.426"W	108.81	29.475	6.50	5.96	2.70	
7501.00	79.170	309.990	7223.89	72.50	124.02	18.25	1741893.79	14423967.45	39°43'01.981"N	80°38'20.876"W	125.36	8.369	7.51	7.40	1.30	
7547.00	82.130	310.790	7231.37	117.80	153.43	-16.32	1741859.24	14423996.85	39°43'02.273"N	80°38'21.317"W	154.29	353.928	6.66	6.43	1.74	
7640.00	90.150	311.890	7237.62	210.44	214.67	-85.93	1741789.66	14424058.07	39°43'02.881"N	80°38'22.205"W	231.23	338.185	8.70	8.62	1.18	
7733.00	90.310	311.790	7237.25	206.89	276.71	-155.21	1741720.40	14424120.08	39°43'03.497"N	80°38'23.088"W	317.26	330.711	0.20	0.17	-0.11	

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# Actual Wellpath Report

Daniel Durig Wtz 101H AWP Proj: 13030'MD  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 101H
Area	Wetzel County, WV	Well	Daniel Durig Wtz 101H
Field	Wetzel	Wellbore	Daniel Durig Wtz 101H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (148 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
7822.00	90.060	311.150	7236.96	392.32	335.64	-221.90	1741653.74	14424178.99	39°43'04.082"N	80°38'23.938"W	402.36	326.531	0.77	-0.28	-0.72	
7915.00	90.250	309.880	7236.71	485.17	396.06	-292.60	1741583.07	14424239.39	39°43'04.682"N	80°38'24.840"W	492.42	323.544	1.38	0.20	-1.37	
8008.00	90.520	308.790	7236.09	577.90	455.01	-364.53	1741511.17	14424298.31	39°43'05.267"N	80°38'25.757"W	583.02	321.300	1.21	0.29	-1.17	
8101.00	90.400	312.380	7235.34	670.74	515.50	-435.14	1741440.58	14424358.78	39°43'05.868"N	80°38'26.658"W	674.60	319.832	3.86	-0.13	3.86	
8193.00	91.290	313.400	7233.98	762.72	578.10	-502.54	1741373.21	14424421.36	39°43'06.489"N	80°38'27.517"W	765.99	319.000	1.47	0.97	1.11	
8286.00	91.110	310.400	7232.03	855.65	640.19	-571.73	1741304.04	14424483.42	39°43'07.106"N	80°38'28.400"W	858.33	318.233	3.23	-0.19	-3.23	
8379.00	91.200	309.810	7230.16	948.44	700.09	-642.85	1741232.95	14424543.30	39°43'07.700"N	80°38'29.307"W	950.46	317.440	0.64	0.10	-0.63	
8471.00	91.200	310.310	7228.23	1040.24	759.29	-713.25	1741162.58	14424602.47	39°43'08.288"N	80°38'30.205"W	1041.75	316.791	0.54	0.00	0.54	
8564.00	91.260	314.560	7226.24	1133.17	822.01	-781.86	1741094.00	14424665.17	39°43'08.911"N	80°38'31.079"W	1134.46	316.434	4.57	0.06	4.57	
8657.00	90.280	314.360	7224.99	1226.15	887.14	-848.23	1741027.65	14424730.28	39°43'09.557"N	80°38'31.925"W	1227.40	316.285	1.08	-1.05	-0.22	
8750.00	89.780	312.000	7224.94	1319.14	950.77	-916.04	1740959.87	14424793.89	39°43'10.189"N	80°38'32.790"W	1320.27	316.066	2.59	-0.54	-2.54	
8842.00	89.720	312.640	7225.34	1411.11	1012.71	-984.06	1740891.87	14424855.80	39°43'10.803"N	80°38'33.657"W	1412.08	315.822	0.70	-0.07	0.70	
8935.00	88.980	312.610	7226.39	1504.09	1075.69	-1052.49	1740823.47	14424918.75	39°43'11.428"N	80°38'34.530"W	1504.94	315.625	0.80	-0.80	-0.03	
9027.00	87.940	310.470	7228.87	1595.99	1136.67	-1121.32	1740754.67	14424979.71	39°43'12.034"N	80°38'35.407"W	1596.68	315.390	2.59	-1.13	-2.33	
9120.00	87.660	312.010	7232.44	1688.83	1197.93	-1191.20	1740684.82	14425040.95	39°43'12.642"N	80°38'36.299"W	1689.38	315.162	1.68	-0.30	1.66	
9212.00	88.400	317.440	7235.60	1780.72	1262.61	-1256.50	1740619.54	14425105.60	39°43'13.284"N	80°38'37.131"W	1781.28	315.139	5.95	0.80	5.90	
9305.00	89.970	321.030	7236.92	1873.26	1333.03	-1317.21	1740558.86	14425175.99	39°43'13.982"N	80°38'37.904"W	1874.03	315.342	4.21	1.69	3.86	
9398.00	90.060	319.340	7236.90	1965.67	1404.46	-1376.75	1740499.34	14425247.39	39°43'14.690"N	80°38'38.663"W	1966.71	315.571	1.82	0.10	-1.82	
9490.00	89.880	314.100	7236.95	2057.51	1471.41	-1439.80	1740436.31	14425314.32	39°43'15.354"N	80°38'39.466"W	2058.66	315.622	5.70	-0.20	-5.70	
9583.00	90.220	308.680	7236.87	2150.40	1532.88	-1509.55	1740366.59	14425375.76	39°43'15.965"N	80°38'40.356"W	2151.38	315.439	5.84	0.37	-5.83	
9676.00	89.570	307.730	7237.04	2242.97	1590.40	-1582.62	1740293.54	14425433.26	39°43'16.536"N	80°38'41.288"W	2243.67	315.140	1.24	-0.70	-1.02	
9769.00	90.430	311.680	7237.04	2335.72	1649.80	-1654.16	1740222.04	14425492.64	39°43'17.126"N	80°38'42.200"W	2336.25	314.924	4.35	0.92	4.25	
9862.00	90.890	308.950	7235.97	2428.54	1709.96	-1725.06	1740151.17	14425552.77	39°43'17.723"N	80°38'43.105"W	2428.95	314.748	2.98	0.49	-2.94	
9954.00	91.140	308.690	7234.34	2520.19	1767.62	-1796.73	1740079.53	14425610.41	39°43'18.296"N	80°38'44.019"W	2520.46	314.532	0.39	0.27	-0.28	
10047.00	90.650	312.660	7232.88	2613.03	1828.22	-1867.24	1740009.04	14425670.98	39°43'18.897"N	80°38'44.918"W	2613.23	314.395	4.30	-0.53	4.27	
10140.00	90.740	315.090	7231.76	2706.02	1892.66	-1934.27	1739942.04	14425735.41	39°43'19.537"N	80°38'45.773"W	2706.21	314.377	2.61	0.10	2.61	
10232.00	90.920	314.000	7230.42	2798.00	1957.19	-1999.83	1739876.51	14425799.91	39°43'20.177"N	80°38'46.609"W	2798.20	314.383	1.20	0.20	-1.18	
10325.00	91.080	315.060	7228.80	2890.97	2022.40	-2066.11	1739810.24	14425865.09	39°43'20.824"N	80°38'47.454"W	2891.18	314.387	1.15	0.17	1.14	
10418.00	90.680	314.590	7227.37	2983.95	2087.95	-2132.07	1739744.32	14425930.62	39°43'21.475"N	80°38'48.294"W	2984.17	314.401	0.66	-0.43	-0.51	
10511.00	90.180	318.110	7226.67	3076.83	2155.23	-2196.25	1739680.16	14425997.87	39°43'22.142"N	80°38'49.112"W	3077.10	314.460	3.82	-0.54	3.78	

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# Actual Wellpath Report

Daniel Durig WTZ 101H AWP Proj: 13030\*MD  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY
Area	Well County, WV
Field	Wellbore
Facility	Daniel Durig WTZ 101H AWP
	Daniel Durig WTZ 101H

WELLPATH DATA (148 stations)														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)	(ft)	(ft)	(ft)	(°)	(/100ft)	(/100ft)
10603.00	90.550	314.240	7226.09	3168.72	2221.59	-2259.94	1739616.49	14426064.21	39°43'22.80"N	80°38'49.924"W	3169.04	314.510	4.23	0.40
10696.00	90.220	308.940	7225.46	3261.62	2283.30	-2329.47	1739546.99	14426125.89	39°43'23.413"N	80°38'50.811"W	3261.88	314.427	5.71	-0.35
10789.00	90.120	308.150	7225.19	3354.25	2341.25	-2402.21	1739474.28	14426183.82	39°43'23.988"N	80°38'51.739"W	3354.41	314.264	0.86	-0.11
10881.00	90.430	313.290	7224.74	3446.09	2401.25	-2471.91	1739404.61	14426243.79	39°43'24.584"N	80°38'52.628"W	3446.20	314.169	5.60	0.34
10974.00	90.710	314.050	7223.82	3539.08	2465.46	-2539.18	1739337.37	14426307.98	39°43'25.221"N	80°38'53.486"W	3539.20	314.156	0.87	0.30
11067.00	90.650	313.210	7222.71	3632.08	2529.62	-2606.49	1739270.08	14426372.12	39°43'25.858"N	80°38'54.344"W	3632.18	314.143	0.91	-0.06
11160.00	90.680	312.780	7221.63	3725.06	2593.04	-2674.50	1739202.09	14426435.51	39°43'26.487"N	80°38'55.211"W	3725.16	314.114	0.46	0.03
11253.00	91.170	311.250	7220.13	3818.01	2655.28	-2743.59	1739133.04	14426497.72	39°43'27.105"N	80°38'56.092"W	3818.08	314.063	1.73	0.53
11345.00	90.950	308.610	7218.43	3909.79	2714.31	-2814.12	1739062.53	14426556.73	39°43'27.691"N	80°38'56.992"W	3909.83	313.966	2.88	-0.24
11438.00	90.710	311.090	7217.08	4002.56	2773.89	-2885.50	1738991.18	14426616.29	39°43'28.283"N	80°38'57.903"W	4002.57	313.870	2.68	-0.26
11531.00	90.830	315.360	7215.83	4095.52	2837.57	-2953.25	1738923.46	14426679.94	39°43'28.915"N	80°38'58.766"W	4095.54	313.856	4.59	0.13
11624.00	90.830	313.910	7214.49	4188.50	2902.90	-3019.42	1738857.31	14426745.25	39°43'29.563"N	80°38'59.610"W	4188.52	313.873	1.56	0.00
11716.00	90.830	313.180	7213.15	4280.49	2966.27	-3086.09	1738790.66	14426808.60	39°43'30.192"N	80°39'00.460"W	4280.51	313.866	0.79	-0.79
11809.00	90.710	314.070	7211.90	4373.48	3030.43	-3153.41	1738723.38	14426872.73	39°43'30.828"N	80°39'01.318"W	4373.50	313.861	0.97	-0.13
11902.00	90.740	316.760	7210.73	4466.42	3096.65	-3218.68	1738658.13	14426938.93	39°43'31.485"N	80°39'02.151"W	4466.45	313.893	2.89	0.03
11994.00	90.830	319.270	7209.47	4558.15	3165.03	-3280.21	1738596.62	14427007.27	39°43'32.163"N	80°39'02.935"W	4558.20	313.976	2.73	0.10
12087.00	90.180	317.770	7208.65	4650.81	3234.70	-3341.80	1738535.05	14427076.92	39°43'32.854"N	80°39'03.719"W	4650.90	314.067	1.76	-0.70
12180.00	90.220	315.390	7208.32	4743.69	3302.24	-3405.72	1738471.16	14427144.43	39°43'33.524"N	80°39'04.534"W	4743.81	314.116	2.56	0.04
12273.00	90.060	310.390	7208.09	4836.65	3365.51	-3473.84	1738403.07	14427207.68	39°43'34.152"N	80°39'05.403"W	4836.76	314.093	5.38	-0.17
12365.00	90.090	310.200	7207.97	4928.48	3425.01	-3544.01	1738332.93	14427267.16	39°43'34.743"N	80°39'06.298"W	4928.56	314.022	0.21	0.03
12458.00	90.150	311.980	7207.78	5021.38	3486.13	-3614.10	1738262.86	14427328.26	39°43'35.350"N	80°39'07.192"W	5021.44	313.968	1.92	0.06
12551.00	90.180	308.780	7207.51	5114.22	3546.38	-3684.93	1738192.06	14427388.47	39°43'35.948"N	80°39'08.096"W	5114.25	313.902	3.44	0.03
12644.00	90.060	306.010	7207.32	5206.64	3602.85	-3758.81	1738118.21	14427444.93	39°43'36.509"N	80°39'09.038"W	5206.65	313.786	2.98	-0.13
12736.00	89.630	309.250	7207.57	5298.11	3659.01	-3831.66	1738045.39	14427501.07	39°43'37.067"N	80°39'09.968"W	5298.11	313.680	3.55	-0.47
12829.00	89.750	314.470	7208.07	5391.03	3721.05	-3900.90	1737976.17	14427563.08	39°43'37.682"N	80°39'10.851"W	5391.03	313.648	5.61	0.13
12922.00	90.310	317.180	7208.02	5483.96	3787.75	-3965.70	1737911.40	14427629.75	39°43'38.344"N	80°39'11.677"W	5483.96	313.685	2.98	0.60
13006.00	90.030	315.920	7207.77	5567.85	3848.73	-4023.47	1737853.65	14427690.71	39°43'38.949"N	80°39'12.413"W	5567.85	313.728	1.54	-0.33
13030.00	90.030	315.920	7207.76	5591.84	3865.97	-4040.16	1737836.96	14427707.94	39°43'39.120"N	80°39'12.626"W	5591.84	313.738	0.00	0.00

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 101H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 101H
Field	Wetzel	Wellbore	Daniel Durig WTZ 101H AWB
Facility	Daniel Durig Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Daniel Durig WTZ 101H AWB Ref Wellpath: Daniel Durig WTZ 101H AWP Proj: 13030'MD									
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]
17.5in Open Hole	126.00	547.00	421.00	126.00	546.98	-0.40	0.01	-4.42	-0.74
13.375in Casing	26.00	529.00	503.00	26.00	528.98	0.00	0.00	-4.26	-0.68
12.25in Open Hole	547.00	2731.00	2184.00	546.98	2721.57	-4.42	-0.74	42.62	73.67
9.625in Casing	26.00	2714.00	2688.00	26.00	2704.61	0.00	0.00	43.15	72.62
8.75in Open Hole	2731.00	6981.00	4250.00	2721.57	6936.33	42.62	73.67	-140.70	324.91
8.5in Open Hole	6981.00	13030.00	6049.00	6936.33	7207.76	-140.70	324.91	3865.97	-4040.16

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Daniel Durig WTZ 101H BHL Rev-1	7203.00	3872.85	-4052.32	1737824.81	14427714.82	39°43'39.188"N	80°39'12.781"W	point
Daniel Durig WTZ 101H LP Rev-1	7228.00	175.93	-53.44	1741822.13	14424019.34	39°43'02.497"N	80°38'21.791"W	point

WELLPATH COMPOSITION - Ref Wellbore: Daniel Durig WTZ 101H AWB Ref Wellpath: Daniel Durig WTZ 101H AWP Proj: 13030'MD				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	495.00	BHI NaviTrak (Axial)	01 APS EM <17.5"> (137'-495')	Daniel Durig WTZ 101H AWB
495.00	2641.00	BHI NaviTrak (Axial)	02 APS EM <12.25">(495')(601'-2641')	Daniel Durig WTZ 101H AWB
2641.00	6914.00	BHI NaviTrak (Axial)	03 APS EM <8.75"> (2641')(2738'- 6914')	Daniel Durig WTZ 101H AWB
6914.00	13006.00	BHI AutoTrak Curve (Short)	04 BH ATC <8.5">(6914')(6991'-13006')	Daniel Durig WTZ 101H AWB
13006.00	13030.00	Blind Drilling (std)	Projection to bit	Daniel Durig WTZ 101H AWB

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 101H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 101H
Field	Wetzel	Wellbore	Daniel Durig WTZ 101H AWB
Facility	Daniel Durig Pad		

COMMENTS
<p>Wellpath general comments            API: 47-103-03815-0000            Job #: 8881605            Rig: SDC 46            Duration: 12/07/2017 - 12/18/2017</p>

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