

SOUTHWESTERN ENERGY



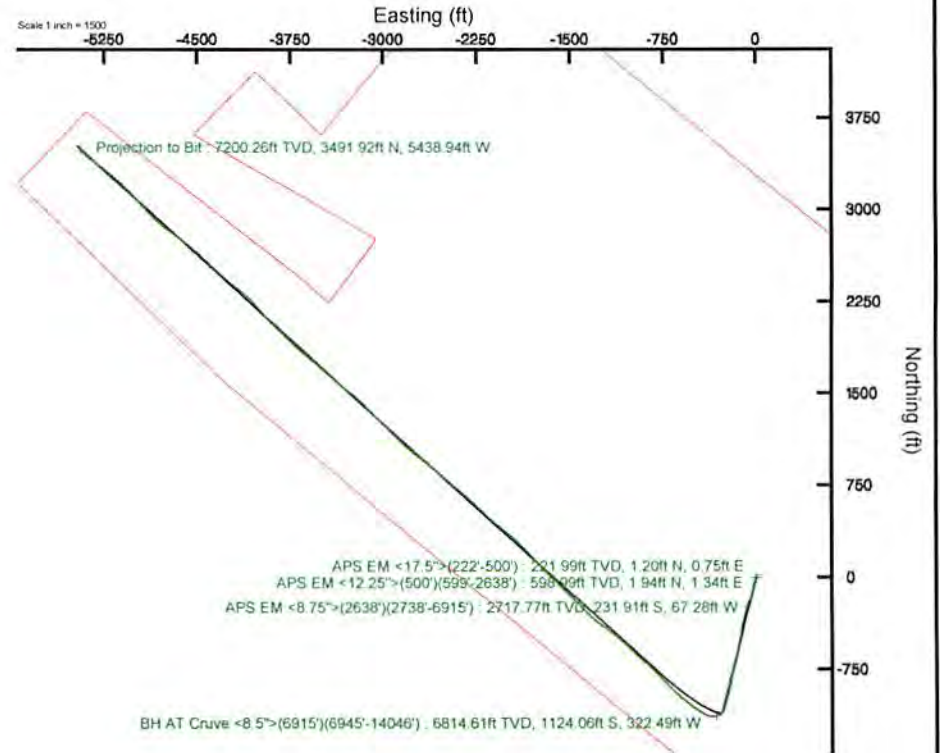
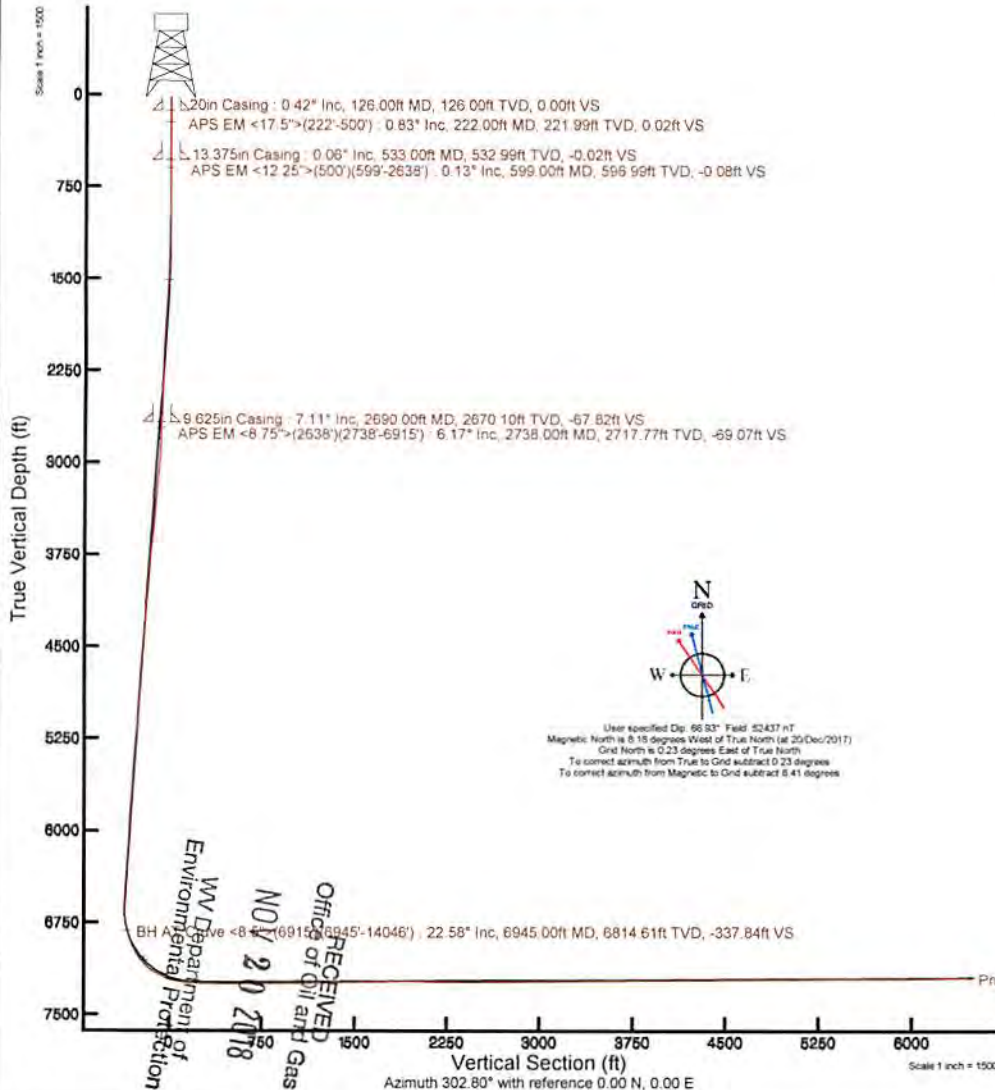
Location: Wetzel County, WV Slot: Slot 201H
 Field: Wetzel Well: Daniel Durig WTZ 201H
 Facility: Daniel Durig Pad Wellbore: Daniel Durig WTZ 201H PWB



Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Daniel Durig Pad			1741901.656	14423820.627	39°43'00.529"N	80°38'20.783"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 201H	2.92	-28.14	1741873.523	14423823.548	39°43'00.559"N	80°38'21.143"W
SDC 46 (KB) to Ground level (At Slot: Slot 201H)					26ft	
Mean Sea Level to Ground level (At Slot: Slot 201H)					-1400.9ft	
SDC 46 (KB) to Mean Sea Level					1426.9ft	
Plot reference wellpath is Daniel Durig WTZ 201H PWP Rev-B 0			Grid System: NAD83 / UTM Zone 17 North, US feet			
True vertical depths are referenced to SDC 46 (KB)			* = Wellpath was transformed from a different geodetic datum			
Measured depths are referenced to SDC 46 (KB)			North Reference: Grid north			
SDC 46 (KB) to Mean Sea Level: 1426.9 feet			Scale: True distance			
Mean Sea Level to Ground level (At Slot: Slot 201H) -1400.9 feet			Depths are in feet			
Coordinates are in feet referenced to Slot			Created by: thomazrc on 2018-01-08			
			Database: WA, Pennsylvania			

API: 47-103-03187-0000
 Job #: 8927230
 Rig: SDC 46
 Duration: 12/22/2017 - 01/03/2018



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H 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	08/Jan/2018 at 08:49
Convergence at slot	0.24° East	Database/Source file	WA_Pennsylvania/Daniel_Durig_WTZ_201H_AWP_Proj_14071_MD.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2.92	-28.14	1741873.52	14423823.55	39°43'00.559"N	80°38'21.143"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	SDC 46 (KB) to Facility Vertical Datum	1426.90ft
Horizontal Reference Pt	Slot	SDC 46 (KB) to Mean Sea Level	1426.90ft
Vertical Reference Pt	SDC 46 (KB)	SDC 46 (KB) to Ground Level at Slot (Slot 201H)	26.00ft
MD Reference Pt	SDC 46 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	302.80°

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Actual Wellpath Report

Daniel Durig WZ 201H AWP Proj: 14071'MD
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WZ 201H
Field	Wetzel	Wellbore	Daniel Durig WZ 201H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (165 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	32.100	0.00	0.00	0.00	0.00	1741873.52	14423823.55	39°43'00.559"N	80°38'21.143"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	32.100	26.00	0.00	0.00	0.00	1741873.52	14423823.55	39°43'00.559"N	80°38'21.143"W	0.00	0.000	0.00	0.00	0.00
222.00	0.830	32.100	221.99	0.02	1.20	0.75	1741874.28	14423824.75	39°43'00.571"N	80°38'21.133"W	1.42	32.100	0.42	0.42	16.38
314.00	0.030	15.750	313.99	0.03	1.79	1.12	1741874.64	14423825.34	39°43'00.577"N	80°38'21.129"W	2.11	31.916	0.87	-0.87	-17.77
407.00	0.060	49.650	406.99	0.03	1.85	1.16	1741874.68	14423825.39	39°43'00.577"N	80°38'21.128"W	2.18	32.128	0.04	0.03	36.45
500.00	0.030	83.110	499.99	-0.01	1.88	1.22	1741874.74	14423825.43	39°43'00.578"N	80°38'21.127"W	2.24	32.986	0.04	-0.03	35.98
599.00	0.130	61.080	598.99	-0.08	1.94	1.34	1741874.87	14423825.48	39°43'00.578"N	80°38'21.126"W	2.36	34.755	0.10	0.10	-22.25
691.00	0.300	54.600	690.99	-0.22	2.13	1.63	1741875.15	14423825.67	39°43'00.580"N	80°38'21.122"W	2.68	37.493	0.19	0.18	-7.04
784.00	0.190	68.220	783.99	-0.40	2.33	1.97	1741875.50	14423825.87	39°43'00.582"N	80°38'21.118"W	3.05	40.320	0.13	-0.12	14.65
877.00	0.190	99.320	876.99	-0.63	2.36	2.27	1741875.79	14423825.90	39°43'00.582"N	80°38'21.114"W	3.27	43.900	0.11	0.00	33.44
970.00	0.310	147.130	969.99	-1.00	2.12	2.56	1741876.08	14423825.67	39°43'00.580"N	80°38'21.110"W	3.32	50.326	0.25	0.13	51.41
1062.00	0.390	177.720	1061.99	-1.41	1.60	2.70	1741876.23	14423825.15	39°43'00.575"N	80°38'21.108"W	3.14	59.405	0.22	0.09	33.25
1155.00	2.670	190.760	1154.95	-2.40	-0.85	2.31	1741875.84	14423822.70	39°43'00.551"N	80°38'21.113"W	2.46	110.073	2.46	2.45	14.02
1248.00	5.530	207.700	1247.70	-3.61	-6.94	-0.17	1741873.35	14423816.61	39°43'00.490"N	80°38'21.146"W	6.94	181.443	3.31	3.08	18.22
1340.00	5.590	194.390	1339.27	-5.42	-15.21	-3.35	1741870.18	14423808.35	39°43'00.409"N	80°38'21.187"W	15.57	192.420	1.40	0.07	-14.47
1433.00	5.190	191.590	1431.86	-8.38	-23.72	-5.32	1741868.21	14423799.84	39°43'00.325"N	80°38'21.212"W	24.31	192.643	0.51	-0.43	-3.01
1525.00	6.120	189.060	1523.41	-11.86	-32.64	-6.93	1741866.60	14423790.93	39°43'00.237"N	80°38'21.233"W	33.36	191.986	1.05	1.01	-2.75
1618.00	9.010	190.720	1615.59	-16.59	-44.69	-9.06	1741864.46	14423778.88	39°43'00.118"N	80°38'21.261"W	45.60	191.465	3.12	3.11	1.78
1711.00	12.040	192.610	1707.02	-22.68	-61.31	-12.54	1741860.99	14423762.26	39°42'59.954"N	80°38'21.307"W	62.58	191.556	3.28	3.26	2.03
1804.00	13.000	194.740	1797.81	-29.27	-80.90	-17.32	1741856.21	14423742.68	39°42'59.760"N	80°38'21.369"W	82.73	192.082	1.15	1.03	2.29
1896.00	12.380	194.820	1887.56	-35.52	-100.44	-22.47	1741851.06	14423723.15	39°42'59.567"N	80°38'21.436"W	102.92	192.611	0.67	-0.67	0.09
1989.00	11.240	195.160	1978.59	-41.34	-118.82	-27.39	1741846.14	14423704.77	39°42'59.386"N	80°38'21.500"W	121.94	192.981	1.23	-1.23	0.37
2082.00	10.320	196.930	2069.95	-46.37	-135.54	-32.19	1741841.35	14423688.06	39°42'59.221"N	80°38'21.562"W	139.31	193.359	1.05	-0.99	1.90
2174.00	9.940	198.520	2160.51	-50.58	-150.95	-37.11	1741836.43	14423672.65	39°42'59.069"N	80°38'21.626"W	155.45	193.811	0.51	-0.41	1.73
2267.00	8.540	199.270	2252.30	-54.18	-165.08	-41.94	1741831.60	14423658.53	39°42'58.929"N	80°38'21.688"W	170.33	194.254	1.51	-1.51	0.81
2360.00	8.560	200.030	2344.27	-57.32	-178.11	-46.59	1741826.95	14423645.51	39°42'58.801"N	80°38'21.748"W	184.10	194.659	0.12	0.02	0.82
2453.00	9.690	201.320	2436.09	-60.41	-191.90	-51.80	1741821.74	14423631.72	39°42'58.665"N	80°38'21.816"W	198.77	195.107	1.23	1.22	1.39
2545.00	10.060	201.930	2526.73	-63.47	-206.57	-57.62	1741815.93	14423617.06	39°42'58.520"N	80°38'21.891"W	214.45	195.586	0.42	0.40	0.66
2638.00	8.120	200.840	2618.56	-66.36	-220.24	-62.99	1741810.56	14423603.39	39°42'58.385"N	80°38'21.960"W	229.07	195.961	2.09	-2.09	-1.17
2738.00	6.170	199.340	2717.77	-69.07	-231.91	-67.28	1741806.27	14423591.73	39°42'58.270"N	80°38'22.016"W	241.48	196.179	1.96	-1.95	-1.50



Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071'MD
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (165 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]
2830.00	8.990	201.930	2808.96	-71.58	-243.25	-71.61	1741801.94	14423580.39	39°42'58.158"N	80°38'22.072"W	253.57	196.403	3.09	3.07	2.82
2923.00	13.080	199.400	2900.22	-75.39	-259.92	-77.82	1741795.73	14423563.73	39°42'57.993"N	80°38'22.152"W	271.32	196.667	4.43	4.40	-2.72
3019.00	15.490	195.870	2993.25	-81.64	-282.50	-84.93	1741788.62	14423541.16	39°42'57.770"N	80°38'22.244"W	294.99	196.733	2.67	2.51	-3.68
3112.00	15.040	193.620	3082.97	-89.22	-306.18	-91.17	1741782.39	14423517.49	39°42'57.537"N	80°38'22.325"W	319.46	196.582	0.80	-0.48	-2.42
3205.00	13.730	192.540	3173.05	-97.01	-328.68	-96.41	1741777.15	14423495.00	39°42'57.315"N	80°38'22.394"W	342.52	196.348	1.44	-1.41	-1.16
3297.00	13.220	194.960	3262.52	-104.01	-349.50	-101.50	1741772.07	14423474.19	39°42'57.109"N	80°38'22.460"W	363.94	196.193	0.83	-0.55	2.63
3390.00	12.990	195.360	3353.10	-110.40	-369.85	-107.01	1741766.56	14423453.84	39°42'56.908"N	80°38'22.531"W	385.02	196.137	0.27	-0.25	0.43
3484.00	13.890	189.070	3444.53	-118.11	-391.18	-111.59	1741761.98	14423432.52	39°42'56.698"N	80°38'22.591"W	406.79	195.921	1.83	0.96	-6.69
3577.00	15.130	185.660	3534.56	-128.14	-414.28	-114.54	1741759.02	14423409.43	39°42'56.469"N	80°38'22.630"W	429.83	195.455	1.62	1.33	-3.67
3669.00	14.970	183.290	3623.41	-139.47	-438.09	-116.41	1741757.16	14423385.62	39°42'56.234"N	80°38'22.655"W	453.30	194.881	0.69	-0.17	-2.58
3762.00	12.590	190.920	3713.73	-149.17	-460.04	-119.02	1741754.55	14423363.68	39°42'56.017"N	80°38'22.690"W	475.19	194.505	3.21	-2.56	8.20
3855.00	11.720	193.760	3804.65	-156.03	-479.17	-123.19	1741750.39	14423344.56	39°42'55.828"N	80°38'22.744"W	494.75	194.418	1.13	-0.94	3.05
3948.00	12.960	195.720	3895.50	-162.17	-498.38	-128.26	1741745.31	14423325.36	39°42'55.639"N	80°38'22.810"W	514.62	194.432	1.41	1.33	2.11
4040.00	13.430	193.580	3985.07	-168.72	-518.70	-133.56	1741740.01	14423305.05	39°42'55.438"N	80°38'22.879"W	535.62	194.440	0.74	0.51	-2.33
4133.00	13.480	189.950	4075.52	-176.48	-539.87	-137.97	1741735.61	14423283.88	39°42'55.229"N	80°38'22.936"W	557.23	194.336	0.91	0.05	-3.90
4226.00	13.410	186.720	4165.97	-185.43	-561.26	-141.11	1741732.47	14423262.51	39°42'55.018"N	80°38'22.978"W	578.73	194.112	0.81	-0.08	-3.47
4318.00	12.380	192.300	4255.65	-193.58	-581.49	-144.46	1741729.12	14423242.28	39°42'54.818"N	80°38'23.021"W	599.17	193.951	1.76	-1.12	6.07
4411.00	12.140	191.030	4346.53	-200.69	-600.83	-148.45	1741725.13	14423222.95	39°42'54.627"N	80°38'23.074"W	618.90	193.878	0.39	-0.26	-1.37
4504.00	13.080	194.060	4437.29	-207.70	-620.64	-152.88	1741720.70	14423203.15	39°42'54.431"N	80°38'23.131"W	639.19	193.838	1.24	1.01	3.26
4597.00	13.000	191.860	4527.89	-214.82	-641.09	-157.58	1741716.00	14423182.71	39°42'54.230"N	80°38'23.193"W	660.17	193.810	0.54	-0.09	-2.37
4689.00	13.000	189.650	4617.53	-222.59	-661.41	-161.45	1741712.14	14423162.39	39°42'54.029"N	80°38'23.243"W	680.83	193.717	0.54	0.00	-2.40
4782.00	12.210	195.340	4708.29	-229.65	-681.21	-165.80	1741707.79	14423142.60	39°42'53.833"N	80°38'23.300"W	701.10	193.679	1.58	-0.85	6.12
4875.00	12.300	195.660	4799.17	-235.52	-700.23	-171.08	1741702.51	14423123.59	39°42'53.646"N	80°38'23.368"W	720.83	193.729	0.12	0.10	0.34
4967.00	13.130	194.130	4888.92	-241.76	-719.80	-176.27	1741697.32	14423104.03	39°42'53.452"N	80°38'23.436"W	741.07	193.760	0.97	0.90	-1.66
5060.00	12.630	197.500	4979.58	-247.82	-739.74	-181.91	1741691.69	14423084.09	39°42'53.256"N	80°38'23.509"W	761.78	193.815	0.97	-0.54	3.62
5153.00	12.960	197.910	5070.27	-253.18	-759.36	-188.17	1741685.42	14423064.48	39°42'53.062"N	80°38'23.590"W	782.33	193.918	0.37	0.35	0.44
5245.00	12.740	189.610	5159.97	-259.83	-779.18	-193.04	1741680.56	14423044.67	39°42'52.866"N	80°38'23.653"W	802.74	193.915	2.02	-0.24	-9.02
5338.00	12.920	186.720	5250.65	-268.44	-799.62	-195.97	1741677.63	14423024.24	39°42'52.664"N	80°38'23.692"W	823.28	193.770	0.72	0.19	-3.11
5431.00	12.390	188.210	5341.39	-277.16	-819.82	-198.61	1741674.99	14423004.05	39°42'52.465"N	80°38'23.727"W	843.54	193.618	0.67	-0.57	1.60
5524.00	11.870	193.220	5432.32	-284.52	-839.01	-202.22	1741671.38	14422984.87	39°42'52.275"N	80°38'23.774"W	863.03	193.551	1.26	-0.56	5.39

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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]
5617.00	12.460	201.780	5523.24	-289.64	-857.64	-208.13	1741665.47	14422966.25	39°42'52.091"N	80°38'23.851"W	882.53	193.641	2.04	0.63	9.20
5712.00	13.340	199.880	5615.84	-294.05	-877.46	-215.66	1741657.95	14422946.43	39°42'51.896"N	80°38'23.948"W	903.58	193.808	1.03	0.93	-2.00
5805.00	13.320	189.940	5706.34	-300.61	-898.11	-221.16	1741652.45	14422925.79	39°42'51.692"N	80°38'24.019"W	924.94	193.834	2.46	-0.02	-10.69
5898.00	12.420	187.860	5797.01	-308.99	-918.57	-224.38	1741649.23	14422905.34	39°42'51.490"N	80°38'24.062"W	945.57	193.727	1.09	-0.97	-2.24
5991.00	10.540	190.770	5888.14	-316.40	-936.83	-227.34	1741646.28	14422887.08	39°42'51.310"N	80°38'24.100"W	964.02	193.640	2.11	-2.02	3.13
6083.00	9.730	200.220	5978.71	-321.25	-952.39	-231.59	1741642.02	14422871.53	39°42'51.156"N	80°38'24.156"W	980.15	193.667	2.01	-0.88	10.27
6176.00	10.950	197.740	6070.20	-325.26	-968.18	-237.00	1741636.61	14422855.74	39°42'51.000"N	80°38'24.226"W	996.77	193.755	1.40	1.31	-2.67
6269.00	13.460	193.070	6161.10	-331.21	-987.14	-242.14	1741631.48	14422836.79	39°42'50.813"N	80°38'24.292"W	1016.41	193.782	2.90	2.70	-5.02
6361.00	13.070	193.260	6250.64	-338.30	-1007.70	-246.95	1741626.67	14422816.25	39°42'50.610"N	80°38'24.355"W	1037.51	193.770	0.43	-0.42	0.21
6451.00	13.190	193.760	6338.29	-345.05	-1027.57	-251.73	1741621.89	14422796.37	39°42'50.414"N	80°38'24.417"W	1057.96	193.765	0.18	0.13	0.56
6544.00	12.420	196.610	6428.97	-351.30	-1047.46	-257.11	1741616.51	14422776.49	39°42'50.217"N	80°38'24.487"W	1078.56	193.791	1.07	-0.83	3.06
6637.00	12.120	195.620	6519.85	-356.98	-1066.45	-262.60	1741611.03	14422757.51	39°42'50.030"N	80°38'24.558"W	1098.30	193.833	0.39	-0.32	-1.06
6730.00	13.120	206.010	6610.61	-361.11	-1085.34	-269.86	1741603.77	14422738.63	39°42'49.844"N	80°38'24.652"W	1118.39	193.963	2.66	1.08	11.17
6822.00	18.020	228.340	6699.29	-358.53	-1104.21	-285.09	1741588.55	14422719.77	39°42'49.658"N	80°38'24.848"W	1140.42	194.477	8.32	5.33	24.27
6915.00	21.750	247.870	6786.83	-344.75	-1120.29	-311.84	1741561.81	14422703.70	39°42'49.500"N	80°38'25.191"W	1162.88	195.555	8.14	4.01	21.00
6945.00	22.580	253.040	6814.61	-337.84	-1124.06	-322.49	1741551.15	14422699.92	39°42'49.463"N	80°38'25.328"W	1169.41	196.008	7.06	2.77	17.23
6993.00	23.490	260.450	6858.79	-324.81	-1128.34	-340.75	1741532.91	14422695.65	39°42'49.421"N	80°38'25.561"W	1178.67	196.804	6.33	1.90	15.44
7084.00	25.170	279.120	6941.83	-293.64	-1128.28	-377.80	1741495.87	14422695.71	39°42'49.423"N	80°38'26.035"W	1189.85	198.513	8.62	1.85	20.52
7130.00	28.450	292.700	6982.92	-273.87	-1122.50	-397.59	1741476.09	14422701.49	39°42'49.481"N	80°38'26.288"W	1190.83	199.504	15.06	7.13	29.52
7178.00	34.270	299.440	7023.90	-249.09	-1111.43	-419.93	1741453.76	14422712.55	39°42'49.592"N	80°38'26.574"W	1188.11	200.698	14.14	12.13	14.04
7225.00	39.970	302.350	7061.37	-220.76	-1096.83	-444.23	1741429.47	14422727.14	39°42'49.737"N	80°38'26.884"W	1183.38	202.048	12.69	12.13	6.19
7268.00	45.500	304.940	7092.94	-191.60	-1080.65	-468.49	1741405.22	14422743.32	39°42'49.898"N	80°38'27.194"W	1177.83	203.438	13.49	12.86	6.02
7315.00	50.790	306.790	7124.29	-156.66	-1060.13	-496.83	1741376.88	14422763.84	39°42'50.102"N	80°38'27.555"W	1170.77	205.110	11.63	11.26	3.94
7361.00	56.660	307.630	7151.50	-119.70	-1037.70	-526.35	1741347.38	14422786.25	39°42'50.325"N	80°38'27.932"W	1163.56	206.895	12.85	12.76	1.83
7407.00	61.580	308.480	7175.10	-80.40	-1013.37	-557.42	1741316.32	14422810.58	39°42'50.566"N	80°38'28.328"W	1156.56	208.814	10.81	10.70	1.85
7454.00	66.750	309.560	7195.57	-38.37	-986.74	-590.27	1741283.49	14422837.20	39°42'50.831"N	80°38'28.747"W	1149.81	210.888	11.19	11.00	2.30
7500.00	72.530	311.660	7211.57	4.34	-958.67	-622.98	1741250.78	14422865.25	39°42'51.109"N	80°38'29.164"W	1143.31	213.017	13.27	12.57	4.57
7546.00	77.250	313.270	7223.56	48.10	-928.69	-655.73	1741218.05	14422895.22	39°42'51.407"N	80°38'29.582"W	1136.86	215.225	10.80	10.26	3.50
7593.00	80.480	314.870	7232.64	93.32	-896.62	-688.85	1741184.94	14422927.28	39°42'51.725"N	80°38'30.004"W	1130.68	217.534	7.64	6.87	3.40
7639.00	83.090	315.800	7239.21	137.76	-864.24	-720.85	1741152.95	14422959.64	39°42'52.047"N	80°38'30.412"W	1125.41	219.831	6.02	5.67	2.02

NOV 20 2010

WV Department of

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)	(°N)	(°W)	(ft)	(°)	(ft/100ft)	(°/100ft)	(°/100ft)
7686.00	317.080	7243.43	183.24	-830.32	-753.10	1741120.71	14422993.55	39°42'52.383"N	80°38'30.823"W	1120.98	222.208	7.97	7.49	2.72	
7732.00	316.870	7245.13	227.80	-796.72	-784.47	1741087.14	14423027.14	39°42'52.716"N	80°38'31.222"W	1118.10	224.566	5.52	5.50	-0.46	
7778.00	315.160	7245.86	272.58	-763.63	-816.41	1741057.43	14423060.22	39°42'53.045"N	80°38'31.629"W	1117.88	226.913	3.72	-3.72	-0.20	
7825.00	318.820	7246.62	318.68	-730.99	-850.21	1741023.64	14423092.84	39°42'53.368"N	80°38'32.060"W	1121.26	229.312	4.98	-4.98	-0.13	
7871.00	311.240	7247.37	364.07	-700.20	-884.38	1740989.49	14423123.62	39°42'53.674"N	80°38'32.496"W	1128.01	231.630	3.44	-3.43	-0.20	
7918.00	311.000	7248.28	410.57	-669.30	-919.78	1740954.10	14423154.51	39°42'53.981"N	80°38'32.947"W	1137.52	233.958	0.78	-0.60	-0.51	
7964.00	312.840	7248.89	455.98	-638.57	-954.00	1740919.90	14423185.23	39°42'54.286"N	80°38'33.384"W	1147.99	236.203	4.56	4.00	2.20	
8010.00	314.800	7248.78	501.13	-606.72	-987.19	1740886.72	14423217.06	39°42'54.602"N	80°38'33.807"W	1158.73	238.425	4.58	4.26	1.67	
8103.00	313.370	7248.01	592.33	-542.02	-1053.99	1740819.95	14423281.74	39°42'55.244"N	80°38'34.658"W	1185.19	242.785	1.54	-1.54	-0.10	
8195.00	310.030	7247.17	683.20	-480.83	-1122.66	1740751.30	14423342.90	39°42'55.851"N	80°38'35.534"W	1221.30	246.815	3.64	-3.63	-0.21	
8288.00	305.530	7246.29	775.82	-423.87	-1196.15	1740677.84	14423399.84	39°42'56.417"N	80°38'36.471"W	1269.03	250.487	4.84	-4.84	-0.17	
8381.00	308.280	7245.57	868.57	-368.04	-1270.50	1740603.52	14423455.66	39°42'56.972"N	80°38'37.420"W	1322.74	253.845	2.96	-2.96	-0.03	
8473.00	314.260	7244.95	959.53	-307.38	-1339.62	1740534.43	14423516.29	39°42'57.574"N	80°38'38.301"W	1374.43	257.077	6.50	-6.50	-0.10	
8566.00	316.010	7244.32	1050.37	-241.47	-1405.22	1740468.85	14423582.17	39°42'58.894"N	80°38'39.138"W	1425.82	260.250	1.88	1.88	0.10	
8659.00	316.340	7243.03	1140.84	-174.38	-1469.61	1740404.48	14423649.24	39°42'58.894"N	80°38'39.958"W	1479.92	263.233	0.87	0.35	0.80	
8752.00	314.850	7241.13	1231.51	-107.96	-1534.67	1740339.45	14423715.63	39°42'59.553"N	80°38'40.787"W	1538.46	265.976	1.60	-1.60	0.00	
8841.00	315.360	7239.33	1318.45	-44.92	-1597.48	1740276.67	14423778.64	39°43'00.178"N	80°38'41.588"W	1598.11	268.389	0.57	0.57	-0.03	
8934.00	315.860	7237.51	1409.12	21.52	-1662.52	1740211.65	14423845.06	39°43'00.837"N	80°38'42.417"W	1662.66	270.742	0.54	0.54	-0.03	
9027.00	316.290	7235.73	1499.61	88.49	-1727.02	1740147.17	14423912.01	39°43'01.502"N	80°38'43.239"W	1729.29	272.933	0.46	0.46	-0.03	
9120.00	317.010	7233.88	1589.89	156.11	-1790.85	1740083.37	14423979.59	39°43'02.172"N	80°38'44.052"W	1797.64	274.982	0.78	0.77	0.13	
9212.00	317.600	7231.98	1678.94	223.71	-1853.22	1740021.02	14424047.17	39°43'02.843"N	80°38'44.847"W	1866.68	276.883	0.64	0.64	-0.03	
9305.00	314.270	7229.98	1769.47	290.51	-1917.88	1739956.39	14424113.94	39°43'03.506"N	80°38'45.671"W	1939.75	278.613	3.58	-3.58	0.13	
9398.00	309.310	7227.76	1861.28	352.45	-1987.18	1739887.12	14424175.86	39°43'04.120"N	80°38'46.555"W	2018.19	280.057	5.33	-5.33	0.17	
9490.00	309.290	7227.33	1952.68	410.72	-2058.36	1739815.96	14424234.10	39°43'04.699"N	80°38'47.463"W	2098.94	281.284	2.58	-2.58	-0.02	
9583.00	311.530	7229.38	2044.83	470.98	-2129.15	1739745.20	14424294.35	39°43'05.297"N	80°38'48.366"W	2180.62	282.473	2.52	-2.41	-0.73	
9676.00	314.490	7232.14	2136.31	534.39	-2197.12	1739677.26	14424357.73	39°43'05.927"N	80°38'49.232"W	2261.17	283.670	3.19	3.18	-0.23	
9768.00	314.370	7234.12	2226.40	598.77	-2262.80	1739611.60	14424422.09	39°43'06.565"N	80°38'50.070"W	2340.68	284.822	1.27	-0.13	1.26	
9861.00	311.060	7235.07	2317.99	661.85	-2331.12	1739543.31	14424485.14	39°43'07.192"N	80°38'50.941"W	2423.25	285.850	3.56	-3.56	0.14	
9954.00	310.140	7235.47	2410.13	722.37	-2401.73	1739472.73	14424545.63	39°43'07.792"N	80°38'51.841"W	2508.01	286.740	1.15	-0.99	0.59	
10046.00	311.000	7235.94	2501.27	782.26	-2471.56	1739402.93	14424605.51	39°43'08.387"N	80°38'52.732"W	2592.40	287.563	1.05	1.04	0.07	

Operator		SOUTHWESTERN ENERGY	
Area	Well	Wellbore	Daniel Durig WTZ 201H
Field	Well	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

REFERENCE WELLPATH IDENTIFICATION

NOV 20 2018

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)	(°)	(ft/100ft)	(ft/100ft)	(°/100ft)
10139.00	90.090	310.850	7259.22	2593.32	843.25	-2541.78	1739332.74	14424666.47	39°43'08.992"N	80°38'53.627"W	2678.00	288.354	0.27	0.00	-0.27
10231.00	90.520	310.950	7234.73	2684.40	903.48	-2611.31	1739263.23	14424726.68	39°43'09.590"N	80°38'54.514"W	2763.19	289.085	0.48	0.47	0.11
10324.00	90.550	308.580	7233.86	2776.71	962.96	-2682.79	1739191.78	14424786.13	39°43'10.181"N	80°38'55.426"W	2850.38	289.745	2.55	0.03	-2.55
10417.00	90.430	309.500	7233.07	2869.15	1021.54	-2755.02	1739119.58	14424844.68	39°43'10.763"N	80°38'56.347"W	2938.31	290.344	1.00	-0.13	0.99
10509.00	90.550	312.860	7232.28	2960.15	1082.10	-2824.25	1739050.37	14424905.23	39°43'11.364"N	80°38'57.230"W	3024.46	290.964	3.65	0.13	3.65
10602.00	90.400	315.930	7231.51	3051.24	1147.15	-2890.69	1738983.96	14424970.25	39°43'12.009"N	80°38'58.077"W	3110.00	291.645	3.30	-0.16	3.30
10695.00	90.800	315.370	7230.54	3141.91	1213.65	-2955.70	1738918.98	14425036.73	39°43'12.669"N	80°38'58.906"W	3195.17	292.324	0.74	0.43	-0.60
10787.00	90.800	314.370	7229.25	3231.86	1278.55	-3020.89	1738853.81	14425101.60	39°43'13.313"N	80°38'59.737"W	3280.32	292.940	1.09	0.00	-1.09
10880.00	90.460	316.380	7228.23	3322.62	1344.73	-3086.22	1738788.51	14425167.76	39°43'13.969"N	80°39'00.570"W	3366.46	293.544	2.19	-0.37	2.19
10973.00	90.860	315.020	7227.16	3413.15	1411.65	-3150.79	1738723.97	14425234.65	39°43'14.633"N	80°39'01.393"W	3452.57	294.134	0.88	0.43	-0.76
11066.00	90.830	310.670	7225.79	3504.68	1474.86	-3218.94	1738655.84	14425297.84	39°43'15.261"N	80°39'02.262"W	3540.73	294.616	6.07	-0.03	-6.08
11159.00	90.740	307.050	7224.51	3597.19	1532.79	-3291.67	1738583.14	14425355.74	39°43'15.836"N	80°39'03.190"W	3631.05	294.969	3.19	-0.10	-3.19
11251.00	90.800	311.450	7223.27	3688.58	1590.98	-3362.89	1738511.95	14425413.91	39°43'16.414"N	80°39'04.098"W	3720.25	295.319	4.78	0.07	4.78
11344.00	90.770	311.080	7222.00	3780.56	1652.31	-3432.79	1738442.07	14425475.21	39°43'17.023"N	80°39'04.990"W	3809.75	295.703	0.40	-0.03	-0.40
11437.00	90.680	311.150	7220.82	3872.57	1713.46	-3502.85	1738372.04	14425536.34	39°43'17.630"N	80°39'05.883"W	3899.47	296.066	0.12	-0.10	0.08
11529.00	90.830	310.750	7219.61	3963.63	1773.75	-3572.33	1738302.59	14425596.61	39°43'18.228"N	80°39'06.769"W	3988.45	296.406	0.46	0.16	-0.43
11622.00	90.770	309.730	7218.31	4055.84	1833.82	-3643.31	1738231.63	14425656.65	39°43'18.824"N	80°39'07.675"W	4078.80	296.718	1.10	-0.06	-1.10
11715.00	90.400	313.750	7217.36	4147.69	1895.72	-3712.69	1738162.28	14425718.53	39°43'19.439"N	80°39'08.560"W	4168.67	297.049	4.34	-0.40	4.32
11808.00	90.430	315.370	7216.69	4238.73	1960.97	-3778.95	1738096.05	14425783.75	39°43'20.086"N	80°39'09.404"W	4257.45	297.426	1.74	0.03	1.74
11903.00	90.500	313.570	7216.02	4328.82	2025.42	-3844.60	1738030.44	14425848.43	39°43'20.726"N	80°39'10.241"W	4345.48	297.781	1.96	-0.03	-1.96
11993.00	90.520	315.980	7215.28	4419.79	2090.91	-3910.61	1737964.43	14425913.64	39°43'21.375"N	80°39'11.083"W	4434.50	298.132	2.59	0.13	2.59
12086.00	90.370	319.680	7214.55	4509.59	2159.82	-3973.03	1737902.04	14425982.53	39°43'22.059"N	80°39'11.878"W	4522.15	298.529	3.98	-0.16	3.98
12179.00	90.520	318.960	7213.83	4598.75	2230.35	-4033.65	1737841.45	14426053.03	39°43'22.758"N	80°39'12.651"W	4609.20	298.940	0.79	0.16	-0.77
12271.00	90.490	311.470	7213.02	4688.53	2295.60	-4098.41	1737776.71	14426118.25	39°43'23.405"N	80°39'13.476"W	4697.52	299.254	8.14	-0.03	-8.14
12364.00	90.400	308.030	7212.30	4780.83	2355.06	-4169.90	1737705.25	14426177.68	39°43'23.996"N	80°39'14.388"W	4788.98	299.457	3.70	-0.10	-3.70
12457.00	90.370	309.070	7211.67	4873.36	2413.01	-4242.63	1737632.55	14426235.62	39°43'24.571"N	80°39'15.316"W	4880.83	299.629	1.12	-0.03	1.12
12550.00	90.340	312.200	7211.10	4965.48	2473.57	-4313.19	1737562.01	14426296.15	39°43'25.172"N	80°39'16.216"W	4972.14	299.834	3.37	-0.03	3.37
12642.00	90.340	313.800	7210.55	5056.02	2536.31	-4380.47	1737494.76	14426358.87	39°43'25.795"N	80°39'17.074"W	5061.76	300.071	1.74	0.00	1.74
12735.00	90.650	313.740	7209.75	5147.31	2600.64	-4447.63	1737427.63	14426423.17	39°43'26.433"N	80°39'17.931"W	5152.16	300.316	0.34	0.33	-0.06
12828.00	90.660	313.740	7208.72	5238.97	2663.45	-4516.19	1737359.10	14426485.96	39°43'27.057"N	80°39'18.805"W	5243.09	300.530	2.68	-0.03	-2.68

WELLPATH DATA (165 stations)

Operator	Area	Field	Facility
SOUTHWESTERN ENERGY	Wetzel County, WV	Wetzel	Daniel Durig Pad
Slot 201H	Well	Wellbore	Daniel Durig WTZ 201H AWB
Slot 201H	Well	Wellbore	Daniel Durig WTZ 201H

REFERENCE WELLPATH IDENTIFICATION

Actual Wellpath Report
Daniel Durig WTZ 201H AWP Proj: 14071MD





Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071'MD
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (165 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]
12920.00	90.770	309.590	7207.60	5330.15	2723.10	-4586.22	1737289.09	14426545.59	39°43'27.649"N	80°39'19.698"W	5333.73	300.700	1.81	0.16	-1.80
13013.00	90.400	306.630	7206.65	5422.74	2780.49	-4659.39	1737215.96	14426602.95	39°43'28.219"N	80°39'20.632"W	5425.96	300.827	3.21	-0.40	-3.18
13106.00	89.940	307.600	7206.37	5515.47	2836.60	-4733.55	1737141.82	14426659.05	39°43'28.776"N	80°39'21.578"W	5518.40	300.932	1.15	-0.49	1.04
13199.00	90.030	310.880	7206.40	5607.87	2895.42	-4805.56	1737069.83	14426717.84	39°43'29.360"N	80°39'22.497"W	5610.43	301.070	3.53	0.10	3.53
13292.00	89.880	316.240	7206.47	5699.20	2959.49	-4872.93	1737002.49	14426781.88	39°43'29.996"N	80°39'23.356"W	5701.23	301.272	5.77	-0.16	5.76
13384.00	90.060	318.650	7206.52	5788.21	3027.25	-4935.15	1736940.30	14426849.62	39°43'30.668"N	80°39'24.149"W	5789.64	301.525	2.63	0.20	2.62
13477.00	90.400	317.740	7206.15	5877.87	3096.58	-4997.14	1736878.33	14426918.92	39°43'31.355"N	80°39'24.939"W	5878.79	301.785	1.04	0.37	-0.98
13570.00	90.400	315.270	7205.50	5968.21	3164.03	-5061.14	1736814.35	14426986.35	39°43'32.025"N	80°39'25.755"W	5968.78	302.012	2.66	0.00	-2.66
13663.00	90.890	313.990	7204.45	6059.23	3229.36	-5127.32	1736748.20	14427051.65	39°43'32.673"N	80°39'26.599"W	6059.56	302.204	1.47	0.53	-1.38
13755.00	90.890	310.500	7203.02	6149.96	3291.20	-5195.41	1736680.14	14427113.46	39°43'33.286"N	80°39'27.467"W	6150.14	302.354	3.79	0.00	-3.79
13848.00	91.850	306.640	7200.80	6242.44	3349.15	-5268.09	1736607.49	14427171.39	39°43'33.862"N	80°39'28.394"W	6242.56	302.446	4.28	1.03	-4.15
13941.00	89.600	307.280	7199.62	6335.18	3405.06	-5342.39	1736533.22	14427227.28	39°43'34.417"N	80°39'29.343"W	6335.26	302.512	2.52	-2.42	0.69
14033.00	89.720	314.200	7200.17	6426.24	3465.07	-5412.05	1736463.59	14427287.26	39°43'35.013"N	80°39'30.231"W	6426.27	302.629	7.52	0.13	7.52
14046.00	89.880	315.110	7200.21	6438.97	3474.20	-5421.30	1736454.34	14427296.40	39°43'35.103"N	80°39'30.349"W	6438.99	302.654	7.11	1.23	7.00
14071.00	89.880	315.110	7200.26	6463.39	3491.92	-5438.94	1736436.71	14427314.10	39°43'35.279"N	80°39'30.574"W	6463.40	302.701	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Daniel Durig WTZ 201H AWB Ref Wellpath: Daniel Durig WTZ 201H AWP Proj: 14071'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]
20in Casing	26.00	126.00	100.00	26.00	126.00	0.00	0.00	0.31	0.20
17.5in Open Hole	126.00	547.00	421.00	126.00	546.99	0.31	0.20	1.89	1.26
13.375in Casing	26.00	533.00	507.00	26.00	532.99	0.00	0.00	1.89	1.25
12.25in Open Hole	547.00	2711.00	2164.00	546.99	2690.94	1.89	1.26	-229.06	-66.27
9.625in Casing	26.00	2690.00	2664.00	26.00	2670.10	0.00	0.00	-226.69	-65.41
8.75in Open Hole	2711.00	6980.00	4269.00	2690.94	6846.86	-229.06	-66.27	-1127.40	-335.68
8.5in Open Hole	6980.00	14071.00	7091.00	6846.86	7200.26	-1127.40	-335.68	3491.92	-5438.94



Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071'MD
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Daniel Durig WTZ 201H BHL Rev-3	7197.00	3519.06	-5460.48	1736415.17	14427341.23	39°43'35.548"N	80°39'30.848"W	point
Daniel Durig WTZ 201H LP Rev-3	7238.00	-783.43	-772.69	1741101.13	14423040.42	39°42'52.847"N	80°38'31.071"W	point

WELLPATH COMPOSITION - Ref Wellbore: Daniel Durig WTZ 201H AWB Ref Wellpath: Daniel Durig WTZ 201H AWP Proj: 14071'MD

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	500.00	BHI NaviTrak (Axial)	01_APS EM <17.5"> (222'-500')	Daniel Durig WTZ 201H AWB
500.00	2638.00	BHI NaviTrak (Axial)	02_APS EM <12.25"> (500')(599'-2638')	Daniel Durig WTZ 201H AWB
2638.00	6915.00	BHI NaviTrak (Axial)	03_APS EM <8-3/4">(2638')(2738'-6915')	Daniel Durig WTZ 201H AWB
6915.00	14046.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8-1/2"> (6915')(6945'-14046')	Daniel Durig WTZ 201H AWB
14046.00	14071.00	Blind Drilling (std)	Projection to bit	Daniel Durig WTZ 201H AWB

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

COMMENTS

Wellpath general comments
 API: 47-103-03187-0000
 Job #: 8927230
 Rig: SDC 46
 Duration: 12/22/2017 - 01/03/2018

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