

Actual Wellpath Report

Barry Greathouse B BRK 5H AWP Proj: 18264'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWB
Facility	Barry Greathouse B BRK Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 5.1
North Reference	Grid	User	Hilipthop
Scale	0.999611	Report Generated	4/11/2019 at 4:36:41 PM
Convergence at slot	0.23° East	Database/Source file	WA_MPL_EASTERNUUS_Defrn/Barry_Greathouse_B_BRK_5H_AWP_Proj_18264_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	23.01	15.94	1740628.66	14595300.43	40°11'15.860"N	80°38'28.251"W
Facility Reference Pt			1740612.72	14595277.43	40°11'15.634"N	80°38'28.458"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 40 (RKB) to Facility Vertical Datum	1169.40ft
Horizontal Reference Pt	Slot	SDC 40 (RKB) to Mean Sea Level	1169.40ft
Vertical Reference Pt	SDC 40 (RKB)	SDC 40 (RKB) to Ground Level at Slot (Slot #5H)	26.00ft
MD Reference Pt	SDC 40 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	335.72°



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WELLPATH DATA (214 stations) † = interpolated/extrapolated station

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)
0.00†	0.000	140.800	0.00	0.00	0.00	0.00	1740628.66	14595300.43	40°11'15.860"N	80°38'28.251"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	140.800	26.00	0.00	0.00	0.00	1740628.66	14595300.43	40°11'15.860"N	80°38'28.251"W	0.00	0.000	0.00	0.00	0.00
151.00	0.870	140.800	151.00	-0.92	-0.74	0.60	1740629.26	14595299.69	40°11'15.853"N	80°38'28.244"W	0.95	140.800	0.70	0.70	112.64
224.00	0.970	160.330	223.99	-2.07	-1.75	1.16	1740629.81	14595298.68	40°11'15.843"N	80°38'28.237"W	2.10	146.456	0.45	0.14	26.75
316.00	1.240	151.840	315.97	-3.84	-3.36	1.89	1740630.55	14595297.07	40°11'15.827"N	80°38'28.227"W	3.85	150.626	0.34	0.29	-9.23
422.00	1.440	132.620	421.94	-6.21	-5.27	3.41	1740632.07	14595295.16	40°11'15.808"N	80°38'28.208"W	6.28	147.088	0.46	0.19	-18.13
513.00	1.450	125.700	512.91	-8.26	-6.72	5.19	1740633.84	14595293.71	40°11'15.794"N	80°38'28.185"W	8.49	142.319	0.19	0.01	-7.60
604.00	1.280	65.850	603.89	-9.26	-6.97	7.05	1740635.70	14595293.46	40°11'15.791"N	80°38'28.161"W	9.92	134.684	1.51	-0.19	-65.77
697.00	1.790	37.740	696.86	-8.58	-5.40	8.89	1740637.54	14595295.03	40°11'15.807"N	80°38'28.137"W	10.40	121.280	0.96	0.55	-30.23
790.00	2.630	59.620	789.79	-7.67	-3.17	11.62	1740640.27	14595297.26	40°11'15.829"N	80°38'28.102"W	12.04	105.270	1.26	0.90	23.53
883.00	4.140	77.850	882.63	-8.15	-1.39	16.74	1740645.39	14595299.04	40°11'15.846"N	80°38'28.036"W	16.80	94.732	1.97	1.62	19.60
975.00	4.930	78.340	974.34	-9.71	0.11	23.86	1740652.51	14595300.54	40°11'15.861"N	80°38'27.944"W	23.86	89.730	0.86	0.86	0.53
1068.00	5.120	84.580	1066.98	-11.92	1.31	31.90	1740660.55	14595301.74	40°11'15.872"N	80°38'27.840"W	31.93	87.645	0.62	0.20	6.71
1161.00	5.430	86.350	1159.59	-14.81	1.98	40.43	1740669.07	14595302.41	40°11'15.878"N	80°38'27.730"W	40.47	87.190	0.38	0.33	1.90
1251.00	4.950	95.200	1249.22	-18.23	1.90	48.54	1740677.18	14595302.33	40°11'15.877"N	80°38'27.626"W	48.58	87.755	1.04	-0.53	9.83
1343.00	5.420	103.210	1340.84	-22.82	0.55	56.73	1740685.36	14595300.98	40°11'15.864"N	80°38'27.520"W	56.73	89.444	0.94	0.51	8.71
1436.00	4.680	97.120	1433.48	-27.47	-0.92	64.77	1740693.40	14595299.51	40°11'15.849"N	80°38'27.417"W	64.77	90.817	0.98	-0.80	-6.55
1529.00	4.490	90.810	1526.19	-30.99	-1.45	72.17	1740700.80	14595298.98	40°11'15.843"N	80°38'27.322"W	72.19	91.147	0.58	-0.20	-6.78
1607.00	4.720	90.470	1603.93	-33.63	-1.51	78.43	1740707.06	14595298.91	40°11'15.842"N	80°38'27.241"W	78.45	91.106	0.30	0.29	-0.44
1677.00	4.840	91.320	1673.69	-36.11	-1.61	84.27	1740712.89	14595298.82	40°11'15.841"N	80°38'27.166"W	84.28	91.092	0.20	0.17	1.21
1728.00	4.980	88.420	1724.50	-37.90	-1.59	88.63	1740717.25	14595298.83	40°11'15.841"N	80°38'27.109"W	88.64	91.031	0.56	0.27	-5.69
1819.00	4.980	81.050	1815.16	-40.47	-0.87	96.48	1740725.10	14595299.56	40°11'15.848"N	80°38'27.008"W	96.48	90.518	0.70	0.00	-8.10
1910.00	5.680	95.120	1905.77	-43.72	-0.66	104.87	1740733.48	14595299.77	40°11'15.850"N	80°38'26.900"W	104.87	90.360	1.62	0.77	15.46
2003.00	6.530	94.180	1998.24	-48.50	-1.46	114.72	1740743.34	14595298.97	40°11'15.841"N	80°38'26.773"W	114.73	90.727	0.92	0.91	-1.01
2096.00	5.770	105.130	2090.71	-53.99	-3.06	124.51	1740753.12	14595297.37	40°11'15.825"N	80°38'26.647"W	124.55	91.408	1.50	-0.82	11.77
2188.00	6.140	105.560	2182.21	-60.08	-5.59	133.72	1740762.32	14595294.84	40°11'15.800"N	80°38'26.529"W	133.83	92.393	0.41	0.40	0.47
2281.00	4.240	105.690	2274.83	-65.47	-7.85	141.82	1740770.42	14595292.58	40°11'15.777"N	80°38'26.424"W	142.03	93.169	2.04	-2.04	0.14
2374.00	3.830	102.840	2367.60	-69.56	-9.47	148.16	1740776.76	14595290.96	40°11'15.761"N	80°38'26.343"W	148.46	93.658	0.49	-0.44	-3.06
2466.00	5.030	91.890	2459.32	-73.19	-10.29	155.18	1740783.78	14595290.14	40°11'15.752"N	80°38'26.252"W	155.52	93.793	1.59	1.30	-11.90
2559.00	6.630	81.190	2551.84	-76.42	-9.60	164.56	1740793.16	14595290.83	40°11'15.759"N	80°38'26.131"W	164.84	93.339	2.07	1.72	-11.51



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Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWB
Facility	Barry Greathouse B BRK Pad		

WELLPATH DATA (214 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 [ft/100ft]	Build Rate [ft/100ft]	Turn Rate [ft/100ft]
2652.00	5.610	88.950	2644.31	-79.64	-8.69	174.42	1740803.00	14595291.74	40°11'15.767"N	80°38'26.005"W	174.63	92.854	1.41	-1.10	8.34
2745.00	5.770	86.850	2736.85	-83.12	-8.35	183.63	1740812.21	14595292.08	40°11'15.770"N	80°38'25.886"W	183.82	92.605	0.28	0.17	-2.26
2837.00	6.320	79.150	2828.34	-85.97	-7.15	193.22	1740821.80	14595293.28	40°11'15.782"N	80°38'25.642"W	193.35	92.118	1.06	0.60	-8.37
2930.00	5.300	86.410	2920.86	-88.67	-5.91	202.53	1740831.11	14595294.52	40°11'15.794"N	80°38'25.424"W	202.62	91.673	1.35	-1.10	7.81
3023.00	4.280	108.440	3013.55	-92.54	-6.74	210.11	1740838.69	14595293.69	40°11'15.785"N	80°38'25.544"W	210.22	91.838	2.24	-1.10	23.69
3116.00	4.310	106.210	3106.29	-97.17	-8.82	216.76	1740845.33	14595291.62	40°11'15.765"N	80°38'25.459"W	216.94	92.329	0.18	0.03	-2.40
3208.00	4.460	97.190	3198.02	-101.28	-10.23	223.63	1740852.20	14595290.20	40°11'15.750"N	80°38'25.370"W	223.86	92.619	0.77	0.16	-9.80
3301.00	4.490	86.910	3290.74	-104.48	-10.49	230.85	1740859.42	14595289.95	40°11'15.748"N	80°38'25.277"W	231.09	92.601	0.86	0.03	-11.05
3394.00	4.830	95.260	3383.43	-107.73	-10.65	238.39	1740866.95	14595289.78	40°11'15.746"N	80°38'25.180"W	238.62	92.558	0.81	0.37	8.98
3487.00	5.270	92.910	3476.07	-111.61	-11.22	246.55	1740875.11	14595289.21	40°11'15.740"N	80°38'25.075"W	246.81	92.607	0.52	0.47	-2.53
3579.00	5.580	102.350	3567.66	-116.21	-12.40	255.14	1740883.70	14595288.04	40°11'15.728"N	80°38'24.965"W	255.44	92.781	1.03	0.34	10.26
3670.00	5.650	102.090	3658.22	-121.51	-14.28	263.84	1740892.40	14595286.15	40°11'15.709"N	80°38'24.853"W	264.23	93.098	0.08	0.08	-0.29
3763.00	5.430	93.700	3750.79	-126.29	-15.52	272.71	1740901.26	14595284.91	40°11'15.696"N	80°38'24.738"W	273.15	93.258	0.90	-0.24	-9.02
3853.00	5.940	100.480	3840.35	-130.94	-16.64	281.54	1740910.09	14595283.79	40°11'15.685"N	80°38'24.625"W	282.03	93.383	0.94	0.57	7.53
3943.00	6.180	99.670	3929.84	-136.30	-18.31	290.89	1740919.44	14595282.13	40°11'15.668"N	80°38'24.504"W	291.47	93.601	0.28	0.27	-0.90
4033.00	4.440	111.070	4019.46	-141.48	-20.37	298.92	1740927.46	14595280.07	40°11'15.647"N	80°38'24.401"W	299.61	93.899	2.25	-1.93	12.67
4122.00	3.710	114.420	4108.23	-146.10	-22.80	304.76	1740933.29	14595277.64	40°11'15.623"N	80°38'24.326"W	305.61	94.279	0.86	-0.82	3.76
4212.00	3.650	111.380	4198.04	-150.33	-25.05	310.08	1740938.61	14595275.39	40°11'15.600"N	80°38'24.257"W	311.09	94.618	0.23	-0.07	-3.38
4302.00	4.500	100.030	4287.82	-154.37	-26.71	316.22	1740944.75	14595273.73	40°11'15.584"N	80°38'24.178"W	317.35	94.828	1.30	0.94	-12.61
4395.00	4.790	93.550	4380.51	-158.24	-27.58	323.69	1740952.22	14595272.86	40°11'15.575"N	80°38'24.082"W	324.86	94.871	0.64	0.31	-6.97
4484.00	4.930	91.180	4469.19	-161.62	-27.89	331.22	1740959.75	14595272.55	40°11'15.571"N	80°38'23.985"W	332.39	94.814	0.27	0.16	-2.66
4577.00	5.960	99.190	4561.77	-166.00	-28.75	339.98	1740968.51	14595271.69	40°11'15.563"N	80°38'23.872"W	341.20	94.833	1.37	1.11	8.61
4670.00	6.480	97.710	4654.23	-171.45	-30.22	349.95	1740978.47	14595270.22	40°11'15.548"N	80°38'23.744"W	351.25	94.936	0.59	0.56	-1.59
4763.00	6.670	100.810	4746.61	-177.33	-31.94	360.45	1740988.97	14595268.50	40°11'15.530"N	80°38'23.609"W	361.87	95.063	0.43	0.20	3.33
4856.00	6.960	99.640	4838.96	-183.58	-33.89	371.32	1740999.83	14595266.55	40°11'15.511"N	80°38'23.469"W	372.86	95.216	0.35	0.31	-1.26
4948.00	5.260	102.040	4930.43	-189.19	-35.71	380.94	1741009.44	14595264.73	40°11'15.492"N	80°38'23.345"W	382.61	95.355	1.87	-1.85	2.61
5041.00	4.960	100.690	5023.06	-194.02	-37.34	389.06	1741017.56	14595263.10	40°11'15.476"N	80°38'23.240"W	390.84	95.483	0.35	-0.32	-1.45
5134.00	1.950	80.190	5115.88	-196.72	-37.82	394.57	1741023.07	14595262.62	40°11'15.471"N	80°38'23.169"W	396.37	95.475	3.45	-3.24	-22.04
5180.00	3.290	335.590	5161.85	-195.59	-36.48	394.79	1741023.30	14595263.96	40°11'15.484"N	80°38'23.166"W	396.47	95.280	9.19	2.91	-227.39
5227.00	7.350	326.220	5208.64	-191.28	-32.75	392.56	1741021.07	14595267.69	40°11'15.521"N	80°38'23.195"W	393.93	94.770	8.81	8.64	-19.94



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5273.00	11.250	329.970	5254.03	-183.91	-26.42	388.68	1741017.18	14595274.02	40°11'15.584"N	80°38'23.245"W	389.58	93.889	8.58	8.48	8.15
5319.00	15.020	335.740	5298.82	-173.48	-17.10	383.98	1741012.49	14595283.34	40°11'15.676"N	80°38'23.305"W	384.36	92.550	8.67	8.20	12.54
5366.00	18.470	338.710	5343.82	-159.95	-4.61	378.78	1741007.28	14595295.82	40°11'15.800"N	80°38'23.371"W	378.80	90.697	7.56	7.34	6.32
5412.00	21.690	338.550	5387.02	-144.18	10.10	373.02	1741001.53	14595310.52	40°11'15.945"N	80°38'23.445"W	373.16	88.449	7.00	7.00	-0.35
5458.00	25.720	336.560	5429.13	-125.70	27.18	365.94	1740994.45	14595327.59	40°11'16.114"N	80°38'23.535"W	366.95	85.753	8.93	8.76	-4.33
5505.00	30.290	334.280	5470.62	-103.64	47.22	366.73	1740985.25	14595347.63	40°11'16.313"N	80°38'23.652"W	359.84	82.459	9.99	9.72	-4.85
5551.00	34.910	333.000	5509.36	-78.88	69.41	345.72	1740974.24	14595369.82	40°11'16.532"N	80°38'23.793"W	352.62	78.647	10.15	10.04	-2.78
5598.00	38.540	332.480	5547.03	-50.82	94.39	332.84	1740961.37	14595394.78	40°11'16.780"N	80°38'23.958"W	345.97	74.167	7.75	7.72	-1.11
5644.00	42.410	332.490	5582.01	-21.02	120.87	319.05	1740947.58	14595421.25	40°11'17.042"N	80°38'24.134"W	341.18	69.251	8.41	8.41	0.02
5690.00	46.050	333.550	5614.97	11.03	149.46	304.50	1740933.04	14595449.83	40°11'17.325"N	80°38'24.320"W	339.21	63.857	8.07	7.91	2.30
5734.00	49.010	335.080	5644.67	43.47	178.71	290.45	1740918.99	14595479.07	40°11'17.615"N	80°38'24.500"W	341.02	58.396	7.20	6.73	3.48
5780.00	52.950	335.290	5673.63	79.20	211.14	275.45	1740904.00	14595511.49	40°11'17.936"N	80°38'24.691"W	347.07	52.529	8.57	8.57	0.46
5826.00	57.000	334.440	5700.02	116.86	245.23	259.45	1740888.01	14595545.57	40°11'18.273"N	80°38'24.896"W	357.01	46.613	8.93	8.80	-1.85
5873.00	60.900	332.370	5724.26	157.08	281.22	241.42	1740869.98	14595581.54	40°11'18.630"N	80°38'25.126"W	370.63	40.644	9.11	8.30	-4.40
5919.00	65.940	330.670	5744.84	198.09	317.36	221.79	1740850.36	14595617.67	40°11'18.988"N	80°38'25.377"W	387.18	34.948	11.44	10.96	-3.70
5966.00	70.620	331.170	5762.23	241.59	355.51	200.58	1740829.16	14595655.80	40°11'19.365"N	80°38'25.648"W	408.19	29.432	10.01	9.96	1.06
6012.00	74.670	331.270	5775.95	285.35	393.99	179.45	1740808.03	14595694.26	40°11'19.747"N	80°38'25.919"W	432.93	24.488	8.81	8.80	0.22
6058.00	77.880	332.510	5786.86	329.93	433.40	158.40	1740786.99	14595733.66	40°11'20.137"N	80°38'26.188"W	461.44	20.076	7.45	6.98	2.70
6104.00	80.400	333.440	5795.53	375.05	473.64	137.88	1740766.48	14595773.88	40°11'20.535"N	80°38'26.450"W	493.30	16.230	5.83	5.48	2.02
6151.00	82.450	333.760	5802.53	421.49	515.26	117.21	1740745.82	14595815.49	40°11'20.947"N	80°38'26.714"W	528.43	12.816	4.41	4.36	0.68
6197.00	85.230	334.790	5807.47	467.21	556.46	97.36	1740725.98	14595856.67	40°11'21.355"N	80°38'26.968"W	564.92	9.925	6.44	6.04	2.24
6244.00	86.380	335.790	5810.91	514.08	599.04	77.77	1740706.40	14595899.24	40°11'21.777"N	80°38'27.218"W	604.07	7.397	3.24	2.45	2.13
6285.00	89.630	334.700	5812.34	555.04	636.25	60.62	1740689.25	14595936.43	40°11'22.145"N	80°38'27.437"W	639.13	5.442	8.36	7.93	-2.66
6326.00	89.780	334.240	5812.55	596.03	673.24	42.95	1740671.59	14595973.41	40°11'22.512"N	80°38'27.663"W	674.61	3.650	1.18	0.37	-1.12
6419.00	89.660	334.130	5813.00	689.00	756.96	2.45	1740653.10	14596057.09	40°11'23.340"N	80°38'28.180"W	756.96	0.185	0.18	-0.13	-0.12
6511.00	89.510	334.270	5813.67	780.96	839.79	-37.59	1740591.08	14596139.89	40°11'24.161"N	80°38'28.692"W	840.63	357.437	0.22	-0.16	0.15
6604.00	90.150	334.630	5813.94	873.94	923.69	-77.70	1740550.98	14596223.76	40°11'24.991"N	80°38'29.205"W	926.96	355.191	0.79	0.69	0.39
6697.00	90.120	334.630	5813.72	966.92	1007.72	-117.55	1740511.15	14596307.76	40°11'25.823"N	80°38'29.714"W	1014.56	353.347	0.03	-0.03	0.00
6787.00	90.180	334.510	5813.49	1056.90	1089.00	-156.20	1740472.52	14596389.01	40°11'26.628"N	80°38'30.207"W	1100.15	351.838	0.15	0.07	-0.13
6879.00	91.020	334.170	5812.53	1148.87	1171.92	-196.03	1740432.70	14596471.90	40°11'27.449"N	80°38'30.716"W	1188.21	350.504	0.98	0.91	-0.37



Actual Wellpath Report

Barry Greathouse B BRK 5H AWP Proj: 18264'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWB
Facility	Barry Greathouse B BRK Pad		

WELLPATH DATA (214 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]
6972.00	90.890	333.750	5810.98	1241.82	1255.47	-236.85	1740391.90	14596555.41	40°11'28.276"N	80°38'31.238"W	1277.62	349.316	0.47	-0.14	-0.45
7065.00	90.860	331.700	5809.55	1334.67	1338.12	-279.46	1740349.30	14596638.02	40°11'29.095"N	80°38'31.783"W	1366.99	348.203	2.20	-0.03	-2.20
7158.00	90.950	331.130	5808.09	1427.40	1419.77	-323.96	1740304.83	14596719.65	40°11'29.903"N	80°38'32.352"W	1456.26	347.147	0.62	0.10	-0.61
7250.00	90.580	331.080	5806.86	1519.09	1500.31	-368.41	1740260.39	14596800.15	40°11'30.701"N	80°38'32.920"W	1544.88	346.204	0.41	-0.40	-0.05
7343.00	90.770	330.890	5805.76	1611.77	1581.63	-413.51	1740215.31	14596881.44	40°11'31.506"N	80°38'33.497"W	1634.80	345.348	0.29	0.20	-0.20
7436.00	90.650	330.470	5804.61	1704.40	1662.71	-459.05	1740169.79	14596962.49	40°11'32.309"N	80°38'34.080"W	1724.92	344.566	0.47	-0.13	-0.45
7529.00	90.580	329.650	5803.61	1796.94	1743.30	-505.46	1740123.39	14597043.04	40°11'33.108"N	80°38'34.674"W	1815.10	343.831	0.88	-0.08	-0.88
7621.00	90.710	330.560	5802.58	1888.49	1823.05	-551.31	1740077.56	14597122.77	40°11'33.898"N	80°38'35.261"W	1904.59	343.174	1.00	0.14	0.99
7714.00	90.920	333.780	5801.25	1981.29	1905.27	-594.72	1740034.17	14597204.96	40°11'34.712"N	80°38'35.816"W	1995.94	342.665	3.47	0.23	3.46
7807.00	91.020	336.250	5799.68	2074.27	1989.55	-633.99	1739994.91	14597289.20	40°11'35.546"N	80°38'36.317"W	2088.12	342.325	2.66	0.11	2.66
7899.00	90.950	336.030	5798.10	2166.25	2073.68	-671.20	1739957.72	14597373.30	40°11'36.379"N	80°38'36.792"W	2179.60	342.064	0.25	-0.08	-0.24
7992.00	90.800	334.470	5796.68	2259.23	2158.12	-710.13	1739918.80	14597457.71	40°11'37.215"N	80°38'37.290"W	2271.95	341.786	1.68	-0.16	-1.68
8085.00	90.740	334.340	5795.43	2352.20	2241.99	-750.30	1739878.65	14597541.54	40°11'38.045"N	80°38'37.803"W	2364.21	341.497	0.15	-0.06	-0.14
8175.00	90.950	335.150	5794.10	2442.18	2323.38	-788.70	1739840.27	14597622.90	40°11'38.851"N	80°38'38.294"W	2453.59	341.250	0.93	0.23	0.90
8267.00	90.770	335.680	5792.72	2534.16	2407.03	-826.97	1739802.01	14597706.51	40°11'39.679"N	80°38'38.782"W	2545.12	341.039	0.61	-0.20	0.58
8360.00	90.860	336.550	5791.40	2627.15	2492.05	-864.62	1739764.37	14597779.51	40°11'40.521"N	80°38'39.263"W	2637.78	340.866	0.94	0.10	0.94
8453.00	90.920	337.130	5789.95	2720.12	2577.55	-901.19	1739727.82	14597876.97	40°11'41.367"N	80°38'39.730"W	2730.55	340.729	0.63	0.06	0.62
8546.00	90.950	336.590	5788.43	2813.09	2663.05	-937.74	1739691.29	14597962.44	40°11'42.214"N	80°38'40.197"W	2823.33	340.601	0.58	0.03	-0.58
8639.00	90.920	337.050	5786.92	2906.06	2748.53	-974.34	1739654.70	14598047.89	40°11'43.060"N	80°38'40.664"W	2916.12	340.481	0.50	-0.03	0.49
8731.00	90.680	331.900	5785.63	2998.00	2831.52	-1013.96	1739615.09	14598130.84	40°11'43.881"N	80°38'41.170"W	3007.59	340.288	5.60	-0.26	-5.60
8824.00	90.770	331.320	5784.45	3090.75	2913.33	-1058.18	1739570.89	14598212.62	40°11'44.692"N	80°38'41.736"W	3099.55	340.038	0.63	0.10	-0.62
8917.00	90.980	332.870	5783.03	3183.55	2995.50	-1101.70	1739527.39	14598294.76	40°11'45.505"N	80°38'42.292"W	3191.67	339.807	1.68	0.23	1.67
9009.00	90.920	333.540	5781.51	3275.45	3077.61	-1143.16	1739485.94	14598376.84	40°11'46.318"N	80°38'42.822"W	3283.06	339.623	0.73	-0.07	0.73
9102.00	90.890	333.380	5780.04	3368.37	3160.80	-1184.71	1739444.41	14598459.99	40°11'47.142"N	80°38'43.354"W	3375.53	339.453	0.18	-0.03	-0.17
9195.00	90.800	333.250	5778.67	3461.27	3243.88	-1226.47	1739402.66	14598543.05	40°11'47.965"N	80°38'43.887"W	3468.00	339.289	0.17	-0.10	-0.14
9288.00	90.830	335.870	5777.34	3554.24	3327.85	-1266.42	1739367.74	14598626.98	40°11'48.796"N	80°38'44.398"W	3560.67	339.166	2.82	0.03	2.82
9380.00	91.290	337.620	5775.64	3646.20	3412.36	-1302.73	1739326.43	14598711.45	40°11'49.633"N	80°38'44.862"W	3652.58	339.105	1.97	0.50	1.90
9473.00	91.080	334.490	5773.72	3739.17	3497.33	-1340.46	1739288.72	14598796.39	40°11'50.474"N	80°38'45.343"W	3745.42	339.029	3.37	-0.23	-3.37
9566.00	90.890	333.620	5772.12	3832.12	3580.94	-1381.15	1739248.05	14598879.97	40°11'51.302"N	80°38'45.863"W	3838.06	338.909	0.96	-0.20	-0.94
9659.00	90.920	332.280	5770.65	3924.99	3663.75	-1423.43	1739205.78	14598962.75	40°11'52.122"N	80°38'46.404"W	3930.55	338.768	1.44	0.03	-1.44



Actual Wellpath Report

Barry Greathouse B BRK 5H AWP Proj: 18264'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWB
Facility	Barry Greathouse B BRK Pad		

WELLPATH DATA (214 stations)

MID (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)
9751.00	90.830	330.350	5769.25	4016.71	3744.45	-1467.59	1739161.64	14599043.42	40°11'52.92"N	80°38'46.969"W	4021.78	338.598	2.10	-0.10	-2.10
9844.00	90.620	330.020	5768.07	4109.27	3825.13	-1513.82	1739115.43	14599124.07	40°11'53.720"N	80°38'47.561"W	4113.79	338.408	0.42	-0.23	-0.35
9937.00	90.890	332.450	5766.84	4201.97	3906.64	-1558.57	1739070.70	14599205.55	40°11'54.527"N	80°38'48.133"W	4206.07	338.250	2.63	0.29	2.61
10029.00	90.740	335.050	5765.53	4293.89	3989.14	-1599.25	1739030.03	14599288.01	40°11'55.344"N	80°38'48.653"W	4297.77	338.154	2.83	-0.16	2.83
10122.00	91.140	337.040	5764.01	4386.88	4074.11	-1637.00	1738992.29	14599372.95	40°11'56.185"N	80°38'49.135"W	4390.69	338.109	2.18	0.43	2.14
10215.00	90.770	336.270	5762.46	4479.85	4159.49	-1673.85	1738955.46	14599458.29	40°11'57.030"N	80°38'49.606"W	4483.65	338.079	0.92	-0.40	-0.83
10308.00	90.770	335.580	5761.21	4572.84	4224.39	-1711.78	1738917.54	14599543.16	40°11'57.871"N	80°38'50.090"W	4576.58	338.036	0.74	0.00	-0.74
10400.00	90.830	335.520	5759.92	4664.83	4328.13	-1749.86	1738879.48	14599626.87	40°11'58.700"N	80°38'50.577"W	4668.48	337.987	0.09	0.07	-0.07
10493.00	90.980	336.130	5758.46	4757.82	4412.96	-1787.94	1738841.41	14599711.67	40°11'59.540"N	80°38'51.063"W	4761.41	337.944	0.68	0.16	0.66
10583.00	90.860	334.430	5757.01	4847.80	4494.70	-1825.57	1738803.80	14599793.38	40°12'00.349"N	80°38'51.544"W	4851.30	337.895	1.89	-0.13	-1.89
10675.00	90.800	333.680	5755.68	4939.75	4577.42	-1865.82	1738763.57	14599876.06	40°12'01.168"N	80°38'52.058"W	4943.08	337.824	0.82	-0.07	-0.82
10768.00	90.860	333.280	5754.33	5032.67	4660.63	-1907.34	1738722.06	14599959.24	40°12'01.992"N	80°38'52.589"W	5035.81	337.743	0.43	0.06	-0.43
10861.00	90.740	332.230	5753.03	5125.54	4743.30	-1949.91	1738679.51	14600041.88	40°12'02.810"N	80°38'53.133"W	5128.45	337.653	1.14	-0.13	-1.13
10953.00	90.680	332.060	5751.89	5217.35	4824.63	-1992.89	1738636.54	14600123.18	40°12'03.616"N	80°38'53.683"W	5220.03	337.556	0.20	-0.07	-0.18
11046.00	90.770	332.170	5750.71	5310.16	4906.83	-2036.38	1738593.07	14600205.34	40°12'04.430"N	80°38'54.240"W	5312.61	337.461	0.15	0.10	0.12
11139.00	90.740	331.780	5749.49	5402.95	4988.92	-2080.08	1738549.39	14600287.40	40°12'05.243"N	80°38'54.798"W	5405.18	337.367	0.42	-0.03	-0.42
11232.00	90.800	332.360	5748.24	5495.75	5071.08	-2123.63	1738505.85	14600369.53	40°12'06.056"N	80°38'55.356"W	5497.78	337.277	0.63	0.06	0.62
11321.00	90.830	335.070	5746.97	5584.68	5150.86	-2163.04	1738466.46	14600449.28	40°12'06.846"N	80°38'55.859"W	5586.60	337.221	3.04	0.03	3.04
11414.00	90.920	336.170	5745.55	5677.67	5235.55	-2201.42	1738428.10	14600533.94	40°12'07.685"N	80°38'56.350"W	5679.55	337.194	1.19	0.10	1.18
11507.00	90.830	335.950	5744.13	5770.66	5320.54	-2239.15	1738390.38	14600618.90	40°12'08.526"N	80°38'56.832"W	5772.52	337.176	0.26	-0.10	-0.24
11599.00	90.800	336.060	5742.82	5862.65	5404.59	-2276.56	1738352.98	14600702.90	40°12'09.358"N	80°38'57.310"W	5864.49	337.158	0.12	-0.03	0.12
11692.00	90.830	335.610	5741.50	5955.64	5489.43	-2314.63	1738314.93	14600787.71	40°12'10.198"N	80°38'57.796"W	5957.46	337.137	0.48	0.03	-0.48
11785.00	90.860	335.810	5740.13	6048.63	5574.18	-2352.88	1738276.69	14600872.44	40°12'11.037"N	80°38'58.284"W	6050.42	337.115	0.22	0.03	0.22
11878.00	90.950	337.230	5738.66	6141.60	5659.47	-2389.93	1738239.66	14600957.69	40°12'11.881"N	80°38'58.758"W	6143.40	337.106	1.53	0.10	1.53
11970.00	90.830	335.410	5737.23	6233.58	5743.71	-2426.87	1738202.73	14601041.90	40°12'12.715"N	80°38'59.229"W	6235.38	337.095	1.98	-0.13	-1.98
12060.00	90.890	333.470	5735.88	6323.55	5824.89	-2465.70	1738163.92	14601123.04	40°12'13.519"N	80°38'59.726"W	6325.27	337.057	2.16	0.07	-2.16
12153.00	90.660	330.930	5734.61	6416.36	5907.14	-2509.07	1738120.57	14601205.26	40°12'14.333"N	80°39'00.280"W	6417.92	336.987	2.74	-0.23	-2.73
12245.00	90.800	330.200	5733.42	6507.97	5987.26	-2554.27	1738078.38	14601288.35	40°12'15.127"N	80°39'00.859"W	6509.35	336.896	0.80	0.13	-0.79
12338.00	90.740	329.720	5732.17	6600.50	6067.76	-2600.83	1738028.85	14601366.82	40°12'15.924"N	80°39'01.455"W	6601.67	336.799	0.52	-0.06	-0.52
12431.00	90.770	331.800	5730.94	6693.14	6148.90	-2646.25	1737983.44	14601446.93	40°12'16.728"N	80°39'02.036"W	6694.14	336.715	2.24	0.03	2.24



Actual Wellpath Report

Barry Greathouse B BRK 5H AWP Proj: 18264'
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWP
Facility	Barry Greathouse B BRK Pad		

WELLPATH DATA (214 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)
12523.00	90.400	334.040	5730.00	6785.01	6230.80	-2688.12	1737941.58	14601528.80	40°12'17.539"N	80°39'02.572"W	6785.93	336.663	2.47	-0.40	2.43
12616.00	90.620	335.200	5729.18	6877.99	6314.82	-2727.98	1737901.74	14601612.78	40°12'18.370"N	80°39'03.081"W	6878.87	336.636	1.27	0.24	1.25
12709.00	90.000	335.040	5728.67	6970.99	6399.19	-2767.11	1737862.63	14601697.12	40°12'19.206"N	80°39'03.581"W	6971.84	336.616	0.69	-0.67	-0.17
12802.00	90.950	340.780	5727.90	7063.87	6485.32	-2802.07	1737827.68	14601783.22	40°12'20.058"N	80°39'04.027"W	7064.77	336.633	6.26	1.02	6.17
12894.00	90.860	339.850	5726.45	7155.57	6571.93	-2833.05	1737796.71	14601869.80	40°12'20.915"N	80°39'04.422"W	7156.57	336.680	1.02	-0.10	-1.01
12987.00	90.800	337.990	5725.10	7248.41	6658.70	-2866.50	1737763.28	14601956.53	40°12'22.625"N	80°39'04.849"W	7249.49	336.709	2.00	-0.06	-2.00
13080.00	90.650	337.210	5723.92	7341.35	6744.67	-2901.93	1737727.86	14602042.47	40°12'22.625"N	80°39'05.301"W	7342.47	336.720	0.85	-0.16	-0.84
13173.00	90.620	336.530	5722.89	7434.32	6830.19	-2938.46	1737691.34	14602127.95	40°12'23.471"N	80°39'05.768"W	7435.46	336.722	0.73	-0.03	-0.73
13265.00	90.650	336.930	5721.87	7526.30	6914.70	-2974.81	1737655.01	14602212.43	40°12'24.308"N	80°39'06.232"W	7527.45	336.722	0.44	0.03	0.43
13358.00	90.650	336.890	5720.82	7619.28	7000.25	-3011.28	1737618.56	14602297.94	40°12'25.155"N	80°39'06.698"W	7620.45	336.724	0.04	0.00	-0.04
13451.00	90.650	336.640	5719.76	7712.26	7085.70	-3047.96	1737581.88	14602383.36	40°12'26.000"N	80°39'07.166"W	7713.44	336.725	0.27	0.00	-0.27
13542.00	90.550	336.090	5718.81	7803.24	7169.06	-3084.44	1737545.42	14602466.69	40°12'26.826"N	80°39'07.632"W	7804.43	336.721	0.61	-0.11	-0.60
13632.00	90.580	335.640	5717.92	7893.24	7251.19	-3121.24	1737508.63	14602548.78	40°12'27.639"N	80°39'08.102"W	7894.42	336.711	0.50	-0.03	-0.50
13721.00	90.490	335.130	5717.09	7982.23	7332.10	-3158.31	1737471.58	14602629.66	40°12'28.440"N	80°39'08.576"W	7983.39	336.696	0.58	-0.10	-0.57
13811.00	91.110	335.080	5715.84	8072.22	7413.73	-3196.19	1737433.71	14602711.26	40°12'29.248"N	80°39'09.060"W	8073.35	336.678	0.69	0.69	-0.06
13904.00	90.310	332.380	5714.68	8165.15	7497.11	-3237.35	1737392.57	14602794.61	40°12'30.073"N	80°39'09.586"W	8166.21	336.645	3.03	-0.86	-2.90
13997.00	90.310	331.620	5714.18	8257.95	7579.22	-3281.01	1737348.93	14602876.69	40°12'30.886"N	80°39'10.145"W	8258.91	336.592	0.82	0.00	-0.82
14089.00	90.340	332.310	5713.66	8349.75	7660.42	-3324.25	1737305.71	14602957.86	40°12'31.691"N	80°39'10.698"W	8350.61	336.542	0.75	0.03	0.75
14179.00	90.340	333.400	5713.12	8439.63	7740.50	-3365.31	1737264.66	14603037.91	40°12'32.484"N	80°39'11.223"W	8440.42	336.502	1.21	0.00	1.21
14272.00	90.340	334.110	5712.57	8532.58	7823.92	-3406.43	1737223.56	14603121.29	40°12'33.309"N	80°39'11.749"W	8533.31	336.472	0.76	0.00	0.76
14365.00	90.370	333.810	5712.00	8625.53	7907.47	-3447.26	1737182.75	14603204.81	40°12'34.137"N	80°39'12.271"W	8626.22	336.445	0.32	0.03	-0.32
14457.00	90.400	335.940	5711.38	8717.51	7990.76	-3486.32	1737143.70	14603288.07	40°12'34.961"N	80°39'12.770"W	8718.18	336.429	2.32	0.03	2.32
14550.00	91.510	335.650	5709.83	8810.50	8075.57	-3524.44	1737105.59	14603372.85	40°12'35.801"N	80°39'13.258"W	8811.16	336.422	1.23	1.19	-0.31
14643.00	91.290	334.440	5707.55	8903.46	8159.86	-3563.67	1737066.38	14603457.10	40°12'36.635"N	80°39'13.759"W	8904.10	336.408	1.32	-0.24	-1.30
14735.00	90.460	332.460	5706.15	8995.38	8242.15	-3604.78	1737025.28	14603539.36	40°12'37.450"N	80°39'14.285"W	8995.97	336.377	2.33	-0.90	-2.15
14828.00	90.460	331.040	5705.40	9088.15	8324.06	-3648.80	1736981.28	14603621.24	40°12'38.261"N	80°39'14.848"W	9088.66	336.330	1.53	0.00	-1.53
14921.00	91.290	330.680	5703.98	9180.80	8405.28	-3694.08	1736936.02	14603702.43	40°12'39.065"N	80°39'15.427"W	9181.23	336.275	0.97	0.89	-0.39
15014.00	90.120	327.940	5702.84	9273.20	8485.24	-3741.54	1736888.58	14603782.36	40°12'39.857"N	80°39'16.035"W	9273.53	336.205	3.20	-1.26	-2.95
15106.00	90.220	327.070	5702.57	9364.26	8562.84	-3790.96	1736839.18	14603859.92	40°12'40.626"N	80°39'16.668"W	9364.48	336.120	0.95	0.11	-0.95
15199.00	89.940	329.280	5702.44	9456.45	8641.85	-3840.00	1736790.16	14603938.91	40°12'41.409"N	80°39'17.296"W	9456.60	336.042	2.40	-0.30	2.38



Actual Wellpath Report

Barry Greathouse B BRK 5H AWP Proj: 18264'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWB
Facility	Barry Greathouse B BRK Pad		

WELLPATH DATA (214 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)
15292.00	89.170	331.170	5703.16	9549.01	8722.57	-3886.18	1736744.00	14604019.59	40°12'42.208"N	80°39'17.888"W	9549.11	335.986	2.19	-0.83	2.03
15384.00	88.980	334.240	5704.64	9640.86	8804.30	-3928.36	1736701.84	14604101.29	40°12'43.018"N	80°39'18.427"W	9640.94	335.954	3.34	-0.21	3.34
15477.00	91.080	337.100	5704.59	9733.85	8889.03	-3966.67	1736663.54	14604185.99	40°12'43.856"N	80°39'18.917"W	9733.92	335.952	3.82	2.26	3.08
15570.00	91.350	338.120	5702.62	9826.77	8975.00	-4002.08	1736628.14	14604271.92	40°12'44.707"N	80°39'19.369"W	9826.86	335.967	1.13	0.29	1.10
15662.00	91.570	339.090	5700.28	9918.62	9060.63	-4035.63	1736594.60	14604357.52	40°12'45.555"N	80°39'19.797"W	9918.74	335.992	1.08	0.24	1.05
15755.00	91.820	337.850	5697.53	10011.48	9147.10	-4069.75	1736560.50	14604443.96	40°12'46.410"N	80°39'20.232"W	10011.61	336.015	1.36	0.27	-1.33
15848.00	91.020	337.460	5695.22	10104.39	9233.09	-4105.09	1736525.17	14604529.91	40°12'47.262"N	80°39'20.684"W	10104.54	336.030	0.96	-0.86	-0.42
15941.00	91.230	337.860	5693.40	10197.32	9319.09	-4140.43	1736489.84	14604615.88	40°12'48.113"N	80°39'21.135"W	10197.48	336.045	0.49	0.23	0.43
16034.00	90.950	336.720	5691.63	10290.27	9404.87	-4176.33	1736453.96	14604701.62	40°12'48.962"N	80°39'21.593"W	10290.44	336.056	1.26	-0.30	-1.23
16126.00	90.490	336.150	5690.47	10382.25	9489.19	-4213.11	1736417.19	14604785.91	40°12'49.796"N	80°39'22.063"W	10382.43	336.059	0.80	-0.50	-0.62
16219.00	90.180	333.580	5689.93	10475.23	9573.37	-4252.61	1736377.71	14604870.06	40°12'50.630"N	80°39'22.568"W	10475.41	336.049	2.78	-0.33	-2.76
16312.00	90.680	334.200	5689.23	10568.18	9656.88	-4293.53	1736336.80	14604953.54	40°12'51.457"N	80°39'23.092"W	10568.34	336.030	0.86	0.54	0.67
16404.00	91.080	333.080	5687.82	10660.11	9739.30	-4334.38	1736295.97	14605035.93	40°12'52.273"N	80°39'23.614"W	10660.24	336.009	1.29	0.43	-1.22
16497.00	90.310	329.850	5686.69	10752.83	9820.99	-4378.79	1736251.57	14605117.58	40°12'53.082"N	80°39'24.182"W	10752.94	335.970	3.57	-0.83	-3.47
16590.00	90.370	329.660	5686.14	10845.33	9901.33	-4425.64	1736204.75	14605197.89	40°12'53.877"N	80°39'24.782"W	10845.39	335.917	0.21	0.06	-0.20
16682.00	90.400	329.550	5685.52	10936.80	9980.68	-4472.18	1736158.22	14605277.21	40°12'54.663"N	80°39'25.378"W	10936.84	335.864	0.12	0.03	-0.12
16775.00	90.340	329.710	5684.92	11029.28	10060.92	-4519.20	1736111.22	14605357.42	40°12'55.458"N	80°39'25.980"W	11029.29	335.811	0.18	-0.06	-0.17
16868.00	90.580	330.980	5684.17	11121.86	10141.73	-4565.21	1736065.23	14605438.20	40°12'56.258"N	80°39'26.569"W	11121.86	335.766	1.39	0.26	1.37
16961.00	90.430	330.580	5683.35	11214.51	10222.89	-4610.61	1736019.85	14605519.33	40°12'57.062"N	80°39'27.150"W	11214.51	335.724	0.46	-0.16	-0.43
17053.00	90.370	331.390	5682.71	11306.20	10303.34	-4655.23	1735975.24	14605599.75	40°12'57.859"N	80°39'27.722"W	11306.20	335.686	0.88	-0.07	0.88
17146.00	90.400	333.410	5682.08	11399.03	10385.75	-4698.32	1735932.18	14605682.13	40°12'58.675"N	80°39'28.273"W	11399.04	335.659	2.17	0.03	2.17
17239.00	90.580	336.140	5681.29	11492.01	10469.88	-4737.95	1735892.56	14605766.22	40°12'59.508"N	80°39'28.780"W	11492.02	335.652	2.94	0.19	2.94
17332.00	90.710	337.160	5680.24	11584.99	10555.25	-4774.80	1735855.72	14605851.56	40°13'00.353"N	80°39'29.250"W	11584.99	335.660	1.11	0.14	1.10
17424.00	90.550	336.450	5679.23	11676.97	10639.81	-4811.04	1735819.50	14605936.08	40°13'01.190"N	80°39'29.713"W	11676.97	335.669	0.79	-0.17	-0.77
17517.00	90.430	336.130	5678.43	11769.96	10724.96	-4848.43	1735782.12	14606021.20	40°13'02.032"N	80°39'30.191"W	11769.96	335.674	0.37	-0.13	-0.34
17610.00	90.890	336.280	5677.36	11862.95	10810.05	-4885.95	1735744.61	14606106.25	40°13'02.875"N	80°39'30.671"W	11862.95	335.678	0.52	0.49	0.16
17703.00	91.230	334.070	5675.64	11955.92	10894.43	-4924.99	1735705.59	14606190.61	40°13'03.710"N	80°39'31.170"W	11955.93	335.674	2.40	0.37	-2.38
17795.00	90.430	332.040	5674.31	12047.81	10976.43	-4966.67	1735663.93	14606272.57	40°13'04.522"N	80°39'31.703"W	12047.81	335.654	2.37	-0.87	-2.21
17885.00	90.680	332.840	5673.44	12137.65	11056.21	-5008.31	1735622.31	14606352.33	40°13'05.312"N	80°39'32.236"W	12137.67	335.630	0.93	0.28	0.89
17977.00	90.740	332.130	5672.30	12229.50	11137.80	-5050.81	1735579.82	14606433.88	40°13'06.120"N	80°39'32.779"W	12229.52	335.607	0.77	0.07	-0.77

REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWB
Facility	Barry Greathouse B BRK Pad		

WELLPATH DATA (214 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 (v/100ft)	Build Rate/Turn Rate (f/100ft)
18070.00	90.430	332.070	5671.35	12322.31	11219.99	-5094.32	1735536.33	14606516.03	40°13'06.934"N	80°39'33.336"W	12322.35	335.580	0.34	-0.33
18163.00	90.460	332.520	5670.63	12415.14	11302.32	-5137.56	1735493.11	14606598.34	40°13'07.749"N	80°39'33.890"W	12415.19	335.555	0.48	0.03
18239.00	90.800	333.040	5669.79	12491.04	11369.90	-5172.32	1735458.36	14606665.89	40°13'08.418"N	80°39'34.334"W	12491.10	335.539	0.82	0.45
18264.00	90.800	333.040	5669.44	12516.01	11392.18	-5183.65	1735447.03	14606688.16	40°13'08.639"N	80°39'34.479"W	12516.07	335.534	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Barry Greathouse B BRK 5H AWB Ref Wellpath: Barry Greathouse B BRK 5H AWP Proj: 18264'													
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 Conductor	26.00	100.00	74.00	26.00	100.00	0.00	0.00	-0.26	0.21				
17.5in Open Hole	100.00	387.00	287.00	100.00	386.95	-0.26	0.21	-4.66	2.81				
13.375in Casing Surface	26.00	387.00	361.00	26.00	386.95	0.00	0.00	-4.66	2.81				
12.25in Open Hole	387.00	1629.00	1242.00	386.95	1625.86	-4.66	2.81	-1.53	80.25				
9.625in Casing Intermediate	26.00	1629.00	1603.00	26.00	1625.86	0.00	0.00	-1.53	80.25				
8.75in Open Hole	1629.00	6305.00	4676.00	1625.86	5812.45	-1.53	80.25	654.31	52.03				
8.5in Open Hole	6305.00	18264.00	11959.00	5812.45	5669.44	654.31	52.03	11392.18	-5183.65				
5.5in Casing Production	26.00	18264.00	18238.00	26.00	5669.44	0.00	0.00	11392.18	-5183.65				

TARGETS									
Name	TVD (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Shape	
Barry Greathouse B 5H BHL Rev-7	5662.90	11409.11	-5147.92	1735482.75	14606705.09	40°13'08.805"N	80°39'34.018"W	point	
Barry Greathouse B 5H LP Rev-6	5813.00	549.91	111.01	1740739.63	14595850.12	40°11'21.290"N	80°38'26.792"W	point	

Actual Wellpath Report

Barry Greathouse B BRK 5H AWP Proj: 18264'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWB
Facility	Barry Greathouse B BRK Pad		

WELLPATH COMPOSITION - Ref Wellbore: Barry Greathouse B BRK 5H AWB				Ref Wellpath: Barry Greathouse B BRK 5H AWP Proj: 18264'	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
26.00	316.00	OWSG MWD rev2 + HRGM	01_Premier MWD <17 1/2"> (151'-316)	Barry Greathouse B BRK 5H AWB	
316.00	1607.00	OWSG MWD rev2 + HRGM	02_Premier MWD <12 1/4"> (422'-1607')	Barry Greathouse B BRK 5H AWB	
1607.00	6244.00	OWSG MWD rev2 + HRGM	03_Premier MWD <8 3/4"> (1677'-6244')	Barry Greathouse B BRK 5H AWB	
6244.00	18239.00	BH AutoTrak Curve (Short)	04_BH AT Curve <8 1/2"> (6285'-18239')	Barry Greathouse B BRK 5H AWB	
18239.00	18264.00	Blind Drilling (std)	Projection to bit	Barry Greathouse B BRK 5H AWB	



REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #5H
Area	Brooke County, WV	Well	Barry Greathouse B BRK 5H
Field	Brooke	Wellbore	Barry Greathouse B BRK 5H AWP
Facility	Barry Greathouse B BRK Pad		

COMMENTS

Wellpath general comments
 API 47-009-00233-0000
 BH Job # 109700132
 Rig: SDC 40
 Duration: 3/26/2019 - 3/28/2019
 01_Premier MWD <17 1/2"> (151'-316')
 02_Premier MWD <12 1/4"> (422'-1607')
 03_Premier MWD <8 3/4"> (1677'-6244')
 04_BH AT Curve <8 1/2"> (6285'-18239')
 Projected MD at TD: 18,264