



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'

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MAR 06 2020

WV Department of
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWP
Facility	Linda Greathouse BRK Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 5.1
North Reference	Grid	User	Atenjen
Scale	0.999614	Report Generated	10/15/2019 at 10:06:10 AM
Convergence at slot	0.25° East	Database/Source file	WA_MPL_EASTERNU Defn/Linda Greathouse BRK 6H AWP Proj_21069_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-15.25	22.93	1750163.25	14601289.69	40°12'14.670"N	80°36'25.010"W
Facility Reference Pt			1750140.33	14601304.93	40°12'14.821"N	80°36'25.304"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 41 (KB) to Facility Vertical Datum	1165.40ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1165.40ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level at Slot (Slot #06)	26.00ft
MD Reference Pt	SDC 41 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.21°



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**BAKER
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Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 stations) † = interpolated/extrapolated station

MD (ft)	Inclination P ₁	Azimuth P ₁	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir P ₁	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)
0.00†	0.000	171.760	0.00	0.00	0.00	0.00	1750163.25	14601289.69	40°12'14.666"N	80°36'25.010"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	171.760	26.00	0.00	0.00	0.00	1750163.25	14601289.69	40°12'14.666"N	80°36'25.010"W	0.00	0.000	0.00	0.00	0.00
100.00	0.610	171.760	100.00	0.39	-0.39	0.06	1750163.31	14601289.30	40°12'14.666"N	80°36'25.009"W	0.39	171.760	0.82	0.82	232.11
125.00	0.680	174.050	125.00	0.66	-0.67	0.09	1750163.35	14601289.02	40°12'14.663"N	80°36'25.009"W	0.68	172.263	0.30	0.28	9.16
150.00	0.690	169.680	150.00	0.96	-0.96	0.13	1750163.39	14601288.72	40°12'14.660"N	80°36'25.008"W	0.97	172.136	0.21	0.04	-17.48
175.00	0.640	169.330	174.99	1.24	-1.25	0.19	1750163.44	14601288.44	40°12'14.657"N	80°36'25.007"W	1.26	171.534	0.20	-0.20	-1.40
200.00	0.570	174.000	199.99	1.50	-1.51	0.22	1750163.48	14601288.18	40°12'14.655"N	80°36'25.007"W	1.53	171.533	0.34	-0.28	-18.68
225.00	0.530	170.060	224.99	1.74	-1.75	0.26	1750163.51	14601287.94	40°12'14.652"N	80°36'25.006"W	1.77	171.610	0.22	-0.16	-15.76
250.00	0.500	163.300	249.99	1.96	-1.97	0.31	1750163.56	14601287.72	40°12'14.650"N	80°36'25.006"W	1.99	171.066	0.27	-0.12	-27.04
275.00	0.500	165.230	274.99	2.18	-2.18	0.37	1750163.62	14601287.51	40°12'14.648"N	80°36'25.005"W	2.21	170.396	0.07	0.00	7.72
300.00	0.490	162.630	299.99	2.40	-2.38	0.43	1750163.68	14601287.30	40°12'14.646"N	80°36'25.004"W	2.42	169.822	0.10	-0.04	-10.40
325.00	0.600	150.310	324.99	2.63	-2.60	0.52	1750163.78	14601287.09	40°12'14.644"N	80°36'25.003"W	2.65	168.588	0.64	0.44	-49.28
350.00	0.580	160.830	349.99	2.89	-2.83	0.63	1750163.89	14601286.85	40°12'14.641"N	80°36'25.002"W	2.90	167.441	0.44	-0.08	-42.08
375.00	0.620	158.860	374.98	3.15	-3.08	0.72	1750163.98	14601286.61	40°12'14.639"N	80°36'25.001"W	3.16	166.811	0.18	0.16	-7.88
400.00	0.690	170.030	399.98	3.43	-3.35	0.80	1750164.05	14601286.33	40°12'14.636"N	80°36'25.000"W	3.45	166.641	0.58	0.28	-44.68
403.00	0.650	163.770	402.98	3.47	-3.39	0.80	1750164.06	14601286.30	40°12'14.636"N	80°36'25.000"W	3.48	166.644	2.78	-1.33	-208.67
512.00	1.540	202.770	511.96	5.18	-5.33	0.41	1750163.66	14601284.36	40°12'14.617"N	80°36'25.005"W	5.35	165.601	1.02	0.82	35.78
603.00	2.000	200.250	602.92	7.33	-7.95	-0.61	1750162.64	14601281.74	40°12'14.591"N	80°36'25.018"W	7.97	184.408	0.51	0.51	-2.77
693.00	1.400	204.650	692.88	9.35	-10.42	-1.61	1750161.64	14601279.27	40°12'14.567"N	80°36'25.031"W	10.55	188.808	0.68	-0.67	4.89
786.00	0.380	7.530	785.87	9.89	-11.15	-2.05	1750161.21	14601278.54	40°12'14.559"N	80°36'25.037"W	11.34	190.411	1.90	-1.10	175.14
879.00	1.190	9.210	878.86	8.77	-9.89	-1.85	1750161.40	14601279.80	40°12'14.572"N	80°36'25.034"W	10.06	190.614	0.87	0.87	1.81
971.00	0.640	59.490	970.85	7.82	-8.69	-1.26	1750162.00	14601281.00	40°12'14.584"N	80°36'25.026"W	8.78	188.239	1.00	-0.60	54.65
1064.00	0.360	59.580	1063.85	7.65	-8.27	-0.56	1750162.70	14601281.42	40°12'14.588"N	80°36'25.017"W	8.29	183.860	0.30	-0.30	0.10
1157.00	0.530	116.120	1156.85	7.90	-8.32	0.08	1750163.33	14601281.37	40°12'14.587"N	80°36'25.009"W	8.32	179.450	0.48	0.18	60.80
1249.00	0.420	126.200	1248.84	8.47	-8.70	0.73	1750163.99	14601280.99	40°12'14.583"N	80°36'25.001"W	8.73	175.179	0.15	-0.12	10.96
1342.00	1.020	151.140	1341.83	9.57	-9.63	1.41	1750164.66	14601280.06	40°12'14.574"N	80°36'24.992"W	9.73	171.677	0.71	0.65	26.82
1435.00	1.220	132.450	1434.82	11.25	-11.02	2.54	1750165.79	14601278.67	40°12'14.560"N	80°36'24.978"W	11.31	167.029	0.44	0.22	-20.10
1527.00	1.500	133.090	1526.79	13.17	-12.51	4.14	1750167.33	14601277.19	40°12'14.546"N	80°36'24.957"W	13.17	161.679	0.30	0.30	0.70
1620.00	1.690	133.700	1619.75	15.46	-14.28	6.02	1750169.27	14601275.41	40°12'14.528"N	80°36'24.933"W	15.50	157.143	0.21	0.20	0.66
1731.00	1.730	123.490	1730.71	18.24	-16.34	8.60	1750171.85	14601273.35	40°12'14.508"N	80°36'24.900"W	18.47	152.236	0.28	0.04	-9.20



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Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 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)
1821.00	0.480	269.020	1820.69	19.20	-17.10	9.36	1750172.61	14601272.60	40°12'14.500"N	80°36'24.890"W	19.49	151.304	2.38	-1.39	161.70
1912.00	0.970	290.490	1911.69	18.59	-16.83	8.26	1750171.51	14601272.86	40°12'14.503"N	80°36'24.904"W	18.75	153.875	0.61	0.54	23.59
2005.00	1.200	301.600	2004.67	17.35	-16.05	6.69	1750169.94	14601273.65	40°12'14.511"N	80°36'24.924"W	17.38	157.373	0.33	0.25	11.95
2098.00	0.870	289.720	2097.65	16.16	-15.30	5.19	1750168.45	14601274.39	40°12'14.518"N	80°36'24.944"W	16.16	161.245	0.42	-0.35	-12.77
2189.00	0.920	288.710	2188.64	15.28	-14.83	3.85	1750167.10	14601274.86	40°12'14.523"N	80°36'24.961"W	15.32	165.440	0.06	0.05	-1.11
2282.00	2.950	288.540	2281.59	13.38	-13.83	0.88	1750164.13	14601275.86	40°12'14.533"N	80°36'24.999"W	13.86	176.377	2.18	2.18	-0.18
2375.00	5.260	284.780	2374.34	9.57	-11.98	-5.52	1750157.74	14601277.71	40°12'14.551"N	80°36'25.081"W	13.19	204.720	2.50	2.48	-4.04
2467.00	7.120	285.360	2465.80	4.03	-9.40	-15.09	1750148.17	14601280.29	40°12'14.577"N	80°36'25.205"W	17.78	238.097	2.02	2.02	0.63
2558.00	8.530	284.170	2555.95	-2.80	-6.25	-27.07	1750136.19	14601283.44	40°12'14.609"N	80°36'25.359"W	27.79	257.003	1.56	1.55	-1.31
2651.00	9.900	287.340	2647.75	-11.27	-2.18	-41.39	1750121.88	14601287.51	40°12'14.650"N	80°36'25.543"W	41.45	266.988	1.57	1.47	3.41
2744.00	11.920	282.270	2739.07	-20.94	2.25	-58.41	1750104.86	14601291.93	40°12'14.664"N	80°36'25.762"W	58.46	272.203	2.40	2.17	-5.45
2837.00	13.700	278.540	2829.75	-30.95	5.92	-78.69	1750084.59	14601295.61	40°12'14.731"N	80°36'26.024"W	78.91	274.305	2.11	1.91	-4.01
2929.00	13.270	273.230	2919.22	-39.92	8.14	-100.01	1750063.29	14601297.82	40°12'14.754"N	80°36'26.298"W	100.34	274.651	1.42	-0.47	-5.77
3022.00	14.170	274.260	3009.56	-48.37	9.58	-122.02	1750041.29	14601299.27	40°12'14.770"N	80°36'26.582"W	122.39	274.491	1.00	0.97	1.11
3115.00	15.060	274.330	3099.55	-57.58	11.34	-145.42	1750017.89	14601301.02	40°12'14.788"N	80°36'26.883"W	145.86	274.460	0.96	0.96	0.08
3207.00	16.340	273.460	3188.12	-67.17	13.02	-170.25	1749993.07	14601302.71	40°12'14.806"N	80°36'27.203"W	170.75	274.375	1.41	1.39	-0.95
3300.00	15.670	269.140	3277.52	-75.99	13.63	-195.87	1749967.46	14601303.31	40°12'14.813"N	80°36'27.533"W	196.34	273.979	1.47	-0.72	-4.65
3392.00	15.150	272.540	3366.21	-84.19	13.97	-220.30	1749943.04	14601303.65	40°12'14.817"N	80°36'27.848"W	220.75	273.629	1.13	-0.57	3.70
3481.00	15.950	277.610	3451.95	-93.86	16.11	-244.05	1749919.30	14601305.79	40°12'14.839"N	80°36'28.154"W	244.58	273.776	1.77	0.90	5.70
3573.00	15.310	279.840	3540.55	-105.30	19.86	-268.54	1749894.82	14601309.54	40°12'14.877"N	80°36'28.470"W	269.28	274.229	0.95	-0.70	2.42
3666.00	15.080	279.240	3630.30	-116.86	23.90	-292.58	1749870.79	14601313.57	40°12'14.918"N	80°36'28.779"W	293.55	274.670	0.30	-0.25	-0.65
3758.00	14.360	278.240	3719.28	-127.67	27.45	-315.68	1749847.69	14601317.13	40°12'14.955"N	80°36'29.077"W	316.88	274.970	0.83	-0.78	-1.09
3851.00	14.480	280.330	3809.35	-138.57	31.19	-338.54	1749824.85	14601320.87	40°12'14.993"N	80°36'29.371"W	339.97	275.264	0.57	0.13	2.25
3944.00	15.090	280.500	3899.27	-150.15	35.48	-361.88	1749801.52	14601325.16	40°12'15.036"N	80°36'29.672"W	363.61	275.600	0.66	0.66	0.18
4037.00	15.190	281.120	3989.05	-162.15	40.04	-385.74	1749777.67	14601329.77	40°12'15.082"N	80°36'29.979"W	387.81	275.926	0.20	0.11	0.67
4130.00	16.260	280.000	4078.86	-174.25	44.65	-410.51	1749752.90	14601334.32	40°12'15.129"N	80°36'30.298"W	412.94	276.207	1.20	1.15	-1.20
4222.00	16.370	276.530	4166.86	-186.50	48.36	-436.08	1749727.34	14601338.03	40°12'15.166"N	80°36'30.627"W	438.75	276.328	1.07	0.12	-3.77
4315.00	15.150	275.810	4256.36	-196.91	51.08	-461.19	1749702.24	14601340.75	40°12'15.194"N	80°36'30.951"W	464.01	276.320	1.33	-1.31	-0.77
4408.00	15.240	277.240	4346.11	-207.33	53.85	-485.41	1749678.04	14601343.52	40°12'15.223"N	80°36'31.263"W	488.39	276.331	0.41	0.10	1.54
4500.00	15.210	278.120	4434.88	-218.10	57.08	-509.35	1749654.10	14601346.75	40°12'15.256"N	80°36'31.571"W	512.54	276.394	0.25	-0.03	0.96



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4593.00	15.670	275.340	4524.53	-228.76	59.97	-533.93	1749629.53	14601349.64	40°12'15.285"N	80°36'31.888"W	537.29	276.409	0.94	0.49	-2.99
4684.00	15.890	273.850	4612.10	-238.58	61.95	-558.60	1749604.87	14601351.62	40°12'15.306"N	80°36'32.205"W	562.02	276.329	0.51	0.24	-1.64
4776.00	14.970	269.310	4700.78	-247.12	62.66	-583.05	1749580.43	14601352.32	40°12'15.314"N	80°36'32.520"W	586.40	276.134	1.65	-1.00	-4.93
4869.00	15.170	271.570	4790.59	-255.08	62.84	-607.22	1749556.27	14601352.51	40°12'15.317"N	80°36'32.832"W	610.47	275.909	0.67	0.22	2.43
4962.00	14.490	267.580	4880.49	-262.59	62.69	-631.01	1749532.49	14601352.35	40°12'15.242"N	80°36'33.139"W	634.12	275.673	1.32	-0.73	-4.29
5053.00	14.870	232.130	4968.70	-261.99	55.02	-651.64	1749511.86	14601326.09	40°12'15.059"N	80°36'33.405"W	653.96	274.826	9.73	0.42	-38.96
5146.00	16.370	210.750	5058.33	-249.57	36.42	-667.78	1749495.73	14601326.09	40°12'14.829"N	80°36'33.740"W	668.77	273.122	6.36	1.61	-22.99
5238.00	15.800	193.920	5146.78	-230.61	13.11	-677.43	1749486.09	14601302.79	40°12'14.829"N	80°36'33.740"W	677.55	271.108	5.09	-0.62	-18.29
5330.00	16.530	181.870	5235.17	-207.82	-12.14	-680.87	1749482.65	14601277.55	40°12'14.579"N	80°36'33.785"W	680.98	268.979	3.72	0.79	-13.10
5423.00	21.760	175.320	5323.00	-178.69	-42.57	-679.89	1749483.63	14601247.13	40°12'14.279"N	80°36'33.775"W	681.22	266.417	6.07	5.62	-7.04
5515.00	25.510	171.320	5407.28	-142.64	-79.16	-675.51	1749488.01	14601210.55	40°12'13.917"N	80°36'33.720"W	680.13	263.316	4.43	4.08	-4.35
5608.00	27.990	165.020	5490.33	-101.13	-120.06	-666.84	1749496.67	14601169.68	40°12'13.512"N	80°36'33.611"W	677.56	259.794	4.05	2.67	-6.77
5700.00	33.540	158.640	5569.38	-54.15	-164.63	-651.99	1749511.52	14601125.12	40°12'13.071"N	80°36'33.422"W	672.45	255.829	6.99	6.03	-6.93
5792.00	38.800	158.550	5643.62	0.07	-215.16	-632.18	1749531.32	14601074.61	40°12'12.571"N	80°36'33.169"W	667.79	251.204	5.72	5.72	-0.10
5883.00	45.280	161.290	5711.17	60.95	-272.38	-611.36	1749552.13	14601017.41	40°12'12.005"N	80°36'32.904"W	669.29	245.985	7.40	7.12	3.01
5976.00	53.420	159.790	5771.71	131.44	-338.84	-587.82	1749575.66	14600950.98	40°12'11.347"N	80°36'32.605"W	678.48	240.040	8.84	8.75	-1.61
6016.00	56.160	158.330	5794.77	164.09	-369.35	-576.13	1749587.34	14600920.48	40°12'11.045"N	80°36'32.456"W	684.36	237.337	7.47	6.85	-3.65
6051.00	59.490	156.860	5813.41	193.65	-396.73	-564.84	1749598.64	14600893.11	40°12'10.774"N	80°36'32.312"W	690.24	234.916	10.16	9.51	-4.20
6064.00	60.950	156.280	5819.86	204.90	-407.08	-560.35	1749603.12	14600882.76	40°12'10.671"N	80°36'32.255"W	692.61	234.002	11.88	11.23	-4.46
6110.00	67.410	155.680	5839.89	246.11	-444.88	-543.50	1749619.97	14600844.97	40°12'10.297"N	80°36'32.040"W	702.36	230.698	14.09	14.04	-1.30
6156.00	73.900	155.190	5855.12	289.27	-484.34	-525.46	1749638.00	14600805.54	40°12'09.906"N	80°36'31.809"W	714.63	227.332	14.14	14.11	-1.07
6202.00	80.020	154.940	5865.49	333.81	-524.95	-506.58	1749656.87	14600764.94	40°12'09.504"N	80°36'31.568"W	729.52	223.979	13.31	13.30	-0.54
6249.00	84.860	155.420	5871.67	380.13	-567.23	-487.03	1749676.42	14600722.68	40°12'09.085"N	80°36'31.319"W	747.62	220.650	10.35	10.30	1.02
6295.00	85.540	155.400	5875.52	425.73	-608.91	-467.95	1749695.48	14600661.01	40°12'08.673"N	80°36'31.075"W	767.95	217.543	1.48	1.48	-0.04
6341.00	87.420	154.830	5878.35	471.38	-650.56	-448.68	1749714.80	14600639.38	40°12'08.260"N	80°36'30.829"W	790.25	214.591	4.27	4.09	-1.24
6344.00	88.920	152.620	5881.32	563.53	-733.90	-407.49	1749755.93	14600566.07	40°12'07.435"N	80°36'30.303"W	839.44	209.041	2.87	1.61	-2.38
6527.00	89.020	153.770	5882.99	655.61	-816.89	-365.56	1749797.82	14600473.11	40°12'06.613"N	80°36'29.767"W	894.95	204.106	1.24	0.11	1.24
6619.00	89.050	153.860	5884.54	746.83	-899.44	-324.96	1749838.42	14600390.60	40°12'05.796"N	80°36'29.249"W	956.34	199.865	0.10	0.03	0.10
6710.00	89.050	154.400	5886.05	837.12	-981.31	-285.26	1749878.10	14600308.76	40°12'04.985"N	80°36'28.742"W	1021.93	196.209	0.59	0.00	0.59
6802.00	88.920	156.260	5887.68	928.62	-1064.89	-246.87	1749916.48	14600225.21	40°12'04.157"N	80°36'28.252"W	1093.13	193.052	2.03	-0.14	2.02



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 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]
6895.00	88.920	155.830	5889.43	1021.23	-1149.87	-209.12	1749954.22	14600140.27	40°12'03.316"N	80°36'27.770"W	1168.73	190.307	0.46	0.00	-0.46
6987.00	88.950	155.270	5891.14	1112.76	-1233.60	-171.05	1749992.27	14600056.56	40°12'02.487"N	80°36'27.284"W	1245.40	187.894	0.61	0.03	-0.61
7079.00	89.080	154.930	5892.72	1204.23	-1317.04	-132.32	1750030.99	14599973.16	40°12'01.660"N	80°36'26.790"W	1323.67	185.737	0.40	0.14	-0.37
7171.00	89.020	154.790	5894.25	1295.65	-1400.31	-93.24	1750070.05	14599889.92	40°12'00.836"N	80°36'26.291"W	1403.41	183.809	0.17	-0.07	-0.15
7264.00	88.980	154.380	5895.87	1388.01	-1484.30	-53.33	1750109.94	14599802.97	40°12'00.004"N	80°36'25.782"W	1485.25	182.058	0.44	-0.04	-0.44
7356.00	88.950	154.810	5897.53	1479.39	-1567.39	-13.87	1750149.39	14599722.91	40°11'59.181"N	80°36'25.278"W	1567.45	180.507	0.47	0.03	0.47
7449.00	88.980	154.540	5899.21	1571.77	-1651.44	25.91	1750189.15	14599638.89	40°11'58.349"N	80°36'24.770"W	1651.64	179.101	0.29	0.03	-0.29
7542.00	89.600	154.680	5900.36	1664.14	-1735.45	65.78	1750229.01	14599554.91	40°11'57.517"N	80°36'24.261"W	1736.69	177.829	0.68	0.67	0.15
7633.00	88.950	157.060	5901.51	1754.73	-1818.48	102.97	1750266.19	14599471.91	40°11'56.695"N	80°36'23.786"W	1821.39	176.759	2.71	-0.71	2.62
7725.00	88.890	156.690	5903.25	1846.45	-1903.07	139.10	1750302.30	14599387.35	40°11'55.857"N	80°36'23.326"W	1908.15	175.820	0.41	-0.07	-0.40
7816.00	89.050	156.580	5904.88	1937.15	-1986.60	175.18	1750338.37	14599303.86	40°11'55.031"N	80°36'22.865"W	1994.31	174.961	0.21	0.18	-0.12
7909.00	89.140	157.410	5906.35	2029.89	-2072.19	211.52	1750374.70	14599218.30	40°11'54.183"N	80°36'22.402"W	2082.96	174.172	0.90	0.10	0.89
8002.00	89.260	158.360	5907.65	2122.72	-2158.34	246.53	1750409.69	14599132.19	40°11'53.330"N	80°36'21.956"W	2172.37	173.484	1.03	0.13	1.02
8094.00	89.110	158.910	5908.96	2214.62	-2244.01	280.05	1750443.19	14599046.55	40°11'52.482"N	80°36'21.529"W	2261.41	172.886	0.62	-0.16	0.60
8187.00	88.830	157.710	5910.63	2307.48	-2330.41	314.41	1750477.54	14598960.18	40°11'51.627"N	80°36'21.091"W	2351.52	172.316	1.32	-0.30	-1.29
8280.00	89.110	155.430	5912.30	2400.15	-2415.72	351.38	1750514.50	14598874.90	40°11'50.782"N	80°36'20.619"W	2441.14	171.724	2.47	0.30	-2.45
8372.00	88.310	154.040	5914.37	2491.54	-2498.90	390.64	1750553.74	14598791.76	40°11'49.959"N	80°36'20.118"W	2529.24	171.115	1.74	-0.87	-1.51
8465.00	88.620	155.440	5916.87	2583.91	-2582.97	430.31	1750593.39	14598707.72	40°11'49.126"N	80°36'19.612"W	2618.57	170.542	1.54	0.33	1.51
8557.00	88.550	156.320	5919.14	2675.49	-2666.91	467.89	1750630.96	14598623.81	40°11'48.295"N	80°36'19.132"W	2707.64	170.049	0.96	-0.08	0.96
8650.00	88.580	156.080	5921.47	2768.10	-2751.98	505.41	1750668.47	14598538.78	40°11'47.453"N	80°36'18.654"W	2798.00	169.593	0.26	0.03	-0.26
8743.00	88.890	157.150	5923.52	2860.78	-2837.31	542.31	1750705.35	14598453.47	40°11'46.608"N	80°36'18.183"W	2888.68	169.179	1.20	0.33	1.15
8836.00	88.890	158.600	5925.32	2953.60	-2923.45	577.33	1750740.36	14598367.37	40°11'45.755"N	80°36'17.737"W	2979.91	168.829	1.56	0.00	1.56
8928.00	89.050	156.300	5926.98	3045.38	-3008.39	612.60	1750775.62	14598282.46	40°11'44.914"N	80°36'17.287"W	3070.13	168.490	2.51	0.17	-2.50
9021.00	89.170	156.240	5928.42	3138.03	-3093.52	650.02	1750813.03	14598197.37	40°11'44.071"N	80°36'16.810"W	3161.08	168.133	0.14	0.13	-0.06
9114.00	89.380	157.200	5929.60	3230.73	-3178.94	686.78	1750849.76	14598111.98	40°11'43.225"N	80°36'16.341"W	3252.28	167.809	1.06	0.23	1.03
9206.00	89.380	158.120	5930.59	3322.52	-3264.03	721.74	1750884.72	14598026.92	40°11'42.383"N	80°36'15.895"W	3342.87	167.531	1.00	0.00	1.00
9299.00	89.260	158.360	5931.70	3415.45	-3350.40	756.22	1750919.18	14597940.59	40°11'41.528"N	80°36'15.456"W	3434.68	167.281	0.29	-0.13	0.26
9391.00	89.260	159.150	5932.88	3507.33	-3436.14	789.55	1750952.50	14597854.88	40°11'40.679"N	80°36'15.031"W	3525.68	167.059	0.86	0.00	0.86
9484.00	89.260	159.320	5934.09	3600.26	-3523.09	822.52	1750985.46	14597767.96	40°11'39.819"N	80°36'14.612"W	3617.83	166.859	0.18	0.00	0.18
9576.00	89.320	159.240	5935.23	3692.20	-3609.13	855.07	1751017.99	14597681.96	40°11'38.967"N	80°36'14.197"W	3709.04	166.671	0.11	0.07	-0.09



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 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]
9668.00	89.290	157.720	5936.34	3784.09	-3694.71	888.81	1751051.72	14597596.41	40°11'38.120"N	80°36'13.767"W	3800.11	166.474	1.65	-0.03	-1.65
9760.00	89.260	156.320	5937.51	3875.83	-3779.40	924.73	1751087.62	14597511.75	40°11'37.281"N	80°36'13.309"W	3890.88	166.251	1.52	-0.03	-1.52
9845.00	89.260	153.110	5938.71	3968.22	-3863.47	964.44	1751127.32	14597427.71	40°11'36.449"N	80°36'12.802"W	3982.03	165.984	3.45	0.00	-3.45
9953.00	89.170	151.610	5939.97	4059.11	-3944.96	1007.11	1751169.98	14597346.25	40°11'35.642"N	80°36'12.257"W	4071.49	165.679	1.63	-0.10	-1.63
10038.00	89.260	153.030	5942.24	4150.98	-4027.31	1050.31	1751213.16	14597263.94	40°11'34.826"N	80°36'11.705"W	4162.02	165.383	1.53	0.10	-1.53
10131.00	89.110	151.810	5942.57	4242.88	-4109.73	1093.36	1751256.19	14597181.55	40°11'34.010"N	80°36'11.155"W	4252.69	165.102	1.32	-0.16	-1.31
10223.00	89.050	149.750	5944.04	4333.34	-4190.01	1138.27	1751301.08	14597101.30	40°11'33.214"N	80°36'10.581"W	4341.87	164.802	2.24	-0.07	-2.24
10316.00	89.110	149.360	5945.54	4424.41	-4270.18	1185.38	1751348.18	14597021.17	40°11'32.420"N	80°36'09.979"W	4431.65	164.486	0.42	0.06	-0.42
10409.00	89.080	151.890	5947.00	4515.81	-4351.20	1230.99	1751393.77	14596940.17	40°11'31.617"N	80°36'09.396"W	4521.98	164.203	2.72	-0.03	2.72
10502.00	89.110	154.000	5948.47	4607.83	-4434.01	1273.29	1751436.05	14596857.40	40°11'30.797"N	80°36'08.856"W	4613.21	163.978	2.27	0.03	2.27
10594.00	89.080	155.280	5949.93	4699.21	-4517.13	1312.69	1751475.43	14596774.31	40°11'29.974"N	80°36'08.353"W	4704.00	163.796	1.39	-0.03	1.39
10687.00	89.080	156.880	5951.42	4791.82	-4602.13	1350.39	1751513.12	14596689.34	40°11'29.132"N	80°36'07.872"W	4796.16	163.647	1.72	0.00	1.72
10779.00	89.110	158.560	5952.87	4883.64	-4687.25	1385.26	1751547.98	14596604.26	40°11'28.290"N	80°36'07.427"W	4887.66	163.536	1.83	0.03	1.83
10872.00	89.020	159.130	5954.39	4976.55	-4773.97	1418.82	1751581.52	14596517.57	40°11'27.431"N	80°36'07.000"W	4980.35	163.448	0.62	-0.10	0.61
10965.00	89.110	158.990	5955.91	5069.47	-4860.82	1452.05	1751614.74	14596430.76	40°11'26.572"N	80°36'06.577"W	5073.07	163.368	0.18	0.10	-0.15
11058.00	89.080	158.640	5957.38	5162.38	-4947.52	1485.66	1751648.33	14596344.09	40°11'25.713"N	80°36'06.149"W	5165.77	163.286	0.38	-0.03	-0.38
11149.00	89.480	159.140	5958.52	5253.29	-5032.41	1518.43	1751681.09	14596259.23	40°11'24.873"N	80°36'05.731"W	5256.50	163.210	0.70	0.44	0.55
11242.00	90.340	160.380	5958.67	5346.26	-5119.66	1550.60	1751713.25	14596172.01	40°11'24.009"N	80°36'05.322"W	5349.33	163.150	1.62	0.92	1.33
11335.00	89.350	158.830	5958.92	5439.22	-5206.83	1583.01	1751745.65	14596084.88	40°11'23.146"N	80°36'04.909"W	5442.15	163.089	1.98	-1.06	-1.67
11428.00	89.290	158.860	5960.02	5532.13	-5293.55	1616.57	1751779.20	14595998.19	40°11'22.288"N	80°36'04.482"W	5534.89	163.018	0.07	-0.06	0.03
11519.00	89.690	159.430	5960.83	5623.07	-5378.59	1648.97	1751811.58	14595913.19	40°11'21.446"N	80°36'04.069"W	5625.68	162.956	0.77	0.44	0.63
11612.00	90.740	160.500	5960.48	5716.05	-5465.96	1680.83	1751843.43	14595825.85	40°11'20.581"N	80°36'03.664"W	5718.55	162.907	1.61	1.13	1.15
11704.00	89.690	159.210	5960.14	5808.02	-5552.32	1712.51	1751875.10	14595739.52	40°11'19.727"N	80°36'03.261"W	5810.42	162.859	1.81	-1.14	-1.40
11797.00	89.480	158.700	5960.61	5900.94	-5639.12	1745.90	1751908.48	14595652.76	40°11'18.867"N	80°36'02.835"W	5903.21	162.797	0.59	-0.23	-0.55
11890.00	89.910	158.520	5961.31	5993.84	-5725.71	1779.82	1751942.38	14595566.20	40°11'18.010"N	80°36'02.403"W	5995.96	162.732	0.50	0.46	-0.19
11983.00	90.060	159.000	5961.33	6086.76	-5812.39	1813.51	1751976.06	14595479.55	40°11'17.152"N	80°36'01.974"W	6088.74	162.672	0.54	0.16	0.52
12075.00	90.060	158.130	5961.24	6178.66	-5898.03	1847.23	1752009.67	14595393.95	40°11'16.344"N	80°36'01.546"W	6180.51	162.611	0.95	0.00	-0.95
12168.00	90.090	156.210	5961.11	6271.42	-5983.74	1883.22	1752045.74	14595308.27	40°11'15.456"N	80°36'01.086"W	6273.09	162.530	2.06	0.03	-2.06
12260.00	89.660	154.440	5961.31	6362.94	-6067.34	1921.62	1752084.13	14595224.71	40°11'14.628"N	80°36'00.586"W	6364.37	162.426	1.98	-0.47	-1.92
12353.00	89.600	153.680	5961.91	6455.21	-6150.96	1962.30	1752124.79	14595141.11	40°11'13.800"N	80°36'00.077"W	6456.39	162.306	0.82	-0.06	-0.82



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 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]
12445.00	89.450	151.840	5962.68	6546.20	-6232.75	2004.41	1752166.88	14595059.35	40°11'12.990"N	80°35'59.539"W	6547.13	162.173	2.01	-0.16	-2.00
12538.00	89.450	150.550	5963.57	6637.78	-6314.24	2049.22	1752211.67	14594977.90	40°11'12.182"N	80°35'58.966"W	6638.44	162.020	1.39	0.00	-1.39
12630.00	89.450	150.550	5964.45	6728.19	-6394.35	2094.45	1752256.89	14594897.82	40°11'11.389"N	80°35'58.388"W	6728.63	161.864	0.00	0.00	0.00
12723.00	89.450	151.720	5965.35	6819.75	-6475.79	2139.34	1752301.76	14594816.41	40°11'10.582"N	80°35'57.815"W	6820.02	161.719	1.26	0.00	1.26
12816.00	89.420	154.600	5966.26	6911.82	-6558.76	2181.32	1752343.73	14594733.47	40°11'09.760"N	80°35'57.279"W	6911.98	161.604	3.10	-0.03	3.10
12908.00	89.480	153.910	5967.15	7003.14	-6641.62	2221.28	1752383.67	14594650.64	40°11'08.940"N	80°35'56.768"W	7003.23	161.508	0.75	0.07	-0.75
13001.00	89.450	151.750	5968.01	7095.13	-6724.35	2263.74	1752426.12	14594567.94	40°11'08.120"N	80°35'56.226"W	7095.17	161.394	2.32	-0.03	-2.32
13094.00	89.480	153.590	5968.88	7187.10	-6806.96	2306.44	1752468.80	14594485.36	40°11'07.302"N	80°35'55.681"W	7187.10	161.282	1.98	0.03	1.98
13187.00	89.420	155.990	5969.78	7279.50	-6891.10	2346.05	1752508.39	14594401.27	40°11'06.469"N	80°35'55.175"W	7279.50	161.199	2.58	-0.06	2.58
13278.00	89.320	158.380	5970.78	7370.26	-6974.97	2381.33	1752543.66	14594317.43	40°11'05.638"N	80°35'54.726"W	7370.27	161.150	2.63	-0.11	2.63
13371.00	89.200	158.550	5971.98	7463.15	-7061.47	2415.46	1752577.78	14594230.96	40°11'04.782"N	80°35'54.291"W	7463.16	161.116	0.22	-0.13	0.18
13464.00	89.290	159.740	5973.20	7556.08	-7148.36	2448.57	1752610.87	14594144.10	40°11'03.922"N	80°35'53.870"W	7556.10	161.092	1.28	0.10	1.28
13556.00	89.540	159.880	5974.14	7648.05	-7234.71	2480.32	1752642.61	14594057.79	40°11'03.067"N	80°35'53.466"W	7648.07	161.076	0.31	0.27	0.15
13649.00	89.380	158.960	5975.02	7741.00	-7321.77	2513.01	1752675.28	14593970.76	40°11'02.205"N	80°35'53.049"W	7741.02	161.057	1.00	-0.17	-0.99
13741.00	89.410	158.660	5975.99	7832.91	-7407.54	2546.26	1752708.52	14593885.02	40°11'01.356"N	80°35'52.626"W	7832.95	161.036	0.33	0.03	-0.33
13834.00	89.380	159.320	5976.97	7925.84	-7494.35	2579.60	1752741.85	14593798.24	40°11'00.497"N	80°35'52.201"W	7925.89	161.006	0.71	-0.03	0.71
13926.00	89.510	158.810	5977.86	8017.77	-7580.28	2612.47	1752774.71	14593712.35	40°10'59.646"N	80°35'51.783"W	8017.83	160.984	0.57	0.14	-0.55
14018.00	89.600	157.950	5978.58	8109.65	-7665.80	2646.37	1752808.59	14593626.86	40°10'58.800"N	80°35'51.351"W	8109.73	160.954	0.94	0.10	-0.93
14111.00	89.570	157.480	5979.25	8202.47	-7751.85	2681.63	1752843.85	14593540.84	40°10'57.948"N	80°35'50.902"W	8202.58	160.918	0.51	-0.03	-0.51
14203.00	90.680	157.670	5979.05	8294.29	-7836.89	2716.73	1752878.93	14593455.84	40°10'57.106"N	80°35'50.455"W	8294.42	160.881	1.22	1.21	0.21
14296.00	90.370	155.040	5978.20	8386.94	-7922.07	2754.02	1752916.21	14593370.69	40°10'56.262"N	80°35'49.979"W	8387.13	160.831	2.85	-0.33	-2.83
14389.00	89.450	153.830	5978.35	8479.29	-8005.97	2794.15	1752956.32	14593286.83	40°10'55.432"N	80°35'49.467"W	8479.55	160.761	1.63	-0.99	-1.30
14480.00	89.510	152.850	5979.17	8569.43	-8087.29	2834.98	1752997.14	14593205.54	40°10'54.626"N	80°35'48.946"W	8569.79	160.682	1.08	0.07	-1.08
14573.00	89.450	151.170	5980.02	8661.22	-8169.40	2878.63	1753040.76	14593123.46	40°10'53.813"N	80°35'48.388"W	8661.73	160.589	1.81	-0.06	-1.81
14666.00	89.380	151.120	5980.96	8752.72	-8250.85	2923.50	1753085.62	14593042.04	40°10'53.006"N	80°35'47.815"W	8753.48	160.489	0.09	-0.08	-0.05
14759.00	89.290	151.430	5982.04	8844.39	-8332.40	2968.20	1753130.30	14592981.52	40°10'52.198"N	80°35'47.244"W	8845.29	160.393	0.35	-0.10	0.33
14849.00	89.140	151.860	5983.28	8933.13	-8411.60	3010.94	1753173.02	14592901.36	40°10'51.414"N	80°35'46.698"W	8934.24	160.305	0.51	-0.17	0.48
14942.00	88.890	154.210	5984.88	9025.16	-8494.47	3053.10	1753215.17	14592798.52	40°10'50.593"N	80°35'46.160"W	9026.48	160.230	2.54	-0.27	2.53
15035.00	89.690	159.790	5986.03	9117.87	-8580.03	3089.42	1753251.47	14592712.98	40°10'49.746"N	80°35'45.697"W	9119.29	160.198	6.06	0.86	6.00
15126.00	89.780	160.420	5986.45	9208.85	-8665.60	3120.39	1753282.43	14592627.45	40°10'48.899"N	80°35'45.303"W	9210.29	160.197	0.70	0.10	0.69



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 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]
15219.00	89.540	158.930	5987.00	9301.81	-8752.81	3152.69	1753314.72	14592540.28	40°10'48.035"N	80°35'44.892"W	9303.28	160.191	1.62	-0.26	-1.60
15312.00	89.350	157.540	5987.90	9394.68	-8839.17	3187.17	1753349.19	14592453.95	40°10'47.180"N	80°35'44.452"W	9396.22	160.172	1.51	-0.20	-1.49
15404.00	89.420	157.110	5988.89	9486.46	-8924.05	3222.63	1753384.64	14592369.10	40°10'46.340"N	80°35'44.001"W	9488.10	160.144	0.47	0.08	-0.47
15497.00	89.380	157.460	5989.86	9579.24	-9009.84	3258.54	1753420.53	14592283.35	40°10'45.491"N	80°35'43.543"W	9580.98	160.117	0.38	-0.04	0.38
15590.00	89.540	157.190	5990.74	9672.02	-9095.64	3294.94	1753456.37	14592197.57	40°10'44.641"N	80°35'43.086"W	9673.87	160.090	0.34	0.17	-0.29
15682.00	89.600	156.050	5991.43	9763.72	-9180.09	3330.90	1753492.86	14592123.16	40°10'43.805"N	80°35'42.621"W	9765.70	160.057	1.24	0.07	-1.24
15774.00	89.450	155.770	5992.19	9855.33	-9264.07	3368.45	1753530.40	14592029.21	40°10'42.973"N	80°35'42.142"W	9857.46	160.019	0.35	-0.16	-0.30
15867.00	89.510	156.170	5993.04	9947.93	-9349.01	3406.32	1753568.25	14591944.31	40°10'42.132"N	80°35'41.659"W	9950.22	159.981	0.43	0.06	0.43
15959.00	89.540	154.980	5993.80	10039.48	-9432.77	3444.36	1753606.28	14591860.58	40°10'41.303"N	80°35'41.174"W	10041.95	159.940	1.29	0.03	-1.29
16052.00	89.480	154.080	5994.60	10131.85	-9516.73	3484.35	1753646.25	14591776.66	40°10'40.471"N	80°35'40.664"W	10134.53	159.891	0.97	-0.06	-0.97
16140.00	89.540	154.290	5995.35	10219.18	-9595.94	3522.67	1753684.56	14591697.47	40°10'39.687"N	80°35'40.175"W	10222.10	159.842	0.25	0.07	0.24
16233.00	89.380	155.260	5996.23	10311.59	-9680.07	3562.30	1753724.17	14591613.38	40°10'38.854"N	80°35'39.669"W	10314.73	159.796	1.06	-0.17	1.04
16326.00	89.540	157.610	5997.10	10404.26	-9765.30	3599.48	1753761.34	14591528.18	40°10'38.010"N	80°35'39.195"W	10407.56	159.766	2.53	0.17	2.53
16419.00	89.540	157.190	5997.85	10497.05	-9851.16	3635.22	1753797.06	14591442.35	40°10'37.160"N	80°35'38.740"W	10500.48	159.745	0.45	0.00	-0.45
16511.00	89.480	156.680	5998.64	10588.79	-9935.80	3671.26	1753833.09	14591357.74	40°10'36.322"N	80°35'38.280"W	10592.37	159.721	0.56	-0.07	-0.55
16604.00	89.510	156.830	5999.45	10681.51	-10021.25	3707.96	1753869.78	14591272.33	40°10'35.476"N	80°35'37.813"W	10685.24	159.695	0.16	0.03	0.16
16697.00	89.540	157.150	6000.23	10774.25	-10106.84	3744.31	1753906.11	14591186.77	40°10'34.628"N	80°35'37.349"W	10778.13	159.672	0.35	0.03	0.34
16789.00	89.450	158.160	6001.04	10866.07	-10191.93	3779.29	1753941.08	14591101.71	40°10'33.786"N	80°35'36.904"W	10870.07	159.655	1.10	-0.10	1.10
16882.00	89.600	158.350	6001.81	10958.94	-10278.31	3813.74	1753975.52	14591015.37	40°10'32.931"N	80°35'36.465"W	10963.04	159.643	0.26	0.16	0.20
16973.00	89.600	158.870	6002.44	11049.85	-10363.04	3846.93	1754008.69	14590930.67	40°10'32.092"N	80°35'36.042"W	11054.03	159.634	0.57	0.00	0.57
17066.00	89.660	158.750	6003.04	11142.76	-10449.75	3880.54	1754042.29	14590843.99	40°10'31.233"N	80°35'35.614"W	11147.01	159.627	0.14	0.06	-0.13
17159.00	89.540	156.140	6003.69	11235.55	-10535.63	3916.21	1754077.95	14590758.15	40°10'30.383"N	80°35'35.160"W	11239.94	159.609	2.81	-0.13	-2.81
17249.00	89.110	155.300	6004.75	11325.13	-10617.66	3953.22	1754114.94	14590676.15	40°10'29.571"N	80°35'34.688"W	11329.72	159.578	1.05	-0.48	-0.93
17341.00	89.140	155.730	6006.16	11416.67	-10701.38	3991.34	1754153.05	14590592.46	40°10'28.742"N	80°35'34.202"W	11421.48	159.546	0.47	0.03	0.47
17433.00	89.320	156.490	6007.39	11508.29	-10785.49	4028.68	1754190.29	14590508.39	40°10'27.909"N	80°35'33.727"W	11513.31	159.518	0.85	0.20	0.83
17526.00	89.200	156.650	6008.60	11600.98	-10870.81	4065.57	1754227.25	14590423.09	40°10'27.064"N	80°35'33.256"W	11606.18	159.495	0.22	-0.13	0.17
17619.00	89.260	157.460	6009.85	11693.73	-10956.44	4101.83	1754263.49	14590337.49	40°10'26.216"N	80°35'32.794"W	11699.09	159.475	0.87	0.06	0.87
17711.00	89.140	159.390	6011.13	11785.60	-11041.99	4135.65	1754297.30	14590251.99	40°10'25.369"N	80°35'32.363"W	11791.06	159.467	2.10	-0.13	2.10
17804.00	89.260	158.080	6012.43	11878.51	-11128.64	4169.38	1754331.01	14590165.36	40°10'24.512"N	80°35'31.934"W	11884.04	159.461	1.41	0.13	-1.41
17896.00	89.200	158.330	6013.67	11970.37	-11214.06	4203.53	1754365.15	14590079.98	40°10'23.666"N	80°35'31.499"W	11976.01	159.452	0.28	-0.07	0.27



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 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]
17988.00	89.170	157.310	6014.97	12062.20	-11299.24	4238.26	1754399.87	14589994.83	40°10'22.823"N	80°35'31.056"W	12067.96	159.439	1.11	-0.03	-1.11
18081.00	89.480	156.630	6016.07	12154.94	-11384.82	4274.64	1754436.23	14589909.28	40°10'21.975"N	80°35'30.593"W	12160.87	159.420	0.80	0.33	-0.73
18173.00	89.320	154.020	6017.03	12246.44	-11468.41	4313.04	1754474.62	14589825.73	40°10'21.148"N	80°35'30.103"W	12252.62	159.390	2.84	-0.17	-2.84
18266.00	89.420	154.610	6018.06	12338.76	-11552.22	4353.35	1754514.91	14589741.95	40°10'20.318"N	80°35'29.589"W	12345.26	159.352	0.64	0.11	0.63
18359.00	89.420	152.510	6019.00	12430.92	-11635.48	4394.75	1754556.30	14589658.72	40°10'19.493"N	80°35'29.060"W	12437.77	159.308	2.26	0.00	-2.26
18452.00	89.480	151.910	6019.89	12522.78	-11717.75	4438.11	1754599.64	14589493.37	40°10'18.678"N	80°35'28.507"W	12530.06	159.256	0.65	0.06	-0.65
18545.00	89.480	154.910	6020.73	12614.90	-11800.90	4479.73	1754641.25	14589408.90	40°10'17.854"N	80°35'27.976"W	12622.57	159.213	3.23	0.00	3.23
18637.00	89.510	158.560	6021.55	12706.60	-11885.40	4516.06	1754677.56	14589408.90	40°10'17.018"N	80°35'27.513"W	12714.46	159.195	3.97	0.03	3.97
18730.00	89.450	161.790	6022.39	12799.57	-11972.88	4547.60	1754709.09	14589321.46	40°10'16.152"N	80°35'27.112"W	12807.43	159.202	3.47	-0.06	3.47
18823.00	89.420	165.050	6023.31	12892.48	-12061.99	4574.13	1754735.61	14589232.38	40°10'15.270"N	80°35'26.775"W	12900.17	159.232	3.51	-0.03	3.51
18915.00	89.450	167.740	6024.21	12984.09	-12151.40	4595.77	1754757.24	14589143.01	40°10'14.385"N	80°35'26.502"W	12991.44	159.283	2.92	0.03	2.92
19008.00	89.780	170.690	6024.84	13076.18	-12242.74	4613.17	1754774.63	14589051.70	40°10'13.482"N	80°35'26.283"W	13083.05	159.353	3.19	0.35	3.17
19101.00	89.720	173.650	6025.25	13167.47	-12334.86	4625.84	1754787.29	14588959.61	40°10'12.571"N	80°35'26.125"W	13173.73	159.443	3.18	-0.06	3.18
19193.00	89.690	176.410	6025.72	13256.79	-12426.51	4633.81	1754795.26	14588868.00	40°10'11.665"N	80°35'26.028"W	13262.36	159.550	3.00	-0.03	3.00
19286.00	89.660	179.090	6026.25	13345.94	-12519.43	4637.46	1754798.91	14588775.12	40°10'10.747"N	80°35'25.986"W	13350.73	159.674	2.88	-0.03	2.88
19379.00	89.940	181.280	6026.57	13433.88	-12612.42	4633.72	1754798.61	14588682.16	40°10'09.828"N	80°35'25.996"W	13437.87	159.813	2.37	0.30	2.35
19472.00	89.880	182.960	6026.72	13520.75	-12705.35	4633.72	1754795.17	14588589.27	40°10'08.910"N	80°35'26.046"W	13523.95	159.963	1.81	-0.06	1.81
19564.00	89.910	184.090	6026.89	13605.86	-12797.18	4628.06	1754789.52	14588497.48	40°10'08.002"N	80°35'26.124"W	13608.33	160.118	1.23	0.03	1.23
19657.00	89.820	185.130	6027.10	13691.21	-12889.88	4620.58	1754782.05	14588404.82	40°10'07.087"N	80°35'26.226"W	13693.02	160.279	1.12	-0.10	1.12
19750.00	90.000	185.160	6027.25	13776.21	-12982.50	4612.24	1754773.71	14588312.23	40°10'06.172"N	80°35'26.339"W	13777.45	160.442	0.20	0.19	0.03
19843.00	89.970	182.420	6027.28	13862.07	-13075.29	4606.10	1754767.56	14588219.47	40°10'05.255"N	80°35'26.423"W	13862.87	160.594	2.95	-0.03	-2.95
19935.00	90.060	178.110	6027.25	13949.01	-13167.27	4605.67	1754767.14	14588127.53	40°10'04.346"N	80°35'26.434"W	13949.52	160.721	4.69	0.10	-4.68
20028.00	90.250	176.250	6027.00	14038.42	-13260.15	4610.25	1754771.71	14588034.69	40°10'03.428"N	80°35'26.381"W	14038.73	160.829	2.01	0.20	-2.00
20116.00	89.940	174.940	6026.85	14123.66	-13347.89	4617.01	1754778.47	14587946.98	40°10'02.561"N	80°35'26.299"W	14123.84	160.920	1.53	-0.35	-1.49
20206.00	90.280	172.910	6026.68	14211.45	-13437.38	4626.53	1754787.99	14587857.53	40°10'01.676"N	80°35'26.182"W	14211.54	161.001	2.29	0.38	-2.26
20299.00	90.710	170.040	6025.88	14300.94	-13529.33	4640.33	1754801.77	14587765.60	40°10'00.767"N	80°35'26.010"W	14302.99	161.069	3.12	0.46	-3.09
20392.00	90.740	166.990	6024.70	14395.17	-13620.45	4658.83	1754820.27	14587674.52	40°09'59.865"N	80°35'25.777"W	14395.19	161.117	3.28	0.03	-3.28
20484.00	90.310	164.120	6023.86	14486.89	-13709.53	4681.77	1754843.21	14587585.48	40°09'58.984"N	80°35'25.486"W	14486.90	161.145	3.15	-0.47	-3.12
20574.00	88.950	164.200	6024.44	14576.77	-13796.11	4706.34	1754867.77	14587498.93	40°09'58.128"N	80°35'25.175"W	14576.77	161.164	1.51	-1.51	0.09
20667.00	89.570	165.300	6025.64	14669.58	-13885.83	4730.80	1754892.22	14587409.25	40°09'57.240"N	80°35'24.865"W	14669.58	161.186	1.36	0.67	1.18

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

WELLPATH DATA (245 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]
20759.00	89.750	163.370	6026.19	14761.44	-13974.40	4755.64	1754917.05	14587320.71	40°09'56.363"N	80°35'24.551"W	14761.44	161.206	2.11	0.20	-2.10
20852.00	89.020	164.110	6027.18	14854.34	-14063.68	4781.68	1754943.07	14587231.47	40°09'55.480"N	80°35'24.221"W	14854.34	161.222	1.12	-0.78	0.80
20945.00	89.820	166.290	6028.13	14947.11	-14153.58	4805.43	1754966.82	14587141.60	40°09'54.590"N	80°35'23.920"W	14947.11	161.247	2.50	0.86	2.34
21037.00	89.450	164.550	6028.71	15038.85	-14242.61	4828.59	1754989.97	14587052.60	40°09'53.710"N	80°35'23.627"W	15038.86	161.272	1.93	-0.40	-1.89
21069.00	89.450	164.550	6029.02	15070.80	-14273.46	4837.11	1754998.49	14587021.77	40°09'53.404"N	80°35'23.519"W	15070.81	161.279	0.00	0.00	0.00

SOLE & CASING SECTIONS - Ref Wellbore: Linda Greathouse BRK 6H AWB Ref Wellpath: Linda Greathouse BRK 6H AWP Proj: 21069'

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	-0.39	0.06
17.5in Open Hole	100.00	405.00	305.00	100.00	404.98	-0.39	0.06	-3.41	0.81
13.375in Casing Surface	26.00	405.00	379.00	26.00	404.98	0.00	0.00	-3.41	0.81
12.25in Open Hole	405.00	1678.00	1273.00	404.98	1677.73	-3.41	0.81	-15.41	7.32
9.625in Casing Intermediate	26.00	1678.00	1652.00	26.00	1677.73	0.00	0.00	-15.41	7.32
8.75in Open Hole	1678.00	6076.00	4398.00	1677.73	5825.53	-15.41	7.32	-416.76	-556.08
8.5in Open Hole	6076.00	21069.00	14993.00	5825.53	6029.02	-416.76	-556.08	-14273.46	4837.11
5.5in Casing Production	26.00	21069.00	21043.00	26.00	6029.02	0.00	0.00	-14273.46	4837.11



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWB
Facility	Linda Greathouse BRK Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Linda Greathouse BRK 6H LP Rev-3	5879.28	-592.78	-463.60	1749699.83	14600697.14	40°12'08.832"N	80°36'31.018"W	point
Linda Greathouse BRK 6H LP Rev-4	5879.28	-600.89	-470.27	1749693.17	14600689.03	40°12'08.752"N	80°36'31.105"W	point
Linda Greathouse BRK 6H TP 1 Rev 2	6027.36	-11748.10	4460.67	1754622.19	14589546.15	40°10'18.377"N	80°35'28.218"W	point
Linda Greathouse BRK 6H TP 2 Rev 3	6040.82	-12810.98	4627.39	1754788.85	14588483.68	40°10'07.866"N	80°35'26.133"W	point
Linda Greathouse BRK 6H BHL Rev-2	6059.00	-14268.24	4855.23	1755016.60	14587026.98	40°09'53.455"N	80°35'23.285"W	point

WELLPATH COMPOSITION - Ref Wellbore: Linda Greathouse BRK 6H AWB Ref Wellpath: Linda Greathouse BRK 6H AWP Proj: 21069'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	403.00	Gyrodata standard - Continuous gyro	01 Gyrodata NS CT <17 1/2"> (100'-403')	Linda Greathouse BRK 6H AWB
403.00	1620.00	OWSG MWD rev2 + HRGM	02 Premier MWD <12 1/4"> (512'-1620')	Linda Greathouse BRK 6H AWB
1620.00	6016.00	OWSG MWD rev2 + HRGM	03 Premier MWD <8 3/4"> (1731'-6016')	Linda Greathouse BRK 6H AWB
6016.00	21037.00	BH AutoTrak Curve (Short)	04 BH AT Curve <8 1/2"> (6051'-21037')	Linda Greathouse BRK 6H AWB
21037.00	21069.00	Blind Drilling (std)	Projection to bit	Linda Greathouse BRK 6H AWB



Actual Wellpath Report

Linda Greathouse BRK 6H AWP Proj: 21069'
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Brooke County, WV	Well	Linda Greathouse BRK 6H
Field	Brooke	Wellbore	Linda Greathouse BRK 6H AWP
Facility	Linda Greathouse BRK Pad		

COMMENTS

Wellpath general comments

API: 47-009-00277-0000
BH Job #: 110021784A
Rig: SDC 41
Duration: 10/08/2019 - 10/14/2019