

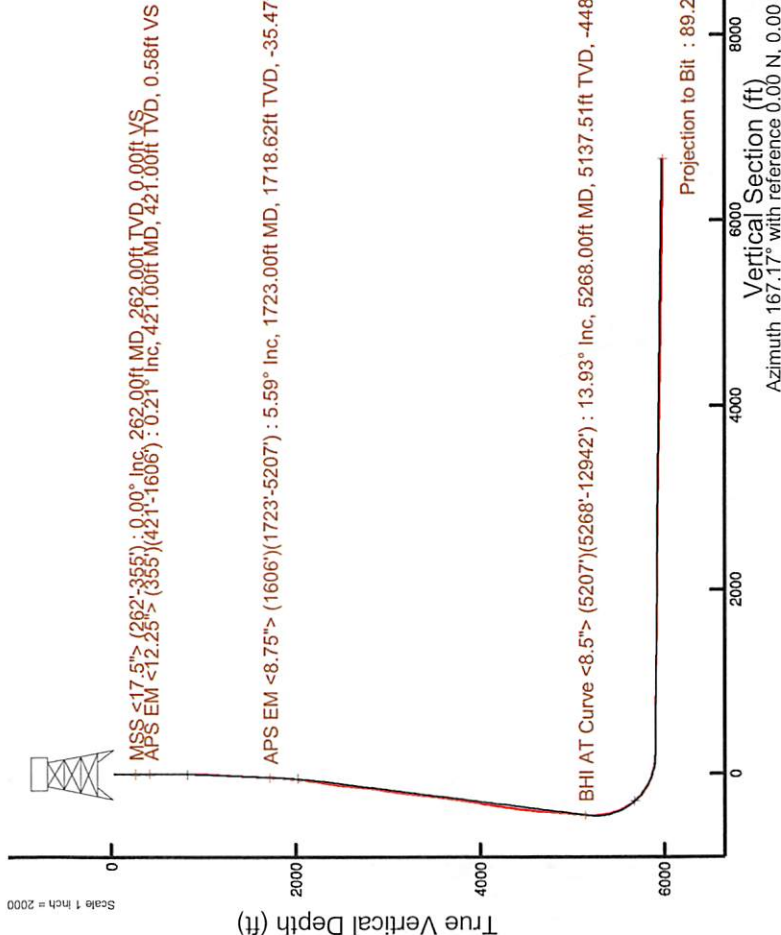
SOUTHWESTERN ENERGY

Location: Brooke County, WV
 Slot: Slot #06
 Well: John Good Jr BRK 6H
 Field: Brooke
 Facility: John Good Jr BRK Pad Wellbore: John Good Jr BRK 6H PWB

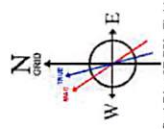
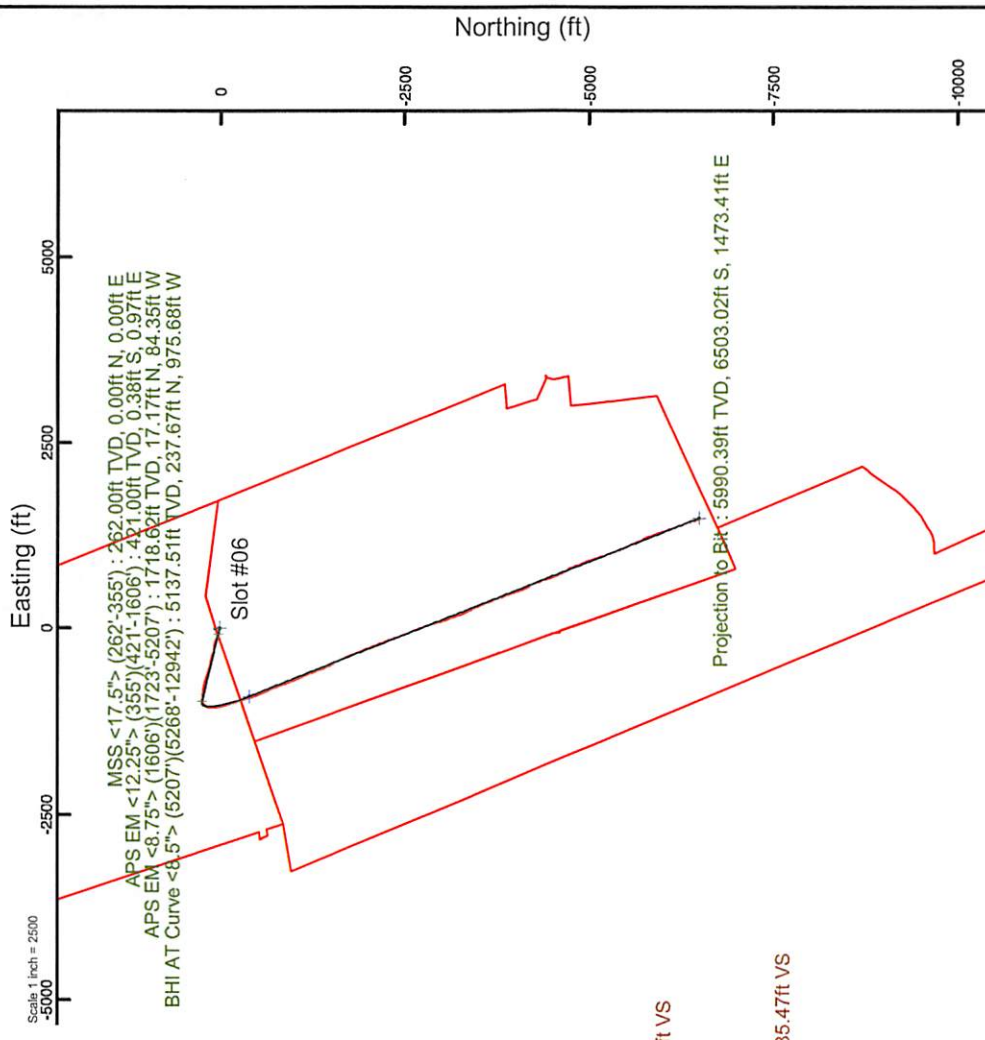
Plot reference wellpath is John Good Jr BRK 6H PWB Rev A.0 Grid System: NAD83 / UTM Zone 17 North, US feet
 True vertical depths are referenced to SDC-46 (RKB) North Reference: Grid north
 Measured depths are referenced to SDC-46 (RKB) Scale: True distance
 SDC-46 (RKB) to Mean Sea Level: 1178.6 feet
 Mean Sea Level to Ground level (At Slot: Slot #06): -1152.6 feet
 Coordinates are in feet referenced to Slot Database: WA_MPL_EASTERNUS_Dein

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
John Good Jr BRK Pad	1757463.232	14608504.851	80°34'50.452"W
Slot #06	Local N (ft)	Grid North (US ft)	Longitude
	0.03	1757463.260	80°34'50.452"W
SDC-46 (RKB) to Ground level (At Slot: Slot #06)	26ft		
Mean Sea Level to Ground level (At Slot: Slot #06)	-1152.6ft		
SDC-46 (RKB) to Mean Sea Level	1178.6ft		

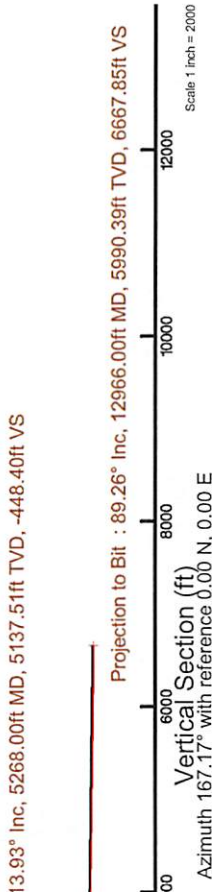
Well Profile Data								
Design Comment	MD (ft)	Az (°)	Inc (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	26.00	0.000	283.497	26.00	0.00	0.00	0.00	0.00
Start Nudge	700.00	0.000	283.497	700.00	0.00	0.00	0.00	0.00
End Nudge	950.00	5.000	283.497	949.68	2.54	-10.60	2.00	-4.83
Start Build	1753.37	5.000	283.497	1750.00	18.89	-78.69	0.00	-35.89
End Build	2313.59	16.204	283.496	2299.78	42.90	-178.75	2.00	-81.53
Curve KOP	5311.04	16.204	283.496	5178.15	238.13	-992.14	0.00	-452.49
Landing Point	6405.90	89.310	158.505	5897.00	-401.57	-921.88	9.00	186.84
Total Depth	12965.97	89.310	158.505	5976.00	-6504.96	1481.64	0.00	6671.56



API: 47-009-00188-0000
 Job#: 8627635
 Rig: SDC-46
 Duration: 07/12/17 - 07/19/17



User specified Dip: 67.75° Field: 52721 nT
 Magnetic North is 8.32 degrees West of True North (at 29 Jun 2017)
 To correct azimuth from True North to Grid subtract 0.27 degrees
 To correct azimuth from Magnetic to Grid subtract 8.59 degrees



REFERENCE WELLPATH IDENTIFICATION

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

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Amarcar
Scale	0.999616	Report Generated	24/Jul/2017 at 13:36
Convergence at slot	0.27° East	Database/Source file	WA_MPL_EASTERNUS_Defn/John_Good_Jr_BRK_6H_AWP_Proj_12966_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.04	0.03	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W
Facility Reference Pt			1757463.23	14608504.85	40°13'25.666"N	80°34'50.452"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 (RKB) to Facility Vertical Datum	26.00ft
Horizontal Reference Pt	Slot	SDC-46 (RKB) to Mean Sea Level	1178.60ft
Vertical Reference Pt	SDC-46 (RKB)	SDC-46 (RKB) to Ground Level at Slot (Slot #06)	26.00ft
MD Reference Pt	SDC-46 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	167.17°



Actual Wellpath Report

John Good Jr BRK 6H AWP Proj: 12966'
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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (154 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	105.480	0.00	0.00	0.00	0.00	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	105.480	26.00	0.00	0.00	0.00	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	0.00	0.000	0.00	0.00	0.00
262.00	0.000	254.880	262.00	0.00	0.00	0.00	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	0.00	0.000	0.00	0.00	0.00
355.00	0.700	105.480	355.00	0.27	-0.15	0.55	1757463.81	14608504.66	40°13'25.664"N	80°34'50.445"W	0.57	105.480	0.75	0.75	113.42
421.00	0.210	165.590	421.00	0.58	-0.38	0.97	1757464.23	14608504.43	40°13'25.662"N	80°34'50.439"W	1.04	111.285	0.94	-0.74	91.08
514.00	0.380	167.820	513.99	1.06	-0.84	1.07	1757464.33	14608503.97	40°13'25.657"N	80°34'50.438"W	1.36	128.136	0.18	0.18	2.40
606.00	0.740	174.220	605.99	1.95	-1.73	1.20	1757464.46	14608503.08	40°13'25.648"N	80°34'50.436"W	2.11	145.336	0.40	0.39	6.96
699.00	0.930	236.640	698.98	2.82	-2.74	0.63	1757463.89	14608502.07	40°13'25.638"N	80°34'50.444"W	2.82	167.114	0.95	0.20	67.12
792.00	1.600	260.990	791.96	2.99	-3.36	-1.28	1757461.98	14608501.45	40°13'25.632"N	80°34'50.468"W	3.60	200.909	0.91	0.72	26.18
884.00	2.290	280.910	883.91	2.17	-3.22	-4.36	1757488.90	14608501.59	40°13'25.634"N	80°34'50.508"W	5.42	233.573	1.04	0.75	21.65
977.00	3.860	290.490	976.77	-0.30	-1.77	-9.12	1757454.15	14608503.04	40°13'25.649"N	80°34'50.569"W	9.29	259.018	1.77	1.69	10.30
1070.00	5.030	290.210	1069.49	-4.24	0.74	-15.87	1757447.39	14608505.55	40°13'25.674"N	80°34'50.656"W	15.89	272.653	1.26	1.26	-0.30
1163.00	5.950	289.130	1162.06	-9.02	3.72	-24.25	1757439.02	14608508.53	40°13'25.704"N	80°34'50.764"W	24.54	278.728	1.00	0.99	-1.16
1256.00	6.780	287.580	1254.49	-14.35	6.96	-34.04	1757429.23	14608511.77	40°13'25.736"N	80°34'50.890"W	34.75	281.557	0.91	0.89	-1.67
1348.00	7.350	286.140	1345.79	-19.95	10.24	-44.87	1757418.41	14608515.04	40°13'25.769"N	80°34'51.029"W	46.02	282.852	0.65	0.62	-1.57
1441.00	6.620	281.750	1438.10	-25.06	12.98	-55.83	1757407.45	14608517.79	40°13'25.796"N	80°34'51.171"W	57.32	283.090	0.97	-0.78	-4.72
1534.00	5.930	275.780	1530.54	-28.82	14.56	-65.86	1757397.42	14608519.36	40°13'25.813"N	80°34'51.300"W	67.45	282.464	1.02	-0.74	-6.42
1606.00	5.620	278.860	1602.18	-31.31	15.48	-73.05	1757390.24	14608520.28	40°13'25.822"N	80°34'51.392"W	74.67	281.962	0.61	-0.43	4.28
1723.00	5.590	278.150	1718.62	-35.47	17.17	-84.35	1757378.94	14608521.97	40°13'25.839"N	80°34'51.538"W	86.08	281.504	0.06	-0.03	-0.61
1816.00	7.220	285.580	1811.03	-39.87	19.38	-94.46	1757368.83	14608524.18	40°13'25.861"N	80°34'51.668"W	96.43	281.593	1.96	1.75	7.99
1909.00	8.650	286.970	1903.14	-46.13	22.99	-106.78	1757356.52	14608527.79	40°13'25.898"N	80°34'51.827"W	109.23	282.150	1.55	1.54	1.49
2002.00	9.060	287.500	1995.03	-53.30	27.23	-120.45	1757342.85	14608532.03	40°13'25.940"N	80°34'52.003"W	123.49	282.739	0.45	0.44	0.57
2095.00	10.880	291.300	2086.63	-61.92	32.62	-135.62	1757327.70	14608537.42	40°13'25.994"N	80°34'52.198"W	139.48	283.526	2.08	1.96	4.09
2187.00	13.700	296.210	2176.51	-73.66	40.59	-153.48	1757309.84	14608545.38	40°13'26.074"N	80°34'52.428"W	158.76	284.813	3.27	3.07	5.34
2280.00	15.380	292.920	2266.53	-87.80	50.26	-174.73	1757288.60	14608555.05	40°13'26.170"N	80°34'52.701"W	181.81	286.047	2.01	1.81	-3.54
2373.00	16.520	287.920	2355.95	-101.77	59.13	-198.67	1757264.67	14608563.92	40°13'26.259"N	80°34'53.009"W	207.28	286.575	1.92	1.23	-5.38
2465.00	17.530	281.530	2443.93	-114.17	65.92	-224.69	1757238.66	14608570.71	40°13'26.328"N	80°34'53.344"W	234.16	286.352	2.31	1.10	-6.95
2558.00	16.430	278.880	2532.87	-124.82	70.76	-251.41	1757211.95	14608575.54	40°13'26.377"N	80°34'53.688"W	261.18	285.718	1.45	-1.18	-2.85
2650.00	15.220	277.160	2621.39	-133.76	74.27	-276.25	1757187.12	14608579.05	40°13'26.412"N	80°34'54.008"W	286.06	285.048	1.41	-1.32	-1.87
2743.00	14.580	279.490	2711.26	-142.38	77.72	-299.91	1757163.47	14608582.50	40°13'26.448"N	80°34'54.313"W	309.81	284.529	0.94	-0.69	2.51

Actual Wellpath Report

John Good Jr BRK 6H AWP Proj: 12966'
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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (154 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]
2839.00	15.580	285.800	2803.96	-153.14	83.22	-324.23	1757139.15	14608588.00	40°13'26.503"N	80°34'54.626"W	334.74	284.396	2.00	1.04	6.57
2932.00	16.840	289.550	2893.26	-166.34	91.13	-348.94	1757114.45	14608595.91	40°13'26.582"N	80°34'54.945"W	360.65	284.637	1.76	1.35	4.03
3025.00	16.860	288.770	2882.27	-180.62	99.98	-374.41	1757089.00	14608604.75	40°13'26.671"N	80°34'55.272"W	387.53	284.951	0.24	0.02	-0.84
3117.00	17.220	284.270	3070.23	-193.82	107.63	-400.24	1757063.17	14608612.40	40°13'26.748"N	80°34'55.605"W	414.46	285.051	1.49	0.39	-4.89
3210.00	17.050	280.580	3159.11	-205.51	113.53	-426.88	1757036.44	14608618.29	40°13'26.807"N	80°34'55.949"W	441.82	284.889	1.18	-0.18	-3.97
3303.00	16.080	279.320	3248.25	-215.78	118.12	-453.10	1757010.34	14608622.88	40°13'26.854"N	80°34'56.286"W	468.24	284.611	1.11	-1.04	-1.35
3396.00	14.960	278.710	3337.86	-225.04	122.02	-477.67	1756985.77	14608626.78	40°13'26.894"N	80°34'56.602"W	493.01	284.330	1.22	-1.20	-0.66
3488.00	15.120	281.490	3426.71	-234.35	126.21	-501.17	1756962.29	14608630.97	40°13'26.936"N	80°34'56.905"W	516.82	284.135	0.80	0.17	3.02
3581.00	16.280	286.010	3516.24	-245.63	132.22	-525.59	1756937.88	14608636.98	40°13'26.997"N	80°34'57.219"W	541.96	284.121	1.81	1.25	4.86
3674.00	16.200	287.300	3605.53	-258.43	139.67	-550.50	1756912.97	14608644.43	40°13'27.071"N	80°34'57.540"W	567.94	284.237	0.40	-0.09	1.39
3767.00	15.810	286.990	3694.92	-271.24	147.23	-575.00	1756888.48	14608651.99	40°13'27.147"N	80°34'57.855"W	593.55	284.362	0.43	-0.42	-0.33
3859.00	14.300	286.490	3783.76	-283.04	154.12	-597.89	1756865.60	14608658.87	40°13'27.216"N	80°34'58.150"W	617.43	284.455	1.65	-1.64	-0.54
3952.00	14.580	289.950	3873.83	-295.00	161.37	-619.90	1756843.60	14608666.12	40°13'27.289"N	80°34'58.433"W	640.56	284.591	0.98	0.30	3.72
4044.00	17.030	292.970	3962.34	-309.15	170.58	-643.20	1756820.31	14608675.33	40°13'27.381"N	80°34'58.733"W	665.43	284.854	2.81	2.66	3.28
4137.00	18.370	291.120	4050.94	-325.30	181.18	-669.41	1756794.11	14608685.92	40°13'27.487"N	80°34'59.070"W	693.49	285.145	1.56	1.44	-1.99
4230.00	18.980	287.020	4139.05	-341.02	190.89	-697.54	1756765.99	14608695.62	40°13'27.584"N	80°34'59.433"W	723.19	285.305	1.56	0.66	-4.41
4326.00	18.580	283.930	4229.94	-355.67	199.14	-727.31	1756736.23	14608703.87	40°13'27.667"N	80°34'59.816"W	754.08	285.312	1.12	-0.42	-3.22
4418.00	17.210	282.960	4317.48	-368.19	205.72	-754.80	1756708.75	14608710.45	40°13'27.734"N	80°35'00.170"W	782.33	285.246	1.52	-1.49	-1.05
4511.00	16.100	281.050	4406.58	-379.40	211.28	-780.87	1756682.69	14608716.01	40°13'27.790"N	80°35'00.506"W	808.94	285.140	1.33	-1.19	-2.05
4604.00	15.280	280.800	4496.12	-389.53	216.05	-805.56	1756658.01	14608720.77	40°13'27.838"N	80°35'00.824"W	834.03	285.013	0.88	-0.88	-0.27
4697.00	15.490	278.110	4585.78	-398.88	220.09	-829.89	1756633.69	14608724.82	40°13'27.879"N	80°35'01.137"W	858.58	284.853	0.80	0.23	-2.89
4789.00	14.960	273.690	4674.56	-406.65	222.59	-853.91	1756609.68	14608727.32	40°13'27.905"N	80°35'01.446"W	882.44	284.610	1.39	-0.58	-4.80
4882.00	16.100	277.070	4764.16	-414.45	224.95	-878.68	1756584.92	14608729.67	40°13'27.929"N	80°35'01.766"W	907.02	284.360	1.56	1.23	3.63
4975.00	15.280	272.910	4853.70	-422.17	227.16	-903.72	1756559.89	14608731.88	40°13'27.952"N	80°35'02.088"W	931.83	284.110	1.50	-0.88	-4.47
5068.00	14.350	277.260	4943.61	-429.45	229.24	-927.39	1756536.23	14608733.96	40°13'27.974"N	80°35'02.393"W	955.31	283.884	1.56	-1.00	4.68
5160.00	14.200	280.610	5032.77	-437.86	232.76	-949.79	1756513.83	14608737.48	40°13'28.010"N	80°35'02.682"W	977.90	283.770	0.91	-0.16	3.64
5207.00	14.200	281.490	5078.33	-442.52	234.97	-961.11	1756502.82	14608739.69	40°13'28.032"N	80°35'02.828"W	989.41	283.738	0.46	0.00	1.87
5268.00	13.930	279.540	5137.51	-448.40	237.67	-975.68	1756487.95	14608742.39	40°13'28.060"N	80°35'03.015"W	1004.21	283.691	0.89	-0.44	-3.20
5314.00	13.110	269.970	5182.24	-451.66	238.59	-986.36	1756477.28	14608743.31	40°13'28.069"N	80°35'03.153"W	1014.81	283.598	5.17	-1.78	-20.80
5360.00	14.110	248.650	5226.97	-451.99	236.54	-996.81	1756466.84	14608741.26	40°13'28.049"N	80°35'03.288"W	1024.49	283.349	11.06	2.17	-46.35

REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (154 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]
5407.00	15.000	237.950	5272.47	-449.14	231.23	-1007.30	1756456.35	14608735.95	40°13'27.997"N	80°35'03.423"W	1033.50	282.928	6.02	1.89	-22.77
5453.00	15.610	229.130	5316.85	-444.27	224.02	-1017.03	1756446.63	14608728.74	40°13'27.927"N	80°35'03.549"W	1041.41	282.422	5.23	1.33	-19.17
5499.00	17.770	221.720	5360.91	-437.28	214.73	-1026.38	1756437.28	14608719.46	40°13'27.835"N	80°35'03.670"W	1048.60	281.816	6.58	4.70	-16.11
5546.00	20.790	218.050	5405.27	-427.86	202.80	-1036.30	1756427.36	14608707.54	40°13'27.718"N	80°35'03.799"W	1055.96	281.073	6.92	6.43	-7.81
5592.00	23.680	211.840	5447.85	-416.14	188.52	-1046.21	1756417.46	14608693.26	40°13'27.577"N	80°35'03.928"W	1063.06	280.215	8.09	6.28	-13.50
5638.00	25.510	201.510	5489.70	-401.38	171.45	-1054.72	1756408.95	14608676.19	40°13'27.409"N	80°35'04.038"W	1068.56	279.233	10.14	3.98	-22.46
5685.00	27.220	190.860	5531.83	-383.17	151.46	-1060.46	1756403.21	14608656.22	40°13'27.212"N	80°35'04.114"W	1071.22	278.129	10.68	3.64	-22.66
5731.00	29.710	183.650	5572.28	-362.59	129.75	-1063.16	1756400.51	14608634.51	40°13'26.997"N	80°35'04.150"W	1071.05	276.958	9.22	5.41	-15.67
5778.00	32.500	179.170	5612.52	-339.07	105.49	-1063.72	1756399.95	14608610.26	40°13'26.757"N	80°35'04.158"W	1068.94	275.664	7.71	5.94	-9.53
5824.00	36.660	176.570	5650.39	-313.42	79.41	-1062.72	1756400.95	14608584.19	40°13'26.500"N	80°35'04.147"W	1065.69	274.274	9.59	9.04	-5.65
5870.00	41.180	174.060	5686.17	-284.82	50.63	-1060.33	1756403.34	14608555.42	40°13'26.215"N	80°35'04.118"W	1061.54	272.734	10.41	9.83	-5.46
5917.00	45.380	170.370	5720.39	-252.74	18.73	-1055.93	1756407.74	14608523.53	40°13'25.900"N	80°35'04.063"W	1056.10	271.016	10.43	8.94	-7.85
5963.00	49.230	168.140	5751.58	-218.96	-14.48	-1049.61	1756414.06	14608490.34	40°13'25.571"N	80°35'03.984"W	1049.71	269.210	9.10	8.37	-4.85
6010.00	54.840	166.180	5780.48	-181.92	-50.58	-1041.35	1756422.31	14608454.25	40°13'25.214"N	80°35'03.880"W	1042.58	267.219	12.38	11.94	-4.17
6056.00	59.800	164.450	5805.31	-143.24	-88.02	-1031.53	1756432.13	14608416.83	40°13'24.844"N	80°35'03.755"W	1035.28	265.123	11.24	10.78	-3.76
6102.00	65.010	163.460	5826.61	-102.55	-127.18	-1020.26	1756443.40	14608377.68	40°13'24.456"N	80°35'03.612"W	1028.15	262.894	11.49	11.33	-2.15
6149.00	69.220	163.290	5844.88	-59.36	-168.66	-1007.87	1756455.78	14608336.22	40°13'24.046"N	80°35'03.455"W	1021.88	260.500	8.96	8.96	-0.36
6192.00	71.540	163.170	5859.32	-18.95	-207.44	-996.18	1756467.46	14608297.45	40°13'23.662"N	80°35'03.307"W	1017.55	258.237	5.40	5.40	-0.28
6238.00	74.310	162.950	5872.83	24.90	-249.50	-983.37	1756480.27	14608255.41	40°13'23.246"N	80°35'03.144"W	1014.53	255.763	6.04	6.02	-0.48
6284.00	78.730	161.790	5883.55	69.47	-292.12	-969.82	1756493.81	14608212.81	40°13'22.824"N	80°35'02.972"W	1012.86	253.237	9.92	9.61	-2.52
6331.00	82.970	161.210	5891.02	115.63	-336.11	-955.10	1756508.53	14608168.83	40°13'22.389"N	80°35'02.785"W	1012.52	250.612	9.10	9.02	-1.23
6424.00	89.450	162.410	5897.16	207.97	-424.22	-926.15	1756537.47	14608080.75	40°13'21.517"N	80°35'02.417"W	1018.69	245.390	7.09	6.97	1.29
6516.00	89.510	161.170	5898.00	299.56	-511.61	-897.40	1756566.20	14607993.40	40°13'20.652"N	80°35'02.052"W	1033.00	240.313	1.35	0.07	-1.35
6609.00	89.110	156.640	5899.12	391.56	-598.35	-863.94	1756599.65	14607906.69	40°13'19.793"N	80°35'01.626"W	1050.91	235.294	4.89	-0.43	-4.87
6702.00	89.170	154.490	5900.52	482.65	-683.00	-825.48	1756638.10	14607822.07	40°13'18.955"N	80°35'01.135"W	1071.41	230.396	2.31	0.06	-2.31
6794.00	89.630	159.810	5901.48	573.21	-767.75	-789.77	1756673.80	14607737.36	40°13'18.116"N	80°35'00.680"W	1101.44	225.810	5.80	0.50	5.78
6887.00	89.570	160.720	5902.13	665.53	-865.28	-758.37	1756705.19	14607649.86	40°13'17.249"N	80°35'00.280"W	1143.08	221.563	0.98	-0.06	0.98
6979.00	89.510	159.510	5902.87	756.83	-941.79	-727.08	1756736.46	14607563.38	40°13'16.393"N	80°34'59.882"W	1189.80	217.669	1.32	-0.07	-1.32
7072.00	89.050	155.180	5904.04	848.43	-1027.59	-691.27	1756772.26	14607477.62	40°13'15.543"N	80°34'59.425"W	1238.46	213.929	4.68	-0.49	-4.66
7165.00	88.890	155.260	5905.71	939.40	-1112.01	-652.29	1756811.22	14607393.23	40°13'14.707"N	80°34'58.928"W	1289.21	210.395	0.19	-0.17	0.09



Actual Wellpath Report

John Good Jr BRK 6H AWP Proj: 12966'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #06
SOUTHWESTERN ENERGY	Well	John Good Jr BRK 6H
Area	Wellbore	John Good Jr BRK 6H AWP
Field		
Facility		

WELLPATH DATA (154 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]
7258.00	88.800	161.480	5907.59	1031.24	-1198.40	-618.04	1756845.46	14607306.87	40°13'13.852"N	80°34'58.492"W	1348.39	207.281	6.69	-0.10	6.69
7350.00	88.710	158.750	5909.58	1122.52	-1284.89	-586.75	1756876.73	14607220.42	40°13'12.996"N	80°34'58.094"W	1412.52	204.544	2.97	-0.10	-2.97
7443.00	88.620	157.170	5911.75	1214.29	-1371.07	-551.87	1756911.61	14607134.27	40°13'12.143"N	80°34'57.649"W	1477.97	201.925	1.70	-0.10	-1.70
7536.00	88.580	155.720	5914.02	1305.64	-1456.29	-514.71	1756948.75	14607049.08	40°13'11.299"N	80°34'57.175"W	1544.58	199.465	1.56	-0.04	-1.56
7629.00	88.680	156.510	5916.25	1396.88	-1541.30	-477.07	1756986.38	14606964.10	40°13'10.457"N	80°34'56.695"W	1613.45	197.198	0.86	0.11	0.86
7722.00	89.170	154.700	5917.99	1487.98	-1625.98	-438.66	1757024.76	14606879.46	40°13'09.618"N	80°34'56.205"W	1684.11	195.098	2.02	0.53	-1.95
7814.00	89.140	156.290	5919.35	1578.06	-1709.68	-400.51	1757062.90	14606795.79	40°13'08.789"N	80°34'55.719"W	1755.97	193.184	1.73	-0.03	1.73
7907.00	89.080	160.820	5920.79	1669.98	-1796.21	-366.52	1757096.88	14606709.29	40°13'07.933"N	80°34'55.286"W	1833.22	191.533	4.87	-0.06	4.87
8000.00	89.170	158.210	5922.21	1762.13	-1883.31	-333.98	1757129.41	14606622.23	40°13'07.071"N	80°34'54.872"W	1912.70	190.056	2.81	0.10	-2.81
8092.00	89.510	155.890	5923.27	1852.68	-1968.02	-298.11	1757165.26	14606537.55	40°13'06.232"N	80°34'54.414"W	1990.47	188.614	2.55	0.37	-2.52
8185.00	89.570	157.670	5924.02	1944.15	-2053.48	-261.45	1757201.91	14606452.12	40°13'05.386"N	80°34'53.947"W	2070.06	187.256	1.92	0.06	1.91
8278.00	89.450	158.840	5924.82	2036.02	-2139.86	-227.00	1757236.35	14606366.78	40°13'04.530"N	80°34'53.508"W	2151.86	186.055	1.26	-0.13	1.26
8371.00	89.510	158.760	5925.66	2128.03	-2226.56	-193.37	1757269.97	14606279.11	40°13'03.672"N	80°34'53.080"W	2234.94	184.963	0.11	0.06	-0.09
8464.00	89.660	162.620	5926.33	2220.42	-2314.31	-162.62	1757300.70	14606191.40	40°13'02.804"N	80°34'52.689"W	2320.01	184.019	4.15	0.16	4.15
8556.00	89.570	160.230	5926.95	2311.94	-2401.51	-133.32	1757329.99	14606104.23	40°13'01.941"N	80°34'52.316"W	2405.20	183.177	2.60	-0.10	-2.60
8649.00	89.230	157.510	5927.93	2403.96	-2488.24	-99.80	1757363.50	14606017.53	40°13'01.082"N	80°34'51.890"W	2490.24	182.297	2.95	-0.37	-2.92
8742.00	89.170	157.380	5929.23	2495.61	-2574.12	-64.13	1757399.16	14605931.69	40°13'00.232"N	80°34'51.435"W	2574.92	181.427	0.15	-0.06	-0.14
8835.00	89.200	157.440	5930.55	2587.26	-2659.98	-28.41	1757434.86	14605845.86	40°12'59.381"N	80°34'50.980"W	2660.13	180.612	0.07	0.03	0.06
8928.00	89.140	158.630	5931.90	2679.07	-2746.21	6.37	1757469.63	14605759.66	40°12'58.528"N	80°34'50.537"W	2746.22	179.867	1.28	-0.06	1.28
9021.00	89.200	162.050	5933.24	2771.38	-2833.77	37.65	1757500.90	14605672.13	40°12'57.661"N	80°34'50.139"W	2834.02	179.239	3.68	0.06	3.68
9113.00	89.200	163.470	5934.53	2863.10	-2921.63	64.92	1757528.15	14605584.31	40°12'56.792"N	80°34'49.793"W	2922.35	178.727	1.54	0.00	1.54
9206.00	89.350	161.270	5935.70	2955.76	-3010.25	93.08	1757556.30	14605495.73	40°12'55.914"N	80°34'49.435"W	3011.68	178.229	2.37	0.16	-2.37
9299.00	89.350	159.660	5936.76	3048.11	-3097.88	124.17	1757587.39	14605408.12	40°12'55.047"N	80°34'49.040"W	3100.37	177.705	1.73	0.00	-1.73
9392.00	89.420	161.310	5937.76	3140.47	-3185.53	155.24	1757618.44	14605320.51	40°12'54.179"N	80°34'48.645"W	3189.31	177.210	1.78	0.08	1.77
9485.00	89.420	156.810	5938.70	3232.51	-3272.86	188.47	1757651.65	14605233.71	40°12'53.320"N	80°34'48.222"W	3277.79	176.704	4.84	0.00	-4.84
9578.00	89.080	154.240	5939.92	3323.58	-3356.99	226.99	1757690.16	14605149.11	40°12'52.482"N	80°34'47.743"W	3364.66	176.132	2.79	-0.37	-2.76
9670.00	88.890	156.700	5941.55	3413.65	-3440.67	265.17	1757728.33	14605065.47	40°12'51.653"N	80°34'47.243"W	3450.87	175.593	2.68	-0.21	2.67
9763.00	88.800	158.060	5943.42	3505.28	-3526.50	300.94	1757764.08	14604979.68	40°12'50.803"N	80°34'46.787"W	3539.31	175.122	1.47	-0.10	1.46
9856.00	88.800	157.550	5945.37	3597.02	-3612.59	336.06	1757799.19	14604893.62	40°12'49.951"N	80°34'46.340"W	3628.18	174.685	0.55	0.00	-0.55
9948.00	88.890	157.460	5947.22	3687.69	-3697.57	371.25	1757834.37	14604808.67	40°12'49.109"N	80°34'45.892"W	3716.16	174.266	0.14	0.10	-0.10

REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (154 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]
10041.00	88.920	159.380	5949.00	3779.59	-3784.03	405.45	1757868.55	14604722.24	40°12'48.253"N	80°34'45.456"W	3805.69	173.884	2.06	0.03	2.06
10134.00	89.050	160.470	5950.65	3871.83	-3871.37	437.37	1757900.46	14604634.94	40°12'47.389"N	80°34'45.050"W	3895.99	173.554	1.18	0.14	1.17
10227.00	89.050	161.380	5952.19	3964.27	-3959.25	467.75	1757930.83	14604547.09	40°12'46.519"N	80°34'44.664"W	3986.78	173.262	0.98	0.00	0.98
10319.00	89.020	161.370	5953.74	4055.78	-4046.42	497.13	1757960.20	14604459.96	40°12'45.656"N	80°34'44.290"W	4076.84	172.996	0.03	-0.03	-0.01
10412.00	89.020	155.830	5955.33	4147.69	-4132.96	531.05	1757994.10	14604373.45	40°12'44.800"N	80°34'43.858"W	4166.93	172.678	5.96	0.00	-5.96
10505.00	89.110	153.020	5956.85	4238.38	-4216.83	571.19	1758034.23	14604289.61	40°12'43.969"N	80°34'43.346"W	4255.33	172.286	3.02	0.10	-3.02
10598.00	89.020	156.490	5958.37	4329.18	-4300.92	610.84	1758073.86	14604205.55	40°12'43.136"N	80°34'42.840"W	4344.08	171.917	3.73	-0.10	3.73
10691.00	88.950	162.720	5960.02	4421.31	-4388.03	643.23	1758106.24	14604118.47	40°12'42.274"N	80°34'42.428"W	4434.93	171.661	6.70	-0.08	6.70
10783.00	89.140	162.840	5961.55	4513.03	-4475.90	670.46	1758133.46	14604030.64	40°12'41.404"N	80°34'42.082"W	4525.83	171.481	0.24	0.21	0.13
10876.00	89.020	155.630	5963.05	4605.07	-4562.79	703.41	1758166.39	14603943.79	40°12'40.544"N	80°34'41.663"W	4616.69	171.236	7.75	-0.13	-7.75
10969.00	88.920	153.420	5964.72	4695.79	-4646.73	743.40	1758206.37	14603859.88	40°12'39.713"N	80°34'41.153"W	4705.82	170.911	2.38	-0.11	-2.38
11062.00	89.450	151.550	5966.04	4785.74	-4729.19	786.35	1758249.31	14603777.44	40°12'38.896"N	80°34'40.604"W	4794.12	170.559	2.09	0.57	-2.01
11155.00	89.570	157.050	5966.84	4876.36	-4812.96	826.67	1758289.61	14603693.71	40°12'38.066"N	80°34'40.090"W	4883.44	170.254	5.92	0.13	5.91
11247.00	89.050	156.440	5967.94	4966.84	-4897.48	862.99	1758325.92	14603609.22	40°12'37.229"N	80°34'39.627"W	4972.93	170.006	0.87	-0.57	-0.66
11340.00	89.050	159.900	5969.46	5058.67	-4983.78	897.56	1758360.47	14603522.95	40°12'36.375"N	80°34'39.186"W	5063.96	169.791	3.72	0.03	3.72
11433.00	88.990	161.300	5971.04	5151.04	-5071.49	928.45	1758391.35	14603435.28	40°12'35.506"N	80°34'38.794"W	5155.78	169.626	1.51	-0.11	1.51
11526.00	89.320	161.580	5972.42	5243.57	-5159.64	958.05	1758420.94	14603347.16	40°12'34.634"N	80°34'38.418"W	5247.83	169.481	0.47	0.37	0.30
11619.00	89.290	159.990	5973.54	5335.98	-5247.45	988.65	1758451.53	14603259.38	40°12'33.765"N	80°34'38.029"W	5339.77	169.330	1.71	-0.03	-1.71
11712.00	89.280	159.340	5974.72	5428.17	-5334.65	1020.97	1758483.83	14603172.22	40°12'32.902"N	80°34'37.617"W	5431.47	169.166	0.70	-0.03	-0.70
11804.00	89.290	158.760	5975.89	5519.24	-5420.56	1053.86	1758516.71	14603086.34	40°12'32.051"N	80°34'37.199"W	5522.05	168.998	0.63	0.03	-0.63
11897.00	89.320	155.790	5977.01	5610.84	-5506.32	1089.78	1758552.62	14603000.61	40°12'31.202"N	80°34'36.741"W	5613.13	168.805	3.19	0.03	-3.19
11990.00	89.230	158.420	5978.19	5702.40	-5591.98	1125.95	1758588.78	14602914.99	40°12'30.354"N	80°34'36.280"W	5704.21	168.616	2.83	-0.10	2.83
12083.00	89.290	156.210	5979.39	5794.01	-5677.78	1161.81	1758624.63	14602829.23	40°12'29.504"N	80°34'35.823"W	5795.43	168.436	2.38	0.06	-2.38
12175.00	89.280	154.460	5980.56	5884.05	-5761.37	1200.27	1758663.00	14602745.66	40°12'28.676"N	80°34'35.334"W	5885.06	168.233	1.90	-0.03	-1.90
12265.00	89.320	156.180	5981.67	5972.12	-5843.14	1237.78	1758700.56	14602663.93	40°12'27.867"N	80°34'34.854"W	5972.81	168.040	1.91	0.07	1.91
12358.00	89.260	161.930	5982.83	6064.14	-5929.95	1271.01	1758733.77	14602577.17	40°12'27.007"N	80°34'34.431"W	6064.64	167.902	6.18	-0.06	6.18
12451.00	89.320	162.300	5983.98	6156.77	-6018.45	1299.56	1758762.32	14602488.68	40°12'26.131"N	80°34'34.069"W	6157.16	167.815	0.40	0.06	0.40
12544.00	89.350	160.280	5985.06	6249.27	-6106.53	1329.39	1758792.14	14602400.64	40°12'25.259"N	80°34'33.690"W	6249.56	167.718	2.17	0.03	-2.17
12636.00	89.170	158.230	5986.25	6340.38	-6192.55	1361.98	1758824.71	14602314.65	40°12'24.408"N	80°34'33.275"W	6340.56	167.596	2.24	-0.20	-2.23
12729.00	89.320	159.160	5987.47	6432.36	-6279.19	1395.76	1758858.48	14602228.05	40°12'23.550"N	80°34'32.845"W	6432.44	167.468	1.01	0.16	1.00



Actual Wellpath Report

John Good Jr BRK 6H AWP Proj: 12966'
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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (154 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]
12822.00	89.260	163.240	5988.62	6524.83	-6367.20	1425.73	1758888.43	14602140.07	40°12'22.679"N	80°34'32.464"W	6524.87	167.379	4.39	-0.06	4.39
12915.00	89.350	159.550	5989.75	6617.33	-6455.32	1455.39	1758918.09	14602051.99	40°12'21.807"N	80°34'32.087"W	6617.35	167.295	3.97	0.10	-3.97
12942.00	89.260	159.220	5990.08	6644.08	-6480.59	1464.89	1758927.59	14602026.73	40°12'21.557"N	80°34'31.966"W	6644.09	167.263	1.27	-0.33	-1.22
12966.00	89.260	159.220	5990.39	6667.85	-6503.02	1473.41	1758936.10	14602004.30	40°12'21.335"N	80°34'31.858"W	6667.85	167.234	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: John Good Jr BRK 6H AWB Ref Wellpath: John Good Jr BRK 6H AWP Proj: 12966'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	26.00	400.00	374.00	26.00	400.00	0.00	0.00	-0.30	0.91
13.375in Casing Surface	26.00	380.00	354.00	26.00	380.00	0.00	0.00	-0.23	0.79
12.25in Open Hole	400.00	1680.00	1280.00	400.00	1675.82	-0.30	0.91	16.56	-80.20
9.625in Casing Intermediate	26.00	1661.00	1635.00	26.00	1656.91	0.00	0.00	16.29	-78.36
8.75in Open Hole	1680.00	5281.00	3601.00	1675.82	5150.13	16.56	-80.20	238.12	-978.75
8.5in Open Hole	5281.00	12966.00	7685.00	5150.13	5990.39	238.12	-978.75	-6503.02	1473.41

REFERENCE WELLPATH IDENTIFICATION

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

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
John Good Jr BRK 6H LP Rev-4	5897.00	-401.57	-921.88	1756541.74	14608103.39	40°13'21.740"N	80°35'02.361"W	point
John Good Jr N LL	5897.00	0.00	0.00	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	polygon
John Good Jr S LL	5897.00	0.00	0.00	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	polygon
John Good Jr SW LL	5897.00	0.00	0.00	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	polygon
John Good Jr BRK 6H BHL Rev-2	5976.00	-6504.96	1481.64	1758944.33	14602002.36	40°12'21.315"N	80°34'31.752"W	point

WELLPATH COMPOSITION - Ref Wellbore: John Good Jr BRK 6H AWB Ref Wellpath: John Good Jr BRK 6H AWP Proj: 12966'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	355.00	OWSG EMS rev2 + HRGM	01 MSS <17.5"> (262'-355')	John Good Jr BRK 6H AWB
355.00	1606.00	BHI NaviTrak (Axial)	02_APS EM <12.25"> (355')(42.1'-1606')	John Good Jr BRK 6H AWB
1606.00	5207.00	BHI NaviTrak (Axial)	03_APS EM <8.75"> (1606')(1723'-5207')	John Good Jr BRK 6H AWB
5207.00	12942.00	BHI AutoTrak Curve (Short)	04_BHI AT Curve <8.5"> (5207')(5268'-12942')	John Good Jr BRK 6H AWB
12942.00	12966.00	Blind Drilling (std)	Projection to bit	John Good Jr BRK 6H AWB

REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
262.00	0.000	254.880	262.00	MSS <17.5"> (262'-355')
421.00	0.210	165.590	421.00	APS EM <12.25"> (355')(421'-1606')
1723.00	5.590	278.150	1718.62	APS EM <8.75"> (1606')(1723'-5207')
5268.00	13.930	279.540	5137.51	BHI AT Curve <8.5"> (5207')(5268'-12942')
12966.00	89.260	159.220	5990.39	Projection to Bit

COMMENTS

Wellpath general comments
 API: 47-009-00188-0000
 Job#: 8627635
 Rig: SDC-46
 Duration: 07/12/17 - 07/19/17

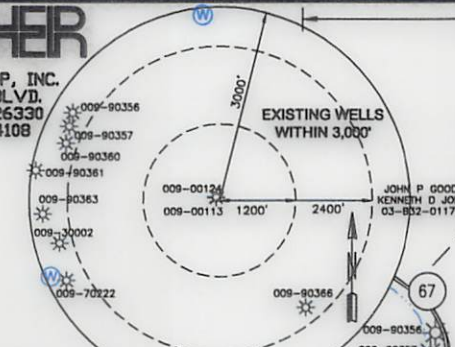
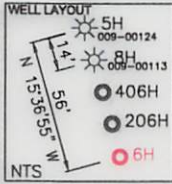
Top Hole Latitude: 40°15'00"

10953'

Bottom Hole Latitude: 40°15'00"-9512'

THRASHER

THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108



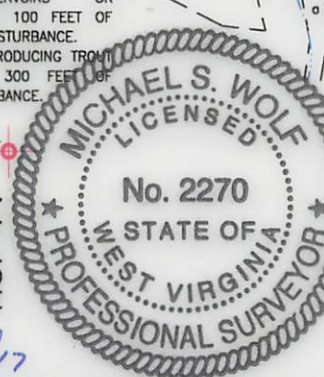
SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,452,681.171 EASTING: 535,675.873
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,452,551.869 EASTING: 535,393.582
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,450,699.047 EASTING: 536,124.969

TRACT	ADJOINER	TAX PARCEL
A	JOHN PRATHER GOOD III & LAURE THOMAS	03-832-0119-0000
B	JOHN PRATHER GOOD JR. IRREVOCABLE TRUST	03-833-0057-0000
C	DAVID G. OWENS & LINDA WALTERS	03-838-0032-0000
D	DAVID G. OWENS & LINDA WALTERS	03-838-0033-0000
E	DAVID G. OWENS & LINDA WALTERS	03-838-0034-0000
F	DAVID G. OWENS & LINDA WALTERS	03-838-0035-0000
G	RUTH GERSON, JEFFREY W. WOOD, SUE MOORE, PATRICIA WEST & SARA WOOD	03-838-0037-0000
H	GEORGE SCOTT RICE	03-838-0038-0000
I	BRIAN CORWIN	03-843-0026-0000
J	MARY WELLS CHAMBERS	03-843-0012-0000
K	MARY WELLS CHAMBERS	03-843-0013-0000
L	WINDSOR POWER HOUSE COAL CO	03-843-0015-0000
M	MARY W. CHAMBERS	03-843-0014-0000
N	WINDSOR POWER HOUSE COAL CO	03-843-0016-0000
O	WINDSOR POWER HOUSE COAL CO	03-842-0048-0000
P	JOHN B. DAUGHERTY	03-837-0065-0000
Q	SHAWN C. ARACH	03-837-0066-0000
R	JAMES ALAN HAZLETT AND JO ELLEN HAZLETT, HUSBAND AND WIFE	03-843-0064-0000
S	LESLIE & GAYLENE ELSON	03-838-0055-0000
T	LESLIE & GAYLENE ELSON	03-838-0048-0000
U	HARRY J. LOWE	03-838-0047-0000
V	WILLIAM F. & MARY FOHNER	03-838-0044-0000
W	MATTHEW T. NICHOLSON	03-838-0043-0000
X	MARK T. & KIMBERLY J. NICHOLSON	03-838-0042-0000
Y	ROY T. NICHOLSON	03-838-0041-0000
Z	MARK T. NICHOLSON	03-838-0045-0000
AA	MARK T. NICHOLSON	03-838-0046-0000
AB	LESLIE & GAYLENE ELSON	03-838-0051-0000
AC	LESLIE & GAYLENE ELSON	03-838-0052-0000
AD	KEITH LOTHIE	03-837-0067-0000
AE	THEODORE W. BUNNELL	03-837-0068-0000
AF	WILLIAM E. JOHNSTON & HAZEL E. JOHNSTON	03-837-0073-0000
AG	WILLIAM E. JOHNSTON & HAZEL E. JOHNSTON	03-837-0069-0000
AH	JOSEPH K. BOHMAN, SR. & CLORA J. BOHMAN	03-837-0069-0001
AI	JOSEPH K. BOHMAN, SR. & CLORA J. BOHMAN	03-837-0070-0000
AJ	MARLIN G. CRAWFORD SR & JOY CRAWFORD	03-837-0055-0000
AK	ERVAN COWAN, RICHARD COWAN, DIANE E. DIGHT, JOY TENNANT	03-837-0056-0000
AL	JEREMY S. PERSINGER	03-837-0057-0000
AM	TRAVIS FOLEN	03-837-0059-0000
AN	JOHN E. RIPLEY & SHERRILL J. RIPLEY	03-837-0081-0000
AO	MARLIN G. CRAWFORD SR & JOY CRAWFORD	03-837-0053-0007
AP	MARLIN G. CRAWFORD SR & JOY CRAWFORD	03-837-0055-0000
AQ	LAWRENCE PAUL SMITH, SR.	03-837-0054-0000
AR	WILLIAM E. & HAZEL E. JOHNSTON	03-837-0053-0001
AS	CLED KLAGES	03-837-0052-0000
AT	LLOYD M. MENHA & ALICE MENHA	03-832-0125-0000
AU	BRADFORD L. JONES & SHARON E. SKYDER	03-832-0123-0000
AV	TRAVIS A. MILLER	03-832-0122-0000
AW	CRAG & COURTNEY HAVELKA	03-832-0121-0000
AX	PENNY MARIE STUMPF	03-838-0057-0000

1" = 3000'

NOTES ON SURVEY

- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUGH STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,452,681.171 EASTING: 535,675.873
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,452,551.818 EASTING: 535,394.993
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,450,699.995 EASTING: 536,127.118

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2270 *M.S. Wolf* 8/23/17

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY:	1/200
PROVEN SOURCE OF ELEVATION:	SURVEY GRADE GPS (NAVD 88, US FT)

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	JOHN PRATHER GOOD III, TRUSTEE OF THE JOHN P. GOOD JR. IRREVOCABLE TRUST	03-838-0001-0000	66.57
2	PHYLLIS A. MARSH, TRUSTEE OF THE PHYLLIS A. MARSH LIVING TRUST	03-832-0118-0000	60.02
3	WILDA L. RIPLEY (LE), JOHN E. & SHERRILL J. RIPLEY	03-837-0082-0000	95.40
4	ALLEN SCOTT JOHNSON, WARREN RAY JOHNSON, DEBORAH SUE CRAIG, VICTORIA LYNN OWENS, CHARLES LAWRENCE JOHNSON	03-838-0036-0000	84.00
5	ROY NICHOLSON	03-838-0042-0000	5.08
6	AMY LYNN RICE	03-838-0040-0000	4.35

COMPANY: **SWN** Production Company, LLC

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW

WATERSHED: BUFFALO CREEK ELEVATION: 1152.6'

DISTRICT: BUFFALO COUNTY: BROOKE QUADRANGLE: BETHANY

SURFACE OWNER: JOHN P. GOOD III, TRUSTEE OF THE JOHN P. GOOD JR IRREVOCABLE TRUST ACREAGE: 66.57

OIL & GAS ROYALTY OWNER: JOHN P. GOOD JR ACREAGE: 66.57

DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) AS-DRILLED

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5,990' TVD 12,966' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: DEE SOUTHALL

ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300

CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	— SURVEYED BOUNDARY	REVISIONS:	DATE: 08-18-2017
● PROPOSED SURFACE HOLE / BOTTOM HOLE	— DRILLING UNIT		
☼ EXISTING / PRODUCING WELLHEAD	== LEASE BOUNDARY		
LPL* LANDING POINT LOCATION	— PROPOSED PATH		DRAWN BY: R. DOERR
⊙ EXISTING WATER WELL	— AS-DRILLED PATH		SCALE: 1" = 2000'
⊕ EXISTING SPRING			DRAWING NO: 050-5700
			WELL LOCATION PLAT