

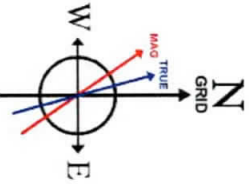
SOUTHWESTERN ENERGY

Location: Brooke County, WV
 Field: Brooke
 Facility: Samuel Jones BRK Pad

Wellbore: Samuel Jones BRK 206H PWB

Slot: Slot 206H
 Well: Samuel Jones BRK 206H
 Wellbore: Samuel Jones BRK 206H PWB

Photo reference weights are Samual Jones BRK 206H PWB Rev-A-0	Grid System: NAD83 UTM Zone 17 North, US Feet
True vertical depths are referenced to SDC 42 (KB)	North Reference: Grid north
Measured depths are referenced to SDC 42 (KB)	Scale: True distance
SDC 42 (KB) to Mean Seal Level: 1250.2 feet	Depths are in feet
Mean Seal Level to Ground Level (At Slot Start 206H): -1204.2 feet	Created by: Inghop on 2019-07-01
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERNUS_Data

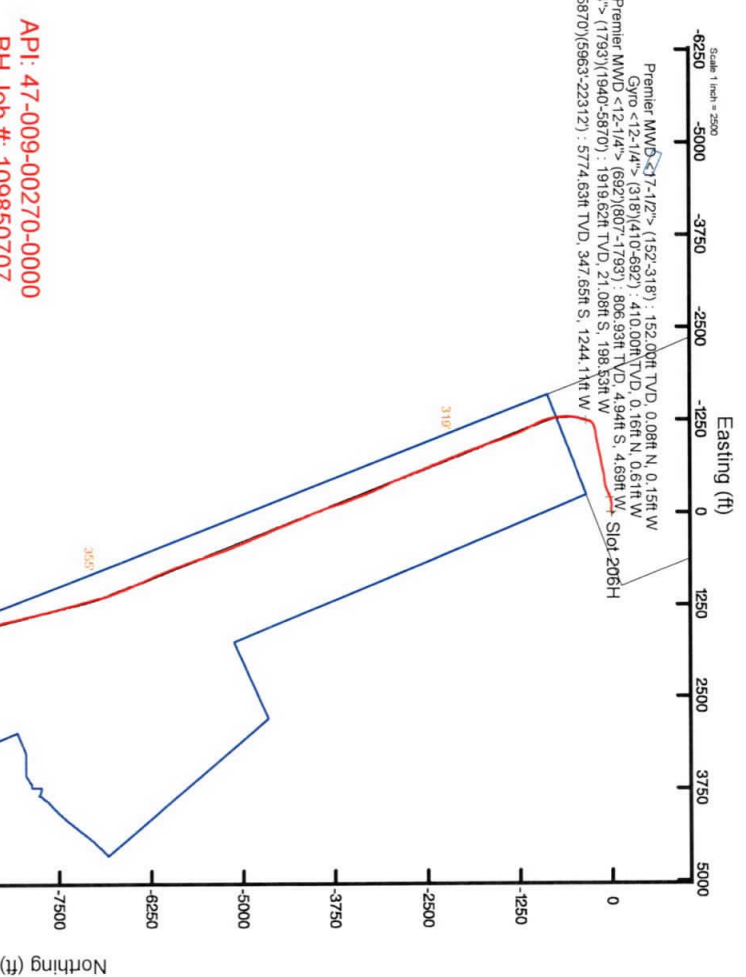


Premier MWD <12-1/4"> (152-318) : 0.15° Inc. 152.00ft MD, -0.12ft VS
 Gyro <12-1/4"> (318)(410-692) : 0.19° Inc. 410.00ft MD, 410.00ft TVD, -0.33ft VS
 Premier MWD <12-1/4"> (692)(807-1793) : 1.88° Inc. 807.00ft MD, 806.93ft TVD, 3.35ft VS
 Premier MWD <8-3/4"> (1793)(1940-5870) : 15.77° Inc. 1940.00ft MD, 1919.62ft TVD, -37.82ft VS

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS ("/100ft)	VS (ft)
Tie On	5870.00	26.680	199.560	5693.04	-304.61	-1232.63	9.01	-68.64
Proj. to Bottom	5929.00	31.380	194.460	5744.62	-331.98	-1240.90	9.00	-44.88
End of 3D Arc	6134.39	47.677	194.448	5902.50	-458.14	-1273.42	7.93	66.28
Landing Pl.	6656.38	88.937	158.397	6097.55	-922.07	-1221.65	10.00	525.10
Hold	12987.18	88.937	158.397	6215.00	-6805.30	1108.06	0.00	6832.23
Turn	13345.89	88.963	165.572	6221.58	-7146.14	1218.91	2.00	7190.59
Hold	17015.15	88.963	165.572	6288.00	-10999.10	2132.99	0.00	10855.61
Turn	17787.03	88.948	150.132	6302.16	-11411.75	2423.06	2.00	11621.90
BHL	22342.58	88.948	150.132	6385.77	-15361.55	4691.35	0.00	16061.94

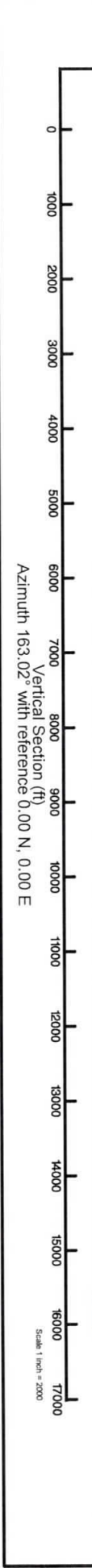
BH AT Curve <8-1/2"> (5870)(5963-22312) : 30.72° Inc. 5963.00ft MD, 5774.63ft TVD, -30.84ft VS



API: 47-009-00270-0000
 BH Job #: 109850707
 Rig: SDC 42
 Duration: 6/8/2019 - 6/14/19

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Projected MD at TD: 22,337' : 89.66° Inc. 22337.00ft MD, 6377.38ft TVD, 16046.22ft VS
 Projected MD at TD: 22,337' : 6377.38ft TVD, 15351.28ft S, 4671.14ft E



Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWB
Facility	Samuel Jones BRK Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Hilphop
Scale	0.999617	Report Generated	01/Jul/2019 at 15:43
Convergence at slot	0.28° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Samuel_Jones_BRK_206H_AWP_Proj_22337_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.03	0.02	1762985.80	14596395.97	40°11'25.698"N	80°33'40.002"W
Facility Reference Pt			1762985.78	14596396.00	40°11'25.698"N	80°33'40.002"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 42 (KB) to Facility Vertical Datum	1230.20ft
Horizontal Reference Pt	Slot	SDC 42 (KB) to Mean Sea Level	1230.20ft
Vertical Reference Pt	SDC 42 (KB)	SDC 42 (KB) to Ground Level at Slot (Slot 206H)	26.00ft
MD Reference Pt	SDC 42 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	163.02°

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Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot 206H
Operator	SOUTHWESTERN ENERGY	Well	Samuel Jones BRK 206H
Area	Brooke County, WV	Wellbore	Samuel Jones BRK 206H AWP
Field	Brooke		
Facility	Samuel Jones BRK Pad		

WV Department of Environmental Protection

WELLPATH DATA (241 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	297.330	0.00	0.00	0.00	0.00	1762985.80	14596395.97	40°11'25.698"N	80°33'40.002"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	297.330	26.00	0.00	0.00	0.00	1762985.80	14596395.97	40°11'25.698"N	80°33'40.002"W	0.00	0.000	0.00	0.00	0.00
152.00	0.150	297.330	152.00	-0.12	0.08	-0.15	1762985.65	14596396.04	40°11'25.698"N	80°33'40.004"W	0.16	297.330	0.12	0.12	-49.74
212.00	0.200	256.070	212.00	-0.18	0.09	-0.32	1762985.48	14596396.05	40°11'25.699"N	80°33'40.006"W	0.33	285.232	0.22	0.08	-68.77
303.00	0.070	2.030	303.00	-0.24	0.10	-0.47	1762985.33	14596396.07	40°11'25.699"N	80°33'40.008"W	0.48	282.461	0.25	-0.14	-116.44
318.00	0.070	7.870	318.00	-0.25	0.12	-0.47	1762985.33	14596396.09	40°11'25.699"N	80°33'40.008"W	0.48	284.609	0.05	0.00	38.93
410.00	0.190	263.780	410.00	-0.33	0.16	-0.61	1762985.19	14596396.13	40°11'25.699"N	80°33'40.010"W	0.63	284.751	0.24	0.13	-113.14
500.00	0.580	217.670	500.00	-0.10	-0.22	-1.04	1762984.76	14596396.75	40°11'25.696"N	80°33'40.015"W	1.06	258.286	0.52	0.43	-51.23
598.00	1.090	205.540	597.99	0.88	-1.45	-1.74	1762984.06	14596394.52	40°11'25.683"N	80°33'40.024"W	2.27	230.279	0.55	0.52	-12.38
692.00	1.180	201.880	691.97	2.29	-3.15	-2.49	1762983.31	14596392.81	40°11'25.667"N	80°33'40.034"W	4.02	218.294	0.12	0.10	-3.89
807.00	1.880	248.720	806.93	3.35	-4.94	-4.69	1762981.11	14596391.03	40°11'25.649"N	80°33'40.062"W	6.81	223.524	1.20	0.61	40.73
902.00	3.450	265.570	901.83	2.85	-5.72	-8.99	1762976.81	14596390.25	40°11'25.642"N	80°33'40.118"W	10.66	237.520	1.83	1.65	17.74
996.00	4.990	274.760	995.57	0.72	-5.60	-15.89	1762969.92	14596390.37	40°11'25.643"N	80°33'40.207"W	16.85	250.572	1.78	1.64	9.78
1092.00	6.680	278.290	1091.07	-3.21	-4.45	-25.57	1762960.24	14596391.52	40°11'25.655"N	80°33'40.331"W	25.96	260.125	1.80	1.76	3.68
1188.00	8.080	273.470	1186.27	-7.95	-3.24	-37.83	1762947.98	14596392.73	40°11'25.668"N	80°33'40.489"W	37.97	265.108	1.59	1.46	-5.02
1285.00	9.350	270.230	1282.15	-12.67	-2.79	-52.52	1762933.30	14596393.18	40°11'25.673"N	80°33'40.679"W	52.59	266.955	1.40	1.31	-3.34
1380.00	10.210	272.990	1375.77	-17.82	-2.32	-68.64	1762917.18	14596393.65	40°11'25.678"N	80°33'40.886"W	68.68	268.061	1.03	0.91	2.91
1475.00	11.420	271.880	1469.08	-23.74	-1.58	-86.45	1762899.38	14596394.39	40°11'25.686"N	80°33'41.116"W	86.47	268.956	1.29	1.27	-1.17
1571.00	12.920	268.120	1562.92	-29.61	-1.62	-106.68	1762879.16	14596394.35	40°11'25.687"N	80°33'41.376"W	106.69	269.132	1.77	1.56	-3.92
1666.00	14.060	263.100	1655.30	-34.40	-3.35	-128.75	1762857.10	14596392.62	40°11'25.671"N	80°33'41.661"W	128.80	268.509	1.72	1.20	-5.28
1762.00	15.030	258.160	1748.23	-37.55	-7.31	-152.51	1762833.35	14596388.66	40°11'25.633"N	80°33'41.967"W	152.69	267.257	1.64	1.01	-5.15
1793.00	15.700	254.900	1778.12	-38.05	-9.22	-160.50	1762825.36	14596386.75	40°11'25.614"N	80°33'42.070"W	160.76	266.711	3.53	2.16	-10.52
1940.00	15.770	250.480	1919.62	-37.82	-21.08	-198.58	1762787.35	14596374.90	40°11'25.499"N	80°33'42.561"W	199.64	263.939	0.82	0.05	-3.01
2035.00	17.230	249.110	2010.70	-36.28	-30.41	-223.84	1762762.04	14596366.57	40°11'25.408"N	80°33'43.288"W	225.90	262.263	1.59	1.54	-1.44
2131.00	17.520	245.800	2102.33	-33.50	-41.40	-250.31	1762735.59	14596354.58	40°11'25.301"N	80°33'43.230"W	253.71	260.607	1.07	0.30	-3.45
2227.00	16.990	247.560	2194.00	-30.35	-52.68	-276.45	1762709.46	14596343.31	40°11'25.191"N	80°33'43.567"W	281.42	259.211	0.77	-0.55	1.83
2324.00	16.420	249.190	2286.91	-28.08	-62.96	-302.36	1762683.55	14596333.03	40°11'25.090"N	80°33'43.902"W	308.85	258.237	0.76	-0.59	1.68
2420.00	16.860	252.170	2378.89	-26.97	-72.05	-328.30	1762657.62	14596323.95	40°11'25.002"N	80°33'44.237"W	336.11	257.623	1.00	0.46	3.10
2515.00	16.970	256.310	2469.79	-27.56	-79.55	-354.89	1762631.05	14596316.45	40°11'24.929"N	80°33'44.580"W	363.69	257.366	1.27	0.12	4.36
2611.00	15.130	261.240	2562.04	-30.16	-84.77	-380.88	1762605.06	14596311.23	40°11'24.879"N	80°33'44.915"W	390.20	257.453	2.38	-1.92	5.14



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Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWB
Facility	Samuel Jones BRK Pad		

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WELLPATH DATA (241 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)
2707.00	14.540	263.530	2654.84	-34.15	-88.04	-405.24	1762580.71	14596307.97	40°11'24.848"N	80°33'45.229"W	414.69	257.743	0.87	-0.61	2.39
2802.00	15.950	263.930	2746.50	-38.79	-90.76	-430.07	1762555.89	14596305.24	40°11'24.822"N	80°33'45.549"W	439.54	258.083	1.49	1.48	0.42
2898.00	15.340	260.450	2838.94	-42.93	-94.26	-455.71	1762530.26	14596301.74	40°11'24.788"N	80°33'45.880"W	465.36	258.313	1.17	-0.64	-3.63
2994.00	15.870	260.880	2931.41	-46.37	-98.45	-481.19	1762504.79	14596297.56	40°11'24.748"N	80°33'46.208"W	491.16	258.487	0.57	0.55	0.45
3089.00	15.220	258.830	3022.93	-49.41	-102.92	-506.25	1762479.74	14596293.08	40°11'24.705"N	80°33'46.531"W	516.61	258.508	0.90	-0.68	-2.16
3185.00	15.940	260.280	3115.40	-52.35	-107.59	-531.61	1762454.40	14596288.42	40°11'24.660"N	80°33'46.858"W	542.39	258.559	0.85	0.75	1.51
3281.00	15.330	258.080	3207.85	-55.14	-112.44	-557.02	1762429.00	14596283.57	40°11'24.614"N	80°33'47.186"W	568.25	258.588	0.89	-0.64	-2.29
3377.00	16.390	258.420	3300.20	-57.53	-117.78	-582.70	1762403.32	14596278.24	40°11'24.562"N	80°33'47.518"W	594.49	258.573	1.11	1.10	0.35
3473.00	15.780	254.750	3392.44	-59.20	-123.93	-608.57	1762377.47	14596272.09	40°11'24.503"N	80°33'47.851"W	621.06	258.490	1.23	-0.64	-3.82
3569.00	15.200	258.130	3484.95	-60.71	-129.95	-633.48	1762352.57	14596266.07	40°11'24.444"N	80°33'48.173"W	646.67	258.407	1.12	-0.60	3.52
3666.00	15.050	259.980	3578.59	-63.37	-134.76	-658.32	1762327.73	14596261.26	40°11'24.398"N	80°33'48.493"W	671.97	258.431	0.52	-0.15	1.91
3762.00	15.110	261.870	3671.29	-66.81	-138.70	-682.98	1762303.08	14596256.32	40°11'24.360"N	80°33'48.811"W	696.92	258.521	0.52	0.06	1.97
3858.00	16.030	261.930	3763.76	-70.78	-142.33	-708.49	1762277.58	14596251.70	40°11'24.326"N	80°33'49.140"W	722.65	258.641	0.96	0.96	0.06
3954.00	16.930	257.990	3855.82	-74.05	-147.10	-735.29	1762250.79	14596246.93	40°11'24.280"N	80°33'49.486"W	749.86	258.687	1.49	0.94	-4.10
4050.00	15.470	260.280	3948.01	-76.88	-152.17	-761.58	1762224.51	14596243.86	40°11'24.231"N	80°33'49.825"W	776.64	258.701	1.66	-1.52	2.39
4146.00	15.460	258.510	4040.53	-79.72	-156.88	-786.74	1762199.36	14596239.15	40°11'24.186"N	80°33'50.149"W	802.23	258.723	0.49	-0.01	-1.84
4241.00	16.640	255.780	4131.83	-81.59	-162.74	-812.34	1762173.77	14596233.29	40°11'24.129"N	80°33'50.479"W	828.48	258.672	1.47	1.24	-2.87
4337.00	16.740	258.960	4223.79	-83.68	-168.77	-839.23	1762146.89	14596227.27	40°11'24.071"N	80°33'50.826"W	856.03	258.630	0.96	0.10	3.31
4433.00	15.910	260.520	4315.92	-86.83	-173.58	-865.78	1762120.35	14596222.45	40°11'24.025"N	80°33'51.169"W	883.01	258.663	0.98	-0.86	1.63
4528.00	15.980	259.140	4407.26	-89.92	-178.19	-891.47	1762094.68	14596217.85	40°11'23.980"N	80°33'51.500"W	909.10	258.697	0.41	0.07	-1.45
4624.00	15.680	258.340	4499.62	-92.53	-183.30	-917.15	1762069.00	14596212.74	40°11'23.931"N	80°33'51.831"W	935.29	258.698	0.39	-0.31	-0.83
4720.00	15.400	257.540	4592.11	-94.74	-188.67	-942.30	1762043.86	14596207.37	40°11'23.879"N	80°33'52.166"W	961.00	258.678	0.37	-0.29	-0.83
4816.00	15.850	258.610	4684.57	-97.02	-194.01	-967.60	1762018.57	14596202.03	40°11'23.828"N	80°33'52.482"W	986.86	258.662	0.56	0.47	1.11
4912.00	16.210	258.880	4776.83	-99.67	-199.18	-993.60	1761992.92	14596196.86	40°11'23.778"N	80°33'52.817"W	1013.37	258.664	0.38	0.38	0.28
5009.00	14.850	264.560	4870.29	-103.53	-202.98	-1019.26	1761966.93	14596193.07	40°11'23.741"N	80°33'53.148"W	1039.27	258.737	2.10	-1.40	5.85
5105.00	15.180	261.930	4963.02	-107.94	-205.91	-1043.95	1761942.25	14596185.69	40°11'23.671"N	80°33'53.532"W	1064.06	258.842	0.79	0.34	-2.73
5201.00	15.770	258.110	5055.54	-111.04	-210.36	-1069.16	1761917.05	14596180.73	40°11'23.623"N	80°33'53.916"W	1089.66	258.869	1.23	0.61	-3.98
5297.00	15.250	259.660	5148.04	-113.66	-215.32	-1094.35	1761891.87	14596174.82	40°11'23.566"N	80°33'54.336"W	1115.33	258.869	0.69	-0.54	1.61
5393.00	15.580	253.560	5240.60	-115.24	-221.23	-1119.13	1761867.10	14596166.75	40°11'23.511"N	80°33'54.763"W	1140.79	258.818	1.72	0.34	-6.35
5490.00	16.230	251.090	5333.88	-114.91	-229.31	-1144.45	1761841.79	14596166.75	40°11'23.487"N	80°33'54.763"W	1167.20	258.670	0.97	0.67	-2.55



Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot 206H
Operator	SOUTHWESTERN ENERGY	Well	Samuel Jones BRK 206H
Area	Brooke County, WV	Wellbore	Samuel Jones BRK 206H AWP
Field	Brooke		
Facility	Samuel Jones BRK Pad		

WELLPATH DATA (241 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 [°/100ft]
5585.00	16.520	252.280	5425.03	-114.29	-237.72	-1169.88	1761816.37	14596158.33	40°11'23.405"N	80°33'55.091"W	1193.79	258.514	0.47	0.31	1.25
5679.00	16.140	236.790	5515.28	-110.46	-248.95	-1193.55	1761792.71	14596147.11	40°11'23.296"N	80°33'55.397"W	1219.24	258.218	4.64	-0.40	-16.48
5775.00	21.460	216.330	5606.22	-96.21	-270.45	-1215.16	1761777.11	14596125.62	40°11'23.084"N	80°33'55.676"W	1244.89	257.453	8.75	5.54	-21.31
5870.00	26.680	199.560	5693.04	-68.64	-304.61	-1232.63	1761753.65	14596091.46	40°11'22.748"N	80°33'55.904"W	1269.71	256.119	9.01	5.48	-17.65
5963.00	30.720	190.890	5774.63	-30.84	-347.65	-1244.11	1761742.16	14596048.48	40°11'22.323"N	80°33'56.054"W	1291.77	254.388	6.23	4.34	-9.32
6059.00	40.280	193.740	5852.69	17.64	-402.01	-1256.15	1761730.14	14595994.12	40°11'21.786"N	80°33'56.213"W	1318.91	252.254	10.11	9.97	2.97
6154.00	48.560	195.960	5920.48	74.03	-466.19	-1273.26	1761713.02	14595929.95	40°11'21.153"N	80°33'56.438"W	1355.93	249.890	8.86	8.71	2.34
6250.00	56.390	187.260	5978.98	140.86	-540.65	-1288.25	1761698.04	14595855.53	40°11'20.418"N	80°33'56.635"W	1397.10	247.233	10.86	8.16	-9.06
6347.00	65.130	177.910	6026.40	220.51	-625.00	-1291.76	1761694.53	14595771.21	40°11'19.584"N	80°33'56.686"W	1435.02	244.181	12.31	9.01	-9.64
6442.00	72.240	171.990	6060.94	307.02	-713.04	-1283.87	1761702.42	14595683.20	40°11'18.714"N	80°33'56.590"W	1468.59	240.953	9.47	7.48	-6.23
6538.00	80.170	166.730	6083.82	399.58	-804.55	-1266.61	1761719.68	14595591.73	40°11'17.809"N	80°33'56.373"W	1500.53	237.576	9.82	8.26	-5.48
6634.00	85.810	163.870	6095.54	494.73	-866.66	-1242.43	1761743.85	14595499.65	40°11'16.897"N	80°33'56.067"W	1532.20	234.182	6.58	5.88	-2.98
6731.00	89.020	154.030	6099.92	591.26	-986.97	-1207.66	1761778.60	14595409.38	40°11'16.003"N	80°33'55.625"W	1559.66	230.742	10.66	3.31	-10.14
6827.00	88.920	151.590	6101.65	685.72	-1072.34	-1163.80	1761822.44	14595324.04	40°11'15.158"N	80°33'55.065"W	1582.51	227.342	2.54	-0.10	-2.54
6921.00	88.920	153.990	6105.42	778.20	-1155.91	-1120.83	1761865.40	14595240.50	40°11'14.330"N	80°33'54.517"W	1610.09	224.117	2.55	0.00	2.55
7015.00	88.830	156.040	6105.27	871.26	-1241.10	-1081.14	1761905.08	14595155.35	40°11'13.486"N	80°33'54.011"W	1645.96	221.060	2.18	-0.10	2.18
7111.00	88.920	158.470	6107.15	966.75	-1329.61	-1044.03	1761942.17	14595066.87	40°11'12.609"N	80°33'53.538"W	1690.52	218.140	2.53	0.09	2.53
7206.00	88.980	160.730	6108.89	1061.56	-1418.63	-1010.93	1761975.26	14594977.89	40°11'11.728"N	80°33'53.117"W	1741.98	215.474	2.38	0.06	2.38
7300.00	88.960	161.020	6110.59	1155.48	-1507.43	-980.13	1762006.04	14594889.12	40°11'10.849"N	80°33'52.726"W	1798.05	213.032	0.31	-0.03	0.31
7395.00	88.980	161.270	6112.31	1250.41	-1597.31	-949.44	1762036.73	14594799.27	40°11'09.959"N	80°33'52.336"W	1858.18	210.727	0.27	0.03	0.26
7491.00	88.920	160.890	6114.07	1346.34	-1688.11	-918.31	1762067.84	14594708.51	40°11'09.061"N	80°33'51.941"W	1921.72	208.546	0.40	-0.06	-0.40
7587.00	88.980	160.070	6115.82	1442.23	-1778.58	-886.24	1762099.90	14594618.07	40°11'08.165"N	80°33'51.534"W	1987.15	206.487	0.86	0.06	-0.85
7683.00	88.980	159.800	6117.53	1538.07	-1868.74	-853.31	1762132.82	14594527.95	40°11'07.273"N	80°33'51.115"W	2054.34	204.543	0.28	0.00	-0.28
7780.00	88.920	158.890	6119.31	1634.86	-1959.89	-819.10	1762167.01	14594437.24	40°11'06.374"N	80°33'50.680"W	2123.80	202.686	0.94	-0.06	-0.94
7876.00	88.920	158.360	6121.12	1730.56	-2048.87	-784.12	1762201.98	14594347.89	40°11'05.489"N	80°33'50.235"W	2193.79	200.942	0.55	0.00	-0.55
7973.00	88.950	158.190	6122.92	1827.21	-2138.96	-748.22	1762237.87	14594257.83	40°11'04.597"N	80°33'49.778"W	2266.05	199.280	0.18	0.03	-0.18
8069.00	88.980	157.940	6124.66	1922.83	-2228.00	-712.37	1762273.71	14594168.83	40°11'03.716"N	80°33'49.322"W	2339.11	197.731	0.26	0.03	-0.26
8165.00	88.920	158.050	6126.42	2018.45	-2316.99	-676.40	1762309.66	14594079.87	40°11'02.834"N	80°33'48.864"W	2413.70	196.274	0.13	-0.06	0.11
8260.00	89.020	157.610	6128.12	2113.04	-2404.95	-640.56	1762345.49	14593991.94	40°11'01.963"N	80°33'48.408"W	2488.79	194.914	0.47	0.11	-0.46
8356.00	89.200	158.020	6129.62	2208.63	-2493.83	-604.31	1762381.72	14593903.10	40°11'01.083"N	80°33'47.947"W	2566.01	193.622	0.47	0.19	0.43



Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'
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Office of Ordinance

DEC 30 2019

REFERENCE WELLPATH IDENTIFICATION		Slot	Slot 206H
Operator	SOUTHWESTERN ENERGY	Well	Samuel Jones BRK 206H
Area	Brooke County, WV	Wellbore	Samuel Jones BRK 206H AWP
Field	Brooke		
Facility	Samuel Jones BRK Pad		

WELLPATH DATA (241 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]
8452.00	89.200	157.990	6130.96	2304.26	-2582.84	-568.36	1762417.65	14593814.13	40°11'00.202"N	80°33'47.489"W	2644.63	192.410	0.03	0.00	-0.03
8548.00	89.480	158.150	6132.06	2399.89	-2671.88	-532.51	1762453.49	14593725.11	40°10'59.320"N	80°33'47.033"W	2724.43	191.271	0.34	0.29	0.17
8645.00	89.380	158.120	6133.03	2496.54	-2761.90	-496.39	1762489.60	14593635.13	40°10'58.429"N	80°33'46.573"W	2806.15	190.189	0.11	-0.10	-0.03
8741.00	89.850	157.400	6133.67	2592.13	-2850.76	-460.06	1762525.92	14593546.31	40°10'57.549"N	80°33'46.111"W	2887.64	189.167	0.90	0.49	-0.75
8836.00	88.950	155.320	6134.67	2686.48	-2937.77	-421.97	1762564.00	14593459.32	40°10'56.688"N	80°33'45.625"W	2967.92	188.174	2.39	-0.95	-2.19
8931.00	88.950	154.790	6136.41	2780.54	-3023.90	-381.91	1762604.04	14593373.23	40°10'55.835"N	80°33'45.115"W	3047.92	187.198	0.56	0.00	-0.56
9028.00	88.920	153.970	6138.21	2876.43	-3111.34	-339.97	1762645.96	14593285.82	40°10'54.968"N	80°33'44.580"W	3129.86	186.236	0.85	-0.03	-0.85
9124.00	88.890	155.960	6140.05	2971.46	-3198.30	-299.36	1762686.56	14593198.89	40°10'54.107"N	80°33'44.062"W	3212.28	185.347	2.07	-0.03	2.07
9219.00	88.980	159.020	6141.81	3065.99	-3286.04	-263.00	1762722.90	14593111.19	40°10'53.238"N	80°33'43.599"W	3296.55	184.576	3.22	0.09	3.22
9315.00	88.890	159.340	6143.60	3161.75	-3375.76	-228.88	1762757.01	14593021.51	40°10'52.350"N	80°33'43.165"W	3383.51	183.879	0.35	-0.09	0.33
9411.00	89.010	158.400	6145.36	3257.49	-3465.29	-194.28	1762791.59	14592932.02	40°10'51.464"N	80°33'42.725"W	3470.73	183.209	0.99	0.13	-0.98
9506.00	88.980	159.370	6147.02	3352.22	-3553.89	-160.06	1762825.80	14592843.44	40°10'50.586"N	80°33'42.290"W	3557.50	182.579	1.02	-0.03	1.02
9602.00	88.980	161.020	6148.73	3448.09	-3644.20	-127.54	1762858.30	14592753.17	40°10'49.692"N	80°33'41.877"W	3646.43	182.004	1.72	0.00	1.72
9698.00	89.050	162.720	6150.38	3544.05	-3735.41	-97.68	1762888.16	14592661.99	40°10'48.790"N	80°33'41.498"W	3736.69	181.498	1.77	0.07	1.77
9795.00	88.950	162.120	6152.07	3644.03	-3827.87	-68.38	1762917.44	14592569.57	40°10'47.874"N	80°33'41.126"W	3828.48	181.023	0.63	-0.10	-0.62
9891.00	88.980	158.570	6153.81	3736.89	-3918.25	-36.10	1762949.71	14592479.23	40°10'46.980"N	80°33'40.716"W	3918.41	180.528	3.70	0.00	-3.70
9986.00	88.980	157.400	6155.50	3831.51	-4006.30	-0.50	1762985.30	14592391.20	40°10'46.108"N	80°33'40.263"W	4006.30	180.007	1.23	0.00	-1.23
10082.00	88.920	157.180	6157.26	3927.02	-4094.85	36.56	1763022.34	14592302.70	40°10'45.231"N	80°33'39.791"W	4095.01	179.489	0.24	-0.06	-0.23
10179.00	89.080	157.400	6158.95	4023.52	-4184.31	74.00	1763059.77	14592213.27	40°10'44.345"N	80°33'39.315"W	4184.97	178.987	0.28	0.16	0.23
10275.00	88.800	158.190	6160.73	4119.10	-4273.18	110.27	1763096.03	14592124.44	40°10'43.465"N	80°33'38.853"W	4274.60	178.522	0.87	-0.29	0.82
10370.00	88.980	157.890	6162.57	4213.72	-4361.27	145.79	1763131.54	14592036.38	40°10'42.593"N	80°33'38.401"W	4363.70	178.085	0.37	0.19	-0.32
10466.00	89.020	158.150	6164.24	4309.34	-4450.28	181.72	1763167.45	14591947.40	40°10'41.712"N	80°33'37.944"W	4453.98	177.662	0.27	0.04	0.27
10562.00	88.950	156.900	6165.94	4404.89	-4538.97	218.41	1763204.13	14591858.75	40°10'40.833"N	80°33'37.477"W	4544.22	177.245	1.30	-0.07	-1.30
10658.00	88.950	157.090	6167.70	4500.34	-4627.32	255.92	1763241.62	14591770.43	40°10'39.959"N	80°33'36.999"W	4634.39	176.834	0.20	0.00	0.20
10755.00	88.920	157.160	6169.51	4596.81	-4716.68	293.62	1763279.31	14591681.11	40°10'39.074"N	80°33'36.519"W	4725.81	176.438	0.08	-0.03	0.07
10851.00	88.980	157.600	6171.27	4692.33	-4805.28	330.54	1763316.21	14591592.54	40°10'38.196"N	80°33'36.049"W	4816.63	176.060	0.46	0.06	0.46
10947.00	88.860	157.590	6173.08	4787.88	-4894.01	367.12	1763352.78	14591503.84	40°10'37.318"N	80°33'35.584"W	4907.76	175.710	0.13	-0.12	-0.01
11044.00	88.890	157.480	6174.98	4884.42	-4983.63	404.18	1763389.83	14591414.25	40°10'36.430"N	80°33'35.112"W	5000.00	175.363	0.12	0.03	-0.11
11140.00	88.950	157.950	6176.79	4979.99	-5072.45	440.58	1763426.21	14591325.47	40°10'35.551"N	80°33'34.649"W	5091.55	175.036	0.49	0.06	0.49
11237.00	88.980	158.350	6178.54	5076.62	-5162.47	476.67	1763462.29	14591235.49	40°10'34.659"N	80°33'34.190"W	5184.43	174.725	0.41	0.03	0.41



Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWB
Facility	Samuel Jones BRK Pad		

WELLPATH DATA (241 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)
11333.00	88.890	160.030	6180.33	5172.39	-5252.18	510.77	1763496.38	14591145.81	40°10'33.771"N	80°33'33.756"W	5276.96	174.445	1.75	-0.09	1.75
11430.00	88.980	160.540	6182.13	5269.26	-5343.48	543.49	1763529.08	14591054.54	40°10'32.867"N	80°33'33.340"W	5371.05	174.192	0.53	0.09	0.53
11526.00	88.920	161.700	6183.89	5365.19	-5434.30	574.55	1763566.13	14590963.76	40°10'31.968"N	80°33'32.946"W	5464.59	173.965	1.21	-0.06	1.21
11622.00	89.050	162.710	6185.59	5461.17	-5525.69	603.88	1763589.45	14590872.40	40°10'31.064"N	80°33'32.574"W	5558.59	173.763	1.06	0.14	1.05
11718.00	88.920	162.440	6187.29	5557.15	-5617.27	632.63	1763618.18	14590780.86	40°10'30.157"N	80°33'32.210"W	5652.78	173.574	0.31	-0.14	-0.28
11814.00	89.020	160.730	6189.01	5653.10	-5708.35	662.91	1763648.45	14590689.81	40°10'29.256"N	80°33'31.825"W	5746.71	173.376	1.73	0.10	-1.73
11910.00	88.920	159.430	6190.74	5748.96	-5798.60	695.57	1763681.10	14590599.59	40°10'28.362"N	80°33'31.410"W	5840.17	173.160	1.41	-0.10	-1.41
12007.00	88.580	157.980	6192.86	5845.66	-5888.96	730.79	1763716.30	14590509.28	40°10'27.468"N	80°33'30.962"W	5934.13	172.926	1.54	-0.35	-1.49
12103.00	88.610	158.820	6195.21	5941.31	-5978.19	766.12	1763751.62	14590420.08	40°10'26.564"N	80°33'30.513"W	6027.08	172.697	0.88	0.03	0.87
12200.00	88.830	157.760	6197.38	6037.96	-6068.28	801.99	1763787.48	14590330.02	40°10'25.662"N	80°33'30.057"W	6121.05	172.471	1.12	0.23	-1.09
12295.00	88.340	156.900	6199.72	6132.46	-6155.92	838.59	1763824.07	14590242.42	40°10'24.825"N	80°33'29.591"W	6212.77	172.243	1.04	-0.52	-0.91
12392.00	88.490	156.430	6202.41	6228.83	-6244.95	877.00	1763862.46	14590153.42	40°10'23.943"N	80°33'29.102"W	6306.23	172.006	0.51	0.15	-0.48
12488.00	88.400	156.060	6205.01	6324.12	-6332.78	915.66	1763901.10	14590065.62	40°10'23.073"N	80°33'28.609"W	6398.64	171.773	0.40	-0.09	-0.39
12583.00	88.310	156.360	6207.74	6418.41	-6419.67	953.96	1763939.39	14589978.76	40°10'22.212"N	80°33'28.121"W	6490.17	171.548	0.33	-0.09	0.32
12680.00	88.340	155.890	6210.57	6514.67	-6508.34	993.20	1763978.62	14589890.14	40°10'21.354"N	80°33'27.622"W	6583.68	171.323	0.49	0.03	-0.48
12775.00	88.210	157.250	6213.43	6609.02	-6595.46	1030.96	1764016.36	14589803.04	40°10'20.472"N	80°33'27.141"W	6675.55	171.116	1.44	-0.14	1.43
12871.00	88.280	158.110	6216.37	6704.56	-6684.23	1067.40	1764052.79	14589714.31	40°10'19.593"N	80°33'26.677"W	6768.92	170.927	0.90	0.07	0.90
12967.00	88.340	160.510	6219.21	6800.31	-6773.99	1101.30	1764086.68	14589624.59	40°10'18.704"N	80°33'26.246"W	6862.93	170.766	2.50	0.06	2.50
13060.00	88.580	163.040	6221.71	6893.25	-6862.28	1130.38	1764115.74	14589536.32	40°10'17.830"N	80°33'25.877"W	6954.76	170.646	2.73	0.26	2.72
13153.00	88.580	164.970	6224.01	6986.20	-6951.65	1155.99	1764141.35	14589446.99	40°10'16.946"N	80°33'25.553"W	7047.11	170.559	2.07	0.00	2.08
13245.00	88.650	164.430	6226.23	7078.13	-7040.37	1180.26	1764165.61	14589358.31	40°10'16.068"N	80°33'25.246"W	7138.61	170.483	0.59	0.08	-0.59
13338.00	88.580	164.710	6228.48	7171.07	-7129.99	1205.00	1764190.33	14589268.72	40°10'15.181"N	80°33'24.933"W	7231.10	170.407	0.31	-0.08	0.30
13428.00	88.620	164.450	6230.68	7261.01	-7216.72	1228.92	1764214.25	14589182.02	40°10'14.323"N	80°33'24.631"W	7320.61	170.326	0.29	0.04	-0.29
13520.00	88.580	164.230	6232.93	7352.96	-7305.28	1253.75	1764239.06	14589093.50	40°10'13.446"N	80°33'24.317"W	7412.08	170.262	0.24	-0.04	-0.24
13613.00	88.620	163.770	6235.20	7445.92	-7394.65	1279.37	1764264.68	14589004.16	40°10'12.562"N	80°33'23.992"W	7504.51	170.184	0.50	0.04	-0.49
13706.00	88.550	165.480	6237.50	7538.85	-7484.29	1304.02	1764289.32	14588914.56	40°10'11.675"N	80°33'23.680"W	7597.05	170.116	1.84	-0.08	1.84
13798.00	88.550	165.630	6239.83	7630.73	-7573.37	1326.92	1764312.21	14588825.52	40°10'10.793"N	80°33'23.391"W	7688.73	170.062	0.23	0.00	0.23
13888.00	88.610	164.630	6242.06	7720.64	-7660.34	1349.96	1764335.24	14588738.58	40°10'09.933"N	80°33'23.100"W	7778.38	170.006	1.18	0.07	-1.18
13981.00	88.950	165.990	6244.04	7813.54	-7750.27	1373.54	1764358.81	14588648.68	40°10'09.043"N	80°33'22.802"W	7871.05	169.950	1.51	0.37	1.46
14073.00	89.060	166.860	6245.62	7905.36	-7839.69	1395.13	1764380.39	14588559.29	40°10'08.158"N	80°33'22.530"W	7962.86	169.909	0.96	0.14	0.96

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Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot 206H
Operator	SOUTHWESTERN ENERGY	Well	Samuel Jones BRK 206H
Area	Brooke County, WV	Wellbore	Samuel Jones BRK 206H AWB
Field	Brooke		
Facility	Samuel Jones BRK Pad		

WELLPATH DATA (241 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]
14166.00	89.110	166.990	6247.09	7998.14	-7930.27	1416.17	1764401.42	14588468.75	40°10'07.262"N	80°33'22.265"W	8055.72	169.875	0.14	0.03	0.14
14259.00	89.080	166.880	6248.56	8090.91	-8020.85	1437.19	1764422.43	14588378.21	40°10'06.366"N	80°33'22.000"W	8148.59	169.841	0.12	-0.03	-0.12
14352.00	89.110	166.110	6250.02	8183.72	-8111.27	1458.90	1764444.14	14588287.82	40°10'05.471"N	80°33'21.726"W	8241.42	169.804	0.83	0.03	-0.83
14444.00	89.080	166.210	6251.48	8275.57	-8200.58	1480.91	1764466.14	14588198.54	40°10'04.588"N	80°33'21.448"W	8333.23	169.764	0.11	-0.03	0.11
14537.00	89.260	165.490	6252.82	8368.45	-8290.75	1503.64	1764488.86	14588108.41	40°10'03.696"N	80°33'21.161"W	8426.00	169.720	0.80	0.19	-0.77
14630.00	89.140	166.250	6254.12	8461.33	-8380.93	1526.34	1764511.55	14588018.26	40°10'02.803"N	80°33'20.874"W	8518.78	169.678	0.83	-0.13	0.82
14723.00	89.080	166.240	6255.57	8554.17	-8471.25	1548.45	1764533.66	14587927.98	40°10'01.910"N	80°33'20.595"W	8611.61	169.641	0.07	-0.06	-0.01
14815.00	89.050	166.860	6257.07	8645.98	-8560.71	1569.85	1764555.04	14587838.55	40°10'01.024"N	80°33'20.326"W	8703.46	169.609	0.67	-0.03	0.67
14908.00	89.140	165.860	6258.54	8738.81	-8651.08	1591.78	1764576.96	14587748.22	40°10'00.130"N	80°33'20.049"W	8796.30	169.574	1.08	0.10	-1.08
15001.00	88.740	164.200	6260.26	8831.73	-8740.90	1615.79	1764600.97	14587658.43	40°09'59.242"N	80°33'19.745"W	8888.99	169.527	1.84	-0.43	-1.78
15090.00	88.710	163.470	6262.24	8920.70	-8826.36	1640.57	1764625.73	14587573.00	40°09'58.396"N	80°33'19.432"W	8977.54	169.471	0.82	-0.03	-0.82
15183.00	88.710	163.100	6264.33	9013.68	-8915.41	1667.31	1764652.46	14587483.99	40°09'57.515"N	80°33'19.093"W	9069.98	169.407	0.40	0.00	-0.40
15276.00	88.740	162.770	6266.40	9106.65	-9004.29	1694.59	1764679.74	14587395.14	40°09'56.635"N	80°33'18.747"W	9162.37	169.342	0.36	0.03	-0.35
15369.00	88.680	162.280	6268.50	9199.65	-9092.98	1722.51	1764707.65	14587306.49	40°09'55.757"N	80°33'18.394"W	9254.69	169.273	0.53	-0.06	-0.53
15461.00	88.740	162.100	6270.57	9291.59	-9180.55	1750.64	1764735.77	14587218.95	40°09'54.890"N	80°33'18.037"W	9345.97	169.204	0.21	0.07	-0.20
15554.00	88.740	162.270	6272.61	9384.56	-9269.07	1779.09	1764764.20	14587130.47	40°09'54.014"N	80°33'17.676"W	9438.26	169.135	0.18	0.00	0.18
15647.00	88.650	161.760	6274.73	9477.52	-9357.50	1807.80	1764792.90	14587042.07	40°09'53.139"N	80°33'17.312"W	9530.53	169.066	0.56	-0.10	-0.55
15738.00	88.710	163.250	6276.83	9568.49	-9444.27	1835.15	1764820.24	14586955.34	40°09'52.280"N	80°33'16.965"W	9620.91	169.004	1.64	0.07	1.64
15831.00	88.740	166.020	6278.90	9661.42	-9533.91	1859.78	1764844.86	14586865.73	40°09'51.393"N	80°33'16.654"W	9713.61	168.962	2.98	0.03	2.98
15924.00	88.680	168.000	6280.99	9754.17	-9624.50	1880.68	1764866.75	14586775.17	40°09'50.497"N	80°33'16.391"W	9806.53	168.943	2.13	-0.06	2.13
16016.00	88.710	168.490	6283.09	9845.76	-9714.55	1899.42	1764884.48	14586685.16	40°09'49.606"N	80°33'16.155"W	9898.50	168.937	0.53	0.03	0.53
16109.00	88.740	168.220	6285.15	9938.34	-9805.61	1918.18	1764903.24	14586594.13	40°09'48.705"N	80°33'15.919"W	9991.47	168.932	0.29	0.03	-0.29
16202.00	88.770	168.090	6287.18	10030.94	-9896.61	1937.27	1764922.32	14586503.16	40°09'47.805"N	80°33'15.679"W	10084.44	168.924	0.14	0.00	-0.14
16295.00	88.770	167.840	6289.17	10123.57	-9987.55	1956.65	1764941.70	14586412.26	40°09'46.906"N	80°33'15.435"W	10177.41	168.916	0.27	0.00	-0.27
16387.00	88.740	167.250	6291.17	10215.27	-10077.36	1976.49	1764961.53	14586322.49	40°09'46.017"N	80°33'15.186"W	10269.36	168.903	0.64	-0.03	-0.64
16480.00	88.680	165.980	6293.26	10308.06	-10167.81	1998.01	1764983.04	14586232.07	40°09'45.122"N	80°33'14.914"W	10362.26	168.883	1.37	-0.06	-1.37
16570.00	88.710	165.500	6295.31	10397.93	-10255.01	2020.18	1765005.20	14586144.90	40°09'44.259"N	80°33'14.635"W	10452.10	168.856	0.53	0.03	-0.53
16660.00	88.680	164.870	6297.36	10487.84	-10342.00	2043.18	1765028.20	14586057.95	40°09'43.399"N	80°33'14.344"W	10541.89	168.824	0.70	-0.03	-0.70
16752.00	88.710	165.410	6299.46	10579.76	-10430.90	2066.77	1765051.78	14585969.08	40°09'42.519"N	80°33'14.046"W	10633.68	168.793	0.59	0.03	0.59
16845.00	88.710	165.390	6301.55	10672.65	-10520.87	2090.21	1765075.20	14585879.14	40°09'41.629"N	80°33'13.750"W	10726.50	168.763	0.02	0.00	-0.02

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Samuel Jones BRK 206H AWP Proj: 22337'
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWB
Facility	Samuel Jones BRK Pad		

WELLPATH DATA (241 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
16938.00	88.710	165.180	6303.65	10765.56	-10610.80	2113.83	1765098.81	14585789.25	40°09'40.739"N	80°33'13.451"W	10819.30	168.733	0.23		-0.23
17028.00	88.770	164.310	6305.63	10855.49	-10697.61	2137.50	1765122.48	14585702.48	40°09'39.880"N	80°33'13.152"W	10909.06	168.700	0.97		-0.97
17120.00	88.800	162.960	6307.58	10947.46	-10785.86	2163.42	1765148.38	14585614.26	40°09'39.006"N	80°33'12.824"W	11000.68	168.658	1.47		-1.47
17213.00	88.680	161.890	6309.62	11040.44	-10874.49	2191.49	1765176.45	14585525.66	40°09'38.129"N	80°33'12.468"W	11093.12	168.606	1.16		-1.16
17306.00	88.460	159.600	6314.34	11133.33	-10962.26	2222.15	1765207.09	14585437.93	40°09'37.260"N	80°33'12.079"W	11185.21	168.541	2.47		-2.47
17398.00	88.550	157.540	6314.34	11225.01	-11047.86	2255.75	1765240.68	14585352.36	40°09'36.413"N	80°33'11.652"W	11275.80	168.460	2.24		-2.24
17491.00	88.860	155.540	6316.45	11317.39	-11133.15	2292.76	1765277.68	14585267.10	40°09'35.568"N	80°33'11.181"W	11366.78	168.363	2.18		-2.18
17584.00	88.090	154.090	6318.92	11409.40	-11217.28	2332.32	1765317.22	14585183.01	40°09'34.735"N	80°33'10.676"W	11457.18	168.254	1.76		-1.76
17677.00	88.180	153.940	6321.95	11501.21	-11300.83	2373.05	1765357.93	14585099.49	40°09'33.907"N	80°33'10.157"W	11547.30	168.141	0.19		-0.19
17770.00	88.180	152.720	6324.90	11592.83	-11383.89	2414.77	1765399.64	14585016.46	40°09'33.084"N	80°33'09.625"W	11637.19	168.024	1.31		-1.31
17862.00	88.180	149.970	6327.82	11682.88	-11464.58	2458.86	1765443.71	14584935.80	40°09'32.285"N	80°33'09.063"W	11725.29	167.895	2.99		-2.99
17955.00	88.060	148.720	6330.87	11773.19	-11544.53	2506.25	1765491.08	14584855.88	40°09'31.492"N	80°33'08.458"W	11813.45	167.751	1.35		-1.35
18048.00	88.550	149.080	6333.63	11863.34	-11624.13	2554.26	1765539.08	14584776.31	40°09'30.703"N	80°33'07.844"W	11901.46	167.607	0.65		-0.65
18138.00	88.580	150.590	6335.88	11950.94	-11701.92	2599.47	1765584.27	14584698.55	40°09'29.932"N	80°33'07.267"W	11987.17	167.476	1.68		-1.68
18230.00	88.620	152.170	6338.13	12041.02	-11782.65	2643.53	1765628.31	14584617.85	40°09'29.132"N	80°33'06.705"W	12075.56	167.355	1.72		-1.72
18323.00	88.680	152.310	6340.32	12132.35	-11864.92	2686.83	1765671.60	14584535.61	40°09'28.317"N	80°33'06.153"W	12165.34	167.240	0.16		-0.16
18416.00	88.580	151.430	6342.54	12223.57	-11946.91	2730.67	1765715.41	14584453.65	40°09'27.505"N	80°33'05.593"W	12255.01	167.125	0.95		-0.95
18505.00	88.610	150.960	6344.72	12310.65	-12024.88	2773.54	1765758.27	14584375.72	40°09'26.732"N	80°33'05.046"W	12340.59	167.012	0.53		-0.53
18598.00	88.520	150.790	6347.05	12401.54	-12106.09	2818.79	1765803.50	14584294.53	40°09'25.927"N	80°33'04.469"W	12429.93	166.893	0.21		-0.21
18691.00	88.520	150.930	6349.45	12492.42	-12187.30	2864.06	1765848.75	14584213.36	40°09'25.123"N	80°33'03.891"W	12519.30	166.775	0.15		-0.15
18783.00	89.110	150.710	6351.36	12582.33	-12267.60	2908.90	1765893.58	14584133.09	40°09'24.327"N	80°33'03.319"W	12607.77	166.660	0.68		-0.68
18872.00	89.080	150.350	6352.76	12669.21	-12345.08	2952.68	1765937.34	14584055.64	40°09'23.559"N	80°33'02.760"W	12693.28	166.549	0.41		-0.41
18961.00	89.050	150.240	6354.22	12756.01	-12422.37	2996.78	1765981.42	14583978.38	40°09'22.793"N	80°33'02.197"W	12778.73	166.437	0.13		-0.13
19050.00	89.080	149.830	6355.67	12842.72	-12499.46	3041.22	1766025.85	14583901.31	40°09'22.029"N	80°33'01.630"W	12864.12	166.325	0.46		-0.46
19140.00	89.170	149.900	6357.04	12930.35	-12577.29	3086.40	1766071.01	14583823.52	40°09'21.258"N	80°33'01.053"W	12950.45	166.212	0.13		-0.13
19228.00	89.480	149.900	6358.08	13016.05	-12653.62	3130.53	1766115.13	14583747.42	40°09'20.503"N	80°33'00.490"W	13034.92	166.104	0.35		-0.35
19321.00	89.420	149.330	6358.97	13106.51	-12733.64	3177.57	1766162.15	14583667.23	40°09'19.708"N	80°32'59.889"W	13124.12	165.988	0.62		-0.62
19414.00	89.440	148.740	6359.86	13196.75	-12813.38	3225.42	1766209.98	14583587.52	40°09'18.918"N	80°32'59.278"W	13213.10	165.871	0.64		-0.64
19503.00	89.540	148.450	6360.63	13282.94	-12889.34	3271.79	1766256.33	14583511.59	40°09'18.165"N	80°32'58.686"W	13298.11	165.757	0.33		-0.33
19592.00	89.480	148.470	6361.39	13369.08	-12965.19	3318.35	1766302.87	14583435.77	40°09'17.413"N	80°32'58.091"W	13383.11	165.644	0.07		-0.07

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWB
Facility	Samuel Jones BRK Pad		

WELLPATH DATA (241 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)
19685.00	89.510	148.540	6362.21	13459.11	-13044.49	3366.93	1766351.43	14583356.50	40°09'16.627"N	80°32'57.471"W	13472.00	165.527	0.08	0.03	0.08
19774.00	89.420	148.740	6363.04	13545.32	-13120.48	3413.24	1766397.73	14583280.53	40°09'15.873"N	80°32'56.879"W	13557.19	165.418	0.25	-0.10	0.22
19863.00	89.510	148.690	6363.87	13631.55	-13196.54	3459.46	1766443.93	14583204.51	40°09'15.120"N	80°32'56.289"W	13642.45	165.314	0.12	0.10	-0.06
19952.00	89.450	148.700	6364.68	13717.78	-13272.58	3505.70	1766490.15	14583128.50	40°09'14.366"N	80°32'55.698"W	13727.76	165.204	0.07	-0.07	0.01
20044.00	89.660	150.130	6365.39	13807.19	-13351.77	3552.51	1766536.94	14583049.33	40°09'13.681"N	80°32'55.101"W	13816.30	165.100	1.57	0.23	1.55
20137.00	89.720	150.750	6365.89	13897.96	-13432.67	3598.39	1766582.80	14582968.47	40°09'12.779"N	80°32'54.515"W	13906.29	165.004	0.67	0.06	0.67
20230.00	89.720	150.830	6366.35	13988.85	-13513.84	3643.77	1766628.17	14582887.33	40°09'11.975"N	80°32'53.936"W	13996.46	164.910	0.09	0.00	0.09
20318.00	89.690	151.390	6366.80	14074.95	-13590.89	3686.29	1766670.67	14582810.31	40°09'11.211"N	80°32'53.394"W	14081.94	164.825	0.64	-0.03	0.64
20407.00	89.750	151.740	6367.24	14162.18	-13669.15	3728.67	1766713.03	14582732.08	40°09'10.436"N	80°32'52.853"W	14168.58	164.742	0.40	0.07	0.39
20499.00	89.660	151.160	6367.71	14252.31	-13749.96	3772.64	1766756.98	14582651.30	40°09'09.635"N	80°32'52.292"W	14258.13	164.657	0.64	-0.10	-0.63
20589.00	89.750	151.780	6368.17	14340.48	-13829.03	3815.62	1766799.95	14582572.26	40°09'08.851"N	80°32'51.744"W	14345.77	164.575	0.70	0.10	0.69
20679.00	89.720	152.130	6368.59	14428.81	-13908.46	3857.93	1766842.25	14582492.86	40°09'08.064"N	80°32'51.204"W	14433.61	164.497	0.39	-0.03	0.39
20769.00	89.720	152.170	6369.03	14517.19	-13988.04	3899.98	1766884.28	14582413.31	40°09'07.276"N	80°32'50.668"W	14521.54	164.421	0.04	0.00	0.04
20862.00	89.720	150.750	6369.48	14608.30	-14069.73	3944.41	1766928.69	14582331.65	40°09'06.466"N	80°32'50.101"W	14612.18	164.339	1.53	0.00	-1.53
20955.00	89.720	148.600	6369.94	14698.79	-14150.00	3991.36	1766975.63	14582251.41	40°09'05.671"N	80°32'49.501"W	14702.16	164.248	2.31	0.00	-2.31
21047.00	89.690	147.530	6370.41	14787.67	-14228.08	4040.02	1767024.27	14582173.37	40°09'04.897"N	80°32'48.880"W	14790.54	164.148	1.16	-0.03	-1.16
21140.00	89.750	146.850	6370.87	14877.14	-14306.24	4090.42	1767074.64	14582095.23	40°09'04.122"N	80°32'48.236"W	14879.51	164.044	0.73	0.06	-0.73
21232.00	89.570	146.820	6371.41	14965.49	-14383.25	4140.74	1767124.95	14582018.25	40°09'03.358"N	80°32'47.593"W	14967.42	163.940	0.20	-0.20	-0.03
21325.00	89.660	147.140	6372.04	15054.87	-14461.23	4191.42	1767175.61	14581940.31	40°09'02.585"N	80°32'46.946"W	15056.40	163.836	0.36	0.10	0.34
21418.00	89.720	147.950	6372.54	15144.50	-14539.70	4241.33	1767225.49	14581861.86	40°09'01.807"N	80°32'46.308"W	15145.68	163.738	0.87	0.06	0.87
21511.00	89.630	149.350	6373.07	15234.58	-14619.12	4289.71	1767273.86	14581782.47	40°09'01.020"N	80°32'45.690"W	15235.49	163.647	1.51	-0.10	1.51
21603.00	89.720	150.140	6373.59	15324.12	-14698.59	4336.06	1767320.19	14581703.04	40°09'00.232"N	80°32'45.098"W	15324.81	163.564	0.86	0.10	0.86
21696.00	89.660	151.160	6374.09	15414.96	-14779.65	4381.65	1767365.76	14581622.01	40°08'59.429"N	80°32'44.517"W	15415.47	163.487	1.10	-0.06	1.10
21788.00	89.690	152.010	6374.60	15502.19	-14857.92	4424.00	1767408.09	14581543.76	40°08'58.653"N	80°32'43.977"W	15502.57	163.419	0.96	0.03	0.96
21878.00	89.750	154.690	6375.05	15593.86	-14941.03	4465.71	1767449.79	14581460.68	40°08'57.830"N	80°32'43.445"W	15594.13	163.359	2.88	0.06	2.88
21970.00	89.750	155.670	6375.45	15685.00	-15024.53	4504.32	1767488.39	14581377.22	40°08'57.003"N	80°32'42.963"W	15685.20	163.311	1.07	0.00	1.07
22063.00	89.690	154.230	6375.91	15777.07	-15108.78	4543.70	1767527.75	14581293.00	40°08'56.168"N	80°32'42.452"W	15777.21	163.262	1.55	-0.06	-1.55
22156.00	89.690	152.860	6376.41	15868.80	-15192.04	4585.13	1767569.16	14581209.77	40°08'55.343"N	80°32'41.924"W	15868.88	163.206	1.47	0.00	-1.47
22245.00	89.720	151.660	6376.87	15956.23	-15270.81	4626.55	1767610.57	14581131.03	40°08'54.563"N	80°32'41.395"W	15956.27	163.145	1.35	0.03	-1.35
22312.00	89.660	150.640	6377.23	16021.80	-15329.49	4658.88	1767642.89	14581072.37	40°08'53.981"N	80°32'40.983"W	16021.81	163.095	1.52	-0.09	-1.52

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWP
Facility	Samuel Jones BRK Pad		

WELLPATH DATA (241 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]
22337.00	89.660	150.640	6377.38	16046.22	-15351.28	4671.14	1767655.14	14581050.59	40°08'53.766"N	80°32'40.827"W	16046.23	163.076	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Samuel Jones BRK 206H AWP Ref Wellpath: Samuel Jones BRK 206H AWP Proj: 22337'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S	Start E/W	End N/S	End E/W
20in Conductor	26.00	100.00	74.00	26.00	100.00	0.00	0.00	0.03	-0.05
17.5in Open Hole	100.00	373.00	273.00	100.00	373.00	0.03	-0.05	0.16	-0.52
13.375in Casing Surface	26.00	373.00	347.00	26.00	373.00	0.00	0.00	0.16	-0.52
12.25in Open Hole	373.00	1841.00	1468.00	373.00	1824.33	0.16	-0.52	-12.77	-173.00
9.625in Casing Intermediate	26.00	1841.00	1815.00	26.00	1824.33	0.00	0.00	-12.77	-173.00
8.75in Open Hole	1841.00	5930.00	4089.00	1824.33	5746.04	-12.77	-173.00	-331.54	-1240.61
8.5in Open Hole	5930.00	22337.00	16407.00	5746.04	6377.38	-331.54	-1240.61	-15351.28	4671.14
5.5in Casing Production	26.00	22337.00	22311.00	26.00	6377.38	0.00	0.00	-15351.28	4671.14

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Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWB
Facility	Samuel Jones BRK Pad		

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
Samuel Jones BRK 206H LP Rev-3	6097.00	-894.45	-1232.59	1761753.69	14595501.87	40°11'16.919"N	80°33'55.940"W	point	
Samuel Jones BRK 206H LP Rev-4	6097.55	-922.07	-1221.65	1761764.62	14595474.25	40°11'16.645"N	80°33'55.801"W	point	
Samuel Jones BRK 206H TP1 Rev-2	6215.00	-6805.30	1108.06	1764093.43	14589593.29	40°10'18.394"N	80°33'26.161"W	point	
Samuel Jones BRK 206H TP2 Rev-2	6288.00	-10699.10	2132.99	1765117.97	14585700.98	40°09'39.865"N	80°33'13.210"W	point	
Samuel Jones BRK 206H BHL Rev-4	6385.77	-15361.55	4691.35	1767675.34	14581040.33	40°08'53.663"N	80°32'40.567"W	point	

WELLPATH COMPOSITION - Ref Wellbore: Samuel Jones BRK 206H AWB Ref Wellpath: Samuel Jones BRK 206H AWP Proj: 22337'									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore					
26.00	318.00	OWSG MWD rev2 + HRGM	01 Premier MWD <17-1/2"> (152-318)	Samuel Jones BRK 206H AWB					
318.00	692.00	BHI Generic gyro - northseeking (Standard)	02 Gyro <12-1/4"> (318)(410-692)	Samuel Jones BRK 206H AWB					
692.00	1793.00	OWSG MWD rev2 + HRGM	03 Premier MWD <12-1/4"> (692)(807-1793)	Samuel Jones BRK 206H AWB					
1793.00	5870.00	OWSG MWD rev2 + HRGM	04 Premier MWD <8-3/4"> (1793)(1940-5870)	Samuel Jones BRK 206H AWB					
5870.00	22312.00	BHI AutoTrak Curve (Short)	05 BH AT Curve <8-1/2"> (5870)(5963-22312)	Samuel Jones BRK 206H AWB					
22312.00	22337.00	Blind Drilling (std)	Projection to bit	Samuel Jones BRK 206H AWB					

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Actual Wellpath Report

Samuel Jones BRK 206H AWP Proj: 22337'
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 206H
Area	Brooke County, WV	Well	Samuel Jones BRK 206H
Field	Brooke	Wellbore	Samuel Jones BRK 206H AWB
Facility	Samuel Jones BRK Pad		

COMMENTS

Wellpath general comments
 API: 47-009-00270-0000
 BH Job #: 109850707
 Rig: SDC 42
 Duration: 6/3/2019 - 6/15/19

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