

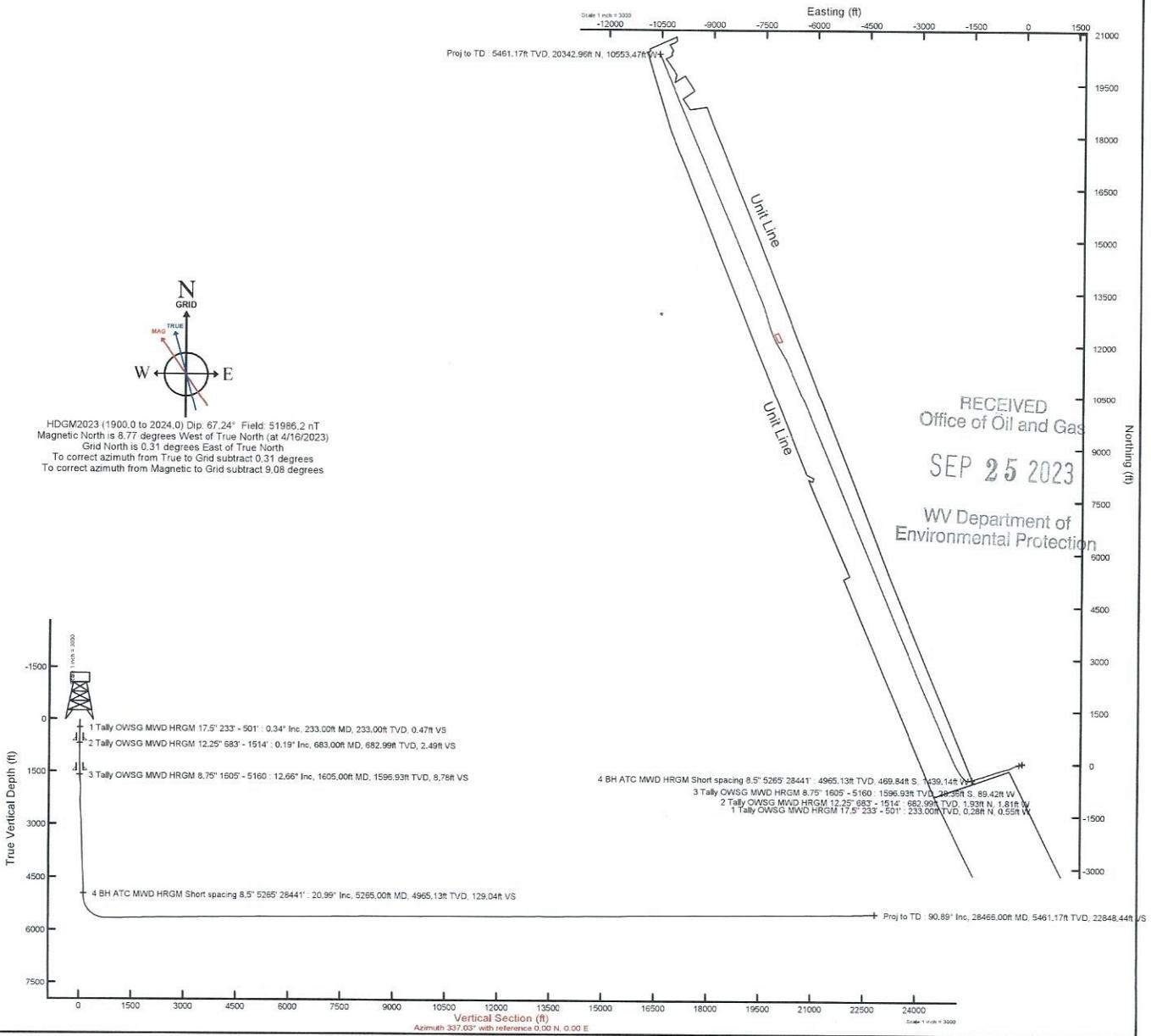
Location: Brooke County, WV Slot: 401H  
 Field: Brooke Well: State of WV DNR B BRK 401H  
 Facility: State of WV DNR B BRK Pad Wellbore: State of WV DNR B BRK 401H AWB

Plot reference wellpath is State of WV DNR B BRK 401H awp Proj: 28466	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 40 (KB)	North Reference: Grid north
Reference wellpath measured depths are referenced to SDC 40 (KB)	Scale: True distance
SDC 40 (KB) to Mean Sea Level: 1227.4 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: 401H): -1201.4 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: tranlam on 2023-05-06; Database: WA_MPL_EASTERNUS_Defn

Location Information					
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
State of WV DNR B BRK Pad		1772008.250	14651201.600	40°20'27.0220"N	80°31'39.9364"W
Slot	Local N (ft)	Local E (ft)	Grid North (US ft)	Latitude	Longitude
401H	55.59	4.66	1772012.910	40°20'27.5710"N	80°31'39.8723"W
SDC 40 (KB) to Ground level (At Slot: 401H)				26ft	
Mean Sea Level to Ground level (At Slot: 401H)				-1201.4ft	
SDC 40 (KB) to Mean Sea Level				1227.4ft	

Bottom Hole Location									
MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
28466.00	90.890	337.520	5461.17	20342.96	-10553.47	1761463.47	14671592.36	40°23'49.1262"N	80°33'54.8684"W

API: 47009003330000  
 BH JOB: 111671718  
 DURATION: 04.24.2023 to 04.30.2023  
 RIG: SDC 40



# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 6.0
North Reference	Grid	User	Tranlam
Scale	0.999620	Report Generated	5/6/2023 at 12:45:28 PM
Convergence at slot	0.31° East	Database	WA_MPL_EASTERNUUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	55.59	4.66	1772012.91	14651257.17	40°20'27.5710"N	80°31'39.8723"W
Facility Reference Pt			1772008.25	14651201.60	40°20'27.0220"N	80°31'39.9364"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 40 (KB) to Facility Vertical Datum	1227.40ft
Horizontal Reference Pt	Slot	SDC 40 (KB) to Mean Sea Level	1227.40ft
Vertical Reference Pt	SDC 40 (KB)	SDC 40 (KB) to Ground Level at Slot (401H)	26.00ft
MD Reference Pt	SDC 40 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	337.03°



# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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]	Comments
0.00†	0.000	297.400	0.00	0.00	0.00	0.00	1772012.91	14651257.17	40°20'27.5710"N	80°31'39.8723"W	0.00	0.000	0.00	
26.00	0.000	297.400	26.00	0.00	0.00	0.00	1772012.91	14651257.17	40°20'27.5710"N	80°31'39.8723"W	0.00	0.000	0.00	
233.00	0.340	297.400	233.00	0.47	0.28	-0.55	1772012.36	14651257.45	40°20'27.5739"N	80°31'39.8793"W	0.61	297.400	0.16	
322.00	0.500	304.420	322.00	1.00	0.62	-1.10	1772011.81	14651257.79	40°20'27.5773"N	80°31'39.8865"W	1.26	299.551	0.19	
412.00	0.600	336.540	411.99	1.81	1.28	-1.61	1772011.30	14651258.45	40°20'27.5837"N	80°31'39.8931"W	2.06	308.413	0.35	
501.00	0.220	343.780	500.99	2.44	1.87	-1.84	1772011.07	14651259.04	40°20'27.5896"N	80°31'39.8960"W	2.63	315.380	0.43	
683.00	0.190	153.690	682.99	2.49	1.93	-1.81	1772011.10	14651259.10	40°20'27.5902"N	80°31'39.8956"W	2.65	316.924	0.22	
773.00	0.460	160.040	772.99	1.98	1.46	-1.62	1772011.29	14651258.63	40°20'27.5856"N	80°31'39.8931"W	2.18	312.062	0.30	
863.00	0.540	165.170	862.98	1.20	0.71	-1.39	1772011.52	14651257.88	40°20'27.5781"N	80°31'39.8902"W	1.56	297.153	0.10	
954.00	1.340	228.950	953.97	0.44	-0.40	-2.08	1772010.83	14651256.77	40°20'27.5672"N	80°31'39.8992"W	2.12	259.067	1.32	
1045.00	2.740	243.850	1044.91	-0.01	-2.06	-4.84	1772008.08	14651255.11	40°20'27.5509"N	80°31'39.9349"W	5.26	246.931	1.63	
1136.00	5.080	252.350	1135.70	0.24	-4.24	-10.63	1772002.29	14651252.93	40°20'27.5297"N	80°31'40.0099"W	11.44	248.251	2.64	
1227.00	7.420	257.580	1226.15	1.69	-6.73	-20.21	1771992.71	14651250.45	40°20'27.5056"N	80°31'40.1337"W	21.30	251.591	2.64	
1319.00	9.610	257.500	1317.13	4.18	-9.67	-33.51	1771979.42	14651247.51	40°20'27.4773"N	80°31'40.3057"W	34.87	253.909	2.38	
1410.00	11.740	253.460	1406.55	6.59	-13.95	-49.80	1771963.13	14651243.23	40°20'27.4359"N	80°31'40.5164"W	51.72	254.356	2.48	
1434.00	11.780	251.920	1430.05	7.08	-15.40	-54.47	1771958.46	14651241.77	40°20'27.4217"N	80°31'40.5768"W	56.60	254.212	1.32	
1514.00	12.940	248.330	1508.19	7.98	-21.24	-70.56	1771942.38	14651235.93	40°20'27.3648"N	80°31'40.7850"W	73.69	253.244	1.74	
1605.00	12.660	250.330	1596.93	8.78	-28.36	-89.42	1771923.53	14651228.82	40°20'27.2955"N	80°31'41.0290"W	93.81	252.401	0.58	
1695.00	13.350	257.940	1684.63	11.32	-33.85	-108.87	1771904.09	14651223.33	40°20'27.2422"N	80°31'41.2805"W	114.01	252.726	2.05	
1786.00	16.130	264.250	1772.63	17.05	-37.32	-131.72	1771881.24	14651219.87	40°20'27.2092"N	80°31'41.5760"W	136.91	254.183	3.52	
1877.00	19.630	261.130	1859.23	24.52	-40.94	-159.41	1771853.56	14651216.25	40°20'27.1749"N	80°31'41.9338"W	164.59	255.597	3.99	
1968.00	21.530	250.830	1944.44	29.35	-48.78	-190.30	1771822.68	14651208.40	40°20'27.0990"N	80°31'42.3332"W	196.45	255.622	4.49	
2059.00	22.270	245.530	2028.88	30.00	-61.41	-221.77	1771791.22	14651195.78	40°20'26.9759"N	80°31'42.7405"W	230.12	254.522	2.32	
2150.00	23.020	242.310	2112.87	28.09	-76.82	-253.22	1771759.79	14651180.38	40°20'26.8252"N	80°31'43.1477"W	264.62	253.123	1.59	
2240.00	23.690	241.700	2195.50	24.96	-93.57	-284.72	1771728.30	14651163.63	40°20'26.6614"N	80°31'43.5556"W	299.70	251.807	0.79	
2331.00	23.370	244.300	2278.93	22.40	-110.07	-317.08	1771693.95	14651147.15	40°20'26.5001"N	80°31'43.9747"W	335.64	250.857	1.19	
2422.00	22.760	249.110	2362.66	22.18	-124.17	-349.79	1771663.25	14651133.05	40°20'26.3625"N	80°31'44.3981"W	371.18	250.456	2.18	
2515.00	24.180	252.830	2447.97	24.76	-136.21	-384.80	1771628.25	14651121.01	40°20'26.2453"N	80°31'44.8510"W	408.20	250.508	2.21	
2605.00	24.750	255.330	2529.89	29.34	-146.42	-420.64	1771592.43	14651110.80	40°20'26.1463"N	80°31'45.3145"W	445.40	250.807	1.31	
2697.00	25.350	255.280	2613.24	34.95	-156.30	-458.32	1771554.76	14651100.93	40°20'26.0506"N	80°31'45.8018"W	484.24	251.169	0.65	



# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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]	Comments
2787.00	25.580	255.150	2694.50	40.46	-166.18	-495.74	1771517.36	14651091.05	40°20'25.9550"N	80°31'46.2856"W	522.85	251.468	0.26	
2879.00	24.160	255.690	2777.96	46.10	-175.92	-533.18	1771479.94	14651081.31	40°20'25.8607"N	80°31'46.7698"W	561.45	251.740	1.56	
2969.00	23.410	254.860	2860.32	51.31	-185.15	-568.28	1771444.84	14651072.10	40°20'25.7714"N	80°31'47.2238"W	597.68	251.955	0.91	
3060.00	23.750	251.640	2943.72	55.24	-195.64	-603.13	1771410.01	14651061.61	40°20'25.6695"N	80°31'47.6745"W	634.06	252.028	1.46	
3151.00	23.120	253.750	3027.22	58.81	-206.41	-637.67	1771375.48	14651050.84	40°20'25.5649"N	80°31'48.1213"W	670.25	252.064	1.15	
3243.00	22.760	253.990	3111.94	63.08	-216.37	-672.12	1771341.05	14651040.88	40°20'25.4683"N	80°31'48.5669"W	706.09	252.155	0.40	
3333.00	23.880	253.500	3194.59	67.24	-226.35	-706.32	1771306.86	14651030.91	40°20'25.3715"N	80°31'49.0092"W	741.70	252.231	1.26	
3424.00	24.700	251.940	3277.53	70.94	-237.48	-742.06	1771271.13	14651019.79	40°20'25.2634"N	80°31'49.4715"W	779.13	252.254	1.14	
3517.00	23.640	248.560	3362.38	73.10	-250.32	-777.89	1771235.32	14651006.95	40°20'25.1384"N	80°31'49.9351"W	817.17	252.162	1.87	
3608.00	22.530	249.140	3446.10	74.23	-263.19	-811.17	1771202.05	14650994.08	40°20'25.0129"N	80°31'50.3657"W	852.80	252.024	1.25	
3698.00	22.260	252.090	3529.31	76.37	-274.58	-843.50	1771169.73	14650982.70	40°20'24.9021"N	80°31'50.7840"W	887.07	251.969	1.28	
3789.00	23.380	251.720	3613.19	79.37	-285.54	-877.05	1771136.20	14650971.74	40°20'24.7955"N	80°31'51.2180"W	922.36	251.966	1.24	
3879.00	23.840	253.320	3695.65	82.82	-296.36	-911.43	1771101.83	14650960.92	40°20'24.6904"N	80°31'51.6627"W	958.40	251.987	0.88	
3972.00	24.430	252.310	3780.52	86.65	-307.60	-947.75	1771065.52	14650949.69	40°20'24.5812"N	80°31'52.1326"W	996.42	252.019	0.77	
4063.00	25.380	250.570	3863.06	89.59	-319.81	-984.07	1771029.21	14650937.49	40°20'24.4625"N	80°31'52.6024"W	1034.73	251.997	1.32	
4154.00	24.200	249.460	3945.67	91.58	-332.84	-1019.93	1770993.37	14650924.46	40°20'24.3356"N	80°31'53.0664"W	1072.87	251.927	1.39	
4246.00	22.990	250.230	4029.98	93.38	-346.53	-1054.50	1770958.81	14650911.77	40°20'24.2120"N	80°31'53.5137"W	1109.67	251.857	1.36	
4336.00	23.510	252.200	4112.67	95.98	-356.96	-1088.13	1770925.20	14650890.34	40°20'24.1008"N	80°31'53.9488"W	1145.19	251.838	1.04	
4428.00	23.570	252.330	4197.02	99.33	-368.16	-1123.13	1770890.21	14650889.15	40°20'23.9920"N	80°31'54.4015"W	1181.93	251.851	0.09	
4522.00	23.290	254.540	4283.27	103.50	-378.82	-1158.95	1770854.41	14650878.50	40°20'23.8886"N	80°31'54.8647"W	1219.29	251.899	0.98	
4614.00	24.560	255.570	4367.36	108.72	-388.43	-1194.99	1770818.37	14650868.89	40°20'23.7955"N	80°31'55.3309"W	1256.54	251.993	1.45	
4706.00	25.020	254.430	4450.89	114.06	-398.42	-1232.25	1770781.13	14650858.91	40°20'23.6987"N	80°31'55.8127"W	1295.06	252.083	0.72	
4797.00	22.770	251.610	4534.08	117.95	-409.14	-1267.51	1770745.89	14650848.19	40°20'23.5946"N	80°31'56.2687"W	1331.90	252.110	2.77	
4888.00	23.510	251.680	4617.76	120.82	-420.40	-1301.45	1770711.96	14650836.93	40°20'23.4851"N	80°31'56.7078"W	1367.66	252.098	0.81	
4979.00	24.310	249.660	4700.95	123.15	-432.62	-1336.24	1770677.18	14650824.72	40°20'23.3662"N	80°31'57.1580"W	1404.53	252.060	1.26	
5069.00	23.470	249.200	4783.24	124.68	-445.42	-1370.37	1770643.07	14650811.92	40°20'23.2415"N	80°31'57.5995"W	1440.94	251.994	0.96	
5160.00	21.590	250.650	4867.13	126.43	-457.80	-1403.31	1770610.34	14650799.94	40°20'23.1247"N	80°31'58.0231"W	1475.78	251.944	2.15	
5265.00	20.990	251.270	4956.29	129.04	-469.84	-1439.14	1770574.32	14650787.05	40°20'23.0037"N	80°31'58.4894"W	1513.90	251.920	0.61	
5355.00	22.280	251.950	5048.78	131.69	-480.31	-1470.63	1770542.84	14650777.51	40°20'22.9020"N	80°31'58.8967"W	1547.08	251.913	1.46	
5446.00	24.000	261.760	5132.49	137.88	-488.31	-1505.37	1770508.12	14650769.05	40°20'22.8247"N	80°31'59.3458"W	1582.58	252.028	4.63	

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### REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

### WELLPATH DATA (300 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]	Comments
5536.00	26.310	279.910	5214.07	153.39	-487.50	-1543.19	1770470.31	14650769.86	40°20'22.8347"N	80°31'59.8342"W	1618.36	252.469	8.91	
5627.00	31.730	291.190	5293.68	181.05	-475.36	-1585.43	1770428.09	14650781.99	40°20'22.9568"N	80°32'0.3788"W	1655.16	253.310	8.44	
5717.00	36.840	305.170	5368.13	220.54	-451.21	-1629.65	1770383.88	14650806.14	40°20'23.1978"N	80°32'0.9482"W	1690.96	254.524	10.40	
5808.00	44.040	315.370	5437.42	273.23	-412.89	-1674.28	1770339.27	14650844.44	40°20'23.5787"N	80°32'1.5219"W	1724.44	256.147	10.72	
5900.00	50.540	321.210	5499.82	337.22	-362.37	-1719.06	1770294.50	14650894.93	40°20'24.0802"N	80°32'2.0968"W	1756.84	258.096	8.46	
5990.00	57.790	324.000	5552.48	407.85	-304.41	-1763.27	1770250.31	14650952.88	40°20'24.6554"N	80°32'2.6638"W	1789.35	260.205	8.44	
6082.00	65.550	328.880	5596.13	487.38	-236.94	-1807.88	1770205.72	14651020.33	40°20'25.3244"N	80°32'3.2353"W	1823.34	262.534	9.64	
6172.00	72.360	327.520	5628.43	570.30	-165.60	-1852.13	1770161.48	14651091.63	40°20'26.0316"N	80°32'4.3956"W	1859.52	264.891	7.70	
6263.00	79.450	329.030	5650.58	657.50	-90.57	-1898.50	1770115.14	14651166.63	40°20'26.754"N	80°32'4.9498"W	1900.66	267.269	7.96	
6353.00	86.490	332.850	5661.59	746.25	-12.55	-1941.83	1770071.82	14651244.63	40°20'27.5487"N	80°32'5.4593"W	1941.87	269.630	8.88	
6444.00	90.620	335.130	5663.88	837.06	69.19	-1981.71	1770031.96	14651326.33	40°20'28.3584"N	80°32'5.4593"W	1982.92	272.000	5.18	
6535.00	91.480	336.690	5662.22	928.03	152.25	-2018.85	1769994.83	14651409.36	40°20'29.1811"N	80°32'5.9332"W	2024.58	274.313	1.96	
6635.00	91.080	336.530	5659.98	1028.00	244.01	-2058.54	1769955.16	14651501.08	40°20'30.0899"N	80°32'6.4396"W	2072.95	276.760	0.43	
6731.00	90.890	336.500	5658.33	1123.98	332.04	-2096.79	1769916.92	14651589.08	40°20'30.9618"N	80°32'6.9276"W	2122.92	278.998	0.20	
6828.00	90.890	336.230	5656.83	1220.96	420.89	-2135.67	1769878.06	14651677.90	40°20'31.8418"N	80°32'7.4237"W	2176.75	281.149	0.28	
6925.00	92.090	335.800	5654.30	1317.91	509.49	-2175.09	1769838.65	14651766.46	40°20'32.7193"N	80°32'7.9267"W	2233.96	283.183	1.31	
7021.00	91.200	336.340	5651.55	1413.86	597.20	-2214.01	1769790.96	14651854.14	40°20'33.5880"N	80°32'8.4234"W	2293.14	285.095	1.08	
7118.00	91.420	336.490	5649.33	1510.83	686.07	-2252.81	1769760.95	14651942.98	40°20'34.4683"N	80°32'8.9185"W	2354.96	286.938	0.27	
7215.00	91.750	336.540	5646.65	1607.79	775.00	-2291.45	1769722.34	14652031.87	40°20'35.3491"N	80°32'9.4115"W	2418.96	288.686	0.34	
7311.00	91.750	337.420	5643.72	1703.74	863.31	-2328.97	1769684.83	14652120.15	40°20'36.2237"N	80°32'9.8901"W	2483.83	290.339	0.92	
7408.00	91.110	336.920	5641.29	1800.71	952.69	-2366.60	1769647.22	14652209.49	40°20'37.1088"N	80°32'10.3699"W	2551.16	291.928	0.84	
7505.00	91.110	337.070	5639.42	1897.69	1041.96	-2404.50	1769609.33	14652298.73	40°20'37.9929"N	80°32'10.8534"W	2620.55	293.429	0.15	
7601.00	90.830	336.480	5637.79	1993.68	1130.16	-2442.35	1769571.49	14652386.90	40°20'38.8664"N	80°32'11.3362"W	2691.16	294.832	0.68	
7698.00	90.400	336.740	5636.75	2090.67	1219.19	-2480.86	1769533.00	14652475.89	40°20'39.7481"N	80°32'11.8275"W	2764.25	296.171	0.52	
7794.00	90.430	335.490	5636.05	2186.65	1306.96	-2519.72	1769494.15	14652563.63	40°20'40.6175"N	80°32'12.3235"W	2838.51	297.415	1.30	
7891.00	90.580	335.650	5635.20	2283.62	1395.27	-2559.84	1769454.05	14652651.91	40°20'41.4922"N	80°32'12.8357"W	2915.40	298.593	0.23	
7987.00	91.820	337.330	5633.19	2379.59	1483.28	-2598.13	1769415.78	14652739.88	40°20'42.3639"N	80°32'13.3241"W	2991.72	299.722	2.17	
8084.00	90.250	337.320	5631.44	2476.57	1572.76	-2635.51	1769378.41	14652829.33	40°20'43.2500"N	80°32'13.8009"W	3069.12	300.827	1.62	
8181.00	90.310	336.310	5630.96	2573.56	1661.93	-2673.70	1769340.23	14652918.46	40°20'44.1331"N	80°32'14.2881"W	3148.12	301.864	1.04	
8277.00	90.430	335.820	5630.34	2669.55	1749.67	-2712.65	1769301.30	14653006.17	40°20'45.0021"N	80°32'14.7852"W	3227.97	302.822	0.53	



# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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]	Comments
8374.00	90.950	335.650	5629.17	2766.51	1838.09	-2752.51	1769261.46	14653094.56	40°20'45.8780"N	80°32'15.2940"W	3309.82	303.735	0.56	
8471.00	91.110	336.510	5627.43	2863.48	1926.75	-2791.83	1769222.15	14653183.18	40°20'46.7560"N	80°32'15.7959"W	3392.15	304.611	0.90	
8567.00	90.520	336.680	5626.07	2959.47	2014.84	-2829.96	1769184.03	14653271.24	40°20'47.6285"N	80°32'16.2824"W	3473.94	305.450	0.64	
8664.00	90.370	336.550	5625.31	3056.47	2103.87	-2868.46	1769145.55	14653360.24	40°20'48.5102"N	80°32'16.7736"W	3557.29	306.258	0.20	
8761.00	90.860	336.570	5624.27	3153.46	2192.86	-2907.04	1769106.98	14653449.19	40°20'49.3916"N	80°32'17.2659"W	3641.36	307.028	0.51	
8857.00	90.520	337.150	5623.11	3249.45	2281.13	-2944.76	1769069.27	14653537.43	40°20'50.2658"N	80°32'17.7471"W	3724.94	307.763	0.70	
8954.00	90.580	337.290	5622.18	3346.44	2370.56	-2992.32	1769031.73	14653626.82	40°20'51.1514"N	80°32'18.2261"W	3809.70	308.480	0.16	
9050.00	91.140	337.120	5620.74	3442.43	2459.05	-3019.51	1768994.55	14653715.28	40°20'52.0278"N	80°32'18.7005"W	3894.15	309.159	0.61	
9147.00	90.250	337.890	5619.57	3539.42	2548.66	-3056.62	1768957.46	14653804.86	40°20'52.9152"N	80°32'19.1737"W	3979.77	309.822	1.21	
9244.00	91.450	337.660	5618.13	3636.40	2638.44	-3093.30	1768920.79	14653894.61	40°20'53.8043"N	80°32'19.6415"W	4065.70	310.463	1.26	
9340.00	91.570	337.440	5615.60	3732.36	2727.14	-3129.95	1768884.16	14653983.27	40°20'54.6826"N	80°32'20.1088"W	4151.37	311.066	0.26	
9437.00	91.660	337.970	5612.86	3829.32	2816.85	-3166.74	1768847.38	14654072.94	40°20'55.5710"N	80°32'20.5779"W	4238.26	311.653	0.55	
9533.00	89.880	336.750	5611.57	3925.30	2905.44	-3203.68	1768810.45	14654161.50	40°20'56.4483"N	80°32'21.0491"W	4324.95	312.205	2.25	
9630.00	90.650	336.020	5611.12	4022.29	2994.31	-3242.54	1768771.61	14654250.34	40°20'57.3285"N	80°32'21.5450"W	4413.61	312.721	1.09	
9727.00	91.200	336.500	5609.56	4119.27	3083.09	-3281.59	1768732.58	14654339.09	40°20'58.2078"N	80°32'22.0433"W	4502.70	313.214	0.75	
9823.00	91.050	337.090	5607.67	4215.25	3171.31	-3319.41	1768694.77	14654427.27	40°20'59.0815"N	80°32'22.5258"W	4590.82	313.693	0.63	
9920.00	90.830	336.900	5606.08	4312.24	3260.58	-3357.31	1768656.88	14654516.51	40°20'59.9656"N	80°32'23.0094"W	4680.06	314.163	0.30	
10017.00	90.650	336.610	5604.83	4409.23	3349.70	-3395.59	1768618.62	14654605.59	40°21'0.8482"N	80°32'23.4978"W	4769.75	314.610	0.35	
10113.00	90.650	336.430	5603.74	4505.22	3437.75	-3433.83	1768580.39	14654693.60	40°21'1.7202"N	80°32'23.9859"W	4858.94	315.033	0.19	
10210.00	90.490	337.000	5602.78	4602.21	3526.84	-3472.18	1768542.06	14654782.66	40°21'2.6026"N	80°32'24.4751"W	4949.20	315.447	0.61	
10307.00	91.020	336.890	5601.50	4699.20	3616.09	-3510.16	1768504.09	14654871.87	40°21'3.4864"N	80°32'24.9597"W	5039.57	315.852	0.56	
10403.00	90.830	336.780	5599.95	4795.19	3704.34	-3547.92	1768466.35	14654960.09	40°21'4.3604"N	80°32'25.4415"W	5129.31	316.236	0.23	
10500.00	90.710	337.240	5598.64	4892.18	3793.62	-3585.80	1768428.48	14655049.34	40°21'5.2446"N	80°32'25.9248"W	5220.11	316.613	0.49	
10597.00	90.550	336.710	5597.58	4989.17	3882.89	-3623.74	1768390.56	14655138.58	40°21'6.1287"N	80°32'26.4088"W	5311.15	316.977	0.57	
10693.00	91.200	337.300	5596.11	5085.16	3971.25	-3661.24	1768353.07	14655226.90	40°21'7.0037"N	80°32'26.8872"W	5401.43	317.326	0.91	
10790.00	91.230	336.720	5594.05	5182.14	4060.52	-3699.11	1768315.21	14655316.14	40°21'7.8874"N	80°32'27.3704"W	5492.84	317.667	0.60	
10886.00	91.600	337.500	5591.68	5278.11	4148.94	-3736.44	1768277.90	14655404.52	40°21'8.7634"N	80°32'27.8467"W	5583.43	317.994	0.90	
10982.00	90.400	337.580	5590.01	5374.09	4237.64	-3773.11	1768241.24	14655493.19	40°21'9.6418"N	80°32'28.3143"W	5673.97	318.319	1.25	
11079.00	90.310	337.390	5589.41	5471.08	4327.24	-3810.25	1768204.11	14655582.76	40°21'10.5292"N	80°32'28.7881"W	5765.68	318.635	0.22	
11175.00	90.490	337.630	5588.74	5567.08	4415.94	-3846.98	1768167.40	14655671.42	40°21'11.4075"N	80°32'29.2564"W	5856.60	318.939	0.31	



# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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]	Comments
11272.00	90.280	337.190	5588.09	5664.07	4505.50	-3884.24	1768130.16	14655760.95	40°21'12.2944"N	80°32'29.7317"W	5948.68	319.235	0.50	
11368.00	89.690	337.460	5588.11	5760.07	4594.08	-3921.24	1768093.16	14655849.49	40°21'13.1716"N	80°32'30.2038"W	6040.01	319.518	0.68	
11465.00	89.910	336.740	5588.45	5857.07	4683.43	-3958.99	1768055.43	14655938.81	40°21'14.0565"N	80°32'30.6853"W	6132.55	319.792	0.78	
11561.00	90.220	337.530	5588.34	5953.07	4771.89	-3996.29	1768018.15	14656027.23	40°21'14.9324"N	80°32'31.1612"W	6224.25	320.055	0.88	
11658.00	90.490	336.630	5587.74	6050.07	4861.23	-4034.07	1767980.39	14656116.54	40°21'15.8172"N	80°32'31.6432"W	6317.06	320.313	0.97	
11754.00	90.220	337.140	5587.77	6146.06	4949.52	-4071.75	1767942.71	14656204.79	40°21'16.6916"N	80°32'32.1241"W	6409.12	320.557	0.60	
11851.00	90.220	337.140	5586.77	6243.06	5038.90	-4109.43	1767905.05	14656294.14	40°21'17.5767"N	80°32'32.6048"W	6502.15	320.801	0.00	
11947.00	90.000	337.330	5586.59	6339.06	5127.42	-4146.58	1767867.91	14656382.63	40°21'18.4534"N	80°32'33.0787"W	6594.28	321.037	0.30	
12044.00	90.340	337.010	5586.30	6436.06	5216.82	-4184.22	1767830.29	14656471.99	40°21'19.3387"N	80°32'33.5589"W	6687.52	321.268	0.48	
12140.00	90.370	337.290	5585.71	6532.06	5305.28	-4221.49	1767793.03	14656560.43	40°21'20.2148"N	80°32'34.0345"W	6779.90	321.490	0.29	
12237.00	89.910	337.510	5585.47	6629.06	5394.83	-4258.77	1767755.77	14656649.94	40°21'21.1016"N	80°32'34.5100"W	6873.24	321.712	0.53	
12333.00	90.710	337.890	5584.95	6725.05	5483.65	-4295.20	1767719.35	14656738.73	40°21'21.9811"N	80°32'34.9746"W	6965.57	321.929	0.92	
12430.00	90.460	336.930	5583.96	6822.04	5573.20	-4332.46	1767682.11	14656828.24	40°21'22.8679"N	80°32'35.4499"W	7059.09	322.139	1.02	
12526.00	90.490	337.070	5583.16	6918.03	5661.57	-4369.97	1767644.61	14656916.58	40°21'23.7430"N	80°32'35.9285"W	7151.92	322.337	0.15	
12623.00	90.090	337.220	5582.67	7015.03	5750.95	-4407.64	1767606.95	14657005.92	40°21'24.6282"N	80°32'36.4092"W	7245.74	322.533	0.44	
12719.00	90.460	336.740	5582.21	7111.03	5839.31	-4445.18	1767569.43	14657094.24	40°21'25.5032"N	80°32'36.8882"W	7338.74	322.720	0.63	
12816.00	90.550	337.170	5581.36	7208.03	5928.56	-4483.15	1767531.47	14657183.47	40°21'26.3871"N	80°32'37.3727"W	7432.80	322.904	0.45	
12912.00	90.550	337.440	5580.43	7304.02	6017.12	-4520.19	1767494.45	14657271.99	40°21'27.2641"N	80°32'37.8452"W	7525.81	323.085	0.28	
13009.00	90.860	337.580	5579.24	7401.01	6106.74	-4557.29	1767457.36	14657361.58	40°21'28.1516"N	80°32'38.3185"W	7619.79	323.267	0.35	
13105.00	90.460	336.770	5578.14	7497.00	6195.22	-4594.53	1767420.14	14657450.02	40°21'29.0277"N	80°32'38.7936"W	7713.00	323.438	0.94	
13202.00	91.170	337.510	5576.76	7593.99	6284.59	-4632.20	1767382.48	14657539.36	40°21'29.9128"N	80°32'39.2744"W	7807.26	323.607	1.06	
13298.00	90.520	337.110	5575.34	7689.98	6373.15	-4669.23	1767345.46	14657627.88	40°21'30.7898"N	80°32'39.7468"W	7900.55	323.772	0.79	
13395.00	90.950	337.430	5574.10	7786.97	6462.61	-4706.71	1767308.00	14657717.31	40°21'31.6757"N	80°32'40.2249"W	7994.90	323.934	0.55	
13491.00	90.770	337.310	5572.65	7882.96	6551.20	-4743.64	1767271.08	14657805.87	40°21'32.5531"N	80°32'40.6961"W	8088.29	324.092	0.23	
13588.00	90.550	337.280	5571.54	7979.95	6640.68	-4781.08	1767233.66	14657895.31	40°21'33.4391"N	80°32'41.1738"W	8182.75	324.247	0.23	
13684.00	90.680	337.390	5570.51	8075.94	6729.26	-4818.07	1767196.68	14657983.86	40°21'34.3163"N	80°32'41.6457"W	8276.28	324.398	0.18	
13781.00	90.370	337.020	5569.62	8172.94	6818.68	-4855.65	1767159.11	14658073.25	40°21'35.2019"N	80°32'42.1252"W	8370.89	324.545	0.50	
13877.00	90.180	337.360	5569.16	8268.94	6907.17	-4892.78	1767121.91	14658161.70	40°21'36.0782"N	80°32'42.6001"W	8464.59	324.687	0.41	
13973.00	89.750	337.420	5569.22	8364.93	6995.80	-4929.87	1767085.02	14658250.29	40°21'36.9558"N	80°32'43.0709"W	8558.26	324.829	0.45	
14070.00	90.030	337.350	5569.40	8461.93	7085.34	-4967.08	1767047.73	14658339.80	40°21'37.8425"N	80°32'43.5468"W	8652.97	324.968	0.30	



# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj.: 28466'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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]	Comments
14167.00	89.780	337.890	5569.56	8558.93	7175.03	-5004.01	1767010.81	14658429.46	40°21'38.7307"N	80°32'44.0180"W	8747.64	325.107	0.61	
14263.00	90.090	337.630	5569.67	8654.92	7263.89	-5040.34	1766974.49	14658518.28	40°21'39.6106"N	80°32'44.4814"W	8841.33	325.244	0.42	
14360.00	89.750	337.920	5569.81	8751.91	7353.68	-5077.03	1766937.82	14658608.04	40°21'40.4997"N	80°32'44.9494"W	8936.04	325.379	0.46	
14456.00	89.570	337.610	5570.38	8847.90	7442.54	-5113.36	1766901.51	14658696.87	40°21'41.3797"N	80°32'45.4128"W	9029.83	325.509	0.37	
14553.00	90.000	336.850	5570.74	8944.90	7531.98	-5150.90	1766863.98	14658786.27	40°21'42.2654"N	80°32'45.8918"W	9124.83	325.633	0.90	
14650.00	90.310	337.170	5570.48	9041.90	7621.28	-5188.79	1766826.11	14658875.53	40°21'43.1497"N	80°32'46.3753"W	9219.94	325.752	0.46	
14746.00	90.150	337.060	5570.09	9137.90	7709.72	-5226.12	1766788.79	14658963.94	40°21'44.0255"N	80°32'46.8517"W	9314.08	325.868	0.20	
14842.00	90.090	337.330	5569.89	9233.90	7798.21	-5263.33	1766751.59	14659052.40	40°21'44.9019"N	80°32'47.3265"W	9408.23	325.983	0.29	
14939.00	90.000	337.300	5569.82	9330.89	7887.71	-5300.74	1766714.20	14659141.86	40°21'45.7881"N	80°32'47.8038"W	9503.36	326.098	0.10	
15036.00	91.020	337.350	5568.95	9427.89	7977.21	-5338.13	1766676.82	14659231.33	40°21'46.6744"N	80°32'48.2809"W	9598.51	326.211	1.05	
15132.00	90.740	338.100	5567.48	9523.87	8066.03	-5374.51	1766640.45	14659320.12	40°21'47.5540"N	80°32'48.7451"W	9692.59	326.324	0.83	
15228.00	89.880	337.560	5566.96	9619.86	8154.93	-5410.74	1766604.24	14659408.99	40°21'48.4343"N	80°32'49.2072"W	9786.67	326.436	1.06	
15325.00	89.940	336.680	5567.11	9716.86	8244.30	-5448.45	1766566.54	14659498.32	40°21'49.3193"N	80°32'49.6884"W	9882.01	326.540	0.91	
15421.00	90.310	336.380	5566.90	9812.85	8332.36	-5486.68	1766528.32	14659586.34	40°21'50.1914"N	80°32'50.1765"W	9976.57	326.636	0.50	
15518.00	91.050	337.600	5565.75	9909.84	8421.63	-5524.60	1766490.42	14659675.58	40°21'51.0754"N	80°32'50.6604"W	10071.99	326.735	1.47	
15615.00	90.770	337.380	5564.21	10006.83	8511.23	-5561.73	1766453.31	14659765.15	40°21'51.9627"N	80°32'51.1342"W	10167.29	326.837	0.37	
15712.00	91.170	337.530	5562.57	10103.81	8600.80	-5598.91	1766416.14	14659854.69	40°21'52.8497"N	80°32'51.6086"W	10262.63	326.937	0.44	
15809.00	90.490	337.200	5561.16	10200.80	8690.32	-5636.24	1766378.82	14659944.17	40°21'53.7362"N	80°32'52.0849"W	10358.04	327.034	0.78	
15905.00	90.250	337.540	5560.54	10296.79	8778.93	-5673.18	1766341.90	14660032.74	40°21'54.6136"N	80°32'52.5563"W	10452.49	327.128	0.43	
16002.00	90.550	337.440	5559.87	10393.79	8868.54	-5710.31	1766304.78	14660122.32	40°21'55.5010"N	80°32'53.0301"W	10547.92	327.223	0.33	
16098.00	90.950	337.180	5558.61	10489.78	8957.10	-5747.34	1766267.76	14660210.84	40°21'56.3780"N	80°32'53.5026"W	10642.44	327.314	0.50	
16194.00	90.250	337.480	5557.60	10585.77	9045.68	-5784.34	1766230.78	14660299.39	40°21'57.2551"N	80°32'53.9747"W	10736.98	327.403	0.79	
16291.00	90.120	337.500	5557.29	10682.77	9135.28	-5821.48	1766193.66	14660388.96	40°21'58.1425"N	80°32'54.4485"W	10832.50	327.493	0.14	
16387.00	90.400	337.440	5556.85	10778.76	9223.96	-5858.26	1766156.89	14660477.60	40°21'59.0205"N	80°32'54.9179"W	10927.06	327.580	0.30	
16484.00	89.780	337.140	5556.70	10875.76	9313.44	-5895.71	1766119.45	14660567.05	40°21'59.9066"N	80°32'55.3958"W	11022.68	327.665	0.71	
16581.00	90.120	337.440	5556.79	10972.76	9402.92	-5933.16	1766082.02	14660656.49	40°22'0.7927"N	80°32'55.8737"W	11118.33	327.748	0.47	
16677.00	89.970	337.540	5556.71	11068.76	9491.60	-5969.91	1766045.28	14660745.14	40°22'1.6709"N	80°32'56.3426"W	11212.95	327.831	0.19	
16774.00	89.820	337.840	5556.89	11165.75	9581.34	-6006.73	1766008.47	14660834.85	40°22'2.5595"N	80°32'56.8125"W	11308.53	327.916	0.35	
16870.00	89.450	337.330	5557.50	11261.74	9670.08	-6043.34	1765971.88	14660923.56	40°22'3.4383"N	80°32'57.2795"W	11403.18	327.997	0.66	
16967.00	89.780	337.560	5558.15	11358.74	9759.66	-6080.54	1765934.69	14661013.10	40°22'4.3254"N	80°32'57.7543"W	11498.87	328.076	0.41	

# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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]	Comments
17063.00	90.090	339.070	5558.26	11454.71	9848.87	-6116.01	1765899.23	14661102.27	40°22'5.2086"N	80°32'58.2067"W	11593.35	328.160	1.61	
17160.00	90.030	336.990	5558.16	11551.69	9938.82	-6152.30	1765862.96	14661192.19	40°22'6.0993"N	80°32'58.6695"W	11688.92	328.242	2.15	
17257.00	88.770	337.660	5559.18	11648.68	10028.31	-6189.69	1765825.58	14661281.65	40°22'6.9855"N	80°32'59.1467"W	11784.71	328.316	1.47	
17353.00	89.290	338.240	5560.80	11744.66	10117.28	-6225.73	1765789.56	14661370.58	40°22'7.8665"N	80°32'59.6064"W	11879.35	328.394	0.81	
17450.00	90.120	338.590	5561.30	11841.63	10207.47	-6261.41	1765753.89	14661460.74	40°22'8.7595"N	80°33'0.0615"W	11974.88	328.474	0.93	
17546.00	89.940	334.950	5561.25	11937.61	10295.67	-6299.27	1765716.05	14661548.91	40°22'9.6330"N	80°33'0.5448"W	12069.87	328.540	3.80	
17643.00	91.450	336.450	5560.07	12034.57	10384.07	-6339.18	1765637.15	14661637.27	40°22'10.5085"N	80°33'1.5502"W	12166.11	328.597	2.19	
17739.00	89.910	335.860	5558.93	12130.55	10471.87	-6377.99	1765596.92	14661725.03	40°22'11.3780"N	80°33'1.5502"W	12261.27	328.656	1.72	
17836.00	89.510	334.840	5559.43	12227.50	10560.02	-6418.44	1765567.36	14661813.16	40°22'12.2512"N	80°33'2.0671"W	12357.61	328.709	1.13	
17932.00	91.630	336.350	5558.47	12323.46	10647.43	-6458.10	1765528.28	14661900.53	40°22'13.1169"N	80°33'2.5737"W	12452.91	328.761	2.71	
18029.00	91.050	335.880	5556.20	12420.42	10736.10	-6497.37	1765483.03	14661989.17	40°22'13.9955"N	80°33'3.0752"W	12549.09	328.818	0.77	
18125.00	90.120	336.040	5555.22	12516.40	10823.77	-6536.47	1765439.39	14662076.80	40°22'14.8633"N	80°33'3.5747"W	12644.34	328.872	0.98	
18222.00	90.650	335.820	5554.57	12613.38	10912.33	-6576.03	1765393.39	14662165.33	40°22'15.7405"N	80°33'4.0800"W	12740.61	328.926	0.59	
18318.00	90.740	336.700	5553.41	12709.36	11000.20	-6614.68	1765340.76	14662253.17	40°22'16.6107"N	80°33'4.5735"W	12835.83	328.981	0.92	
18415.00	90.490	336.520	5552.36	12806.35	11089.23	-6653.18	1765292.27	14662342.16	40°22'17.4923"N	80°33'5.0652"W	12931.97	329.038	0.32	
18511.00	90.180	336.260	5551.80	12902.34	11177.19	-6691.63	1765243.84	14662430.09	40°22'18.3634"N	80°33'5.5561"W	13027.18	329.092	0.42	
18608.00	90.220	336.760	5551.46	12999.34	11266.15	-6730.29	1765285.19	14662519.01	40°22'19.2445"N	80°33'6.0498"W	13123.38	329.146	0.52	
18704.00	90.310	336.430	5551.02	13095.34	11354.25	-6768.43	1765247.07	14662607.08	40°22'20.1169"N	80°33'6.5367"W	13218.57	329.200	0.36	
18800.00	90.220	336.380	5550.58	13191.33	11442.22	-6806.85	1765208.66	14662695.02	40°22'20.9882"N	80°33'7.0274"W	13313.82	329.252	0.11	
18897.00	89.660	334.240	5550.68	13288.28	11530.35	-6847.37	1765168.16	14662783.11	40°22'21.8610"N	80°33'7.5451"W	13410.27	329.296	2.28	
18993.00	89.540	331.910	5551.35	13384.04	11615.93	-6890.84	1765124.71	14662868.67	40°22'22.7089"N	80°33'8.1011"W	13506.06	329.323	2.43	
19090.00	89.660	329.740	5552.03	13480.47	11700.62	-6938.12	1765077.45	14662953.32	40°22'23.5481"N	80°33'8.7065"W	13603.01	329.333	2.24	
19187.00	89.940	330.220	5552.36	13576.73	11784.61	-6986.65	1765028.93	14663037.27	40°22'24.3805"N	80°33'9.3280"W	13700.01	329.338	0.57	
19283.00	90.030	329.960	5552.39	13672.03	11867.82	-7034.51	1764981.08	14663120.46	40°22'25.2052"N	80°33'9.9410"W	13796.00	329.343	0.29	
19380.00	90.430	330.230	5552.00	13768.32	11951.91	-7082.87	1764932.74	14663204.51	40°22'26.0384"N	80°33'10.5603"W	13892.99	329.348	0.50	
19476.00	90.310	330.490	5551.38	13863.66	12035.34	-7130.35	1764885.28	146633287.91	40°22'26.8653"N	80°33'11.1683"W	13988.97	329.355	0.30	
19573.00	90.430	332.260	5550.75	13960.19	12120.48	-7176.82	1764838.84	14663373.02	40°22'27.7089"N	80°33'11.7631"W	14085.91	329.369	1.83	
19670.00	91.260	335.000	5549.32	14057.00	12207.37	-7219.89	1764795.78	14663459.87	40°22'28.5697"N	80°33'12.3140"W	14182.62	329.398	2.95	
19766.00	91.050	336.230	5547.39	14152.94	12294.79	-7259.52	1764756.17	14663547.26	40°22'29.4355"N	80°33'12.8203"W	14278.04	329.440	1.30	
19863.00	91.260	339.100	5545.43	14249.91	12384.48	-7296.37	1764719.33	14663636.92	40°22'30.3236"N	80°33'13.2906"W	14374.02	329.495	2.97	



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# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466'

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Environmental Protection



## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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 [1/100ft]	Comments
19959.00	91.200	340.620	5543.37	14345.77	12474.59	-7329.42	1764686.30	14663726.99	40°22'31.2157"N	80°33'13.7116"W	14468.44	329.564	1.58	
20056.00	91.140	341.940	5541.39	14442.48	12566.44	-7360.54	1764655.18	14663818.80	40°22'32.1248"N	80°33'14.1078"W	14563.41	329.641	1.36	
20153.00	90.150	344.110	5540.30	14538.93	12659.20	-7388.86	1764626.88	14663911.53	40°22'33.0429"N	80°33'14.4676"W	14657.78	329.729	2.46	
20249.00	89.970	344.130	5540.20	14634.20	12751.53	-7415.12	1764600.62	14664003.83	40°22'33.9566"N	80°33'14.8010"W	14750.78	329.822	0.19	
20345.00	90.150	344.110	5540.10	14729.47	12843.87	-7441.39	1764574.36	14664096.13	40°22'34.8703"N	80°33'15.1344"W	14843.83	329.913	0.19	
20443.00	90.890	341.990	5539.21	14826.92	12937.60	-7469.96	1764545.81	14664189.83	40°22'35.7980"N	80°33'15.4974"W	14939.27	329.999	2.29	
20540.00	90.990	342.360	5537.62	14923.51	13029.93	-7499.65	1764516.13	14664282.12	40°22'36.7118"N	80°33'15.8750"W	15034.09	330.077	0.40	
20636.00	90.060	339.840	5536.74	15019.26	13120.75	-7530.74	1764485.05	14664372.90	40°22'37.6107"N	80°33'16.2708"W	15128.32	330.146	2.80	
20732.00	90.090	338.140	5536.61	15115.20	13210.36	-7565.16	1764450.64	14664462.48	40°22'38.4980"N	80°33'16.7097"W	15223.18	330.202	1.77	
20829.00	90.370	338.420	5536.22	15212.17	13300.47	-7601.05	1764414.76	14664552.56	40°22'39.3902"N	80°33'17.1676"W	15319.22	330.253	0.41	
20926.00	90.490	336.890	5535.49	15309.16	13390.18	-7637.93	1764377.90	14664642.24	40°22'40.2786"N	80°33'17.6383"W	15415.41	330.299	1.58	
21023.00	91.350	338.150	5533.94	15406.14	13479.80	-7675.01	1764340.83	14664731.82	40°22'41.1659"N	80°33'18.1116"W	15511.63	330.344	1.57	
21120.00	90.950	338.250	5531.99	15503.10	13569.84	-7711.03	1764304.83	14664821.83	40°22'42.0575"N	80°33'18.5711"W	15607.71	330.393	0.43	
21216.00	90.770	338.980	5530.55	15599.05	13659.22	-7746.03	1764269.84	14664911.17	40°22'42.9425"N	80°33'19.0175"W	15702.72	330.443	0.78	
21312.00	92.310	337.550	5527.97	15694.99	13748.36	-7781.56	1764234.32	14665000.28	40°22'43.8250"N	80°33'19.4709"W	15797.79	330.490	2.19	
21409.00	91.820	336.890	5524.47	15791.93	13837.74	-7819.10	1764196.80	14665089.62	40°22'44.7101"N	80°33'19.9501"W	15894.06	330.531	0.85	
21505.00	90.620	337.730	5522.43	15887.90	13926.28	-7856.16	1764159.79	14665178.13	40°22'45.5869"N	80°33'20.4227"W	15989.37	330.572	1.53	
21602.00	90.800	337.250	5521.23	15984.89	14015.89	-7893.25	1764122.68	14665267.70	40°22'46.4742"N	80°33'20.8967"W	16085.66	330.613	0.53	
21698.00	90.890	337.620	5519.81	16080.88	14104.53	-7930.09	1764085.86	14665356.31	40°22'47.3579"N	80°33'21.3669"W	16180.97	330.654	0.40	
21795.00	90.550	336.950	5518.59	16177.87	14194.00	-7967.54	1764048.42	14665445.74	40°22'48.2379"N	80°33'21.8450"W	16277.32	330.693	0.77	
21891.00	90.990	337.340	5517.30	16273.86	14282.45	-8004.82	1764011.15	14665534.16	40°22'49.1138"N	80°33'22.3210"W	16372.71	330.731	0.61	
21988.00	91.110	337.270	5515.52	16370.84	14371.92	-8042.24	1763973.74	14665623.60	40°22'49.9998"N	80°33'22.7987"W	16469.06	330.769	0.14	
22084.00	90.800	336.800	5513.92	16466.83	14460.30	-8079.69	1763936.31	14665711.95	40°22'50.8750"N	80°33'23.2769"W	16564.47	330.806	0.59	
22181.00	90.220	337.300	5513.06	16563.82	14549.62	-8117.51	1763898.50	14665801.23	40°22'51.7594"N	80°33'23.7599"W	16660.90	330.842	0.79	
22277.00	90.030	337.090	5512.85	16659.82	14638.12	-8154.72	1763861.31	14665889.69	40°22'52.6357"N	80°33'24.2349"W	16756.31	330.878	0.29	
22374.00	89.910	337.350	5512.90	16756.82	14727.55	-8192.28	1763823.76	14665979.09	40°22'53.5213"N	80°33'24.7144"W	16852.72	330.915	0.30	
22470.00	90.060	337.480	5512.93	16852.82	14816.19	-8229.19	1763786.91	14666067.70	40°22'54.3991"N	80°33'25.1851"W	16948.11	330.952	0.21	
22567.00	89.940	337.370	5512.93	16949.82	14905.76	-8266.39	1763749.68	14666157.23	40°22'55.2860"N	80°33'25.6605"W	17044.49	330.988	0.17	
22663.00	89.940	336.900	5513.03	17045.82	14994.21	-8303.69	1763712.40	14666245.65	40°22'56.1619"N	80°33'26.1368"W	17139.94	331.023	0.49	
22759.00	89.910	337.280	5513.15	17141.82	15082.64	-8341.06	1763675.04	14666334.04	40°22'57.0375"N	80°33'26.6140"W	17235.41	331.056	0.40	

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH DATA (300 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]	Comments
22856.00	90.120	337.050	5513.13	17238.82	15172.04	-8378.70	14666423.41	14666423.41	40°22'57.9228"N	80°33'27.0946"W	17331.86	331.090	0.32	
22953.00	90.030	336.990	5513.00	17335.82	15261.34	-8416.57	14666599.55	14666512.68	40°22'58.8071"N	80°33'27.5782"W	17428.34	331.123	0.11	
23049.00	90.890	337.510	5512.23	17431.81	15349.87	-8453.69	14666601.17	14666601.17	40°22'59.6837"N	80°33'28.0522"W	17523.79	331.157	1.05	
23145.00	90.550	337.170	5511.02	17527.80	15438.45	-8490.68	14666689.72	14666689.72	40°23'0.5609"N	80°33'28.5243"W	17619.23	331.191	0.50	
23242.00	90.090	336.270	5510.48	17624.80	15527.55	-8529.01	14666778.78	14666778.78	40°23'1.4432"N	80°33'29.0140"W	17715.78	331.221	1.04	
23339.00	90.280	336.700	5510.17	17721.79	15616.49	-8567.71	14666867.69	14666867.69	40°23'2.3241"N	80°33'29.5083"W	17812.37	331.249	0.48	
23435.00	90.490	336.890	5509.52	17817.79	15704.72	-8605.54	14666955.89	14666955.89	40°23'3.1978"N	80°33'29.9914"W	17907.92	331.279	0.29	
23532.00	90.580	336.910	5508.62	17914.79	15793.94	-8643.59	14667045.08	14667045.08	40°23'4.0813"N	80°33'30.4774"W	18004.45	331.309	0.10	
23628.00	90.490	336.650	5507.72	18010.78	15882.16	-8681.44	14667133.26	14667133.26	40°23'4.9549"N	80°33'30.9608"W	18100.01	331.338	0.29	
23725.00	90.890	337.290	5506.55	18107.77	15971.42	-8719.39	14667222.49	14667222.49	40°23'5.8388"N	80°33'31.4454"W	18196.54	331.368	0.78	
23821.00	90.580	337.100	5505.32	18203.76	16059.91	-8756.59	14667310.94	14667310.94	40°23'6.7151"N	80°33'31.9205"W	18292.04	331.399	0.38	
23918.00	90.460	337.170	5504.44	18300.76	16149.29	-8794.28	14667400.29	14667400.29	40°23'7.6001"N	80°33'32.4017"W	18388.55	331.429	0.14	
24015.00	90.580	337.760	5503.56	18397.75	16238.88	-8831.46	14667489.84	14667489.84	40°23'8.4872"N	80°33'32.8763"W	18485.01	331.461	0.62	
24111.00	90.430	337.160	5502.72	18493.75	16327.54	-8868.25	14667578.47	14667578.47	40°23'9.3651"N	80°33'33.3461"W	18580.49	331.492	0.64	
24208.00	90.490	337.000	5501.94	18590.74	16416.88	-8906.03	14667667.77	14667667.77	40°23'10.2498"N	80°33'33.8285"W	18677.02	331.521	0.18	
24305.00	90.340	337.530	5501.23	18687.74	16506.34	-8943.51	14667757.20	14667757.20	40°23'11.1357"N	80°33'34.3072"W	18773.54	331.550	0.57	
24401.00	90.580	337.130	5500.46	18783.73	16594.92	-8980.51	14667845.75	14667845.75	40°23'12.0128"N	80°33'34.7796"W	18869.05	331.580	0.49	
24498.00	90.580	337.030	5499.48	18880.73	16684.26	-9018.29	14667935.05	14667935.05	40°23'12.8974"N	80°33'35.2620"W	18965.60	331.608	0.10	
24594.00	90.430	337.230	5498.64	18976.72	16772.71	-9055.60	14668023.47	14668023.47	40°23'13.7733"N	80°33'35.7385"W	19061.15	331.635	0.26	
24691.00	90.370	337.230	5497.96	19073.72	16862.14	-9093.14	14668112.87	14668112.87	40°23'14.6589"N	80°33'36.2178"W	19157.69	331.664	0.06	
24788.00	90.000	337.070	5497.65	19170.72	16951.53	-9130.80	14668202.22	14668202.22	40°23'15.5441"N	80°33'36.6989"W	19254.25	331.691	0.42	
24884.00	90.090	337.410	5497.57	19266.72	17040.06	-9167.94	14668290.71	14668290.71	40°23'16.4207"N	80°33'37.1731"W	19349.80	331.719	0.37	
24981.00	90.220	337.270	5497.31	19363.72	17129.57	-9205.31	14668380.19	14668380.19	40°23'17.3070"N	80°33'37.6503"W	19446.33	331.747	0.20	
25077.00	90.310	337.020	5496.86	19459.72	17218.03	-9242.60	14668468.62	14668468.62	40°23'18.1830"N	80°33'38.1285"W	19541.91	331.773	0.28	
25174.00	90.890	337.330	5495.85	19556.71	17307.43	-9280.23	14668557.98	14668557.98	40°23'19.0682"N	80°33'38.6070"W	19638.47	331.800	0.68	
25271.00	90.000	337.070	5495.09	19653.71	17396.85	-9317.81	14668647.37	14668647.37	40°23'19.9537"N	80°33'39.0870"W	19735.04	331.826	0.96	
25367.00	90.150	337.520	5494.97	19749.71	17485.41	-9354.87	14668735.89	14668735.89	40°23'20.8306"N	80°33'39.5602"W	19830.61	331.853	0.49	
25464.00	90.800	337.090	5494.16	19846.70	17574.89	-9392.29	14668825.34	14668825.34	40°23'21.7167"N	80°33'40.0380"W	19927.17	331.879	0.80	
25560.00	90.890	336.920	5492.75	19942.69	17663.25	-9429.79	14668913.67	14668913.67	40°23'22.6017"N	80°33'40.5170"W	20022.77	331.904	0.20	
25656.00	90.430	336.600	5491.64	20038.68	17751.46	-9467.67	14669001.84	14669001.84	40°23'23.4851"N	80°33'41.0008"W	20118.42	331.927	0.58	



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# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC		Well	State of WV DNR B BRK 401H
Field	Brooke		API	47009003330000
Facility	State of WV DNR B BRK Pad		Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H			

## WELLPATH DATA (300 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 [1/100ft]	Comments
25752.00	90.370	336.830	5490.97	20134.68	17839.64	-9505.62	1762510.93	14669089.99	40°23'24.3383"N	80°33'41.4856"W	20214.09	331.950	0.25	
25849.00	90.460	337.180	5490.27	20231.68	17928.93	-9543.51	1762473.05	14669179.24	40°23'25.2225"N	80°33'41.9696"W	20310.71	331.974	0.37	
25945.00	90.310	337.120	5489.63	20327.67	18017.39	-9580.79	1762435.79	14669267.68	40°23'26.0985"N	80°33'42.4457"W	20406.32	331.998	0.17	
26042.00	90.340	337.310	5489.08	20424.67	18106.82	-9618.35	1762398.24	14669357.07	40°23'26.9840"N	80°33'42.9254"W	20502.92	332.023	0.20	
26139.00	90.430	337.180	5488.42	20521.67	18196.27	-9655.87	1762360.73	14669446.48	40°23'27.8698"N	80°33'43.4045"W	20599.51	332.047	0.16	
26235.00	90.430	337.240	5487.70	20617.66	18284.77	-9693.05	1762323.56	14669534.95	40°23'28.7461"N	80°33'43.8794"W	20695.12	332.071	0.06	
26332.00	90.400	337.240	5487.00	20714.66	18374.22	-9730.58	1762286.05	14669624.36	40°23'29.6318"N	80°33'44.3587"W	20791.73	332.095	0.03	
26428.00	90.620	337.430	5486.15	20810.66	18462.80	-9767.57	1762249.07	14669712.91	40°23'30.5090"N	80°33'44.8311"W	20887.33	332.119	0.30	
26525.00	90.280	337.210	5485.38	20907.65	18552.29	-9804.97	1762211.69	14669802.37	40°23'31.3951"N	80°33'45.3087"W	20983.92	332.143	0.42	
26622.00	90.400	337.530	5484.81	21004.65	18641.82	-9842.29	1762174.38	14669891.87	40°23'32.2817"N	80°33'45.7853"W	21080.52	332.167	0.35	
26718.00	90.370	337.400	5484.16	21100.64	18730.49	-9879.08	1762137.60	14669980.50	40°23'33.1596"N	80°33'46.2551"W	21176.11	332.191	0.14	
26815.00	89.940	337.520	5483.90	21197.64	18820.08	-9916.27	1762100.43	14670070.06	40°23'34.0467"N	80°33'46.7300"W	21272.70	332.215	0.46	
26911.00	90.280	337.520	5483.72	21293.64	18908.79	-9952.97	1762063.74	14670158.73	40°23'34.9251"N	80°33'47.1987"W	21368.29	332.239	0.35	
27008.00	90.150	336.790	5483.35	21390.63	18998.18	-9990.63	1762026.10	14670248.09	40°23'35.8102"N	80°33'47.6797"W	21464.94	332.261	0.76	
27104.00	91.050	337.580	5482.35	21486.63	19086.66	-10027.85	1761988.89	14670336.54	40°23'36.6864"N	80°33'48.1551"W	21560.58	332.283	1.25	
27201.00	91.020	336.950	5480.60	21583.61	19176.11	-10065.34	1761951.42	14670425.95	40°23'37.5721"N	80°33'48.6338"W	21657.20	332.305	0.65	
27297.00	90.710	337.210	5479.15	21679.60	19264.52	-10102.72	1761914.05	14670514.33	40°23'38.4476"N	80°33'49.1113"W	21752.85	332.327	0.42	
27394.00	90.800	337.100	5477.87	21776.59	19353.90	-10140.37	1761876.41	14670603.68	40°23'39.3327"N	80°33'49.5922"W	21849.50	332.348	0.15	
27491.00	90.860	337.500	5476.46	21873.58	19443.38	-10177.80	1761839.00	14670693.12	40°23'40.2186"N	80°33'50.0703"W	21946.13	332.370	0.42	
27587.00	90.980	337.400	5474.92	21969.56	19532.03	-10214.61	1761802.20	14670781.73	40°23'41.0964"N	80°33'50.5404"W	22041.74	332.392	0.16	
27684.00	91.020	337.490	5473.23	22066.55	19621.59	-10251.81	1761765.01	14670871.27	40°23'41.9833"N	80°33'51.0155"W	22138.35	332.414	0.10	
27781.00	90.890	337.050	5471.61	22163.53	19711.05	-10289.29	1761727.55	14670960.69	40°23'42.8691"N	80°33'51.4941"W	22234.99	332.435	0.47	
27877.00	90.890	337.360	5470.12	22259.52	19799.54	-10326.48	1761690.38	14671049.14	40°23'43.7453"N	80°33'51.9691"W	22330.65	332.456	0.32	
27974.00	90.860	337.550	5468.64	22356.51	19889.12	-10363.66	1761653.21	14671138.69	40°23'44.6323"N	80°33'52.4440"W	22427.27	332.477	0.20	
28071.00	90.920	337.410	5467.13	22453.49	19978.71	-10400.81	1761616.07	14671228.24	40°23'45.5194"N	80°33'52.9184"W	22523.89	332.499	0.16	
28167.00	90.950	337.030	5465.57	22549.48	20067.21	-10437.98	1761578.92	14671316.71	40°23'46.3957"N	80°33'53.3931"W	22619.55	332.519	0.40	
28263.00	90.740	337.020	5464.15	22645.47	20155.58	-10475.44	1761541.47	14671405.05	40°23'47.2708"N	80°33'53.8718"W	22715.25	332.538	0.22	
28360.00	90.860	337.500	5462.80	22742.46	20245.04	-10512.94	1761503.99	14671494.47	40°23'48.1566"N	80°33'54.3506"W	22811.91	332.558	0.51	
28441.00	90.890	337.520	5461.56	22839.44	20319.87	-10543.92	1761473.02	14671569.27	40°23'48.8975"N	80°33'54.7463"W	22892.60	332.575	0.04	
28466.00#	90.890	337.520	5461.17	22848.44	20342.96	-10553.47	1761463.47	14671592.36	40°23'49.1262"N	80°33'54.8684"W	22917.50	332.581	0.00	

**HOLE & CASING SECTIONS - Ref Wellbore: State of WV DNR B BRK 401H AWB Ref Wellpath: State of WV DNR B BRK 401H awp Proj: 28466'**

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start EW [ft]	End N/S [ft]	End EW [ft]
13.375in Casing	26.00	648.00	622.00	26.00	647.99	0.00	0.00	2.02	-1.85
9.625in Casing	26.00	1504.00	1478.00	26.00	1498.44	0.00	0.00	-20.43	-68.48

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
State of WV DNR B BRK 401H PBHL rev 3	5392.00	20331.75	-10581.20	1761435.76	14671581.15	40°23'49.0168"N	80°33'55.2274"W	point	
ate of WV DNR B BRK 401H wp1	5392.10	11642.75	-6897.06	1765118.48	14662895.47	40°22'22.9742"N	80°33'8.1798"W	point	
ate of WV DNR B BRK 401H wp2	5392.10	12075.63	-7148.02	1764867.62	14663328.18	40°22'27.2642"N	80°33'1.3940"W	point	
ate of WV DNR B BRK 401H wp3	5392.10	12319.64	-7265.37	1764750.32	14663572.10	40°22'29.6813"N	80°33'12.8942"W	point	
ate of WV DNR B BRK 401H wp4	5392.10	12804.24	-7389.75	1764625.98	14664056.52	40°22'34.4762"N	80°33'14.4697"W	point	
State of WV DNR B BRK 401H LP rev 3	5657.00	11.14	-1966.23	1770047.43	14651268.31	40°20'27.7841"N	80°32'5.2633"W	point	
State of WV DNR B BRK 401H LP rev 4	5657.00	11.14	-1966.23	1770047.43	14651268.31	40°20'27.7841"N	80°32'5.2633"W	point	



# Actual Wellpath Report

State of WV DNR B BRK 401H awp Proj: 28466'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	State of WV DNR B BRK 401H
Field	Brooke	API	47009003330000
Facility	State of WV DNR B BRK Pad	Wellbore	State of WV DNR B BRK 401H AWB
Slot	401H		

## WELLPATH COMPOSITION - Ref Wellbore: State of WV DNR B BRK 401H AWB Ref Wellpath: State of WV DNR B BRK 401H awp Proj: 28466'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	501.00	OWSG MWD rev2 + HRGM	1 Tally OWSG MWD HRGM 17.5" 233' - 501'	State of WV DNR B BRK 401H AWB	4/23/2023
501.00	1514.00	OWSG MWD rev2 + HRGM	2 Tally OWSG MWD HRGM 12.25" 683' - 1514'	State of WV DNR B BRK 401H AWB	4/23/2023
1514.00	5160.00	OWSG MWD rev2 + HRGM	3 Tally OWSG MWD HRGM 8.75" 1605' - 5160'	State of WV DNR B BRK 401H AWB	4/23/2023
5160.00	28466.00	BH AutoTrak Curve/Express (2019) (HRGM, Short spacing)	4 BH ATC MWD HRGM Short spacing 8.5" 5265' 28441'	State of WV DNR B BRK 401H AWB	4/23/2023