



SWN PRODUCTION COMPANY, LLC



Location: Brooke County, WV
Field: Brooke
Facility: Nick Ballato BRK Pad

Slot: 8H
Well: Nick Ballato BRK 8H
Wellbore: Nick Ballato BRK 8H AWB

Plot reference wellpath is Nick Ballato BRK 8H awb Proj: 23917	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to Rig on Slot #8H (KB)	North Reference: Grid north
Reference wellpath measured depths are referenced to Rig on Slot #8H (KB)	Scale: True distance
Rig on Slot #8H (KB) to Mean Sea Level: 984.9 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: 8H): -958.9 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: tranlam on 2023-06-07; Database: WA_MPL_EASTERNUS_Defn

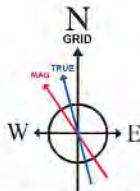
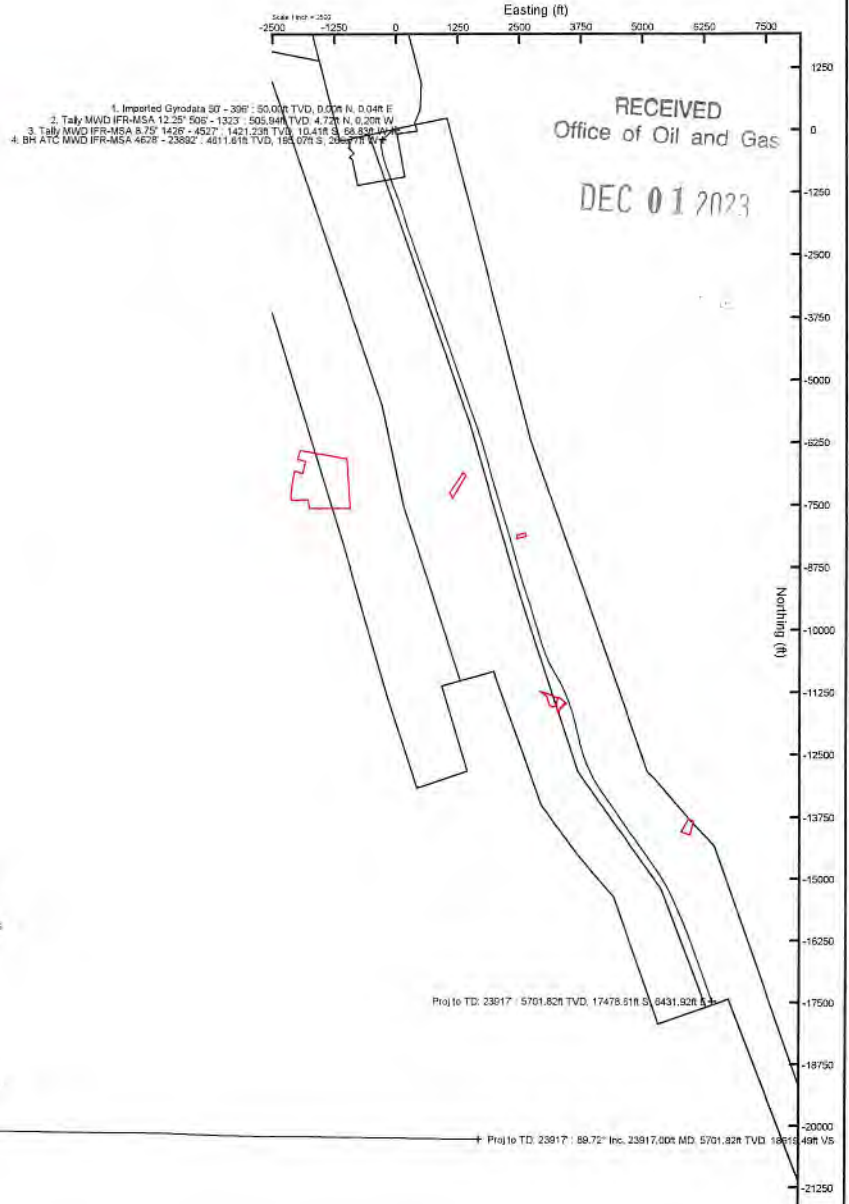
Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Nick Ballato BRK Pad			1761605.576	14640074.751	40°18'37.5550"N	80°33'55.0330"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
8H	-9.77	-5.20	1761600.380	14640064.990	40°18'37.4588"N	80°33'55.1007"W
Rig on Slot #8H (KB) to Ground level (At Slot: 8H)					26ft	
Mean Sea Level to Ground level (At Slot: 8H)					-958.9ft	
Rig on Slot #8H (KB) to Mean Sea Level					984.9ft	

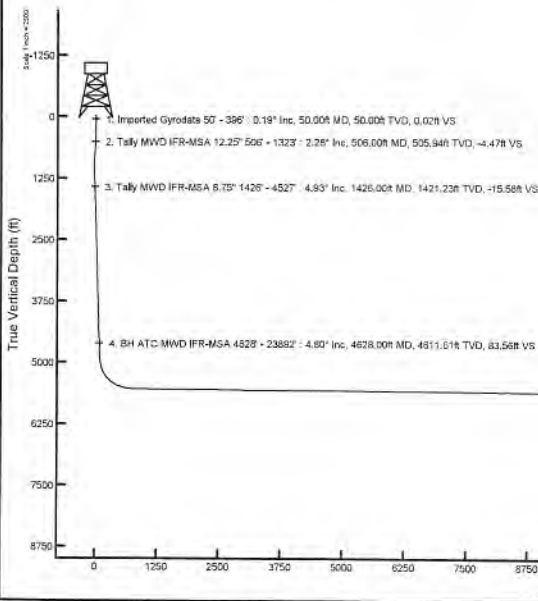
Bottom Hole Location

MD (ft)	Inc (")	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
23917.00	89.720	160.240	5701.82	-17478.61	6431.92	1768029.82	14622593.11	40°15'44.4204"N	80°32'33.2416"W

API: 47009003340000
 BH JOB: 111821975
 DURATION: 5/30/2023 - 6/6/2023
 RIG: SDC 40



User specified Dip: 87.20° Field: 52003 nT
 Magnetic North is 8.74 degrees West of True North (at 5/26/2023)
 Grid North is 0.28 degrees East of True North
 To correct azimuth from True to Grid subtract 0.28 degrees
 To correct azimuth from Magnetic to Grid subtract 9.02 degrees



01/19/2024



Actual Wellpath Report

Nick Ballato BRK 8H awp Proj: 23917'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Nick Ballato BRK 8H
Field	Brooke	API	47009003340000
Facility	Nick Ballato BRK Pad	Wellbore	Nick Ballato BRK 8H AWB
Slot	8H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999617	Report Generated	6/7/2023 at 12:54:57 PM
Convergence at slot	0.28° East	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-9.77	-5.20	1761600.38	14640064.99	40°18'37.4588"N	80°33'55.1007"W
Facility Reference Pt			1761605.58	14640074.75	40°18'37.5550"N	80°33'55.0330"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on Slot #8H (KB) to Facility Vertical Datum	984.90ft
Horizontal Reference Pt	Slot	Rig on Slot #8H (KB) to Mean Sea Level	984.90ft
Vertical Reference Pt	Rig on Slot #8H (KB)	Rig on Slot #8H (KB) to Ground Level at Slot (8H)	26.00ft
MD Reference Pt	Rig on Slot #8H (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	158.47°



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Facility	Nick Ballato BRK Pad	Wellbore	Nick Ballato BRK 8H AWB
Slot	8H		

WELLPATH DATA (257 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	92.850	0.00	0.00	0.00	0.00	1761600.38	14640064.99	40°18'37.4588"N	80°33'55.1007"W	0.00	0.000	0.00	
26.00	0.000	92.850	26.00	0.00	0.00	0.00	1761600.38	14640064.99	40°18'37.4588"N	80°33'55.1007"W	0.00	0.000	0.00	
50.00	0.190	92.850	50.00	0.02	0.00	0.04	1761600.42	14640064.99	40°18'37.4587"N	80°33'55.1002"W	0.04	92.850	0.79	
100.00	0.320	58.240	100.00	0.03	0.07	0.24	1761600.62	14640065.06	40°18'37.4594"N	80°33'55.0976"W	0.25	74.393	0.39	
150.00	0.430	58.910	150.00	-0.03	0.24	0.52	1761600.90	14640065.23	40°18'37.4611"N	80°33'55.0940"W	0.57	65.455	0.22	
200.00	0.550	48.870	200.00	-0.14	0.49	0.86	1761601.24	14640065.48	40°18'37.4636"N	80°33'55.0896"W	0.99	60.261	0.29	
250.00	0.270	22.540	250.00	-0.31	0.76	1.09	1761601.47	14640065.75	40°18'37.4662"N	80°33'55.0866"W	1.33	55.094	0.66	
300.00	0.320	20.270	299.99	-0.50	1.00	1.18	1761601.56	14640065.99	40°18'37.4686"N	80°33'55.0854"W	1.55	49.786	0.10	
350.00	0.540	343.700	349.99	-0.83	1.36	1.16	1761601.54	14640066.35	40°18'37.4721"N	80°33'55.0856"W	1.79	40.636	0.68	
396.00	0.910	332.050	395.99	-1.41	1.89	0.93	1761601.31	14640066.88	40°18'37.4774"N	80°33'55.0886"W	2.10	26.281	0.86	
506.00	2.280	340.750	505.94	-4.47	4.72	-0.20	1761600.18	14640069.71	40°18'37.5055"N	80°33'55.1030"W	4.73	357.586	1.26	
597.00	3.990	317.390	596.81	-9.23	8.76	-2.94	1761597.44	14640073.75	40°18'37.5455"N	80°33'55.1381"W	9.24	341.457	2.31	
688.00	5.580	307.400	687.49	-15.98	13.78	-8.60	1761591.79	14640078.77	40°18'37.5954"N	80°33'55.2108"W	16.24	328.040	1.97	
779.00	5.650	302.410	778.05	-23.39	18.87	-15.89	1761584.49	14640083.85	40°18'37.6460"N	80°33'55.3047"W	24.67	319.891	0.54	
869.00	5.600	287.610	867.63	-29.74	22.57	-23.82	1761576.57	14640087.55	40°18'37.6830"N	80°33'55.4068"W	32.82	313.459	1.61	
961.00	6.020	265.090	959.16	-33.95	23.52	-32.91	1761567.49	14640088.50	40°18'37.6928"N	80°33'55.5240"W	40.45	305.553	2.50	
1052.00	7.260	245.560	1049.56	-35.03	20.73	-42.90	1761557.50	14640085.71	40°18'37.6657"N	80°33'55.6531"W	47.64	295.792	2.81	
1142.00	7.430	226.340	1138.84	-32.55	14.36	-52.29	1761548.11	14640079.34	40°18'37.6032"N	80°33'55.7747"W	54.22	285.356	2.72	
1234.00	6.710	209.750	1230.15	-26.94	5.58	-59.26	1761541.15	14640070.57	40°18'37.5168"N	80°33'55.8653"W	59.52	275.384	2.34	
1323.00	5.440	206.790	1318.65	-20.88	-2.70	-63.74	1761536.67	14640062.30	40°18'37.4352"N	80°33'55.9236"W	63.80	267.578	1.47	
1426.00	4.930	220.760	1421.23	-15.58	-10.41	-68.83	1761531.58	14640054.59	40°18'37.3593"N	80°33'55.9898"W	69.61	261.402	1.32	
1518.00	5.090	219.000	1512.88	-11.73	-16.57	-73.98	1761526.43	14640048.42	40°18'37.2986"N	80°33'56.0567"W	75.81	257.373	0.24	
1608.00	5.280	228.140	1602.51	-8.33	-22.44	-79.58	1761520.83	14640042.56	40°18'37.2409"N	80°33'56.1293"W	82.68	254.253	0.94	
1700.00	5.650	233.050	1694.09	-5.66	-27.99	-86.35	1761514.07	14640037.01	40°18'37.1864"N	80°33'56.2171"W	90.77	252.042	0.65	
1791.00	5.600	233.050	1784.65	-3.28	-33.35	-93.48	1761506.94	14640031.66	40°18'37.1338"N	80°33'56.3094"W	99.25	250.366	0.05	
1881.00	5.900	230.630	1874.20	-0.70	-38.92	-100.56	1761499.86	14640026.08	40°18'37.0790"N	80°33'56.4012"W	107.83	248.841	0.43	
1973.00	4.990	228.220	1965.79	2.13	-44.59	-107.20	1761493.22	14640020.42	40°18'37.0234"N	80°33'56.4873"W	116.10	247.417	1.02	
2066.00	4.840	223.110	2058.44	5.22	-50.15	-112.90	1761487.53	14640014.86	40°18'36.9687"N	80°33'56.5612"W	123.53	246.051	0.50	
2158.00	4.730	223.290	2150.12	8.49	-55.74	-118.15	1761482.27	14640009.27	40°18'36.9137"N	80°33'56.6294"W	130.64	244.743	0.12	
2248.00	4.550	218.480	2239.83	11.85	-61.24	-122.92	1761477.51	14640003.78	40°18'36.8596"N	80°33'56.6912"W	137.33	243.518	0.48	



Actual Wellpath Report

Nick Ballato BRK 8H awp Proj: 23917'
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REFERENCE WELLPATH IDENTIFICATION				
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Field	Brooke		API	47009003340000
Facility	Nick Ballato BRK Pad		Wellbore	Nick Ballato BRK 8H AWB
Slot	8H			

WELLPATH DATA (257 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
2340.00	4.420	230.310	2331.55	14.78	-66.36	-127.92	1761472.51	14639998.66	40°18'36.8092"N	80°33'56.7561"W	144.10	242.582	1.01	
2431.00	4.360	231.900	2422.28	16.86	-70.73	-133.34	1761467.10	14639994.29	40°18'36.7663"N	80°33'56.8263"W	150.93	242.055	0.15	
2522.00	4.130	228.870	2513.03	18.95	-75.02	-138.53	1761461.91	14639990.00	40°18'36.7241"N	80°33'56.8936"W	157.54	241.562	0.35	
2614.00	3.710	226.150	2604.82	21.19	-79.26	-143.17	1761457.27	14639985.76	40°18'36.6825"N	80°33'56.9538"W	163.64	241.030	0.50	
2706.00	4.340	227.380	2696.59	23.57	-83.68	-147.88	1761452.56	14639981.34	40°18'36.6390"N	80°33'57.0148"W	169.91	240.495	0.69	
2796.00	5.570	227.790	2786.25	26.34	-88.92	-153.62	1761446.82	14639976.10	40°18'36.5875"N	80°33'57.0893"W	177.50	239.936	1.37	
2887.00	5.640	225.350	2876.82	29.66	-95.03	-160.07	1761440.37	14639970.00	40°18'36.5274"N	80°33'57.1729"W	186.15	239.303	0.27	
2979.00	5.400	221.680	2968.39	33.38	-101.44	-166.16	1761434.28	14639963.59	40°18'36.4644"N	80°33'57.2520"W	194.68	238.596	0.46	
3069.00	4.690	223.590	3058.04	36.84	-107.27	-171.52	1761428.93	14639957.76	40°18'36.4071"N	80°33'57.3215"W	202.30	237.978	0.81	
3160.00	4.200	227.610	3148.77	39.59	-112.21	-176.54	1761423.90	14639952.82	40°18'36.3585"N	80°33'57.3867"W	209.19	237.560	0.64	
3253.00	5.030	232.710	3241.47	41.91	-116.98	-182.30	1761418.15	14639948.06	40°18'36.3117"N	80°33'57.4613"W	216.61	237.313	0.99	
3343.00	5.290	230.930	3331.10	44.23	-121.98	-188.66	1761411.79	14639943.06	40°18'36.2625"N	80°33'57.5437"W	224.66	237.115	0.34	
3434.00	4.840	226.610	3421.75	46.93	-127.26	-194.71	1761405.75	14639937.78	40°18'36.2106"N	80°33'57.6221"W	232.61	236.831	0.65	
3525.00	5.170	227.950	3512.40	49.79	-132.65	-200.54	1761399.91	14639932.39	40°18'36.1577"N	80°33'57.6978"W	240.44	236.518	0.38	
3616.00	4.900	225.440	3603.05	52.75	-138.12	-206.36	1761394.10	14639926.92	40°18'36.1039"N	80°33'57.7731"W	248.32	236.205	0.38	
3707.00	4.960	231.360	3693.71	55.43	-143.30	-212.20	1761388.26	14639921.74	40°18'36.0530"N	80°33'57.8489"W	256.06	235.968	0.56	
3799.00	5.150	230.570	3785.35	57.87	-148.41	-218.50	1761381.97	14639916.64	40°18'36.0028"N	80°33'57.9305"W	264.13	235.814	0.22	
3890.00	4.480	224.280	3876.03	60.58	-153.55	-224.13	1761376.33	14639911.50	40°18'35.9523"N	80°33'58.0035"W	271.68	235.586	0.94	
3981.00	4.830	221.710	3966.73	63.76	-158.95	-229.16	1761371.31	14639906.10	40°18'35.8991"N	80°33'58.0688"W	278.89	235.254	0.45	
4071.00	4.590	218.710	4056.43	67.26	-164.59	-233.94	1761366.53	14639900.46	40°18'35.8437"N	80°33'58.1308"W	286.03	234.871	0.38	
4162.00	4.180	225.740	4147.16	70.34	-169.75	-238.59	1761361.88	14639895.31	40°18'35.7929"N	80°33'58.1912"W	292.81	234.569	0.74	
4256.00	4.370	236.610	4240.90	72.40	-174.11	-244.03	1761356.44	14639890.95	40°18'35.7501"N	80°33'58.2617"W	299.78	234.493	0.88	
4346.00	4.950	227.970	4330.61	74.47	-178.60	-249.78	1761350.70	14639886.46	40°18'35.7060"N	80°33'58.3362"W	307.06	234.435	1.01	
4437.00	5.110	226.360	4421.26	77.37	-184.02	-255.63	1761344.85	14639881.04	40°18'35.6527"N	80°33'58.4120"W	314.97	234.251	0.23	
4527.00	4.490	222.480	4510.94	80.42	-189.39	-260.91	1761339.57	14639875.68	40°18'35.6000"N	80°33'58.4805"W	322.40	234.025	0.78	
4628.00	4.800	229.040	4611.61	83.56	-195.07	-266.77	1761333.71	14639869.99	40°18'35.5441"N	80°33'58.5565"W	330.48	233.824	0.61	
4718.00	5.940	228.600	4701.21	86.39	-200.62	-273.11	1761327.38	14639864.45	40°18'35.4895"N	80°33'58.6387"W	338.87	233.700	1.27	
4809.00	5.730	230.270	4791.74	89.41	-206.64	-280.13	1761320.36	14639858.43	40°18'35.4304"N	80°33'58.7297"W	348.10	233.586	0.30	
4900.00	5.890	227.530	4882.27	92.50	-212.69	-287.07	1761313.42	14639852.38	40°18'35.3709"N	80°33'58.8197"W	357.28	233.465	0.35	
4990.00	6.580	197.420	4971.58	99.38	-222.22	-292.49	1761308.00	14639842.85	40°18'35.2770"N	80°33'58.8902"W	367.33	232.774	5.07	



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Field	Brooke	API	47009003340000
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Slot	8H		

WELLPATH DATA (257 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
5091.00	15.810	179.040	5070.27	118.15	-243.20	-294.52	1761305.98	14639821.88	40°18'35.0698"N	80°33'58.9177"W	381.95	230.451	8.04	
5187.00	23.410	177.070	5160.64	148.51	-275.37	-293.32	1761307.17	14639789.73	40°18'34.7518"N	80°33'58.9043"W	402.33	226.808	7.95	
5284.00	31.780	174.540	5246.53	191.40	-320.12	-289.90	1761310.59	14639744.99	40°18'34.3094"N	80°33'58.8630"W	431.88	222.164	8.71	
5381.00	42.490	170.200	5323.76	248.19	-378.01	-281.87	1761318.62	14639687.12	40°18'33.7370"N	80°33'58.7630"W	471.53	216.710	11.36	
5478.00	51.540	168.770	5389.83	317.78	-447.69	-268.87	1761331.62	14639617.47	40°18'33.0479"N	80°33'58.5996"W	522.22	210.988	9.39	
5574.00	62.240	166.660	5442.19	397.04	-526.12	-251.70	1761348.78	14639539.07	40°18'32.2720"N	80°33'58.3829"W	583.23	205.567	11.30	
5671.00	68.800	163.180	5482.38	484.70	-611.28	-228.68	1761371.79	14639453.95	40°18'31.4294"N	80°33'58.0912"W	652.65	200.511	7.51	
5767.00	76.740	162.690	5510.79	576.04	-698.86	-201.78	1761398.67	14639366.40	40°18'30.5626"N	80°33'57.7496"W	727.41	196.105	8.29	
5863.00	82.370	159.540	5528.19	670.30	-788.13	-171.22	1761429.22	14639277.16	40°18'29.6790"N	80°33'57.3607"W	806.52	192.257	6.69	
5960.00	88.340	159.240	5536.04	766.93	-878.58	-137.20	1761463.23	14639186.74	40°18'28.7835"N	80°33'56.9274"W	889.23	188.876	6.16	
6057.00	88.460	160.470	5538.75	863.86	-969.61	-103.81	1761496.61	14639095.75	40°18'27.8824"N	80°33'56.5021"W	975.15	186.111	1.27	
6153.00	89.230	161.430	5540.69	959.75	-1060.33	-72.48	1761527.92	14639005.06	40°18'26.9844"N	80°33'56.1035"W	1062.81	183.911	1.28	
6250.00	88.740	159.370	5542.41	1056.67	-1151.69	-39.95	1761560.44	14638913.74	40°18'26.0800"N	80°33'55.6894"W	1152.39	181.987	2.18	
6347.00	88.770	158.820	5544.51	1153.64	-1242.29	-5.35	1761595.03	14638823.18	40°18'25.1831"N	80°33'55.2485"W	1242.30	180.247	0.57	
6443.00	91.630	159.530	5544.18	1249.63	-1332.01	28.78	1761629.15	14638733.50	40°18'24.2949"N	80°33'54.8137"W	1332.32	178.762	3.07	
6539.00	88.180	159.310	5544.34	1345.60	-1421.87	62.52	1761662.87	14638643.67	40°18'23.4053"N	80°33'54.3839"W	1423.24	177.482	3.60	
6636.00	88.610	159.290	5547.05	1442.55	-1512.57	96.79	1761697.13	14638553.00	40°18'22.5074"N	80°33'53.9472"W	1515.66	176.339	0.44	
6733.00	91.450	163.440	5547.00	1539.40	-1604.45	127.78	1761728.11	14638461.15	40°18'21.5979"N	80°33'53.5531"W	1609.53	175.447	5.18	
6829.00	88.830	162.480	5546.77	1635.09	-1696.23	155.90	1761756.22	14638369.41	40°18'20.6896"N	80°33'53.1959"W	1703.38	174.749	2.91	
6925.00	88.980	162.220	5548.60	1730.85	-1787.69	185.01	1761785.31	14638277.99	40°18'19.7844"N	80°33'52.8261"W	1797.24	174.092	0.31	
7022.00	90.280	164.720	5549.23	1827.47	-1880.67	212.60	1761812.90	14638185.04	40°18'18.8642"N	80°33'52.4758"W	1892.65	173.550	2.90	
7118.00	89.200	161.410	5549.67	1923.15	-1972.50	240.56	1761840.85	14638093.25	40°18'17.9555"N	80°33'52.1207"W	1987.11	173.047	3.63	
7215.00	89.020	160.400	5551.17	2020.05	-2064.15	272.29	1761872.56	14638001.64	40°18'17.0483"N	80°33'51.7171"W	2082.03	172.485	1.06	
7312.00	89.820	159.710	5552.15	2117.00	-2155.32	305.37	1761905.64	14637910.50	40°18'16.1457"N	80°33'51.2958"W	2176.85	171.936	1.09	
7408.00	91.110	160.640	5551.37	2212.96	-2245.63	337.93	1761938.18	14637820.23	40°18'15.2518"N	80°33'50.8813"W	2270.91	171.442	1.66	
7505.00	88.460	161.580	5551.74	2309.84	-2337.39	369.33	1761969.57	14637728.50	40°18'14.3435"N	80°33'50.4819"W	2366.39	171.021	2.90	
7601.00	89.290	160.020	5553.62	2405.74	-2428.03	400.89	1762001.12	14637637.89	40°18'13.4463"N	80°33'50.0802"W	2460.90	170.624	1.84	
7698.00	89.020	160.770	5555.05	2502.67	-2519.40	433.44	1762033.65	14637546.56	40°18'12.5418"N	80°33'49.6660"W	2556.41	170.238	0.82	
7794.00	89.110	160.940	5556.62	2598.58	-2610.08	464.92	1762065.12	14637455.92	40°18'11.6442"N	80°33'49.2655"W	2651.16	169.900	0.20	
7891.00	88.680	160.550	5558.49	2695.48	-2701.63	496.90	1762097.09	14637364.40	40°18'10.7380"N	80°33'48.8585"W	2746.95	169.578	0.60	



Actual Wellpath Report

Nick Ballato BRK 8H awp Proj: 23917'
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WV Division
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	Nick Ballato BRK 8H
Field	Brooke		API	47009003340000
Facility	Nick Ballato BRK Pad		Wellbore	Nick Ballato BRK 8H AWB
Slot	8H			

WELLPATH DATA (257 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
7987.00	89.540	159.750	5559.98	2791.43	-2791.92	529.49	1762129.67	14637274.15	40°18'9.8442"N	80°33'48.4436"W	2841.68	169.261	1.22	
8084.00	89.110	161.140	5561.13	2888.36	-2883.31	561.96	1762162.12	14637182.79	40°18'8.9395"N	80°33'48.0304"W	2937.56	168.971	1.50	
8180.00	88.060	161.170	5563.50	2984.23	-2974.14	592.96	1762193.11	14637092.00	40°18'8.0405"N	80°33'47.6381"W	3032.67	168.725	1.09	
8277.00	89.020	158.280	5565.97	3081.16	-3065.09	626.55	1762226.69	14637001.08	40°18'7.1401"N	80°33'47.2082"W	3128.47	168.447	3.14	
8373.00	89.230	160.500	5567.43	3177.13	-3154.93	660.34	1762260.47	14636911.28	40°18'6.2507"N	80°33'46.7779"W	3223.29	168.178	2.32	
8470.00	89.170	160.600	5568.79	3274.06	-3246.38	692.64	1762292.75	14636819.86	40°18'5.3454"N	80°33'46.3669"W	3319.45	167.956	0.12	
8566.00	89.020	161.340	5570.30	3369.95	-3337.12	723.94	1762324.04	14636729.15	40°18'4.4472"N	80°33'45.9687"W	3414.74	167.760	0.79	
8662.00	89.350	160.540	5571.67	3465.85	-3427.85	755.28	1762355.37	14636638.46	40°18'3.5491"N	80°33'45.5699"W	3510.07	167.574	0.90	
8759.00	90.090	159.900	5572.14	3562.81	-3519.12	788.11	1762388.18	14636547.22	40°18'2.6456"N	80°33'45.1521"W	3606.29	167.377	1.01	
8856.00	90.430	161.170	5571.70	3659.74	-3610.58	820.43	1762420.49	14636455.80	40°18'1.7403"N	80°33'44.7408"W	3702.62	167.198	1.36	
8952.00	89.750	160.490	5571.55	3756.66	-3701.25	851.95	1762452.00	14636365.16	40°18'0.8427"N	80°33'44.3397"W	3798.04	167.037	1.00	
9049.00	89.260	160.380	5572.39	3852.60	-3792.65	884.43	1762484.47	14636273.80	40°17'59.9380"N	80°33'43.9263"W	3894.41	166.873	0.52	
9146.00	89.290	160.330	5573.62	3949.54	-3884.00	917.04	1762517.07	14636182.49	40°17'59.0337"N	80°33'43.5113"W	3990.79	166.715	0.06	
9242.00	91.750	161.410	5572.75	4045.44	-3974.68	948.50	1762548.51	14636091.84	40°17'58.1361"N	80°33'43.1111"W	4086.29	166.578	2.80	
9339.00	89.780	160.780	5571.45	4142.32	-4066.44	979.92	1762579.92	14636000.12	40°17'57.2278"N	80°33'42.7114"W	4182.84	166.451	2.13	
9435.00	89.320	159.530	5572.21	4238.28	-4156.73	1012.51	1762612.50	14635909.86	40°17'56.3340"N	80°33'42.2966"W	4278.27	166.310	1.39	
9532.00	89.540	160.860	5573.17	4335.23	-4247.99	1045.37	1762645.35	14635818.64	40°17'55.4306"N	80°33'41.8783"W	4374.72	166.175	1.39	
9628.00	90.150	160.530	5573.43	4431.15	-4338.59	1077.11	1762677.07	14635728.07	40°17'54.5338"N	80°33'41.4745"W	4470.29	166.057	0.72	
9725.00	89.970	162.910	5573.33	4527.99	-4430.69	1107.53	1762707.49	14635636.01	40°17'53.6222"N	80°33'41.0878"W	4567.01	165.965	2.46	
9822.00	90.250	159.830	5573.14	4624.85	-4522.59	1138.52	1762738.46	14635544.14	40°17'52.7125"N	80°33'40.6938"W	4663.70	165.870	3.19	
9919.00	89.380	160.620	5573.46	4721.80	-4613.87	1171.33	1762771.26	14635452.90	40°17'51.8089"N	80°33'40.2761"W	4760.23	165.755	1.21	
10015.00	89.170	160.560	5574.67	4817.73	-4704.41	1203.23	1762803.15	14635362.40	40°17'50.9127"N	80°33'39.8702"W	4855.84	165.653	0.23	
10111.00	90.180	160.940	5575.22	4913.65	-4795.04	1234.88	1762834.79	14635271.80	40°17'50.0156"N	80°33'39.4675"W	4951.50	165.558	1.12	
10208.00	89.820	159.720	5575.22	5010.60	-4886.37	1267.53	1762867.42	14635180.50	40°17'49.1114"N	80°33'39.0520"W	5048.10	165.458	1.31	
10305.00	90.400	160.020	5575.03	5107.57	-4977.45	1300.92	1762900.79	14635089.46	40°17'48.2098"N	80°33'38.6270"W	5144.64	165.353	0.67	
10401.00	90.030	160.020	5574.67	5203.53	-5067.67	1333.72	1762933.58	14634999.27	40°17'47.3166"N	80°33'38.2094"W	5240.24	165.255	0.39	
10498.00	90.090	160.230	5574.57	5300.49	-5158.89	1366.69	1762966.55	14634908.09	40°17'46.4136"N	80°33'37.7897"W	5336.85	165.162	0.23	
10595.00	89.480	162.590	5574.93	5397.36	-5250.82	1397.61	1762997.46	14634816.19	40°17'45.5036"N	80°33'37.3965"W	5433.64	165.095	2.51	
10691.00	88.920	160.570	5576.27	5493.20	-5341.89	1427.94	1763027.77	14634725.16	40°17'44.6023"N	80°33'37.0110"W	5529.45	165.034	2.18	
10788.00	89.880	161.450	5577.29	5590.10	-5433.60	1459.51	1763059.32	14634633.48	40°17'43.6944"N	80°33'36.6095"W	5628.21	164.965	1.34	

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Slot	8H		

WELLPATH DATA (257 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
10884.00	91.290	161.470	5576.31	5685.96	-5524.61	1490.03	1763089.83	14634542.50	40°17'42.7936"N	80°33'36.2215"W	5722.02	164.906	1.47	
10981.00	88.490	160.760	5576.49	5782.85	-5616.38	1521.42	1763121.21	14634450.77	40°17'41.8852"N	80°33'35.8222"W	5818.80	164.843	2.98	
11077.00	89.290	159.140	5578.35	5878.79	-5706.54	1554.33	1763154.11	14634360.64	40°17'40.9927"N	80°33'35.4033"W	5914.44	164.764	1.88	
11174.00	89.510	160.160	5579.37	5975.77	-5797.48	1588.06	1763187.82	14634269.74	40°17'40.0924"N	80°33'34.9739"W	6011.05	164.881	1.08	
11270.00	88.860	160.640	5580.74	6071.70	-5887.91	1620.26	1763220.01	14634179.35	40°17'39.1972"N	80°33'34.5641"W	6106.78	164.614	0.84	
11367.00	88.710	160.480	5582.79	6168.61	-5979.36	1652.53	1763252.28	14634087.93	40°17'38.2919"N	80°33'34.1535"W	6203.52	164.551	0.23	
11464.00	89.480	160.580	5584.32	6265.54	-6070.80	1684.86	1763284.59	14633996.53	40°17'37.3868"N	80°33'33.7422"W	6300.27	164.489	0.80	
11560.00	90.340	161.400	5584.47	6361.44	-6161.56	1716.13	1763315.85	14633905.80	40°17'36.4883"N	80°33'33.3445"W	6396.09	164.436	1.24	
11657.00	89.350	162.960	5584.74	6458.24	-6253.91	1745.81	1763345.52	14633813.49	40°17'35.5744"N	80°33'32.9673"W	6493.01	164.403	1.90	
11753.00	89.420	163.670	5585.77	6553.89	-6345.86	1773.37	1763373.07	14633721.58	40°17'34.6644"N	80°33'32.6176"W	6588.99	164.387	0.74	
11850.00	90.280	163.270	5586.02	6650.52	-6438.85	1800.97	1763400.66	14633628.62	40°17'33.7441"N	80°33'32.2674"W	6685.98	164.373	0.98	
11946.00	89.690	162.900	5586.05	6746.20	-6530.69	1828.90	1763428.58	14633536.81	40°17'32.8352"N	80°33'31.9129"W	6781.95	164.355	0.73	
12043.00	90.060	162.730	5586.26	6842.93	-6623.36	1857.56	1763457.23	14633444.18	40°17'31.9180"N	80°33'31.5490"W	6878.92	164.334	0.42	
12140.00	90.220	163.510	5586.02	6939.61	-6716.18	1885.73	1763485.38	14633351.39	40°17'30.9994"N	80°33'31.1915"W	6975.89	164.317	0.82	
12237.00	90.030	164.260	5585.81	7036.17	-6809.37	1912.65	1763512.29	14633258.24	40°17'30.0772"N	80°33'30.8500"W	7072.89	164.311	0.80	
12334.00	89.750	163.350	5586.00	7132.75	-6902.52	1939.70	1763539.34	14633165.13	40°17'29.1554"N	80°33'30.5069"W	7169.88	164.304	0.98	
12430.00	89.850	163.360	5586.33	7228.40	-6994.50	1967.20	1763566.82	14633073.19	40°17'28.2452"N	80°33'30.1580"W	7265.87	164.291	0.10	
12527.00	89.780	163.350	5586.64	7325.05	-7087.43	1994.99	1763594.60	14632980.29	40°17'27.3255"N	80°33'29.8054"W	7362.86	164.279	0.07	
12623.00	89.880	163.350	5586.93	7420.70	-7179.41	2022.49	1763622.09	14632888.35	40°17'26.4152"N	80°33'29.4564"W	7458.84	164.267	0.10	
12720.00	90.150	163.200	5586.90	7517.36	-7272.30	2050.41	1763650.00	14632795.49	40°17'25.4958"N	80°33'29.1021"W	7555.83	164.254	0.32	
12816.00	90.310	163.480	5586.52	7613.01	-7364.27	2077.93	1763677.51	14632703.55	40°17'24.5857"N	80°33'28.7529"W	7651.82	164.243	0.34	
12912.00	89.140	163.640	5586.98	7708.63	-7456.35	2105.10	1763704.67	14632611.52	40°17'23.6746"N	80°33'28.4082"W	7747.81	164.234	1.23	
13009.00	89.540	163.250	5588.10	7805.26	-7549.32	2132.73	1763732.29	14632518.58	40°17'22.7545"N	80°33'28.0576"W	7844.79	164.225	0.58	
13106.00	89.450	163.420	5588.95	7901.90	-7642.24	2160.55	1763760.10	14632425.69	40°17'21.8349"N	80°33'27.7046"W	7941.78	164.214	0.20	
13202.00	89.200	162.630	5590.08	7997.59	-7734.05	2188.58	1763788.11	14632333.92	40°17'20.9262"N	80°33'27.3489"W	8037.75	164.200	0.86	
13299.00	88.980	163.290	5591.62	8094.28	-7826.78	2217.00	1763816.52	14632241.22	40°17'20.0085"N	80°33'26.9881"W	8134.71	164.185	0.72	
13395.00	89.080	161.730	5593.25	8190.03	-7918.33	2245.84	1763845.36	14632149.71	40°17'19.1025"N	80°33'26.6218"W	8230.66	164.165	1.63	
13491.00	91.320	163.090	5592.91	8285.79	-8009.83	2274.85	1763874.36	14632058.25	40°17'18.1968"N	80°33'26.2534"W	8326.60	164.145	2.73	
13588.00	88.770	162.080	5592.84	8382.53	-8102.37	2303.88	1763903.37	14631965.74	40°17'17.2809"N	80°33'25.8848"W	8423.56	164.127	2.83	
13684.00	89.750	163.990	5594.06	8478.21	-8194.18	2331.89	1763931.37	14631873.96	40°17'16.3723"N	80°33'25.5293"W	8519.53	164.115	2.24	



Actual Wellpath Report

Nick Ballato BRK 8H awp Proj: 23917'
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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Nick Ballato BRK 8H
Field	Brooke	API	47009003340000
Facility	Nick Ballato BRK Pad	Wellbore	Nick Ballato BRK 8H AWB
Slot	8H		

WELLPATH DATA (257 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
13781.00	89.350	164.880	5594.84	8574.68	-8287.62	2357.92	1763957.39	14631780.56	40°17'15.4477"N	80°33'25.1995"W	8616.52	164.118	1.01	
13877.00	89.200	164.170	5596.05	8670.14	-8380.13	2383.53	1763982.99	14631688.08	40°17'14.5322"N	80°33'24.8749"W	8712.51	164.123	0.76	
13974.00	89.510	164.250	5597.15	8766.65	-8473.47	2409.92	1764009.37	14631594.79	40°17'13.6086"N	80°33'24.5404"W	8809.50	164.124	0.33	
14071.00	89.480	163.860	5598.00	8863.18	-8566.73	2436.57	1764036.01	14631501.56	40°17'12.6857"N	80°33'24.2026"W	8906.50	164.123	0.40	
14167.00	90.460	164.580	5598.05	8958.70	-8659.11	2462.67	1764062.10	14631409.21	40°17'11.7715"N	80°33'23.8717"W	9002.50	164.124	1.27	
14264.00	88.250	163.470	5599.14	9055.23	-8752.35	2489.37	1764088.79	14631316.01	40°17'10.8488"N	80°33'23.5333"W	9099.48	164.123	2.55	
14361.00	90.120	164.380	5600.52	9151.78	-8845.55	2516.22	1764115.63	14631222.85	40°17'9.9266"N	80°33'23.1928"W	9196.47	164.121	2.14	
14457.00	88.680	163.530	5601.53	9247.33	-8937.80	2542.75	1764142.15	14631130.64	40°17'9.0137"N	80°33'22.8564"W	9292.46	164.119	1.74	
14554.00	90.460	163.800	5602.26	9343.92	-9030.88	2570.03	1764169.42	14631037.59	40°17'8.0926"N	80°33'22.5104"W	9389.45	164.115	1.86	
14651.00	90.060	160.300	5601.82	9440.72	-9123.14	2599.92	1764199.30	14630945.37	40°17'7.1794"N	80°33'22.1307"W	9486.37	164.093	3.63	
14747.00	90.310	161.760	5601.51	9536.62	-9213.92	2631.13	1764230.49	14630854.62	40°17'6.2807"N	80°33'21.7339"W	9582.23	164.063	1.54	
14843.00	87.910	161.930	5603.00	9632.43	-9305.12	2661.03	1764260.39	14630763.45	40°17'5.3780"N	80°33'21.3539"W	9678.14	164.041	2.51	
14940.00	89.750	160.730	5604.98	9729.29	-9397.00	2692.08	1764291.42	14630671.61	40°17'4.4686"N	80°33'20.9593"W	9775.01	164.014	2.26	
15037.00	88.060	159.850	5606.83	9826.21	-9488.29	2724.78	1764324.11	14630580.35	40°17'3.5648"N	80°33'20.5432"W	9871.78	163.977	1.96	
15133.00	88.580	165.800	5609.65	9921.85	-9579.93	2753.10	1764352.42	14630488.75	40°17'2.6579"N	80°33'20.1837"W	9967.68	163.966	6.22	
15230.00	92.280	163.750	5608.92	10018.24	-9673.50	2778.57	1764377.88	14630395.21	40°17'1.7320"N	80°33'19.8611"W	10064.65	163.974	4.36	
15327.00	89.200	161.610	5607.67	10114.95	-9766.08	2807.44	1764406.74	14630302.67	40°17'0.8157"N	80°33'19.4946"W	10161.60	163.962	3.87	
15423.00	89.350	162.270	5608.88	10210.77	-9857.34	2837.20	1764436.49	14630211.45	40°16'59.9124"N	80°33'19.1165"W	10257.53	163.943	0.70	
15520.00	89.450	162.240	5609.90	10307.55	-9949.72	2866.76	1764466.04	14630119.10	40°16'58.9981"N	80°33'18.7411"W	10354.48	163.927	0.11	
15616.00	88.980	162.530	5611.21	10403.32	-10041.21	2895.81	1764495.08	14630027.65	40°16'58.0926"N	80°33'18.3722"W	10450.44	163.913	0.58	
15713.00	89.420	162.730	5612.57	10500.05	-10133.78	2924.77	1764524.02	14629935.12	40°16'57.1764"N	80°33'18.0046"W	10547.40	163.901	0.50	
15809.00	89.600	162.000	5613.39	10595.83	-10225.26	2953.85	1764553.09	14629843.67	40°16'56.2710"N	80°33'17.6353"W	10643.37	163.887	0.78	
15906.00	91.200	162.210	5612.71	10692.63	-10317.56	2983.65	1764582.88	14629751.40	40°16'55.3574"N	80°33'17.2567"W	10740.31	163.871	1.66	
16003.00	90.000	159.110	5611.69	10789.54	-10409.07	3015.77	1764614.99	14629659.93	40°16'54.4515"N	80°33'16.8482"W	10837.14	163.842	3.43	
16099.00	89.750	159.150	5611.90	10885.53	-10498.77	3049.97	1764649.18	14629570.26	40°16'53.5634"N	80°33'16.4128"W	10932.82	163.801	0.26	
16196.00	89.110	156.770	5612.87	10982.52	-10588.67	3086.37	1764685.56	14629480.39	40°16'52.6732"N	80°33'15.9490"W	11029.31	163.750	2.54	
16293.00	89.540	153.310	5614.01	11079.32	-10676.60	3127.29	1764726.46	14629392.51	40°16'51.8024"N	80°33'15.4267"W	11125.18	163.674	3.59	
16389.00	89.540	150.460	5614.78	11174.67	-10761.26	3172.52	1764771.68	14629307.88	40°16'50.9636"N	80°33'14.8486"W	11219.16	163.574	2.97	
16486.00	89.570	148.910	5615.54	11270.53	-10844.99	3221.48	1764820.62	14629224.18	40°16'50.1337"N	80°33'14.2223"W	11313.34	163.456	1.60	
16582.00	89.020	148.600	5616.72	11365.15	-10927.06	3271.27	1764870.39	14629142.14	40°16'49.3203"N	80°33'13.5852"W	11406.22	163.334	0.66	



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Nick Ballato BRK 8H awp Proj: 23917
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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Nick Ballato BRK 8H
Field	Brooke	API	47009003340000
Facility	Nick Ballato BRK Pad	Wellbore	Nick Ballato BRK 8H AWB
Slot	8H		

WELLPATH DATA (257 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
16679.00	89.780	150.770	5617.73	11461.00	-11010.78	3320.23	1764919.33	14629058.45	40°16'48.4905"N	80°33'12.9591"W	11500.49	163.220	2.37	
16776.00	88.980	153.400	5618.78	11557.38	-11096.48	3365.63	1764964.71	14628972.78	40°16'47.6413"N	80°33'12.3788"W	11595.66	163.127	2.83	
16873.00	88.030	154.530	5621.31	11654.04	-11183.61	3408.19	1765007.26	14628885.69	40°16'46.7783"N	80°33'11.8353"W	11691.40	163.051	1.52	
16969.00	88.920	155.940	5623.87	11749.85	-11270.75	3448.39	1765047.44	14628798.59	40°16'45.9152"N	80°33'11.3224"W	11786.48	162.988	1.74	
17066.00	89.420	159.010	5625.27	11846.82	-11360.33	3485.54	1765084.58	14628709.04	40°16'45.0282"N	80°33'10.8489"W	11883.01	162.943	3.21	
17162.00	88.980	160.400	5626.62	11942.78	-11450.35	3518.83	1765117.86	14628619.05	40°16'44.1369"N	80°33'10.4252"W	11978.85	162.917	1.52	
17259.00	89.010	160.170	5628.32	12039.72	-11541.65	3551.55	1765150.56	14628527.78	40°16'43.2330"N	80°33'10.0090"W	12075.73	162.896	0.24	
17356.00	89.080	162.090	5629.93	12136.60	-11633.42	3582.92	1765181.92	14628436.05	40°16'42.3246"N	80°33'9.6103"W	12172.67	162.882	1.98	
17453.00	89.320	164.270	5631.29	12233.25	-11726.26	3610.98	1765209.97	14628343.25	40°16'41.4058"N	80°33'9.2542"W	12269.65	162.884	2.26	
17549.00	89.290	166.360	5632.45	12328.58	-11819.11	3635.31	1765234.29	14628250.43	40°16'40.4871"N	80°33'8.9463"W	12365.55	162.903	2.18	
17646.00	88.950	166.030	5633.94	12424.67	-11913.30	3658.46	1765257.43	14628156.28	40°16'39.5552"N	80°33'8.6539"W	12462.38	162.929	0.49	
17743.00	89.050	166.160	5635.64	12520.79	-12007.44	3681.76	1765280.73	14628062.17	40°16'38.6238"N	80°33'8.3593"W	12559.22	162.953	0.17	
17839.00	89.020	166.340	5637.25	12615.90	-12100.68	3704.58	1765303.53	14627968.97	40°16'37.7013"N	80°33'8.0711"W	12655.05	162.978	0.19	
17936.00	89.660	167.050	5638.37	12711.89	-12195.07	3726.90	1765325.84	14627874.62	40°16'36.7674"N	80°33'7.7892"W	12751.84	163.006	0.99	
18032.00	89.110	166.310	5639.40	12806.90	-12288.48	3749.02	1765347.95	14627781.25	40°16'35.8433"N	80°33'7.5100"W	12847.64	163.034	0.96	
18129.00	88.740	164.520	5641.22	12903.17	-12382.33	3773.44	1765372.36	14627687.43	40°16'34.9146"N	80°33'7.2010"W	12944.53	163.052	1.88	
18226.00	88.800	162.230	5643.30	12999.78	-12475.25	3801.18	1765400.10	14627594.55	40°16'33.9951"N	80°33'6.8492"W	13041.50	163.054	2.36	
18322.00	88.710	160.320	5645.39	13095.64	-12566.14	3831.99	1765430.89	14627503.69	40°16'33.0953"N	80°33'6.4576"W	13137.43	163.041	1.99	
18418.00	88.800	158.080	5647.47	13191.60	-12655.86	3866.07	1765464.96	14627414.01	40°16'32.2071"N	80°33'6.0238"W	13233.19	163.013	2.33	
18515.00	88.710	156.510	5649.58	13288.56	-12745.32	3903.50	1765502.38	14627324.58	40°16'31.3212"N	80°33'5.5467"W	13329.68	162.972	1.62	
18611.00	88.650	154.450	5651.79	13384.40	-12832.63	3943.33	1765542.19	14627237.30	40°16'30.4564"N	80°33'5.0385"W	13424.84	162.918	2.15	
18707.00	88.770	152.580	5653.96	13480.01	-12918.53	3986.13	1765584.97	14627151.44	40°16'29.6054"N	80°33'4.4920"W	13519.53	162.852	1.95	
18804.00	88.950	150.400	5655.89	13576.27	-13003.75	4032.42	1765631.24	14627066.25	40°16'28.7610"N	80°33'3.9004"W	13614.62	162.772	2.25	
18901.00	89.080	148.540	5657.55	13672.05	-13087.28	4081.68	1765680.49	14626982.75	40°16'27.9331"N	80°33'3.2703"W	13709.01	162.678	1.92	
18997.00	89.080	146.530	5659.09	13766.29	-13168.26	4133.20	1765731.99	14626901.80	40°16'27.1303"N	80°33'2.6108"W	13801.69	162.574	2.09	
19094.00	89.010	144.590	5660.71	13860.82	-13248.25	4188.05	1765786.82	14626821.85	40°16'26.3371"N	80°33'1.9085"W	13894.45	162.457	2.00	
19190.00	89.290	144.440	5662.14	13953.98	-13326.41	4243.77	1765842.52	14626743.72	40°16'25.5620"N	80°33'1.1947"W	13985.81	162.336	0.33	
19287.00	89.380	144.570	5663.26	14048.11	-13405.38	4300.09	1765898.81	14626664.78	40°16'24.7788"N	80°33'0.4733"W	14078.17	162.215	0.16	
19383.00	89.200	144.840	5664.45	14141.34	-13483.72	4355.55	1765954.26	14626586.46	40°16'24.0018"N	80°32'59.7629"W	14169.74	162.098	0.34	
19480.00	90.150	145.200	5665.00	14235.68	-13563.20	4411.16	1766009.84	14626507.02	40°16'23.2137"N	80°32'59.0508"W	14262.49	161.984	1.05	



Actual Wellpath Report

Nick Ballato BRK 8H awp Proj: 23917'
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My Department
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REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	Nick Ballato BRK 8H
Field	Brooke		API	47009003340000
Facility	Nick Ballato BRK Pad		Wellbore	Nick Ballato BRK 8H AWB
Slot	8H			

WELLPATH DATA (257 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
19576.00	89.910	144.680	5664.95	14329.01	-13641.78	4466.31	1766064.97	14626428.46	40°16'22.4344"N	80°32'58.3445"W	14354.30	161.872	0.60	
19672.00	89.860	145.030	5665.31	14422.32	-13720.28	4521.57	1766120.21	14626350.00	40°16'21.6559"N	80°32'57.6367"W	14446.13	161.760	0.45	
19769.00	90.090	144.740	5665.52	14516.60	-13799.62	4577.36	1766175.98	14626270.68	40°16'20.8691"N	80°32'56.9221"W	14538.98	161.649	0.53	
19865.00	90.090	144.870	5665.37	14609.88	-13878.07	4632.69	1766231.29	14626192.26	40°16'20.0910"N	80°32'56.2134"W	14630.89	161.540	0.14	
19962.00	90.060	144.730	5665.24	14704.14	-13957.34	4688.61	1766287.18	14626113.03	40°16'19.3050"N	80°32'55.4973"W	14723.80	161.432	0.15	
20059.00	89.940	144.770	5665.24	14798.37	-14036.55	4744.59	1766343.14	14626033.85	40°16'18.5194"N	80°32'54.7803"W	14816.74	161.324	0.13	
20155.00	89.690	144.220	5665.55	14891.53	-14114.70	4800.35	1766398.88	14625955.73	40°16'17.7443"N	80°32'54.0662"W	14908.66	161.217	0.63	
20251.00	89.660	144.680	5666.10	14984.66	-14192.81	4856.16	1766454.67	14625877.65	40°16'16.9697"N	80°32'53.3512"W	15000.60	161.111	0.48	
20348.00	89.380	144.630	5666.91	15078.86	-14271.92	4912.27	1766510.76	14625798.56	40°16'16.1851"N	80°32'52.6326"W	15093.65	161.007	0.29	
20445.00	89.140	144.670	5668.16	15173.04	-14351.03	4968.39	1766566.85	14625719.48	40°16'15.4005"N	80°32'51.9138"W	15186.74	160.904	0.25	
20541.00	89.290	144.830	5669.48	15266.29	-14429.42	5023.79	1766622.23	14625641.12	40°16'14.6231"N	80°32'51.2043"W	15278.96	160.804	0.23	
20638.00	89.230	144.680	5670.73	15360.52	-14508.64	5079.76	1766678.18	14625561.94	40°16'13.8375"N	80°32'50.4874"W	15372.20	160.704	0.17	
20734.00	89.380	144.730	5671.90	15453.75	-14586.98	5135.22	1766733.63	14625483.62	40°16'13.0605"N	80°32'49.7771"W	15464.50	160.606	0.16	
20831.00	89.380	144.890	5672.95	15548.00	-14666.25	5191.12	1766789.50	14625404.39	40°16'12.2743"N	80°32'49.0612"W	15557.85	160.509	0.16	
20928.00	89.540	144.880	5673.86	15642.29	-14745.60	5246.91	1766845.27	14625325.07	40°16'11.4875"N	80°32'48.3467"W	15651.28	160.413	0.17	
21024.00	89.290	144.920	5674.84	15735.60	-14824.13	5302.11	1766900.45	14625246.57	40°16'10.7086"N	80°32'47.6398"W	15743.80	160.320	0.26	
21121.00	89.570	146.700	5675.81	15830.23	-14904.36	5356.62	1766954.93	14625166.37	40°16'9.9131"N	80°32'46.9420"W	15837.72	160.232	1.86	
21218.00	89.570	148.460	5676.53	15925.48	-14986.24	5408.62	1767006.91	14625084.52	40°16'9.1013"N	80°32'46.2766"W	15932.37	160.155	1.81	
21314.00	89.290	148.590	5677.49	16020.03	-15068.11	5458.74	1767057.01	14625002.68	40°16'8.2898"N	80°32'45.6354"W	16026.41	160.086	0.32	
21411.00	89.410	150.550	5678.59	16115.86	-15151.74	5507.88	1767106.12	14624919.09	40°16'7.4609"N	80°32'45.0072"W	16121.78	160.023	2.02	
21507.00	89.480	152.410	5679.52	16211.13	-15236.08	5553.69	1767151.93	14624834.78	40°16'6.6251"N	80°32'44.4216"W	16216.71	159.973	1.94	
21604.00	89.570	154.600	5680.32	16307.76	-15322.89	5596.96	1767195.19	14624748.01	40°16'5.7652"N	80°32'43.8691"W	16313.09	159.934	2.26	
21700.00	89.350	156.110	5681.23	16403.61	-15410.13	5636.99	1767235.20	14624660.79	40°16'4.9010"N	80°32'43.3585"W	16408.78	159.908	1.59	
21797.00	89.290	156.250	5682.38	16500.53	-15498.87	5676.16	1767274.36	14624572.09	40°16'4.0222"N	80°32'42.8591"W	16505.56	159.886	0.16	
21893.00	89.080	156.270	5683.75	16596.45	-15586.73	5714.81	1767312.99	14624484.26	40°16'3.1519"N	80°32'42.3664"W	16601.36	159.865	0.22	
21990.00	89.230	156.220	5685.18	16693.36	-15675.51	5753.88	1767352.04	14624395.52	40°16'2.2727"N	80°32'41.8683"W	16698.16	159.844	0.16	
22087.00	88.920	156.130	5686.74	16790.27	-15764.23	5793.06	1767391.20	14624306.83	40°16'1.3940"N	80°32'41.3688"W	16794.95	159.823	0.33	
22183.00	89.020	156.330	5688.47	16886.18	-15852.07	5831.74	1767429.88	14624219.03	40°16'0.5240"N	80°32'40.8755"W	16890.75	159.802	0.23	
22280.00	89.140	158.200	5690.03	16983.14	-15941.52	5869.22	1767467.34	14624129.61	40°15'59.6382"N	80°32'40.3979"W	16987.64	159.788	1.93	
22377.00	89.140	158.550	5691.48	17080.13	-16031.68	5904.97	1767503.07	14624039.49	40°15'58.7454"N	80°32'39.9428"W	17084.60	159.780	0.36	



Actual Wellpath Report

Nick Ballato BRK 8H awp Proj: 23917'
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NO. 100001
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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Nick Ballato BRK 8H
Field	Brooke	API	47009003340000
Facility	Nick Ballato BRK Pad	Wellbore	Nick Ballato BRK 8H AWB
Slot	8H		

WELLPATH DATA (257 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
22474.00	89.540	158.310	5692.60	17177.13	-16121.88	5940.63	1767538.72	14623949.32	40°15'57.8523"N	80°32'39.4888"W	17181.56	159.772	0.48	
22571.00	89.380	160.170	5693.51	17274.11	-16212.57	5975.01	1767573.08	14623858.66	40°15'56.9543"N	80°32'39.0514"W	17278.55	159.769	1.92	
22668.00	89.910	160.010	5694.11	17371.07	-16303.78	6008.04	1767606.10	14623767.50	40°15'56.0514"N	80°32'38.6313"W	17375.55	159.771	0.57	
22764.00	89.750	160.350	5694.40	17467.02	-16394.09	6040.59	1767638.64	14623677.22	40°15'55.1573"N	80°32'38.2174"W	17471.54	159.773	0.39	
22860.00	89.690	160.370	5694.87	17562.97	-16484.50	6072.85	1767670.89	14623586.84	40°15'54.2622"N	80°32'37.8072"W	17567.54	159.776	0.07	
22957.00	89.720	160.320	5695.37	17659.92	-16575.85	6105.48	1767703.51	14623495.53	40°15'53.3579"N	80°32'37.3924"W	17664.53	159.779	0.06	
23054.00	89.510	159.470	5696.02	17756.88	-16666.93	6138.82	1767736.84	14623404.48	40°15'52.4561"N	80°32'36.9684"W	17761.53	159.780	0.90	
23151.00	89.510	159.930	5696.85	17853.86	-16757.91	6172.47	1767770.48	14623313.54	40°15'51.5555"N	80°32'36.5404"W	17858.52	159.780	0.47	
23247.00	89.540	160.380	5697.64	17949.81	-16848.20	6205.06	1767803.05	14623223.28	40°15'50.6615"N	80°32'36.1260"W	17954.52	159.782	0.47	
23343.00	89.850	160.320	5698.16	18045.76	-16938.61	6237.34	1767835.32	14623132.90	40°15'49.7665"N	80°32'35.7156"W	18050.51	159.785	0.33	
23440.00	89.630	159.950	5698.60	18142.72	-17029.84	6270.30	1767868.27	14623041.71	40°15'48.8633"N	80°32'35.2965"W	18147.51	159.787	0.44	
23537.00	89.630	160.060	5699.22	18239.68	-17120.99	6303.47	1767901.42	14622950.60	40°15'47.9609"N	80°32'34.8747"W	18244.51	159.788	0.11	
23633.00	89.510	160.410	5699.94	18335.63	-17211.33	6335.93	1767933.87	14622860.29	40°15'47.0665"N	80°32'34.4620"W	18340.50	159.790	0.39	
23729.00	89.660	160.080	5700.64	18431.58	-17301.68	6368.38	1767966.31	14622769.98	40°15'46.1721"N	80°32'34.0495"W	18436.49	159.792	0.38	
23826.00	89.570	160.350	5701.29	18528.54	-17392.95	6401.21	1767999.13	14622678.74	40°15'45.2685"N	80°32'33.6320"W	18533.49	159.795	0.29	
23892.00	89.720	160.240	5701.70	18594.50	-17455.08	6423.47	1768021.37	14622616.63	40°15'44.6534"N	80°32'33.3491"W	18599.49	159.796	0.28	
23917.00†	89.720	160.240	5701.82	18619.49	-17478.61	6431.92	1768029.82	14622593.11	40°15'44.4204"N	80°32'33.2416"W	18624.48	159.797	0.00	

HOLE & CASING SECTIONS - Ref Wellbore: Nick Ballato BRK 8H AWB Ref Wellpath: Nick Ballato BRK 8H awp Proj: 23917'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.375in Casing	26.00	370.00	344.00	26.00	369.99	0.00	0.00	1.56	1.09
9.625in Casing	26.00	1390.00	1364.00	26.00	1385.37	0.00	0.00	-7.94	-66.89

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Nick Ballato BRK 8H
Field	Brooke	API	47009003340000
Facility	Nick Ballato BRK Pad	Wellbore	Nick Ballato BRK 8H AWB
Slot	8H		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Nick Ballato BRK 8H WP-2: 1st perf on Nick Ballato BRK 1H	5337.30	-494.11	-650.37	1760950.26	14639571.07	40°18'32.6076"N	80°34'3.5270"W	circle
	3D Circle radius 500 x 10.							
Nick Ballato BRK 8H WP-2: 1st perf on Nick Ballato BRK 1H guide	5337.30	-494.11	-650.37	1760950.26	14639571.07	40°18'32.6076"N	80°34'3.5270"W	circle
	2D Circle radius 500.							
Nick Ballato BRK 8H WP1: N-most point from Ex-02	5337.30	133.72	-367.68	1761232.84	14640198.66	40°18'38.7980"N	80°33'59.8384"W	point
Nick Ballato BRK 8H WP3: 10' south of 1st perf on 1H	5340.30	-401.34	-300.41	1761300.08	14639663.80	40°18'33.5074"N	80°33'59.0038"W	circle
	2D Circle radius 300.							
Nick Ballato BRK 8H LP Rev 5	5530.30	-836.74	-151.10	1761449.34	14639228.57	40°18'29.1977"N	80°33'57.1041"W	point
Nick Ballato BRK 8H 6012 vs point	5586.21	-5835.87	1608.39	1763208.15	14634231.37	40°17'39.7121"N	80°33'34.7139"W	point
Nick Ballato BRK 8H 9290 point	5619.88	-8988.52	2549.20	1764148.60	14631079.93	40°17'8.5121"N	80°33'22.7764"W	point
Nick Ballato BRK 8H 15779 point	5687.10	-14864.85	5337.96	1766936.28	14625205.87	40°16'10.3045"N	80°32'47.1801"W	point



Actual Wellpath Report

Nick Ballato BRK 8H awp Proj: 23917'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Nick Ballato BRK 8H
Field	Brooke	API	47009003340000
Facility	Nick Ballato BRK Pad	Wellbore	Nick Ballato BRK 8H AWB
Slot	8H		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Nick Ballato BRK 8H BHL Rev-3	5715.00	-17481.95	6427.11	1768025.01	14622589.77	40°15'44.3877"N	80°32'33.3040"W	point
Nick Ballato BRK 8H Hardline	5998.30	-1665.70	566.16	1762166.32	14638399.93	40°18'20.9713"N	80°33'47.8987"W	polygon
2D Polygon: dimensions not calculated								

WELLPATH COMPOSITION - Ref Wellbore: Nick Ballato BRK 8H AWB Ref Wellpath: Nick Ballato BRK 8H awp Proj: 23917'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	396.00	Gyrodata 2015 - GC+WIR+DPIPE	1. Imported Gyrodata 50' - 396'	Nick Ballato BRK 8H AWB	5/30/2023
396.00	1323.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	2. Tally MWD IFR-MSA 12.25" 506' - 1323'	Nick Ballato BRK 8H AWB	5/30/2023
1323.00	4527.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	3. Tally MWD IFR-MSA 8.75" 1426' - 4527'	Nick Ballato BRK 8H AWB	5/30/2023
4527.00	23917.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	4. BH ATC MWD IFR-MSA 4628' - 23892'	Nick Ballato BRK 8H AWB	6/5/2023