

# SWN PRODUCTION COMPANY, LLC

Location: Brooke County, WV  
 Field: Brooke  
 Facility: Violet Coss BRK Pad

Slot: Slot 10H  
 Well: Violet Coss BRK 10H  
 Wellbore: Violet Coss BRK 10H PWB

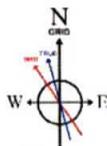


## Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Violet Coss BRK Pad		1745871.450	14618637.315	40°15'6.3470"N	80°37'19.3910"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 10H	19.12	16.01	1745887.450	14618656.430	40°15'6.5353"N	80°37'19.1835"W
SDC 40 (KB) to Ground level (At Slot: Slot 10H)				26ft		
Mean Sea Level to Ground level (At Slot: Slot 10H)				-1172.7ft		
SDC 40 (KB) to Mean Sea Level				1198.7ft		

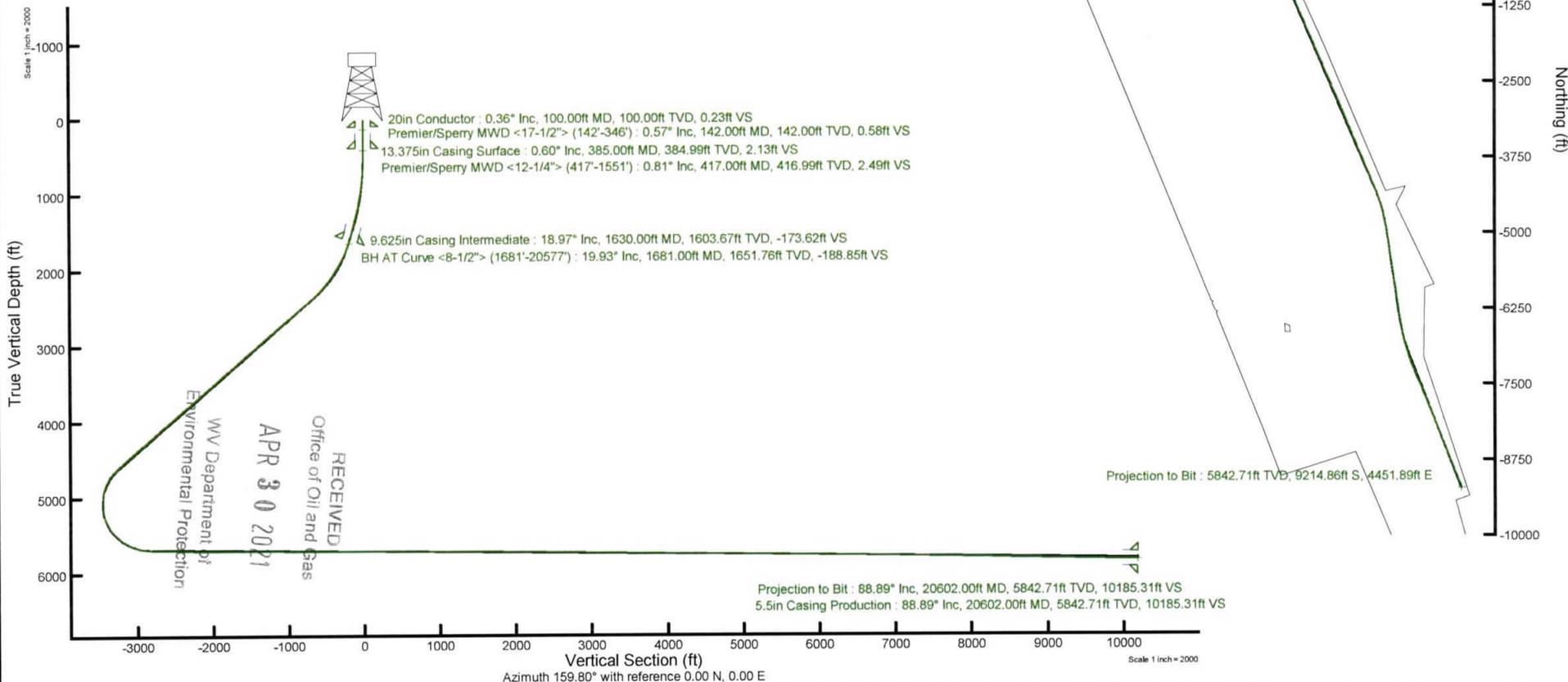
Plot reference wellpath is Violet Coss BRK 10H PWB Rev-A.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 40 (KB)	North Reference: Grid north
Reference wellpath measured depths are referenced to SDC 40 (KB)	Scale: True distance
SDC 40 (KB) to Mean Sea Level: 1198.7 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot 10H): -1172.7 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: a1erjen on 2020-12-21; Database: WA_MPL_EASTERNUS_Defn

API: 47-009-00301-0000  
 BH Job #: 110662048  
 Rig: SDC 40  
 Duration: 12/15/2020 - 12/20/2020



User specified Dip: 67.38° Field: 52278 nT  
 Magnetic North is 8.25 degrees West of True North (at 12/7/2020)  
 Grid North is 0.24 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.24 degrees  
 To correct azimuth from Magnetic to Grid subtract 8.49 degrees

Premier/Sperry MWD <17-1/2"> (142°-346°) : 142.00ft TVD, 0.55ft S, 0.16ft E  
 Premier/Sperry MWD <12-1/4"> (417°-1551°) : 416.99ft TVD, 2.56ft S, 0.25ft E  
 BH AT Curve <8-1/2"> (1681°-20577°) : 1651.76ft TVD, 223.80ft N, 61.52ft E



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Azimuth 159.80° with reference 0.00 N, 0.00 E

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Atenjen
Scale	0.999613	Report Generated	12/21/2020 at 10:46:30 AM
Convergence at slot	0.24° 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	19.12	16.01	<b>1745887.45</b>	<b>14618656.43</b>	40°15'6.5353"N	80°37'19.1835"W
Facility Reference Pt			1745871.45	14618637.32	<b>40°15'6.3470"N</b>	<b>80°37'19.3910"W</b>
Field Reference Pt			<b>0.00</b>	<b>0.00</b>	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 40 (KB) to Facility Vertical Datum	1198.70ft
Horizontal Reference Pt	Slot	SDC 40 (KB) to Mean Sea Level	1198.70ft
Vertical Reference Pt	SDC 40 (KB)	SDC 40 (KB) to Ground Level at Slot (Slot 10H)	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	159.80°

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# Actual Wellpath Report

Violet Coss BRK 10H AWP Proj: 20602'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (230 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	163.630	0.00	0.00	0.00	0.00	1745887.45	14618656.43	40°15'6.5353"N	80°37'19.1835"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	163.630	26.00	0.00	0.00	0.00	1745887.45	14618656.43	40°15'6.5353"N	80°37'19.1835"W	0.00	0.000	0.00	0.00	0.00
142.00	0.570	163.630	142.00	0.58	-0.55	0.16	1745887.61	14618655.88	40°15'6.5298"N	80°37'19.1814"W	0.58	163.630	0.49	0.49	0.00
232.00	0.550	222.550	231.99	1.22	-1.30	0.00	1745887.45	14618655.13	40°15'6.5224"N	80°37'19.1836"W	1.30	180.146	0.61	-0.02	65.47
322.00	0.310	165.580	321.99	1.66	-1.86	-0.23	1745887.22	14618654.58	40°15'6.5170"N	80°37'19.1866"W	1.87	187.212	0.51	-0.27	-63.30
346.00	0.380	160.090	345.99	1.80	-1.99	-0.19	1745887.26	14618654.44	40°15'6.5156"N	80°37'19.1861"W	2.00	185.489	0.32	0.29	-22.88
417.00	0.810	133.450	416.99	2.49	-2.56	0.25	1745887.70	14618653.87	40°15'6.5100"N	80°37'19.1804"W	2.57	174.355	0.70	0.61	-37.52
507.00	1.310	94.370	506.97	3.49	-3.08	1.74	1745889.19	14618653.36	40°15'6.5048"N	80°37'19.1612"W	3.53	150.491	0.95	0.56	-43.42
598.00	2.890	45.050	597.92	2.96	-1.53	4.40	1745891.85	14618654.90	40°15'6.5199"N	80°37'19.1268"W	4.66	109.212	2.49	1.74	-54.20
689.00	5.630	23.940	688.66	-1.21	4.17	7.84	1745895.28	14618660.60	40°15'6.5761"N	80°37'19.0822"W	8.88	61.996	3.42	3.01	-23.20
780.00	7.600	21.150	779.05	-8.93	13.86	11.82	1745899.27	14618670.29	40°15'6.6718"N	80°37'19.0303"W	18.22	40.457	2.19	2.16	-3.07
871.00	8.280	19.830	869.18	-18.46	25.64	16.21	1745903.66	14618682.06	40°15'6.7880"N	80°37'18.9730"W	30.33	32.311	0.77	0.75	-1.45
963.00	9.270	18.250	960.10	-29.34	38.91	20.78	1745908.22	14618695.32	40°15'6.9189"N	80°37'18.9133"W	44.11	28.109	1.11	1.08	-1.72
1055.00	11.110	15.470	1050.65	-42.34	54.49	25.47	1745912.91	14618710.90	40°15'7.0727"N	80°37'18.8521"W	60.15	25.051	2.07	2.00	-3.02
1145.00	13.930	13.990	1138.50	-58.35	73.36	30.40	1745917.84	14618729.76	40°15'7.2589"N	80°37'18.7874"W	79.41	22.509	3.15	3.13	-1.64
1237.00	16.040	14.360	1227.36	-77.98	96.42	36.23	1745923.67	14618752.81	40°15'7.4866"N	80°37'18.7109"W	103.00	20.594	2.30	2.29	0.40
1328.00	16.450	14.850	1314.73	-98.88	121.06	42.65	1745930.08	14618777.44	40°15'7.7297"N	80°37'18.6268"W	128.35	19.409	0.48	0.45	0.54
1418.00	16.120	14.530	1401.12	-119.58	145.47	49.05	1745936.48	14618801.84	40°15'7.9707"N	80°37'18.5429"W	153.52	18.634	0.38	-0.37	-0.36
1510.00	16.470	10.390	1489.43	-141.31	170.66	54.61	1745942.04	14618827.02	40°15'8.2194"N	80°37'18.4698"W	179.18	17.744	1.32	0.38	-4.50
1551.00	17.490	8.330	1528.64	-151.72	182.47	56.55	1745943.98	14618838.83	40°15'8.3361"N	80°37'18.4442"W	191.03	17.218	2.89	2.49	-5.02
1681.00	19.930	5.540	1651.76	-188.85	223.86	61.52	1745948.94	14618880.21	40°15'8.7449"N	80°37'18.3778"W	232.16	15.366	2.00	1.88	-2.15
1727.00	21.490	8.440	1694.79	-203.31	240.00	63.51	1745950.94	14618896.34	40°15'8.9043"N	80°37'18.3512"W	248.26	14.823	4.06	3.39	6.30
1817.00	25.320	1.490	1777.38	-235.68	275.57	66.43	1745953.86	14618931.89	40°15'9.2556"N	80°37'18.3115"W	283.46	13.554	5.24	4.26	-7.72
1910.00	28.380	359.210	1860.35	-275.01	317.56	66.65	1745954.07	14618973.87	40°15'9.6705"N	80°37'18.3065"W	324.48	11.853	3.47	3.29	-2.45
2002.00	31.600	358.230	1940.02	-318.51	363.53	65.60	1745953.02	14619019.81	40°15'10.1248"N	80°37'18.3175"W	369.40	10.229	3.54	3.50	-1.07
2093.00	34.910	359.960	2016.11	-365.59	413.41	64.85	1745952.27	14619069.68	40°15'10.6178"N	80°37'18.3245"W	418.46	8.915	3.78	3.64	1.90
2184.00	35.670	353.000	2090.42	-415.89	465.80	61.59	1745949.02	14619122.05	40°15'11.1357"N	80°37'18.3635"W	469.86	7.532	4.49	0.84	-7.65
2275.00	38.540	350.650	2162.99	-469.57	520.13	53.75	1745941.18	14619176.35	40°15'11.6728"N	80°37'18.4617"W	522.90	5.900	3.52	3.15	-2.58
2367.00	42.250	350.940	2233.05	-528.09	578.97	44.22	1745931.65	14619235.17	40°15'12.2547"N	80°37'18.5813"W	580.66	4.368	4.04	4.03	0.32
2457.00	47.790	351.850	2296.64	-590.42	641.89	34.72	1745922.16	14619298.07	40°15'12.8769"N	80°37'18.7004"W	642.83	3.096	6.20	6.16	1.01

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Violet Coss BRK 10H AWP Proj: 20602'  
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Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
2548.00	48.630	347.730	2357.29	-657.22	708.64	22.69	1745910.13	14619364.79	40°15'13.5369"N	80°37'18.8519"W	709.00	1.834	3.50	0.92	-4.53
2640.00	49.180	348.660	2417.77	-725.80	776.50	8.51	1745895.95	14619432.63	40°15'14.2082"N	80°37'19.0311"W	776.55	0.628	0.97	0.60	1.01
2732.00	49.640	347.900	2477.63	-794.90	844.91	-5.69	1745881.76	14619501.01	40°15'14.8847"N	80°37'19.2104"W	844.93	359.614	0.80	0.50	-0.83
2823.00	50.010	348.520	2536.33	-863.69	912.97	-19.89	1745867.56	14619569.05	40°15'15.5579"N	80°37'19.3899"W	913.19	358.752	0.66	0.41	0.68
2916.00	49.900	348.180	2596.17	-934.09	982.70	-34.27	1745853.19	14619638.75	40°15'16.2476"N	80°37'19.5715"W	983.30	358.003	0.30	-0.12	-0.37
3006.00	50.020	348.470	2654.07	-1002.23	1050.18	-48.21	1745839.26	14619706.20	40°15'16.9150"N	80°37'19.7476"W	1051.28	357.371	0.28	0.13	0.32
3097.00	49.850	347.750	2712.64	-1071.14	1118.33	-62.56	1745824.91	14619774.32	40°15'17.5890"N	80°37'19.9289"W	1120.07	356.798	0.63	-0.19	-0.79
3188.00	49.860	347.960	2771.31	-1140.02	1186.33	-77.20	1745810.28	14619842.30	40°15'18.2616"N	80°37'20.1139"W	1188.84	356.277	0.18	0.01	0.23
3279.00	49.540	349.800	2830.17	-1208.55	1254.42	-90.58	1745796.90	14619910.37	40°15'18.9351"N	80°37'20.2828"W	1257.69	355.870	1.58	-0.35	2.02
3369.00	49.640	349.380	2888.51	-1276.08	1321.82	-102.97	1745784.52	14619977.74	40°15'19.6016"N	80°37'20.4388"W	1325.83	355.546	0.37	0.11	-0.47
3460.00	49.660	349.500	2947.43	-1344.45	1390.00	-115.67	1745771.82	14620045.89	40°15'20.2759"N	80°37'20.5990"W	1394.81	355.243	0.10	0.02	0.13
3550.00	49.410	349.200	3005.84	-1411.97	1457.29	-128.33	1745759.17	14620113.16	40°15'20.9414"N	80°37'20.7585"W	1462.93	354.968	0.38	-0.28	-0.33
3641.00	49.530	349.370	3064.98	-1480.19	1525.25	-141.19	1745746.32	14620181.09	40°15'21.6135"N	80°37'20.9207"W	1531.77	354.711	0.19	0.13	0.19
3732.00	49.480	349.440	3124.07	-1548.42	1593.28	-153.91	1745733.60	14620249.09	40°15'22.2862"N	80°37'21.0810"W	1600.69	354.482	0.08	-0.05	0.08
3822.00	49.560	348.510	3182.50	-1616.00	1660.47	-167.00	1745720.51	14620316.25	40°15'22.9507"N	80°37'21.2462"W	1668.85	354.257	0.79	0.09	-1.03
3913.00	49.340	348.520	3241.66	-1684.35	1728.23	-180.77	1745706.75	14620383.99	40°15'23.6209"N	80°37'21.4201"W	1737.66	354.029	0.24	-0.24	0.01
4003.00	49.430	348.810	3300.25	-1751.85	1795.22	-194.20	1745693.33	14620450.95	40°15'24.2834"N	80°37'21.5896"W	1805.69	353.826	0.26	0.10	0.32
4094.00	49.500	349.610	3359.39	-1820.08	1863.15	-207.15	1745680.38	14620518.86	40°15'24.9553"N	80°37'21.7528"W	1874.63	353.656	0.67	0.08	0.88
4185.00	49.510	349.320	3418.48	-1888.30	1931.19	-219.80	1745667.74	14620586.87	40°15'25.6281"N	80°37'21.9123"W	1943.66	353.507	0.24	0.01	-0.32
4275.00	49.660	349.530	3476.83	-1955.86	1998.55	-232.37	1745655.17	14620654.20	40°15'26.2943"N	80°37'22.0708"W	2012.01	353.368	0.24	0.17	0.23
4366.00	49.490	348.840	3535.84	-2024.21	2066.59	-245.37	1745642.17	14620722.22	40°15'26.9672"N	80°37'22.2347"W	2081.11	353.229	0.61	-0.19	-0.76
4457.00	49.450	348.870	3594.98	-2092.51	2134.45	-258.74	1745628.81	14620790.05	40°15'27.6384"N	80°37'22.4034"W	2150.08	353.088	0.05	-0.04	0.03
4547.00	49.380	348.630	3653.53	-2160.03	2201.49	-272.08	1745615.48	14620857.06	40°15'28.3014"N	80°37'22.5717"W	2218.24	352.955	0.22	-0.08	-0.27
4638.00	49.700	349.580	3712.58	-2228.35	2269.48	-285.16	1745602.40	14620925.02	40°15'28.9738"N	80°37'22.7368"W	2287.32	352.838	0.87	0.35	1.04
4728.00	49.570	349.100	3770.87	-2295.98	2336.87	-297.85	1745589.72	14620992.39	40°15'29.6403"N	80°37'22.8967"W	2355.77	352.737	0.43	-0.14	-0.53
4819.00	49.390	348.680	3829.99	-2364.29	2404.75	-311.17	1745576.40	14621060.24	40°15'30.3116"N	80°37'23.0649"W	2424.80	352.627	0.40	-0.20	-0.46
4910.00	49.460	349.660	3889.19	-2432.48	2472.63	-324.16	1745563.41	14621128.10	40°15'30.9830"N	80°37'23.2287"W	2493.79	352.531	0.82	0.08	1.08
5000.00	49.570	349.710	3947.62	-2499.92	2539.98	-336.42	1745551.16	14621195.42	40°15'31.6490"N	80°37'23.3831"W	2562.16	352.455	0.13	0.12	0.06
5092.00	49.540	349.330	4007.30	-2568.93	2608.83	-349.15	1745538.43	14621264.24	40°15'32.3299"N	80°37'23.5436"W	2632.09	352.377	0.32	-0.03	-0.41
5183.00	49.500	349.490	4066.38	-2637.17	2676.86	-361.87	1745525.72	14621332.25	40°15'33.0027"N	80°37'23.7039"W	2701.21	352.301	0.14	-0.04	0.18

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Slot	Slot 10H		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
5273.00	49.470	349.460	4124.84	-2704.62	2744.13	-374.37	1745513.22	14621399.50	40°15'33.6680"N	80°37'23.8614"W	2769.55	352.231	0.04	-0.03	-0.03
5364.00	49.710	349.750	4183.83	-2772.90	2812.29	-386.87	1745500.73	14621467.62	40°15'34.3420"N	80°37'24.0190"W	2838.77	352.167	0.36	0.26	0.32
5452.00	49.370	348.570	4240.94	-2838.96	2878.05	-399.46	1745488.14	14621533.36	40°15'34.9924"N	80°37'24.1777"W	2905.64	352.098	1.09	-0.39	-1.34
5543.00	49.520	348.660	4300.11	-2907.28	2945.83	-413.11	1745474.50	14621601.11	40°15'35.6627"N	80°37'24.3501"W	2974.65	352.017	0.18	0.16	0.10
5635.00	49.450	348.610	4359.87	-2976.40	3014.40	-426.89	1745460.72	14621669.65	40°15'36.3409"N	80°37'24.5241"W	3044.47	351.939	0.09	-0.08	-0.05
5726.00	49.620	348.970	4418.93	-3044.78	3082.31	-440.35	1745447.27	14621737.54	40°15'37.0125"N	80°37'24.6940"W	3113.60	351.869	0.35	0.19	0.40
5816.00	49.430	349.260	4477.35	-3112.34	3149.54	-453.28	1745434.34	14621804.74	40°15'37.6774"N	80°37'24.8570"W	3181.99	351.810	0.32	-0.21	0.32
5907.00	49.040	349.190	4536.77	-3180.33	3217.25	-466.17	1745421.46	14621872.42	40°15'38.3470"N	80°37'25.0195"W	3250.84	351.755	0.43	-0.43	-0.08
5997.00	47.720	350.340	4596.55	-3246.59	3283.45	-478.13	1745409.51	14621938.60	40°15'39.0018"N	80°37'25.1702"W	3318.08	351.715	1.75	-1.47	1.28
6088.00	42.290	352.470	4660.87	-3309.61	3347.04	-487.80	1745399.84	14622002.17	40°15'39.6306"N	80°37'25.2914"W	3382.40	351.708	6.19	-5.97	2.34
6179.00	33.510	356.880	4732.62	-3363.61	3402.59	-493.19	1745394.45	14622057.70	40°15'40.1798"N	80°37'25.3579"W	3438.15	351.753	10.09	-9.65	4.85
6269.00	24.780	4.380	4811.17	-3404.60	3446.31	-493.10	1745394.54	14622101.40	40°15'40.6117"N	80°37'25.3544"W	3481.40	351.857	10.50	-9.70	8.33
6360.00	18.350	18.440	4895.82	-3433.18	3478.97	-487.10	1745400.54	14622134.04	40°15'40.9342"N	80°37'25.2752"W	3512.90	352.030	9.02	-7.07	15.45
6451.00	13.060	42.870	4983.48	-3449.05	3500.13	-475.56	1745412.08	14622155.20	40°15'41.1428"N	80°37'25.1251"W	3532.29	352.263	9.19	-5.81	26.85
6543.00	12.980	67.960	5073.19	-3454.10	3511.63	-458.89	1745428.74	14622166.70	40°15'41.2558"N	80°37'24.9096"W	3541.49	352.555	6.10	-0.09	27.27
6635.00	16.760	94.860	5162.19	-3448.80	3514.39	-436.06	1745451.56	14622169.45	40°15'41.2821"N	80°37'24.6150"W	3541.34	352.927	8.45	4.11	29.24
6725.00	23.470	118.290	5246.79	-3429.83	3504.77	-407.27	1745480.33	14622159.84	40°15'41.1858"N	80°37'24.2441"W	3528.36	353.372	11.52	7.46	26.03
6817.00	29.080	129.660	5329.30	-3396.73	3481.79	-373.88	1745513.71	14622136.86	40°15'40.9573"N	80°37'23.8147"W	3501.80	353.871	8.17	6.10	12.36
6908.00	36.220	134.110	5405.89	-3353.32	3448.91	-337.50	1745550.08	14622104.00	40°15'40.6309"N	80°37'23.3472"W	3465.39	354.411	8.27	7.85	4.89
6999.00	43.530	140.610	5475.71	-3299.40	3405.90	-298.24	1745589.33	14622061.01	40°15'40.2043"N	80°37'22.8432"W	3418.94	354.996	9.24	8.03	7.14
7090.00	51.490	143.880	5537.13	-3235.45	3352.83	-257.29	1745630.26	14622007.95	40°15'39.6781"N	80°37'22.3179"W	3362.69	355.612	9.14	8.75	3.59
7181.00	59.370	149.030	5588.75	-3162.60	3290.37	-216.08	1745671.46	14621945.52	40°15'39.0592"N	80°37'21.7897"W	3297.46	356.243	9.83	8.66	5.66
7271.00	66.720	150.910	5629.52	-3083.61	3220.95	-176.00	1745711.52	14621876.13	40°15'38.3715"N	80°37'21.2765"W	3225.75	356.872	8.38	8.17	2.09
7363.00	74.810	155.210	5659.82	-2997.43	3143.56	-136.76	1745750.75	14621798.77	40°15'37.6051"N	80°37'20.7746"W	3146.54	357.509	9.84	8.79	4.67
7455.00	80.290	154.990	5679.65	-2907.93	3062.11	-98.95	1745788.54	14621717.35	40°15'36.7986"N	80°37'20.2914"W	3063.71	358.149	5.96	5.96	-0.24
7548.00	88.000	155.180	5689.13	-2815.80	2978.27	-60.00	1745827.47	14621633.54	40°15'35.9684"N	80°37'19.7937"W	2978.87	358.846	8.29	8.29	0.20
7641.00	89.050	155.200	5691.52	-2723.13	2893.88	-20.99	1745866.47	14621549.18	40°15'35.1329"N	80°37'19.2951"W	2893.95	359.584	1.13	1.13	0.02
7734.00	89.750	154.400	5692.49	-2630.49	2809.74	18.60	1745906.05	14621465.07	40°15'34.2997"N	80°37'18.7891"W	2809.80	0.379	1.14	0.75	-0.86
7826.00	88.860	153.200	5693.61	-2539.01	2727.20	59.22	1745946.64	14621382.56	40°15'33.4824"N	80°37'18.2697"W	2727.84	1.244	1.62	-0.97	-1.30
7917.00	87.850	154.020	5696.22	-2448.58	2645.71	99.65	1745987.06	14621301.11	40°15'32.6755"N	80°37'17.7527"W	2647.59	2.157	1.43	-1.11	0.90

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# Actual Wellpath Report

Violet Coss BRK 10H AWP Proj: 20602'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
8009.00	87.880	155.140	5699.65	-2357.02	2562.68	139.11	1746026.51	14621218.11	40°15'31.8533"N	80°37'17.2483"W	2566.45	3.107	1.22	0.03	1.22
8100.00	88.150	156.510	5702.80	-2266.30	2479.71	176.35	1746063.74	14621135.18	40°15'31.0319"N	80°37'16.7725"W	2485.98	4.068	1.53	0.30	1.51
8191.00	89.720	157.070	5704.49	-2175.44	2396.10	212.21	1746099.58	14621051.59	40°15'30.2041"N	80°37'16.3146"W	2405.47	5.061	1.83	1.73	0.62
8284.00	89.820	156.100	5704.87	-2082.59	2310.76	249.17	1746136.52	14620966.29	40°15'29.3592"N	80°37'15.8426"W	2324.15	6.154	1.05	0.11	-1.04
8375.00	90.180	156.670	5704.87	-1991.75	2227.38	285.62	1746172.96	14620882.94	40°15'28.5337"N	80°37'15.3771"W	2245.61	7.307	0.74	0.40	0.63
8465.00	89.850	156.550	5704.84	-1901.89	2144.77	321.35	1746208.67	14620800.37	40°15'27.7159"N	80°37'14.9208"W	2168.71	8.521	0.39	-0.37	-0.13
8556.00	89.820	156.430	5705.10	-1811.05	2061.33	357.65	1746244.96	14620716.95	40°15'26.8898"N	80°37'14.4572"W	2092.12	9.843	0.14	-0.03	-0.13
8648.00	89.970	156.470	5705.27	-1719.20	1976.99	394.41	1746281.70	14620632.65	40°15'26.0549"N	80°37'13.9877"W	2015.95	11.282	0.17	0.16	0.04
8739.00	90.150	156.550	5705.18	-1628.35	1893.53	430.68	1746317.96	14620549.22	40°15'25.2286"N	80°37'13.5245"W	1941.89	12.814	0.22	0.20	0.09
8830.00	89.940	156.560	5705.11	-1537.50	1810.04	466.88	1746354.15	14620465.77	40°15'24.4021"N	80°37'13.0621"W	1869.29	14.464	0.23	-0.23	0.01
8922.00	88.980	156.350	5705.97	-1445.66	1725.71	503.63	1746390.89	14620381.47	40°15'23.5671"N	80°37'12.5928"W	1797.70	16.269	1.07	-1.04	-0.23
9012.00	89.450	155.990	5707.21	-1355.85	1643.39	539.99	1746427.23	14620299.18	40°15'22.7521"N	80°37'12.1284"W	1729.83	18.190	0.66	0.52	-0.40
9103.00	89.850	156.280	5707.76	-1265.04	1560.17	576.81	1746464.03	14620215.99	40°15'21.9282"N	80°37'11.6581"W	1663.38	20.290	0.54	0.44	0.32
9194.00	89.660	156.300	5708.15	-1174.21	1476.85	613.40	1746500.61	14620132.71	40°15'21.1033"N	80°37'11.1908"W	1599.17	22.555	0.21	-0.21	0.02
9285.00	89.350	157.170	5708.94	-1083.34	1393.26	649.34	1746536.54	14620049.14	40°15'20.2757"N	80°37'10.7319"W	1537.14	24.988	1.01	-0.34	0.96
9376.00	89.820	157.450	5709.60	-992.43	1309.30	684.44	1746571.63	14619965.22	40°15'19.4446"N	80°37'10.2838"W	1477.41	27.599	0.60	0.52	0.31
9468.00	89.880	157.590	5709.84	-900.51	1224.29	719.62	1746606.79	14619880.25	40°15'18.6031"N	80°37'9.8348"W	1420.12	30.446	0.17	0.07	0.15
9560.00	89.690	157.200	5710.18	-808.59	1139.36	754.98	1746642.14	14619795.35	40°15'17.7623"N	80°37'9.3834"W	1366.80	33.530	0.47	-0.21	-0.42
9652.00	90.220	157.280	5710.25	-716.68	1054.53	790.58	1746677.72	14619710.54	40°15'16.9225"N	80°37'8.9290"W	1317.97	36.859	0.58	0.58	0.09
9744.00	90.180	157.800	5709.93	-624.75	969.50	825.72	1746712.85	14619625.56	40°15'16.0808"N	80°37'8.4804"W	1273.48	40.421	0.57	-0.04	0.57
9835.00	89.630	157.370	5710.08	-533.82	885.38	860.42	1746747.54	14619541.47	40°15'15.2480"N	80°37'8.0376"W	1234.59	44.181	0.77	-0.60	-0.47
9927.00	89.450	157.380	5710.82	-441.91	800.46	895.81	1746782.91	14619456.58	40°15'14.4074"N	80°37'7.5858"W	1201.34	48.217	0.20	-0.20	0.01
10018.00	90.680	158.160	5710.72	-350.97	716.23	930.24	1746817.33	14619372.38	40°15'13.5736"N	80°37'7.1465"W	1174.02	52.406	1.60	1.35	0.86
10109.00	89.970	157.830	5710.20	-260.01	631.86	964.34	1746851.41	14619288.05	40°15'12.7384"N	80°37'6.7114"W	1152.91	56.766	0.86	-0.78	-0.36
10202.00	89.570	157.220	5710.58	-167.09	545.93	999.89	1746886.95	14619202.14	40°15'11.8877"N	80°37'6.2577"W	1139.21	61.366	0.78	-0.43	-0.66
10295.00	89.570	156.990	5711.27	-74.19	460.26	1036.07	1746923.11	14619116.51	40°15'11.0396"N	80°37'5.7958"W	1133.70	66.048	0.25	0.00	-0.25
10385.00	90.090	157.340	5711.54	15.71	377.31	1070.99	1746958.03	14619033.59	40°15'10.2184"N	80°37'5.3499"W	1135.51	70.593	0.70	0.58	0.39
10476.00	89.630	157.520	5711.76	106.63	293.28	1105.92	1746992.94	14618949.60	40°15'9.3866"N	80°37'4.9041"W	1144.15	75.148	0.54	-0.51	0.20
10566.00	89.680	156.880	5712.32	196.54	210.31	1140.80	1747027.80	14618866.66	40°15'8.5653"N	80°37'4.4590"W	1160.02	79.554	0.71	0.03	-0.71
10657.00	90.000	157.550	5712.59	287.44	126.42	1176.04	1747063.03	14618782.80	40°15'7.7347"N	80°37'4.0091"W	1182.81	83.865	0.83	0.37	0.74

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# Actual Wellpath Report

Violet Coss BRK 10H AWP Proj: 20602'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWP
Slot	Slot 10H		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
10749.00	89.350	156.930	5713.11	379.35	41.58	1211.63	1747098.61	14618698.00	40°15'6.8949"N	80°37'3.5548"W	1212.34	88.034	0.98	-0.71	-0.67
10841.00	89.720	157.110	5713.86	471.24	-43.11	1247.54	1747134.51	14618613.33	40°15'6.0564"N	80°37'3.0963"W	1248.29	91.979	0.45	0.40	0.20
10931.00	90.000	157.050	5714.08	561.14	-126.01	1282.59	1747169.55	14618530.47	40°15'5.2357"N	80°37'2.6489"W	1288.77	95.611	0.32	0.31	-0.07
11022.00	89.660	156.950	5714.35	652.03	-209.77	1318.15	1747205.09	14618446.74	40°15'4.4065"N	80°37'2.1950"W	1334.74	99.042	0.39	-0.37	-0.11
11114.00	89.720	157.060	5714.85	743.92	-294.46	1354.09	1747241.01	14618362.08	40°15'3.5681"N	80°37'1.7362"W	1385.74	102.269	0.14	0.07	0.12
11206.00	89.380	156.980	5715.57	835.80	-379.16	1390.01	1747276.92	14618277.42	40°15'2.7296"N	80°37'1.2777"W	1440.79	105.258	0.38	-0.37	-0.09
11296.00	89.820	156.950	5716.20	925.69	-461.98	1425.22	1747312.12	14618194.63	40°15'1.9097"N	80°37'0.8281"W	1498.23	107.960	0.49	0.49	-0.03
11388.00	90.000	157.230	5716.34	1017.59	-546.72	1461.04	1747347.92	14618109.92	40°15'1.0707"N	80°37'0.3710"W	1559.98	110.516	0.36	0.20	0.30
11480.00	89.540	157.270	5716.71	1109.50	-631.56	1496.61	1747383.48	14618025.11	40°15'0.2308"N	80°36'59.9169"W	1624.42	112.880	0.50	-0.50	0.04
11571.00	90.340	157.580	5716.81	1200.42	-715.59	1531.55	1747418.40	14617941.12	40°14'59.3990"N	80°36'59.4710"W	1690.48	115.044	0.94	0.88	0.34
11662.00	89.260	156.790	5717.13	1291.32	-799.47	1566.83	1747453.67	14617857.27	40°14'58.5686"N	80°36'59.0207"W	1759.01	117.033	1.47	-1.19	-0.87
11753.00	89.350	156.790	5718.23	1382.19	-883.10	1602.69	1747489.52	14617773.68	40°14'57.7407"N	80°36'58.5628"W	1829.89	118.855	0.10	0.10	0.00
11844.00	89.510	156.930	5719.13	1473.06	-966.77	1638.45	1747525.26	14617690.03	40°14'56.9123"N	80°36'58.1063"W	1902.41	120.543	0.23	0.18	0.15
11936.00	89.570	157.130	5719.87	1564.95	-1051.47	1674.35	1747561.15	14617605.36	40°14'56.0737"N	80°36'57.6481"W	1977.13	122.128	0.23	0.07	0.22
12028.00	89.450	156.930	5720.66	1656.84	-1136.18	1710.26	1747597.04	14617520.70	40°14'55.2352"N	80°36'57.1898"W	2053.26	123.597	0.25	-0.13	-0.22
12118.00	89.420	157.000	5721.55	1746.73	-1219.00	1745.47	1747632.24	14617437.91	40°14'54.4153"N	80°36'56.7403"W	2128.99	124.930	0.08	-0.03	0.08
12209.00	89.380	156.770	5722.50	1837.60	-1302.69	1781.19	1747667.95	14617354.25	40°14'53.5867"N	80°36'56.2843"W	2206.73	126.180	0.26	-0.04	-0.25
12300.00	89.420	156.960	5723.45	1928.48	-1386.36	1816.94	1747703.69	14617270.61	40°14'52.7583"N	80°36'55.8279"W	2285.45	127.344	0.21	0.04	0.21
12390.00	89.320	156.690	5724.44	2018.35	-1469.10	1852.36	1747739.09	14617187.91	40°14'51.9393"N	80°36'55.3758"W	2364.21	128.418	0.32	-0.11	-0.30
12481.00	89.290	156.800	5725.55	2109.22	-1552.70	1888.29	1747775.00	14617104.34	40°14'51.1116"N	80°36'54.9171"W	2444.69	129.430	0.13	-0.03	0.12
12573.00	89.350	156.840	5726.64	2201.09	-1637.26	1924.50	1747811.20	14617019.80	40°14'50.2744"N	80°36'54.4549"W	2526.72	130.389	0.08	0.07	0.04
12663.00	89.260	156.930	5727.73	2290.96	-1720.03	1959.83	1747846.51	14616937.07	40°14'49.4550"N	80°36'54.0039"W	2607.57	131.272	0.14	-0.10	0.10
12755.00	89.230	156.610	5728.94	2382.83	-1804.57	1996.11	1747882.78	14616852.57	40°14'48.6180"N	80°36'53.5407"W	2690.90	132.115	0.35	-0.03	-0.35
12846.00	89.320	156.660	5730.09	2473.68	-1888.10	2032.20	1747918.86	14616769.07	40°14'47.7911"N	80°36'53.0800"W	2773.94	132.895	0.11	0.10	0.05
12936.00	89.110	156.770	5731.33	2563.54	-1970.76	2067.77	1747954.42	14616686.44	40°14'46.9727"N	80°36'52.6259"W	2856.50	133.624	0.26	-0.23	0.12
13028.00	89.380	156.850	5732.54	2655.41	-2055.32	2104.00	1747990.63	14616601.91	40°14'46.1355"N	80°36'52.1635"W	2941.28	134.329	0.31	0.29	0.09
13118.00	89.260	156.920	5733.61	2745.29	-2138.09	2139.33	1748025.94	14616519.17	40°14'45.3161"N	80°36'51.7125"W	3024.59	134.983	0.15	-0.13	0.08
13210.00	89.290	156.870	5734.77	2837.16	-2222.70	2175.43	1748062.03	14616434.59	40°14'44.4784"N	80°36'51.2517"W	3110.12	135.616	0.06	0.03	-0.05
13303.00	89.350	156.910	5735.88	2930.03	-2308.23	2211.93	1748098.51	14616349.10	40°14'43.6317"N	80°36'50.7858"W	3196.96	136.221	0.08	0.06	0.04
13395.00	89.170	156.900	5737.06	3021.91	-2392.85	2248.01	1748134.58	14616264.51	40°14'42.7939"N	80°36'50.3252"W	3283.18	136.788	0.20	-0.20	-0.01

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# Actual Wellpath Report

Violet Coss BRK 10H AWP Proj: 20602'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
13485.00	89.420	156.800	5738.17	3111.78	-2475.60	2283.39	1748169.95	14616181.80	40°14'41.9747"N	80°36'49.8736"W	3367.86	137.313	0.30	0.28	-0.11
13576.00	89.820	156.930	5738.77	3202.66	-2559.28	2319.14	1748205.69	14616098.15	40°14'41.1463"N	80°36'49.4173"W	3453.74	137.818	0.46	0.44	0.14
13667.00	89.110	156.390	5739.62	3293.52	-2642.83	2355.19	1748241.73	14616014.63	40°14'40.3191"N	80°36'48.9571"W	3539.98	138.294	0.98	-0.78	-0.59
13757.00	88.990	156.800	5741.12	3383.37	-2725.41	2390.94	1748277.46	14615932.08	40°14'39.5015"N	80°36'48.5007"W	3625.53	138.740	0.47	-0.13	0.46
13849.00	89.230	157.000	5742.55	3475.24	-2810.02	2427.03	1748313.54	14615847.50	40°14'38.6638"N	80°36'48.0401"W	3713.05	139.183	0.34	0.26	0.22
13941.00	89.200	156.420	5743.81	3567.09	-2894.52	2463.40	1748349.89	14615763.04	40°14'37.8273"N	80°36'47.5758"W	3800.87	139.600	0.63	-0.03	-0.63
14032.00	89.110	157.470	5745.15	3657.97	-2978.24	2499.03	1748385.51	14615679.35	40°14'36.9984"N	80°36'47.1210"W	3887.81	140.000	1.16	-0.10	1.15
14123.00	89.260	157.690	5746.44	3748.89	-3062.35	2533.74	1748420.20	14615595.27	40°14'36.1657"N	80°36'46.6782"W	3974.65	140.396	0.29	0.16	0.24
14214.00	89.260	157.240	5747.62	3839.81	-3146.40	2568.61	1748455.06	14615511.26	40°14'35.3337"N	80°36'46.2333"W	4061.72	140.773	0.49	0.00	-0.49
14304.00	89.420	157.690	5748.65	3929.73	-3229.52	2603.10	1748489.54	14615428.17	40°14'34.5108"N	80°36'45.7932"W	4148.00	141.130	0.53	0.18	0.50
14395.00	89.020	157.860	5749.89	4020.66	-3313.75	2637.52	1748523.94	14615343.97	40°14'33.6770"N	80°36'45.3541"W	4235.26	141.483	0.48	-0.44	0.19
14486.00	89.080	157.540	5751.40	4111.59	-3397.93	2672.04	1748558.45	14615259.82	40°14'32.8436"N	80°36'44.9137"W	4322.70	141.819	0.36	0.07	-0.35
14576.00	89.420	157.710	5752.58	4201.52	-3481.15	2706.30	1748592.70	14615176.63	40°14'32.0198"N	80°36'44.4766"W	4409.36	142.138	0.42	0.38	0.19
14669.00	89.720	158.110	5753.28	4294.46	-3567.32	2741.27	1748627.66	14615090.50	40°14'31.1668"N	80°36'44.0305"W	4498.93	142.460	0.54	0.32	0.43
14760.00	89.140	157.680	5754.18	4385.41	-3651.63	2775.51	1748661.88	14615006.22	40°14'30.3322"N	80°36'43.5937"W	4586.71	142.762	0.79	-0.64	-0.47
14850.00	89.230	157.410	5755.46	4475.33	-3734.80	2809.89	1748696.24	14614923.09	40°14'29.5089"N	80°36'43.1551"W	4673.77	143.044	0.32	0.10	-0.30
14941.00	89.140	157.580	5756.76	4566.25	-3818.86	2844.72	1748731.06	14614839.06	40°14'28.6767"N	80°36'42.7108"W	4761.94	143.317	0.21	-0.10	0.19
15032.00	89.170	157.650	5758.10	4657.17	-3902.99	2879.37	1748765.70	14614754.96	40°14'27.8438"N	80°36'42.2687"W	4850.16	143.583	0.08	0.03	0.08
15122.00	89.320	157.760	5759.29	4747.10	-3986.26	2913.51	1748799.82	14614671.73	40°14'27.0195"N	80°36'41.8331"W	4937.48	143.837	0.21	0.17	0.12
15214.00	89.450	157.620	5760.27	4839.03	-4071.36	2948.43	1748834.73	14614586.65	40°14'26.1770"N	80°36'41.3876"W	5026.85	144.088	0.21	0.14	-0.15
15305.00	89.170	157.440	5761.37	4929.96	-4155.45	2983.21	1748869.50	14614502.60	40°14'25.3445"N	80°36'40.9439"W	5115.40	144.325	0.37	-0.31	-0.20
15396.00	89.140	157.390	5762.71	5020.87	-4239.46	3018.15	1748904.43	14614418.62	40°14'24.5128"N	80°36'40.4980"W	5204.06	144.552	0.06	-0.03	-0.05
15486.00	89.260	158.810	5763.97	5110.82	-4322.96	3051.72	1748937.98	14614335.16	40°14'23.6863"N	80°36'40.0700"W	5291.59	144.780	1.58	0.13	1.58
15577.00	89.200	160.520	5765.19	5201.80	-4408.27	3083.34	1748969.59	14614249.87	40°14'22.8418"N	80°36'39.6671"W	5379.58	145.029	1.88	-0.07	1.88
15668.00	89.660	162.780	5766.10	5292.75	-4494.64	3111.98	1748998.22	14614163.54	40°14'21.9872"N	80°36'39.3026"W	5466.83	145.302	2.53	0.51	2.48
15760.00	89.290	164.690	5766.94	5384.52	-4582.95	3137.75	1749023.98	14614075.27	40°14'21.1134"N	80°36'38.9753"W	5554.17	145.602	2.11	-0.40	2.08
15852.00	89.420	165.940	5767.97	5476.09	-4671.93	3161.07	1749047.29	14613986.32	40°14'20.2330"N	80°36'38.6797"W	5640.86	145.917	1.37	0.14	1.36
15943.00	89.450	166.890	5768.87	5566.48	-4760.38	3182.44	1749068.65	14613897.90	40°14'19.3581"N	80°36'38.4091"W	5726.18	146.236	1.04	0.03	1.04
16033.00	89.630	168.710	5769.59	5655.59	-4848.34	3201.46	1749087.66	14613809.97	40°14'18.4880"N	80°36'38.1688"W	5809.97	146.562	2.03	0.20	2.02
16125.00	89.450	169.840	5770.33	5746.33	-4938.73	3218.58	1749104.78	14613719.62	40°14'17.5941"N	80°36'37.9532"W	5894.94	146.908	1.24	-0.20	1.23

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
16215.00	89.540	171.530	5771.13	5834.71	-5027.54	3233.15	1749119.34	14613630.85	40°14'16.7159"N	80°36'37.7704"W	5977.40	147.255	1.88	0.10	1.88
16306.00	89.200	171.390	5772.13	5923.82	-5117.52	3246.66	1749132.84	14613540.90	40°14'15.8261"N	80°36'37.6013"W	6060.51	147.608	0.40	-0.37	-0.15
16397.00	89.380	171.370	5773.25	6012.97	-5207.49	3260.30	1749146.48	14613450.97	40°14'14.9365"N	80°36'37.4305"W	6143.90	147.950	0.20	0.20	-0.02
16489.00	89.200	171.400	5774.39	6103.08	-5298.44	3274.08	1749160.25	14613360.05	40°14'14.0371"N	80°36'37.2580"W	6228.41	148.287	0.20	-0.20	0.03
16581.00	89.380	171.530	5775.53	6193.18	-5389.42	3287.73	1749173.90	14613269.11	40°14'13.1375"N	80°36'37.0871"W	6313.08	148.615	0.24	0.20	0.14
16672.00	89.110	171.910	5776.73	6282.21	-5479.46	3300.83	1749187.00	14613179.10	40°14'12.2471"N	80°36'36.9232"W	6396.87	148.935	0.51	-0.30	0.42
16763.00	89.140	171.510	5778.12	6371.24	-5569.50	3313.95	1749200.11	14613089.10	40°14'11.3568"N	80°36'36.7592"W	6480.86	149.247	0.44	0.03	-0.44
16853.00	89.320	171.710	5779.33	6459.32	-5658.53	3327.08	1749213.24	14613000.10	40°14'10.4765"N	80°36'36.5949"W	6564.18	149.545	0.30	0.20	0.22
16944.00	89.080	171.520	5780.60	6548.39	-5748.55	3340.35	1749226.50	14612910.12	40°14'9.5864"N	80°36'36.4289"W	6648.59	149.840	0.34	-0.26	-0.21
17034.00	88.950	171.430	5782.15	6636.51	-5837.54	3353.69	1749239.84	14612821.16	40°14'8.7064"N	80°36'36.2619"W	6732.32	150.122	0.18	-0.14	-0.10
17125.00	89.050	171.500	5783.74	6725.62	-5927.52	3367.19	1749253.33	14612731.22	40°14'7.8166"N	80°36'36.0929"W	6817.14	150.401	0.13	0.11	0.08
17216.00	89.200	171.680	5785.13	6814.69	-6017.53	3380.50	1749266.64	14612641.24	40°14'6.9266"N	80°36'35.9264"W	6902.06	150.674	0.26	0.16	0.20
17306.00	89.200	171.300	5786.39	6902.81	-6106.53	3393.82	1749279.95	14612552.28	40°14'6.0465"N	80°36'35.7598"W	6986.25	150.936	0.42	0.00	-0.42
17397.00	88.890	171.550	5787.90	6991.93	-6196.50	3407.39	1749293.51	14612462.34	40°14'5.1569"N	80°36'35.5900"W	7071.55	151.194	0.44	-0.34	0.27
17488.00	89.200	171.440	5789.42	7081.03	-6286.48	3420.84	1749306.96	14612372.39	40°14'4.2670"N	80°36'35.4216"W	7156.96	151.447	0.36	0.34	-0.12
17579.00	88.950	171.690	5790.89	7170.11	-6376.49	3434.19	1749320.30	14612282.42	40°14'3.3771"N	80°36'35.2546"W	7242.46	151.694	0.39	-0.27	0.27
17670.00	88.800	170.290	5792.67	7259.36	-6466.35	3448.44	1749334.55	14612192.60	40°14'2.4885"N	80°36'35.0760"W	7328.39	151.929	1.55	-0.16	-1.54
17760.00	89.230	169.270	5794.22	7347.98	-6554.90	3464.40	1749350.51	14612104.08	40°14'1.6127"N	80°36'34.8751"W	7414.10	152.143	1.23	0.48	-1.13
17851.00	89.080	168.370	5795.56	7437.85	-6644.17	3482.05	1749368.14	14612014.85	40°14'0.7298"N	80°36'34.6527"W	7501.31	152.342	1.00	-0.16	-0.99
17942.00	89.140	167.030	5796.98	7527.97	-6733.06	3501.43	1749387.52	14611925.99	40°13'59.8505"N	80°36'34.4079"W	7589.08	152.524	1.47	0.07	-1.47
18033.00	89.260	165.740	5798.25	7618.36	-6821.50	3522.85	1749408.93	14611837.59	40°13'58.9757"N	80°36'34.1367"W	7677.45	152.687	1.42	0.13	-1.42
18126.00	89.140	163.960	5799.55	7710.99	-6911.25	3547.15	1749433.22	14611747.87	40°13'58.0877"N	80°36'33.8285"W	7768.38	152.831	1.92	-0.13	-1.91
18216.00	88.830	162.660	5801.14	7800.80	-6997.45	3572.99	1749459.05	14611661.71	40°13'57.2348"N	80°36'33.5002"W	7856.88	152.951	1.48	-0.34	-1.44
18307.00	89.320	160.930	5802.61	7891.73	-7083.88	3601.42	1749487.47	14611575.31	40°13'56.3795"N	80°36'33.1386"W	7946.79	153.051	1.98	0.54	-1.90
18399.00	89.380	159.460	5803.65	7983.72	-7170.43	3632.59	1749518.62	14611488.80	40°13'55.5229"N	80°36'32.7416"W	8038.08	153.133	1.60	0.07	-1.60
18489.00	88.950	158.150	5804.97	8073.69	-7254.33	3665.12	1749551.14	14611404.93	40°13'54.6924"N	80°36'32.3269"W	8127.63	153.196	1.53	-0.48	-1.46
18580.00	88.830	157.270	5806.73	8164.62	-7338.51	3699.63	1749585.64	14611320.78	40°13'53.8590"N	80°36'31.8868"W	8218.33	153.246	0.98	-0.13	-0.97
18670.00	88.430	155.520	5808.88	8254.43	-7420.95	3735.66	1749621.65	14611238.37	40°13'53.0427"N	80°36'31.4270"W	8308.17	153.280	1.99	-0.44	-1.94
18761.00	88.550	156.970	5811.28	8345.22	-7504.21	3772.30	1749658.28	14611155.14	40°13'52.2184"N	80°36'30.9593"W	8399.01	153.312	1.60	0.13	1.59
18852.00	88.460	157.750	5813.65	8436.10	-7588.17	3807.32	1749693.28	14611071.21	40°13'51.3872"N	80°36'30.5126"W	8489.76	153.355	0.86	-0.10	0.86

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# Actual Wellpath Report

Violet Coss BRK 10H AWP Proj: 20602'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (230 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
18942.00	88.520	158.130	5816.02	8526.03	-7671.55	3841.11	1749727.06	14610987.86	40°13'50.5618"N	80°36'30.0816"W	8579.44	153.403	0.43	0.07	0.42
19033.00	89.050	158.240	5817.95	8616.97	-7756.02	3874.92	1749760.86	14610903.43	40°13'49.7256"N	80°36'29.6506"W	8670.11	153.453	0.59	0.58	0.12
19124.00	89.080	158.440	5819.44	8707.93	-7840.58	3908.50	1749794.43	14610818.90	40°13'48.8885"N	80°36'29.2224"W	8760.77	153.504	0.22	0.03	0.22
19215.00	89.170	158.290	5820.83	8798.89	-7925.16	3942.05	1749827.96	14610734.36	40°13'48.0513"N	80°36'28.7947"W	8851.43	153.554	0.19	0.10	-0.16
19306.00	89.260	158.700	5822.08	8889.86	-8009.82	3975.40	1749861.30	14610649.73	40°13'47.2132"N	80°36'28.3694"W	8942.09	153.604	0.46	0.10	0.45
19396.00	89.350	158.390	5823.17	8979.83	-8093.57	4008.32	1749894.21	14610566.01	40°13'46.3841"N	80°36'27.9498"W	9031.75	153.653	0.36	0.10	-0.34
19487.00	89.080	158.450	5824.41	9070.79	-8178.19	4041.79	1749927.66	14610481.43	40°13'45.5465"N	80°36'27.5232"W	9122.43	153.701	0.30	-0.30	0.07
19579.00	89.260	158.340	5825.75	9162.76	-8263.71	4075.66	1749961.52	14610395.93	40°13'44.6999"N	80°36'27.0914"W	9214.12	153.748	0.23	0.20	-0.12
19669.00	88.950	158.640	5827.15	9252.72	-8347.44	4108.65	1749994.50	14610312.24	40°13'43.8711"N	80°36'26.6707"W	9303.80	153.793	0.48	-0.34	0.33
19761.00	89.080	158.670	5828.73	9344.69	-8433.11	4142.13	1750027.97	14610226.60	40°13'43.0230"N	80°36'26.2440"W	9395.46	153.841	0.15	0.14	0.03
19852.00	88.950	158.460	5830.30	9435.65	-8517.81	4175.38	1750061.21	14610141.94	40°13'42.1846"N	80°36'25.8201"W	9486.14	153.886	0.27	-0.14	-0.23
19942.00	88.980	158.130	5831.92	9525.61	-8601.41	4208.66	1750094.48	14610058.37	40°13'41.3570"N	80°36'25.3958"W	9575.86	153.928	0.37	0.03	-0.37
20033.00	89.110	158.670	5833.44	9616.57	-8686.01	4242.16	1750127.96	14609973.80	40°13'40.5196"N	80°36'24.9688"W	9666.57	153.970	0.61	0.14	0.59
20124.00	89.140	158.300	5834.83	9707.53	-8770.66	4275.53	1750161.31	14609889.19	40°13'39.6816"N	80°36'24.5435"W	9757.28	154.012	0.41	0.03	-0.41
20214.00	89.020	158.280	5836.28	9797.49	-8854.26	4308.82	1750194.59	14609805.61	40°13'38.8540"N	80°36'24.1191"W	9847.02	154.051	0.14	-0.13	-0.02
20305.00	89.020	158.530	5837.83	9888.45	-8938.86	4342.30	1750228.06	14609721.05	40°13'38.0165"N	80°36'23.6922"W	9937.75	154.091	0.27	0.00	0.27
20396.00	88.980	158.250	5839.42	9979.41	-9023.45	4375.81	1750261.56	14609636.49	40°13'37.1791"N	80°36'23.2650"W	10028.48	154.130	0.31	-0.04	-0.31
20487.00	89.290	158.410	5840.79	10070.37	-9108.01	4409.41	1750295.14	14609551.96	40°13'36.3421"N	80°36'22.8367"W	10119.23	154.167	0.38	0.34	0.18
20577.00	88.890	158.260	5842.22	10160.33	-9191.64	4442.63	1750328.35	14609468.36	40°13'35.5142"N	80°36'22.4132"W	10208.98	154.204	0.47	-0.44	-0.17
20602.00‡	88.890	158.260	5842.71	10185.31	-9214.86	4451.89	1750337.61	14609445.16	40°13'35.2843"N	80°36'22.2951"W	10233.91	154.214	0.00	0.00	0.00

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Violet Coss BRK 10H
Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

HOLE & CASING SECTIONS - Ref Wellbore: Violet Coss BRK 10H AWB      Ref Wellpath: Violet Coss BRK 10H AWP Proj: 20602'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	26.00	100.00	74.00	26.00	100.00	0.00	0.00	-0.23	0.07
17.5in Open Hole	100.00	385.00	285.00	100.00	384.99	-0.23	0.07	-2.27	-0.02
13.375in Casing Surface	26.00	385.00	359.00	26.00	384.99	0.00	0.00	-2.27	-0.02
12.25in Open Hole	385.00	1652.00	1267.00	384.99	1624.45	-2.27	-0.02	214.16	60.53
9.625in Casing Intermediate	26.00	1630.00	1604.00	26.00	1603.67	0.00	0.00	206.98	59.73
8.5in Open Hole	1652.00	20602.00	18950.00	1624.45	5842.71	214.16	60.53	-9214.86	4451.89
5.5in Casing Production	26.00	20602.00	20576.00	26.00	5842.71	0.00	0.00	-9214.86	4451.89

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Violet Coss BRK 10H LP Rev-6	5683.00	3000.77	-60.12	1745827.35	14621656.03	40°15'36.1908"N	80°37'19.7940"W	point
Violet Coss BRK 10H BHL Rev-5	5819.97	-9219.56	4441.23	1750326.95	14609440.46	40°13'35.2384"N	80°36'22.4329"W	point

WELLPATH COMPOSITION - Ref Wellbore: Violet Coss BRK 10H AWB      Ref Wellpath: Violet Coss BRK 10H AWP Proj: 20602'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	346.00	OWSG MWD rev2 + HRGM	01 Premier/Sperry MWD <17 1/2"> (142'-346')	Violet Coss BRK 10H AWB	12/14/2020
346.00	1551.00	OWSG MWD rev2 + HRGM	02 Premier/Sperry MWD <12-1/4"> (417'-1551')	Violet Coss BRK 10H AWB	12/14/2020
1551.00	20602.00	BH AutoTrak Curve (2019) (Short spacing)	03 BH AT Curve <8-1/2"> (1681'-20577')	Violet Coss BRK 10H AWB	12/14/2020

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Field	Brooke	API/Legal	
Facility	Violet Coss BRK Pad	Wellbore	Violet Coss BRK 10H AWB
Slot	Slot 10H		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-009-00301-0000            BH Job #: 110662048            Rig: SDC 40            Duration: 12/15/2020 - 12/20/2020</p>

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