

SWN PRODUCTION COMPANY, LLC

Location: Brooke County, WV
 Field: Brooke
 Facility: Robert Bone BRK Pad

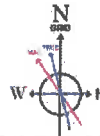
Slot: Slot 5H
 Well: Robert Bone BRK 5H
 Wellbore: Robert Bone BRK 5H PWB

Location Information

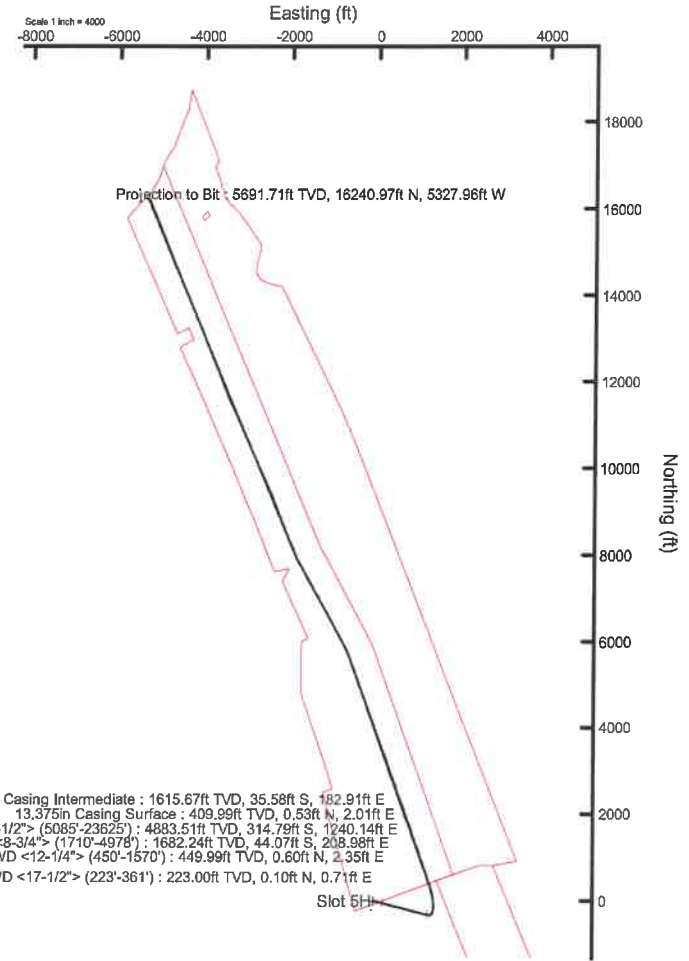
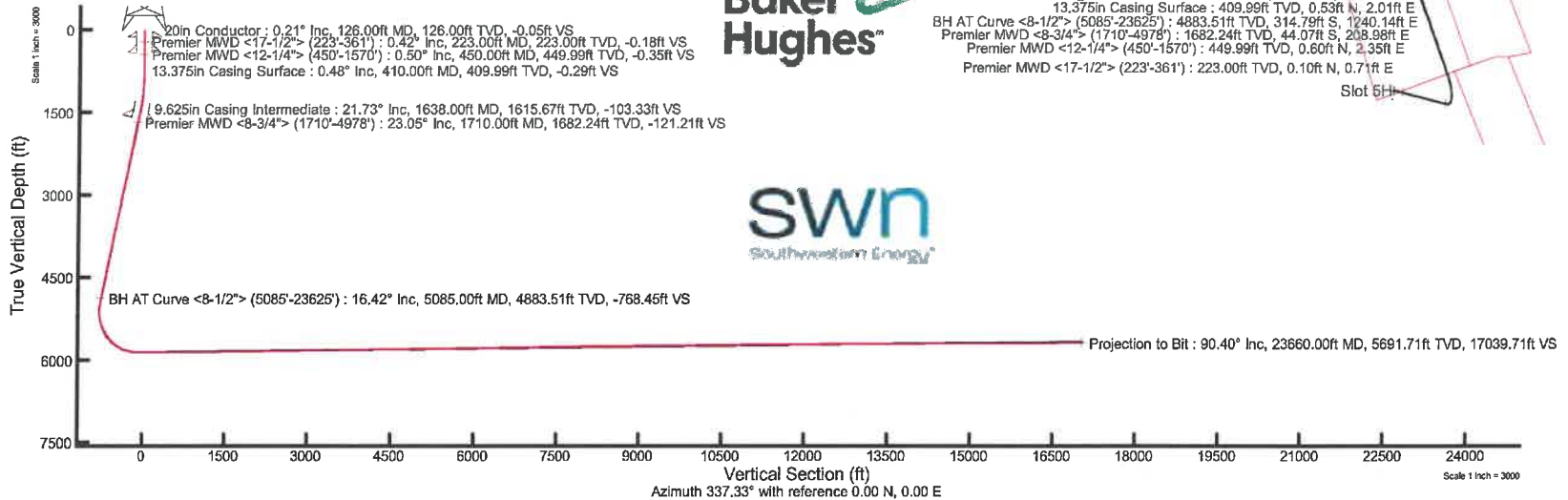
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Robert Bone BRK Pad		1751384.200	14606698.310	40°13'8.0838"N	80°36'8.9557"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 5H	26.12	49.26	1751433.440	14606724.420	40°13'8.3397"N	80°36'8.3192"W
SDC 40 (RKB) to Ground level (At Slot: Slot 5H)				26ft		
Mean Sea Level to Ground level (At Slot: Slot 5H)				-1148.5ft		
SDC 40 (RKB) to Mean Sea Level				1174.5ft		

Plot reference wellpath is Robert Bone BRK 5H PWB Rev-A.1	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 40 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to SDC 40 (RKB)	Scale: True distance
SDC 40 (RKB) to Mean Sea Level: 1174.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot 5H): -1148.5 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajohj on 2021-08-17; Database: WA_MPL_EASTERNUS_Defn

API: 47-009-00286
 BH Job#: 110934652
 Rig: SDC 40
 Duration: 07/26/2021-08/04/2021



User specified Dip: 67.33° Field: 52283 nT
 Magnetic North is 9.25 degrees West of True North (at 7/23/2021)
 Grid North is 0.26 degrees East of True North
 To correct azimuth from True to Grid subtract 0.26 degrees
 To correct azimuth from Magnetic to Grid subtract 6.51 degrees



REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Manajohj
Scale	0.999614	Report Generated	8/17/2021 at 3:14:41 PM
Convergence at slot	0.26° 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	26.12	49.26	1751433.44	14606724.42	40°13'8.3397"N	80°36'8.3192"W
Facility Reference Pt			1751384.20	14606698.31	40°13'8.0838"N	80°36'8.9557"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 (RKB) to Facility Vertical Datum	1174.50ft
Horizontal Reference Pt	Slot	SDC 40 (RKB) to Mean Sea Level	1174.50ft
Vertical Reference Pt	SDC 40 (RKB)	SDC 40 (RKB) to Ground Level at Slot (Slot 5H)	26.00ft
MD Reference Pt	SDC 40 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	337.33°

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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	81.740	0.00	0.00	0.00	0.00	1751433.44	14606724.42	40°13'8.3397"N	80°36'8.3192"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	81.740	26.00	0.00	0.00	0.00	1751433.44	14606724.42	40°13'8.3397"N	80°36'8.3192"W	0.00	0.000	0.00	0.00	0.00
223.00	0.420	81.740	223.00	-0.18	0.10	0.71	1751434.15	14606724.52	40°13'8.3407"N	80°36'8.3100"W	0.72	81.740	0.21	0.21	0.00
313.00	0.380	59.970	313.00	-0.22	0.30	1.30	1751434.74	14606724.72	40°13'8.3426"N	80°36'8.3025"W	1.33	76.979	0.17	-0.04	-24.19
361.00	0.460	74.930	360.99	-0.23	0.43	1.62	1751435.06	14606724.85	40°13'8.3439"N	80°36'8.2983"W	1.68	75.155	0.28	0.17	31.17
450.00	0.500	78.830	449.99	-0.35	0.60	2.35	1751435.79	14606725.02	40°13'8.3455"N	80°36'8.2889"W	2.42	75.710	0.06	0.04	4.38
510.00	0.600	85.300	509.99	-0.50	0.67	2.92	1751436.36	14606725.09	40°13'8.3462"N	80°36'8.2816"W	3.00	76.984	0.20	0.17	10.78
609.00	1.150	89.720	608.98	-1.04	0.72	4.43	1751437.87	14606725.14	40°13'8.3466"N	80°36'8.2621"W	4.49	80.740	0.56	0.56	4.46
705.00	2.340	90.930	704.93	-2.19	0.70	7.35	1751440.79	14606725.11	40°13'8.3462"N	80°36'8.2244"W	7.38	84.600	1.24	1.24	1.26
801.00	4.130	94.530	800.77	-4.56	0.39	12.76	1751446.19	14606724.81	40°13'8.3430"N	80°36'8.1548"W	12.76	88.248	1.88	1.86	3.75
897.00	5.940	95.600	896.40	-8.49	-0.37	21.15	1751454.58	14606724.05	40°13'8.3351"N	80°36'8.0466"W	21.15	90.996	1.89	1.89	1.11
993.00	7.280	96.060	991.76	-13.77	-1.49	32.14	1751465.57	14606722.93	40°13'8.3235"N	80°36'7.9050"W	32.18	92.662	1.40	1.40	0.48
1089.00	8.570	93.400	1086.84	-19.83	-2.56	45.33	1751478.75	14606721.86	40°13'8.3124"N	80°36'7.7350"W	45.40	93.233	1.40	1.34	-2.77
1185.00	10.730	94.450	1181.48	-27.05	-3.68	61.38	1751494.80	14606720.74	40°13'8.3006"N	80°36'7.5282"W	61.49	93.430	2.26	2.25	1.09
1282.00	12.430	96.430	1276.50	-36.25	-5.55	80.76	1751514.17	14606718.87	40°13'8.2813"N	80°36'7.2785"W	80.95	93.930	1.80	1.75	2.04
1378.00	15.190	102.080	1369.72	-48.44	-9.34	103.33	1751536.73	14606715.09	40°13'8.2428"N	80°36'6.9878"W	103.75	95.164	3.20	2.87	5.89
1474.00	18.200	107.420	1461.67	-65.27	-16.46	129.94	1751563.33	14606707.97	40°13'8.1713"N	80°36'6.6451"W	130.98	97.220	3.52	3.14	5.56
1570.00	20.520	111.420	1552.24	-86.64	-27.10	159.92	1751593.29	14606697.33	40°13'8.0649"N	80°36'6.2594"W	162.19	99.617	2.78	2.42	4.17
1710.00	23.050	107.000	1682.24	-121.21	-44.07	208.98	1751642.34	14606680.36	40°13'7.8949"N	80°36'5.6279"W	213.58	101.909	2.15	1.81	-3.16
1807.00	21.730	104.510	1771.92	-144.19	-54.13	244.52	1751677.87	14606670.32	40°13'7.7940"N	80°36'5.1703"W	250.44	102.481	1.68	-1.36	-2.57
1903.00	18.610	107.370	1862.03	-164.79	-63.15	276.36	1751709.69	14606661.29	40°13'7.7034"N	80°36'4.7604"W	283.48	102.872	3.41	-3.25	2.98
1999.00	16.980	103.270	1953.44	-182.87	-70.95	304.62	1751737.95	14606653.50	40°13'7.6251"N	80°36'4.3965"W	312.78	103.110	2.14	-1.70	-4.27
2095.00	17.510	100.090	2045.12	-198.92	-76.69	332.49	1751765.80	14606647.76	40°13'7.5671"N	80°36'4.0377"W	341.22	102.989	1.13	0.55	-3.31
2191.00	17.040	104.670	2136.80	-215.26	-82.79	360.31	1751793.61	14606641.67	40°13'7.5056"N	80°36'3.6793"W	369.70	102.940	1.50	-0.49	4.77
2287.00	17.240	103.210	2228.53	-232.13	-89.60	387.77	1751821.06	14606634.86	40°13'7.4371"N	80°36'3.3258"W	397.99	103.011	0.49	0.21	-1.52
2384.00	16.810	109.320	2321.29	-249.94	-97.52	415.00	1751848.28	14606626.93	40°13'7.3576"N	80°36'2.9752"W	426.31	103.224	1.90	-0.44	6.30
2480.00	16.710	106.990	2413.21	-268.04	-106.15	441.30	1751874.57	14606618.31	40°13'7.2712"N	80°36'2.6367"W	453.89	103.525	0.71	-0.10	-2.43
2576.00	16.830	103.970	2505.13	-285.14	-113.54	467.99	1751901.25	14606610.93	40°13'7.1970"N	80°36'2.2931"W	481.56	103.637	0.92	0.12	-3.15
2672.00	18.680	108.730	2596.56	-303.60	-121.83	496.04	1751929.29	14606602.64	40°13'7.1138"N	80°36'1.9320"W	510.78	103.799	2.45	1.93	4.96
2767.00	19.080	105.510	2686.45	-323.26	-130.87	525.41	1751958.64	14606593.60	40°13'7.0231"N	80°36'1.5539"W	541.46	103.987	1.17	0.42	-3.39

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Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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]
2863.00	19.410	102.010	2777.09	-342.04	-138.38	556.13	1751989.36	14606586.09	40°13'6.9475"N	80°36'1.1583"W	573.09	103.973	1.25	0.34	-3.65
2959.00	18.280	106.370	2867.95	-360.60	-145.95	586.18	1752019.39	14606578.53	40°13'6.8714"N	80°36'0.7714"W	604.08	103.981	1.88	-1.18	4.54
3055.00	18.680	104.110	2959.00	-379.29	-153.94	615.54	1752048.74	14606570.54	40°13'6.7912"N	80°36'0.3934"W	634.49	104.041	0.85	0.42	-2.35
3151.00	18.000	108.170	3050.12	-398.19	-162.31	644.54	1752077.73	14606562.17	40°13'6.7071"N	80°36'0.0200"W	664.66	104.135	1.51	-0.71	4.23
3247.00	18.050	105.720	3141.41	-417.13	-170.97	672.95	1752106.13	14606553.52	40°13'6.6203"N	80°35'59.6543"W	694.33	104.255	0.79	0.05	-2.55
3344.00	17.510	100.250	3233.79	-434.39	-177.64	701.78	1752134.95	14606546.85	40°13'6.5531"N	80°35'59.2831"W	723.91	104.205	1.81	-0.56	-5.64
3440.00	18.770	101.050	3325.01	-450.82	-183.17	731.15	1752164.31	14606541.32	40°13'6.4972"N	80°35'58.9048"W	753.74	104.064	1.34	1.31	0.83
3536.00	18.480	105.510	3415.99	-468.80	-190.20	760.97	1752194.12	14606534.30	40°13'6.4264"N	80°35'58.5208"W	784.38	104.033	1.51	-0.30	4.65
3632.00	17.850	107.210	3507.21	-487.64	-198.62	789.69	1752222.82	14606525.88	40°13'6.3419"N	80°35'58.1511"W	814.28	104.118	0.86	-0.66	1.77
3728.00	18.630	107.670	3598.38	-507.00	-207.63	818.35	1752251.47	14606516.88	40°13'6.2516"N	80°35'57.7821"W	844.28	104.236	0.83	0.81	0.48
3825.00	19.360	109.210	3690.10	-527.76	-217.62	848.30	1752281.41	14606506.89	40°13'6.1515"N	80°35'57.3967"W	875.77	104.388	0.91	0.75	1.59
3921.00	18.320	104.160	3780.96	-547.43	-226.55	877.96	1752311.06	14606497.96	40°13'6.0620"N	80°35'57.0149"W	906.71	104.469	2.01	-1.08	-5.26
4017.00	18.030	103.190	3872.17	-565.17	-233.63	907.05	1752340.14	14606490.88	40°13'5.9907"N	80°35'56.6403"W	936.65	104.444	0.44	-0.30	-1.01
4113.00	18.770	104.320	3963.26	-583.17	-240.84	936.48	1752369.56	14606483.68	40°13'5.9181"N	80°35'56.2613"W	966.95	104.422	0.86	0.77	1.18
4209.00	20.100	102.740	4053.79	-602.02	-248.30	967.54	1752400.60	14606476.22	40°13'5.8430"N	80°35'55.8614"W	998.89	104.393	1.49	1.39	-1.65
4305.00	19.620	105.610	4144.08	-621.57	-256.27	999.15	1752432.20	14606468.25	40°13'5.7628"N	80°35'55.4544"W	1031.49	104.386	1.13	-0.50	2.99
4401.00	18.820	100.510	4234.74	-640.03	-263.43	1029.90	1752462.94	14606461.09	40°13'5.6907"N	80°35'55.0584"W	1063.06	104.348	1.94	-0.83	-5.31
4497.00	17.650	104.480	4325.92	-657.29	-269.90	1059.22	1752492.25	14606454.63	40°13'5.6255"N	80°35'54.6808"W	1093.06	104.295	1.78	-1.22	4.14
4594.00	18.180	105.410	4418.22	-675.51	-277.59	1088.05	1752521.06	14606446.93	40°13'5.5481"N	80°35'54.3097"W	1122.90	104.313	0.62	0.55	0.96
4690.00	19.590	106.220	4509.05	-694.85	-286.07	1117.94	1752550.94	14606438.46	40°13'5.4630"N	80°35'53.9249"W	1153.96	104.353	1.49	1.47	0.84
4786.00	19.290	101.210	4599.58	-713.79	-293.65	1148.95	1752581.94	14606430.89	40°13'5.3868"N	80°35'53.5256"W	1185.88	104.337	1.76	-0.31	-5.22
4882.00	18.740	105.440	4690.35	-732.15	-300.84	1179.37	1752612.35	14606423.70	40°13'5.3144"N	80°35'53.1338"W	1217.13	104.310	1.55	-0.57	4.41
4978.00	18.280	101.130	4781.38	-750.04	-307.85	1209.01	1752641.98	14606416.69	40°13'5.2437"N	80°35'52.7522"W	1247.59	104.286	1.50	-0.48	-4.49
5085.00	16.420	104.180	4883.51	-768.45	-314.79	1240.14	1752673.10	14606409.75	40°13'5.1737"N	80°35'52.3513"W	1279.47	104.243	1.93	-1.74	2.85
5181.00	17.360	103.830	4975.37	-785.11	-321.54	1267.20	1752700.15	14606403.00	40°13'5.1058"N	80°35'52.0028"W	1307.36	104.238	0.98	0.98	-0.36
5278.00	18.790	85.410	5067.66	-798.57	-323.75	1296.85	1752729.79	14606400.79	40°13'5.0827"N	80°35'51.6208"W	1336.65	104.017	6.05	1.47	-18.99
5374.00	18.680	58.600	5158.74	-801.04	-314.49	1325.44	1752758.36	14606410.05	40°13'5.1729"N	80°35'51.2517"W	1362.23	103.348	8.90	-0.11	-27.93
5470.00	18.850	36.420	5249.75	-790.73	-293.97	1347.79	1752780.71	14606430.56	40°13'5.3746"N	80°35'50.9623"W	1379.48	102.304	7.39	0.18	-23.10
5566.00	22.810	22.240	5339.52	-769.56	-264.24	1364.06	1752796.97	14606460.28	40°13'5.6677"N	80°35'50.7509"W	1389.42	100.963	6.65	4.13	-14.77
5662.00	28.060	9.160	5426.25	-737.15	-224.66	1374.71	1752807.62	14606499.84	40°13'6.0583"N	80°35'50.6113"W	1392.95	99.282	7.98	5.47	-13.63

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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]
5758.00	33.180	3.530	5508.86	-694.36	-176.11	1379.93	1752812.84	14606548.38	40°13'6.5379"N	80°35'50.5412"W	1391.12	97.273	6.11	5.33	-5.86
5854.00	39.090	358.930	5586.37	-642.60	-119.57	1380.98	1752813.89	14606604.90	40°13'7.0966"N	80°35'50.5243"W	1386.15	94.949	6.77	6.16	-4.79
5950.00	45.900	356.130	5657.12	-581.75	-54.84	1378.09	1752810.99	14606669.60	40°13'7.7364"N	80°35'50.5578"W	1379.18	92.279	7.36	7.09	-2.92
6046.00	51.210	354.480	5720.64	-513.31	16.85	1372.16	1752805.07	14606741.26	40°13'8.4450"N	80°35'50.6301"W	1372.26	89.297	5.68	5.53	-1.72
6142.00	60.730	351.840	5774.31	-436.84	95.73	1362.59	1752795.51	14606820.11	40°13'9.2249"N	80°35'50.7488"W	1365.95	85.981	10.17	9.92	-2.75
6238.00	70.230	347.320	5814.12	-351.59	181.48	1346.69	1752779.61	14606905.83	40°13'10.0730"N	80°35'50.9487"W	1358.86	82.325	10.78	9.90	-4.71
6334.00	76.200	342.370	5841.85	-260.54	270.10	1322.62	1752755.55	14606994.42	40°13'10.9499"N	80°35'51.2538"W	1349.92	78.458	7.94	6.22	-5.16
6430.00	84.020	342.230	5858.32	-166.39	360.13	1293.89	1752726.83	14607084.41	40°13'11.8408"N	80°35'51.6189"W	1343.07	74.447	8.15	8.15	-0.15
6526.00	90.000	339.960	5863.33	-70.78	450.78	1262.84	1752695.79	14607175.02	40°13'12.7380"N	80°35'52.0139"W	1340.88	70.356	6.66	6.23	-2.36
6622.00	90.550	340.710	5862.87	25.09	541.18	1230.54	1752663.50	14607265.39	40°13'13.6327"N	80°35'52.4251"W	1344.28	66.261	0.97	0.57	0.78
6718.00	89.200	340.820	5863.08	120.91	631.81	1198.91	1752631.88	14607355.99	40°13'14.5298"N	80°35'52.8275"W	1355.20	62.211	1.41	-1.41	0.11
6814.00	89.480	341.040	5864.18	216.72	722.54	1167.55	1752600.53	14607446.68	40°13'15.4277"N	80°35'53.2265"W	1373.04	58.249	0.37	0.29	0.23
6910.00	89.780	340.530	5864.80	312.54	813.19	1135.95	1752568.95	14607537.29	40°13'16.3249"N	80°35'53.6285"W	1397.02	54.402	0.62	0.31	-0.53
7006.00	89.380	340.450	5865.51	408.39	903.67	1103.89	1752536.90	14607627.74	40°13'17.2205"N	80°35'54.0365"W	1426.61	50.695	0.42	-0.42	-0.08
7102.00	91.320	341.040	5864.92	504.21	994.30	1072.24	1752505.26	14607718.33	40°13'18.1175"N	80°35'54.4393"W	1462.30	47.160	2.11	2.02	0.61
7199.00	90.460	339.550	5863.41	601.07	1085.60	1039.53	1752472.57	14607809.60	40°13'19.0212"N	80°35'54.8555"W	1503.05	43.758	1.77	-0.89	-1.54
7295.00	90.650	341.140	5862.48	696.93	1176.00	1007.25	1752440.30	14607899.97	40°13'19.9160"N	80°35'55.2665"W	1548.40	40.580	1.67	0.20	1.66
7391.00	90.460	340.510	5861.55	792.75	1266.67	975.72	1752408.78	14607990.60	40°13'20.8133"N	80°35'55.6677"W	1598.90	37.607	0.69	-0.20	-0.66
7487.00	90.860	341.050	5860.45	888.56	1357.31	944.12	1752377.19	14608081.21	40°13'21.7105"N	80°35'56.0698"W	1653.38	34.822	0.70	0.42	0.56
7583.00	90.800	341.060	5859.06	984.35	1448.10	912.95	1752346.04	14608171.96	40°13'22.6090"N	80°35'56.4662"W	1711.87	32.229	0.06	-0.06	0.01
7679.00	90.860	340.740	5857.67	1080.16	1538.81	881.54	1752314.64	14608262.63	40°13'23.5068"N	80°35'56.8659"W	1773.43	29.807	0.34	0.06	-0.33
7774.00	90.950	340.780	5856.17	1174.97	1628.49	850.24	1752283.35	14608352.28	40°13'24.3944"N	80°35'57.2642"W	1837.09	27.569	0.10	0.09	0.04
7870.00	89.750	340.820	5855.58	1270.79	1719.15	818.67	1752251.79	14608442.90	40°13'25.2917"N	80°35'57.6659"W	1904.13	25.464	1.25	-1.25	0.04
7967.00	90.310	340.970	5855.53	1367.61	1810.81	786.92	1752220.06	14608534.52	40°13'26.1988"N	80°35'58.0698"W	1974.40	23.488	0.60	0.58	0.15
8063.00	90.520	341.080	5854.83	1463.40	1901.59	755.71	1752188.86	14608625.27	40°13'27.0973"N	80°35'58.4669"W	2046.25	21.673	0.25	0.22	0.11
8159.00	91.260	341.810	5853.34	1559.14	1992.59	725.16	1752158.32	14608716.23	40°13'27.9979"N	80°35'58.8554"W	2120.44	19.998	1.08	0.77	0.76
8255.00	91.260	341.040	5851.23	1654.87	2083.56	694.59	1752127.76	14608807.17	40°13'28.8983"N	80°35'59.2443"W	2196.29	18.437	0.80	0.00	-0.80
8351.00	90.400	339.440	5849.84	1750.74	2173.90	662.14	1752095.32	14608897.47	40°13'29.7924"N	80°35'59.6574"W	2272.50	16.940	1.89	-0.90	-1.67
8447.00	90.400	340.210	5849.17	1846.64	2264.00	629.03	1752062.23	14608987.54	40°13'30.6843"N	80°36'0.0790"W	2349.76	15.527	0.80	0.00	0.80
8543.00	90.620	339.860	5848.32	1942.53	2354.23	596.26	1752029.46	14609077.74	40°13'31.5773"N	80°36'0.4963"W	2428.56	14.212	0.43	0.23	-0.36

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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]
8640.00	90.620	340.080	5847.27	2039.42	2445.36	563.03	1751996.26	14609168.83	40°13'32.4793"N	80°36'0.9193"W	2509.34	12.966	0.23	0.00	0.23
8736.00	91.230	340.050	5845.72	2135.30	2535.59	530.31	1751963.54	14609259.03	40°13'33.3725"N	80°36'1.3360"W	2590.45	11.813	0.64	0.64	-0.03
8832.00	91.140	340.600	5843.73	2231.15	2625.97	497.99	1751931.24	14609349.37	40°13'34.2670"N	80°36'1.7473"W	2672.77	10.738	0.58	-0.09	0.57
8928.00	92.280	341.120	5840.87	2326.92	2716.62	466.53	1751899.79	14609439.98	40°13'35.1642"N	80°36'2.1477"W	2756.39	9.744	1.31	1.19	0.54
9024.00	89.570	338.160	5839.32	2422.81	2806.59	433.14	1751866.41	14609529.92	40°13'36.0548"N	80°36'2.5729"W	2839.82	8.773	4.18	-2.82	-3.08
9120.00	90.460	340.010	5839.29	2518.76	2896.26	398.87	1751832.16	14609619.56	40°13'36.9424"N	80°36'3.0095"W	2923.60	7.841	2.14	0.93	1.93
9217.00	90.710	340.270	5838.30	2615.64	2987.49	365.92	1751799.22	14609710.75	40°13'37.8453"N	80°36'3.4290"W	3009.81	6.983	0.37	0.26	0.27
9313.00	90.740	340.440	5837.09	2711.50	3077.89	333.65	1751766.96	14609801.12	40°13'38.7401"N	80°36'3.8399"W	3095.92	6.187	0.18	0.03	0.18
9409.00	90.650	340.160	5835.92	2807.36	3168.27	301.29	1751734.61	14609891.46	40°13'39.6346"N	80°36'4.2518"W	3182.56	5.432	0.31	-0.09	-0.29
9505.00	92.250	341.780	5833.49	2903.13	3258.98	270.00	1751703.33	14609982.14	40°13'40.5325"N	80°36'4.6500"W	3270.15	4.736	2.37	1.67	1.69
9601.00	90.650	339.190	5831.06	2998.94	3349.43	237.94	1751671.29	14610072.55	40°13'41.4277"N	80°36'5.0580"W	3357.87	4.063	3.17	-1.67	-2.70
9697.00	90.770	339.530	5829.87	3094.88	3439.26	204.11	1751637.47	14610162.35	40°13'42.3169"N	80°36'5.4890"W	3445.31	3.396	0.38	0.12	0.35
9793.00	90.800	339.930	5828.56	3190.78	3529.31	170.85	1751604.22	14610252.36	40°13'43.2082"N	80°36'5.9126"W	3533.44	2.771	0.42	0.03	0.42
9889.00	90.710	339.830	5827.29	3286.68	3619.44	137.83	1751571.22	14610342.46	40°13'44.1003"N	80°36'6.3331"W	3622.06	2.181	0.14	-0.09	-0.10
9985.00	90.950	340.010	5825.90	3382.57	3709.60	104.87	1751538.27	14610432.58	40°13'44.9927"N	80°36'6.7527"W	3711.08	1.619	0.31	0.25	0.19
10081.00	90.710	339.830	5824.51	3478.46	3799.75	71.92	1751505.33	14610522.70	40°13'45.8850"N	80°36'7.1724"W	3800.43	1.084	0.31	-0.25	-0.19
10178.00	90.980	339.860	5823.08	3575.36	3890.80	38.50	1751471.92	14610613.71	40°13'46.7863"N	80°36'7.5980"W	3890.99	0.567	0.28	0.28	0.03
10274.00	90.980	340.010	5821.44	3671.25	3980.96	5.57	1751439.01	14610703.84	40°13'47.6787"N	80°36'8.0174"W	3980.96	0.080	0.16	0.00	0.16
10370.00	90.620	339.670	5820.10	3767.14	4071.07	-27.51	1751405.94	14610793.91	40°13'48.5706"N	80°36'8.4387"W	4071.16	359.613	0.52	-0.37	-0.35
10466.00	91.290	340.210	5818.50	3863.03	4161.23	-60.44	1751373.03	14610884.04	40°13'49.4630"N	80°36'8.8580"W	4161.67	359.168	0.90	0.70	0.56
10562.00	91.410	339.950	5816.24	3958.89	4251.46	-93.14	1751340.34	14610974.23	40°13'50.3561"N	80°36'9.2744"W	4252.48	358.745	0.30	0.13	-0.27
10657.00	90.950	340.210	5814.28	4053.76	4340.76	-125.50	1751307.99	14611063.50	40°13'51.2399"N	80°36'9.6864"W	4342.57	358.344	0.56	-0.48	0.27
10753.00	91.690	341.320	5812.07	4149.56	4431.37	-157.11	1751276.39	14611154.08	40°13'52.1368"N	80°36'10.0888"W	4434.16	357.969	1.39	0.77	1.16
10849.00	90.650	340.060	5810.11	4245.37	4521.95	-188.85	1751244.66	14611244.62	40°13'53.0333"N	80°36'10.4928"W	4525.89	357.609	1.70	-1.08	-1.31
10946.00	90.830	340.080	5808.86	4342.26	4613.14	-221.91	1751211.61	14611335.77	40°13'53.9358"N	80°36'10.9138"W	4618.47	357.246	0.19	0.19	0.02
11042.00	90.620	340.070	5807.64	4438.14	4703.38	-254.63	1751178.91	14611425.98	40°13'54.8290"N	80°36'11.3304"W	4710.27	356.901	0.22	-0.22	-0.01
11138.00	90.800	340.040	5806.45	4534.02	4793.62	-287.37	1751146.18	14611516.18	40°13'55.7221"N	80°36'11.7474"W	4802.22	356.569	0.19	0.19	-0.03
11234.00	90.740	339.920	5805.16	4629.91	4883.81	-320.23	1751113.33	14611606.33	40°13'56.6149"N	80°36'12.1659"W	4894.29	356.248	0.14	-0.06	-0.12
11330.00	90.890	339.700	5803.80	4725.81	4973.90	-353.36	1751080.21	14611696.39	40°13'57.5066"N	80°36'12.5878"W	4986.44	355.936	0.28	0.16	-0.23
11426.00	90.830	341.010	5802.36	4821.66	5064.30	-385.63	1751047.96	14611786.75	40°13'58.4013"N	80°36'12.9987"W	5078.96	355.645	1.37	-0.06	1.36

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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]
11522.00	90.680	340.180	5801.09	4917.50	5154.84	-417.53	1751016.08	14611877.26	40°13'59.2974"N	80°36'13.4047"W	5171.72	355.369	0.88	-0.16	-0.86
11617.00	91.350	340.820	5799.41	5012.34	5244.37	-449.23	1750984.38	14611966.76	40°14'0.1836"N	80°36'13.8083"W	5263.58	355.104	0.98	0.71	0.67
11713.00	90.680	340.450	5797.71	5108.16	5334.93	-481.06	1750952.57	14612057.28	40°14'1.0798"N	80°36'14.2135"W	5356.57	354.847	0.80	-0.70	-0.39
11809.00	90.950	340.440	5796.34	5204.01	5425.38	-513.19	1750920.45	14612147.70	40°14'1.9751"N	80°36'14.6225"W	5449.60	354.596	0.28	0.28	-0.01
11905.00	91.230	340.020	5794.52	5299.87	5515.71	-545.65	1750888.00	14612237.99	40°14'2.8691"N	80°36'15.0359"W	5542.63	354.350	0.53	0.29	-0.44
12001.00	90.650	339.600	5792.94	5395.77	5605.79	-578.78	1750854.88	14612328.04	40°14'3.7608"N	80°36'15.4579"W	5635.59	354.105	0.75	-0.60	-0.44
12098.00	90.650	338.360	5791.84	5492.72	5696.33	-613.57	1750820.11	14612418.54	40°14'4.6570"N	80°36'15.9013"W	5729.28	353.852	1.28	0.00	-1.28
12194.00	89.970	335.340	5791.32	5588.70	5784.59	-651.31	1750782.38	14612506.77	40°14'5.5308"N	80°36'16.3827"W	5821.14	353.576	3.22	-0.71	-3.15
12290.00	90.250	333.230	5791.14	5684.56	5871.08	-692.96	1750740.75	14612593.22	40°14'6.3873"N	80°36'16.9148"W	5911.83	353.269	2.22	0.29	-2.20
12386.00	90.920	331.020	5790.16	5780.15	5955.93	-737.84	1750695.89	14612678.04	40°14'7.2278"N	80°36'17.4886"W	6001.46	352.938	2.41	0.70	-2.30
12482.00	90.710	330.770	5788.79	5875.54	6039.80	-784.53	1750649.21	14612761.87	40°14'8.0586"N	80°36'18.0858"W	6090.54	352.599	0.34	-0.22	-0.26
12578.00	90.680	331.160	5787.63	5970.94	6123.73	-831.12	1750602.64	14612845.77	40°14'8.8900"N	80°36'18.6817"W	6179.87	352.271	0.41	-0.03	0.41
12674.00	90.710	330.920	5786.46	6066.35	6207.72	-877.60	1750556.18	14612929.73	40°14'9.7220"N	80°36'19.2762"W	6269.44	351.953	0.25	0.03	-0.25
12770.00	90.680	331.040	5785.30	6161.76	6291.66	-924.17	1750509.63	14613013.64	40°14'10.5536"N	80°36'19.8718"W	6359.17	351.644	0.13	-0.03	0.13
12866.00	90.890	331.050	5783.98	6257.17	6375.65	-970.64	1750463.18	14613097.60	40°14'11.3856"N	80°36'20.4662"W	6449.11	351.344	0.22	0.22	0.01
12962.00	91.140	331.490	5782.28	6352.62	6459.82	-1016.78	1750417.06	14613181.73	40°14'12.2194"N	80°36'21.0563"W	6539.35	351.055	0.53	0.26	0.46
13058.00	90.740	331.270	5780.71	6448.09	6544.08	-1062.75	1750371.10	14613265.96	40°14'13.0540"N	80°36'21.6443"W	6629.81	350.776	0.48	-0.42	-0.23
13154.00	91.080	331.320	5779.18	6543.55	6628.27	-1108.86	1750325.01	14613350.12	40°14'13.8880"N	80°36'22.2340"W	6720.38	350.503	0.36	0.35	0.05
13250.00	91.080	331.060	5777.37	6638.98	6712.37	-1155.11	1750278.78	14613434.19	40°14'14.7211"N	80°36'22.8256"W	6811.03	350.236	0.27	0.00	-0.27
13346.00	90.830	331.300	5775.77	6734.41	6796.47	-1201.38	1750232.52	14613518.25	40°14'15.5542"N	80°36'23.4174"W	6901.83	349.976	0.36	-0.26	0.25
13442.00	90.580	330.750	5774.59	6829.82	6880.44	-1247.88	1750186.04	14613602.20	40°14'16.3861"N	80°36'24.0122"W	6992.69	349.720	0.63	-0.26	-0.57
13538.00	90.770	331.220	5773.46	6925.23	6964.39	-1294.44	1750139.50	14613686.11	40°14'17.2177"N	80°36'24.6078"W	7083.66	349.471	0.53	0.20	0.49
13634.00	90.740	331.370	5772.19	7020.69	7048.58	-1340.55	1750093.41	14613770.27	40°14'18.0517"N	80°36'25.1975"W	7174.93	349.232	0.16	-0.03	0.16
13730.00	90.800	331.060	5770.90	7116.13	7132.71	-1386.77	1750047.21	14613854.37	40°14'18.8850"N	80°36'25.7887"W	7266.27	348.998	0.33	0.06	-0.32
13826.00	90.680	331.160	5769.66	7211.56	7216.76	-1433.15	1750000.85	14613938.38	40°14'19.7176"N	80°36'26.3819"W	7357.68	348.768	0.16	-0.12	0.10
13922.00	90.800	331.380	5768.43	7307.02	7300.93	-1479.29	1749954.72	14614022.52	40°14'20.5514"N	80°36'26.9720"W	7449.29	348.546	0.26	0.12	0.23
14018.00	90.950	331.510	5766.96	7402.50	7385.25	-1525.17	1749908.86	14614106.80	40°14'21.3866"N	80°36'27.5589"W	7541.09	348.332	0.21	0.16	0.14
14114.00	90.800	331.380	5765.49	7497.98	7469.56	-1571.05	1749862.99	14614191.08	40°14'22.2218"N	80°36'28.1457"W	7632.99	348.122	0.21	-0.16	-0.14
14210.00	91.080	331.200	5763.92	7593.44	7553.75	-1617.16	1749816.90	14614275.24	40°14'23.0557"N	80°36'28.7355"W	7724.91	347.916	0.35	0.29	-0.19
14306.00	90.920	330.980	5762.24	7688.85	7637.77	-1663.57	1749770.52	14614359.23	40°14'23.8880"N	80°36'29.3290"W	7816.84	347.712	0.28	-0.17	-0.23

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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]
14402.00	90.490	330.970	5761.06	7784.26	7721.71	-1710.14	1749723.96	14614443.13	40°14'24.7195"N	80°36'29.9248"W	7908.81	347.512	0.45	-0.45	-0.01
14498.00	90.800	331.050	5759.98	7879.67	7805.67	-1756.67	1749677.46	14614527.06	40°14'25.5513"N	80°36'30.5200"W	8000.90	347.317	0.33	0.32	0.08
14594.00	90.490	332.960	5758.90	7975.24	7890.43	-1801.72	1749632.42	14614611.79	40°14'26.3908"N	80°36'31.0962"W	8093.52	347.137	2.02	-0.32	1.99
14690.00	90.710	335.450	5757.89	8071.09	7976.85	-1843.49	1749590.66	14614698.18	40°14'27.2466"N	80°36'31.6298"W	8187.10	346.987	2.60	0.23	2.59
14786.00	90.770	336.550	5756.65	8167.05	8064.54	-1882.54	1749551.64	14614785.84	40°14'28.1149"N	80°36'32.1283"W	8281.35	346.861	1.15	0.06	1.15
14882.00	90.710	336.700	5755.41	8263.03	8152.66	-1920.62	1749513.57	14614873.92	40°14'28.9873"N	80°36'32.6144"W	8375.83	346.744	0.17	-0.06	0.16
14979.00	90.830	336.580	5754.11	8360.02	8241.70	-1959.08	1749475.12	14614962.92	40°14'29.8688"N	80°36'33.1053"W	8471.34	346.629	0.17	0.12	-0.12
15074.00	90.430	336.840	5753.07	8455.01	8328.95	-1996.64	1749437.58	14615050.14	40°14'30.7327"N	80°36'33.5846"W	8564.93	346.519	0.50	-0.42	0.27
15170.00	90.800	336.890	5752.04	8551.00	8417.23	-2034.35	1749399.88	14615138.38	40°14'31.6066"N	80°36'34.0660"W	8659.58	346.413	0.39	0.39	0.05
15266.00	89.910	337.620	5751.44	8646.99	8505.76	-2071.47	1749362.78	14615226.88	40°14'32.4831"N	80°36'34.5396"W	8754.36	346.313	1.20	-0.93	0.76
15363.00	90.770	337.780	5750.87	8743.99	8595.50	-2108.27	1749325.98	14615316.59	40°14'33.3715"N	80°36'35.0091"W	8850.28	346.219	0.90	0.89	0.16
15459.00	90.580	338.020	5749.73	8839.98	8684.44	-2144.39	1749289.88	14615405.49	40°14'34.2520"N	80°36'35.4698"W	8945.27	346.130	0.32	-0.20	0.25
15555.00	90.860	337.330	5748.53	8935.97	8773.24	-2180.85	1749253.43	14615494.25	40°14'35.1310"N	80°36'35.9349"W	9040.23	346.040	0.78	0.29	-0.72
15651.00	90.740	337.530	5747.19	9031.96	8861.88	-2217.69	1749216.61	14615582.86	40°14'36.0086"N	80°36'36.4050"W	9135.15	345.950	0.24	-0.13	0.21
15747.00	90.650	338.120	5746.02	9127.95	8950.77	-2253.93	1749180.39	14615671.72	40°14'36.8885"N	80°36'36.8672"W	9230.19	345.866	0.62	-0.09	0.61
15843.00	90.520	340.790	5745.04	9223.87	9040.65	-2287.61	1749146.72	14615761.56	40°14'37.7782"N	80°36'37.2965"W	9325.58	345.800	2.78	-0.14	2.78
15939.00	90.680	337.600	5744.04	9319.80	9130.37	-2321.70	1749112.64	14615851.25	40°14'38.6663"N	80°36'37.7310"W	9420.94	345.733	3.33	0.17	-3.32
16035.00	90.710	337.850	5742.87	9415.79	9219.20	-2358.09	1749076.27	14615940.05	40°14'39.5457"N	80°36'38.1952"W	9516.00	345.652	0.26	0.03	0.26
16131.00	90.520	336.610	5741.84	9511.78	9307.72	-2395.24	1749039.13	14616028.52	40°14'40.4220"N	80°36'38.6693"W	9610.97	345.569	1.31	-0.20	-1.29
16227.00	90.580	336.530	5740.92	9607.77	9395.80	-2433.41	1749000.97	14616116.57	40°14'41.2940"N	80°36'39.1566"W	9705.80	345.480	0.10	0.06	-0.08
16323.00	90.580	336.490	5739.95	9703.75	9483.84	-2471.67	1748962.72	14616204.58	40°14'42.1657"N	80°36'39.6450"W	9800.63	345.393	0.04	0.00	-0.04
16419.00	90.250	336.340	5739.25	9799.74	9571.81	-2510.08	1748924.33	14616292.52	40°14'43.0367"N	80°36'40.1353"W	9895.46	345.306	0.38	-0.34	-0.16
16515.00	89.780	335.260	5739.23	9895.70	9659.38	-2549.44	1748884.99	14616380.05	40°14'43.9037"N	80°36'40.6379"W	9990.15	345.215	1.23	-0.49	-1.12
16611.00	90.920	336.390	5738.64	9991.67	9746.95	-2588.75	1748845.70	14616467.59	40°14'44.7708"N	80°36'41.1399"W	10084.87	345.126	1.67	1.19	1.18
16707.00	90.920	335.800	5737.10	10087.63	9834.71	-2627.64	1748806.81	14616555.31	40°14'45.6396"N	80°36'41.6365"W	10179.68	345.041	0.61	0.00	-0.61
16803.00	90.890	335.530	5735.59	10183.58	9922.16	-2667.20	1748767.28	14616642.74	40°14'46.5056"N	80°36'42.1417"W	10274.40	344.954	0.28	-0.03	-0.28
16900.00	90.710	335.470	5734.23	10280.52	10010.42	-2707.42	1748727.07	14616730.96	40°14'47.3795"N	80°36'42.6554"W	10370.09	344.866	0.20	-0.19	-0.06
16996.00	90.620	335.470	5733.12	10376.46	10097.75	-2747.27	1748687.23	14616818.26	40°14'48.2442"N	80°36'43.1644"W	10464.80	344.780	0.09	-0.09	0.00
17092.00	90.800	335.680	5731.93	10472.41	10185.15	-2786.97	1748647.55	14616905.62	40°14'49.1096"N	80°36'43.6714"W	10559.57	344.697	0.29	0.19	0.22
17188.00	90.580	336.680	5730.77	10568.38	10272.97	-2825.73	1748608.80	14616993.40	40°14'49.9790"N	80°36'44.1664"W	10654.51	344.620	1.07	-0.23	1.04

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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]
17284.00	90.680	336.620	5729.72	10664.37	10361.10	-2863.78	1748570.77	14617081.50	40°14'50.8516"N	80°36'44.6521"W	10749.59	344.549	0.12	0.10	-0.06
17380.00	90.740	336.460	5728.53	10760.35	10449.16	-2902.00	1748532.57	14617169.53	40°14'51.7234"N	80°36'45.1399"W	10844.65	344.479	0.18	0.06	-0.17
17476.00	90.680	336.360	5727.34	10856.33	10537.13	-2940.41	1748494.17	14617257.46	40°14'52.5944"N	80°36'45.6304"W	10939.70	344.408	0.12	-0.06	-0.10
17572.00	90.860	336.640	5726.05	10952.31	10625.16	-2978.69	1748455.91	14617345.46	40°14'53.4659"N	80°36'46.1190"W	11034.79	344.340	0.35	0.19	0.29
17668.00	90.400	336.220	5724.99	11048.30	10713.14	-3017.07	1748417.54	14617433.41	40°14'54.3370"N	80°36'46.6091"W	11129.88	344.272	0.65	-0.48	-0.44
17764.00	90.250	336.180	5724.45	11144.28	10800.98	-3055.81	1748378.81	14617521.21	40°14'55.2067"N	80°36'47.1038"W	11224.93	344.203	0.16	-0.16	-0.04
17860.00	90.220	336.590	5724.05	11240.26	10888.94	-3094.27	1748340.37	14617609.14	40°14'56.0775"N	80°36'47.5948"W	11320.05	344.137	0.43	-0.03	0.43
17956.00	90.550	336.670	5723.41	11336.25	10977.06	-3132.35	1748302.31	14617697.22	40°14'56.9500"N	80°36'48.0809"W	11415.23	344.074	0.35	0.34	0.08
18052.00	90.280	335.920	5722.71	11432.23	11064.96	-3170.94	1748263.73	14617785.09	40°14'57.8202"N	80°36'48.5737"W	11510.35	344.009	0.83	-0.28	-0.78
18148.00	90.340	336.680	5722.19	11528.22	11152.86	-3209.53	1748225.16	14617872.95	40°14'58.6905"N	80°36'49.0664"W	11605.49	343.945	0.79	0.06	0.79
18245.00	90.490	336.150	5721.49	11625.20	11241.75	-3248.34	1748186.36	14617961.81	40°14'59.5706"N	80°36'49.5619"W	11701.66	343.883	0.57	0.15	-0.55
18341.00	90.220	335.160	5720.89	11721.16	11329.22	-3287.91	1748146.81	14618049.24	40°15'0.4366"N	80°36'50.0673"W	11796.67	343.816	1.07	-0.28	-1.03
18437.00	90.180	335.290	5720.56	11817.09	11416.38	-3328.14	1748106.59	14618136.37	40°15'1.2997"N	80°36'50.5813"W	11891.60	343.747	0.14	-0.04	0.14
18533.00	90.770	336.520	5719.76	11913.06	11504.01	-3367.33	1748067.42	14618223.97	40°15'2.1673"N	80°36'51.0818"W	11986.71	343.685	1.42	0.61	1.28
18629.00	90.180	336.270	5718.97	12009.04	11591.97	-3405.77	1748028.99	14618311.90	40°15'3.0382"N	80°36'51.5726"W	12081.93	343.627	0.67	-0.61	-0.26
18725.00	90.370	336.270	5718.51	12105.02	11679.86	-3444.40	1747990.37	14618399.75	40°15'3.9083"N	80°36'52.0659"W	12177.15	343.569	0.20	0.20	0.00
18821.00	90.710	338.920	5717.60	12201.01	11768.60	-3480.99	1747953.80	14618488.45	40°15'4.7868"N	80°36'52.5328"W	12272.62	343.523	2.78	0.35	2.76
18917.00	90.460	338.410	5716.62	12296.98	11858.01	-3515.91	1747918.89	14618577.83	40°15'5.6719"N	80°36'52.9782"W	12368.27	343.485	0.59	-0.26	-0.53
19013.00	90.680	338.180	5715.67	12392.96	11947.20	-3551.41	1747883.40	14618666.99	40°15'6.5548"N	80°36'53.4310"W	12463.87	343.445	0.33	0.23	-0.24
19109.00	90.990	338.750	5714.27	12488.93	12036.49	-3586.65	1747848.18	14618756.24	40°15'7.4386"N	80°36'53.8805"W	12559.50	343.407	0.68	0.32	0.59
19205.00	89.970	338.620	5713.46	12584.90	12125.92	-3621.54	1747813.30	14618845.64	40°15'8.3238"N	80°36'54.3255"W	12655.18	343.371	1.07	-1.06	-0.14
19302.00	90.180	337.180	5713.34	12681.89	12215.79	-3658.03	1747776.82	14618935.47	40°15'9.2135"N	80°36'54.7911"W	12751.74	343.330	1.50	0.22	-1.48
19398.00	90.150	337.330	5713.06	12777.89	12304.32	-3695.15	1747739.72	14619023.97	40°15'10.0899"N	80°36'55.2649"W	12847.20	343.284	0.16	-0.03	0.16
19494.00	90.220	337.210	5712.75	12873.89	12392.87	-3732.24	1747702.64	14619112.48	40°15'10.9665"N	80°36'55.7383"W	12942.67	343.240	0.14	0.07	-0.12
19590.00	90.340	337.440	5712.28	12969.89	12481.45	-3769.25	1747665.65	14619201.03	40°15'11.8434"N	80°36'56.2107"W	13038.17	343.196	0.27	0.12	0.24
19686.00	90.280	337.440	5711.76	13065.89	12570.10	-3806.08	1747628.83	14619289.64	40°15'12.7210"N	80°36'56.6807"W	13133.68	343.154	0.06	-0.06	0.00
19782.00	90.180	337.430	5711.38	13161.88	12658.75	-3842.92	1747592.01	14619378.26	40°15'13.5986"N	80°36'57.1509"W	13229.21	343.113	0.10	-0.10	-0.01
19878.00	90.310	337.550	5710.97	13257.88	12747.43	-3879.67	1747555.27	14619466.91	40°15'14.4766"N	80°36'57.6199"W	13324.75	343.072	0.18	0.14	0.12
19974.00	90.400	337.760	5710.37	13353.88	12836.22	-3916.17	1747518.79	14619555.67	40°15'15.3555"N	80°36'58.0857"W	13420.32	343.034	0.24	0.09	0.22
20071.00	90.550	338.400	5709.57	13450.87	12926.21	-3952.38	1747482.59	14619645.61	40°15'16.2463"N	80°36'58.5477"W	13516.96	342.998	0.68	0.15	0.66



Actual Wellpath Report

Robert Bone BRK 5H AWB Proj: 23660
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REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	Robert Bone BRK 5H
Field	Brooke		API/Legal	
Facility	Robert Bone BRK Pad		Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H			

WELLPATH DATA (248 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]
20167.00	90.220	337.680	5708.92	13546.86	13015.24	-3988.28	1747446.71	14619734.61	40°15'17.1276"N	80°36'59.0057"W	13612.60	342.963	0.83	-0.34	-0.75
20263.00	90.180	336.950	5708.59	13642.86	13103.81	-4025.30	1747409.70	14619823.15	40°15'18.0044"N	80°36'59.4783"W	13708.13	342.924	0.76	-0.04	-0.76
20359.00	90.370	337.740	5708.13	13738.85	13192.40	-4062.28	1747372.74	14619911.71	40°15'18.8815"N	80°36'59.9503"W	13803.68	342.885	0.85	0.20	0.82
20455.00	90.340	337.790	5707.53	13834.85	13281.26	-4098.60	1747336.43	14620000.53	40°15'19.7611"N	80°37'0.4138"W	13899.30	342.850	0.06	-0.03	0.05
20551.00	90.180	337.640	5707.10	13930.85	13370.09	-4135.01	1747300.04	14620089.33	40°15'20.6405"N	80°37'0.8784"W	13994.92	342.815	0.23	-0.17	-0.16
20647.00	90.150	337.630	5706.82	14026.84	13458.87	-4171.54	1747263.52	14620178.07	40°15'21.5193"N	80°37'1.3446"W	14090.53	342.779	0.03	-0.03	-0.01
20743.00	90.340	337.770	5706.41	14122.84	13547.69	-4207.96	1747227.11	14620266.85	40°15'22.3986"N	80°37'1.8095"W	14186.15	342.745	0.25	0.20	0.15
20839.00	90.180	337.480	5705.97	14218.84	13636.46	-4244.51	1747190.58	14620355.59	40°15'23.2773"N	80°37'2.2759"W	14281.77	342.711	0.35	-0.17	-0.30
20935.00	90.280	337.600	5705.59	14314.84	13725.18	-4281.18	1747153.92	14620444.27	40°15'24.1556"N	80°37'2.7440"W	14377.38	342.676	0.16	0.10	0.12
21031.00	90.090	337.540	5705.28	14410.84	13813.92	-4317.81	1747117.30	14620532.98	40°15'25.0340"N	80°37'3.2115"W	14473.00	342.642	0.21	-0.20	-0.06
21127.00	90.120	337.190	5705.10	14506.84	13902.52	-4354.76	1747080.37	14620621.55	40°15'25.9112"N	80°37'3.6831"W	14568.60	342.608	0.37	0.03	-0.36
21223.00	90.030	337.590	5704.98	14602.84	13991.14	-4391.67	1747043.48	14620710.13	40°15'26.7885"N	80°37'4.1542"W	14664.20	342.573	0.43	-0.09	0.42
21320.00	90.180	337.160	5704.80	14699.84	14080.68	-4428.98	1747006.18	14620799.63	40°15'27.6748"N	80°37'4.6305"W	14760.80	342.539	0.47	0.15	-0.44
21416.00	90.120	337.480	5704.55	14795.83	14169.25	-4466.00	1746969.17	14620888.18	40°15'28.5517"N	80°37'5.1030"W	14856.41	342.506	0.34	-0.06	0.33
21512.00	90.220	337.380	5704.26	14891.83	14257.90	-4502.84	1746932.34	14620976.79	40°15'29.4293"N	80°37'5.5734"W	14952.03	342.473	0.15	0.10	-0.10
21608.00	90.000	337.970	5704.08	14987.83	14346.70	-4539.31	1746895.89	14621065.56	40°15'30.3084"N	80°37'6.0388"W	15047.70	342.443	0.66	-0.23	0.61
21704.00	90.280	337.550	5703.84	15083.83	14435.56	-4575.64	1746859.57	14621154.38	40°15'31.1880"N	80°37'6.5025"W	15143.38	342.413	0.53	0.29	-0.44
21800.00	90.310	337.660	5703.35	15179.83	14524.32	-4612.22	1746823.01	14621243.11	40°15'32.0666"N	80°37'6.9693"W	15239.04	342.383	0.12	0.03	0.11
21896.00	90.250	337.740	5702.88	15275.82	14613.14	-4648.65	1746786.60	14621331.89	40°15'32.9459"N	80°37'7.4342"W	15334.72	342.353	0.10	-0.06	0.08
21992.00	90.150	337.580	5702.54	15371.82	14701.93	-4685.14	1746750.12	14621420.65	40°15'33.8249"N	80°37'7.9000"W	15430.40	342.324	0.20	-0.10	-0.17
22088.00	90.250	337.690	5702.21	15467.82	14790.71	-4721.66	1746713.61	14621509.39	40°15'34.7037"N	80°37'8.3662"W	15526.08	342.295	0.15	0.10	0.11
22184.00	90.180	337.730	5701.85	15563.82	14879.54	-4758.08	1746677.21	14621598.19	40°15'35.5830"N	80°37'8.8310"W	15621.78	342.267	0.08	-0.07	0.04
22280.00	90.250	337.560	5701.49	15659.81	14968.32	-4794.59	1746640.71	14621686.94	40°15'36.4619"N	80°37'9.2970"W	15717.47	342.239	0.19	0.07	-0.18
22376.00	90.180	337.420	5701.13	15755.81	15057.01	-4831.34	1746603.97	14621775.59	40°15'37.3398"N	80°37'9.7662"W	15813.14	342.210	0.16	-0.07	-0.15
22472.00	90.710	337.760	5700.38	15851.81	15145.75	-4867.94	1746567.39	14621864.30	40°15'38.2184"N	80°37'10.2333"W	15908.82	342.182	0.66	0.55	0.35
22568.00	90.310	337.820	5699.53	15947.80	15234.63	-4904.23	1746531.12	14621953.14	40°15'39.0981"N	80°37'10.6964"W	16004.54	342.156	0.42	-0.42	0.06
22664.00	90.430	337.610	5698.91	16043.80	15323.45	-4940.63	1746494.73	14622041.93	40°15'39.9775"N	80°37'11.1611"W	16100.25	342.130	0.25	0.12	-0.22
22760.00	90.370	337.910	5698.24	16139.79	15412.31	-4976.96	1746458.41	14622130.75	40°15'40.8571"N	80°37'11.6248"W	16195.97	342.104	0.32	-0.06	0.31
22856.00	90.180	337.780	5697.78	16235.79	15501.22	-5013.17	1746422.22	14622219.63	40°15'41.7372"N	80°37'12.0869"W	16291.71	342.079	0.24	-0.20	-0.14
22952.00	90.370	337.240	5697.32	16331.78	15589.92	-5049.89	1746385.51	14622308.29	40°15'42.6152"N	80°37'12.5556"W	16387.40	342.052	0.60	0.20	-0.56

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

WELLPATH DATA (248 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]
23048.00	90.400	337.410	5696.67	16427.78	15678.50	-5086.89	1746348.52	14622396.84	40°15'43.4921"N	80°37'13.0281"W	16483.08	342.024	0.18	0.03	0.18
23145.00	90.370	337.860	5696.02	16524.78	15768.20	-5123.80	1746311.62	14622486.50	40°15'44.3801"N	80°37'13.4992"W	16579.79	341.999	0.46	-0.03	0.46
23241.00	90.770	336.470	5695.07	16620.77	15856.67	-5161.06	1746274.39	14622574.94	40°15'45.2559"N	80°37'13.9749"W	16675.44	341.971	1.51	0.42	-1.45
23337.00	90.250	336.400	5694.21	16716.76	15944.66	-5199.43	1746236.02	14622662.89	40°15'46.1270"N	80°37'14.4651"W	16770.99	341.939	0.55	-0.54	-0.07
23433.00	90.340	336.840	5693.72	16812.75	16032.77	-5237.53	1746197.94	14622750.98	40°15'46.9994"N	80°37'14.9516"W	16866.58	341.909	0.47	0.09	0.46
23529.00	90.680	336.440	5692.86	16908.74	16120.90	-5275.59	1746159.90	14622839.07	40°15'47.8718"N	80°37'15.4377"W	16962.17	341.879	0.55	0.35	-0.42
23625.00	90.400	336.430	5691.96	17004.72	16208.89	-5313.97	1746121.53	14622927.02	40°15'48.7430"N	80°37'15.9279"W	17057.74	341.849	0.29	-0.29	-0.01
23660.00‡	90.400	336.430	5691.71	17039.71	16240.97	-5327.96	1746107.54	14622959.09	40°15'49.0606"N	80°37'16.1067"W	17092.58	341.838	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Robert Bone BRK 5H AWB Ref Wellpath: Robert Bone BRK 5H AWB Proj: 23660'									
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	0.00	126.00	126.00	0.00	126.00	0.00	0.00	0.03	0.18
17.5in Open Hole	26.00	440.00	414.00	26.00	439.99	0.00	0.00	0.58	2.26
13.375in Casing Surface	26.00	410.00	384.00	26.00	409.99	0.00	0.00	0.53	2.01
12.25in Open Hole	26.00	1668.00	1642.00	26.00	1643.48	0.00	0.00	-39.18	193.55
9.625in Casing Intermediate	26.00	1638.00	1612.00	26.00	1615.67	0.00	0.00	-35.58	182.91
8.75in Open Hole	1668.00	23337.00	21669.00	1643.48	5694.21	-39.18	193.55	15944.66	-5199.43

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Robert Bone BRK 5H BHL Rev-6	5667.50	16235.74	-5342.80	1746092.71	14622953.86	40°15'49.0095"N	80°37'16.2983"W	point
Robert Bone BRK 5H LP Rev-6	5861.50	410.93	1267.06	1752700.00	14607135.19	40°13'12.3440"N	80°35'51.9619"W	point

WELLPATH COMPOSITION - Ref Wellbore: Robert Bone BRK 5H AWB Ref Wellpath: Robert Bone BRK 5H AWB Proj: 23660'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	361.00	OWSG MWD rev2 + HRGM	01 Premier MWD <17-1/2"> (223'-361')	Robert Bone BRK 5H AWB	7/25/2021
361.00	1570.00	OWSG MWD rev2 + HRGM	02 Premier MWD <12-1/4"> (450'-1570')	Robert Bone BRK 5H AWB	7/25/2021
1570.00	4978.00	OWSG MWD rev2 + HRGM	03 Premier MWD <8-3/4"> (1710'-4978')	Robert Bone BRK 5H AWB	7/25/2021
4978.00	23660.00	BH AutoTrak Curve (2019) (Short spacing)	04 BH AT Curve <8-1/2"> (5085'-23625')	Robert Bone BRK 5H AWB	7/25/2021

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 5H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 5H AWB
Slot	Slot 5H		

COMMENTS
<p>Wellpath general comments API: 47009002860000 BH Job#: 110934652 Rig: SDC40 Duration: 07.26.2021-08.04.2021</p>