

# SWN PRODUCTION COMPANY, LLC

Location: Marshall County, WV  
 Field: Marshall  
 Facility: Gladys Briggs MSH Pad

Slot: Slot 5H  
 Well: Gladys Briggs MSH 5H  
 Wellbore: Gladys Briggs MSH 5H PWB

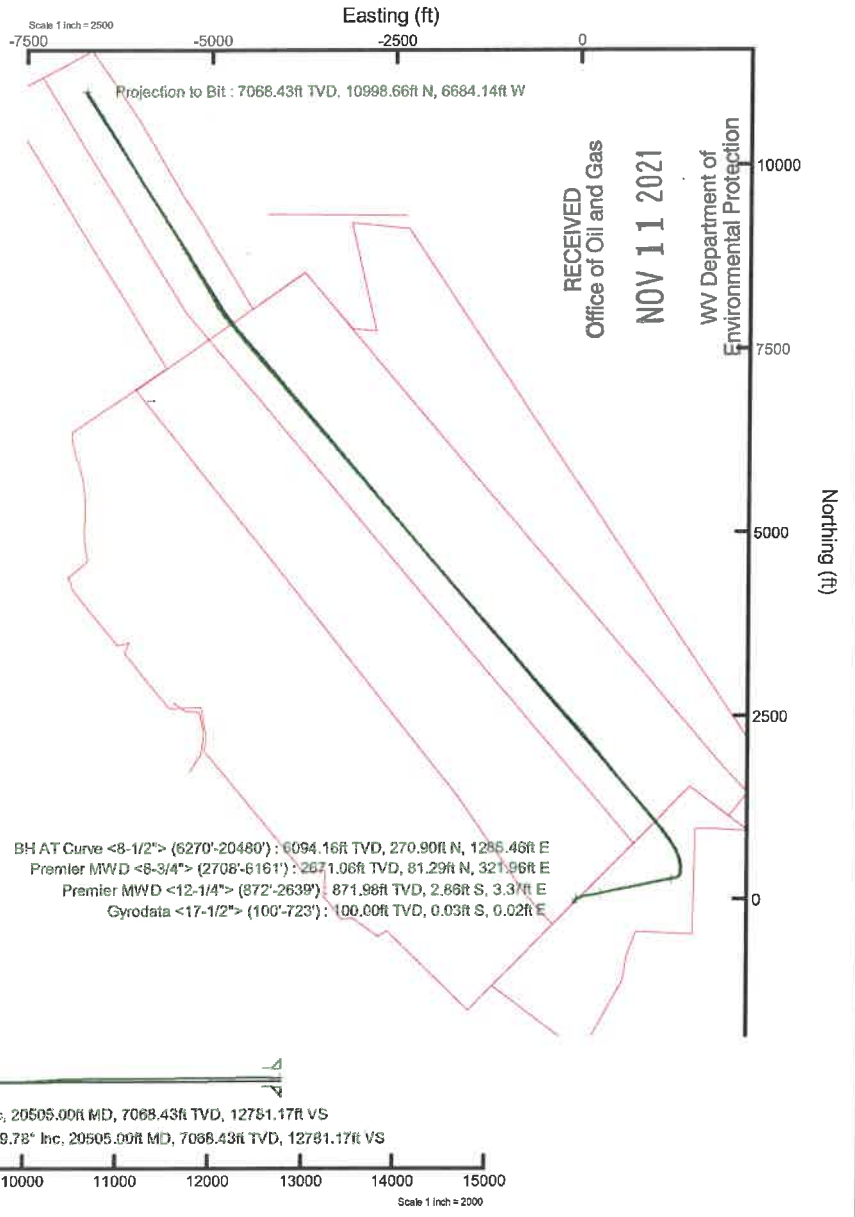
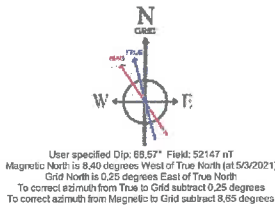
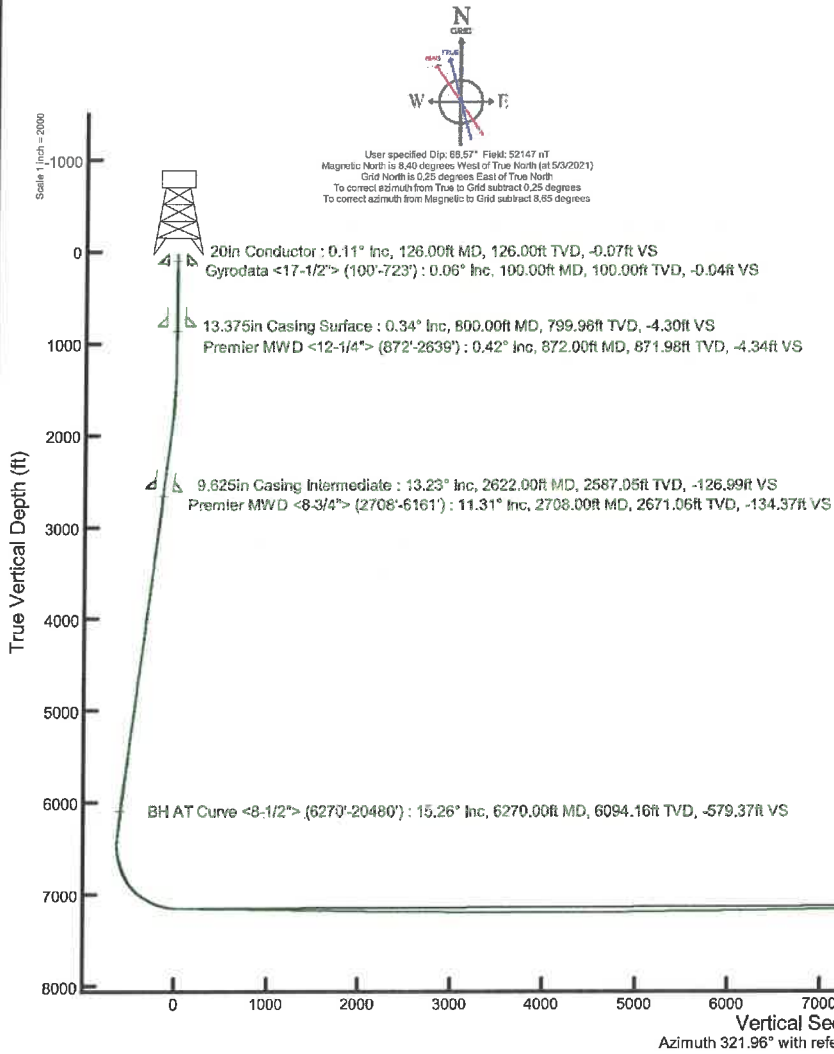


## Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Gladys Briggs MSH Pad		1748342.310	14442131.690	39°48'1.2972"N	80°36'57.3264"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot 5H	63.49	36.08	1748378.380	14442195.160	39°46'1.9231"N
SDC 41 (KB) to Mud line (At Slot: Slot 5H)				26ft	
Mean Sea Level to Mud line (At Slot: Slot 5H)				-1382.7ft	
SDC 41 (KB) to Mean Sea Level				1408.7ft	

Pit reference wellpath is Gladys Briggs MSH 5H PWB Rev-A.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 41 (KB)	North Reference: Grid north
Reference wellpath measured depths are referenced to SDC 41 (KB)	Scale: True distance
SDC 41 (KB) to Mean Sea Level: 1408.7 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: Slot 5H): -1382.7 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: aalenjen on 2021-05-18; Database: WA_MPL_EASTERNUS_Defn

API: 47-051-02370-0000  
 BH Job #: 110870185  
 Rig: SDC 41  
 Duration: 05/11/2021 - 05/14/2021



### REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 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	Atenjen
Scale	0.999613	Report Generated	5/18/2021 at 10:51:59 AM
Convergence at slot	0.25° 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	63.49	36.08	1748378.38	14442195.16	39°46'1.9231"N	80°36'56.8608"W
Facility Reference Pt			1748342.31	14442131.69	39°46'1.2972"N	80°36'57.3264"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

### WELLPATH DATUM

Calculation method	Minimum curvature	SDC 41 (KB) to Facility Vertical Datum	1408.70ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1408.70ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Mud Line at Slot (Slot 5H)	26.00ft
MD Reference Pt	SDC 41 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	321.96°

REFERENCE WELLPATH IDENTIFICATION			
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Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (228 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	148.530	0.00	0.00	0.00	0.00	1748378.38	14442195.16	39°46'1.9231"N	80°36'56.8608"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	148.530	26.00	0.00	0.00	0.00	1748378.38	14442195.16	39°46'1.9231"N	80°36'56.8608"W	0.00	0.000	0.00	0.00	0.00
100.00	0.060	148.530	100.00	-0.04	-0.03	0.02	1748378.40	14442195.13	39°46'1.9228"N	80°36'56.8606"W	0.04	148.530	0.08	0.08	0.00
200.00	0.300	93.830	200.00	-0.27	-0.10	0.31	1748378.69	14442195.06	39°46'1.9222"N	80°36'56.8569"W	0.32	107.134	0.27	0.24	-54.70
300.00	0.330	73.580	300.00	-0.55	-0.03	0.85	1748379.23	14442195.13	39°46'1.9228"N	80°36'56.8500"W	0.85	92.117	0.11	0.03	-20.25
400.00	0.480	113.530	400.00	-1.02	-0.12	1.51	1748379.89	14442195.04	39°46'1.9219"N	80°36'56.8415"W	1.51	94.445	0.31	0.15	39.95
500.00	0.400	126.440	499.99	-1.73	-0.49	2.17	1748380.55	14442194.67	39°46'1.9182"N	80°36'56.8330"W	2.23	102.758	0.13	-0.08	12.91
600.00	0.440	146.660	599.99	-2.44	-1.02	2.66	1748381.04	14442194.14	39°46'1.9130"N	80°36'56.8268"W	2.85	110.952	0.15	0.04	20.22
700.00	0.550	142.800	699.99	-3.31	-1.72	3.16	1748381.54	14442193.44	39°46'1.9060"N	80°36'56.8204"W	3.60	118.566	0.11	0.11	-3.86
723.00	0.800	145.200	722.98	-3.58	-1.94	3.32	1748381.70	14442193.22	39°46'1.9038"N	80°36'56.8184"W	3.85	120.312	1.09	1.09	10.43
872.00	0.420	262.900	871.98	-4.34	-2.86	3.37	1748381.75	14442192.30	39°46'1.8947"N	80°36'56.8178"W	4.43	130.325	0.71	-0.26	78.99
963.00	0.430	9.910	962.98	-3.94	-2.57	3.10	1748381.48	14442192.59	39°46'1.8976"N	80°36'56.8212"W	4.03	129.629	0.75	0.01	117.59
1053.00	2.290	45.680	1052.95	-3.51	-0.98	4.45	1748382.83	14442194.18	39°46'1.9133"N	80°36'56.8039"W	4.55	102.428	2.17	2.07	39.74
1145.00	4.320	49.930	1144.79	-3.19	2.54	8.41	1748386.79	14442197.69	39°46'1.9478"N	80°36'56.7529"W	8.79	73.233	2.22	2.21	4.62
1236.00	6.360	48.260	1235.39	-2.74	8.10	14.80	1748393.17	14442203.25	39°46'2.0025"N	80°36'56.6709"W	16.87	61.313	2.25	2.24	-1.84
1326.00	7.300	56.240	1324.75	-2.85	14.59	23.27	1748401.64	14442209.75	39°46'2.0664"N	80°36'56.5620"W	27.47	57.908	1.48	1.04	8.87
1417.00	8.330	77.330	1414.93	-6.10	19.25	34.51	1748412.88	14442214.41	39°46'2.1120"N	80°36'56.4178"W	39.52	60.844	3.33	1.13	23.18
1508.00	10.160	80.860	1504.74	-12.81	21.97	48.87	1748427.23	14442217.13	39°46'2.1382"N	80°36'56.2338"W	53.58	65.788	2.10	2.01	3.88
1600.00	10.540	76.680	1595.25	-20.25	25.20	65.07	1748443.42	14442220.35	39°46'2.1695"N	80°36'56.0262"W	69.78	68.828	0.91	0.41	-4.54
1692.00	10.910	69.550	1685.64	-26.40	30.18	81.42	1748459.76	14442225.33	39°46'2.2180"N	80°36'55.8165"W	86.83	69.669	1.50	0.40	-7.75
1782.00	13.170	67.810	1773.66	-31.77	37.03	98.89	1748477.23	14442232.18	39°46'2.2849"N	80°36'55.5924"W	105.60	69.471	2.54	2.51	-1.93
1874.00	14.430	72.330	1863.00	-38.63	44.47	119.52	1748497.85	14442239.61	39°46'2.3576"N	80°36'55.3278"W	127.52	69.591	1.80	1.37	4.91
1965.00	14.760	77.460	1951.07	-47.56	50.43	141.64	1748519.96	14442245.57	39°46'2.4155"N	80°36'55.0442"W	150.35	70.402	1.47	0.36	5.64
2055.00	14.800	79.180	2038.09	-57.76	55.08	164.12	1748542.44	14442250.21	39°46'2.4605"N	80°36'54.7560"W	173.12	71.449	0.49	0.04	1.91
2146.00	14.150	83.190	2126.21	-68.84	58.58	186.58	1748564.89	14442253.71	39°46'2.4941"N	80°36'54.4682"W	195.56	72.571	1.31	-0.71	4.41
2237.00	14.770	82.760	2214.32	-80.55	61.36	209.14	1748587.43	14442256.49	39°46'2.5206"N	80°36'54.1792"W	217.95	73.649	0.69	0.68	-0.47
2328.00	15.640	83.000	2302.14	-92.81	64.31	232.82	1748611.11	14442259.45	39°46'2.5489"N	80°36'53.8758"W	241.54	74.557	0.96	0.96	0.26
2419.00	14.540	82.020	2390.00	-104.86	67.40	256.31	1748634.59	14442262.53	39°46'2.5783"N	80°36'53.5748"W	265.02	75.268	1.24	-1.21	-1.08
2512.00	13.890	79.270	2480.15	-115.83	71.09	278.84	1748657.11	14442266.23	39°46'2.6139"N	80°36'53.2861"W	287.76	75.696	1.01	-0.70	-2.96
2602.00	13.510	76.190	2567.59	-125.10	75.62	299.66	1748677.92	14442270.75	39°46'2.6577"N	80°36'53.0192"W	309.05	75.838	0.91	-0.42	-3.42

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Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (228 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]
2639.00	13.000	75.780	2603.60	-128.55	77.67	307.89	1748686.15	14442272.80	39°46'2.6777"N	80°36'52.9137"W	317.53	75.842	1.40	-1.38	-1.11
2708.00	11.310	75.310	2671.06	-134.37	81.29	321.96	1748700.21	14442276.42	39°46'2.7129"N	80°36'52.7333"W	332.06	75.829	2.45	-2.45	-0.68
2799.00	13.440	77.560	2759.94	-142.48	85.83	340.92	1748719.17	14442280.96	39°46'2.7569"N	80°36'52.4902"W	351.56	75.868	2.40	2.34	2.47
2890.00	17.120	80.080	2847.71	-153.36	90.42	364.45	1748742.69	14442285.55	39°46'2.8013"N	80°36'52.1887"W	375.50	76.066	4.11	4.04	2.77
2980.00	17.640	77.780	2933.60	-165.55	95.59	390.83	1748769.05	14442290.71	39°46'2.8512"N	80°36'51.8506"W	402.35	76.256	0.96	0.58	-2.56
3072.00	17.800	76.150	3021.23	-177.38	101.91	418.10	1748796.32	14442297.03	39°46'2.9125"N	80°36'51.5009"W	430.34	76.302	0.57	0.17	-1.77
3161.00	17.540	79.690	3106.04	-189.20	107.56	444.51	1748822.71	14442302.68	39°46'2.9673"N	80°36'51.1625"W	457.33	76.397	1.24	-0.29	3.98
3252.00	17.030	77.080	3192.93	-201.23	113.00	470.99	1748849.18	14442308.11	39°46'3.0198"N	80°36'50.8231"W	484.35	76.509	1.02	-0.56	-2.87
3342.00	16.240	79.640	3279.16	-212.67	118.21	496.21	1748874.40	14442313.32	39°46'3.0703"N	80°36'50.4997"W	510.10	76.601	1.20	-0.88	2.84
3433.00	16.470	82.980	3366.48	-225.23	122.07	521.53	1748899.71	14442317.18	39°46'3.1074"N	80°36'50.1753"W	535.63	76.826	1.06	0.25	3.67
3524.00	15.560	80.940	3453.95	-237.79	125.57	546.39	1748924.56	14442320.68	39°46'3.1409"N	80°36'49.8568"W	560.63	77.057	1.18	-1.00	-2.24
3614.00	16.010	81.530	3540.55	-249.77	129.30	570.59	1748948.74	14442324.41	39°46'3.1767"N	80°36'49.5467"W	585.05	77.232	0.53	0.50	0.66
3705.00	16.190	79.930	3627.99	-261.91	133.37	595.49	1748973.64	14442328.47	39°46'3.2158"N	80°36'49.2275"W	610.24	77.376	0.53	0.20	-1.76
3795.00	16.590	77.890	3714.33	-273.41	138.25	620.41	1748998.54	14442333.36	39°46'3.2631"N	80°36'48.9082"W	635.62	77.437	0.78	0.44	-2.27
3888.00	16.170	76.780	3803.55	-284.66	144.00	645.99	1749024.12	14442339.11	39°46'3.3188"N	80°36'48.5802"W	661.85	77.433	0.56	-0.45	-1.19
3979.00	16.410	78.700	3890.90	-295.76	149.42	670.93	1749049.05	14442344.52	39°46'3.3713"N	80°36'48.2605"W	687.37	77.445	0.65	0.26	2.11
4071.00	15.950	76.390	3979.26	-306.83	154.94	695.96	1749074.07	14442350.04	39°46'3.4248"N	80°36'47.9396"W	713.00	77.449	0.86	-0.50	-2.51
4161.00	16.350	78.800	4065.71	-317.67	160.31	720.41	1749098.51	14442355.41	39°46'3.4768"N	80°36'47.6263"W	738.03	77.455	0.87	0.44	2.68
4252.00	15.380	76.430	4153.24	-328.45	165.63	744.71	1749122.80	14442360.72	39°46'3.5283"N	80°36'47.3149"W	762.90	77.461	1.28	-1.07	-2.60
4345.00	15.470	76.670	4242.89	-338.74	171.38	768.76	1749146.84	14442366.48	39°46'3.5842"N	80°36'47.0065"W	787.63	77.432	0.12	0.10	0.26
4436.00	15.060	78.360	4330.68	-349.07	176.57	792.15	1749170.22	14442371.66	39°46'3.6344"N	80°36'46.7066"W	811.59	77.435	0.66	-0.45	1.86
4527.00	14.870	80.250	4418.60	-359.86	180.93	815.24	1749193.30	14442376.02	39°46'3.6765"N	80°36'46.4107"W	835.07	77.487	0.58	-0.21	2.08
4617.00	15.770	79.710	4505.40	-371.03	185.07	838.65	1749216.71	14442380.16	39°46'3.7164"N	80°36'46.1107"W	858.83	77.556	1.01	1.00	-0.60
4709.00	15.660	78.470	4593.96	-382.39	189.78	863.12	1749241.17	14442384.87	39°46'3.7620"N	80°36'45.7971"W	883.74	77.599	0.38	-0.12	-1.35
4801.00	15.760	77.180	4682.52	-393.26	195.04	887.47	1749265.50	14442390.12	39°46'3.8129"N	80°36'45.4850"W	908.65	77.605	0.39	0.11	-1.40
4892.00	15.980	78.390	4770.05	-404.10	200.30	911.79	1749289.82	14442395.38	39°46'3.8638"N	80°36'45.1732"W	933.53	77.610	0.44	0.24	1.33
4982.00	16.160	79.500	4856.54	-415.41	205.08	936.24	1749314.26	14442400.16	39°46'3.9100"N	80°36'44.8598"W	958.44	77.645	0.40	0.20	1.23
5073.00	15.080	78.010	4944.17	-426.46	209.84	960.27	1749338.28	14442404.92	39°46'3.9561"N	80°36'44.5518"W	982.93	77.673	1.27	-1.19	-1.64
5163.00	15.290	77.410	5031.03	-436.70	214.86	983.30	1749361.30	14442409.94	39°46'4.0047"N	80°36'44.2566"W	1006.51	77.674	0.29	0.23	-0.67
5254.00	16.220	78.510	5118.61	-447.54	220.01	1007.47	1749385.46	14442415.08	39°46'4.0545"N	80°36'43.9468"W	1031.21	77.681	1.07	1.02	1.21



# Actual Wellpath Report

Gladys Briggs MSH 5H AWP Proj: 20505'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Swn PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

## WELLPATH DATA (228 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]
5345.00	16.900	78.890	5205.84	-459.21	225.09	1032.90	1749410.88	14442420.16	39°46'4.1036"N	80°36'43.6208"W	1057.15	77.706	0.76	0.75	0.42
5435.00	16.910	80.190	5291.95	-471.33	229.84	1058.64	1749436.61	14442424.91	39°46'4.1495"N	80°36'43.2910"W	1083.30	77.751	0.42	0.01	1.44
5526.00	16.560	78.790	5379.10	-483.44	234.62	1084.40	1749462.36	14442429.69	39°46'4.1956"N	80°36'42.9608"W	1109.49	77.792	0.59	-0.38	-1.54
5616.00	16.570	79.810	5465.36	-495.22	239.38	1109.61	1749487.56	14442434.45	39°46'4.2416"N	80°36'42.6377"W	1135.14	77.826	0.32	0.01	1.13
5707.00	17.040	77.930	5552.47	-507.12	244.47	1135.42	1749513.36	14442439.53	39°46'4.2907"N	80°36'42.3069"W	1161.44	77.849	0.79	0.52	-2.07
5799.00	15.480	79.170	5640.79	-518.64	249.59	1160.67	1749538.59	14442444.65	39°46'4.3403"N	80°36'41.9833"W	1187.20	77.864	1.74	-1.70	1.35
5890.00	15.600	82.260	5728.47	-530.37	253.52	1184.72	1749562.64	14442448.58	39°46'4.3781"N	80°36'41.6751"W	1211.54	77.921	0.92	0.13	3.40
5980.00	16.370	81.620	5814.99	-542.75	257.00	1209.26	1749587.17	14442452.06	39°46'4.4114"N	80°36'41.3606"W	1236.26	78.002	0.88	0.86	-0.71
6073.00	15.850	81.090	5904.33	-555.42	260.88	1234.77	1749612.67	14442455.93	39°46'4.4486"N	80°36'41.0337"W	1262.03	78.070	0.58	-0.56	-0.57
6161.00	15.510	80.260	5989.06	-566.85	264.73	1258.24	1749636.13	14442459.78	39°46'4.4857"N	80°36'40.7329"W	1285.79	78.119	0.46	-0.39	-0.94
6270.00	15.260	75.010	6094.16	-579.37	270.90	1286.46	1749664.34	14442465.96	39°46'4.5455"N	80°36'40.3712"W	1314.67	78.108	1.30	-0.23	-4.82
6359.00	14.600	75.350	6180.15	-588.41	276.77	1308.63	1749686.50	14442471.82	39°46'4.6026"N	80°36'40.0870"W	1337.57	78.058	0.75	-0.74	0.38
6449.00	16.240	75.380	6266.91	-597.92	282.82	1331.78	1749709.64	14442477.87	39°46'4.6613"N	80°36'39.7902"W	1361.48	78.011	1.82	1.82	0.03
6537.00	16.770	74.930	6351.28	-607.76	289.22	1355.94	1749733.80	14442484.27	39°46'4.7236"N	80°36'39.4803"W	1386.45	77.959	0.62	0.60	-0.51
6624.00	16.720	57.190	6434.65	-613.81	299.27	1378.60	1749756.44	14442494.32	39°46'4.8219"N	80°36'39.1897"W	1410.71	77.752	5.85	-0.06	-20.39
6715.00	17.010	29.040	6521.88	-609.81	318.04	1396.09	1749773.93	14442513.07	39°46'5.0066"N	80°36'38.9646"W	1431.86	77.167	8.90	0.32	-30.93
6806.00	21.370	6.520	6607.92	-592.78	346.20	1404.45	1749782.28	14442541.22	39°46'5.2846"N	80°36'38.8560"W	1446.49	76.153	9.36	4.79	-24.75
6897.00	24.350	1.270	6691.77	-566.44	381.44	1406.75	1749784.58	14442576.45	39°46'5.6327"N	80°36'38.8246"W	1457.54	74.829	3.97	3.27	-5.77
6987.00	27.920	1.280	6772.56	-535.78	421.06	1407.63	1749785.46	14442616.06	39°46'6.0243"N	80°36'38.8111"W	1469.26	73.347	3.97	3.97	0.01
7076.00	33.580	353.150	6849.05	-498.55	466.39	1405.16	1749782.99	14442661.37	39°46'6.4723"N	80°36'38.8402"W	1480.54	71.638	7.88	6.36	-9.13
7165.00	41.170	345.280	6919.76	-450.50	519.27	1394.76	1749772.59	14442714.22	39°46'6.9954"N	80°36'38.9705"W	1488.28	69.580	10.06	8.53	-8.84
7254.00	49.600	340.010	6982.24	-391.25	579.58	1375.69	1749753.53	14442774.51	39°46'7.5922"N	80°36'39.2114"W	1492.79	67.154	10.36	9.47	-5.92
7342.00	58.220	335.040	7034.05	-322.80	645.13	1348.39	1749726.24	14442840.04	39°46'8.2412"N	80°36'39.5573"W	1494.77	64.432	10.80	9.80	-5.65
7432.00	64.180	328.670	7077.42	-245.18	714.52	1311.12	1749688.99	14442909.41	39°46'8.9286"N	80°36'40.0307"W	1493.18	61.411	9.07	6.62	-7.08
7521.00	70.540	324.010	7111.68	-163.34	782.79	1265.56	1749643.45	14442977.65	39°46'9.6052"N	80°36'40.6103"W	1488.09	58.262	8.62	7.15	-5.24
7612.00	78.130	322.170	7136.23	-75.81	852.78	1212.96	1749590.87	14443047.61	39°46'10.2992"N	80°36'41.2801"W	1482.74	54.891	8.56	8.34	-2.02
7702.00	85.410	321.920	7149.11	13.20	922.97	1158.22	1749536.15	14443117.77	39°46'10.9951"N	80°36'41.9773"W	1480.99	51.449	8.09	8.09	-0.28
7791.00	89.450	321.050	7153.10	102.09	992.52	1102.86	1749480.81	14443187.29	39°46'11.6848"N	80°36'42.6824"W	1483.71	48.014	4.64	4.54	-0.98
7881.00	89.450	320.890	7153.96	192.08	1062.43	1046.19	1749424.16	14443257.18	39°46'12.3782"N	80°36'43.4043"W	1491.06	44.559	0.18	0.00	-0.18
7969.00	89.260	319.860	7154.95	280.04	1130.20	990.07	1749368.06	14443324.92	39°46'13.0504"N	80°36'44.1192"W	1502.53	41.219	1.19	-0.22	-1.17

## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

## WELLPATH DATA (228 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)
8058.00	89.230	320.660	7156.12	368.99	1198.63	933.18	1749311.19	14443393.33	39°46'13.7291"N	80°36'44.8440"W	1519.06	37.902	0.90	-0.03	0.90
8146.00	89.820	322.220	7156.85	456.98	1267.44	878.33	1749256.37	14443462.11	39°46'14.4114"N	80°36'45.5427"W	1542.03	34.722	1.90	0.67	1.77
8235.00	88.860	320.760	7157.88	545.97	1337.08	822.92	1749200.98	14443531.72	39°46'15.1020"N	80°36'46.2484"W	1570.02	31.611	1.96	-1.08	-1.64
8325.00	88.980	320.900	7159.57	635.93	1406.84	766.08	1749144.16	14443601.45	39°46'15.7938"N	80°36'46.9725"W	1601.90	28.570	0.20	0.13	0.16
8413.00	89.450	321.270	7160.78	723.91	1475.30	710.81	1749088.91	14443669.89	39°46'16.4728"N	80°36'47.6765"W	1637.61	25.725	0.68	0.53	0.42
8503.00	89.750	320.570	7161.41	813.90	1545.17	654.07	1749032.20	14443739.72	39°46'17.1656"N	80°36'48.3993"W	1677.90	22.943	0.85	0.33	-0.78
8592.00	89.690	321.430	7161.84	902.88	1614.33	598.06	1748976.21	14443808.86	39°46'17.8515"N	80°36'49.1127"W	1721.55	20.328	0.97	-0.07	0.97
8681.00	88.710	320.250	7163.09	991.85	1683.33	541.87	1748920.04	14443877.84	39°46'18.5358"N	80°36'49.8286"W	1768.40	17.844	1.72	-1.10	-1.33
8770.00	89.010	321.160	7164.86	1080.81	1752.19	485.52	1748863.71	14443946.67	39°46'19.2188"N	80°36'50.5465"W	1818.21	15.488	1.08	0.34	1.02
8859.00	89.080	321.700	7166.34	1169.80	1821.77	430.04	1748808.25	14444016.22	39°46'19.9087"N	80°36'51.2532"W	1871.83	13.282	0.61	0.08	0.61
8948.00	88.650	320.950	7168.10	1258.77	1891.24	374.43	1748752.67	14444085.66	39°46'20.5976"N	80°36'51.9616"W	1927.94	11.199	0.97	-0.48	-0.84
9039.00	88.680	321.150	7170.22	1349.74	1961.99	317.24	1748695.50	14444156.38	39°46'21.2992"N	80°36'52.6901"W	1987.47	9.185	0.22	0.03	0.22
9130.00	88.650	320.600	7172.34	1440.69	2032.56	259.83	1748638.11	14444226.93	39°46'21.9992"N	80°36'53.4214"W	2049.10	7.285	0.61	-0.03	-0.60
9223.00	88.950	320.550	7174.29	1533.65	2104.38	200.78	1748579.09	14444298.73	39°46'22.7115"N	80°36'54.1737"W	2113.94	5.450	0.33	0.32	-0.05
9311.00	90.520	321.080	7174.70	1621.63	2172.59	145.19	1748523.51	14444366.91	39°46'23.3879"N	80°36'54.8820"W	2177.44	3.823	1.88	1.78	0.60
9400.00	89.570	321.490	7174.63	1710.62	2242.03	89.52	1748467.87	14444436.32	39°46'24.0765"N	80°36'55.5911"W	2243.82	2.287	1.16	-1.07	0.46
9493.00	89.350	320.770	7175.50	1803.60	2314.44	31.16	1748409.53	14444508.70	39°46'24.7945"N	80°36'56.3345"W	2314.65	0.771	0.81	-0.24	-0.77
9581.00	88.800	318.920	7176.93	1891.53	2381.68	-25.57	1748352.82	14444575.92	39°46'25.4615"N	80°36'57.0575"W	2381.82	359.385	2.19	-0.62	-2.10
9671.00	88.340	316.680	7179.17	1981.26	2448.33	-86.01	1748292.41	14444642.54	39°46'26.1227"N	80°36'57.8278"W	2449.84	357.988	2.54	-0.51	-2.49
9759.00	89.050	318.890	7181.18	2068.99	2513.49	-145.12	1748233.32	14444707.67	39°46'26.7691"N	80°36'58.5813"W	2517.67	356.696	2.64	0.81	2.51
9852.00	89.260	319.420	7182.55	2161.87	2583.83	-205.93	1748172.53	14444777.99	39°46'27.4669"N	80°36'59.3563"W	2592.02	355.443	0.61	0.23	0.57
9944.00	90.090	319.770	7183.07	2253.79	2653.89	-265.56	1748112.92	14444848.01	39°46'28.1617"N	80°37'0.1162"W	2667.14	354.286	0.98	0.90	0.38
10032.00	89.350	319.000	7183.50	2341.70	2720.68	-322.85	1748055.66	14444914.79	39°46'28.8243"N	80°37'0.8462"W	2739.77	353.233	1.21	-0.84	-0.87
10123.00	89.690	319.300	7184.26	2432.59	2789.52	-382.37	1747996.16	14444983.59	39°46'29.5071"N	80°37'1.6047"W	2815.60	352.195	0.50	0.37	0.33
10215.00	89.600	319.630	7184.83	2524.50	2859.44	-442.16	1747936.39	14445053.48	39°46'30.2006"N	80°37'2.3667"W	2893.42	351.210	0.37	-0.10	0.36
10306.00	89.690	318.690	7185.40	2615.39	2928.28	-501.66	1747876.91	14445122.30	39°46'30.8834"N	80°37'3.1251"W	2970.94	350.279	1.04	0.10	-1.03
10395.00	89.850	319.180	7185.75	2704.26	2995.38	-560.13	1747818.47	14445189.38	39°46'31.5491"N	80°37'3.8702"W	3047.30	349.408	0.58	0.18	0.55
10484.00	90.030	320.040	7185.85	2793.19	3063.17	-617.80	1747760.82	14445257.14	39°46'32.2214"N	80°37'4.6051"W	3124.85	348.597	0.99	0.20	0.97
10576.00	88.580	318.780	7186.96	2885.08	3133.02	-677.65	1747700.99	14445326.96	39°46'32.9143"N	80°37'5.3679"W	3205.47	347.795	2.09	-1.58	-1.37
10667.00	89.350	318.760	7188.61	2975.93	3201.45	-737.62	1747641.05	14445395.36	39°46'33.5930"N	80°37'6.1322"W	3285.32	347.025	0.85	0.85	-0.02



# Actual Wellpath Report

Gladys Briggs MSH 5H AWP Proj: 20505'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (228 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]
10759.00	89.940	319.520	7189.18	3067.81	3271.03	-797.80	1747580.89	14445464.92	39°46'34.2832"N	80°37'6.8992"W	3366.91	346.293	1.05	0.64	0.83
10852.00	89.420	319.360	7189.70	3160.72	3341.68	-858.27	1747520.44	14445535.54	39°46'34.9840"N	80°37'7.6699"W	3450.14	345.596	0.59	-0.56	-0.17
10941.00	89.540	319.260	7190.50	3249.62	3409.16	-916.30	1747462.44	14445603.00	39°46'35.6533"N	80°37'8.4093"W	3530.15	344.956	0.18	0.13	-0.11
11033.00	89.510	319.310	7191.27	3341.52	3478.89	-976.31	1747402.45	14445672.70	39°46'36.3449"N	80°37'9.1741"W	3613.29	344.324	0.06	-0.03	0.05
11125.00	90.150	319.280	7191.54	3433.42	3548.63	-1036.31	1747342.48	14445742.41	39°46'37.0367"N	80°37'9.9388"W	3696.85	343.721	0.70	0.70	-0.03
11303.00	90.150	319.600	7191.07	3611.25	3683.86	-1152.05	1747226.78	14445877.59	39°46'38.3780"N	80°37'11.4139"W	3859.80	342.634	0.18	0.00	0.18
11392.00	89.750	319.380	7191.15	3700.16	3751.53	-1209.86	1747168.99	14445945.23	39°46'39.0491"N	80°37'12.1506"W	3941.79	342.126	0.51	-0.45	-0.25
11482.00	90.000	318.890	7191.35	3790.05	3819.59	-1268.75	1747110.13	14446013.27	39°46'39.7242"N	80°37'12.9011"W	4024.80	341.625	0.61	0.28	-0.54
11573.00	89.940	319.170	7191.39	3880.93	3888.30	-1328.41	1747050.49	14446081.95	39°46'40.4058"N	80°37'13.6616"W	4108.96	341.138	0.31	-0.07	0.31
11662.00	89.880	319.260	7191.53	3969.83	3955.69	-1386.55	1746992.37	14446149.31	39°46'41.0742"N	80°37'14.4026"W	4191.66	340.683	0.12	-0.07	0.10
11754.00	89.970	318.930	7191.65	4061.72	4025.22	-1446.79	1746932.15	14446218.82	39°46'41.7638"N	80°37'15.1704"W	4277.34	340.230	0.37	0.10	-0.36
11846.00	89.540	317.800	7192.05	4153.53	4093.98	-1507.91	1746871.06	14446287.55	39°46'42.4459"N	80°37'15.9495"W	4362.85	339.780	1.31	-0.47	-1.23
11938.00	89.690	318.790	7192.67	4245.34	4162.66	-1569.12	1746809.87	14446356.21	39°46'43.1272"N	80°37'16.7297"W	4448.58	339.346	1.09	0.16	1.08
12029.00	90.680	319.620	7192.37	4336.23	4231.55	-1628.57	1746750.44	14446425.07	39°46'43.8105"N	80°37'17.4875"W	4534.13	338.950	1.42	1.09	0.91
12121.00	89.630	319.200	7192.12	4428.14	4301.42	-1688.43	1746690.61	14446494.90	39°46'44.5035"N	80°37'18.2504"W	4620.93	338.569	1.23	-1.14	-0.46
12212.00	90.090	318.920	7192.35	4519.02	4370.16	-1748.06	1746631.00	14446563.62	39°46'45.1853"N	80°37'19.0104"W	4706.80	338.199	0.59	0.51	-0.31
12304.00	90.030	319.270	7192.25	4610.91	4439.69	-1808.30	1746570.78	14446633.12	39°46'45.8750"N	80°37'19.7783"W	4793.83	337.839	0.39	-0.07	0.38
12395.00	91.260	319.540	7191.23	4701.81	4508.78	-1867.51	1746511.60	14446702.19	39°46'46.5602"N	80°37'20.5329"W	4880.24	337.501	1.38	1.35	0.30
12485.00	90.550	319.750	7189.80	4791.73	4577.36	-1925.78	1746453.35	14446770.74	39°46'47.2404"N	80°37'21.2756"W	4965.97	337.183	0.82	-0.79	0.23
12576.00	90.650	319.190	7188.85	4882.63	4646.52	-1984.91	1746394.24	14446839.87	39°46'47.9263"N	80°37'22.0292"W	5052.72	336.869	0.63	0.11	-0.62
12667.00	90.680	319.190	7187.79	4973.52	4715.39	-2044.38	1746334.80	14446908.72	39°46'48.6094"N	80°37'22.7872"W	5139.49	336.561	0.03	0.03	0.00
12759.00	90.680	318.910	7186.70	5065.40	4784.87	-2104.67	1746274.53	14446978.17	39°46'49.2986"N	80°37'23.5557"W	5227.30	336.257	0.30	0.00	-0.30
12849.00	90.680	319.450	7185.63	5155.28	4852.98	-2163.50	1746215.72	14447046.25	39°46'49.9741"N	80°37'24.3056"W	5313.39	335.972	0.60	0.00	0.60
12939.00	90.770	317.940	7184.50	5245.13	4920.58	-2222.90	1746156.35	14447113.83	39°46'50.6446"N	80°37'25.0628"W	5399.39	335.689	1.68	0.10	-1.68
13029.00	91.910	320.460	7182.39	5334.99	4988.68	-2281.68	1746097.58	14447181.90	39°46'51.3201"N	80°37'25.8121"W	5485.71	335.422	3.07	1.27	2.80
13118.00	90.250	320.610	7180.71	5423.94	5057.38	-2338.24	1746041.05	14447250.57	39°46'52.0014"N	80°37'26.5328"W	5571.75	335.187	1.87	-1.87	0.17
13208.00	90.090	316.770	7180.45	5513.78	5124.97	-2397.64	1745981.67	14447318.14	39°46'52.6718"N	80°37'27.2900"W	5658.09	334.928	4.27	-0.18	-4.27
13298.00	90.950	319.160	7179.63	5603.55	5191.81	-2457.90	1745921.44	14447384.95	39°46'53.3348"N	80°37'28.0582"W	5744.22	334.666	2.82	0.96	2.66
13388.00	91.080	319.310	7178.04	5693.43	5259.96	-2516.65	1745862.70	14447453.08	39°46'54.0108"N	80°37'28.8072"W	5831.01	334.431	0.22	0.14	0.17
13480.00	90.800	320.010	7176.53	5785.35	5330.07	-2576.20	1745803.18	14447523.16	39°46'54.7062"N	80°37'29.5661"W	5920.01	334.204	0.82	-0.30	0.76



# Actual Wellpath Report

Gladys Briggs MSH 5H AWP Proj: 20505'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

## WELLPATH DATA (228 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]
13572.00	90.580	318.870	7175.42	5877.25	5399.96	-2636.02	1745743.39	14447593.02	39°46'55.3993"N	80°37'30.3285"W	6009.01	333.980	1.26	-0.24	-1.24
13659.00	90.620	319.340	7174.51	5964.14	5465.72	-2692.97	1745686.46	14447658.76	39°46'56.0516"N	80°37'31.0545"W	6093.13	333.770	0.54	0.05	0.54
13749.00	90.860	319.380	7173.34	6054.04	5534.01	-2751.58	1745627.87	14447727.02	39°46'56.7289"N	80°37'31.8016"W	6180.33	333.563	0.27	0.27	0.04
13842.00	90.620	319.780	7172.14	6146.95	5604.81	-2811.88	1745567.60	14447797.79	39°46'57.4310"N	80°37'32.5702"W	6270.61	333.358	0.50	-0.26	0.43
13932.00	90.800	319.310	7171.03	6236.86	5673.28	-2870.27	1745509.23	14447866.24	39°46'58.1101"N	80°37'33.3144"W	6358.03	333.164	0.56	0.20	-0.52
14023.00	90.650	319.340	7169.88	6327.76	5742.29	-2929.58	1745449.94	14447935.22	39°46'58.7946"N	80°37'34.0704"W	6446.42	332.970	0.17	-0.16	0.03
14115.00	90.980	318.970	7168.57	6419.64	5811.88	-2989.74	1745389.80	14448004.78	39°46'59.4848"N	80°37'34.8373"W	6535.79	332.778	0.54	0.36	-0.40
14207.00	90.620	319.060	7167.28	6511.51	5881.33	-3050.07	1745329.49	14448074.20	39°47'0.1736"N	80°37'35.6064"W	6625.17	332.589	0.40	-0.39	0.10
14298.00	90.680	318.930	7166.25	6602.38	5949.99	-3109.78	1745269.81	14448142.84	39°47'0.8547"N	80°37'36.3675"W	6713.65	332.406	0.16	0.07	-0.14
14388.00	91.050	319.010	7164.89	6692.25	6017.88	-3168.85	1745210.76	14448210.70	39°47'1.5280"N	80°37'37.1206"W	6801.21	332.230	0.42	0.41	0.09
14478.00	91.080	319.410	7163.22	6782.13	6086.01	-3227.64	1745152.00	14448278.80	39°47'2.2037"N	80°37'37.8699"W	6888.91	332.061	0.45	0.03	0.44
14569.00	91.480	319.390	7161.19	6873.01	6155.08	-3286.84	1745092.82	14448347.85	39°47'2.8888"N	80°37'38.6246"W	6977.71	331.898	0.44	0.44	-0.02
14660.00	91.110	319.150	7159.13	6963.89	6224.02	-3346.20	1745033.48	14448416.77	39°47'3.5725"N	80°37'39.3813"W	7066.51	331.736	0.48	-0.41	-0.26
14751.00	90.830	319.320	7157.59	7054.77	6292.94	-3405.61	1744974.09	14448485.65	39°47'4.2560"N	80°37'40.1387"W	7155.37	331.579	0.36	-0.31	0.19
14839.00	90.740	319.340	7156.38	7142.67	6359.68	-3462.96	1744916.77	14448552.37	39°47'4.9179"N	80°37'40.8697"W	7241.38	331.431	0.10	-0.10	0.02
14929.00	90.770	319.080	7155.20	7232.56	6427.81	-3521.75	1744858.00	14448620.47	39°47'5.5937"N	80°37'41.6191"W	7329.36	331.282	0.29	0.03	-0.29
15020.00	90.740	319.230	7154.00	7323.44	6496.64	-3581.26	1744798.51	14448689.28	39°47'6.2764"N	80°37'42.3778"W	7418.34	331.134	0.17	-0.03	0.16
15110.00	90.890	319.540	7152.72	7413.34	6564.96	-3639.84	1744739.95	14448757.57	39°47'6.9539"N	80°37'43.1245"W	7506.47	330.994	0.38	0.17	0.34
15200.00	91.200	319.100	7151.08	7503.23	6633.20	-3698.49	1744681.32	14448825.78	39°47'7.6307"N	80°37'43.8722"W	7594.62	330.857	0.60	0.34	-0.49
15293.00	90.860	319.550	7149.41	7596.12	6703.72	-3759.10	1744620.74	14448896.27	39°47'8.3301"N	80°37'44.6448"W	7685.75	330.719	0.61	-0.37	0.48
15384.00	90.890	319.160	7148.02	7687.02	6772.76	-3818.37	1744561.50	14448965.29	39°47'9.0148"N	80°37'45.4003"W	7774.97	330.586	0.43	0.03	-0.43
15475.00	90.770	319.670	7146.70	7777.92	6841.86	-3877.56	1744502.32	14449034.36	39°47'9.7001"N	80°37'46.1550"W	7864.26	330.458	0.58	-0.13	0.56
15567.00	90.980	319.840	7145.29	7869.84	6912.07	-3936.99	1744442.92	14449104.55	39°47'10.3965"N	80°37'46.9125"W	7954.66	330.335	0.29	0.23	0.18
15659.00	90.460	318.730	7144.14	7961.73	6981.80	-3997.00	1744382.93	14449174.25	39°47'11.0880"N	80°37'47.6775"W	8044.97	330.209	1.33	-0.57	-1.21
15751.00	90.890	318.770	7143.05	8053.58	7050.96	-4057.65	1744322.30	14449243.38	39°47'11.7740"N	80°37'48.4508"W	8135.15	330.081	0.47	0.47	0.04
15844.00	91.080	319.330	7141.45	8146.44	7121.19	-4118.60	1744261.38	14449313.59	39°47'12.4705"N	80°37'49.2278"W	8226.44	329.957	0.64	0.20	0.60
15936.00	90.990	317.820	7139.79	8238.26	7190.17	-4179.46	1744200.55	14449382.53	39°47'13.1546"N	80°37'50.0037"W	8316.63	329.832	1.64	-0.10	-1.64
16027.00	92.490	317.410	7137.03	8328.96	7257.35	-4240.77	1744139.26	14449449.69	39°47'13.8211"N	80°37'50.7856"W	8405.55	329.700	1.71	1.65	-0.45
16120.00	90.830	320.830	7134.33	8421.79	7327.62	-4301.60	1744078.45	14449519.93	39°47'14.5180"N	80°37'51.5611"W	8496.93	329.585	4.09	-1.78	3.68
16211.00	90.460	319.560	7133.31	8512.74	7397.52	-4359.85	1744020.22	14449589.81	39°47'15.2112"N	80°37'52.3036"W	8586.71	329.486	1.45	-0.41	-1.40



REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (228 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]
16303.00	91.260	320.290	7131.93	8604.67	7467.91	-4419.07	1743961.03	14449660.17	39°47'15.9093"N	80°37'53.0585"W	8677.44	329.385	1.18	0.87	0.79
16395.00	91.200	320.130	7129.95	8696.60	7538.59	-4477.93	1743902.19	14449730.82	39°47'16.6101"N	80°37'53.8088"W	8768.25	329.290	0.19	-0.07	-0.17
16488.00	91.350	319.810	7127.89	8789.52	7609.78	-4537.74	1743842.41	14449801.99	39°47'17.3161"N	80°37'54.5711"W	8860.01	329.192	0.38	0.16	-0.34
16580.00	90.800	320.570	7126.16	8881.46	7680.44	-4596.63	1743783.54	14449872.62	39°47'18.0168"N	80°37'55.3218"W	8950.88	329.100	1.02	-0.60	0.83
16673.00	90.830	320.610	7124.84	8974.43	7752.29	-4655.66	1743724.52	14449944.44	39°47'18.7292"N	80°37'56.0743"W	9042.85	329.013	0.05	0.03	0.04
16764.00	90.370	319.710	7123.88	9065.38	7822.16	-4713.96	1743666.25	14450014.28	39°47'19.4221"N	80°37'56.8174"W	9132.77	328.925	1.11	-0.51	-0.99
16857.00	90.950	319.910	7122.81	9158.30	7893.20	-4773.97	1743606.27	14450085.29	39°47'20.1266"N	80°37'57.5824"W	9224.60	328.834	0.66	0.62	0.22
16949.00	90.770	323.810	7121.43	9250.28	7965.53	-4830.77	1743549.49	14450157.60	39°47'20.8437"N	80°37'58.3062"W	9315.90	328.765	4.24	-0.20	4.24
17041.00	90.680	327.700	7120.27	9342.05	8041.56	-4882.53	1743497.75	14450233.60	39°47'21.5972"N	80°37'58.9652"W	9407.75	328.735	4.23	-0.10	4.23
17132.00	90.770	330.260	7119.11	9432.35	8119.53	-4929.42	1743450.88	14450311.54	39°47'22.3697"N	80°37'59.5618"W	9498.74	328.738	2.81	0.10	2.81
17223.00	90.770	330.760	7117.89	9522.33	8198.74	-4974.21	1743406.10	14450390.71	39°47'23.1542"N	80°38'0.1314"W	9589.68	328.755	0.55	0.00	0.55
17314.00	90.860	330.250	7116.60	9612.31	8277.94	-5019.01	1743361.32	14450469.88	39°47'23.9387"N	80°38'0.7012"W	9680.63	328.771	0.57	0.10	-0.56
17405.00	91.050	330.140	7115.08	9702.36	8356.89	-5064.23	1743316.12	14450548.80	39°47'24.7208"N	80°38'1.2764"W	9771.59	328.784	0.24	0.21	-0.12
17495.00	90.710	327.870	7113.70	9791.67	8434.02	-5110.57	1743269.80	14450625.90	39°47'25.4850"N	80°38'1.8660"W	9861.57	328.786	2.55	-0.38	-2.52
17586.00	90.550	327.900	7112.70	9882.17	8511.09	-5158.95	1743221.44	14450702.94	39°47'26.2486"N	80°38'2.4816"W	9952.56	328.778	0.18	-0.18	0.03
17676.00	90.860	328.090	7111.59	9971.67	8587.41	-5206.64	1743173.76	14450779.23	39°47'27.0047"N	80°38'3.0886"W	10042.54	328.771	0.40	0.34	0.21
17767.00	93.690	331.720	7107.98	10061.70	8666.05	-5252.23	1743128.20	14450857.85	39°47'27.7838"N	80°38'3.6685"W	10133.43	328.781	5.06	3.11	3.99
17857.00	93.260	330.240	7102.52	10150.42	8744.61	-5295.80	1743084.63	14450936.37	39°47'28.5619"N	80°38'4.2226"W	10223.20	328.801	1.71	-0.48	-1.64
17948.00	93.330	328.550	7097.29	10240.50	8822.80	-5342.06	1743038.40	14451014.53	39°47'29.3365"N	80°38'4.8111"W	10314.04	328.806	1.86	0.08	-1.86
18038.00	94.000	328.600	7091.54	10329.72	8899.44	-5388.88	1742991.59	14451091.14	39°47'30.0958"N	80°38'5.4070"W	10403.85	328.804	0.75	0.74	0.06
18129.00	92.160	328.380	7086.65	10420.00	8976.91	-5436.37	1742944.12	14451168.58	39°47'30.8633"N	80°38'6.0113"W	10494.71	328.801	2.04	-2.02	-0.24
18219.00	90.770	328.400	7084.35	10509.40	9053.53	-5483.53	1742896.98	14451245.17	39°47'31.6224"N	80°38'6.6114"W	10584.68	328.798	1.54	-1.54	0.02
18309.00	91.080	328.020	7082.89	10598.85	9130.02	-5530.94	1742849.59	14451321.63	39°47'32.3802"N	80°38'7.2147"W	10674.66	328.793	0.54	0.34	-0.42
18399.00	91.290	329.060	7081.03	10688.24	9206.77	-5577.90	1742802.65	14451398.35	39°47'33.1406"N	80°38'7.8123"W	10764.64	328.791	1.18	0.23	1.16
18489.00	90.890	328.000	7079.32	10777.63	9283.52	-5624.87	1742755.69	14451475.07	39°47'33.9009"N	80°38'8.4101"W	10854.62	328.788	1.26	-0.44	-1.18
18579.00	90.980	328.340	7077.85	10867.09	9359.97	-5672.33	1742708.25	14451551.49	39°47'34.6584"N	80°38'9.0141"W	10944.61	328.783	0.39	0.10	-0.38
18670.00	90.220	328.300	7076.90	10957.52	9437.41	-5720.12	1742660.48	14451628.90	39°47'35.4256"N	80°38'9.6223"W	11035.60	328.779	0.84	-0.84	-0.04
18760.00	90.150	328.040	7076.61	11046.99	9513.87	-5767.59	1742613.04	14451705.33	39°47'36.1832"N	80°38'10.2264"W	11125.59	328.775	0.30	-0.08	-0.29
18852.00	90.550	328.040	7076.05	11138.48	9591.92	-5816.28	1742564.36	14451783.36	39°47'36.9565"N	80°38'10.8462"W	11217.58	328.769	0.43	0.43	0.00
18942.00	90.370	328.400	7075.32	11227.94	9668.43	-5863.68	1742516.98	14451859.83	39°47'37.7145"N	80°38'11.4494"W	11307.58	328.764	0.45	-0.20	0.40

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (228 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]
19033.00	90.250	328.040	7074.83	11318.39	9745.78	-5911.61	1742469.07	14451937.16	39°47'38.4809"N	80°38'12.0594"W	11398.57	328.760	0.42	-0.13	-0.40
19124.00	89.320	327.400	7075.17	11408.93	9822.72	-5960.20	1742420.49	14452014.06	39°47'39.2431"N	80°38'12.6780"W	11489.55	328.752	1.24	-1.02	-0.70
19214.00	90.310	328.090	7075.46	11498.47	9898.83	-6008.23	1742372.48	14452090.14	39°47'39.9972"N	80°38'13.2894"W	11579.54	328.744	1.34	1.10	0.77
19304.00	89.880	328.410	7075.31	11587.93	9975.36	-6055.59	1742325.14	14452166.64	39°47'40.7554"N	80°38'13.8921"W	11669.53	328.740	0.60	-0.48	0.36
19395.00	91.290	328.280	7074.39	11678.36	10052.82	-6103.35	1742277.41	14452244.07	39°47'41.5228"N	80°38'14.4999"W	11760.52	328.737	1.56	1.55	-0.14
19486.00	89.970	328.380	7073.39	11768.79	10130.26	-6151.12	1742229.65	14452321.48	39°47'42.2901"N	80°38'15.1079"W	11851.51	328.734	1.45	-1.45	0.11
19578.00	90.860	328.770	7072.72	11860.17	10208.76	-6199.09	1742181.70	14452399.95	39°47'43.0678"N	80°38'15.7183"W	11943.51	328.733	1.06	0.97	0.42
19670.00	90.090	328.550	7071.96	11951.54	10287.33	-6246.93	1742133.87	14452478.50	39°47'43.8462"N	80°38'16.3273"W	12035.51	328.732	0.87	-0.84	-0.24
19762.00	90.120	328.200	7071.79	12042.96	10365.67	-6295.18	1742085.65	14452556.80	39°47'44.6223"N	80°38'16.9412"W	12127.50	328.729	0.38	0.03	-0.38
19853.00	91.420	328.680	7070.56	12133.37	10443.20	-6342.80	1742038.05	14452634.30	39°47'45.3904"N	80°38'17.5473"W	12218.49	328.727	1.52	1.43	0.53
19945.00	90.180	328.710	7069.28	12224.72	10521.80	-6390.60	1741990.27	14452712.87	39°47'46.1691"N	80°38'18.1556"W	12310.48	328.727	1.35	-1.35	0.03
20036.00	91.480	328.800	7067.96	12315.07	10599.59	-6437.79	1741943.09	14452790.63	39°47'46.9398"N	80°38'18.7563"W	12401.47	328.727	1.43	1.43	0.10
20128.00	90.120	328.430	7066.68	12406.44	10678.12	-6485.70	1741895.20	14452869.13	39°47'47.7177"N	80°38'19.3659"W	12493.46	328.726	1.53	-1.48	-0.40
20220.00	89.850	328.140	7066.70	12497.88	10756.38	-6534.06	1741846.86	14452947.36	39°47'48.4931"N	80°38'19.9815"W	12585.46	328.723	0.43	-0.29	-0.32
20311.00	89.350	327.990	7067.34	12588.36	10833.61	-6582.19	1741798.74	14453024.56	39°47'49.2582"N	80°38'20.5942"W	12676.45	328.718	0.57	-0.55	-0.16
20403.00	89.780	328.490	7068.04	12679.81	10911.83	-6630.62	1741750.34	14453102.75	39°47'50.0332"N	80°38'21.2106"W	12768.44	328.715	0.72	0.47	0.54
20480.00	89.780	328.270	7068.33	12756.33	10977.40	-6670.99	1741709.98	14453168.29	39°47'50.6828"N	80°38'21.7244"W	12845.44	328.713	0.29	0.00	-0.29
20505.00‡	89.780	328.270	7068.43	12781.17	10998.66	-6684.14	1741696.84	14453189.55	39°47'50.8934"N	80°38'21.8917"W	12870.44	328.712	0.00	0.00	0.00

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

HOLE & CASING SECTIONS - Ref Wellbore: Gladys Briggs MSH 5H AWB      Ref Wellpath: Gladys Briggs MSH 5H AWP Proj: 20505'									
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	126.00	100.00	26.00	126.00	0.00	0.00	-0.05	0.05
17.5in Open Hole	126.00	800.00	674.00	126.00	799.98	-0.05	0.05	-2.62	3.63
13.375in Casing Surface	26.00	800.00	774.00	26.00	799.98	0.00	0.00	-2.62	3.63
12.25in Open Hole	800.00	2622.00	1822.00	799.98	2587.05	-2.62	3.63	76.73	304.15
9.625in Casing Intermediate	26.00	2622.00	2596.00	26.00	2587.05	0.00	0.00	76.73	304.15
8.75in Open Hole	2622.00	6227.00	3605.00	2587.05	6052.68	76.73	304.15	268.17	1275.45
8.5in Open Hole	6227.00	20505.00	14278.00	6052.68	7068.43	268.17	1275.45	10998.66	-6684.14
5.5in Casing Production	26.00	20505.00	20479.00	26.00	7068.43	0.00	0.00	10998.66	-6684.14

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Gladys Briggs MSH 5H BHL Rev-2	7105.00	10988.68	-6698.81	1741682.18	14453179.57	39°47'50.7954"N	80°38'22.0802"W	point
Gladys Briggs MSH 5H LP Rev-1	7153.00	959.94	1147.16	1749525.10	14443154.73	39°46'11.3610"N	80°36'42.1168"W	point

WELLPATH COMPOSITION - Ref Wellbore: Gladys Briggs MSH 5H AWB      Ref Wellpath: Gladys Briggs MSH 5H AWP Proj: 20505'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	723.00	Gyrodata 2015 - GC+WIR+DRPIPE	01 Gyrodata <17-1/2"> (100'-723')	Gladys Briggs MSH 5H AWB	5/7/2021
723.00	2639.00	OWSG MWD rev2 + HRGM	02 Premier MWD <12-1/4"> (872'-2639')	Gladys Briggs MSH 5H AWB	5/8/2021
2639.00	6161.00	OWSG MWD rev2 + HRGM	03 Premier MWD <8-3/4"> (2708'-6161')	Gladys Briggs MSH 5H AWB	5/8/2021
6161.00	20505.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (6270'-20480')	Gladys Briggs MSH 5H AWB	5/8/2021

<b>REFERENCE WELLPATH IDENTIFICATION</b>			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Gladys Briggs MSH 5H
Field	Marshall	API/Legal	
Facility	Gladys Briggs MSH Pad	Wellbore	Gladys Briggs MSH 5H AWB
Slot	Slot 5H		

<b>COMMENTS</b>
<p><b>Wellpath general comments</b>            API: 47-051-02370-0000            BH Job #: 110870185            Rig: SDC 41            Duration: 05/11/2021 - 05/14/2021</p>