

Location: Marshall County, WV
Field: Marshall
Facility: O E Burge MSH Pad

Slot: Slot 5H
Well: O E Burge MSH 5H
Wellbore: O E Burge MSH 5H PWB

Plot reference wellpath is O E Burge MSH 5H AWB_awp 100' - 20473' Proj: 20498'	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: 1368.2 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot Slot 5H): -1342.2 feet	Depths are in feet
Offset well path MDs are referenced to each path's default MD datum	Created by: tranlam on 2021-11-30; Database: WA_MPL_EASTERNUS_Defn

Bottom Hole Location

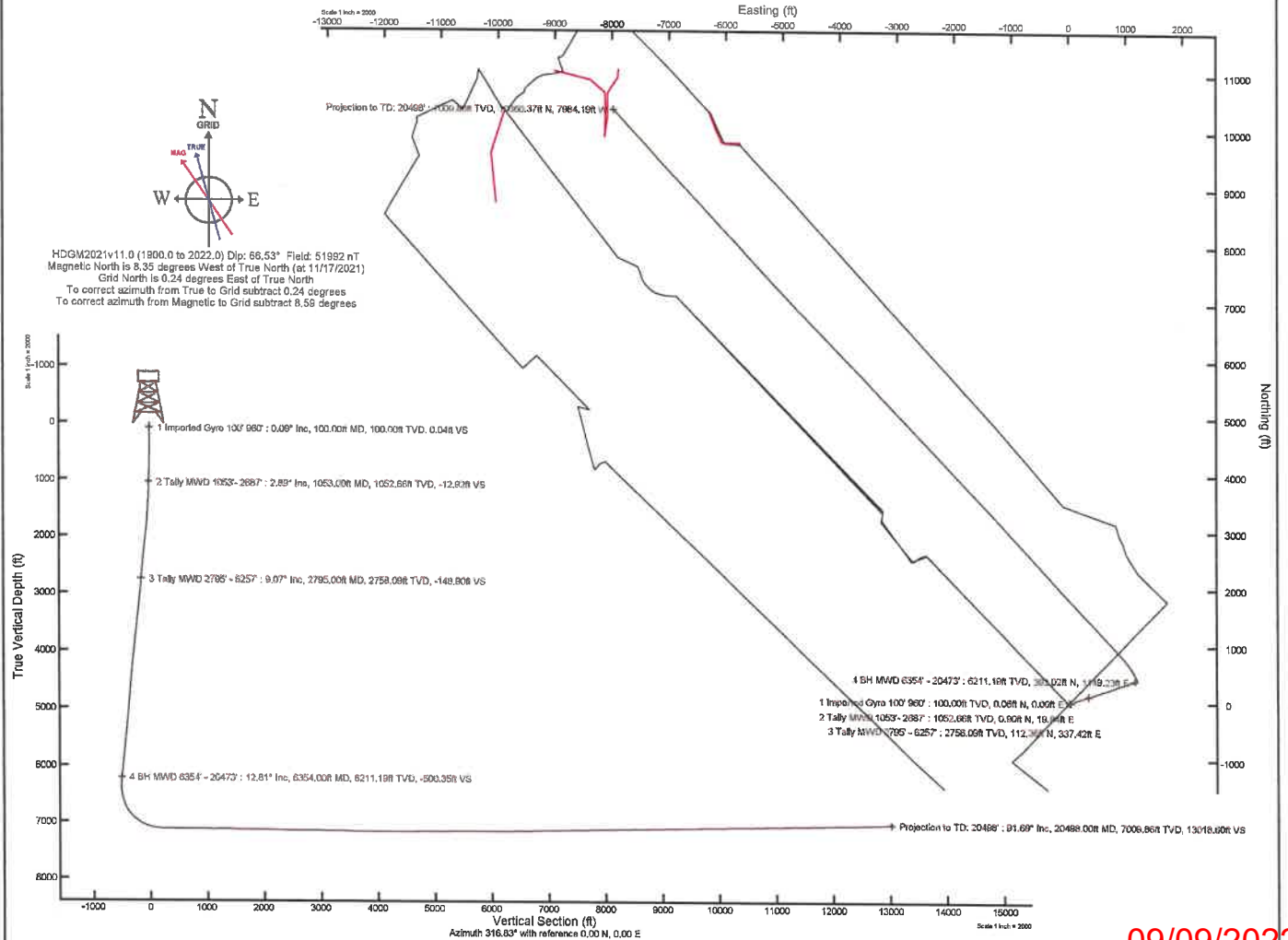
MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
20498.00	91.690	317.500	7009.86	10360.37	-7984.19	1735953.19	14446594.65	39°46'45.9154"N	80°39'35.8280"W

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Office of Oil and Gas

JUN 7 2022

WV Department of
Environmental Protection

API: 47051023880000
BH JOB #: 111048040
Duration: 11-24-2021 to 11-29-2021
Rig: SDC 41



09/09/2022



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WV Department of
Environmental Protection

Actual Wellpath Report

O E Burge MSH 5H AWB_awp 100' - 20473' Proj: 20498'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 5H
Field	Marshall	API/Legal	
Facility	O E Burge MSH Pad	Wellbore	O E Burge 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	Tranlam
Scale	0.999612	Report Generated	11/30/2021 at 1:22:41 PM
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	-4.62	11.58	1743934.26	14436238.32	39°45'3.2154"N	80°37'54.1088"W
Facility Reference Pt			1743922.68	14436242.94	39°45'3.2616"N	80°37'54.2568"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	1368.20ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1368.20ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level 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	316.83°

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Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (227 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]
0.00†	0.000	356.870	0.00	0.00	0.00	0.00	1743934.26	14436238.32	39°45'3.2154"N	80°37'54.1088"W	0.00	0.000	0.00
26.00	0.000	356.870	26.00	0.00	0.00	0.00	1743934.26	14436238.32	39°45'3.2154"N	80°37'54.1088"W	0.00	0.000	0.00
100.00	0.090	356.870	100.00	0.04	0.06	0.00	1743934.26	14436238.38	39°45'3.2160"N	80°37'54.1088"W	0.06	356.870	0.12
200.00	0.090	16.330	200.00	0.14	0.21	0.01	1743934.27	14436238.53	39°45'3.2175"N	80°37'54.1086"W	0.21	3.949	0.03
300.00	0.130	43.490	300.00	0.19	0.37	0.11	1743934.37	14436238.69	39°45'3.2191"N	80°37'54.1073"W	0.39	17.257	0.06
400.00	0.260	86.690	400.00	0.05	0.46	0.42	1743934.68	14436238.78	39°45'3.2200"N	80°37'54.1034"W	0.63	42.052	0.19
500.00	0.640	103.400	500.00	-0.56	0.35	1.19	1743935.45	14436238.67	39°45'3.2188"N	80°37'54.0935"W	1.24	73.663	0.40
600.00	1.450	88.700	599.98	-1.87	0.25	3.00	1743937.26	14436238.57	39°45'3.2177"N	80°37'54.0704"W	3.01	85.273	0.85
700.00	2.260	86.270	699.93	-3.97	0.40	6.23	1743940.49	14436238.72	39°45'3.2192"N	80°37'54.0290"W	6.24	86.282	0.81
800.00	2.580	86.160	799.84	-6.65	0.68	10.44	1743944.70	14436239.00	39°45'3.2217"N	80°37'53.9750"W	10.47	86.254	0.32
898.50	1.680	90.300	898.27	-9.04	0.82	14.10	1743948.35	14436239.14	39°45'3.2230"N	80°37'53.9282"W	14.12	86.652	0.93
960.00	1.870	94.130	959.74	-10.40	0.75	16.00	1743950.26	14436239.07	39°45'3.2222"N	80°37'53.9039"W	16.02	87.324	0.36
1053.00	2.890	83.560	1052.66	-12.92	0.90	19.84	1743954.10	14436239.22	39°45'3.2235"N	80°37'53.8546"W	19.87	87.399	1.19
1146.00	3.550	81.850	1145.51	-15.97	1.57	25.02	1743959.27	14436239.89	39°45'3.2299"N	80°37'53.7883"W	25.07	86.404	0.72
1238.00	5.200	78.150	1237.24	-19.78	2.83	31.92	1743966.17	14436241.15	39°45'3.2421"N	80°37'53.6999"W	32.05	84.930	1.82
1331.00	6.610	73.080	1329.74	-24.33	5.26	41.17	1743975.41	14436243.57	39°45'3.2657"N	80°37'53.5814"W	41.50	82.725	1.62
1423.00	8.160	68.560	1420.98	-29.09	9.18	52.31	1743986.55	14436247.50	39°45'3.3040"N	80°37'53.4385"W	53.11	80.043	1.80
1515.00	9.910	62.940	1511.83	-33.71	15.17	65.44	1743999.68	14436253.49	39°45'3.3627"N	80°37'53.2701"W	67.18	76.947	2.13
1607.00	11.980	60.700	1602.16	-38.19	23.45	80.82	1744015.05	14436261.76	39°45'3.4439"N	80°37'53.0728"W	84.15	73.822	2.30
1699.00	13.290	62.750	1691.93	-43.38	32.96	98.55	1744032.77	14436271.27	39°45'3.5372"N	80°37'52.8453"W	103.92	71.506	1.50
1789.00	14.240	67.370	1779.34	-50.11	41.96	117.96	1744052.18	14436280.26	39°45'3.6253"N	80°37'52.5962"W	125.20	70.420	1.61
1879.00	14.730	71.580	1866.49	-58.78	49.83	139.04	1744073.24	14436288.13	39°45'3.7023"N	80°37'52.3260"W	147.70	70.281	1.29
1970.00	14.810	74.060	1954.48	-68.95	56.68	161.20	1744095.40	14436294.98	39°45'3.7690"N	80°37'52.0419"W	170.87	70.626	0.70
2059.00	14.660	71.590	2040.55	-78.87	63.36	182.82	1744117.01	14436301.66	39°45'3.8342"N	80°37'51.7647"W	193.49	70.884	0.73
2150.00	14.180	71.430	2128.69	-88.33	70.55	204.31	1744138.49	14436308.84	39°45'3.9043"N	80°37'51.4892"W	216.15	70.950	0.53
2241.00	14.270	71.140	2216.90	-97.59	77.73	225.49	1744159.66	14436316.02	39°45'3.9744"N	80°37'51.2177"W	238.51	70.981	0.13
2329.00	14.310	71.790	2302.17	-106.64	84.63	246.09	1744180.25	14436322.92	39°45'4.0418"N	80°37'50.9536"W	260.23	71.022	0.19
2418.00	13.730	71.330	2388.52	-115.66	91.45	266.54	1744200.70	14436329.73	39°45'4.1083"N	80°37'50.6914"W	281.79	71.063	0.66
2507.00	12.820	72.640	2475.14	-124.34	97.78	285.97	1744220.12	14436336.06	39°45'4.1701"N	80°37'50.4423"W	302.23	71.124	1.08
2597.00	11.060	73.540	2563.19	-132.57	103.20	303.78	1744237.92	14436341.48	39°45'4.2230"N	80°37'50.2140"W	320.83	71.236	1.97

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Slot	Slot 5H		

WELLPATH DATA (227 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]
2687.00	10.310	75.920	2651.63	-140.37	107.61	319.87	1744254.01	14436345.88	39°45'4.2658"N	80°37'50.0077"W	337.49	71.407	0.97
2795.00	9.070	73.620	2758.09	-148.90	112.36	337.42	1744271.54	14436350.64	39°45'4.3121"N	80°37'49.7829"W	355.63	71.582	1.20
2883.00	11.230	71.500	2844.71	-155.61	117.03	352.20	1744286.32	14436355.31	39°45'4.3577"N	80°37'49.5934"W	371.13	71.618	2.49
2974.00	13.170	73.320	2933.65	-163.93	122.82	370.53	1744304.65	14436361.09	39°45'4.4141"N	80°37'49.3583"W	390.36	71.661	2.17
3062.00	15.050	73.030	3018.99	-173.45	129.03	391.07	1744325.17	14436367.30	39°45'4.4747"N	80°37'49.0951"W	411.80	71.739	2.14
3151.00	16.650	71.280	3104.60	-183.83	136.50	414.20	1744348.29	14436374.77	39°45'4.5475"N	80°37'48.7986"W	436.11	71.760	1.88
3239.00	16.110	66.690	3189.03	-193.19	145.38	437.35	1744371.44	14436383.64	39°45'4.6343"N	80°37'48.5016"W	460.88	71.613	1.59
3327.00	15.930	67.580	3273.62	-201.62	154.82	459.73	1744393.81	14436393.07	39°45'4.7267"N	80°37'48.2147"W	485.09	71.389	0.35
3418.00	16.080	72.080	3361.09	-211.42	163.46	483.26	1744417.33	14436401.71	39°45'4.8111"N	80°37'47.9129"W	510.16	71.313	1.37
3508.00	15.560	70.430	3447.68	-221.57	171.33	506.50	1744440.56	14436409.59	39°45'4.8880"N	80°37'47.6150"W	534.69	71.311	0.76
3601.00	14.510	71.810	3537.50	-231.48	179.15	529.32	1744463.37	14436417.40	39°45'4.9643"N	80°37'47.3224"W	558.81	71.301	1.19
3693.00	14.470	69.380	3626.57	-240.76	186.80	551.02	1744485.07	14436425.04	39°45'5.0390"N	80°37'47.0440"W	581.83	71.274	0.66
3784.00	14.480	71.860	3714.69	-249.93	194.34	572.48	1744506.51	14436432.59	39°45'5.1127"N	80°37'46.7690"W	604.57	71.249	0.68
3877.00	14.760	70.060	3804.68	-259.52	202.00	594.66	1744528.69	14436440.24	39°45'5.1875"N	80°37'46.4845"W	628.04	71.238	0.57
3968.00	14.390	74.130	3892.75	-269.28	209.05	616.44	1744550.46	14436447.29	39°45'5.2562"N	80°37'46.2054"W	650.92	71.267	1.20
4058.00	14.310	73.050	3979.94	-279.32	215.35	637.83	1744571.85	14436453.58	39°45'5.3176"N	80°37'45.9311"W	673.21	71.344	0.31
4150.00	14.400	70.500	4069.07	-288.94	222.48	659.49	1744593.50	14436460.71	39°45'5.3872"N	80°37'45.6534"W	696.01	71.358	0.69
4240.00	13.710	72.720	4156.38	-298.09	229.39	680.23	1744614.22	14436467.62	39°45'5.4546"N	80°37'45.3876"W	717.86	71.365	0.97
4329.00	13.480	71.190	4242.88	-306.97	235.86	700.12	1744634.10	14436474.09	39°45'5.5178"N	80°37'45.1326"W	738.78	71.382	0.48
4421.00	13.610	67.980	4332.32	-315.30	243.38	720.30	1744654.28	14436481.60	39°45'5.5913"N	80°37'44.8737"W	760.31	71.331	0.83
4511.00	13.840	71.280	4419.76	-323.58	250.80	740.31	1744674.29	14436489.03	39°45'5.6638"N	80°37'44.6171"W	781.64	71.285	0.91
4603.00	13.540	67.350	4509.14	-331.91	258.48	760.68	1744694.64	14436496.70	39°45'5.7389"N	80°37'44.3560"W	803.39	71.232	1.06
4695.00	13.500	71.750	4598.60	-340.21	265.99	780.81	1744714.77	14436504.21	39°45'5.8123"N	80°37'44.0978"W	824.88	71.188	1.12
4787.00	13.230	70.090	4688.11	-348.89	272.94	800.91	1744734.86	14436511.16	39°45'5.8801"N	80°37'43.8401"W	846.14	71.181	0.51
4880.00	13.140	71.170	4778.65	-357.45	279.98	820.92	1744754.86	14436518.19	39°45'5.9489"N	80°37'43.5836"W	867.35	71.168	0.28
4969.00	12.710	68.970	4865.40	-365.31	286.76	839.64	1744773.57	14436524.96	39°45'6.0151"N	80°37'43.3436"W	887.25	71.144	0.73
5060.00	13.710	69.210	4953.99	-373.19	294.18	859.06	1744792.99	14436532.38	39°45'6.0876"N	80°37'43.0945"W	908.03	71.097	1.10
5154.00	14.180	73.070	5045.22	-382.52	301.48	880.49	1744814.41	14436539.69	39°45'6.1590"N	80°37'42.8197"W	930.68	71.099	1.11
5246.00	13.870	70.010	5134.48	-391.84	308.53	901.63	1744835.54	14436546.73	39°45'6.2278"N	80°37'42.5487"W	952.96	71.109	0.87
5337.00	13.800	70.510	5222.84	-400.50	315.88	922.12	1744856.02	14436554.08	39°45'6.2996"N	80°37'42.2860"W	974.72	71.090	0.15

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Slot	Slot 5H			

WELLPATH DATA (227 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]
5430.00	13.460	71.920	5313.22	-409.54	322.94	942.86	1744876.75	14436561.14	39°45'6.3685"N	80°37'42.0201"W	996.63	71.093	0.51
5522.00	13.090	68.020	5402.77	-417.85	330.17	962.70	1744896.59	14436568.36	39°45'6.4390"N	80°37'41.7657"W	1017.74	71.070	1.05
5613.00	13.370	71.150	5491.35	-425.91	337.42	982.21	1744916.09	14436575.61	39°45'6.5100"N	80°37'41.5154"W	1038.56	71.041	0.85
5705.00	13.950	73.310	5580.75	-435.23	344.04	1002.90	1744936.77	14436582.23	39°45'6.5746"N	80°37'41.2502"W	1060.27	71.066	0.84
5798.00	14.110	69.700	5670.98	-444.63	351.20	1024.27	1744958.13	14436589.38	39°45'6.6444"N	80°37'40.9762"W	1082.81	71.074	0.96
5890.00	14.100	70.770	5760.20	-453.54	358.78	1045.37	1744979.22	14436596.96	39°45'6.7184"N	80°37'40.7057"W	1105.23	71.057	0.28
5983.00	14.170	71.080	5850.39	-462.81	366.20	1066.84	1745000.68	14436604.38	39°45'6.7909"N	80°37'40.4305"W	1127.94	71.055	0.11
6073.00	13.790	70.920	5937.72	-471.72	373.28	1087.39	1745021.23	14436611.45	39°45'6.8600"N	80°37'40.1669"W	1149.68	71.054	0.42
6165.00	13.550	74.890	6027.12	-481.26	379.67	1108.16	1745041.99	14436617.84	39°45'6.9223"N	80°37'39.9006"W	1171.40	71.088	1.05
6257.00	13.060	72.430	6116.65	-490.82	385.62	1128.48	1745062.30	14436623.79	39°45'6.9803"N	80°37'39.6402"W	1192.54	71.134	0.81
6354.00	12.810	73.310	6211.19	-500.35	392.02	1149.23	1745083.04	14436630.18	39°45'7.0426"N	80°37'39.3742"W	1214.25	71.165	0.33
6446.00	10.410	66.000	6301.30	-507.63	398.33	1166.59	1745100.40	14436636.49	39°45'7.1043"N	80°37'39.1516"W	1232.72	71.148	3.05
6537.00	8.480	35.070	6391.12	-508.96	407.17	1177.97	1745111.77	14436645.33	39°45'7.1912"N	80°37'39.0055"W	1246.35	70.932	5.88
6628.00	10.610	7.210	6480.90	-502.25	420.98	1182.88	1745116.67	14436659.14	39°45'7.3275"N	80°37'38.9419"W	1255.56	70.410	5.52
6720.00	14.340	339.850	6570.79	-486.34	440.10	1180.01	1745113.81	14436678.25	39°45'7.5166"N	80°37'38.9775"W	1259.41	69.546	7.49
6811.00	19.540	332.620	6657.82	-461.31	464.22	1169.12	1745102.93	14436702.35	39°45'7.7553"N	80°37'39.1157"W	1257.91	68.344	6.15
6901.00	26.690	332.250	6740.54	-427.30	495.51	1152.77	1745086.58	14436733.64	39°45'8.0653"N	80°37'39.3234"W	1254.75	66.740	7.95
6993.00	34.230	330.050	6819.79	-382.12	536.27	1130.20	1745064.01	14436774.38	39°45'8.4691"N	80°37'39.6102"W	1250.97	64.616	8.28
7083.00	43.620	328.220	6889.73	-326.92	584.71	1101.14	1745034.97	14436822.80	39°45'8.9489"N	80°37'39.9796"W	1246.75	62.032	10.51
7174.00	51.720	325.990	6950.97	-260.77	641.10	1064.57	1744998.41	14436879.17	39°45'9.5077"N	80°37'40.4449"W	1242.70	58.943	9.08
7266.00	55.920	323.460	7005.27	-187.24	701.67	1021.66	1744955.53	14436939.72	39°45'10.1081"N	80°37'40.9910"W	1239.41	55.519	5.08
7358.00	63.840	321.530	7051.40	-108.11	764.71	973.21	1744907.09	14437002.74	39°45'10.7331"N	80°37'41.6080"W	1237.71	51.841	8.80
7450.00	72.250	318.200	7085.78	-22.99	829.83	918.22	1744852.12	14437067.83	39°45'11.3789"N	80°37'42.3087"W	1237.64	47.894	9.74
7541.00	80.360	316.570	7107.30	65.34	894.83	858.39	1744792.32	14437132.80	39°45'12.0237"N	80°37'43.0712"W	1239.98	43.809	9.08
7633.00	86.710	316.230	7117.66	156.71	960.99	795.38	1744729.33	14437198.94	39°45'12.6801"N	80°37'43.8745"W	1247.45	39.613	6.91
7725.00	89.450	315.860	7120.74	248.64	1027.18	731.56	1744665.54	14437265.10	39°45'13.3368"N	80°37'44.6880"W	1261.06	35.459	3.01
7816.00	89.260	315.860	7121.76	339.62	1092.48	668.20	1744602.19	14437330.37	39°45'13.9848"N	80°37'45.4959"W	1280.62	31.451	0.21
7907.00	89.540	316.260	7122.72	430.60	1158.00	605.05	1744539.08	14437395.87	39°45'14.6349"N	80°37'46.3009"W	1306.54	27.587	0.54
7998.00	89.510	317.390	7123.47	521.60	1224.36	542.79	1744476.84	14437462.20	39°45'15.2932"N	80°37'47.0946"W	1339.28	23.909	1.24
8091.00	90.580	317.480	7123.40	614.59	1292.85	479.89	1744413.96	14437530.67	39°45'15.9727"N	80°37'47.8964"W	1379.04	20.364	1.15

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

WELLPATH DATA (227 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]
8182.00	89.660	317.470	7123.21	705.59	1359.92	418.38	1744352.48	14437597.71	39°45'16.6380"N	80°37'48.6804"W	1422.82	17.100	1.01
8273.00	89.350	316.250	7123.99	796.58	1426.32	356.16	1744290.28	14437664.08	39°45'17.2967"N	80°37'49.4735"W	1470.11	14.020	1.38
8366.00	89.570	315.860	7124.87	889.57	1493.27	291.62	1744225.77	14437731.01	39°45'17.9611"N	80°37'50.2963"W	1521.48	11.050	0.48
8457.00	89.940	317.560	7125.26	980.56	1559.51	229.23	1744163.40	14437797.22	39°45'18.6182"N	80°37'51.0917"W	1576.26	8.362	1.91
8549.00	88.950	316.360	7126.15	1072.56	1626.74	166.44	1744100.64	14437864.43	39°45'19.2852"N	80°37'51.8921"W	1635.24	5.842	1.69
8639.00	90.860	319.460	7126.30	1162.52	1693.52	106.12	1744040.34	14437931.18	39°45'19.9476"N	80°37'52.6608"W	1696.84	3.586	4.05
8729.00	89.820	315.830	7125.77	1252.50	1760.02	45.50	1743979.74	14437997.65	39°45'20.6072"N	80°37'53.4335"W	1760.60	1.481	4.20
8820.00	90.800	317.480	7125.27	1343.49	1826.19	-16.96	1743917.31	14438063.80	39°45'21.2637"N	80°37'54.2298"W	1826.27	359.468	2.11
8911.00	86.770	315.790	7127.20	1434.45	1892.32	-79.41	1743854.88	14438129.90	39°45'21.9198"N	80°37'55.0260"W	1893.98	357.597	4.80
9001.00	89.350	317.430	7130.25	1524.39	1957.67	-141.19	1743793.12	14438195.23	39°45'22.5682"N	80°37'55.8136"W	1962.76	355.875	3.40
9094.00	89.570	317.900	7131.13	1617.37	2026.42	-203.82	1743730.52	14438263.95	39°45'23.2501"N	80°37'56.6119"W	2036.64	354.256	0.56
9184.00	89.450	316.950	7131.90	1707.36	2092.69	-264.71	1743669.65	14438330.20	39°45'23.9075"N	80°37'57.3880"W	2109.37	352.791	1.06
9275.00	90.000	316.910	7132.33	1798.36	2159.17	-326.85	1743607.53	14438396.65	39°45'24.5670"N	80°37'58.1802"W	2183.77	351.392	0.61
9367.00	90.090	318.740	7132.26	1890.34	2227.35	-388.62	1743545.79	14438464.80	39°45'25.2433"N	80°37'58.9675"W	2260.99	350.103	1.99
9458.00	88.800	317.580	7133.14	1981.31	2295.14	-449.31	1743485.12	14438532.56	39°45'25.9157"N	80°37'59.7411"W	2338.70	348.923	1.91
9551.00	89.050	317.610	7134.89	2074.29	2363.79	-512.02	1743422.44	14438601.19	39°45'26.5967"N	80°38'0.5404"W	2418.61	347.778	0.27
9641.00	89.020	317.350	7136.40	2164.27	2430.12	-572.84	1743361.65	14438667.49	39°45'27.2547"N	80°38'1.3157"W	2496.72	346.736	0.29
9733.00	89.080	317.410	7137.93	2256.25	2497.81	-635.13	1743299.38	14438735.16	39°45'27.9261"N	80°38'2.1097"W	2577.29	345.734	0.09
9825.00	89.020	317.270	7139.45	2348.23	2565.45	-697.46	1743237.07	14438802.78	39°45'28.5972"N	80°38'2.9043"W	2658.57	344.791	0.17
9916.00	89.660	316.880	7140.50	2439.23	2632.08	-759.43	1743175.13	14438869.38	39°45'29.2581"N	80°38'3.6943"W	2739.45	343.906	0.82
10009.00	88.400	318.440	7142.08	2532.20	2700.81	-822.06	1743112.52	14438938.08	39°45'29.9399"N	80°38'4.4926"W	2823.15	343.071	2.16
10100.00	91.200	319.300	7142.39	2623.13	2769.35	-881.91	1743052.70	14439006.59	39°45'30.6196"N	80°38'5.2554"W	2906.38	342.336	3.22
10193.00	88.950	315.520	7142.27	2716.10	2837.80	-944.83	1742989.80	14439075.01	39°45'31.2986"N	80°38'6.0575"W	2990.95	341.585	4.73
10286.00	89.660	318.820	7143.40	2809.08	2905.99	-1008.04	1742926.61	14439143.18	39°45'31.9751"N	80°38'6.8633"W	3075.86	340.869	3.63
10377.00	89.110	317.690	7144.38	2900.05	2973.88	-1068.62	1742866.05	14439211.04	39°45'32.6484"N	80°38'7.6356"W	3160.05	340.235	1.38
10469.00	88.920	317.930	7145.96	2992.02	3042.03	-1130.40	1742804.30	14439279.17	39°45'33.3245"N	80°38'8.4230"W	3245.27	339.615	0.33
10559.00	88.400	317.870	7148.06	3081.98	3108.79	-1190.72	1742744.00	14439345.90	39°45'33.9867"N	80°38'9.1920"W	3329.03	339.042	0.58
10651.00	90.280	316.500	7149.12	3173.96	3176.27	-1253.24	1742681.51	14439413.35	39°45'34.6560"N	80°38'9.9890"W	3414.57	338.468	2.53
10743.00	88.830	319.180	7149.84	3265.94	3244.46	-1314.98	1742619.79	14439481.51	39°45'35.3324"N	80°38'10.7760"W	3500.81	337.937	3.31
10836.00	88.920	317.100	7151.66	3358.89	3313.70	-1377.03	1742557.77	14439550.73	39°45'36.0192"N	80°38'11.5669"W	3588.43	337.434	2.24



Actual Wellpath Report

O E Burge MSH 5H AWB_ awp 100' - 20473' Proj: 20498'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 5H
Field	Marshall	API/Legal	
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (227 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]
10928.00	88.890	316.300	7153.42	3450.87	3380.65	-1440.11	1742494.71	14439617.65	39°45'36.6833"N	80°38'12.3712"W	3674.60	336.927	0.87
11019.00	88.800	316.600	7155.26	3541.85	3446.59	-1502.79	1742432.05	14439683.56	39°45'37.3375"N	80°38'13.1704"W	3759.97	336.442	0.34
11110.00	89.110	316.640	7156.92	3632.83	3512.72	-1565.29	1742369.58	14439749.67	39°45'37.9935"N	80°38'13.9672"W	3845.69	335.982	0.34
11200.00	88.800	317.110	7158.56	3722.82	3578.39	-1626.80	1742308.10	14439815.32	39°45'38.6450"N	80°38'14.7515"W	3930.82	335.553	0.63
11291.00	89.480	314.380	7159.92	3813.78	3643.56	-1690.29	1742244.63	14439880.46	39°45'39.2916"N	80°38'15.5611"W	4016.54	335.113	3.09
11382.00	90.460	317.610	7159.97	3904.76	3709.00	-1753.50	1742181.44	14439945.88	39°45'39.9409"N	80°38'16.3671"W	4102.62	334.697	3.71
11473.00	90.550	317.650	7159.17	3995.75	3776.23	-1814.82	1742120.14	14440013.08	39°45'40.6077"N	80°38'17.1489"W	4189.69	334.331	0.11
11564.00	89.910	316.820	7158.80	4086.74	3843.04	-1876.61	1742058.38	14440079.86	39°45'41.2704"N	80°38'17.9366"W	4276.75	333.973	1.15
11656.00	90.030	316.870	7158.85	4178.74	3910.15	-1939.54	1741995.48	14440146.95	39°45'41.9362"N	80°38'18.7389"W	4364.76	333.617	0.14
11748.00	89.910	316.660	7158.90	4270.74	3977.18	-2002.56	1741932.48	14440213.95	39°45'42.6011"N	80°38'19.5424"W	4452.88	333.274	0.26
11841.00	90.060	316.460	7158.92	4363.74	4044.71	-2066.50	1741868.56	14440281.45	39°45'43.2710"N	80°38'20.3578"W	4542.03	332.937	0.27
11933.00	90.430	316.740	7158.53	4455.74	4111.55	-2129.71	1741805.38	14440348.27	39°45'43.9341"N	80°38'21.1638"W	4630.39	332.617	0.50
12024.00	90.370	316.190	7157.90	4546.74	4177.52	-2192.39	1741742.72	14440414.21	39°45'44.5885"N	80°38'21.9630"W	4717.86	332.309	0.61
12115.00	90.680	315.490	7157.06	4637.72	4242.80	-2255.79	1741679.35	14440479.46	39°45'45.2362"N	80°38'22.7714"W	4805.20	332.002	0.84
12206.00	91.200	317.770	7155.57	4728.70	4308.94	-2318.26	1741616.90	14440545.58	39°45'45.8923"N	80°38'23.5681"W	4892.98	331.719	2.57
12298.00	89.750	317.270	7154.81	4820.69	4376.78	-2380.39	1741554.80	14440613.40	39°45'46.5653"N	80°38'24.3601"W	4982.22	331.460	1.67
12389.00	90.120	316.900	7154.91	4911.68	4443.43	-2442.35	1741492.86	14440680.02	39°45'47.2264"N	80°38'25.1501"W	5070.42	331.204	0.58
12479.00	90.370	316.380	7154.52	5001.68	4508.86	-2504.14	1741431.09	14440745.42	39°45'47.8755"N	80°38'25.9380"W	5157.57	330.953	0.64
12570.00	90.340	316.990	7153.96	5092.68	4575.07	-2566.57	1741368.69	14440811.61	39°45'48.5323"N	80°38'26.7340"W	5245.81	330.708	0.67
12661.00	89.850	315.530	7153.81	5183.67	4640.81	-2629.48	1741305.80	14440877.33	39°45'49.1845"N	80°38'27.5363"W	5333.98	330.464	1.69
12752.00	90.890	316.440	7153.22	5274.66	4706.25	-2692.71	1741242.60	14440942.74	39°45'49.8337"N	80°38'28.3426"W	5422.13	330.224	1.52
12843.00	90.710	317.000	7151.95	5365.65	4772.50	-2755.09	1741180.24	14441008.96	39°45'50.4908"N	80°38'29.1380"W	5510.65	330.003	0.65
12935.00	90.120	316.530	7151.29	5457.65	4839.52	-2818.11	1741117.25	14441075.96	39°45'51.1557"N	80°38'29.9416"W	5600.24	329.787	0.82
13026.00	90.400	316.060	7150.87	5548.64	4905.31	-2880.98	1741054.40	14441141.71	39°45'51.8083"N	80°38'30.7433"W	5688.77	329.573	0.60
13116.00	89.720	316.210	7150.78	5638.63	4970.19	-2943.35	1740992.06	14441206.58	39°45'52.4520"N	80°38'31.5387"W	5776.34	329.366	0.77
13207.00	90.060	316.710	7150.95	5729.63	5036.16	-3006.04	1740929.39	14441272.51	39°45'53.1064"N	80°38'32.3380"W	5865.08	329.167	0.66
13297.00	90.180	316.640	7150.76	5819.63	5101.63	-3067.79	1740867.67	14441337.96	39°45'53.7559"N	80°38'33.1255"W	5952.98	328.980	0.15
13388.00	89.350	317.230	7151.14	5910.63	5168.11	-3129.92	1740805.56	14441404.42	39°45'54.4153"N	80°38'33.9178"W	6042.00	328.800	1.12
13478.00	90.400	317.300	7151.33	6000.62	5234.22	-3191.00	1740744.51	14441470.50	39°45'55.0710"N	80°38'34.6965"W	6130.21	328.632	1.17
13569.00	90.060	315.750	7150.97	6091.62	5300.25	-3253.61	1740681.92	14441536.50	39°45'55.7261"N	80°38'35.4949"W	6219.21	328.456	1.74



Actual Wellpath Report

O E Burge MSH 5H AWB_awp 100' - 20473' Proj: 20498'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 5H
Field	Marshall	API/Legal	
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 5H AWB
Slot	Slot 5H		

WELLPATH DATA (227 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]
13660.00	90.950	317.140	7150.17	6182.61	5366.19	-3316.31	1740619.25	14441602.42	39°45'56.3803"N	80°38'36.2944"W	6308.24	328.284	1.81
13751.00	90.620	316.330	7148.92	6273.60	5432.45	-3378.67	1740556.91	14441668.65	39°45'57.0375"N	80°38'37.0897"W	6397.42	328.121	0.96
13841.00	91.880	316.930	7146.96	6363.58	5497.86	-3440.46	1740495.14	14441734.04	39°45'57.6863"N	80°38'37.8776"W	6485.61	327.962	1.55
13931.00	90.980	317.250	7144.71	6453.55	5563.76	-3501.71	1740433.91	14441799.91	39°45'58.3400"N	80°38'38.6587"W	6573.99	327.815	1.06
14023.00	91.140	316.490	7143.01	6545.53	5630.89	-3564.60	1740371.05	14441867.01	39°45'59.0059"N	80°38'39.4606"W	6664.33	327.664	0.84
14113.00	91.110	316.360	7141.24	6635.51	5696.08	-3626.62	1740309.05	14441932.18	39°45'59.6526"N	80°38'40.2515"W	6752.60	327.516	0.15
14204.00	90.800	316.010	7139.72	6726.49	5761.73	-3689.62	1740246.08	14441997.80	39°46'0.3039"N	80°38'41.0549"W	6841.84	327.366	0.51
14295.00	91.630	315.330	7137.80	6817.45	5826.81	-3753.19	1740182.53	14442062.86	39°46'0.9495"N	80°38'41.8657"W	6930.96	327.213	1.18
14386.00	91.410	317.300	7135.38	6908.41	5892.59	-3816.02	1740119.73	14442128.61	39°46'1.6021"N	80°38'42.6670"W	7020.30	327.073	2.18
14477.00	90.460	315.980	7133.90	6999.40	5958.74	-3878.49	1740057.28	14442194.74	39°46'2.2582"N	80°38'43.4636"W	7109.80	326.940	1.79
14569.00	91.540	315.160	7132.29	7091.36	6024.43	-3942.88	1739992.92	14442260.40	39°46'2.9099"N	80°38'44.2849"W	7200.00	326.796	1.47
14660.00	91.020	316.240	7130.26	7182.32	6089.54	-4006.42	1739929.40	14442325.48	39°46'3.5559"N	80°38'45.0953"W	7289.30	326.658	1.32
14752.00	91.260	316.540	7128.43	7274.29	6156.14	-4069.86	1739865.98	14442392.06	39°46'4.2165"N	80°38'45.9044"W	7379.82	326.531	0.42
14840.00	91.480	317.110	7126.32	7362.27	6220.29	-4130.06	1739805.81	14442456.19	39°46'4.8529"N	80°38'46.6720"W	7466.55	326.417	0.69
14931.00	90.890	316.310	7124.44	7453.25	6286.52	-4192.44	1739743.45	14442522.39	39°46'5.5098"N	80°38'47.4676"W	7556.25	326.301	1.09
15021.00	91.170	316.000	7122.82	7543.23	6351.41	-4254.77	1739681.14	14442587.26	39°46'6.1536"N	80°38'48.2626"W	7644.84	326.182	0.46
15107.00	91.110	316.720	7121.11	7629.21	6413.64	-4314.11	1739621.83	14442649.46	39°46'6.7709"N	80°38'49.0194"W	7729.58	326.073	0.84
15199.00	91.170	315.360	7119.28	7721.18	6479.85	-4377.96	1739558.00	14442715.64	39°46'7.4277"N	80°38'49.8337"W	7820.17	325.956	1.48
15287.00	91.660	316.100	7117.11	7809.13	6542.84	-4439.37	1739496.62	14442778.61	39°46'8.0526"N	80°38'50.6169"W	7906.76	325.843	1.01
15379.00	91.320	316.640	7114.72	7901.10	6609.41	-4502.83	1739433.19	14442845.15	39°46'8.7129"N	80°38'51.4262"W	7997.48	325.734	0.69
15471.00	90.860	316.520	7112.97	7993.08	6676.22	-4566.05	1739369.99	14442911.94	39°46'9.3757"N	80°38'52.2326"W	8088.31	325.631	0.52
15561.00	90.680	315.250	7111.76	8083.06	6740.83	-4628.69	1739307.37	14442976.52	39°46'10.0166"N	80°38'53.0315"W	8177.01	325.524	1.43
15653.00	91.170	315.970	7110.27	8175.03	6806.56	-4693.04	1739243.05	14443042.23	39°46'10.6687"N	80°38'53.8523"W	8267.64	325.414	0.95
15743.00	91.170	316.210	7108.43	8265.00	6871.39	-4755.45	1739180.67	14443107.03	39°46'11.3118"N	80°38'54.6482"W	8356.45	325.314	0.27
15835.00	90.120	316.850	7107.40	8356.99	6938.15	-4818.73	1739117.40	14443173.76	39°46'11.9740"N	80°38'55.4554"W	8447.37	325.219	1.34
15927.00	91.200	318.030	7106.34	8448.98	7005.91	-4880.95	1739055.21	14443241.50	39°46'12.6461"N	80°38'56.2488"W	8538.53	325.135	1.74
16017.00	91.410	315.200	7104.29	8538.94	7071.29	-4942.75	1738993.43	14443306.85	39°46'13.2946"N	80°38'57.0370"W	8627.51	325.047	3.15
16108.00	90.460	317.170	7102.80	8629.92	7136.94	-5005.74	1738930.47	14443372.48	39°46'13.9459"N	80°38'57.8404"W	8717.42	324.955	2.40
16199.00	92.000	315.440	7100.85	8720.89	7202.72	-5068.59	1738867.65	14443438.23	39°46'14.5983"N	80°38'58.6419"W	8807.37	324.866	2.54
16289.00	90.490	317.130	7098.89	8810.86	7267.75	-5130.77	1738805.49	14443503.24	39°46'15.2434"N	80°38'59.4350"W	8896.34	324.779	2.52



Actual Wellpath Report

O E Burge MSH 5H AWB_ awp 100' - 20473' Proj: 20498'
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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (227 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]
16381.00	90.770	317.000	7097.88	8902.85	7335.10	-5193.43	1738742.86	14443570.56	39°46'15.9115"N	80°39'0.2341"W	8987.51	324.701	0.34
16472.00	91.050	317.430	7096.44	8993.84	7401.88	-5255.23	1738681.08	14443637.31	39°46'16.5738"N	80°39'1.0223"W	9077.73	324.626	0.56
16563.00	90.950	317.300	7094.85	9084.82	7468.81	-5316.86	1738619.47	14443704.22	39°46'17.2377"N	80°39'1.8082"W	9168.00	324.554	0.18
16654.00	90.580	317.370	7093.63	9175.81	7535.72	-5378.53	1738557.83	14443771.11	39°46'17.9013"N	80°39'2.5946"W	9258.28	324.483	0.41
16744.00	92.550	317.570	7091.18	9265.76	7602.02	-5439.34	1738497.04	14443837.38	39°46'18.5588"N	80°39'3.3701"W	9347.57	324.416	2.20
16836.00	91.380	317.470	7088.02	9357.70	7669.83	-5501.43	1738434.97	14443905.16	39°46'19.2313"N	80°39'4.1620"W	9438.86	324.349	1.28
16928.00	91.050	317.000	7086.07	9449.68	7737.35	-5563.88	1738372.54	14443972.66	39°46'19.9011"N	80°39'4.9585"W	9530.13	324.280	0.62
17019.00	91.510	318.040	7084.04	9540.65	7804.45	-5625.32	1738311.13	14444039.73	39°46'20.5665"N	80°39'5.7420"W	9620.48	324.217	1.25
17112.00	91.140	317.670	7081.89	9633.61	7873.39	-5687.71	1738248.77	14444108.64	39°46'21.2502"N	80°39'6.5375"W	9712.89	324.156	0.56
17203.00	91.480	317.120	7079.81	9724.58	7940.35	-5749.30	1738187.21	14444175.57	39°46'21.9143"N	80°39'7.3229"W	9803.24	324.093	0.71
17294.00	91.750	318.540	7077.24	9815.53	8007.76	-5810.36	1738126.16	14444242.96	39°46'22.5829"N	80°39'8.1017"W	9893.66	324.036	1.59
17384.00	90.310	317.790	7075.63	9905.48	8074.81	-5870.38	1738066.17	14444309.98	39°46'23.2478"N	80°39'8.8670"W	9983.18	323.983	1.80
17476.00	90.740	316.430	7074.78	9997.48	8142.21	-5932.99	1738003.58	14444377.35	39°46'23.9163"N	80°39'9.6655"W	10074.52	323.920	1.55
17567.00	90.920	316.560	7073.46	10088.47	8208.20	-5995.63	1737940.97	14444443.33	39°46'24.5709"N	80°39'10.4645"W	10164.75	323.854	0.24
17660.00	91.540	317.170	7071.47	10181.44	8276.05	-6059.20	1737877.42	14444511.15	39°46'25.2439"N	80°39'11.2753"W	10257.04	323.791	0.94
17751.00	91.570	317.720	7069.00	10272.40	8343.06	-6120.72	1737815.93	14444578.13	39°46'25.9084"N	80°39'12.0599"W	10347.46	323.735	0.61
17842.00	90.460	318.000	7067.39	10363.37	8410.53	-6181.76	1737754.91	14444645.57	39°46'26.5775"N	80°39'12.8384"W	10437.97	323.684	1.26
17934.00	90.710	316.320	7066.45	10455.36	8477.98	-6244.31	1737692.38	14444713.00	39°46'27.2465"N	80°39'13.6361"W	10529.37	323.627	1.85
18025.00	91.540	317.300	7064.66	10546.34	8544.31	-6306.58	1737630.13	14444779.30	39°46'27.9044"N	80°39'14.4304"W	10619.71	323.569	1.41
18117.00	91.110	317.500	7062.53	10638.31	8612.02	-6368.84	1737567.90	14444846.98	39°46'28.5759"N	80°39'15.2243"W	10711.16	323.516	0.52
18208.00	91.260	317.270	7060.65	10729.29	8678.97	-6430.44	1737506.33	14444913.91	39°46'29.2399"N	80°39'16.0100"W	10801.62	323.464	0.30
18298.00	90.740	316.580	7059.08	10819.28	8744.70	-6491.89	1737444.90	14444979.61	39°46'29.8919"N	80°39'16.7938"W	10891.03	323.411	0.96
18389.00	91.350	316.860	7057.42	10910.26	8810.94	-6554.27	1737382.54	14445045.83	39°46'30.5488"N	80°39'17.5895"W	10981.40	323.355	0.74
18480.00	91.170	316.770	7055.42	11001.24	8877.28	-6616.53	1737320.31	14445112.14	39°46'31.2068"N	80°39'18.3836"W	11071.79	323.302	0.22
18572.00	91.380	317.260	7053.37	11093.21	8944.56	-6679.24	1737257.62	14445179.39	39°46'31.8741"N	80°39'19.1835"W	11163.22	323.250	0.58
18663.00	91.480	317.700	7051.10	11184.18	9011.61	-6740.73	1737196.16	14445246.42	39°46'32.5391"N	80°39'19.9676"W	11253.73	323.203	0.50
18756.00	91.260	317.310	7048.88	11277.15	9080.16	-6803.53	1737133.38	14445314.94	39°46'33.2190"N	80°39'20.7686"W	11346.25	323.157	0.48
18846.00	90.920	316.940	7047.17	11367.13	9146.11	-6864.76	1737072.18	14445380.86	39°46'33.8730"N	80°39'21.5495"W	11435.74	323.109	0.56
18938.00	91.020	316.900	7045.61	11459.12	9213.29	-6927.58	1737009.38	14445448.02	39°46'34.5393"N	80°39'22.3509"W	11527.19	323.060	0.12
19029.00	91.020	316.850	7043.99	11550.10	9279.70	-6989.78	1736947.20	14445514.40	39°46'35.1980"N	80°39'23.1443"W	11617.65	323.012	0.05

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

WELLPATH DATA (227 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]
19122.00	91.540	317.060	7041.91	11643.08	9347.65	-7053.24	1736883.76	14445582.33	39°46'35.8719"N	80°39'23.9538"W	11710.12	322.964	0.60
19214.00	91.420	317.640	7039.53	11735.04	9415.29	-7115.56	1736821.48	14445649.94	39°46'36.5428"N	80°39'24.7485"W	11801.65	322.920	0.64
19305.00	91.600	317.570	7037.14	11826.00	9482.47	-7176.89	1736760.17	14445717.10	39°46'37.2090"N	80°39'25.5308"W	11892.23	322.879	0.21
19395.00	91.110	317.380	7035.01	11915.97	9548.78	-7237.70	1736699.38	14445783.38	39°46'37.8666"N	80°39'26.3065"W	11981.80	322.839	0.58
19486.00	90.920	317.650	7033.40	12006.95	9615.88	-7299.16	1736637.95	14445850.45	39°46'38.5321"N	80°39'27.0903"W	12072.40	322.799	0.36
19576.00	90.950	317.360	7031.93	12096.93	9682.23	-7359.94	1736577.18	14445916.78	39°46'39.1901"N	80°39'27.8656"W	12162.01	322.760	0.32
19668.00	90.830	317.320	7030.50	12188.92	9749.88	-7422.28	1736514.87	14445984.40	39°46'39.8610"N	80°39'28.6607"W	12253.59	322.719	0.14
19760.00	91.050	317.610	7028.99	12280.90	9817.66	-7484.47	1736452.71	14446052.16	39°46'40.5332"N	80°39'29.4539"W	12345.19	322.680	0.40
19852.00	91.050	317.260	7027.30	12372.88	9885.41	-7546.69	1736390.51	14446119.88	39°46'41.2051"N	80°39'30.2475"W	12436.79	322.641	0.38
19943.00	91.110	316.770	7025.59	12463.86	9951.97	-7608.72	1736328.50	14446186.41	39°46'41.8652"N	80°39'31.0388"W	12527.34	322.600	0.54
20034.00	91.880	317.300	7023.21	12554.83	10018.54	-7670.72	1736266.53	14446252.95	39°46'42.5254"N	80°39'31.8297"W	12617.88	322.560	1.03
20125.00	90.770	317.320	7021.11	12645.80	10085.40	-7732.40	1736204.87	14446319.79	39°46'43.1885"N	80°39'32.6164"W	12708.48	322.523	1.22
20216.00	91.880	317.520	7019.01	12736.77	10152.39	-7793.96	1736143.34	14446386.75	39°46'43.8528"N	80°39'33.4016"W	12799.10	322.487	1.24
20306.00	91.750	317.570	7016.16	12826.72	10218.76	-7854.68	1736082.64	14446453.10	39°46'44.5110"N	80°39'34.1761"W	12888.72	322.452	0.15
20398.00	92.090	317.590	7013.07	12918.66	10286.64	-7916.70	1736020.64	14446520.95	39°46'45.1842"N	80°39'34.9672"W	12980.34	322.418	0.37
20473.00	91.690	317.500	7010.60	12993.61	10341.94	-7967.30	1735970.06	14446576.23	39°46'45.7326"N	80°39'35.6126"W	13055.03	322.390	0.55
20498.00‡	91.690	317.500	7009.86	13018.60	10360.37	-7984.19	1735953.19	14446594.65	39°46'45.9154"N	80°39'35.8280"W	13079.93	322.380	0.00

HOLE & CASING SECTIONS - Ref Wellbore: O E Burge MSH 5H AWB Ref Wellpath: O E Burge MSH 5H AWB_ awp 100' - 20473' Proj: 20498'									
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 Casing	26.00	126.00	100.00	26.00	126.00	0.00	0.00	0.10	0.00
13.375in Casing	26.00	328.00	302.00	26.00	328.00	0.00	0.00	0.41	0.17
6.625in Casing	26.00	2687.00	2661.00	26.00	2651.63	0.00	0.00	107.61	319.87
5.5in Casing	26.00	26.00	0.00	26.00	26.00	0.00	0.00	0.00	0.00

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

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
O E Burge MSH 5H LP Rev 4	7114.00	963.34	800.59	1744734.54	14437201.29	39°45'12.7032"N	80°37'43.8076"W	point
O E Burge MSH 5H BHL Rev 5	7226.20	10346.07	-8000.90	1735936.48	14446580.36	39°46'45.7747"N	80°39'36.0427"W	point

WELLPATH COMPOSITION - Ref Wellbore: O E Burge MSH 5H AWB Ref Wellpath: O E Burge MSH 5H AWB_awp 100' - 20473' Proj: 20498'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	960.00	BH Generic gyro - northseeking (Standard)	1 Imported Gyro 100' 960'	O E Burge MSH 5H AWB	11/23/2021
960.00	2887.00	OWSG MWD rev2 + HRGM	2 Tally MWD 1053' - 2687'	O E Burge MSH 5H AWB	11/23/2021
2687.00	6257.00	OWSG MWD rev2 + HRGM	3 Tally MWD 2795' - 6257'	O E Burge MSH 5H AWB	11/29/2021
6257.00	20498.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	4 BH MWD 6354' - 20473'	O E Burge MSH 5H AWB	11/29/2021



Southwestern Energy®

Well Name: O E BURGE MSH 5H

47051023880000

LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	228.00	228.00	
Top of Salt Water	1188.00	1188.00	NA	NA	
Pittsburgh Coal	1091.00	1091.00	1097.00	1097.00	
Maxton (ss)	1984.00	1968.00	2268.00	2243.00	
Big Injun (ss)	2268.00	2243.00	2859.00	2822.00	
Berea (siltstone)	2859.00	2822.00	6538.00	6392.00	
Rhinestreet (shale)	6538.00	6392.00	6899.00	6739.00	
Cashaqua (shale)	6899.00	6739.00	7028.00	6847.00	
Middlesex (shale)	7028.00	6847.00	6951.00	6783.00	
Burket (shale)	6951.00	6783.00	7198.00	6965.00	
Tully (ls)	7198.00	6965.00	7238.00	6989.00	
Mahantango (shale)	7238.00	6989.00	7455.00	7087.00	
Marcellus (shale)	7455.00	7087.00	NA	NA	GAS

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Environmental Protection