

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

Slot: Slot 205H  
 Well: O E Burge MSH 205H  
 Wellbore: O E Burge MSH 205H PWB

### 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
20540.00	90.490	318.160	7019.12	10859.15	-7252.60	1736697.13	14447088.13	39°46'50.7661"N	80°39'26.2713"W

Plot reference wellpath is O E Burge MSH 205H Rev D.0

Grid System: NAD83 / UTM Zone 17 North, US feet  
 North Reference: Grid north  
 Scale: True distance  
 Coordinates are in feet referenced to Slot  
 Depths are in feet  
 Created by: tranlam on 2021-11-30; Database: WA\_MPL\_EASTERNUS\_Defn

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 JUN 7 2022

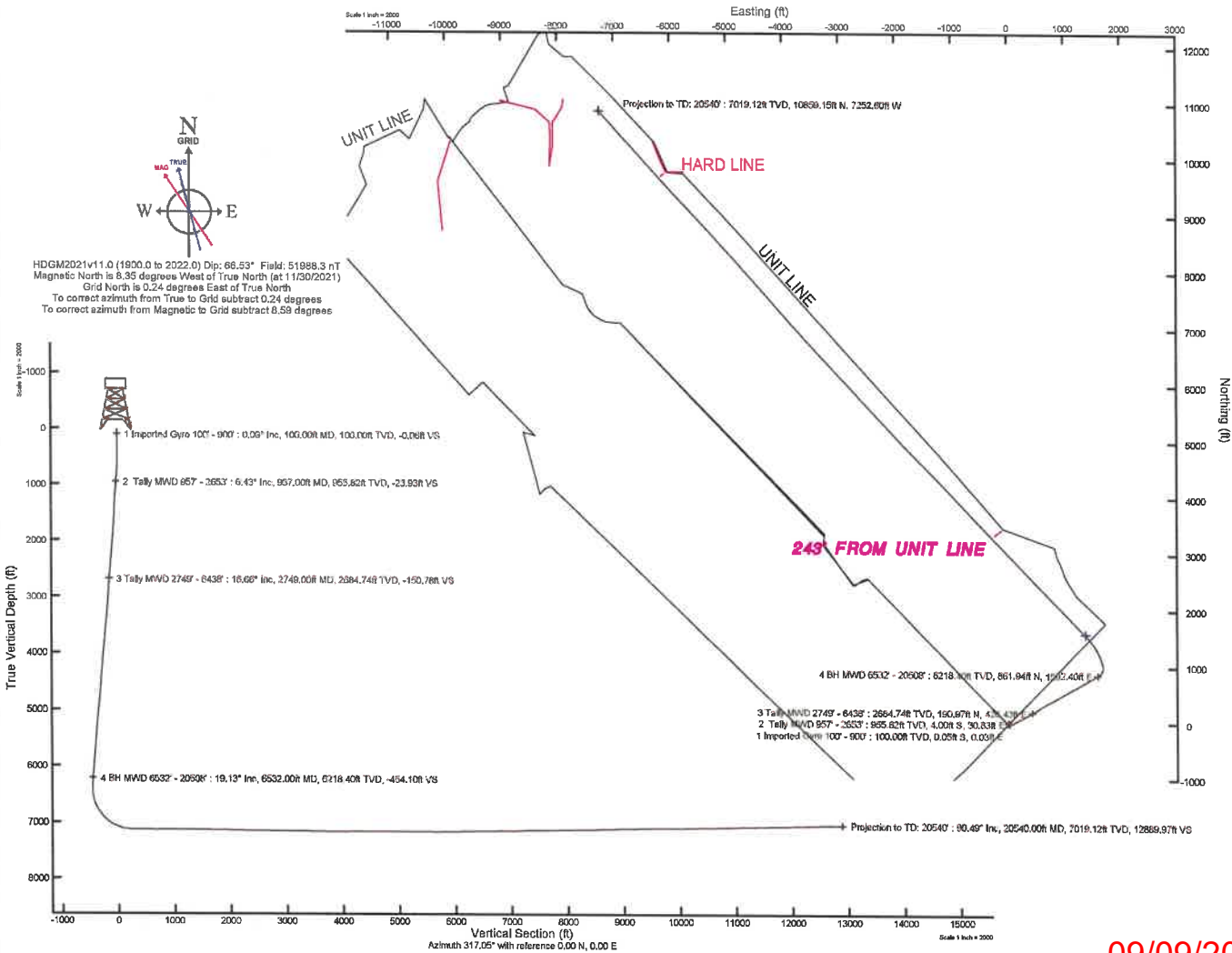
### Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
O E Burge MSH Pad		1743922.680	14436242.940	39°45'3.2616"N	80°37'54.2568"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
Slot 205H	-9.73	24.23	1743948.900	14436233.210	80°37'53.9471"W

SDC 41 (KB) to Ground level (At Slot: Slot 205H) **26ft**  
 Mean Sea Level to Ground level (At Slot: Slot 205H) **-1342.1ft**  
 SDC 41 (KB) to Mean Sea Level **1368.1ft**

WV Department of Environmental Protection

**API: 47051024130000**  
**Duration: 12-08-2021 to 12-12-2021**  
**BHI Job: 111048021**  
**Rig: SDC 41**





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 WV Department of Environmental Protection

# Actual Wellpath Report

O E Burge MSH 205H AWB\_ awp 100' - 20508' Proj: 20540'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 205H
Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

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	12/17/2021 at 12:01:04 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	-9.73	24.23	1743946.90	14436233.21	39°45'3.1644"N	80°37'53.9471"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	1368.10ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1368.10ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level at Slot (Slot 205H)	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	317.05°

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Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

**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]
0.00†	0.000	143.250	0.00	0.00	0.00	0.00	1743946.90	14436233.21	39°45'3.1644"N	80°37'53.9471"W	0.00	0.000	0.00
26.00	0.000	143.250	26.00	0.00	0.00	0.00	1743946.90	14436233.21	39°45'3.1644"N	80°37'53.9471"W	0.00	0.000	0.00
100.00	0.090	143.250	100.00	-0.06	-0.05	0.03	1743946.93	14436233.16	39°45'3.1639"N	80°37'53.9467"W	0.06	143.250	0.12
200.00	0.070	106.230	200.00	-0.19	-0.13	0.14	1743947.04	14436233.08	39°45'3.1631"N	80°37'53.9454"W	0.19	132.031	0.05
300.00	0.100	103.300	300.00	-0.31	-0.16	0.28	1743947.18	14436233.05	39°45'3.1627"N	80°37'53.9435"W	0.33	119.963	0.03
400.00	0.100	71.560	400.00	-0.42	-0.16	0.45	1743947.35	14436233.05	39°45'3.1628"N	80°37'53.9414"W	0.48	109.075	0.05
500.00	0.810	94.430	500.00	-0.98	-0.18	1.24	1743948.14	14436233.03	39°45'3.1625"N	80°37'53.9313"W	1.25	98.409	0.72
600.00	1.910	94.260	599.97	-2.72	-0.36	3.61	1743950.50	14436232.85	39°45'3.1607"N	80°37'53.9010"W	3.62	95.726	1.10
700.00	3.630	97.930	699.85	-6.40	-0.92	8.40	1743955.30	14436232.29	39°45'3.1549"N	80°37'53.8396"W	8.45	96.262	1.73
800.00	4.660	98.360	799.58	-12.03	-1.95	15.56	1743962.45	14436231.26	39°45'3.1445"N	80°37'53.7481"W	15.68	97.142	1.03
900.00	5.960	97.050	899.15	-19.18	-3.18	24.73	1743971.62	14436230.03	39°45'3.1320"N	80°37'53.6307"W	24.93	97.321	1.31
957.00	6.430	98.220	955.82	-23.93	-4.00	30.83	1743977.71	14436229.21	39°45'3.1236"N	80°37'53.5527"W	31.08	97.388	0.85
1049.00	7.350	90.480	1047.16	-31.99	-4.78	41.81	1743988.69	14436228.43	39°45'3.1154"N	80°37'53.4121"W	42.08	96.526	1.42
1139.00	7.800	87.250	1136.37	-39.89	-4.54	53.67	1744000.55	14436228.67	39°45'3.1173"N	80°37'53.2603"W	53.86	94.833	0.69
1225.00	8.140	78.030	1221.54	-46.79	-3.00	65.45	1744012.33	14436230.22	39°45'3.1321"N	80°37'53.1093"W	65.52	92.620	1.54
1317.00	8.530	69.400	1312.57	-52.74	0.76	78.21	1744025.08	14436233.97	39°45'3.1687"N	80°37'52.9458"W	78.21	89.446	1.42
1407.00	9.290	61.580	1401.49	-57.10	6.56	90.85	1744037.71	14436239.77	39°45'3.2255"N	80°37'52.7837"W	91.09	85.868	1.59
1497.00	10.330	58.700	1490.17	-60.55	14.21	104.13	1744050.99	14436247.42	39°45'3.3006"N	80°37'52.6132"W	105.10	82.228	1.28
1583.00	11.410	60.690	1574.63	-64.11	22.38	118.14	1744064.99	14436255.58	39°45'3.3808"N	80°37'52.4334"W	120.24	79.272	1.33
1673.00	12.900	61.410	1662.61	-68.70	31.55	134.72	1744081.57	14436264.75	39°45'3.4707"N	80°37'52.2206"W	138.37	76.820	1.66
1763.00	13.830	61.840	1750.17	-73.94	41.43	153.03	1744099.87	14436274.63	39°45'3.5676"N	80°37'51.9857"W	158.54	74.850	1.04
1852.00	15.170	64.370	1836.34	-80.12	51.49	172.91	1744119.74	14436284.68	39°45'3.6662"N	80°37'51.7307"W	180.41	73.417	1.67
1940.00	15.680	65.480	1921.17	-87.31	61.41	194.11	1744140.93	14436294.59	39°45'3.7633"N	80°37'51.4587"W	203.59	72.445	0.67
2032.00	17.120	64.680	2009.42	-95.34	72.36	217.66	1744164.48	14436305.54	39°45'3.8706"N	80°37'51.1566"W	229.37	71.611	1.58
2120.00	17.850	59.950	2093.36	-102.28	84.65	241.05	1744187.85	14436317.83	39°45'3.9912"N	80°37'50.8565"W	255.48	70.649	1.81
2209.00	20.350	59.180	2177.45	-108.58	99.41	266.15	1744212.94	14436332.58	39°45'4.1360"N	80°37'50.5344"W	284.11	69.518	2.82
2297.00	21.470	60.100	2259.66	-115.43	115.28	293.25	1744240.03	14436348.45	39°45'4.2917"N	80°37'50.1866"W	315.09	68.539	1.33
2388.00	20.900	60.240	2344.51	-122.89	131.64	321.78	1744268.55	14436364.80	39°45'4.4522"N	80°37'49.8205"W	347.66	67.750	0.63
2474.00	21.080	60.660	2424.80	-130.03	146.83	348.57	1744295.34	14436379.98	39°45'4.6013"N	80°37'49.4765"W	378.24	67.157	0.27
2564.00	20.210	60.180	2509.02	-137.37	162.49	376.17	1744322.93	14436395.64	39°45'4.7549"N	80°37'49.1224"W	409.77	66.637	0.98

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Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

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]
2653.00	18.030	60.110	2593.10	-143.98	177.00	401.45	1744348.20	14436410.14	39°45'4.8973"N	80°37'48.7979"W	438.74	66.207	2.45
2749.00	16.660	61.530	2684.74	-150.78	190.97	426.43	1744373.17	14436424.10	39°45'5.0343"N	80°37'48.4774"W	467.24	65.876	1.49
2862.00	15.600	60.390	2793.29	-158.33	206.20	453.88	1744400.61	14436439.33	39°45'5.1837"N	80°37'48.1251"W	498.52	65.568	0.98
2954.00	18.330	59.740	2881.28	-164.36	219.60	477.14	1744423.85	14436452.73	39°45'5.3152"N	80°37'47.8267"W	525.25	65.286	2.97
3047.00	20.710	57.520	2968.92	-170.57	235.80	503.64	1744450.35	14436468.92	39°45'5.4742"N	80°37'47.4865"W	556.11	64.911	2.68
3138.00	22.290	57.620	3053.59	-176.66	253.69	531.79	1744478.49	14436486.80	39°45'5.6498"N	80°37'47.1251"W	589.21	64.497	1.74
3228.00	23.350	57.430	3136.54	-183.00	272.43	561.24	1744507.92	14436505.53	39°45'5.8339"N	80°37'46.7471"W	623.87	64.108	1.18
3319.00	23.850	58.040	3219.93	-189.76	291.88	592.05	1744538.72	14436524.97	39°45'6.0248"N	80°37'46.3516"W	660.09	63.757	0.61
3410.00	24.010	59.350	3303.11	-197.21	311.05	623.58	1744570.24	14436544.14	39°45'6.2130"N	80°37'45.9469"W	696.86	63.489	0.61
3501.00	23.580	59.480	3386.38	-205.07	329.74	655.19	1744601.84	14436562.82	39°45'6.3963"N	80°37'45.5412"W	733.49	63.285	0.48
3594.00	22.650	59.590	3471.91	-212.96	348.25	686.66	1744633.29	14436581.32	39°45'6.5780"N	80°37'45.1373"W	769.92	63.108	1.00
3686.00	22.450	61.590	3556.88	-221.22	365.57	717.39	1744664.01	14436598.64	39°45'6.7480"N	80°37'44.7430"W	805.16	62.997	0.86
3776.00	21.340	61.480	3640.38	-229.61	381.57	746.89	1744693.50	14436614.63	39°45'6.9048"N	80°37'44.3644"W	838.71	62.939	1.23
3866.00	21.470	59.650	3724.18	-237.29	397.71	775.49	1744722.09	14436630.76	39°45'7.0632"N	80°37'43.9973"W	871.53	62.849	0.76
3960.00	21.440	60.280	3811.66	-244.97	414.92	805.26	1744751.85	14436647.97	39°45'7.2320"N	80°37'43.6153"W	905.87	62.740	0.25
4052.00	20.960	62.970	3897.44	-253.33	430.73	834.52	1744781.10	14436663.77	39°45'7.3871"N	80°37'43.2398"W	939.12	62.700	1.18
4143.00	21.900	60.280	3982.15	-261.68	446.54	863.76	1744810.32	14436679.58	39°45'7.5422"N	80°37'42.8646"W	972.36	62.662	1.49
4236.00	21.300	60.280	4068.62	-269.52	463.52	893.49	1744840.04	14436696.55	39°45'7.7087"N	80°37'42.4831"W	1006.56	62.581	0.65
4329.00	20.320	59.370	4155.55	-276.83	480.12	922.06	1744868.60	14436713.14	39°45'7.8716"N	80°37'42.1165"W	1039.57	62.494	1.11
4420.00	19.270	59.650	4241.17	-283.48	495.76	948.61	1744895.14	14436728.77	39°45'8.0250"N	80°37'41.7756"W	1070.34	62.408	1.16
4512.00	18.540	62.120	4328.21	-290.59	510.27	974.64	1744921.16	14436743.28	39°45'8.1674"N	80°37'41.4416"W	1100.13	62.366	1.18
4604.00	19.210	61.040	4415.26	-298.05	524.43	1000.81	1744947.32	14436757.44	39°45'8.3063"N	80°37'41.1058"W	1129.89	62.345	0.82
4697.00	20.230	58.110	4502.81	-304.84	540.34	1027.85	1744974.35	14436773.34	39°45'8.4624"N	80°37'40.7587"W	1161.23	62.269	1.53
4789.00	21.000	57.690	4588.92	-310.93	557.55	1055.29	1745001.78	14436790.55	39°45'8.6314"N	80°37'40.4065"W	1193.53	62.151	0.85
4883.00	21.220	58.440	4676.61	-317.40	575.46	1084.02	1745030.50	14436808.45	39°45'8.8072"N	80°37'40.0377"W	1227.30	62.038	0.37
4974.00	20.870	61.630	4761.54	-324.74	591.78	1112.32	1745058.78	14436824.76	39°45'8.9673"N	80°37'39.6745"W	1259.94	61.986	1.32
5066.00	21.780	63.520	4847.24	-333.70	607.18	1142.02	1745088.47	14436840.15	39°45'9.1183"N	80°37'39.2935"W	1293.39	62.002	1.24
5159.00	22.040	61.680	4933.53	-343.00	623.15	1172.82	1745119.26	14436856.12	39°45'9.2748"N	80°37'38.8982"W	1328.09	62.017	0.79
5250.00	22.720	63.300	5017.67	-352.23	639.15	1203.55	1745149.98	14436872.11	39°45'9.4317"N	80°37'38.5039"W	1362.73	62.029	1.01
5342.00	22.870	61.190	5102.49	-361.57	655.74	1235.09	1745181.51	14436888.70	39°45'9.5944"N	80°37'38.0992"W	1398.37	62.035	0.90

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Slot	Slot 205H			

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5432.00	22.860	57.670	5185.42	-369.06	673.52	1265.19	1745211.59	14436906.47	39°45'9.7689"N	80°37'37.7129"W	1433.29	61.971	1.52
5525.00	21.300	59.040	5271.60	-375.90	691.87	1294.94	1745241.33	14436924.81	39°45'9.9490"N	80°37'37.3310"W	1468.18	61.885	1.77
5615.00	20.770	59.280	5355.60	-382.68	708.44	1322.67	1745269.06	14436941.37	39°45'10.1115"N	80°37'36.9750"W	1500.45	61.826	0.60
5708.00	20.790	61.160	5442.55	-390.19	724.82	1351.31	1745297.68	14436957.75	39°45'10.2723"N	80°37'36.6076"W	1533.43	61.792	0.72
5798.00	21.140	59.120	5526.59	-397.48	740.86	1379.23	1745325.59	14436973.78	39°45'10.4296"N	80°37'36.2492"W	1565.61	61.757	0.90
5888.00	20.100	60.170	5610.83	-404.39	756.88	1406.57	1745352.92	14436989.79	39°45'10.5868"N	80°37'35.8983"W	1597.28	61.715	1.23
5979.00	19.840	60.060	5696.36	-411.41	772.36	1433.52	1745379.86	14437005.27	39°45'10.7387"N	80°37'35.5524"W	1628.35	61.685	0.29
6070.00	19.550	61.160	5782.03	-418.60	787.41	1460.24	1745406.57	14437020.32	39°45'10.8864"N	80°37'35.2095"W	1659.01	61.665	0.52
6162.00	19.090	62.440	5868.85	-426.35	801.80	1487.06	1745433.38	14437034.70	39°45'11.0274"N	80°37'34.8653"W	1689.45	61.667	0.68
6254.00	18.930	59.920	5955.84	-433.66	816.24	1513.31	1745459.62	14437049.13	39°45'11.1691"N	80°37'34.5285"W	1719.41	61.659	0.91
6345.00	19.280	60.470	6041.82	-440.44	831.04	1539.15	1745485.46	14437063.93	39°45'11.3143"N	80°37'34.1968"W	1749.18	61.634	0.43
6438.00	19.240	60.280	6129.62	-447.51	846.21	1565.82	1745512.11	14437079.09	39°45'11.4631"N	80°37'33.8545"W	1779.85	61.612	0.08
6532.00	19.130	58.460	6218.40	-454.10	861.94	1592.40	1745538.68	14437094.82	39°45'11.6175"N	80°37'33.5134"W	1810.71	61.574	0.65
6623.00	18.820	60.100	6304.45	-460.36	877.06	1617.83	1745564.10	14437109.93	39°45'11.7658"N	80°37'33.1870"W	1840.28	61.537	0.68
6715.00	18.840	46.900	6391.57	-463.68	894.62	1641.55	1745587.81	14437127.48	39°45'11.9383"N	80°37'32.8823"W	1869.50	61.410	4.62
6805.00	19.880	33.780	6476.52	-460.12	917.27	1660.68	1745606.93	14437150.13	39°45'12.1615"N	80°37'32.6362"W	1897.17	61.086	4.96
6897.00	23.370	19.150	6562.09	-447.98	947.54	1675.38	1745621.63	14437180.39	39°45'12.4600"N	80°37'32.4464"W	1924.77	60.509	6.95
6990.00	26.990	5.890	6646.31	-425.44	986.00	1683.61	1745629.85	14437218.83	39°45'12.8398"N	80°37'32.3390"W	1951.09	59.645	7.19
7081.00	32.330	353.310	6725.44	-392.17	1030.79	1682.89	1745629.13	14437263.60	39°45'13.2824"N	80°37'32.3458"W	1973.48	58.512	8.99
7172.00	37.440	340.360	6800.16	-347.05	1081.11	1670.73	1745616.98	14437313.90	39°45'13.7802"N	80°37'32.4987"W	1990.01	57.094	9.86
7264.00	41.340	341.420	6871.25	-293.67	1136.27	1651.64	1745597.90	14437369.04	39°45'14.3261"N	80°37'32.7402"W	2004.75	55.473	4.30
7356.00	48.330	338.970	6936.46	-234.04	1197.22	1629.60	1745575.87	14437429.97	39°45'14.9294"N	80°37'33.0191"W	2022.12	53.696	7.83
7447.00	54.810	333.310	6993.02	-166.71	1262.27	1600.66	1745546.94	14437494.99	39°45'15.5735"N	80°37'33.3862"W	2038.49	51.741	8.62
7537.00	62.110	328.820	7040.08	-92.34	1329.27	1563.48	1745509.78	14437561.97	39°45'16.2371"N	80°37'33.8586"W	2052.18	49.629	9.16
7628.00	69.080	326.220	7077.66	-10.90	1399.10	1518.97	1745465.28	14437631.77	39°45'16.9290"N	80°37'34.4248"W	2065.13	47.352	8.09
7718.00	76.040	323.740	7104.62	74.09	1469.35	1469.70	1745416.03	14437701.99	39°45'17.6253"N	80°37'35.0519"W	2078.22	45.007	8.17
7809.00	84.450	318.810	7120.04	163.42	1539.20	1413.63	1745359.98	14437771.81	39°45'18.3179"N	80°37'35.7661"W	2089.85	42.565	10.67
7900.00	89.660	314.350	7124.71	254.25	1605.16	1351.20	1745297.57	14437837.75	39°45'18.9724"N	80°37'36.5620"W	2098.16	40.090	7.53
7993.00	89.420	314.810	7125.46	347.16	1670.44	1284.96	1745231.36	14437903.00	39°45'19.6202"N	80°37'37.4067"W	2107.48	37.569	0.56
8083.00	89.420	314.060	7126.37	437.06	1733.44	1220.70	1745167.12	14437965.98	39°45'20.2455"N	80°37'38.2261"W	2120.13	35.153	0.83



# Actual Wellpath Report

O E Burge MSH 205H AWB\_awp 100' - 20508' Proj: 20540'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 205H
Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

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]
8173.00	90.060	317.050	7126.78	527.02	1797.69	1157.69	1745104.13	14438030.20	39°45'20.8830"N	80°37'39.0295"W	2138.21	32.781	3.40
8265.00	89.290	314.860	7127.30	618.99	1863.81	1093.73	1745040.20	14438096.30	39°45'21.5391"N	80°37'39.8448"W	2161.03	30.405	2.52
8357.00	90.620	315.830	7127.37	710.95	1929.25	1029.07	1744975.57	14438161.71	39°45'22.1885"N	80°37'40.6693"W	2186.55	28.076	1.79
8449.00	90.120	316.920	7126.78	802.94	1995.85	965.60	1744912.12	14438228.28	39°45'22.8492"N	80°37'41.4784"W	2217.16	25.818	1.30
8541.00	90.680	315.040	7126.14	894.91	2062.00	901.67	1744848.22	14438294.41	39°45'23.5056"N	80°37'42.2934"W	2250.52	23.619	2.13
8632.00	89.570	314.090	7125.94	985.83	2125.86	836.84	1744783.42	14438358.24	39°45'24.1393"N	80°37'43.1202"W	2284.64	21.487	1.61
8723.00	90.150	316.830	7126.16	1076.78	2190.71	773.02	1744719.62	14438423.07	39°45'24.7829"N	80°37'43.9339"W	2323.09	19.436	3.08
8815.00	89.660	316.540	7126.31	1168.78	2257.65	709.91	1744656.53	14438489.98	39°45'25.4470"N	80°37'44.7385"W	2366.63	17.456	0.62
8908.00	90.620	315.660	7126.09	1261.76	2324.66	645.42	1744592.07	14438556.96	39°45'26.1119"N	80°37'45.5606"W	2412.59	15.517	1.40
8999.00	90.180	316.420	7125.45	1352.75	2390.16	582.26	1744528.93	14438622.44	39°45'26.7618"N	80°37'46.3659"W	2460.06	13.691	0.97
9092.00	89.200	315.380	7125.95	1445.72	2456.94	517.54	1744464.24	14438689.19	39°45'27.4244"N	80°37'47.1910"W	2510.86	11.895	1.54
9184.00	89.940	316.710	7126.64	1537.71	2523.17	453.69	1744400.41	14438755.39	39°45'28.0815"N	80°37'48.0051"W	2563.63	10.193	1.65
9277.00	89.050	316.210	7127.46	1630.70	2590.58	389.63	1744336.37	14438822.78	39°45'28.7503"N	80°37'48.8218"W	2619.72	8.553	1.10
9367.00	89.820	316.320	7128.35	1720.68	2655.61	327.41	1744274.18	14438887.78	39°45'29.3955"N	80°37'49.6150"W	2675.71	7.029	0.86
9459.00	90.340	316.950	7128.22	1812.68	2722.49	264.24	1744211.04	14438954.64	39°45'30.0590"N	80°37'50.4204"W	2735.28	5.544	0.89
9550.00	88.280	317.030	7129.32	1903.67	2789.02	202.17	1744149.00	14439021.14	39°45'30.7191"N	80°37'51.2116"W	2796.34	4.146	2.27
9643.00	89.230	314.230	7131.34	1996.61	2855.48	137.16	1744084.01	14439087.58	39°45'31.3785"N	80°37'52.0405"W	2858.77	2.750	3.18
9735.00	87.290	316.940	7134.13	2088.52	2921.15	72.81	1744019.69	14439153.22	39°45'32.0302"N	80°37'52.8610"W	2922.06	1.428	3.62
9826.00	89.630	315.760	7136.58	2179.47	2986.97	10.03	1743956.93	14439219.01	39°45'32.6831"N	80°37'53.6615"W	2986.98	0.192	2.88
9918.00	88.280	317.350	7138.26	2271.45	3053.75	-53.22	1743893.70	14439285.77	39°45'33.3457"N	80°37'54.4679"W	3054.21	359.002	2.27
10008.00	91.110	316.150	7138.74	2361.44	3119.29	-114.88	1743832.06	14439351.29	39°45'33.9959"N	80°37'55.2539"W	3121.41	357.891	3.42
10099.00	88.770	315.220	7138.83	2452.40	3184.40	-178.45	1743768.52	14439416.37	39°45'34.6419"N	80°37'56.0645"W	3189.39	356.793	2.77
10190.00	90.550	316.630	7139.37	2543.38	3249.77	-241.74	1743705.25	14439481.71	39°45'35.2906"N	80°37'56.8715"W	3258.75	355.746	2.50
10280.00	89.320	317.360	7139.47	2633.38	3315.59	-303.13	1743643.89	14439547.50	39°45'35.9435"N	80°37'57.6541"W	3329.41	354.776	1.59
10371.00	88.950	316.400	7140.85	2724.36	3382.00	-365.32	1743581.72	14439613.89	39°45'36.6023"N	80°37'58.4469"W	3401.67	353.835	1.13
10463.00	89.510	315.720	7142.08	2816.34	3448.24	-429.15	1743517.92	14439680.11	39°45'37.2595"N	80°37'59.2608"W	3474.84	352.906	0.96
10556.00	88.740	317.250	7143.50	2909.32	3515.67	-493.18	1743453.92	14439747.51	39°45'37.9285"N	80°38'0.0771"W	3550.09	352.015	1.84
10647.00	89.420	315.530	7144.97	3000.30	3581.55	-555.93	1743391.18	14439813.36	39°45'38.5821"N	80°38'0.8773"W	3624.44	351.177	2.03
10740.00	90.280	316.830	7145.21	3093.29	3648.65	-620.32	1743326.82	14439880.44	39°45'39.2478"N	80°38'1.6983"W	3701.00	350.351	1.68
10832.00	88.830	316.970	7145.92	3185.28	3715.82	-683.18	1743263.99	14439947.58	39°45'39.9142"N	80°38'2.4997"W	3778.10	349.582	1.58

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 205H
Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

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]
10922.00	90.180	315.900	7146.70	3275.27	3781.03	-745.20	1743201.99	14440012.76	39°45'40.5611"N	80°38'3.2904"W	3853.76	348.850	1.91
11013.00	89.350	316.850	7147.07	3366.26	3846.90	-807.98	1743139.23	14440078.61	39°45'41.2147"N	80°38'4.0909"W	3930.83	348.138	1.39
11106.00	89.450	316.770	7148.05	3459.25	3914.70	-871.63	1743075.61	14440146.38	39°45'41.8873"N	80°38'4.9024"W	4010.56	347.447	0.14
11196.00	89.170	317.470	7149.13	3549.25	3980.64	-932.87	1743014.39	14440212.30	39°45'42.5415"N	80°38'5.6831"W	4088.49	346.811	0.84
11287.00	88.920	317.130	7150.65	3640.23	4047.51	-994.57	1742952.71	14440279.14	39°45'43.2048"N	80°38'6.4697"W	4167.92	346.195	0.46
11377.00	89.140	315.790	7152.17	3730.21	4112.74	-1056.56	1742890.75	14440344.35	39°45'43.8519"N	80°38'7.2601"W	4246.29	345.592	1.51
11468.00	90.310	318.770	7152.61	3821.20	4179.59	-1118.29	1742829.05	14440411.17	39°45'44.5150"N	80°38'8.0470"W	4326.61	345.021	3.52
11559.00	89.480	314.460	7152.78	3912.17	4245.71	-1180.78	1742766.58	14440477.26	39°45'45.1709"N	80°38'8.8438"W	4406.84	344.458	4.82
11650.00	89.630	317.540	7153.48	4003.15	4311.16	-1243.98	1742703.40	14440542.69	39°45'45.8203"N	80°38'9.6498"W	4487.04	343.905	3.39
11742.00	92.560	314.880	7151.72	4095.10	4377.54	-1307.62	1742639.79	14440609.05	39°45'46.4790"N	80°38'10.4613"W	4568.67	343.368	4.30
11833.00	90.000	315.250	7149.69	4186.02	4441.94	-1371.88	1742575.56	14440673.42	39°45'47.1180"N	80°38'11.2807"W	4648.97	342.837	2.84
11924.00	90.180	316.900	7149.55	4277.00	4507.48	-1435.00	1742512.46	14440738.94	39°45'47.7682"N	80°38'12.0856"W	4730.39	342.341	1.82
12014.00	89.660	315.240	7149.67	4366.98	4572.30	-1497.44	1742450.04	14440803.73	39°45'48.4112"N	80°38'12.8818"W	4811.26	341.866	1.93
12105.00	90.490	315.910	7149.56	4457.95	4637.29	-1561.14	1742386.37	14440868.69	39°45'49.0560"N	80°38'13.6941"W	4893.01	341.394	1.17
12195.00	89.600	315.780	7149.49	4547.93	4701.86	-1623.83	1742323.70	14440933.23	39°45'49.6967"N	80°38'14.4936"W	4974.36	340.947	1.00
12286.00	89.780	315.270	7149.98	4638.90	4766.79	-1687.58	1742259.97	14440998.14	39°45'50.3409"N	80°38'15.3066"W	5056.70	340.505	0.59
12376.00	90.030	316.170	7150.13	4728.87	4831.22	-1750.42	1742197.16	14441062.55	39°45'50.9802"N	80°38'16.1079"W	5138.55	340.084	1.04
12468.00	90.680	315.330	7149.56	4820.84	4897.12	-1814.61	1742133.00	14441128.42	39°45'51.6340"N	80°38'16.9265"W	5222.51	339.668	1.15
12557.00	90.090	318.290	7148.96	4909.83	4962.00	-1875.52	1742072.11	14441193.28	39°45'52.2776"N	80°38'17.7031"W	5304.62	339.295	3.39
12649.00	89.320	317.300	7149.43	5001.82	5030.15	-1937.32	1742010.34	14441261.40	39°45'52.9536"N	80°38'18.4910"W	5390.32	338.936	1.36
12739.00	90.340	316.760	7149.70	5091.82	5096.00	-1998.66	1741949.02	14441327.22	39°45'53.6068"N	80°38'19.2732"W	5473.93	338.585	1.28
12829.00	90.830	317.960	7148.78	5181.81	5162.20	-2059.62	1741888.08	14441393.40	39°45'54.2635"N	80°38'20.0504"W	5557.91	338.249	1.44
12921.00	90.000	316.750	7148.11	5273.80	5229.87	-2121.95	1741825.78	14441461.04	39°45'54.9347"N	80°38'20.8450"W	5643.95	337.916	1.59
13012.00	89.630	317.550	7148.41	5364.80	5296.58	-2183.83	1741763.92	14441527.73	39°45'55.5965"N	80°38'21.6340"W	5729.13	337.593	0.97
13103.00	89.750	317.000	7148.90	5455.80	5363.43	-2245.57	1741702.20	14441594.55	39°45'56.2596"N	80°38'22.4212"W	5814.55	337.282	0.62
13194.00	89.200	316.810	7149.73	5546.80	5429.88	-2307.74	1741640.06	14441660.97	39°45'56.9187"N	80°38'23.2139"W	5899.94	336.974	0.64
13284.00	89.380	316.990	7150.85	5636.79	5495.59	-2369.23	1741578.59	14441726.66	39°45'57.5706"N	80°38'23.9980"W	5984.54	336.678	0.28
13375.00	90.650	317.240	7150.83	5727.79	5562.26	-2431.16	1741516.69	14441793.31	39°45'58.2320"N	80°38'24.7876"W	6070.36	336.391	1.42
13467.00	89.600	317.390	7150.62	5819.78	5629.89	-2493.53	1741454.34	14441860.91	39°45'58.9028"N	80°38'25.5829"W	6157.38	336.111	1.15
13558.00	90.400	316.290	7150.62	5910.78	5696.27	-2555.78	1741392.12	14441927.26	39°45'59.5612"N	80°38'26.3766"W	6243.36	335.835	1.49

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 205H
Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

### 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]
13650.00	91.080	319.390	7149.44	6002.75	5764.45	-2617.52	1741330.41	14441995.42	39°46'0.2375"N	80°38'27.1637"W	6330.90	335.578	3.45
13739.00	93.540	316.920	7145.85	6091.65	5830.69	-2676.83	1741271.11	14442061.63	39°46'0.8945"N	80°38'27.9199"W	6415.79	335.340	3.92
13830.00	90.950	317.880	7142.28	6182.57	5897.62	-2738.37	1741209.60	14442128.53	39°46'1.5583"N	80°38'28.7046"W	6502.35	335.094	3.04
13917.00	90.490	316.080	7141.19	6269.56	5961.22	-2797.72	1741150.27	14442192.10	39°46'2.1892"N	80°38'29.4613"W	6585.09	334.858	2.14
14005.00	91.380	317.070	7139.75	6357.54	6025.12	-2858.20	1741089.81	14442255.98	39°46'2.8231"N	80°38'30.2326"W	6668.69	334.621	1.51
14095.00	89.880	315.160	7138.77	6447.52	6089.98	-2920.58	1741027.45	14442320.81	39°46'3.4665"N	80°38'31.0281"W	6754.08	334.379	2.70
14186.00	90.060	318.340	7138.81	6538.51	6156.25	-2982.93	1740965.14	14442387.06	39°46'4.1240"N	80°38'31.8231"W	6840.85	334.148	3.50
14277.00	90.460	315.570	7138.40	6629.49	6222.75	-3045.03	1740903.05	14442453.53	39°46'4.7836"N	80°38'32.6151"W	6927.83	333.926	3.08
14369.00	90.580	318.350	7137.56	6721.48	6289.98	-3107.82	1740840.29	14442520.74	39°46'5.4505"N	80°38'33.4157"W	7015.86	333.706	3.02
14460.00	91.080	317.350	7136.25	6812.46	6357.44	-3168.88	1740779.26	14442588.17	39°46'6.1195"N	80°38'34.1942"W	7103.43	333.506	1.23
14551.00	91.750	317.010	7134.00	6903.43	6424.16	-3230.71	1740717.45	14442654.87	39°46'6.7814"N	80°38'34.9826"W	7190.78	333.302	0.83
14642.00	90.580	317.170	7132.15	6994.41	6490.80	-3292.65	1740655.53	14442721.48	39°46'7.4424"N	80°38'35.7725"W	7278.19	333.102	1.30
14733.00	91.050	316.210	7130.85	7085.40	6557.01	-3355.07	1740593.14	14442787.66	39°46'8.0992"N	80°38'36.5684"W	7365.52	332.902	1.17
14825.00	91.820	319.370	7128.55	7177.35	6625.12	-3416.85	1740531.38	14442855.75	39°46'8.7747"N	80°38'37.3562"W	7454.33	332.718	3.53
14915.00	90.120	315.700	7127.03	7267.32	6691.49	-3477.59	1740470.66	14442922.09	39°46'9.4330"N	80°38'38.1307"W	7541.20	332.539	4.49
15006.00	91.020	316.750	7126.12	7358.30	6757.19	-3540.54	1740407.74	14442987.77	39°46'10.0848"N	80°38'38.9335"W	7628.57	332.347	1.52
15097.00	90.710	318.090	7124.75	7449.29	6824.19	-3602.11	1740346.20	14443054.74	39°46'10.7493"N	80°38'39.7186"W	7716.52	332.173	1.51
15188.00	91.480	319.230	7123.01	7540.23	6892.50	-3662.20	1740286.12	14443123.02	39°46'11.4268"N	80°38'40.4847"W	7805.01	332.017	1.51
15279.00	91.080	316.490	7120.97	7631.19	6959.95	-3723.24	1740225.11	14443190.45	39°46'12.0958"N	80°38'41.2629"W	7893.25	331.855	3.04
15371.00	91.140	318.110	7119.19	7723.17	7027.55	-3785.61	1740162.76	14443258.02	39°46'12.7663"N	80°38'42.0583"W	7982.31	331.689	1.76
15461.00	89.850	318.230	7118.41	7813.15	7094.61	-3845.63	1740102.76	14443325.05	39°46'13.4313"N	80°38'42.8236"W	8069.84	331.540	1.44
15552.00	92.650	319.470	7116.43	7904.07	7163.10	-3905.49	1740042.93	14443393.52	39°46'14.1106"N	80°38'43.5867"W	8158.61	331.400	3.36
15642.00	91.320	317.820	7113.31	7993.98	7230.61	-3964.92	1739983.52	14443461.01	39°46'14.7801"N	80°38'44.3444"W	8246.36	331.262	2.35
15734.00	91.170	318.380	7111.31	8085.94	7299.08	-4026.35	1739922.12	14443529.44	39°46'15.4591"N	80°38'45.1276"W	8335.94	331.118	0.63
15826.00	91.600	318.690	7109.09	8177.88	7368.00	-4087.25	1739861.25	14443598.33	39°46'16.1426"N	80°38'45.9040"W	8425.73	330.982	0.58
15918.00	90.370	318.980	7107.51	8269.82	7437.24	-4147.79	1739800.72	14443667.55	39°46'16.8293"N	80°38'46.6760"W	8515.68	330.851	1.37
16011.00	90.400	317.940	7106.88	8362.79	7506.85	-4209.46	1739739.08	14443737.14	39°46'17.5196"N	80°38'47.4622"W	8606.53	330.718	1.12
16101.00	91.750	319.260	7105.19	8452.74	7574.35	-4268.97	1739679.59	14443804.60	39°46'18.1889"N	80°38'48.2209"W	8694.53	330.594	2.10
16192.00	91.510	316.970	7102.61	8543.68	7642.06	-4329.70	1739618.89	14443872.29	39°46'18.8605"N	80°38'48.9952"W	8783.36	330.466	2.53
16282.00	92.310	319.030	7099.61	8633.61	7708.90	-4389.88	1739558.73	14443939.11	39°46'19.5234"N	80°38'49.7626"W	8871.20	330.340	2.45



**REFERENCE WELLPATH IDENTIFICATION**

Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 205H
Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

**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]
16374.00	91.050	317.090	7096.91	8725.55	7777.30	-4451.34	1739497.30	14444007.48	39°46'20.2018"N	80°38'50.5463"W	8961.07	330.215	2.51
16467.00	92.190	318.360	7094.28	8818.50	7846.09	-4513.87	1739434.79	14444076.24	39°46'20.8840"N	80°38'51.3437"W	9051.86	330.088	1.83
16558.00	91.780	318.700	7091.13	8909.42	7914.23	-4574.10	1739374.58	14444144.36	39°46'21.5598"N	80°38'52.1116"W	9140.97	329.974	0.59
16649.00	91.880	318.850	7088.22	9000.33	7982.64	-4634.04	1739314.67	14444212.74	39°46'22.2382"N	80°38'52.8758"W	9230.21	329.864	0.20
16742.00	90.520	318.520	7086.27	9093.27	8052.47	-4695.42	1739253.31	14444282.55	39°46'22.9307"N	80°38'53.6584"W	9321.44	329.753	1.50
16833.00	90.950	318.520	7085.11	9184.23	8120.64	-4755.69	1739193.06	14444350.69	39°46'23.6067"N	80°38'54.4269"W	9410.71	329.645	0.47
16924.00	91.380	318.370	7083.26	9275.19	8188.73	-4816.04	1739132.73	14444418.75	39°46'24.2819"N	80°38'55.1964"W	9499.97	329.539	0.50
17015.00	90.370	317.370	7081.87	9366.16	8256.21	-4877.08	1739071.72	14444486.20	39°46'24.9512"N	80°38'55.9747"W	9589.10	329.429	1.56
17106.00	90.520	317.030	7081.16	9457.16	8322.97	-4938.91	1739009.92	14444552.94	39°46'25.6134"N	80°38'56.7632"W	9678.05	329.315	0.41
17196.00	90.520	316.900	7080.34	9547.16	8388.75	-5000.32	1738948.53	14444618.69	39°46'26.2659"N	80°38'57.5465"W	9765.98	329.202	0.14
17288.00	90.150	317.050	7079.80	9639.15	8456.01	-5063.09	1738885.78	14444685.92	39°46'26.9330"N	80°38'58.3471"W	9855.91	329.089	0.43
17378.00	90.370	317.480	7079.40	9729.15	8522.11	-5124.17	1738824.73	14444752.00	39°46'27.5886"N	80°38'59.1260"W	9944.02	328.982	0.54
17470.00	90.400	317.850	7078.78	9821.14	8590.12	-5186.13	1738762.80	14444819.98	39°46'28.2631"N	80°38'59.9161"W	10034.24	328.879	0.40
17562.00	91.200	317.560	7077.49	9913.13	8658.16	-5248.03	1738700.91	14444888.00	39°46'28.9379"N	80°39'0.7055"W	10124.51	328.778	0.92
17654.00	91.480	318.350	7075.34	10005.09	8726.47	-5309.63	1738639.34	14444956.28	39°46'29.6153"N	80°39'1.4910"W	10214.86	328.682	0.91
17746.00	90.250	315.940	7073.95	10097.07	8793.90	-5372.19	1738576.81	14445023.68	39°46'30.2841"N	80°39'2.2889"W	10305.00	328.579	2.94
17837.00	91.290	317.220	7072.73	10188.06	8859.98	-5434.73	1738514.29	14445089.74	39°46'30.9396"N	80°39'3.0866"W	10394.02	328.475	1.81
17928.00	89.970	317.220	7071.73	10279.05	8926.77	-5496.53	1738452.51	14445156.50	39°46'31.6020"N	80°39'3.8748"W	10483.27	328.378	1.45
18021.00	91.910	316.290	7070.20	10372.03	8994.50	-5560.23	1738388.83	14445224.20	39°46'32.2738"N	80°39'4.6873"W	10574.37	328.276	2.31
18112.00	90.430	317.630	7068.35	10463.01	9060.99	-5622.32	1738326.77	14445290.67	39°46'32.9334"N	80°39'5.4793"W	10663.59	328.180	2.19
18203.00	91.350	316.870	7066.93	10553.99	9127.81	-5684.09	1738265.03	14445357.46	39°46'33.5960"N	80°39'6.2670"W	10752.94	328.089	1.31
18293.00	91.420	317.570	7064.76	10643.97	9193.84	-5745.19	1738203.94	14445423.47	39°46'34.2510"N	80°39'7.0463"W	10841.31	327.999	0.78
18384.00	91.630	317.080	7062.34	10734.93	9260.72	-5806.86	1738142.31	14445490.33	39°46'34.9143"N	80°39'7.8328"W	10930.72	327.911	0.59
18476.00	90.620	315.710	7060.53	10826.91	9327.33	-5870.29	1738078.90	14445556.90	39°46'35.5750"N	80°39'8.6419"W	11020.86	327.815	1.85
18567.00	92.650	316.640	7057.93	10917.85	9392.95	-5933.28	1738015.94	14445622.50	39°46'36.2259"N	80°39'9.4454"W	11109.96	327.720	2.45
18660.00	90.520	317.030	7055.36	11010.81	9460.75	-5996.87	1737952.37	14445690.27	39°46'36.8984"N	80°39'10.2565"W	11201.26	327.631	2.33
18751.00	92.370	319.710	7053.07	11101.75	9528.74	-6057.30	1737891.96	14445758.23	39°46'37.5726"N	80°39'11.0271"W	11291.04	327.556	3.58
18841.00	90.620	315.910	7050.72	11191.69	9595.38	-6117.71	1737831.58	14445824.85	39°46'38.2335"N	80°39'11.7975"W	11379.71	327.480	4.65
18932.00	91.750	318.180	7048.83	11282.66	9661.97	-6179.70	1737769.61	14445891.41	39°46'38.8939"N	80°39'12.5882"W	11469.19	327.397	2.79
19024.00	90.120	318.690	7047.33	11374.62	9730.79	-6240.73	1737708.61	14445960.21	39°46'39.5764"N	80°39'13.3664"W	11560.06	327.326	1.86

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 205H
Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

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]
19114.00	90.340	317.230	7046.97	11464.60	9797.63	-6300.99	1737648.36	14446027.02	39°46'40.2393"N	80°39'14.1350"W	11648.86	327.254	1.64
19204.00	92.000	318.420	7045.13	11554.57	9864.31	-6361.40	1737587.98	14446093.67	39°46'40.9005"N	80°39'14.9055"W	11737.63	327.182	2.27
19296.00	90.310	316.910	7043.28	11646.54	9932.30	-6423.35	1737526.06	14446161.64	39°46'41.5748"N	80°39'15.6955"W	11828.35	327.109	2.46
19382.00	91.110	318.440	7042.21	11732.53	9995.87	-6481.25	1737468.18	14446225.19	39°46'42.2053"N	80°39'16.4339"W	11913.19	327.041	2.01
19468.00	91.350	319.240	7040.37	11818.46	10060.61	-6537.83	1737411.61	14446289.89	39°46'42.8472"N	80°39'17.1555"W	11998.29	326.982	0.97
19554.00	91.380	317.080	7038.32	11904.42	10124.65	-6595.18	1737354.29	14446353.92	39°46'43.4824"N	80°39'17.8869"W	12083.25	326.920	2.51
19643.00	92.000	319.260	7035.69	11993.36	10190.94	-6654.51	1737294.99	14446420.18	39°46'44.1397"N	80°39'18.6435"W	12171.18	326.856	2.55
19728.00	92.060	316.840	7032.68	12078.28	10254.11	-6711.29	1737238.23	14446483.32	39°46'44.7661"N	80°39'19.3677"W	12255.13	326.795	2.85
19815.00	91.570	317.790	7029.93	12165.24	10318.03	-6770.24	1737179.30	14446547.22	39°46'45.4001"N	80°39'20.1196"W	12340.90	326.729	1.23
19901.00	91.110	318.270	7027.92	12251.20	10381.95	-6827.74	1737121.82	14446611.12	39°46'46.0340"N	80°39'20.8529"W	12425.90	326.669	0.77
19988.00	91.390	318.130	7026.02	12338.16	10446.79	-6885.71	1737063.87	14446675.93	39°46'46.6770"N	80°39'21.5922"W	12511.93	326.610	0.36
20075.00	90.000	318.030	7024.96	12425.14	10511.52	-6943.83	1737005.78	14446740.64	39°46'47.3189"N	80°39'22.3335"W	12597.97	326.552	1.60
20161.00	91.380	318.940	7023.93	12511.10	10575.91	-7000.83	1736948.80	14446805.00	39°46'47.9574"N	80°39'23.0603"W	12683.12	326.497	1.92
20248.00	90.340	318.040	7022.62	12598.06	10641.05	-7058.48	1736891.17	14446870.11	39°46'48.6033"N	80°39'23.7956"W	12769.26	326.443	1.58
20335.00	90.800	318.610	7021.76	12685.04	10706.03	-7116.32	1736833.35	14446935.07	39°46'49.2477"N	80°39'24.5333"W	12855.39	326.388	0.84
20421.00	90.920	318.340	7020.46	12771.00	10770.41	-7173.33	1736776.37	14446999.42	39°46'49.8861"N	80°39'25.2603"W	12940.57	326.336	0.34
20508.00	90.490	318.160	7019.39	12857.98	10835.31	-7231.25	1736718.46	14447064.30	39°46'50.5297"N	80°39'25.9991"W	13026.70	326.282	0.54
20540.00†	90.490	318.160	7019.12	12889.97	10859.15	-7252.60	1736697.13	14447088.13	39°46'50.7661"N	80°39'26.2713"W	13058.38	326.262	0.00

HOLE & CASING SECTIONS - Ref Wellbore: O E Burge MSH 205H AWB Ref Wellpath: O E Burge MSH 205H AWB_awp 100' - 20508' Proj: 20540'									
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	-0.08	0.06
13.375in Open Hole	26.00	328.00	302.00	26.00	328.00	0.00	0.00	-0.17	0.33
9.625in Casing	26.00	2722.88	2696.88	26.00	2659.74	0.00	0.00	187.34	419.79
5.5in Open Hole	26.00	20545.30	20519.30	26.00	N/A	0.00	0.00	N/A	N/A



# Actual Wellpath Report

O E Burge MSH 205H AWB\_awp 100' - 20508' Proj: 20540'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 205H
Field	Marshall	API	47051024130000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 205H AWB
Slot	Slot 205H		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
O E Burge MSH 205H BHL Rev 4	6989.90	10860.17	-7252.10	1736697.63	14447089.15	39°46'50.7762"N	80°39'26.2648"W	point
O E Burge MSH 205H LP Rev 4	7122.00	1587.76	1378.64	1745325.00	14437820.35	39°45'18.7993"N	80°37'36.2116"W	point

WELLPATH COMPOSITION - Ref Wellbore: O E Burge MSH 205H AWB    Ref Wellpath: O E Burge MSH 205H AWB_awp 100' - 20508' Proj: 20540'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	900.00	BH Generic gyro - northseeking (Standard)	1 Imported Gyro 100' - 900'	O E Burge MSH 205H AWB	12/4/2021
900.00	2653.00	OWSG MWD rev2 + HRGM	2 Tally MWD 957' - 2653'	O E Burge MSH 205H AWB	12/4/2021
2653.00	6438.00	OWSG MWD rev2 + HRGM	3 Tally MWD 2749' - 6438'	O E Burge MSH 205H AWB	12/17/2021
6438.00	20540.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	4 BH MWD 6532' - 20508'	O E Burge MSH 205H AWB	12/4/2021



Southwestern Energy

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Office of Oil and Gas

JUN 7 2022

WV Department of  
Environmental Protection

Well Name:

O E BURGE M5H 205H

47051024130000

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)	1990.00	1970.00	2279.00	2243.00	
Big Injun (ss)	2279.00	2243.00	2894.00	2824.00	
Berea (siltstone)	2894.00	2824.00	6749.00	6424.00	
Rhinestreet (shale)	6749.00	6424.00	7096.00	6737.00	
Cashaqua (shale)	7096.00	6737.00	7237.00	6851.00	
Middlesex (shale)	7237.00	6851.00	7368.00	6944.00	
Burket (shale)	7368.00	6944.00	7406.00	6967.00	
Tully (ls)	7406.00	6967.00	7446.00	6992.00	
Mahantango (shale)	7446.00	6992.00	7661.00	7087.00	
Marcellus (shale)	7661.00	7087.00	NA	NA	GAS