

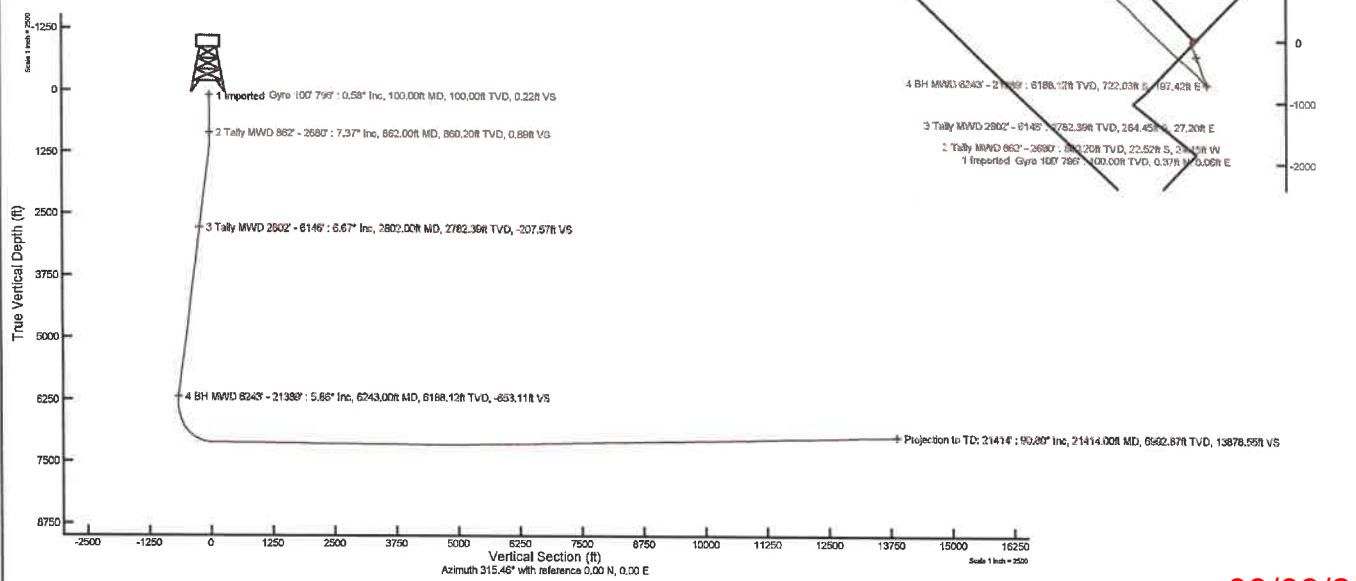
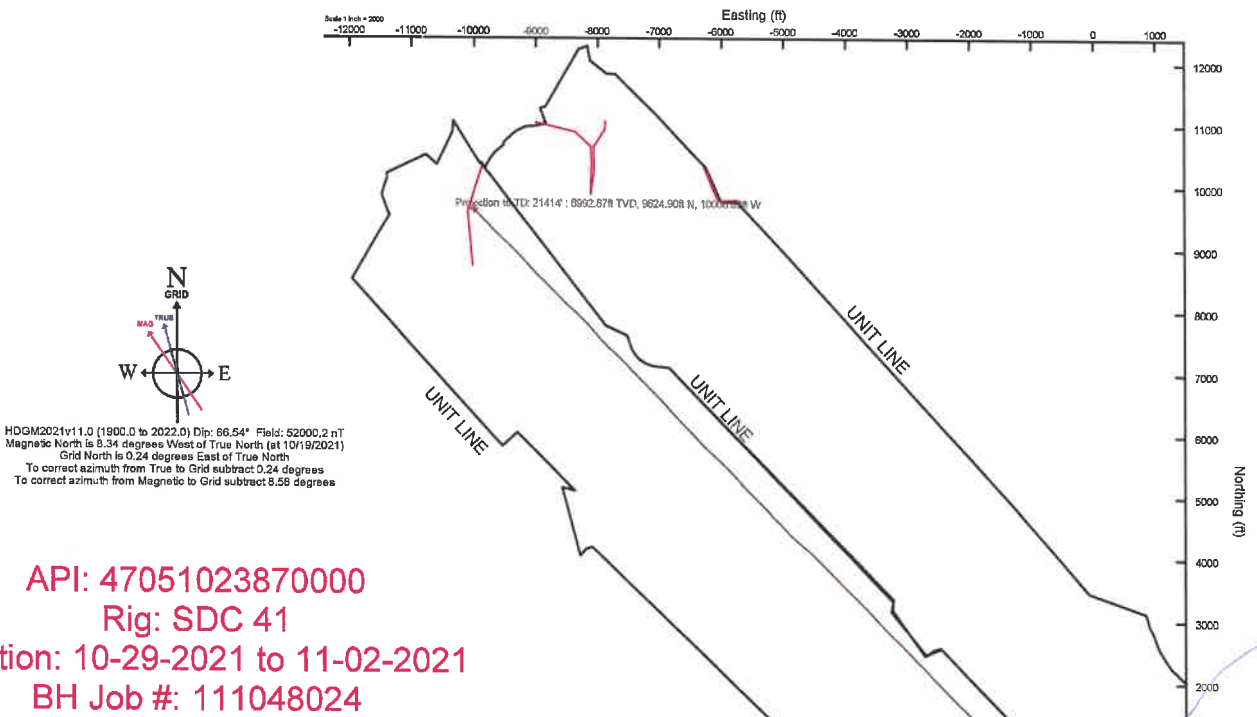
JUN 7 2022

WV Department of
Environmental Protection

Plot reference wellpath is O E Burge MSH 1H_awp 100' - 21389' Proj: 21414'	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 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground Level (At Slot: Slot 1H): -1342 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: tranlam on 2021-11-08; 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
21414.00	90.800	316.200	6992.87	9624.90	-10006.02	1733913.52	14445867.17	39°46'38.7989"N	80°40'1.9978"W



REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 1H
Field	Marshall	API	47051023870000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 1H
Slot	Slot 1H		

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	11/8/2021 at 9:52:14 AM
Convergence at slot	0.24° East	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	3.08	-7.04	1743915.64	14436246.02	39°45'3.2923"N	80°37'54.3469"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	1368.00ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1368.00ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level at Slot (Slot 1H)	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	315.46°

RECEIVED
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MW Department
Environmental Project



Actual Wellpath Report

O E Burge MSH 1H_awp 100' - 21389' Proj: 21414'
Page 2 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 1H
Field	Marshall	API	47051023870000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 1H
Slot	Slot 1H		

WELLPATH DATA (237 stations) † = interpolated, ‡ = extrapolated station														
MD [ft]	Course Length [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†	0.00	0.000	9.510	0.00	0.00	0.00	0.00	1743915.64	14436246.02	39°45'3.2923"N	80°37'54.3469"W	0.00	0.000	0.00
26.00	26.00	0.000	9.510	26.00	0.00	0.00	0.00	1743915.64	14436246.02	39°45'3.2923"N	80°37'54.3469"W	0.00	0.000	0.00
100.00	74.00	0.580	9.510	100.00	0.22	0.37	0.06	1743915.70	14436246.39	39°45'3.2959"N	80°37'54.3460"W	0.37	9.510	0.78
200.00	100.00	0.260	28.350	200.00	0.58	1.07	0.25	1743915.89	14436247.09	39°45'3.3028"N	80°37'54.3436"W	1.10	13.337	0.34
300.00	100.00	0.170	16.390	300.00	0.72	1.41	0.40	1743916.04	14436247.43	39°45'3.3062"N	80°37'54.3416"W	1.47	15.942	0.10
400.00	100.00	0.120	3.850	399.99	0.86	1.66	0.45	1743916.09	14436247.68	39°45'3.3087"N	80°37'54.3410"W	1.72	15.249	0.06
500.00	100.00	1.060	229.000	499.99	0.99	1.15	-0.24	1743915.40	14436247.17	39°45'3.3037"N	80°37'54.3499"W	1.18	348.290	1.15
600.00	100.00	4.140	226.700	599.87	1.13	-1.93	-3.57	1743912.08	14436244.09	39°45'3.2734"N	80°37'54.3926"W	4.05	241.591	3.08
700.00	100.00	5.990	225.860	699.48	1.24	-8.04	-9.94	1743905.71	14436237.98	39°45'3.2133"N	80°37'54.4745"W	12.78	231.031	1.85
796.00	96.00	7.840	224.100	794.78	1.12	-16.23	-18.09	1743897.56	14436229.80	39°45'3.1326"N	80°37'54.5793"W	24.30	228.102	1.94
862.00	66.00	7.370	223.790	860.20	0.89	-22.52	-24.15	1743891.50	14436223.51	39°45'3.0707"N	80°37'54.6572"W	33.02	227.005	0.71
951.00	89.00	5.940	211.710	948.60	-0.37	-30.56	-30.52	1743885.13	14436215.47	39°45'2.9915"N	80°37'54.7392"W	43.19	224.968	2.24
1041.00	90.00	5.630	208.490	1038.14	-2.77	-38.40	-35.08	1743880.58	14436207.64	39°45'2.9142"N	80°37'54.7980"W	52.01	222.411	0.50
1129.00	88.00	7.260	200.350	1125.58	-6.39	-47.41	-39.07	1743876.59	14436198.63	39°45'2.8254"N	80°37'54.8496"W	61.43	219.493	2.12
1220.00	91.00	7.880	191.070	1215.79	-12.35	-58.92	-42.27	1743873.39	14436187.12	39°45'2.7117"N	80°37'54.8911"W	72.51	215.654	1.50
1311.00	91.00	7.850	172.790	1305.95	-20.82	-71.21	-42.68	1743872.97	14436174.84	39°45'2.5903"N	80°37'54.8971"W	83.02	210.939	2.74
1402.00	91.00	8.040	159.930	1396.09	-31.55	-83.35	-39.72	1743875.93	14436162.70	39°45'2.4702"N	80°37'54.8598"W	92.33	205.479	1.96
1494.00	92.00	8.880	156.430	1487.08	-44.04	-95.90	-34.67	1743880.98	14436150.15	39°45'2.3459"N	80°37'54.7958"W	101.98	199.877	1.07
1584.00	90.00	8.170	162.880	1576.09	-56.20	-108.38	-30.01	1743885.64	14436137.68	39°45'2.2224"N	80°37'54.7368"W	112.46	195.478	1.32
1677.00	93.00	8.080	170.560	1668.16	-67.41	-121.15	-27.00	1743888.65	14436124.92	39°45'2.0961"N	80°37'54.6989"W	124.12	192.562	1.17
1769.00	92.00	7.800	163.100	1759.28	-78.23	-133.50	-24.12	1743891.53	14436112.57	39°45'1.9740"N	80°37'54.6627"W	135.66	190.242	1.16
1861.00	92.00	7.990	153.350	1850.41	-89.85	-145.19	-19.44	1743896.21	14436100.89	39°45'1.8582"N	80°37'54.6033"W	146.48	187.625	1.47
1952.00	91.00	8.290	147.380	1940.50	-102.29	-156.37	-13.06	1743902.58	14436089.72	39°45'1.7475"N	80°37'54.5223"W	156.91	184.776	0.99
2043.00	91.00	8.030	152.920	2030.58	-114.77	-167.55	-6.63	1743909.01	14436078.53	39°45'1.6367"N	80°37'54.4406"W	167.68	182.267	0.91
2133.00	90.00	8.490	167.380	2119.65	-126.41	-179.63	-2.32	1743913.32	14436066.46	39°45'1.5171"N	80°37'54.3860"W	179.65	180.740	2.36
2224.00	91.00	9.310	173.350	2209.56	-137.92	-193.50	0.00	1743915.64	14436052.60	39°45'1.3800"N	80°37'54.3570"W	193.50	180.000	1.36
2314.00	90.00	9.000	169.590	2298.41	-149.49	-207.65	2.12	1743917.75	14436038.45	39°45'1.2400"N	80°37'54.3307"W	207.66	179.416	0.75
2405.00	91.00	7.490	161.470	2388.47	-160.71	-220.28	5.29	1743920.92	14436025.83	39°45'1.1151"N	80°37'54.2908"W	220.34	178.625	2.09
2497.00	92.00	7.300	152.300	2479.71	-171.70	-231.14	9.91	1743925.55	14436014.97	39°45'1.0076"N	80°37'54.2321"W	231.35	177.545	1.30
2588.00	91.00	7.470	150.990	2569.96	-182.93	-241.43	15.47	1743931.10	14436004.68	39°45'0.9057"N	80°37'54.1616"W	241.93	176.335	0.26

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Operator	SWN PRODUCTION COMPANY, LLC		Well	O E Burge MSH 1H
Field	Marshall		API	47051023870000
Facility	O E Burge MSH Pad		Wellbore	O E Burge MSH 1H
Slot	Slot 1H			

WELLPATH DATA (237 stations)														
MD [ft]	Course Length [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]
2680.00	92.00	6.860	154.660	2661.24	-193.88	-251.63	20.72	1743936.35	14435994.49	39°45'0.8047"N	80°37'54.0948"W	252.48	175.293	0.83
2802.00	122.00	6.670	151.660	2782.39	-207.57	-264.45	27.20	1743942.83	14435981.67	39°45'0.6777"N	80°37'54.0125"W	265.84	174.128	0.33
2895.00	93.00	8.140	152.560	2874.61	-219.05	-275.05	32.80	1743948.42	14435971.08	39°45'0.5728"N	80°37'53.9414"W	277.00	173.200	1.59
2990.00	95.00	8.900	160.590	2968.56	-232.13	-287.95	38.34	1743953.96	14435958.18	39°45'0.4451"N	80°37'53.8711"W	290.49	172.416	1.48
3083.00	93.00	8.160	156.660	3060.54	-244.80	-300.79	43.34	1743958.97	14435945.34	39°45'0.3179"N	80°37'53.8077"W	303.90	171.800	1.01
3174.00	91.00	7.520	163.000	3150.69	-256.10	-312.42	47.64	1743963.27	14435933.72	39°45'0.2028"N	80°37'53.7533"W	316.03	171.329	1.18
3266.00	92.00	7.210	159.250	3241.93	-266.72	-323.57	51.45	1743967.07	14435922.57	39°45'0.0924"N	80°37'53.7052"W	327.64	170.965	0.62
3358.00	92.00	8.320	157.350	3333.08	-278.18	-335.12	56.06	1743971.68	14435911.04	39°44'59.9782"N	80°37'53.6468"W	339.77	170.503	1.24
3448.00	90.00	7.220	163.450	3422.26	-289.21	-346.55	60.18	1743975.79	14435899.61	39°44'59.8650"N	80°37'53.5946"W	351.73	170.149	1.53
3539.00	91.00	8.340	158.960	3512.42	-300.32	-358.19	64.18	1743979.79	14435887.97	39°44'59.7498"N	80°37'53.5441"W	363.89	169.842	1.40
3629.00	90.00	8.960	152.080	3601.40	-313.02	-370.47	69.80	1743985.41	14435875.69	39°44'59.6282"N	80°37'53.4727"W	376.99	169.330	1.34
3718.00	89.00	8.980	156.780	3689.31	-326.13	-382.98	75.79	1743991.40	14435863.19	39°44'59.5043"N	80°37'53.3967"W	390.41	168.807	0.82
3810.00	92.00	8.890	161.000	3780.19	-339.23	-396.30	80.93	1743996.54	14435849.87	39°44'59.3725"N	80°37'53.3316"W	404.48	168.458	0.72
3900.00	90.00	8.650	159.910	3869.14	-351.67	-409.23	85.52	1744001.13	14435836.95	39°44'59.2445"N	80°37'53.2735"W	418.07	168.196	0.32
3991.00	91.00	7.650	165.000	3959.22	-363.17	-421.51	89.44	1744005.04	14435824.67	39°44'59.1230"N	80°37'53.2240"W	430.89	168.020	1.35
4080.00	89.00	7.080	166.630	4047.49	-373.02	-432.57	92.24	1744007.84	14435813.62	39°44'59.0136"N	80°37'53.1887"W	442.29	167.963	0.68
4169.00	89.00	7.860	163.830	4135.73	-383.06	-443.75	95.20	1744010.81	14435802.44	39°44'58.9030"N	80°37'53.1513"W	453.85	167.891	0.97
4259.00	90.00	8.420	160.630	4224.83	-394.44	-455.88	99.10	1744014.70	14435790.32	39°44'58.7830"N	80°37'53.1020"W	466.52	167.735	0.80
4349.00	90.00	6.990	165.220	4314.01	-405.16	-467.39	102.68	1744018.28	14435778.81	39°44'58.6691"N	80°37'53.0568"W	478.54	167.609	1.73
4438.00	89.00	7.200	167.240	4402.33	-414.60	-478.06	105.30	1744020.90	14435768.14	39°44'58.5635"N	80°37'53.0239"W	489.52	167.578	0.37
4527.00	89.00	7.440	163.300	4490.61	-424.44	-489.02	108.19	1744023.78	14435757.19	39°44'58.4550"N	80°37'52.9875"W	500.85	167.526	0.63
4615.00	88.00	7.000	161.490	4577.91	-434.30	-499.57	111.53	1744027.12	14435746.65	39°44'58.3507"N	80°37'52.9453"W	511.86	167.415	0.56
4706.00	91.00	7.310	163.270	4668.20	-444.40	-510.37	114.95	1744030.55	14435735.85	39°44'58.2438"N	80°37'52.9020"W	523.15	167.307	0.42
4795.00	89.00	8.520	162.340	4756.35	-455.29	-522.07	118.58	1744034.18	14435724.15	39°44'58.1280"N	80°37'52.8561"W	535.37	167.203	1.37
4884.00	89.00	8.590	158.480	4844.36	-467.29	-534.54	123.02	1744038.61	14435711.69	39°44'58.0046"N	80°37'52.8000"W	548.51	167.039	0.65
4975.00	91.00	9.070	158.800	4934.28	-480.13	-547.55	128.11	1744043.70	14435698.69	39°44'57.8759"N	80°37'52.7355"W	562.33	166.832	0.53
5066.00	91.00	9.270	155.100	5024.12	-493.62	-560.88	133.79	1744049.37	14435685.35	39°44'57.7438"N	80°37'52.6635"W	576.62	166.584	0.68
5154.00	88.00	9.460	158.580	5110.95	-506.94	-574.05	139.41	1744055.00	14435672.20	39°44'57.6135"N	80°37'52.5922"W	590.73	166.349	0.68
5242.00	88.00	9.430	155.710	5197.76	-520.36	-587.35	145.02	1744060.60	14435658.90	39°44'57.4818"N	80°37'52.5211"W	604.99	166.131	0.54
5331.00	89.00	8.330	151.280	5285.69	-533.40	-599.65	151.12	1744066.70	14435646.61	39°44'57.3600"N	80°37'52.4437"W	618.40	165.856	1.45

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Slot	Slot 1H			

WELLPATH DATA (237 stations)

MD [ft]	Course Length [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]
5419.00	88.00	8.000	151.560	5372.80	-545.42	-610.62	157.10	1744072.67	14435635.63	39°44'57.2513"N	80°37'52.3677"W	630.51	165.572	0.38
5510.00	91.00	8.330	153.220	5462.87	-557.78	-622.08	163.08	1744078.66	14435624.19	39°44'57.1379"N	80°37'52.2917"W	643.10	165.310	0.45
5600.00	90.00	8.580	153.860	5551.90	-570.36	-633.92	168.98	1744084.55	14435612.34	39°44'57.0206"N	80°37'52.2168"W	656.06	165.074	0.30
5693.00	93.00	9.030	160.580	5643.80	-583.55	-647.03	174.46	1744090.03	14435599.24	39°44'56.8908"N	80°37'52.1473"W	670.14	164.910	1.21
5785.00	92.00	8.960	160.610	5734.67	-596.57	-660.60	179.24	1744094.81	14435585.68	39°44'56.7565"N	80°37'52.0869"W	684.49	164.820	0.08
5876.00	91.00	8.860	165.350	5824.57	-609.06	-674.07	183.36	1744098.93	14435572.22	39°44'56.6233"N	80°37'52.0347"W	698.56	164.782	0.81
5966.00	90.00	8.380	166.120	5913.56	-620.71	-687.14	186.69	1744102.26	14435559.15	39°44'56.4939"N	80°37'51.9929"W	712.05	164.800	0.55
6056.00	90.00	7.920	163.440	6002.65	-631.83	-699.45	190.03	1744105.60	14435546.84	39°44'56.3722"N	80°37'51.9507"W	724.80	164.800	0.66
6146.00	90.00	7.760	162.630	6091.81	-642.71	-711.19	193.61	1744109.18	14435535.11	39°44'56.2560"N	80°37'51.9055"W	737.07	164.771	0.22
6243.00	97.00	5.860	157.970	6188.12	-653.11	-722.03	197.42	1744112.99	14435524.27	39°44'56.1487"N	80°37'51.8573"W	748.54	164.707	2.04
6333.00	90.00	2.780	144.820	6277.85	-659.51	-728.08	200.41	1744115.97	14435518.23	39°44'56.0888"N	80°37'51.8194"W	755.15	164.610	3.57
6423.00	90.00	2.730	304.670	6367.82	-659.56	-728.64	199.90	1744115.46	14435517.66	39°44'56.0832"N	80°37'51.8259"W	755.57	164.659	6.03
6515.00	92.00	11.450	308.930	6459.03	-648.31	-721.64	190.98	1744106.54	14435524.66	39°44'56.1528"N	80°37'51.9398"W	746.49	165.177	9.49
6605.00	90.00	13.480	315.450	6546.90	-628.95	-708.55	176.67	1744092.24	14435537.74	39°44'56.2827"N	80°37'52.1223"W	730.25	166.000	2.74
6697.00	92.00	17.950	319.670	6635.45	-604.07	-690.09	159.96	1744075.54	14435556.19	39°44'56.4658"N	80°37'52.3352"W	708.39	166.950	5.01
6789.00	92.00	22.460	320.750	6721.76	-572.42	-665.67	139.66	1744055.24	14435580.61	39°44'56.7081"N	80°37'52.5939"W	680.16	168.151	4.92
6881.00	92.00	31.010	318.750	6803.85	-531.18	-634.18	112.86	1744028.46	14435612.09	39°44'57.0203"N	80°37'52.9353"W	644.14	169.909	9.34
6974.00	93.00	40.030	322.730	6879.48	-477.48	-592.28	78.88	1743994.49	14435653.97	39°44'57.4358"N	80°37'53.3681"W	597.51	172.414	10.01
7062.00	88.00	47.110	313.040	6943.27	-417.05	-547.65	38.08	1743953.71	14435698.59	39°44'57.8785"N	80°37'53.8881"W	548.97	176.022	11.04
7154.00	92.00	55.300	311.050	7000.86	-345.55	-499.72	-15.16	1743900.48	14435746.49	39°44'58.3543"N	80°37'54.5673"W	499.95	181.738	9.06
7245.00	91.00	63.690	312.380	7047.02	-267.38	-447.57	-73.61	1743842.06	14435798.62	39°44'58.8721"N	80°37'55.3128"W	453.58	189.340	9.31
7337.00	92.00	70.250	310.680	7082.99	-182.96	-391.49	-136.97	1743778.72	14435854.68	39°44'59.4289"N	80°37'56.1211"W	414.76	199.284	7.33
7428.00	91.00	78.670	310.920	7107.35	-95.66	-334.25	-203.28	1743712.44	14435911.90	39°44'59.9972"N	80°37'56.9670"W	391.21	211.307	9.26
7521.00	93.00	87.140	312.510	7118.83	-3.65	-272.89	-272.10	1743643.65	14435973.24	39°45'0.6065"N	80°37'57.8449"W	385.36	224.917	9.26
7613.00	92.00	89.570	312.260	7121.47	88.17	-210.90	-340.02	1743575.75	14436035.20	39°45'1.2218"N	80°37'58.7112"W	400.12	238.190	2.66
7704.00	91.00	89.660	312.740	7122.08	179.05	-149.42	-407.11	1743508.69	14436096.65	39°45'1.8321"N	80°37'59.5670"W	433.67	249.845	0.54
7796.00	92.00	89.750	313.780	7122.55	270.97	-86.38	-474.11	1743441.72	14436159.68	39°45'2.4579"N	80°38'0.4214"W	481.91	259.674	1.13
7889.00	93.00	89.910	312.870	7122.83	363.91	-22.57	-541.76	1743374.09	14436223.46	39°45'3.0912"N	80°38'1.2843"W	542.23	267.615	0.99
7981.00	92.00	89.630	312.710	7123.20	455.81	39.93	-609.27	1743306.60	14436285.93	39°45'3.7116"N	80°38'2.1454"W	610.58	273.749	0.35
8074.00	93.00	89.750	313.790	7123.70	548.74	103.65	-677.01	1743238.89	14436349.63	39°45'4.3440"N	80°38'3.0093"W	684.90	278.704	1.17

REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	O E Burge MSH 1H
Field	Marshall		API	47051023870000
Facility	O E Burge MSH Pad		Wellbore	O E Burge MSH 1H
Slot	Slot 1H			

WELLPATH DATA (237 stations)														
MD [ft]	Course Length [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]
8164.00	90.00	89.570	315.440	7124.24	638.72	166.86	-741.07	1743174.86	14436412.81	39°45'4.9713"N	80°38'3.8262"W	759.62	282.689	1.84
8256.00	92.00	89.850	316.600	7124.70	730.71	233.05	-804.96	1743111.00	14436478.98	39°45'5.6281"N	80°38'4.6406"W	838.02	286.147	1.30
8349.00	93.00	89.850	315.070	7124.94	823.71	299.76	-869.75	1743046.23	14436545.67	39°45'6.2899"N	80°38'5.4667"W	919.96	289.017	1.65
8440.00	91.00	89.450	316.760	7125.50	914.70	365.13	-933.06	1742982.95	14436611.00	39°45'6.9385"N	80°38'6.2739"W	1001.95	291.372	1.91
8533.00	93.00	90.030	318.070	7125.92	1007.64	433.60	-995.99	1742920.04	14436679.45	39°45'7.6177"N	80°38'7.0760"W	1086.28	293.526	1.54
8623.00	90.00	89.820	315.130	7126.04	1097.62	498.98	-1057.82	1742858.23	14436744.81	39°45'8.2663"N	80°38'7.8642"W	1169.60	295.254	3.27
8715.00	92.00	89.600	311.200	7126.51	1189.52	561.91	-1124.91	1742791.17	14436807.71	39°45'8.8909"N	80°38'8.7199"W	1257.44	296.543	4.28
8806.00	91.00	88.680	311.000	7127.87	1280.25	621.72	-1193.47	1742722.63	14436867.50	39°45'9.4847"N	80°38'9.5947"W	1345.70	297.517	1.03
8898.00	92.00	90.120	315.260	7128.84	1372.14	684.60	-1260.59	1742655.54	14436930.35	39°45'10.1088"N	80°38'10.4508"W	1434.49	298.505	4.89
8988.00	90.00	88.800	315.990	7129.68	1462.14	748.92	-1323.53	1742592.63	14436994.65	39°45'10.7471"N	80°38'11.2533"W	1520.73	299.503	1.68
9079.00	91.00	89.540	320.510	7131.00	1552.99	816.79	-1384.10	1742532.08	14437062.49	39°45'11.4202"N	80°38'12.0253"W	1607.14	300.546	5.03
9170.00	91.00	89.880	319.610	7131.46	1643.70	886.56	-1442.52	1742473.68	14437132.23	39°45'12.1120"N	80°38'12.7697"W	1693.18	301.574	1.06
9260.00	90.00	88.520	317.530	7132.72	1733.55	954.03	-1502.06	1742414.16	14437199.67	39°45'12.7812"N	80°38'13.5285"W	1779.43	302.421	2.76
9352.00	92.00	88.860	317.400	7134.82	1825.47	1021.80	-1564.24	1742352.01	14437267.42	39°45'13.4535"N	80°38'14.3211"W	1868.40	303.153	0.40
9445.00	93.00	87.970	317.680	7137.40	1918.37	1090.38	-1627.00	1742289.27	14437335.98	39°45'14.1338"N	80°38'15.1211"W	1958.59	303.829	1.00
9536.00	91.00	88.580	317.280	7140.13	2009.27	1157.42	-1688.48	1742227.82	14437402.99	39°45'14.7987"N	80°38'15.9047"W	2047.09	304.430	0.80
9628.00	92.00	88.680	315.710	7142.33	2101.23	1224.13	-1751.79	1742164.53	14437469.67	39°45'15.4605"N	80°38'16.7119"W	2137.12	304.945	1.71
9719.00	91.00	89.570	314.420	7143.72	2192.21	1288.54	-1816.05	1742100.29	14437534.06	39°45'16.0996"N	80°38'17.5314"W	2226.74	305.357	1.72
9811.00	92.00	89.230	311.820	7144.69	2284.12	1351.42	-1883.20	1742033.18	14437596.91	39°45'16.7237"N	80°38'18.3879"W	2317.92	305.664	2.85
9903.00	92.00	87.810	315.630	7147.06	2376.03	1414.97	-1949.65	1741966.75	14437660.44	39°45'17.3544"N	80°38'19.2354"W	2409.00	305.971	4.42
9993.00	90.00	91.450	318.390	7147.65	2465.97	1480.79	-2011.00	1741905.43	14437726.23	39°45'18.0073"N	80°38'20.0175"W	2497.37	306.366	5.08
10085.00	92.00	89.940	313.830	7146.53	2557.93	1547.06	-2074.76	1741841.69	14437792.48	39°45'18.6648"N	80°38'20.8305"W	2588.05	306.710	5.22
10177.00	92.00	90.000	314.370	7146.58	2649.91	1611.09	-2140.82	1741775.65	14437856.48	39°45'19.3002"N	80°38'21.6731"W	2679.31	306.963	0.59
10269.00	92.00	91.200	313.650	7145.61	2741.87	1675.00	-2206.99	1741709.51	14437920.37	39°45'19.9345"N	80°38'22.5169"W	2770.64	307.197	1.52
10359.00	90.00	89.080	313.540	7145.39	2831.82	1737.06	-2272.16	1741644.36	14437982.40	39°45'20.5503"N	80°38'23.3483"W	2860.09	307.398	2.36
10452.00	93.00	89.170	318.290	7146.82	2924.78	1803.83	-2336.84	1741579.71	14438049.15	39°45'21.2128"N	80°38'24.1729"W	2952.06	307.665	5.11
10544.00	92.00	89.540	316.020	7147.85	3016.73	1871.28	-2399.39	1741517.18	14438116.57	39°45'21.8818"N	80°38'24.9704"W	3042.82	307.951	2.50
10635.00	91.00	89.020	315.490	7148.99	3107.72	1936.46	-2462.88	1741453.72	14438181.73	39°45'22.5286"N	80°38'25.7800"W	3133.00	308.177	0.82
10725.00	90.00	90.550	316.040	7149.33	3197.71	2000.94	-2525.66	1741390.96	14438246.18	39°45'23.1683"N	80°38'26.5805"W	3222.23	308.388	1.81
10816.00	91.00	89.230	313.630	7149.51	3288.70	2065.10	-2590.19	1741326.46	14438310.31	39°45'23.8049"N	80°38'27.4034"W	3312.66	308.565	3.02

REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	O E Burge MSH 1H
Field	Marshall		API	47051023870000
Facility	O E Burge MSH Pad		Wellbore	O E Burge MSH 1H
Slot	Slot 1H			

WELLPATH DATA (237 stations)														
MD [ft]	Course Length [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]
10906.00	90.00	88.150	319.280	7151.57	3378.62	2130.29	-2652.15	1741264.52	14438375.48	39°45'24.4516"N	80°38'28.1935"W	3401.77	308.772	6.39
10997.00	91.00	91.910	316.710	7151.52	3469.51	2197.89	-2713.03	1741203.67	14438443.05	39°45'25.1221"N	80°38'28.9695"W	3491.60	309.012	5.00
11087.00	90.00	89.420	312.740	7150.47	3559.47	2261.20	-2776.95	1741139.77	14438506.34	39°45'25.7503"N	80°38'29.7848"W	3581.13	309.155	5.21
11180.00	93.00	89.230	314.560	7151.57	3652.41	2325.39	-2844.24	1741072.51	14438570.50	39°45'26.3873"N	80°38'30.6430"W	3673.84	309.269	1.97
11270.00	90.00	88.950	317.390	7153.00	3742.39	2390.09	-2906.77	1741010.00	14438635.18	39°45'27.0291"N	80°38'31.4404"W	3763.22	309.429	3.16
11361.00	91.00	89.080	316.380	7154.56	3833.35	2456.50	-2968.96	1740947.84	14438701.57	39°45'27.6880"N	80°38'32.2332"W	3853.45	309.604	1.12
11453.00	92.00	89.260	314.900	7155.90	3925.33	2522.27	-3033.27	1740883.55	14438767.31	39°45'28.3405"N	80°38'33.0534"W	3944.94	309.745	1.62
11544.00	91.00	89.320	317.330	7157.02	4016.31	2587.85	-3096.34	1740820.50	14438832.86	39°45'28.9910"N	80°38'33.8577"W	4035.38	309.888	2.67
11637.00	93.00	89.170	312.680	7158.25	4109.28	2653.59	-3162.07	1740754.80	14438898.58	39°45'29.6433"N	80°38'34.6960"W	4127.99	310.003	5.00
11728.00	91.00	89.230	313.580	7159.52	4200.19	2715.80	-3228.48	1740688.42	14438960.76	39°45'30.2607"N	80°38'35.5431"W	4218.84	310.071	0.99
11819.00	91.00	89.140	315.280	7160.82	4291.17	2779.49	-3293.45	1740623.47	14439024.43	39°45'30.8927"N	80°38'36.3718"W	4309.57	310.163	1.87
11911.00	92.00	88.740	316.670	7162.52	4383.14	2845.63	-3357.38	1740559.57	14439090.54	39°45'31.5489"N	80°38'37.1870"W	4401.09	310.284	1.57
12002.00	91.00	88.800	317.380	7164.47	4474.09	2912.20	-3419.40	1740497.58	14439157.08	39°45'32.2091"N	80°38'37.9777"W	4491.45	310.420	0.78
12095.00	93.00	89.170	316.660	7166.12	4567.04	2980.22	-3482.79	1740434.21	14439225.08	39°45'32.8839"N	80°38'38.7859"W	4583.83	310.554	0.87
12186.00	91.00	90.680	317.280	7166.24	4658.00	3046.74	-3544.88	1740372.14	14439291.57	39°45'33.5437"N	80°38'39.5776"W	4674.27	310.678	1.79
12279.00	93.00	90.770	316.810	7165.06	4750.96	3114.80	-3608.25	1740308.80	14439359.61	39°45'34.2188"N	80°38'40.3856"W	4766.70	310.802	0.51
12372.00	93.00	90.460	316.720	7164.06	4843.93	3182.55	-3671.95	1740245.12	14439427.33	39°45'34.8909"N	80°38'41.1978"W	4859.20	310.916	0.35
12464.00	92.00	89.780	313.130	7163.87	4935.91	3247.51	-3737.08	1740180.02	14439492.26	39°45'35.5354"N	80°38'42.0285"W	4950.97	310.991	3.97
12555.00	91.00	90.800	317.170	7163.41	5026.89	3312.01	-3801.24	1740115.88	14439556.74	39°45'36.1753"N	80°38'42.8468"W	5041.71	311.066	4.58
12646.00	91.00	90.800	314.970	7162.14	5117.87	3377.54	-3864.37	1740052.78	14439622.24	39°45'36.8254"N	80°38'43.6518"W	5132.36	311.154	2.42
12737.00	91.00	91.110	315.660	7160.62	5208.86	3442.23	-3928.35	1739988.82	14439686.90	39°45'37.4672"N	80°38'44.4678"W	5223.11	311.227	0.83
12830.00	93.00	90.800	313.420	7159.07	5301.82	3507.44	-3994.62	1739922.57	14439752.10	39°45'38.1143"N	80°38'45.3131"W	5315.93	311.284	2.43
12923.00	93.00	90.770	315.670	7157.80	5394.80	3572.67	-4060.89	1739856.33	14439817.30	39°45'38.7615"N	80°38'46.1584"W	5408.77	311.340	2.42
13014.00	91.00	90.800	315.810	7156.55	5485.79	3637.84	-4124.40	1739792.85	14439882.44	39°45'39.4080"N	80°38'46.9683"W	5499.50	311.413	0.16
13106.00	92.00	91.350	314.990	7154.82	5577.77	3703.33	-4188.98	1739728.29	14439947.91	39°45'40.0578"N	80°38'47.7920"W	5591.26	311.479	1.07
13196.00	90.00	90.340	315.140	7153.50	5667.76	3767.03	-4252.54	1739664.75	14440011.59	39°45'40.6898"N	80°38'48.6026"W	5681.08	311.536	1.13
13287.00	91.00	90.950	315.020	7152.47	5758.75	3831.47	-4316.80	1739600.53	14440075.99	39°45'41.3291"N	80°38'49.4222"W	5771.90	311.591	0.68
13377.00	90.00	90.860	313.940	7151.05	5848.72	3894.52	-4381.00	1739536.35	14440139.02	39°45'41.9547"N	80°38'50.2411"W	5861.78	311.636	1.20
13469.00	92.00	90.490	315.480	7149.97	5940.71	3959.23	-4446.38	1739471.00	14440203.71	39°45'42.5968"N	80°38'51.0750"W	5953.64	311.683	1.72
13559.00	90.00	90.980	315.770	7148.81	6030.70	4023.56	-4509.31	1739408.08	14440268.01	39°45'43.2350"N	80°38'51.8777"W	6043.42	311.742	0.63

REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	O E Burge MSH 1H
Field	Marshall		API	47051023870000
Facility	O E Burge MSH Pad		Wellbore	O E Burge MSH 1H
Slot	Slot 1H			

WELLPATH DATA (237 stations)														
MD [ft]	Course Length [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	91.00	91.080	312.960	7147.18	6121.66	4087.17	-4574.35	1739343.07	14440331.60	39°45'43.8662"N	80°38'52.7073"W	6134.30	311.781	3.09
13743.00	93.00	91.200	310.420	7145.33	6214.43	4149.01	-4643.78	1739273.67	14440393.41	39°45'44.4800"N	80°38'53.5933"W	6227.28	311.779	2.73
13834.00	91.00	90.740	308.310	7143.79	6304.90	4206.71	-4714.12	1739203.36	14440451.09	39°45'45.0530"N	80°38'54.4911"W	6318.18	311.745	2.37
13927.00	93.00	91.260	312.670	7142.16	6397.51	4267.08	-4784.82	1739132.68	14440511.43	39°45'45.6523"N	80°38'55.3934"W	6411.12	311.726	4.72
14020.00	93.00	90.520	314.010	7140.72	6490.43	4330.89	-4852.45	1739065.08	14440575.23	39°45'46.2856"N	80°38'56.2562"W	6504.07	311.749	1.65
14110.00	90.00	90.830	315.500	7139.66	6580.42	4394.26	-4916.35	1739001.20	14440638.56	39°45'46.9142"N	80°38'57.0713"W	6593.94	311.790	1.69
14201.00	91.00	91.480	319.810	7137.82	6671.31	4461.48	-4977.62	1738939.96	14440705.76	39°45'47.5810"N	80°38'57.8526"W	6684.43	311.870	4.79
14293.00	92.00	91.230	315.720	7135.64	6763.19	4529.57	-5039.43	1738878.17	14440773.82	39°45'48.2562"N	80°38'58.6406"W	6775.90	311.950	4.45
14384.00	91.00	91.350	313.590	7133.60	6854.15	4593.50	-5104.15	1738813.48	14440837.73	39°45'48.8906"N	80°38'59.4661"W	6866.77	311.986	2.34
14475.00	91.00	90.650	314.680	7132.01	6945.11	4656.86	-5169.44	1738748.21	14440901.07	39°45'49.5193"N	80°39'0.2991"W	6957.69	312.014	1.42
14565.00	90.00	91.450	318.450	7130.36	7035.07	4722.19	-5231.30	1738686.38	14440966.37	39°45'50.1673"N	80°39'1.0880"W	7047.38	312.072	4.28
14656.00	91.00	91.600	317.470	7127.94	7125.95	4789.75	-5292.22	1738625.49	14441033.90	39°45'50.8373"N	80°39'1.8647"W	7137.88	312.147	1.09
14748.00	92.00	91.200	313.930	7125.69	7217.90	4855.56	-5356.44	1738561.29	14441099.69	39°45'51.4902"N	80°39'2.6838"W	7229.66	312.192	3.87
14838.00	90.00	91.480	313.290	7123.58	7307.83	4917.62	-5421.59	1738496.17	14441161.73	39°45'52.1060"N	80°39'3.5150"W	7319.61	312.209	0.78
14930.00	92.00	91.420	316.140	7121.25	7399.78	4982.33	-5486.94	1738430.84	14441226.40	39°45'52.7479"N	80°39'4.3486"W	7411.48	312.241	3.10
15021.00	91.00	91.050	316.220	7119.29	7490.75	5047.97	-5549.93	1738367.87	14441292.02	39°45'53.3991"N	80°39'5.1520"W	7502.25	312.288	0.42
15112.00	91.00	91.380	316.900	7117.36	7581.72	5114.03	-5612.49	1738305.34	14441358.05	39°45'54.0543"N	80°39'5.9498"W	7592.98	312.339	0.83
15202.00	90.00	90.950	318.030	7115.53	7671.64	5180.33	-5673.32	1738244.53	14441424.33	39°45'54.7119"N	80°39'6.7254"W	7682.60	312.399	1.34
15293.00	91.00	91.050	320.760	7113.94	7762.40	5249.40	-5732.53	1738185.35	14441493.38	39°45'55.3968"N	80°39'7.4803"W	7772.91	312.481	3.00
15384.00	91.00	91.200	315.890	7112.16	7853.25	5317.34	-5793.00	1738124.89	14441561.29	39°45'56.0705"N	80°39'8.2513"W	7863.40	312.548	5.35
15474.00	90.00	90.620	315.050	7110.73	7943.23	5381.49	-5856.11	1738061.81	14441625.41	39°45'56.7069"N	80°39'9.0563"W	7953.27	312.582	1.13
15564.00	90.00	90.980	316.500	7109.47	8033.22	5445.98	-5918.88	1737999.07	14441689.87	39°45'57.3466"N	80°39'9.8568"W	8043.12	312.617	1.66
15655.00	91.00	91.320	314.580	7107.64	8124.20	5510.91	-5982.60	1737935.37	14441754.78	39°45'57.9908"N	80°39'10.6696"W	8133.98	312.650	2.14
15747.00	92.00	90.770	312.380	7105.97	8216.12	5574.20	-6049.34	1737868.66	14441818.05	39°45'58.6188"N	80°39'11.5212"W	8225.95	312.659	2.46
15837.00	90.00	90.800	312.880	7104.73	8306.00	5635.15	-6115.55	1737802.47	14441878.97	39°45'59.2237"N	80°39'12.3660"W	8315.94	312.659	0.56
15927.00	90.00	90.920	314.150	7103.38	8395.94	5697.11	-6180.81	1737737.24	14441940.91	39°45'59.8385"N	80°39'13.1987"W	8405.92	312.668	1.42
16017.00	90.00	90.950	313.940	7101.91	8485.90	5759.67	-6245.49	1737672.58	14442003.45	39°46'0.4593"N	80°39'14.0239"W	8495.88	312.683	0.24
16109.00	92.00	90.830	315.030	7100.48	8577.87	5824.13	-6311.12	1737606.98	14442067.88	39°46'1.0988"N	80°39'14.8612"W	8587.82	312.702	1.19
16200.00	91.00	91.050	318.780	7098.99	8668.82	5890.56	-6373.27	1737544.85	14442134.28	39°46'1.7576"N	80°39'15.6538"W	8678.55	312.746	4.13
16290.00	90.00	90.860	318.630	7097.49	8758.66	5958.17	-6432.66	1737485.49	14442201.87	39°46'2.4281"N	80°39'16.4110"W	8768.06	312.807	0.27

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 1H
Field	Marshall	API	47051023870000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 1H
Slot	Slot 1H		

WELLPATH DATA (237 stations)														
MD [ft]	Course Length [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]
16382.00	92.00	91.020	316.690	7095.98	8850.58	6026.16	-6494.61	1737423.56	14442269.83	39°46'3.1024"N	80°39'17.2010"W	8859.71	312.857	2.12
16472.00	90.00	91.380	315.750	7094.10	8940.55	6091.12	-6556.87	1737361.33	14442334.77	39°46'3.7468"N	80°39'17.9951"W	8949.54	312.891	1.12
16564.00	92.00	91.290	316.300	7091.95	9032.52	6157.31	-6620.73	1737297.49	14442400.93	39°46'4.4033"N	80°39'18.8096"W	9041.38	312.923	0.61
16655.00	91.00	91.380	314.860	7089.83	9123.49	6222.29	-6684.40	1737233.84	14442465.88	39°46'5.0479"N	80°39'19.6219"W	9132.25	312.949	1.59
16747.00	92.00	91.260	316.070	7087.71	9215.46	6287.85	-6748.91	1737169.36	14442531.42	39°46'5.6982"N	80°39'20.4447"W	9224.14	312.975	1.32
16838.00	91.00	90.890	318.610	7086.01	9306.39	6354.75	-6810.56	1737107.74	14442598.29	39°46'6.3618"N	80°39'21.2309"W	9314.86	313.017	2.82
16927.00	89.00	91.050	319.850	7084.50	9395.18	6422.14	-6868.67	1737049.65	14442665.66	39°46'7.0300"N	80°39'21.9718"W	9403.32	313.076	1.40
17017.00	90.00	90.950	318.330	7082.93	9484.99	6490.15	-6927.59	1736990.75	14442733.64	39°46'7.7043"N	80°39'22.7231"W	9492.82	313.133	1.69
17107.00	90.00	90.890	316.660	7081.48	9574.91	6556.49	-6988.39	1736929.97	14442799.95	39°46'8.3622"N	80°39'23.4985"W	9582.54	313.174	1.86
17194.00	87.00	90.770	315.800	7080.22	9661.90	6619.30	-7048.57	1736869.82	14442862.74	39°46'8.9853"N	80°39'24.2660"W	9669.41	313.201	1.00
17285.00	91.00	90.890	314.880	7078.91	9752.89	6684.02	-7112.53	1736805.89	14442927.44	39°46'9.6273"N	80°39'25.0819"W	9760.34	313.221	1.02
17374.00	89.00	90.980	315.310	7077.45	9841.87	6747.05	-7175.35	1736743.09	14442990.44	39°46'10.2526"N	80°39'25.8833"W	9849.28	313.238	0.49
17465.00	91.00	90.800	315.490	7076.04	9932.86	6811.84	-7239.23	1736679.23	14443055.20	39°46'10.8952"N	80°39'26.6984"W	9940.20	313.258	0.28
17557.00	92.00	91.110	315.290	7074.51	10024.85	6877.32	-7303.83	1736614.65	14443120.66	39°46'11.5448"N	80°39'27.5225"W	10032.13	313.277	0.40
17647.00	90.00	90.920	314.510	7072.91	10114.83	6940.84	-7367.57	1736550.94	14443184.16	39°46'12.1750"N	80°39'28.3357"W	10122.08	313.292	0.89
17739.00	92.00	91.020	316.780	7071.35	10206.81	7006.61	-7431.88	1736486.66	14443249.90	39°46'12.8274"N	80°39'29.1560"W	10213.98	313.313	2.47
17830.00	91.00	91.540	319.710	7069.32	10297.67	7074.47	-7492.46	1736426.10	14443317.73	39°46'13.5003"N	80°39'29.9285"W	10304.61	313.356	3.27
17921.00	91.00	91.110	317.420	7067.22	10388.50	7142.67	-7552.66	1736365.93	14443385.91	39°46'14.1766"N	80°39'30.6961"W	10395.21	313.402	2.56
18013.00	92.00	90.950	313.840	7065.56	10480.47	7208.42	-7616.97	1736301.64	14443451.63	39°46'14.8287"N	80°39'31.5166"W	10487.11	313.421	3.89
18103.00	90.00	91.110	312.300	7063.94	10570.38	7269.86	-7682.71	1736235.93	14443513.05	39°46'15.4385"N	80°39'32.3554"W	10577.09	313.418	1.72
18195.00	92.00	91.170	312.230	7062.11	10662.22	7331.73	-7750.78	1736167.88	14443574.89	39°46'16.0524"N	80°39'33.2242"W	10669.06	313.409	0.10
18285.00	90.00	90.620	313.370	7060.71	10752.11	7392.87	-7816.80	1736101.88	14443636.01	39°46'16.6591"N	80°39'34.0668"W	10759.04	313.403	1.41
18376.00	91.00	90.710	314.930	7059.65	10843.08	7456.25	-7882.09	1736036.62	14443699.36	39°46'17.2879"N	80°39'34.8998"W	10850.02	313.410	1.72
18467.00	91.00	91.750	318.590	7057.70	10934.01	7522.51	-7944.41	1735974.33	14443765.60	39°46'17.9451"N	80°39'35.6947"W	10940.83	313.438	4.18
18559.00	92.00	91.510	318.770	7055.08	11025.83	7591.58	-8005.12	1735913.64	14443834.64	39°46'18.6300"N	80°39'36.4690"W	11032.41	313.481	0.33
18649.00	90.00	91.630	318.080	7052.61	11115.68	7658.88	-8064.83	1735853.96	14443901.92	39°46'19.2973"N	80°39'37.2303"W	11122.04	313.521	0.78
18740.00	91.00	91.720	317.430	7049.95	11206.56	7726.22	-8125.98	1735792.83	14443969.23	39°46'19.9651"N	80°39'38.0102"W	11212.76	313.555	0.72
18831.00	91.00	91.850	316.250	7047.12	11297.49	7792.56	-8188.19	1735730.64	14444035.55	39°46'20.6231"N	80°39'38.8038"W	11303.57	313.582	1.30
18922.00	91.00	91.420	315.650	7044.52	11388.45	7857.94	-8251.44	1735667.42	14444100.90	39°46'21.2716"N	80°39'39.6106"W	11394.45	313.601	0.81
19014.00	92.00	91.420	314.570	7042.24	11480.42	7923.10	-8316.35	1735602.53	14444166.03	39°46'21.9179"N	80°39'40.4387"W	11486.39	313.613	1.17

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 1H
Field	Marshall	API	47051023870000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 1H
Slot	Slot 1H		

WELLPATH DATA (237 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Course Length [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]
19106.00	92.00	91.480	311.520	7039.92	11572.30	7985.87	-8383.55	1735535.35	14444228.78	39°46'22.5408"N	80°39'41.2964"W	11578.34	313.608	3.31
19198.00	92.00	90.620	310.510	7038.23	11664.00	8046.23	-8452.96	1735465.98	14444289.12	39°46'23.1399"N	80°39'42.1824"W	11670.23	313.588	1.44
19290.00	92.00	90.830	313.580	7037.06	11755.82	8107.83	-8521.27	1735397.70	14444350.69	39°46'23.7512"N	80°39'43.0542"W	11762.18	313.576	3.34
19380.00	90.00	90.620	316.930	7035.93	11845.80	8171.74	-8584.61	1735334.38	14444414.58	39°46'24.3852"N	80°39'43.8624"W	11852.12	313.589	3.73
19470.00	90.00	90.920	316.330	7034.72	11935.77	8237.16	-8646.40	1735272.61	14444479.97	39°46'25.0340"N	80°39'44.6507"W	11941.99	313.611	0.75
19562.00	92.00	90.860	315.960	7033.29	12027.76	8303.49	-8710.14	1735208.90	14444546.28	39°46'25.6919"N	80°39'45.4637"W	12033.89	313.631	0.41
19653.00	91.00	90.620	314.570	7032.11	12118.75	8368.13	-8774.18	1735144.88	14444610.89	39°46'26.3331"N	80°39'46.2808"W	12124.84	313.643	1.55
19746.00	93.00	90.770	314.250	7030.98	12211.72	8433.20	-8840.61	1735078.48	14444675.94	39°46'26.9787"N	80°39'47.1285"W	12217.83	313.649	0.38
19837.00	91.00	91.480	314.370	7029.20	12302.69	8496.76	-8905.71	1735013.40	14444739.47	39°46'27.6092"N	80°39'47.9592"W	12308.80	313.654	0.79
19929.00	92.00	91.320	314.210	7026.95	12394.64	8560.98	-8971.55	1734947.59	14444803.67	39°46'28.2463"N	80°39'48.7993"W	12400.77	313.659	0.25
20020.00	91.00	91.540	317.180	7024.68	12485.60	8626.08	-9035.08	1734884.08	14444868.73	39°46'28.8920"N	80°39'49.6099"W	12491.67	313.673	3.27
20112.00	92.00	91.910	319.300	7021.91	12577.45	8694.67	-9096.32	1734822.86	14444937.30	39°46'29.5721"N	80°39'50.3910"W	12583.34	313.707	2.34
20203.00	91.00	91.910	316.780	7018.87	12668.30	8762.29	-9157.13	1734762.08	14445004.90	39°46'30.2427"N	80°39'51.1665"W	12674.02	313.738	2.77
20294.00	91.00	92.060	315.680	7015.72	12759.23	8827.97	-9220.04	1734699.19	14445070.55	39°46'30.8940"N	80°39'51.9691"W	12764.88	313.756	1.22
20384.00	90.00	91.850	316.750	7012.65	12849.17	8892.90	-9282.28	1734636.98	14445135.46	39°46'31.5381"N	80°39'52.7631"W	12854.74	313.773	1.21
20475.00	91.00	91.690	316.440	7009.84	12940.11	8958.98	-9344.78	1734574.50	14445201.51	39°46'32.1935"N	80°39'53.5605"W	12945.59	313.793	0.38
20566.00	91.00	91.600	314.540	7007.23	13031.07	9023.85	-9408.55	1734510.76	14445266.35	39°46'32.8369"N	80°39'54.3740"W	13036.51	313.804	2.09
20658.00	92.00	90.680	312.100	7005.40	13122.98	9086.95	-9475.46	1734443.87	14445329.43	39°46'33.4629"N	80°39'55.2280"W	13128.48	313.801	2.83
20750.00	92.00	91.020	313.240	7004.03	13214.86	9149.30	-9543.10	1734376.26	14445391.75	39°46'34.0816"N	80°39'56.0913"W	13220.45	313.793	1.29
20842.00	92.00	90.920	313.020	7002.48	13306.77	9212.18	-9610.23	1734309.16	14445454.61	39°46'34.7056"N	80°39'56.9481"W	13312.43	313.789	0.26
20933.00	91.00	90.770	316.320	7001.13	13397.73	9276.14	-9674.93	1734244.48	14445518.55	39°46'35.3400"N	80°39'57.7738"W	13403.40	313.795	3.63
21024.00	91.00	90.950	318.320	6999.77	13488.67	9343.03	-9736.61	1734182.83	14445585.41	39°46'36.0033"N	80°39'58.5606"W	13494.21	313.818	2.21
21115.00	91.00	91.170	316.100	6998.08	13579.61	9409.79	-9798.41	1734121.05	14445652.15	39°46'36.6654"N	80°39'59.3489"W	13585.03	313.841	2.45
21208.00	93.00	91.200	315.930	6996.16	13672.58	9476.70	-9862.98	1734056.50	14445719.02	39°46'37.3290"N	80°40'0.1728"W	13677.95	313.856	0.19
21301.00	93.00	90.860	315.920	6994.49	13765.57	9543.50	-9927.66	1733991.85	14445785.80	39°46'37.9915"N	80°40'0.9980"W	13770.87	313.870	0.37
21389.00	88.00	90.800	316.200	6993.21	13853.55	9606.86	-9988.72	1733930.81	14445849.13	39°46'38.6199"N	80°40'1.7770"W	13858.80	313.884	0.33
21414.00†	25.00	90.800	316.200	6992.87	13878.55	9624.90	-10006.02	1733913.52	14445867.17	39°46'38.7989"N	80°40'1.9978"W	13883.77	313.888	0.00

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	O E Burge MSH 1H
Field	Marshall	API	47051023870000
Facility	O E Burge MSH Pad	Wellbore	O E Burge MSH 1H
Slot	Slot 1H		

HOLE & CASING SECTIONS - Ref Wellbore: O E Burge MSH 1H Ref Wellpath: O E Burge MSH 1H_awp 100' - 21389' Proj: 21414'									
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]
13.375in Casing	26.00	328.00	302.00	26.00	328.00	0.00	0.00	1.49	0.42
9.625in Casing	26.00	2680.00	2654.00	26.00	2661.24	0.00	0.00	-251.63	20.72

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
O E Burge MSH 1H BHL Rev 3	6971.80	9615.55	-10016.80	1733902.74	14445857.82	39°46'38.7068"N	80°40'2.1363"W	point
O E Burge MSH 1H LP Rev 4	7125.00	-241.93	-317.13	1743598.63	14436004.18	39°45'0.9142"N	80°37'58.4198"W	point

WELLPATH COMPOSITION - Ref Wellbore: O E Burge MSH 1H Ref Wellpath: O E Burge MSH 1H_awp 100' - 21389' Proj: 21414'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	796.00	BH Generic gyro - northseeking (Standard)	1 Imported Gyro 100' 796'	O E Burge MSH 1H	10/25/2021
796.00	2680.00	OWSG MWD rev2 + HRGM	2 Tally MWD 862' - 2680'	O E Burge MSH 1H	10/25/2021
2680.00	6146.00	OWSG MWD rev2 + HRGM	3 Tally MWD 2802' - 6146'	O E Burge MSH 1H	10/28/2021
6146.00	21414.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	4 BH MWD 6243' - 21389'	O E Burge MSH 1H	11/1/2021



Well Name: O E BURGE MSH 1H

47051023870000

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)	1981.00	1967.00	2847.00	2827.00	
Berea (siltstone)	2847.00	2827.00	6454.00	6398.00	
Rhinestreet (shale)	6454.00	6398.00	6807.00	6738.00	
Cashaqua (shale)	6807.00	6738.00	6941.00	6852.00	
Middlesex (shale)	6941.00	6852.00	7065.00	6945.00	
Burket (shale)	7065.00	6945.00	7101.00	6968.00	
Tully (ls)	7101.00	6968.00	7135.00	6989.00	
Mahantango (shale)	7135.00	6989.00	7363.00	7090.00	
Marcellus (shale)	7363.00	7090.00	NA	NA	GAS

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