





# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999613	Report Generated	2/11/2025 at 9:45:27 AM
Convergence at slot	0.25° East	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-26.43	-8.99	1748271.07	14531611.08	40°00'45.9168"N	80°36'53.2966"W
Facility Reference Pt			1748280.06	14531637.50	40°00'46.1777"N	80°36'53.1795"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	EDC 41 (KB) to Facility Vertical Datum	1297.40ft
Horizontal Reference Pt	Slot	EDC 41 (KB) to Mean Sea Level	1297.40ft
Vertical Reference Pt	EDC 41 (KB)	EDC 41 (KB) to Ground Level at Slot (210H)	26.00ft
MD Reference Pt	EDC 41 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	156.68°



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Slot	210H		

WELLPATH DATA (256 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	46.850	0.00	0.00	0.00	0.00	1748271.07	14531611.08	40°00'45.9168"N	80°36'53.2966"W	0.00	0.000	0.00
26.00	0.000	46.850	26.00	0.00	0.00	0.00	1748271.07	14531611.08	40°00'45.9168"N	80°36'53.2966"W	0.00	0.000	0.00
100.00	0.180	46.850	100.00	-0.04	0.08	0.08	1748271.15	14531611.16	40°00'45.9176"N	80°36'53.2955"W	0.12	46.850	0.24
150.00	0.190	71.630	150.00	-0.06	0.16	0.22	1748271.29	14531611.24	40°00'45.9184"N	80°36'53.2937"W	0.27	54.182	0.16
200.00	0.110	107.870	200.00	-0.02	0.17	0.35	1748271.42	14531611.25	40°00'45.9185"N	80°36'53.2921"W	0.39	63.679	0.24
250.00	0.100	166.370	250.00	0.05	0.11	0.40	1748271.47	14531611.19	40°00'45.9180"N	80°36'53.2914"W	0.42	74.186	0.21
300.00	0.040	199.370	300.00	0.11	0.05	0.41	1748271.48	14531611.13	40°00'45.9174"N	80°36'53.2914"W	0.41	82.314	0.14
350.00	0.070	29.460	350.00	0.10	0.06	0.41	1748271.48	14531611.14	40°00'45.9175"N	80°36'53.2913"W	0.42	81.113	0.22
400.00	0.170	98.020	400.00	0.12	0.08	0.50	1748271.57	14531611.16	40°00'45.9176"N	80°36'53.2901"W	0.51	80.845	0.32
450.00	0.100	109.340	450.00	0.19	0.06	0.62	1748271.69	14531611.14	40°00'45.9174"N	80°36'53.2886"W	0.62	84.793	0.15
500.00	0.040	109.430	500.00	0.23	0.04	0.68	1748271.75	14531611.12	40°00'45.9172"N	80°36'53.2879"W	0.68	86.945	0.12
550.00	0.060	127.830	550.00	0.27	0.01	0.71	1748271.78	14531611.09	40°00'45.9170"N	80°36'53.2874"W	0.71	88.859	0.05
600.00	0.210	305.220	600.00	0.21	0.05	0.66	1748271.73	14531611.13	40°00'45.9173"N	80°36'53.2881"W	0.66	85.573	0.54
650.00	0.080	287.740	650.00	0.11	0.11	0.55	1748271.62	14531611.19	40°00'45.9180"N	80°36'53.2895"W	0.56	78.253	0.27
657.00	0.070	288.950	657.00	0.11	0.12	0.54	1748271.61	14531611.20	40°00'45.9180"N	80°36'53.2896"W	0.55	77.778	0.14
689.00	0.300	309.310	689.00	0.02	0.18	0.46	1748271.53	14531611.26	40°00'45.9186"N	80°36'53.2907"W	0.49	68.914	0.74
771.00	0.170	98.580	771.00	-0.11	0.29	0.41	1748271.48	14531611.37	40°00'45.9197"N	80°36'53.2913"W	0.51	54.472	0.55
870.00	0.080	328.640	870.00	-0.10	0.33	0.52	1748271.59	14531611.41	40°00'45.9201"N	80°36'53.2899"W	0.62	57.558	0.23
960.00	0.810	147.860	960.00	0.47	-0.15	0.83	1748271.90	14531610.93	40°00'45.9153"N	80°36'53.2860"W	0.84	100.495	0.99
1053.00	2.240	130.780	1052.96	2.75	-1.90	2.55	1748273.62	14531609.18	40°00'45.8980"N	80°36'53.2639"W	3.18	126.609	1.60
1143.00	3.940	119.420	1142.83	6.80	-4.56	6.58	1748277.65	14531606.52	40°00'45.8715"N	80°36'53.2123"W	8.01	124.755	2.00
1235.00	5.400	116.860	1234.52	12.64	-8.07	13.19	1748284.26	14531603.01	40°00'45.8365"N	80°36'53.1275"W	15.47	121.462	1.60
1325.00	6.180	106.630	1324.06	19.00	-11.37	21.61	1748292.68	14531599.71	40°00'45.8035"N	80°36'53.0194"W	24.42	117.753	1.43
1416.00	7.020	98.190	1414.46	25.05	-13.57	31.81	1748302.87	14531597.52	40°00'45.7814"N	80°36'52.8885"W	34.58	113.098	1.41
1506.00	7.540	89.890	1503.74	30.25	-14.34	43.16	1748314.21	14531596.75	40°00'45.7733"N	80°36'52.7427"W	45.48	108.378	1.30
1596.00	7.330	80.080	1592.98	33.91	-13.34	54.72	1748325.77	14531597.75	40°00'45.7827"N	80°36'52.5941"W	56.32	103.700	1.43
1687.00	6.860	63.030	1683.30	34.91	-9.87	65.29	1748336.33	14531601.21	40°00'45.8165"N	80°36'52.4581"W	66.03	98.601	2.36
1778.00	7.530	45.840	1773.59	32.44	-3.25	74.41	1748345.45	14531607.83	40°00'45.8815"N	80°36'52.3405"W	74.48	92.505	2.47
1868.00	9.320	37.760	1862.62	26.82	6.62	83.10	1748354.14	14531617.69	40°00'45.9787"N	80°36'52.2282"W	83.36	85.448	2.38
1958.00	10.310	37.820	1951.30	19.41	18.74	92.50	1748363.54	14531629.81	40°00'46.0981"N	80°36'52.1067"W	94.38	78.547	1.10



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Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

WELLPATH DATA (256 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]
2065.00	11.690	38.010	2056.33	9.59	34.85	105.05	1748376.08	14531645.91	40°00'46.2567"N	80°36'51.9446"W	110.68	71.649	1.29
2157.00	12.500	32.400	2146.29	-0.49	50.60	116.12	1748387.15	14531661.66	40°00'46.4119"N	80°36'51.8013"W	126.67	66.457	1.55
2248.00	13.810	27.780	2234.90	-12.86	68.52	126.46	1748397.49	14531679.58	40°00'46.5886"N	80°36'51.6675"W	143.84	61.550	1.84
2338.00	14.280	26.040	2322.21	-26.84	88.00	136.34	1748407.36	14531699.04	40°00'46.7806"N	80°36'51.5394"W	162.28	57.161	0.70
2429.00	14.640	23.600	2410.33	-42.00	108.62	145.87	1748416.89	14531719.66	40°00'46.9840"N	80°36'51.4158"W	181.87	53.328	0.78
2520.00	15.940	18.670	2498.11	-59.14	131.00	154.48	1748425.49	14531742.03	40°00'47.2048"N	80°36'51.3039"W	202.55	49.702	2.02
2611.00	18.200	14.470	2585.10	-79.67	156.60	162.03	1748433.04	14531767.62	40°00'47.4575"N	80°36'51.2055"W	225.34	45.976	2.83
2703.00	20.670	13.030	2671.85	-104.10	186.34	169.28	1748440.29	14531797.34	40°00'47.7510"N	80°36'51.1106"W	251.75	42.255	2.73
2794.00	22.460	11.130	2756.48	-131.37	219.04	176.26	1748447.26	14531830.04	40°00'48.0739"N	80°36'51.0191"W	281.15	38.823	2.11
2886.00	24.200	10.150	2840.96	-161.60	254.85	182.98	1748453.98	14531865.83	40°00'48.4275"N	80°36'50.9308"W	313.74	35.678	1.94
2979.00	25.550	10.030	2925.33	-194.25	293.36	189.83	1748460.83	14531904.33	40°00'48.8078"N	80°36'50.8406"W	349.43	32.906	1.45
3071.00	26.730	10.850	3007.92	-227.94	333.22	197.18	1748468.17	14531944.17	40°00'49.2014"N	80°36'50.7439"W	387.19	30.614	1.34
3161.00	28.370	9.990	3087.71	-262.56	374.16	204.70	1748475.69	14531985.10	40°00'49.6057"N	80°36'50.6450"W	426.50	28.683	1.88
3253.00	30.830	8.200	3167.70	-300.93	419.03	211.86	1748482.84	14532029.95	40°00'50.0487"N	80°36'50.5505"W	469.54	26.820	2.84
3344.00	32.370	6.270	3245.20	-342.00	466.33	217.84	1748488.83	14532077.23	40°00'50.5159"N	80°36'50.4709"W	514.70	25.039	2.02
3435.00	32.950	6.460	3321.81	-384.66	515.13	223.29	1748494.27	14532126.01	40°00'50.9980"N	80°36'50.3982"W	561.44	23.435	0.65
3525.00	31.980	7.890	3397.75	-426.29	563.06	229.31	1748500.29	14532173.92	40°00'51.4714"N	80°36'50.3181"W	607.97	22.159	1.37
3616.00	30.820	9.010	3475.42	-466.60	609.96	236.27	1748507.25	14532220.80	40°00'51.9345"N	80°36'50.2261"W	654.12	21.174	1.43
3706.00	31.050	8.780	3552.62	-505.74	655.67	243.43	1748514.40	14532266.49	40°00'52.3859"N	80°36'50.1316"W	699.40	20.368	0.29
3797.00	31.570	9.410	3630.37	-545.66	702.36	250.90	1748521.87	14532313.17	40°00'52.8470"N	80°36'50.0329"W	745.83	19.658	0.68
3888.00	31.220	9.610	3708.04	-585.50	749.12	258.73	1748529.70	14532359.91	40°00'53.3087"N	80°36'49.9296"W	792.54	19.054	0.40
3979.00	31.680	7.800	3785.68	-625.75	796.05	265.91	1748536.88	14532406.82	40°00'53.7722"N	80°36'49.8348"W	839.28	18.472	1.15
4072.00	32.220	5.450	3864.59	-668.39	844.92	271.58	1748542.55	14532455.67	40°00'54.2549"N	80°36'49.7592"W	887.50	17.819	1.46
4163.00	30.800	4.980	3942.17	-710.17	892.28	275.91	1748546.87	14532503.02	40°00'54.7228"N	80°36'49.7009"W	933.97	17.183	1.58
4253.00	29.500	7.480	4020.00	-749.49	937.21	280.80	1748551.76	14532547.93	40°00'55.1666"N	80°36'49.6356"W	978.37	16.679	2.01
4344.00	29.220	7.540	4099.31	-787.81	981.45	286.63	1748557.59	14532592.15	40°00'55.6035"N	80°36'49.5582"W	1022.45	16.280	0.31
4434.00	30.530	5.700	4177.35	-826.66	1025.97	291.78	1748562.74	14532636.66	40°00'56.0433"N	80°36'49.4895"W	1066.66	15.875	1.78
4525.00	30.750	6.810	4255.65	-866.99	1072.07	296.83	1748567.79	14532682.74	40°00'56.4986"N	80°36'49.4220"W	1112.41	15.476	0.67
4615.00	30.930	9.520	4332.92	-906.32	1117.73	303.39	1748574.34	14532728.38	40°00'56.9495"N	80°36'49.3352"W	1158.18	15.186	1.56
4706.00	33.120	11.760	4410.07	-946.32	1165.14	312.32	1748583.27	14532775.77	40°00'57.4177"N	80°36'49.2177"W	1206.28	15.006	2.74



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Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

WELLPATH DATA (256 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]
4797.00	34.130	11.850	4485.85	-987.54	1214.47	322.63	1748593.58	14532825.08	40°00'57.9047"N	80°36'49.0825"W	1256.59	14.877	1.11
4887.00	34.720	9.040	4560.09	-1029.83	1264.50	331.85	1748602.79	14532875.08	40°00'58.3987"N	80°36'48.9613"W	1307.31	14.705	1.88
4981.00	34.350	7.600	4637.52	-1075.19	1317.22	339.56	1748610.50	14532927.79	40°00'58.9194"N	80°36'48.8592"W	1360.28	14.455	0.95
5072.00	33.590	7.810	4712.99	-1118.77	1367.61	346.38	1748617.31	14532978.16	40°00'59.4170"N	80°36'48.7688"W	1410.79	14.213	0.85
5162.00	32.120	8.060	4788.60	-1160.51	1415.97	353.11	1748624.05	14533026.50	40°00'59.8946"N	80°36'48.6795"W	1459.33	14.003	1.64
5253.00	31.350	8.200	4865.99	-1201.34	1463.35	359.88	1748630.81	14533073.86	40°01'0.3626"N	80°36'48.5898"W	1506.95	13.817	0.85
5343.00	31.390	8.940	4942.83	-1241.12	1509.68	366.86	1748637.79	14533120.17	40°01'0.8201"N	80°36'48.4975"W	1553.61	13.659	0.43
5434.00	31.530	8.370	5020.46	-1281.41	1556.63	374.01	1748644.94	14533167.10	40°01'1.2838"N	80°36'48.4030"W	1600.93	13.510	0.36
5525.00	31.400	8.270	5098.08	-1321.85	1603.63	380.88	1748651.81	14533214.08	40°01'1.7479"N	80°36'48.3121"W	1648.24	13.361	0.15
5616.00	31.760	8.000	5175.60	-1362.50	1650.80	387.63	1748658.55	14533261.24	40°01'2.2138"N	80°36'48.2228"W	1695.70	13.214	0.43
5707.00	31.570	7.500	5253.05	-1403.42	1698.14	394.07	1748664.99	14533308.56	40°01'2.6813"N	80°36'48.1373"W	1743.26	13.065	0.36
5797.00	30.890	8.550	5330.01	-1443.27	1744.34	400.58	1748671.49	14533354.74	40°01'3.1377"N	80°36'48.0511"W	1789.75	12.933	0.97
5889.00	30.080	7.970	5409.29	-1483.03	1790.53	407.29	1748678.20	14533400.91	40°01'3.5938"N	80°36'47.9623"W	1836.27	12.815	0.94
5985.00	29.970	6.450	5492.41	-1524.40	1838.18	413.32	1748684.23	14533448.55	40°01'4.0645"N	80°36'47.8822"W	1884.08	12.672	0.80
6076.00	30.830	10.660	5570.91	-1563.47	1883.69	420.19	1748691.09	14533494.04	40°01'4.5139"N	80°36'47.7913"W	1929.99	12.575	2.52
6172.00	24.060	23.600	5656.13	-1597.31	1925.88	432.60	1748703.50	14533536.22	40°01'4.9303"N	80°36'47.6295"W	1973.87	12.660	9.36
6267.00	20.520	37.180	5744.08	-1618.75	1956.93	450.43	1748721.32	14533567.25	40°01'5.2363"N	80°36'47.3985"W	2008.10	12.962	6.56
6363.00	21.000	64.600	5834.06	-1627.68	1977.76	476.20	1748747.08	14533588.07	40°01'5.4411"N	80°36'47.0662"W	2034.28	13.538	10.05
6459.00	22.750	91.130	5923.36	-1620.61	1984.79	510.38	1748781.25	14533595.10	40°01'5.5091"N	80°36'46.6264"W	2049.36	14.421	10.37
6555.00	27.450	109.400	6010.40	-1597.87	1977.06	549.89	1748820.75	14533587.37	40°01'5.4310"N	80°36'46.1190"W	2052.11	15.543	9.39
6650.00	32.650	118.780	6092.65	-1562.75	1957.42	593.06	1748863.90	14533567.74	40°01'5.2351"N	80°36'45.5653"W	2045.29	16.856	7.36
6746.00	40.970	126.800	6169.48	-1514.91	1926.03	641.07	1748911.89	14533536.36	40°01'4.9228"N	80°36'44.9500"W	2029.92	18.410	9.99
6842.00	47.790	130.900	6238.07	-1455.53	1883.84	693.21	1748964.01	14533494.19	40°01'4.5036"N	80°36'44.2821"W	2007.34	20.203	7.70
6937.00	55.610	133.360	6296.91	-1387.74	1833.81	748.40	1749019.18	14533444.18	40°01'4.0069"N	80°36'43.5757"W	1980.65	22.201	8.48
7033.00	64.380	138.450	6344.89	-1310.07	1774.08	806.04	1749076.80	14533384.47	40°01'3.4141"N	80°36'42.8381"W	1948.60	24.434	10.22
7129.00	73.440	144.990	6379.43	-1223.64	1703.79	861.31	1749132.05	14533314.21	40°01'2.7171"N	80°36'42.1317"W	1909.13	26.818	11.37
7225.00	82.050	149.920	6399.81	-1131.15	1624.78	911.66	1749182.38	14533235.22	40°01'1.9341"N	80°36'41.4890"W	1863.07	29.297	10.27
7320.00	89.740	151.520	6406.60	-1036.98	1542.19	957.96	1749228.66	14533152.67	40°01'1.1160"N	80°36'40.8985"W	1815.50	31.847	8.27
7416.00	89.430	151.140	6407.30	-941.40	1457.96	1004.02	1749274.70	14533068.47	40°01'0.2816"N	80°36'40.3113"W	1770.23	34.553	0.51
7512.00	89.240	152.430	6408.41	-845.76	1373.37	1049.40	1749320.06	14532983.92	40°00'59.4438"N	80°36'39.7327"W	1728.41	37.384	1.36



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

WELLPATH DATA (256 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]
7608.00	88.970	152.130	6409.91	-750.05	1288.40	1094.05	1749364.70	14532898.98	40°00'58.6021"N	80°36'39.1637"W	1690.24	40.336	0.42
7703.00	89.210	153.000	6411.42	-655.31	1204.10	1137.81	1749408.44	14532814.71	40°00'57.7671"N	80°36'38.6059"W	1656.65	43.379	0.95
7799.00	89.210	152.650	6412.74	-559.54	1118.70	1181.65	1749452.27	14532729.35	40°00'56.9213"N	80°36'38.0472"W	1627.21	46.568	0.36
7894.00	89.210	152.900	6414.05	-464.77	1034.24	1225.11	1749495.71	14532644.91	40°00'56.0847"N	80°36'37.4935"W	1603.29	49.829	0.26
7990.00	89.240	153.170	6415.35	-368.97	948.68	1268.64	1749539.22	14532559.39	40°00'55.2374"N	80°36'36.9388"W	1584.12	53.211	0.28
8085.00	89.430	152.730	6416.45	-274.18	864.08	1311.84	1749582.40	14532474.82	40°00'54.3995"N	80°36'36.3884"W	1570.84	56.628	0.50
8181.00	89.520	152.540	6417.33	-178.42	778.82	1355.96	1749626.51	14532389.60	40°00'53.5551"N	80°36'35.8261"W	1563.72	60.128	0.22
8278.00	89.490	152.690	6418.17	-81.67	692.70	1400.58	1749671.10	14532303.51	40°00'52.7020"N	80°36'35.2575"W	1562.51	63.684	0.16
8374.00	89.520	154.740	6419.00	14.19	606.63	1443.09	1749713.60	14532217.48	40°00'51.8497"N	80°36'34.7160"W	1565.41	67.200	2.14
8469.00	89.980	156.540	6419.41	109.17	520.09	1482.27	1749752.76	14532130.97	40°00'50.9928"N	80°36'34.2173"W	1570.87	70.665	1.96
8565.00	90.880	156.670	6418.69	205.17	431.99	1520.39	1749790.87	14532042.90	40°00'50.1205"N	80°36'33.7324"W	1580.57	74.138	0.95
8662.00	90.910	156.720	6417.18	302.16	342.92	1558.76	1749829.22	14531953.86	40°00'49.2385"N	80°36'33.2443"W	1596.03	77.593	0.06
8758.00	90.880	156.640	6415.68	398.15	254.77	1596.76	1749867.21	14531865.75	40°00'48.3658"N	80°36'32.7609"W	1616.95	80.935	0.09
8853.00	89.890	156.810	6415.04	493.14	167.50	1634.29	1749904.73	14531778.52	40°00'47.5018"N	80°36'32.2834"W	1642.86	84.148	1.06
8949.00	90.050	156.800	6415.09	589.14	79.26	1672.10	1749942.52	14531690.31	40°00'46.6282"N	80°36'31.8024"W	1673.98	87.286	0.17
9044.00	89.980	157.020	6415.07	684.14	-8.13	1709.36	1749979.77	14531602.96	40°00'45.7629"N	80°36'31.3285"W	1709.38	90.272	0.24
9140.00	89.280	154.140	6415.69	780.11	-95.53	1749.04	1750019.43	14531515.59	40°00'44.8975"N	80°36'30.8234"W	1751.65	93.126	3.09
9235.00	88.440	154.820	6417.58	875.02	-181.24	1789.96	1750060.34	14531429.91	40°00'44.0487"N	80°36'30.3024"W	1799.12	95.782	1.14
9331.00	88.540	154.040	6420.11	970.91	-267.81	1831.38	1750101.74	14531343.38	40°00'43.1914"N	80°36'29.7750"W	1850.86	98.320	0.82
9426.00	88.570	154.820	6422.50	1065.81	-353.47	1872.37	1750142.72	14531257.74	40°00'42.3431"N	80°36'29.2530"W	1905.45	100.691	0.82
9522.00	88.480	154.470	6424.97	1161.72	-440.20	1913.47	1750183.80	14531171.05	40°00'41.4843"N	80°36'28.7297"W	1963.45	102.956	0.38
9618.00	88.290	153.500	6427.68	1257.57	-526.44	1955.56	1750225.87	14531084.85	40°00'40.6302"N	80°36'28.1937"W	2025.18	105.067	1.03
9714.00	87.700	153.600	6431.04	1353.37	-612.33	1998.29	1750268.59	14530998.98	40°00'39.7795"N	80°36'27.6494"W	2090.01	107.037	0.62
9905.00	88.880	154.310	6436.74	1544.06	-783.86	2082.12	1750352.38	14530827.53	40°00'38.0808"N	80°36'26.5818"W	2224.78	110.630	0.72
10001.00	89.030	154.850	6438.49	1639.98	-870.55	2123.32	1750393.56	14530740.87	40°00'37.2223"N	80°36'26.0572"W	2294.85	112.293	0.58
10096.00	89.150	154.700	6440.00	1734.92	-956.48	2163.80	1750434.03	14530654.97	40°00'36.3714"N	80°36'25.5419"W	2365.77	113.847	0.20
10192.00	89.180	155.500	6441.40	1830.87	-1043.55	2204.21	1750474.43	14530567.94	40°00'35.5092"N	80°36'25.0274"W	2438.76	115.334	0.83
10287.00	88.910	154.700	6442.98	1925.82	-1129.70	2244.21	1750514.40	14530481.82	40°00'34.6560"N	80°36'24.5183"W	2512.51	116.720	0.89
10382.00	89.120	154.440	6444.61	2020.74	-1215.48	2284.99	1750555.18	14530396.07	40°00'33.8065"N	80°36'23.9990"W	2588.17	118.010	0.35
10478.00	88.880	154.660	6446.29	2116.66	-1302.16	2326.24	1750596.41	14530309.43	40°00'32.9482"N	80°36'23.4739"W	2665.90	119.239	0.34



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

WELLPATH DATA (256 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]
10574.00	88.810	154.270	6448.22	2212.57	-1388.76	2367.61	1750637.76	14530222.86	40°00'32.0906"N	80°36'22.9471"W	2744.86	120.394	0.41
10669.00	88.600	152.750	6450.37	2307.40	-1473.76	2409.98	1750680.11	14530137.89	40°00'31.2487"N	80°36'22.4075"W	2824.88	121.447	1.61
10765.00	88.940	154.450	6452.43	2403.23	-1559.73	2452.65	1750722.77	14530051.96	40°00'30.3973"N	80°36'21.8640"W	2906.59	122.454	1.81
10861.00	89.060	154.590	6454.11	2499.15	-1646.38	2493.94	1750764.04	14529965.34	40°00'29.5393"N	80°36'21.3383"W	2988.36	123.431	0.19
10956.00	89.030	154.740	6455.69	2594.08	-1732.23	2534.59	1750804.67	14529879.53	40°00'28.6891"N	80°36'20.8208"W	3069.98	124.350	0.16
11052.00	88.940	154.440	6457.39	2690.00	-1818.93	2575.77	1750845.84	14529792.86	40°00'27.8305"N	80°36'20.2964"W	3153.27	125.228	0.33
11148.00	88.940	154.400	6459.17	2785.91	-1905.50	2617.22	1750887.27	14529706.32	40°00'26.9731"N	80°36'19.7688"W	3237.40	126.057	0.04
11244.00	88.940	154.850	6460.94	2881.83	-1992.23	2658.35	1750928.39	14529619.63	40°00'26.1143"N	80°36'19.2451"W	3322.02	126.849	0.47
11339.00	90.410	154.350	6461.48	2976.76	-2078.04	2699.10	1750969.12	14529533.85	40°00'25.2645"N	80°36'18.7264"W	3406.37	127.593	1.63
11435.00	89.000	154.560	6461.98	3072.69	-2164.65	2740.49	1751010.50	14529447.27	40°00'24.4068"N	80°36'18.1993"W	3492.28	128.304	1.48
11530.00	88.840	154.920	6463.77	3167.61	-2250.55	2781.02	1751051.01	14529361.40	40°00'23.5561"N	80°36'17.6834"W	3577.58	128.982	0.41
11625.00	89.490	154.760	6465.15	3262.55	-2336.53	2821.41	1751091.38	14529275.46	40°00'22.7047"N	80°36'17.1693"W	3663.29	129.630	0.70
11721.00	89.800	154.680	6465.75	3358.50	-2423.33	2862.40	1751132.36	14529188.69	40°00'21.8451"N	80°36'16.6474"W	3750.45	130.252	0.33
11816.00	89.370	154.330	6466.43	3453.42	-2509.08	2903.29	1751173.24	14529102.98	40°00'20.9959"N	80°36'16.1269"W	3837.26	130.834	0.58
11912.00	89.000	154.470	6467.80	3549.34	-2595.65	2944.77	1751214.70	14529016.44	40°00'20.1386"N	80°36'15.5988"W	3925.44	131.394	0.41
12008.00	89.000	154.940	6469.47	3645.27	-2682.43	2985.78	1751255.69	14528929.69	40°00'19.2792"N	80°36'15.0767"W	4013.77	131.937	0.49
12104.00	89.150	154.880	6471.02	3741.21	-2769.36	3026.49	1751296.38	14528842.80	40°00'18.4184"N	80°36'14.5587"W	4102.31	132.460	0.17
12199.00	89.400	154.970	6472.23	3836.16	-2855.40	3066.74	1751336.62	14528756.79	40°00'17.5664"N	80°36'14.0462"W	4190.25	132.956	0.28
12295.00	89.120	153.340	6473.47	3932.05	-2941.79	3108.59	1751378.45	14528670.44	40°00'16.7108"N	80°36'13.5134"W	4279.89	133.421	1.72
12391.00	89.550	153.390	6474.58	4027.88	-3027.59	3151.62	1751421.47	14528584.66	40°00'15.8610"N	80°36'12.9653"W	4370.25	133.850	0.45
12487.00	89.460	152.030	6475.41	4123.65	-3112.90	3195.64	1751465.46	14528499.39	40°00'15.0160"N	80°36'12.4046"W	4461.19	134.249	1.42
12582.00	89.770	153.680	6476.05	4218.43	-3197.43	3238.98	1751508.79	14528414.89	40°00'14.1787"N	80°36'11.8525"W	4551.32	134.630	1.77
12678.00	89.800	153.270	6476.41	4314.28	-3283.33	3281.85	1751551.64	14528329.03	40°00'13.3280"N	80°36'11.3065"W	4642.28	135.013	0.43
12773.00	89.830	153.740	6476.72	4409.13	-3368.35	3324.23	1751594.01	14528244.04	40°00'12.4859"N	80°36'10.7668"W	4732.47	135.378	0.50
12868.00	89.550	153.570	6477.23	4504.00	-3453.48	3366.39	1751636.15	14528158.94	40°00'11.6428"N	80°36'10.2299"W	4822.77	135.732	0.34
12964.00	89.640	152.890	6477.91	4599.82	-3539.19	3409.63	1751679.37	14528073.27	40°00'10.7939"N	80°36'9.6792"W	4914.41	136.068	0.71
13059.00	89.710	153.100	6478.45	4694.62	-3623.83	3452.76	1751722.49	14527988.66	40°00'9.9556"N	80°36'9.1298"W	5005.37	136.385	0.23
13155.00	89.490	153.430	6479.12	4790.45	-3709.57	3495.95	1751765.66	14527902.96	40°00'9.1064"N	80°36'8.5798"W	5097.31	136.698	0.41
13250.00	89.800	153.690	6479.71	4885.31	-3794.63	3538.25	1751807.94	14527817.93	40°00'8.2640"N	80°36'8.0411"W	5188.29	137.002	0.43
13345.00	89.490	153.510	6480.29	4980.17	-3879.72	3580.49	1751850.16	14527732.87	40°00'7.4212"N	80°36'7.5032"W	5279.40	137.297	0.38



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

WELLPATH DATA (256 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]
13441.00	89.280	153.390	6481.32	5076.01	-3965.59	3623.39	1751893.05	14527647.03	40°00'6.5707"N	80°36'6.9568"W	5371.67	137.582	0.25
13537.00	89.340	153.450	6482.48	5171.85	-4051.44	3666.34	1751935.99	14527561.22	40°00'5.7205"N	80°36'6.4098"W	5464.08	137.857	0.09
13728.00	89.370	153.750	6484.63	5362.56	-4222.51	3751.26	1752020.88	14527390.21	40°00'4.0262"N	80°36'5.3284"W	5648.15	138.382	0.16
13824.00	89.650	153.520	6485.45	5458.42	-4308.52	3793.90	1752063.49	14527304.24	40°00'3.1743"N	80°36'4.7856"W	5740.82	138.634	0.38
13919.00	89.490	153.940	6486.16	5553.29	-4393.70	3835.94	1752105.52	14527219.08	40°00'2.3306"N	80°36'4.2502"W	5832.59	138.877	0.47
14014.00	89.430	153.440	6487.06	5648.16	-4478.86	3878.05	1752147.61	14527133.96	40°00'1.4872"N	80°36'3.7140"W	5924.48	139.112	0.53
14110.00	89.280	153.210	6488.14	5743.99	-4564.64	3921.14	1752190.69	14527048.22	40°00'0.6377"N	80°36'3.1652"W	6017.58	139.337	0.29
14205.00	89.550	153.480	6489.11	5838.82	-4649.53	3963.76	1752233.29	14526963.35	39°59'59.7968"N	80°36'2.6225"W	6109.79	139.552	0.40
14301.00	89.550	153.660	6489.86	5934.68	-4735.50	4006.48	1752276.00	14526877.42	39°59'58.9454"N	80°36'2.0784"W	6202.97	139.767	0.19
14397.00	89.280	153.380	6490.84	6030.53	-4821.42	4049.29	1752318.78	14526791.53	39°59'58.0944"N	80°36'1.5334"W	6296.26	139.975	0.41
14492.00	89.180	153.500	6492.12	6125.37	-4906.39	4091.76	1752361.24	14526706.60	39°59'57.2528"N	80°36'0.9925"W	6388.67	140.173	0.16
14587.00	89.180	153.410	6493.48	6220.21	-4991.37	4134.21	1752403.68	14526621.66	39°59'56.4112"N	80°36'0.4520"W	6481.16	140.366	0.09
14683.00	89.060	153.540	6494.96	6316.04	-5077.25	4177.08	1752446.53	14526535.80	39°59'55.5606"N	80°35'59.9061"W	6574.68	140.556	0.18
14779.00	89.180	153.340	6496.43	6411.88	-5163.11	4220.00	1752489.43	14526449.98	39°59'54.7102"N	80°35'59.3596"W	6668.29	140.740	0.24
14876.00	89.430	153.800	6497.61	6508.73	-5249.96	4263.17	1752532.58	14526363.16	39°59'53.8499"N	80°35'58.8098"W	6762.89	140.922	0.54
14972.00	89.460	153.530	6498.54	6604.59	-5336.00	4305.76	1752575.15	14526277.16	39°59'52.9979"N	80°35'58.2676"W	6856.56	141.099	0.28
15067.00	89.340	153.920	6499.53	6699.46	-5421.18	4347.81	1752617.19	14526192.01	39°59'52.1542"N	80°35'57.7322"W	6949.29	141.270	0.43
15163.00	89.180	153.490	6500.77	6795.32	-5507.23	4390.33	1752659.70	14526105.99	39°59'51.3019"N	80°35'57.1908"W	7043.06	141.438	0.48
15259.00	89.240	153.540	6502.09	6891.17	-5593.15	4433.14	1752702.49	14526020.10	39°59'50.4509"N	80°35'56.6457"W	7136.95	141.600	0.08
15354.00	89.280	153.360	6503.32	6986.01	-5678.13	4475.60	1752744.93	14525935.16	39°59'49.6093"N	80°35'56.1051"W	7229.95	141.754	0.19
15449.00	89.310	150.250	6504.49	7080.65	-5761.84	4520.48	1752789.79	14525851.48	39°59'48.7801"N	80°35'55.5333"W	7323.49	141.884	3.27
15546.00	89.210	150.780	6505.74	7177.08	-5846.27	4568.22	1752837.51	14525767.09	39°59'47.9436"N	80°35'54.9248"W	7419.40	141.996	0.56
15642.00	89.340	151.180	6506.96	7272.59	-5930.21	4614.78	1752884.06	14525683.18	39°59'47.1120"N	80°35'54.3313"W	7514.22	142.111	0.44
15738.00	89.310	151.090	6508.09	7368.14	-6014.27	4661.12	1752930.38	14525599.14	39°59'46.2792"N	80°35'53.7408"W	7609.04	142.224	0.10
15833.00	89.400	151.200	6509.16	7462.69	-6097.47	4706.97	1752976.21	14525515.98	39°59'45.4549"N	80°35'53.1565"W	7702.90	142.334	0.15
15929.00	89.150	151.220	6510.37	7558.24	-6181.60	4753.20	1753022.42	14525431.88	39°59'44.6215"N	80°35'52.5674"W	7797.76	142.442	0.26
16025.00	89.280	151.200	6511.69	7653.80	-6265.73	4799.43	1753068.63	14525347.79	39°59'43.7881"N	80°35'51.9783"W	7892.64	142.549	0.14
16119.00	89.280	154.530	6512.87	7747.57	-6349.36	4842.29	1753111.48	14525264.19	39°59'42.9597"N	80°35'51.4324"W	7985.12	142.669	3.54
16215.00	89.430	157.770	6513.95	7843.55	-6437.15	4881.10	1753150.27	14525176.44	39°59'42.0904"N	80°35'50.9389"W	8078.49	142.828	3.38
16310.00	89.370	160.000	6514.95	7938.46	-6525.76	4915.32	1753184.48	14525087.86	39°59'41.2132"N	80°35'50.5044"W	8169.81	143.012	2.35



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

## WELLPATH DATA (256 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]
16406.00	89.240	159.620	6516.11	8034.31	-6615.85	4948.45	1753217.59	14524997.80	39°59'40.3214"N	80°35'50.0839"W	8261.76	143.205	0.42
16501.00	88.970	159.680	6517.59	8129.18	-6704.91	4981.48	1753250.61	14524908.77	39°59'39.4398"N	80°35'49.6647"W	8352.90	143.389	0.29
16597.00	89.370	160.360	6518.99	8225.00	-6795.12	5014.28	1753283.40	14524818.60	39°59'38.5469"N	80°35'49.2485"W	8444.92	143.576	0.82
16692.00	89.680	160.060	6519.77	8319.82	-6884.51	5046.44	1753315.55	14524729.25	39°59'37.6621"N	80°35'48.8404"W	8535.99	143.758	0.45
16788.00	89.310	159.780	6520.62	8415.66	-6974.67	5079.40	1753348.50	14524639.12	39°59'36.7697"N	80°35'48.4222"W	8628.23	143.935	0.48
16883.00	89.310	160.220	6521.76	8510.49	-7063.93	5111.89	1753380.97	14524549.89	39°59'35.8861"N	80°35'48.0100"W	8719.55	144.108	0.46
16978.00	89.710	160.300	6522.58	8605.30	-7153.35	5143.98	1753413.05	14524460.51	39°59'35.0010"N	80°35'47.6029"W	8810.84	144.280	0.43
17073.00	89.310	159.600	6523.39	8700.15	-7242.59	5176.54	1753445.60	14524371.31	39°59'34.1177"N	80°35'47.1897"W	8902.34	144.445	0.85
17170.00	89.740	160.690	6524.19	8796.96	-7333.82	5209.49	1753478.53	14524280.11	39°59'33.2147"N	80°35'46.7717"W	8995.76	144.612	1.21
17266.00	89.650	160.640	6524.70	8892.73	-7424.40	5241.27	1753510.30	14524189.57	39°59'32.3181"N	80°35'46.3686"W	9088.05	144.780	0.11
17361.00	89.370	159.590	6525.52	8987.55	-7513.73	5273.58	1753542.60	14524100.27	39°59'31.4339"N	80°35'45.9587"W	9179.70	144.937	1.14
17457.00	89.340	159.880	6526.60	9083.41	-7603.78	5306.83	1753575.84	14524010.25	39°59'30.5424"N	80°35'45.5368"W	9272.54	145.088	0.30
17552.00	89.490	159.420	6527.57	9178.28	-7692.85	5339.87	1753608.86	14523921.22	39°59'29.6608"N	80°35'45.1175"W	9364.51	145.234	0.51
17649.00	89.400	159.900	6528.51	9275.14	-7783.80	5373.58	1753642.56	14523830.31	39°59'28.7605"N	80°35'44.6897"W	9458.48	145.381	0.50
17744.00	89.340	159.820	6529.55	9369.99	-7872.98	5406.29	1753675.26	14523741.16	39°59'27.8777"N	80°35'44.2746"W	9550.49	145.523	0.11
17840.00	89.580	160.150	6530.45	9465.83	-7963.18	5439.14	1753708.10	14523651.00	39°59'26.9849"N	80°35'43.8578"W	9643.47	145.665	0.43
17937.00	89.610	159.970	6531.14	9562.66	-8054.36	5472.22	1753741.17	14523559.85	39°59'26.0823"N	80°35'43.4381"W	9737.45	145.807	0.19
18032.00	89.460	159.760	6531.91	9657.51	-8143.55	5504.93	1753773.86	14523470.69	39°59'25.1994"N	80°35'43.0231"W	9829.63	145.942	0.27
18128.00	89.800	159.740	6532.53	9753.37	-8233.62	5538.15	1753807.07	14523380.66	39°59'24.3079"N	80°35'42.6015"W	9922.88	146.074	0.35
18224.00	89.520	159.400	6533.10	9849.24	-8323.58	5571.66	1753840.57	14523290.74	39°59'23.4174"N	80°35'42.1762"W	10016.25	146.202	0.46
18319.00	89.370	159.630	6534.02	9944.12	-8412.57	5604.91	1753873.80	14523201.78	39°59'22.5365"N	80°35'41.7543"W	10108.72	146.326	0.29
18415.00	89.310	159.680	6535.13	10039.98	-8502.57	5638.28	1753907.16	14523111.81	39°59'21.6456"N	80°35'41.3308"W	10202.15	146.451	0.08
18511.00	89.460	159.840	6536.16	10135.84	-8592.64	5671.49	1753940.36	14523021.78	39°59'20.7540"N	80°35'40.9094"W	10295.59	146.574	0.23
18607.00	89.400	160.040	6537.11	10231.68	-8682.81	5704.42	1753973.27	14522931.65	39°59'19.8614"N	80°35'40.4916"W	10389.01	146.696	0.22
18703.00	89.180	159.500	6538.30	10327.53	-8772.88	5737.61	1754006.45	14522841.61	39°59'18.9698"N	80°35'40.0705"W	10482.54	146.815	0.61
18798.00	89.340	159.430	6539.53	10422.41	-8861.84	5770.93	1754039.76	14522752.69	39°59'18.0893"N	80°35'39.6476"W	10575.24	146.927	0.18
18893.00	89.580	160.040	6540.42	10517.27	-8950.95	5803.83	1754072.65	14522663.61	39°59'17.2071"N	80°35'39.2301"W	10667.90	147.040	0.69
18989.00	89.370	160.080	6541.30	10613.10	-9041.19	5836.57	1754105.37	14522573.40	39°59'16.3139"N	80°35'38.8148"W	10761.45	147.156	0.22
19084.00	89.460	159.840	6542.27	10707.94	-9130.44	5869.12	1754137.91	14522484.19	39°59'15.4305"N	80°35'38.4018"W	10854.10	147.267	0.27
19181.00	90.170	159.410	6542.59	10804.81	-9221.37	5902.90	1754171.67	14522393.30	39°59'14.5304"N	80°35'37.9732"W	10948.87	147.375	0.86



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

## WELLPATH DATA (256 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]
19276.00	90.050	159.630	6542.40	10899.70	-9310.36	5936.13	1754204.90	14522304.34	39°59'13.6494"N	80°35'37.5514"W	11041.76	147.479	0.26
19372.00	89.310	159.790	6542.94	10995.56	-9400.40	5969.42	1754238.17	14522214.33	39°59'12.7581"N	80°35'37.1290"W	11135.60	147.584	0.79
19467.00	89.550	160.180	6543.89	11090.40	-9489.66	6001.94	1754270.67	14522125.11	39°59'11.8746"N	80°35'36.7165"W	11228.40	147.688	0.48
19563.00	90.350	159.690	6543.97	11186.24	-9579.83	6034.87	1754303.60	14522034.97	39°59'10.9820"N	80°35'36.2987"W	11322.23	147.791	0.98
19657.00	89.610	160.370	6544.00	11280.08	-9668.18	6066.98	1754335.69	14521946.66	39°59'10.1075"N	80°35'35.8914"W	11414.11	147.891	1.07
19753.00	89.740	160.920	6544.55	11375.85	-9758.75	6098.79	1754367.49	14521856.12	39°59'9.2110"N	80°35'35.4880"W	11507.76	147.996	0.59
19848.00	89.710	160.720	6545.00	11470.60	-9848.48	6130.00	1754398.69	14521766.43	39°59'8.3229"N	80°35'35.0923"W	11600.41	148.101	0.21
19943.00	89.400	160.020	6545.74	11565.40	-9937.95	6161.92	1754430.59	14521676.99	39°59'7.4372"N	80°35'34.6876"W	11693.25	148.199	0.81
20039.00	89.430	159.660	6546.72	11661.25	-10028.07	6195.00	1754463.66	14521586.91	39°59'6.5452"N	80°35'34.2678"W	11787.29	148.294	0.38
20135.00	89.460	159.540	6547.65	11757.12	-10118.04	6228.46	1754497.11	14521496.97	39°59'5.6546"N	80°35'33.8433"W	11881.43	148.384	0.13
20230.00	89.430	159.910	6548.57	11851.98	-10207.15	6261.38	1754530.02	14521407.90	39°59'4.7725"N	80°35'33.4256"W	11974.59	148.474	0.39
20325.00	90.140	160.470	6548.93	11946.80	-10296.53	6293.58	1754562.20	14521318.56	39°59'3.8878"N	80°35'33.0172"W	12067.62	148.565	0.95
20421.00	89.280	159.800	6549.41	12042.62	-10386.81	6326.20	1754594.81	14521228.31	39°59'2.9941"N	80°35'32.6035"W	12161.69	148.656	1.14
20516.00	89.430	160.000	6550.48	12137.46	-10476.02	6358.84	1754627.44	14521139.13	39°59'2.1110"N	80°35'32.1893"W	12254.87	148.743	0.26
20612.00	89.430	159.540	6551.44	12233.32	-10566.09	6392.04	1754660.62	14521049.09	39°59'1.2194"N	80°35'31.7682"W	12349.11	148.828	0.48
20707.00	89.490	160.180	6552.33	12328.17	-10655.28	6424.74	1754693.32	14520959.94	39°59'0.3366"N	80°35'31.3533"W	12442.36	148.912	0.68
20802.00	89.830	159.640	6552.90	12423.02	-10744.50	6457.37	1754725.93	14520870.76	39°58'59.4534"N	80°35'30.9393"W	12535.63	148.994	0.67
20898.00	89.340	159.760	6553.59	12518.88	-10834.53	6490.68	1754759.23	14520780.76	39°58'58.5622"N	80°35'30.5168"W	12629.96	149.075	0.53
20993.00	89.550	160.070	6554.51	12613.72	-10923.75	6523.30	1754791.84	14520691.58	39°58'57.6790"N	80°35'30.1029"W	12723.28	149.156	0.39
21088.00	89.580	160.510	6555.23	12708.53	-11013.18	6555.34	1754823.86	14520602.18	39°58'56.7938"N	80°35'29.6966"W	12816.50	149.238	0.46
21184.00	89.650	159.940	6555.88	12804.35	-11103.52	6587.82	1754856.33	14520511.88	39°58'55.8996"N	80°35'29.2847"W	12910.75	149.319	0.60
21280.00	89.770	159.680	6556.37	12900.20	-11193.62	6620.95	1754889.45	14520421.81	39°58'55.0077"N	80°35'28.8644"W	13005.16	149.396	0.30
21376.00	89.860	160.000	6556.67	12996.05	-11283.74	6654.04	1754922.52	14520331.73	39°58'54.1156"N	80°35'28.4447"W	13099.58	149.472	0.35
21472.00	89.800	160.000	6556.96	13091.89	-11373.95	6686.87	1754955.34	14520241.56	39°58'53.2227"N	80°35'28.0282"W	13193.97	149.548	0.06
21567.00	89.980	159.800	6557.14	13186.74	-11463.16	6719.52	1754987.98	14520152.38	39°58'52.3396"N	80°35'27.6141"W	13287.44	149.622	0.28
21663.00	89.460	157.100	6557.61	13282.69	-11552.44	6754.78	1755023.22	14520063.13	39°58'51.4557"N	80°35'27.1664"W	13382.30	149.685	2.86
21759.00	89.740	158.280	6558.28	13378.67	-11641.25	6791.22	1755059.65	14519974.36	39°58'50.5764"N	80°35'26.7035"W	13477.36	149.742	1.26
21855.00	89.150	158.950	6559.21	13474.61	-11730.63	6826.22	1755094.64	14519885.01	39°58'49.6915"N	80°35'26.2592"W	13572.22	149.804	0.93
21950.00	89.610	158.940	6560.24	13569.53	-11819.29	6860.35	1755128.75	14519796.39	39°58'48.8139"N	80°35'25.8260"W	13666.01	149.868	0.48
22046.00	89.520	159.660	6560.97	13665.42	-11909.09	6894.28	1755162.67	14519706.62	39°58'47.9249"N	80°35'25.3954"W	13760.72	149.933	0.76



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

WELLPATH DATA (256 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]
22141.00	89.520	159.880	6561.76	13760.28	-11998.22	6927.13	1755195.51	14519617.52	39°58'47.0425"N	80°35'24.9787"W	13854.33	150.000	0.23
22237.00	90.630	159.780	6561.64	13856.14	-12088.33	6960.23	1755228.60	14519527.45	39°58'46.1505"N	80°35'24.5588"W	13948.93	150.067	1.16
22333.00	90.080	160.090	6561.04	13951.98	-12178.50	6993.17	1755261.52	14519437.31	39°58'45.2579"N	80°35'24.1411"W	14043.52	150.135	0.66
22429.00	89.400	160.050	6561.48	14047.81	-12268.75	7025.89	1755294.23	14519347.10	39°58'44.3646"N	80°35'23.7260"W	14138.08	150.202	0.71
22525.00	89.460	159.930	6562.43	14143.64	-12358.95	7058.74	1755327.06	14519256.93	39°58'43.4717"N	80°35'23.3094"W	14232.69	150.267	0.14
22621.00	89.680	160.060	6563.15	14239.48	-12449.16	7091.58	1755359.89	14519166.76	39°58'42.5788"N	80°35'22.8929"W	14327.32	150.332	0.27
22716.00	89.610	159.880	6563.74	14334.32	-12538.41	7124.12	1755392.42	14519077.54	39°58'41.6953"N	80°35'22.4802"W	14420.98	150.395	0.20
22811.00	89.520	159.840	6564.46	14429.17	-12627.60	7156.83	1755425.11	14518988.39	39°58'40.8124"N	80°35'22.0653"W	14514.70	150.457	0.10
22907.00	89.460	159.960	6565.32	14525.02	-12717.75	7189.82	1755458.09	14518898.27	39°58'39.9201"N	80°35'21.6469"W	14609.40	150.519	0.14
23003.00	89.490	159.930	6566.20	14620.86	-12807.92	7222.74	1755491.00	14518808.13	39°58'39.0274"N	80°35'21.2294"W	14704.11	150.580	0.04
23098.00	89.450	160.310	6567.08	14715.68	-12897.26	7255.04	1755523.29	14518718.83	39°58'38.1431"N	80°35'20.8197"W	14797.80	150.641	0.40
23194.00	89.430	159.810	6568.02	14811.51	-12987.50	7287.78	1755556.01	14518628.63	39°58'37.2499"N	80°35'20.4045"W	14892.51	150.702	0.52
23291.00	89.460	160.270	6568.96	14908.34	-13078.67	7320.89	1755589.11	14518537.50	39°58'36.3474"N	80°35'19.9846"W	14988.23	150.762	0.48
23387.00	89.430	160.210	6569.89	15004.15	-13169.01	7353.34	1755621.55	14518447.19	39°58'35.4531"N	80°35'19.5731"W	15082.92	150.822	0.07
23429.00	89.520	159.610	6570.27	15046.08	-13208.45	7367.77	1755635.97	14518407.76	39°58'35.0627"N	80°35'19.3901"W	15124.39	150.847	1.44
23454.00‡	89.520	159.610	6570.48	15071.05	-13231.89	7376.48	1755644.68	14518384.34	39°58'34.8307"N	80°35'19.2796"W	15149.10	150.861	0.00

HOLE & CASING SECTIONS									
- Ref Wellbore: Michael Southworth MSH 210H AWB					Ref Wellpath: Michael Southworth MSH 210H awp Proj: 23454'				
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	2030.00	2004.00	26.00	2022.03	0.00	0.00	29.36	100.77
9.625in Casing	26.00	5889.00	5863.00	26.00	5409.29	0.00	0.00	1790.53	407.29
5.5in Casing	26.00	23454.00	23428.00	26.00	6570.48	0.00	0.00	-13231.89	7376.48



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Michael Southworth MSH 210H LP rev 3	6411.00	1518.46	959.41	1749230.11	14533128.95	40°01'0.8814"N	80°36'40.8812"W	point
Michael Southworth MSH 210H wp1	6412.00	623.64	1424.55	1749695.07	14532234.48	40°00'52.0186"N	80°36'34.9533"W	point
Michael Southworth MSH 210H wp2	6421.00	-293.05	1826.61	1750096.97	14531318.14	40°00'42.9421"N	80°36'29.8378"W	point
Michael Southworth MSH 210H wp3	6506.00	-6530.93	4865.61	1753134.79	14525082.69	39°59'41.1644"N	80°35'51.1433"W	point
Michael Southworth MSH 210H wp4	6543.00	-10094.46	6210.18	1754478.84	14521520.54	39°59'5.8884"N	80°35'34.0767"W	point
Michael Southworth MSH 210H BHL rev 3	6562.00	-13229.62	7384.36	1755652.56	14518386.60	39°58'34.8528"N	80°35'19.1782"W	point
Michael Southworth MSH 210H wp5	6563.00	-12694.58	7183.26	1755451.54	14518921.43	39°58'40.1493"N	80°35'21.7297"W	point



# Actual Wellpath Report

Michael Southworth MSH 210H awp Proj: 23454'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 210H
Field	Marshall WV	API	47-051-02522-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 210H AWB
Slot	210H		

WELLPATH COMPOSITION - Ref Wellbore: Michael Southworth MSH 210H AWB Ref Wellpath: Michael Southworth MSH 210H awp Proj: 23454'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	650.00	Gyrodatta 2015 - GC+WIR+DPIPE	1 Imported Gyrodatta 17.5" 100' - 650'	Michael Southworth MSH 210H AWB	2/6/2025
650.00	1958.00	Custom OWSG MWD+IFR1+SAG+FDIR (Approximation)	2 Total MWD 12.25" IFR-MSA SuperiorQC 657' - 1958'	Michael Southworth MSH 210H AWB	2/6/2025
1958.00	5985.00	Custom OWSG MWD+IFR1+SAG+FDIR (Approximation)	3 Total MWD 8.75" IFR-MSA SuperiorQC 2065' - 5985'	Michael Southworth MSH 210H AWB	2/6/2025
5985.00	23454.00	Custom OWSG MWD+IFR1+SAG+FDIR (Approximation)	4 BH MWD 8.5" IFR-MSA SuperiorQC 6076' - 23429'	Michael Southworth MSH 210H AWB	2/6/2025