



EXPAND ENERGY



Location: Marshall County, WV

Field: Marshall WV

Facility: Michael Southworth MSH Pad

Slot: 10H

Well: Michael Southworth MSH 10H

Wellbore: Michael Southworth MSH 10H AWB

Plot reference wellpath is Michael Southworth MSH 10H awp Proj: 21463'

Grid System: NAD83 / UTM Zone 17 North, US feet

True vertical depths are referenced to SDC 41 (RKB)

* = Wellpath was transformed from a different geodetic datum

Reference wellpath measured depths are referenced to SDC 41 (RKB)

North Reference: Grid north

SDC 41 (RKB) to Mean Sea Level: 1297.4 feet

Scale: True distance

Mean Sea Level to Ground level (At Slot: 10H): -1271.4 feet

Coordinates are in feet referenced to Slot

Offset wellpath MDs are referenced to each path's default MD datum

Depths are in feet

Created by: tranlam on 2025-01-31; Database: WA_MPL_EASTERNUS_Defn

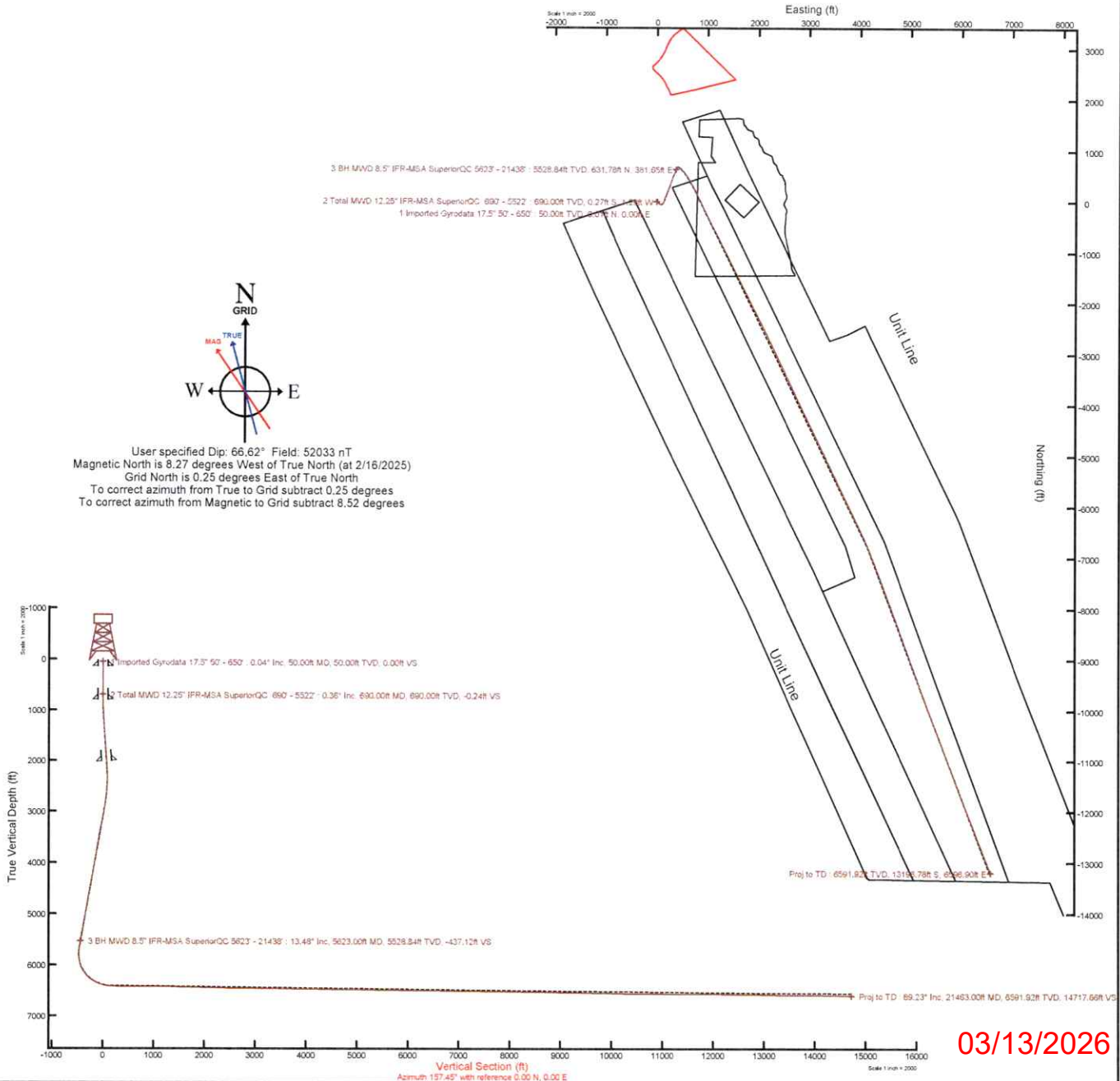
Location Information

Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Michael Southworth MSH Pad				1748280.060	14531637.500	40°00'46.1777"N	80°36'53.1795"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
10H	-39.87	-13.53	1748286.540	14531597.650	40°00'45.7843"N	80°36'53.3556"W	
SDC 41 (RKB) to Ground level (At Slot: 10H)						26ft	
Mean Sea Level to Ground level (At Slot: 10H)						-1271.4ft	
SDC 41 (RKB) to Mean Sea Level						1297.4ft	

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
21463.00	89.230	158.290	6591.92	-13196.78	6596.90	1754860.88	14518406.00	39°58'35.0805"N	80°35'29.3502"W

API: 47051025180000
 BH JOB: 112553882
 DURATION: 1/23/2025 - 1/29/2025
 JOB: SDC 41





Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 1 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

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	1/31/2025 at 12:01:17 AM
Convergence at slot	0.25° East	Database	WA_MPL_EASTERLUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-39.87	-13.53	1748266.54	14531597.65	40°00'45.7843"N	80°36'53.3556"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	SDC 41 (RKB) to Facility Vertical Datum	1297.40ft
Horizontal Reference Pt	Slot	SDC 41 (RKB) to Mean Sea Level	1297.40ft
Vertical Reference Pt	SDC 41 (RKB)	SDC 41 (RKB) to Ground Level at Slot (10H)	26.00ft
MD Reference Pt	SDC 41 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	157.45°



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 2 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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	31.530	0.00	0.00	0.00	0.00	1748266.54	14531597.65	40°00'45.7843"N	80°36'53.3556"W	0.00	0.000	0.00
26.00	0.000	31.530	26.00	0.00	0.00	0.00	1748266.54	14531597.65	40°00'45.7843"N	80°36'53.3556"W	0.00	0.000	0.00
50.00	0.040	31.530	50.00	0.00	0.01	0.00	1748266.54	14531597.66	40°00'45.7843"N	80°36'53.3555"W	0.01	31.530	0.17
100.00	0.190	17.320	100.00	-0.08	0.10	0.04	1748266.58	14531597.75	40°00'45.7853"N	80°36'53.3551"W	0.11	20.682	0.30
150.00	0.170	29.860	150.00	-0.19	0.24	0.10	1748266.64	14531597.89	40°00'45.7867"N	80°36'53.3543"W	0.26	22.194	0.09
200.00	0.050	276.840	200.00	-0.24	0.31	0.12	1748266.66	14531597.96	40°00'45.7873"N	80°36'53.3541"W	0.33	20.271	0.39
250.00	0.100	282.980	250.00	-0.28	0.32	0.05	1748266.59	14531597.97	40°00'45.7875"N	80°36'53.3549"W	0.33	8.928	0.10
300.00	0.100	298.590	300.00	-0.34	0.35	-0.03	1748266.51	14531598.00	40°00'45.7878"N	80°36'53.3559"W	0.36	355.174	0.05
350.00	0.050	239.040	350.00	-0.37	0.36	-0.09	1748266.45	14531598.01	40°00'45.7879"N	80°36'53.3567"W	0.37	346.574	0.17
400.00	0.180	211.070	400.00	-0.32	0.29	-0.15	1748266.39	14531597.94	40°00'45.7871"N	80°36'53.3574"W	0.32	332.908	0.28
450.00	0.150	234.780	450.00	-0.26	0.18	-0.24	1748266.30	14531597.83	40°00'45.7861"N	80°36'53.3587"W	0.30	306.966	0.15
500.00	0.220	245.920	500.00	-0.24	0.10	-0.38	1748266.16	14531597.75	40°00'45.7853"N	80°36'53.3605"W	0.40	285.238	0.16
550.00	0.380	244.500	550.00	-0.23	-0.01	-0.62	1748265.92	14531597.64	40°00'45.7842"N	80°36'53.3635"W	0.62	269.382	0.32
600.00	0.230	265.210	600.00	-0.25	-0.09	-0.87	1748265.67	14531597.56	40°00'45.7835"N	80°36'53.3667"W	0.87	264.315	0.37
650.00	0.330	252.670	650.00	-0.30	-0.14	-1.11	1748265.43	14531597.51	40°00'45.7830"N	80°36'53.3698"W	1.11	262.901	0.23
690.00	0.360	217.230	690.00	-0.24	-0.27	-1.29	1748265.25	14531597.38	40°00'45.7816"N	80°36'53.3722"W	1.32	258.106	0.53
767.00	0.460	265.840	766.99	-0.22	-0.49	-1.75	1748264.79	14531597.16	40°00'45.7795"N	80°36'53.3781"W	1.81	254.415	0.45
870.00	0.110	146.570	869.99	-0.25	-0.60	-2.10	1748264.44	14531597.05	40°00'45.7784"N	80°36'53.3827"W	2.19	254.095	0.51
960.00	1.400	119.610	959.98	0.70	-1.21	-1.10	1748265.44	14531596.44	40°00'45.7723"N	80°36'53.3698"W	1.64	222.176	1.45
1051.00	3.580	126.360	1050.89	4.01	-3.45	2.15	1748268.69	14531594.20	40°00'45.7501"N	80°36'53.3281"W	4.07	148.012	2.41
1141.00	5.600	125.030	1140.60	10.13	-7.64	8.01	1748274.55	14531590.02	40°00'45.7085"N	80°36'53.2530"W	11.07	133.618	2.25
1233.00	6.100	127.380	1232.12	18.14	-13.18	15.57	1748282.11	14531584.48	40°00'45.6534"N	80°36'53.1562"W	20.40	130.242	0.60
1323.00	4.940	132.360	1321.70	25.79	-18.69	22.24	1748288.77	14531578.96	40°00'45.5986"N	80°36'53.0708"W	29.05	130.053	1.39
1413.00	4.470	134.600	1411.40	32.53	-23.77	27.60	1748294.13	14531573.89	40°00'45.5482"N	80°36'53.0022"W	36.42	130.736	0.56
1504.00	4.680	131.040	1502.11	39.13	-28.70	32.92	1748299.45	14531568.97	40°00'45.4993"N	80°36'52.9341"W	43.67	131.076	0.39
1594.00	5.380	125.220	1591.76	45.98	-33.54	39.14	1748305.66	14531564.12	40°00'45.4512"N	80°36'52.8544"W	51.54	130.594	0.96
1687.00	5.320	123.610	1684.36	53.25	-38.44	46.29	1748312.81	14531559.22	40°00'45.4024"N	80°36'52.7628"W	60.17	129.706	0.17
1778.00	4.460	121.450	1775.02	59.62	-42.62	52.82	1748319.34	14531555.04	40°00'45.3608"N	80°36'52.6791"W	67.87	128.899	0.97
1868.00	4.750	117.450	1864.73	65.31	-46.17	59.12	1748325.63	14531551.50	40°00'45.3255"N	80°36'52.5984"W	75.01	127.988	0.48
1959.00	4.990	119.510	1955.41	71.31	-49.85	65.90	1748332.42	14531547.82	40°00'45.2888"N	80°36'52.5114"W	82.63	127.105	0.33



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 3 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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	5.220	122.420	2060.99	78.90	-54.71	73.99	1748340.50	14531542.96	40°00'45.2405"N	80°36'52.4078"W	92.02	126.481	0.33
2156.00	5.310	106.450	2151.61	84.94	-58.12	81.52	1748348.03	14531539.55	40°00'45.2064"N	80°36'52.3111"W	100.12	125.487	1.61
2248.00	5.650	85.700	2243.19	89.04	-58.99	90.12	1748356.62	14531538.69	40°00'45.1975"N	80°36'52.2007"W	107.71	123.206	2.17
2338.00	5.700	66.020	2332.76	90.31	-56.84	98.62	1748365.12	14531540.84	40°00'45.2184"N	80°36'52.0913"W	113.83	119.956	2.15
2428.00	5.610	46.540	2422.33	88.63	-51.99	105.90	1748372.40	14531545.68	40°00'45.2659"N	80°36'51.9975"W	117.97	116.150	2.12
2520.00	6.960	37.330	2513.78	84.23	-44.47	112.54	1748379.04	14531553.20	40°00'45.3400"N	80°36'51.9117"W	121.01	111.560	1.83
2611.00	9.590	32.070	2603.83	77.07	-33.66	119.91	1748386.41	14531564.00	40°00'45.4465"N	80°36'51.8164"W	124.55	105.679	3.00
2703.00	10.910	29.100	2694.36	67.23	-19.56	128.22	1748394.71	14531578.10	40°00'45.5855"N	80°36'51.7089"W	129.70	98.672	1.55
2794.00	10.680	27.930	2783.75	56.52	-4.58	136.35	1748402.84	14531593.07	40°00'45.7332"N	80°36'51.6034"W	136.43	91.924	0.35
2886.00	11.980	24.060	2873.95	44.54	11.67	144.24	1748410.72	14531609.32	40°00'45.8934"N	80°36'51.5012"W	144.71	85.374	1.64
2976.00	14.120	18.790	2961.63	29.88	30.59	151.58	1748418.07	14531628.23	40°00'46.0801"N	80°36'51.4057"W	154.64	78.589	2.72
3070.00	14.740	14.560	3052.66	11.73	53.02	158.28	1748424.76	14531650.65	40°00'46.3015"N	80°36'51.3184"W	166.93	71.479	1.30
3161.00	14.520	14.740	3140.71	-6.58	75.26	164.10	1748430.57	14531672.88	40°00'46.5210"N	80°36'51.2424"W	180.53	65.362	0.25
3252.00	14.920	17.040	3228.73	-24.68	97.50	170.43	1748436.91	14531695.11	40°00'46.7405"N	80°36'51.1598"W	196.35	60.229	0.78
3343.00	15.640	19.630	3316.51	-42.80	120.25	177.99	1748444.46	14531717.85	40°00'46.9650"N	80°36'51.0614"W	214.80	55.957	1.09
3434.00	14.930	20.830	3404.29	-60.41	142.76	186.28	1748452.74	14531740.35	40°00'47.1871"N	80°36'50.9536"W	234.69	52.534	0.85
3525.00	13.690	24.810	3492.47	-76.23	163.49	194.96	1748461.43	14531761.08	40°00'47.3916"N	80°36'50.8408"W	254.44	50.018	1.74
3615.00	13.120	24.210	3580.01	-90.44	182.48	203.62	1748470.08	14531780.05	40°00'47.5788"N	80°36'50.7285"W	273.42	48.135	0.65
3706.00	13.450	24.280	3668.58	-104.75	201.54	212.21	1748478.67	14531799.11	40°00'47.7669"N	80°36'50.6171"W	292.66	46.477	0.36
3796.00	13.200	21.890	3756.16	-119.25	220.62	220.34	1748486.80	14531818.18	40°00'47.9551"N	80°36'50.5115"W	311.81	44.964	0.67
3888.00	13.450	21.000	3845.68	-134.51	240.35	228.09	1748494.55	14531837.91	40°00'48.1498"N	80°36'50.4108"W	331.36	43.501	0.35
3979.00	13.560	22.240	3934.16	-149.75	260.11	235.92	1748502.37	14531857.66	40°00'48.3446"N	80°36'50.3090"W	351.17	42.209	0.34
4071.00	13.080	20.630	4023.69	-164.99	279.83	243.68	1748510.12	14531877.38	40°00'48.5392"N	80°36'50.2083"W	371.06	41.049	0.66
4162.00	14.000	21.160	4112.16	-180.46	299.74	251.28	1748517.72	14531897.27	40°00'48.7356"N	80°36'50.1095"W	391.13	39.974	1.02
4253.00	14.890	21.840	4200.28	-196.77	320.86	259.60	1748526.04	14531918.38	40°00'48.9439"N	80°36'50.0014"W	412.72	38.976	1.00
4344.00	14.370	19.720	4288.33	-213.48	342.34	267.76	1748534.20	14531939.86	40°00'49.1559"N	80°36'49.8953"W	434.62	38.031	0.82
4434.00	14.100	18.680	4375.57	-229.99	363.24	275.04	1748541.47	14531960.75	40°00'49.3621"N	80°36'49.8006"W	455.62	37.133	0.41
4524.00	13.950	20.610	4462.89	-246.15	383.78	282.37	1748548.80	14531981.28	40°00'49.5648"N	80°36'49.7052"W	476.46	36.344	0.55
4615.00	13.770	20.980	4551.24	-262.00	404.16	290.11	1748556.54	14532001.65	40°00'49.7658"N	80°36'49.6046"W	497.50	35.671	0.22
4706.00	12.920	18.030	4639.78	-277.58	423.94	297.13	1748563.56	14532021.43	40°00'49.9611"N	80°36'49.5132"W	517.70	35.026	1.20



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 4 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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]
4796.00	13.700	21.260	4727.36	-292.92	443.44	304.11	1748570.54	14532040.92	40°00'50.1535"N	80°36'49.4224"W	537.71	34.442	1.20
4886.00	13.790	21.180	4814.78	-308.36	463.38	311.85	1748578.27	14532060.85	40°00'50.3501"N	80°36'49.3219"W	558.54	33.941	0.10
4978.00	13.910	22.620	4904.11	-324.08	483.81	320.07	1748586.48	14532081.27	40°00'50.5517"N	80°36'49.2151"W	580.10	33.487	0.40
5069.00	14.690	24.060	4992.29	-339.71	504.44	328.98	1748595.39	14532101.90	40°00'50.7552"N	80°36'49.0995"W	602.24	33.111	0.94
5159.00	15.400	25.070	5079.20	-355.61	525.69	338.70	1748605.10	14532123.13	40°00'50.9647"N	80°36'48.9734"W	625.35	32.793	0.84
5250.00	14.770	22.980	5167.07	-371.88	547.31	348.34	1748614.75	14532144.75	40°00'51.1780"N	80°36'48.8482"W	648.76	32.475	0.91
5341.00	14.360	22.710	5255.14	-387.95	568.40	357.23	1748623.63	14532165.83	40°00'51.3860"N	80°36'48.7328"W	671.34	32.149	0.46
5431.00	13.850	20.050	5342.43	-403.73	588.81	365.23	1748631.63	14532186.24	40°00'51.5874"N	80°36'48.6288"W	692.89	31.811	0.92
5522.00	14.070	20.870	5430.74	-419.79	609.38	372.91	1748639.30	14532206.80	40°00'51.7904"N	80°36'48.5291"W	714.43	31.464	0.33
5623.00	13.480	21.790	5528.84	-437.12	631.78	381.65	1748648.04	14532229.19	40°00'52.0114"N	80°36'48.4154"W	738.11	31.135	0.62
5714.00	13.320	23.310	5617.36	-452.01	651.26	389.73	1748656.12	14532248.66	40°00'52.2035"N	80°36'48.3104"W	758.97	30.898	0.43
5804.00	11.330	34.350	5705.30	-464.06	668.08	398.83	1748665.21	14532265.47	40°00'52.3694"N	80°36'48.1926"W	778.07	30.836	3.42
5895.00	11.350	67.630	5794.61	-468.92	678.88	412.17	1748678.55	14532276.27	40°00'52.4755"N	80°36'48.0206"W	794.21	31.263	7.09
5986.00	14.440	101.080	5883.43	-462.60	680.11	431.61	1748697.99	14532277.50	40°00'52.4868"N	80°36'47.7706"W	805.51	32.400	8.72
6078.00	19.650	125.420	5971.47	-443.09	668.92	455.52	1748721.88	14532266.31	40°00'52.3752"N	80°36'47.4639"W	809.29	34.254	9.49
6177.00	27.260	135.740	6062.26	-407.85	642.99	484.97	1748751.32	14532240.39	40°00'52.1177"N	80°36'47.0870"W	805.37	37.025	8.71
6272.00	35.930	141.250	6143.12	-360.77	605.59	517.67	1748784.00	14532203.00	40°00'51.7467"N	80°36'46.6688"W	796.69	40.524	9.61
6368.00	44.640	143.740	6216.28	-300.84	556.33	555.32	1748821.64	14532153.76	40°00'51.2583"N	80°36'46.1876"W	786.05	44.948	9.23
6463.00	53.610	145.850	6278.39	-230.81	497.65	596.61	1748862.92	14532095.11	40°00'50.6766"N	80°36'45.6602"W	776.92	50.168	9.59
6560.00	62.390	148.260	6329.75	-149.97	428.65	641.23	1748907.52	14532026.13	40°00'49.9928"N	80°36'45.0906"W	771.31	56.238	9.29
6655.00	70.480	149.850	6367.70	-63.90	354.01	685.93	1748952.21	14531951.52	40°00'49.2533"N	80°36'44.5202"W	771.90	62.702	8.65
6752.00	77.370	151.920	6394.55	28.64	272.62	731.23	1748997.49	14531870.16	40°00'48.4470"N	80°36'43.9426"W	780.40	69.553	7.39
6849.00	84.420	153.800	6409.89	124.05	187.44	774.88	1749041.12	14531785.02	40°00'47.6034"N	80°36'43.3865"W	797.22	76.402	7.52
6944.00	86.800	153.570	6417.16	218.56	102.54	816.86	1749083.09	14531700.15	40°00'46.7626"N	80°36'42.8516"W	823.27	82.845	2.52
7040.00	86.830	153.730	6422.49	314.20	16.65	859.41	1749125.61	14531614.29	40°00'45.9119"N	80°36'42.3096"W	859.57	88.890	0.17
7136.00	89.140	155.130	6425.87	410.00	-69.89	900.81	1749167.00	14531527.79	40°00'45.0550"N	80°36'41.7823"W	903.52	94.436	2.81
7231.00	91.290	154.100	6425.51	504.87	-155.71	941.54	1749207.71	14531442.00	40°00'44.2051"N	80°36'41.2638"W	954.32	99.391	2.51
7327.00	90.740	153.350	6423.81	600.66	-241.78	984.03	1749250.18	14531355.97	40°00'43.3528"N	80°36'40.7225"W	1013.29	103.804	0.97
7422.00	90.860	153.500	6422.48	695.41	-326.73	1026.52	1749292.66	14531271.05	40°00'42.5114"N	80°36'40.1811"W	1077.27	107.656	0.20
7518.00	90.060	153.420	6421.71	791.18	-412.61	1069.42	1749335.54	14531185.20	40°00'41.6609"N	80°36'39.6347"W	1146.25	111.098	0.84



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 5 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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]
7614.00	89.940	153.200	6421.71	886.92	-498.38	1112.54	1749378.64	14531099.46	40°00'40.8114"N	80°36'39.0854"W	1219.07	114.131	0.26
7710.00	89.170	151.840	6422.46	982.56	-583.55	1156.83	1749422.92	14531014.33	40°00'39.9679"N	80°36'38.5209"W	1295.68	116.768	1.63
7807.00	89.750	153.650	6423.37	1079.23	-669.77	1201.25	1749467.32	14530928.14	40°00'39.1139"N	80°36'37.9549"W	1375.35	119.142	1.96
7903.00	89.630	153.340	6423.89	1175.00	-755.68	1244.09	1749510.15	14530842.27	40°00'38.2631"N	80°36'37.4091"W	1455.61	121.275	0.35
7998.00	88.400	153.510	6425.53	1269.75	-840.63	1286.58	1749552.62	14530757.35	40°00'37.4217"N	80°36'36.8678"W	1536.86	123.160	1.31
8094.00	88.370	153.460	6428.23	1365.48	-926.50	1329.42	1749595.45	14530671.51	40°00'36.5713"N	80°36'36.3221"W	1620.42	124.873	0.06
8190.00	88.460	153.400	6430.89	1461.21	-1012.32	1372.35	1749638.35	14530585.72	40°00'35.7213"N	80°36'35.7753"W	1705.33	126.415	0.11
8285.00	88.650	153.370	6433.28	1555.94	-1097.23	1414.89	1749680.88	14530500.85	40°00'34.8804"N	80°36'35.2333"W	1790.48	127.793	0.20
8380.00	88.710	153.360	6435.47	1650.67	-1182.13	1457.47	1749723.44	14530415.98	40°00'34.0396"N	80°36'34.6909"W	1876.60	129.045	0.06
8475.00	88.740	153.600	6437.58	1745.42	-1267.11	1499.88	1749765.83	14530331.03	40°00'33.1979"N	80°36'34.1507"W	1963.47	130.191	0.25
8571.00	89.320	153.870	6439.21	1841.20	-1353.19	1542.35	1749808.29	14530244.99	40°00'32.3455"N	80°36'33.6097"W	2051.82	131.262	0.67
8667.00	88.950	153.880	6440.66	1937.01	-1439.37	1584.62	1749850.54	14530158.84	40°00'31.4920"N	80°36'33.0713"W	2140.75	132.250	0.39
8762.00	87.690	152.760	6443.44	2031.72	-1524.21	1627.26	1749893.16	14530074.03	40°00'30.6517"N	80°36'32.5282"W	2229.62	133.127	1.77
8857.00	88.920	153.250	6446.25	2126.39	-1608.82	1670.36	1749936.25	14529989.45	40°00'29.8136"N	80°36'31.9791"W	2319.14	133.925	1.39
8953.00	89.020	153.520	6447.98	2222.13	-1694.64	1713.36	1749979.23	14529903.67	40°00'28.9638"N	80°36'31.4313"W	2409.85	134.685	0.30
9049.00	89.290	153.240	6449.40	2317.88	-1780.45	1756.37	1750022.23	14529817.89	40°00'28.1139"N	80°36'30.8834"W	2500.97	135.390	0.41
9144.00	88.990	153.370	6450.82	2412.62	-1865.32	1799.04	1750064.88	14529733.06	40°00'27.2734"N	80°36'30.3398"W	2591.52	136.036	0.34
9239.00	89.020	153.650	6452.47	2507.38	-1950.33	1841.41	1750107.23	14529648.08	40°00'26.4314"N	80°36'29.8002"W	2682.27	136.645	0.30
9335.00	89.050	153.310	6454.09	2603.13	-2036.22	1884.27	1750150.08	14529562.23	40°00'25.5808"N	80°36'29.2542"W	2774.28	137.220	0.36
9430.00	89.720	153.490	6455.11	2697.89	-2121.15	1926.80	1750192.59	14529477.32	40°00'24.7395"N	80°36'28.7124"W	2865.64	137.749	0.73
9526.00	89.450	152.230	6455.80	2793.58	-2206.58	1970.59	1750236.37	14529391.93	40°00'23.8934"N	80°36'28.1545"W	2958.42	138.233	1.34
9621.00	89.720	153.760	6456.49	2888.29	-2291.22	2013.73	1750279.48	14529307.32	40°00'23.0552"N	80°36'27.6050"W	3050.37	138.688	1.64
9716.00	89.140	153.210	6457.44	2983.05	-2376.22	2056.13	1750321.88	14529222.35	40°00'22.2133"N	80°36'27.0649"W	3142.31	139.130	0.84
9811.00	89.170	153.220	6458.84	3077.78	-2461.02	2098.94	1750364.67	14529137.59	40°00'21.3735"N	80°36'26.5196"W	3234.53	139.540	0.03
9907.00	89.200	154.190	6460.20	3173.57	-2547.07	2141.46	1750407.17	14529051.57	40°00'20.5212"N	80°36'25.9780"W	3327.68	139.944	1.01
10002.00	89.080	154.160	6461.63	3268.40	-2632.58	2182.84	1750448.53	14528966.10	40°00'19.6744"N	80°36'25.4511"W	3419.83	140.336	0.13
10098.00	89.230	154.200	6463.04	3364.24	-2718.98	2224.65	1750490.33	14528879.72	40°00'18.8187"N	80°36'24.9187"W	3513.11	140.710	0.16
10194.00	89.390	153.870	6464.20	3460.06	-2805.29	2266.68	1750532.34	14528793.45	40°00'17.9640"N	80°36'24.3835"W	3606.59	141.062	0.38
10289.00	89.230	154.540	6465.34	3554.90	-2890.81	2308.02	1750573.66	14528707.96	40°00'17.1170"N	80°36'23.8572"W	3699.15	141.396	0.73
10384.00	89.230	154.520	6466.62	3649.77	-2976.57	2348.86	1750614.49	14528622.23	40°00'16.2677"N	80°36'23.3371"W	3791.72	141.722	0.02



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 6 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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]
10480.00	89.230	154.390	6467.91	3745.63	-3063.18	2390.26	1750655.87	14528535.66	40°00'15.4101"N	80°36'22.8101"W	3885.41	142.034	0.14
10575.00	89.420	154.340	6469.03	3840.48	-3148.82	2431.36	1750696.95	14528450.05	40°00'14.5619"N	80°36'22.2869"W	3978.26	142.327	0.21
10670.00	89.260	154.480	6470.12	3935.34	-3234.50	2472.39	1750737.97	14528364.41	40°00'13.7135"N	80°36'21.7645"W	4071.20	142.606	0.22
10766.00	89.260	154.610	6471.36	4031.21	-3321.17	2513.64	1750779.21	14528277.77	40°00'12.8551"N	80°36'21.2393"W	4165.17	142.880	0.14
10861.00	89.140	153.770	6472.69	4126.05	-3406.69	2555.00	1750820.55	14528192.29	40°00'12.0083"N	80°36'20.7127"W	4258.35	143.130	0.89
10957.00	89.480	154.090	6473.85	4221.86	-3492.91	2597.19	1750862.72	14528106.09	40°00'11.1543"N	80°36'20.1755"W	4352.68	143.367	0.49
11052.00	89.230	154.370	6474.92	4316.70	-3578.46	2638.49	1750904.00	14528020.58	40°00'10.3071"N	80°36'19.6496"W	4446.01	143.598	0.40
11148.00	89.230	154.190	6476.21	4412.55	-3664.94	2680.14	1750945.64	14527934.13	40°00'9.4507"N	80°36'19.1193"W	4540.37	143.822	0.19
11244.00	89.350	154.530	6477.40	4508.40	-3751.48	2721.68	1750987.16	14527847.63	40°00'8.5936"N	80°36'18.5904"W	4634.78	144.039	0.38
11339.00	89.420	154.100	6478.42	4603.25	-3837.09	2762.85	1751028.32	14527762.05	40°00'7.7458"N	80°36'18.0662"W	4728.28	144.245	0.46
11435.00	89.320	154.560	6479.47	4699.10	-3923.61	2804.44	1751069.89	14527675.57	40°00'6.8890"N	80°36'17.5368"W	4822.82	144.444	0.49
11531.00	89.450	154.300	6480.50	4794.96	-4010.20	2845.87	1751111.30	14527589.01	40°00'6.0315"N	80°36'17.0094"W	4917.39	144.638	0.30
11627.00	89.230	153.920	6481.61	4890.79	-4096.56	2887.79	1751153.20	14527502.68	40°00'5.1762"N	80°36'16.4757"W	5012.10	144.819	0.46
11722.00	89.170	154.070	6482.93	4985.61	-4181.93	2929.43	1751194.84	14527417.34	40°00'4.3307"N	80°36'15.9454"W	5105.89	144.989	0.17
11818.00	89.350	154.020	6484.17	5081.43	-4268.24	2971.45	1751236.83	14527331.07	40°00'3.4759"N	80°36'15.4104"W	5200.71	145.155	0.19
11914.00	89.290	154.310	6485.31	5177.27	-4354.64	3013.28	1751278.65	14527244.70	40°00'2.6203"N	80°36'14.8778"W	5295.54	145.318	0.31
12010.00	89.200	154.430	6486.58	5273.12	-4441.19	3054.80	1751320.15	14527158.19	40°00'1.7632"N	80°36'14.3492"W	5390.36	145.478	0.16
12201.00	89.170	154.310	6489.29	5463.83	-4613.38	3137.41	1751402.73	14526986.06	40°00'0.0580"N	80°36'13.2976"W	5579.12	145.782	0.06
12297.00	89.350	154.600	6490.53	5559.69	-4699.99	3178.80	1751444.11	14526899.49	39°59'59.2002"N	80°36'12.7706"W	5674.04	145.928	0.36
12392.00	89.170	154.000	6491.76	5654.54	-4785.58	3220.00	1751485.29	14526813.93	39°59'58.3526"N	80°36'12.2462"W	5768.03	146.065	0.66
12488.00	89.230	154.250	6493.10	5750.37	-4871.95	3261.89	1751527.16	14526727.59	39°59'57.4972"N	80°36'11.7129"W	5863.09	146.197	0.27
12583.00	89.290	154.240	6494.33	5845.21	-4957.50	3303.17	1751568.42	14526642.07	39°59'56.6499"N	80°36'11.1874"W	5957.16	146.325	0.06
12679.00	89.320	154.410	6495.49	5941.06	-5044.02	3344.76	1751610.00	14526555.59	39°59'55.7931"N	80°36'10.6579"W	6052.23	146.451	0.18
12774.00	89.290	154.300	6496.65	6035.91	-5129.66	3385.87	1751651.09	14526469.99	39°59'54.9451"N	80°36'10.1346"W	6146.34	146.573	0.12
12870.00	89.350	154.210	6497.78	6131.76	-5216.12	3427.56	1751692.77	14526383.56	39°59'54.0888"N	80°36'9.6038"W	6241.48	146.691	0.11
12967.00	89.260	154.030	6498.96	6228.59	-5303.39	3469.90	1751735.09	14526296.33	39°59'53.2245"N	80°36'9.0648"W	6337.67	146.804	0.21
13063.00	89.390	154.290	6500.09	6324.42	-5389.78	3511.74	1751776.92	14526209.96	39°59'52.3689"N	80°36'8.5321"W	6432.89	146.914	0.30
13159.00	89.260	154.470	6501.22	6420.28	-5476.34	3553.25	1751818.41	14526123.44	39°59'51.5117"N	80°36'8.0038"W	6528.08	147.023	0.23
13254.00	89.230	154.640	6502.48	6515.15	-5562.11	3594.06	1751859.20	14526037.70	39°59'50.6622"N	80°36'7.4843"W	6622.26	147.131	0.18
13351.00	89.230	154.160	6503.78	6612.00	-5649.58	3635.97	1751901.10	14525950.26	39°59'49.7960"N	80°36'6.9508"W	6718.49	147.235	0.49



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 7 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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]
13447.00	89.290	154.530	6505.02	6707.85	-5736.11	3677.53	1751942.64	14525863.77	39°59'48.9391"N	80°36'6.4218"W	6813.75	147.335	0.39
13542.00	89.230	154.400	6506.25	6802.72	-5821.83	3718.48	1751983.57	14525778.09	39°59'48.0902"N	80°36'5.9006"W	6908.02	147.433	0.15
13638.00	89.350	154.260	6507.44	6898.57	-5908.34	3760.06	1752025.14	14525691.60	39°59'47.2334"N	80°36'5.3712"W	7003.33	147.527	0.19
13734.00	89.260	154.170	6508.60	6994.41	-5994.78	3801.82	1752066.88	14525605.20	39°59'46.3774"N	80°36'4.8397"W	7098.67	147.618	0.13
13829.00	89.200	154.210	6509.88	7089.24	-6080.29	3843.17	1752108.22	14525519.72	39°59'45.5305"N	80°36'4.3132"W	7193.05	147.704	0.08
13924.00	89.230	154.160	6511.18	7184.08	-6165.81	3884.54	1752149.57	14525434.24	39°59'44.6836"N	80°36'3.7866"W	7287.44	147.789	0.06
14020.00	89.390	154.250	6512.33	7279.92	-6252.23	3926.31	1752191.32	14525347.85	39°59'43.8276"N	80°36'3.2549"W	7382.84	147.872	0.19
14115.00	89.390	154.180	6513.35	7374.76	-6337.77	3967.63	1752232.63	14525262.34	39°59'42.9805"N	80°36'2.7289"W	7477.26	147.952	0.07
14211.00	89.320	154.360	6514.43	7470.61	-6424.25	4009.31	1752274.29	14525175.90	39°59'42.1241"N	80°36'2.1984"W	7572.68	148.032	0.20
14307.00	89.320	154.410	6515.57	7566.46	-6510.80	4050.81	1752315.77	14525089.38	39°59'41.2669"N	80°36'1.6702"W	7668.09	148.111	0.05
14403.00	89.140	153.810	6516.86	7662.29	-6597.16	4092.72	1752357.67	14525003.05	39°59'40.4116"N	80°36'1.1366"W	7763.56	148.186	0.65
14499.00	89.110	156.150	6518.32	7758.19	-6684.14	4133.31	1752398.25	14524916.11	39°59'39.5503"N	80°36'0.6201"W	7858.88	148.268	2.44
14594.00	89.350	158.610	6519.60	7853.17	-6771.81	4169.85	1752434.77	14524828.47	39°59'38.6822"N	80°36'0.1557"W	7952.68	148.377	2.60
14690.00	89.170	158.550	6520.84	7949.14	-6861.18	4204.90	1752469.81	14524739.14	39°59'37.7976"N	80°35'59.7105"W	8047.17	148.498	0.20
14785.00	89.320	158.800	6522.09	8044.11	-6949.66	4239.45	1752504.34	14524650.69	39°59'36.9216"N	80°35'59.2717"W	8140.68	148.616	0.31
14881.00	89.290	158.170	6523.25	8140.09	-7038.97	4274.65	1752539.53	14524561.42	39°59'36.0375"N	80°35'58.8246"W	8235.27	148.730	0.66
14976.00	89.140	158.340	6524.56	8235.07	-7127.20	4309.84	1752574.71	14524473.22	39°59'35.1640"N	80°35'58.3775"W	8328.97	148.838	0.24
15071.00	89.350	158.450	6525.81	8330.05	-7215.52	4344.82	1752609.67	14524384.94	39°59'34.2897"N	80°35'57.9332"W	8422.66	148.946	0.25
15167.00	89.200	158.550	6527.02	8426.03	-7304.83	4380.00	1752644.84	14524295.66	39°59'33.4055"N	80°35'57.4864"W	8517.33	149.053	0.19
15263.00	89.260	159.800	6528.31	8521.97	-7394.55	4414.13	1752678.95	14524205.98	39°59'32.5174"N	80°35'57.0531"W	8611.85	149.165	1.30
15358.00	89.080	159.240	6529.69	8616.90	-7483.53	4447.36	1752712.17	14524117.02	39°59'31.6366"N	80°35'56.6312"W	8705.30	149.278	0.62
15454.00	89.020	159.370	6531.28	8712.84	-7573.33	4481.28	1752746.08	14524027.27	39°59'30.7477"N	80°35'56.2006"W	8799.84	149.386	0.15
15550.00	89.450	160.620	6532.56	8808.73	-7663.53	4514.12	1752778.91	14523937.10	39°59'29.8549"N	80°35'55.7839"W	8894.21	149.500	1.38
15646.00	89.140	159.200	6533.74	8904.63	-7753.67	4547.09	1752811.87	14523846.99	39°59'28.9625"N	80°35'55.3655"W	8988.63	149.611	1.51
15742.00	89.170	158.650	6535.16	9000.59	-7843.24	4581.61	1752846.37	14523757.46	39°59'28.0759"N	80°35'54.9272"W	9083.37	149.709	0.57
15837.00	89.200	159.630	6536.51	9095.54	-7932.01	4615.44	1752880.18	14523668.73	39°59'27.1972"N	80°35'54.4978"W	9177.09	149.806	1.03
15933.00	89.290	159.830	6537.78	9191.45	-8022.05	4648.69	1752913.42	14523578.71	39°59'26.3058"N	80°35'54.0757"W	9271.66	149.908	0.23
16028.00	89.320	159.760	6538.93	9286.37	-8111.20	4681.50	1752946.22	14523489.60	39°59'25.4234"N	80°35'53.6594"W	9365.26	150.008	0.08
16124.00	89.020	159.290	6540.32	9382.29	-8201.13	4715.08	1752979.78	14523399.71	39°59'24.5332"N	80°35'53.2332"W	9459.94	150.104	0.58
16219.00	89.260	159.740	6541.74	9477.22	-8290.11	4748.32	1753013.01	14523310.76	39°59'23.6524"N	80°35'52.8113"W	9553.66	150.197	0.54



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 8 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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]
16315.00	89.020	159.630	6543.19	9573.14	-8380.13	4781.65	1753046.33	14523220.78	39°59'22.7613"N	80°35'52.3883"W	9648.35	150.291	0.28
16410.00	89.020	158.970	6544.81	9668.07	-8468.98	4815.22	1753079.89	14523131.96	39°59'21.8818"N	80°35'51.9621"W	9742.17	150.379	0.69
16505.00	89.080	160.410	6546.39	9762.98	-8558.06	4848.19	1753112.84	14523042.92	39°59'21.0000"N	80°35'51.5437"W	9835.92	150.468	1.52
16601.00	88.830	159.370	6548.14	9858.88	-8648.19	4881.19	1753145.83	14522952.82	39°59'20.1078"N	80°35'51.1250"W	9930.62	150.559	1.11
16697.00	89.020	159.700	6549.94	9954.80	-8738.12	4914.75	1753179.38	14522862.93	39°59'19.2177"N	80°35'50.6990"W	10025.44	150.644	0.40
16793.00	89.080	159.710	6551.53	10050.71	-8828.14	4948.04	1753212.66	14522772.94	39°59'18.3265"N	80°35'50.2765"W	10120.24	150.730	0.06
16888.00	89.080	160.340	6553.05	10145.60	-8917.42	4980.49	1753245.10	14522683.70	39°59'17.4429"N	80°35'49.8648"W	10213.99	150.816	0.66
16984.00	89.480	159.860	6554.26	10241.49	-9007.68	5013.17	1753277.76	14522593.47	39°59'16.5494"N	80°35'49.4503"W	10308.74	150.902	0.65
17080.00	89.200	159.610	6555.37	10337.41	-9097.73	5046.41	1753310.99	14522503.46	39°59'15.6580"N	80°35'49.0284"W	10403.60	150.983	0.39
17176.00	89.570	159.780	6556.40	10433.33	-9187.76	5079.73	1753344.29	14522413.46	39°59'14.7669"N	80°35'48.6056"W	10498.50	151.063	0.42
17271.00	89.320	159.290	6557.32	10528.26	-9276.76	5112.94	1753377.49	14522324.50	39°59'13.8859"N	80°35'48.1841"W	10592.47	151.138	0.58
17367.00	89.320	159.790	6558.46	10624.19	-9366.69	5146.49	1753411.03	14522234.60	39°59'12.9956"N	80°35'47.7583"W	10687.44	151.214	0.52
17462.00	91.290	162.010	6557.95	10719.01	-9456.45	5177.58	1753442.10	14522144.87	39°59'12.1072"N	80°35'47.3642"W	10781.08	151.299	3.12
17558.00	89.110	159.580	6557.62	10814.83	-9547.10	5209.15	1753473.67	14522054.26	39°59'11.2100"N	80°35'46.9638"W	10875.77	151.382	3.40
17653.00	89.140	159.640	6559.07	10909.75	-9636.13	5242.25	1753506.75	14521965.26	39°59'10.3286"N	80°35'46.5438"W	10969.79	151.453	0.07
17749.00	89.170	159.330	6560.48	11005.68	-9726.04	5275.88	1753540.37	14521875.39	39°59'9.4387"N	80°35'46.1169"W	11064.84	151.522	0.32
17844.00	89.200	159.500	6561.83	11100.62	-9814.96	5309.28	1753573.76	14521786.50	39°59'8.5584"N	80°35'45.6930"W	11158.94	151.589	0.18
17939.00	89.850	160.450	6562.62	11195.52	-9904.21	5341.81	1753606.28	14521697.29	39°59'7.6749"N	80°35'45.2803"W	11252.93	151.660	1.21
18035.00	89.260	159.720	6563.37	11291.41	-9994.47	5374.51	1753638.96	14521607.07	39°59'6.7816"N	80°35'44.8655"W	11347.90	151.731	0.98
18130.00	89.200	159.540	6564.64	11386.34	-10083.52	5407.58	1753672.01	14521518.05	39°59'5.9000"N	80°35'44.4459"W	11442.00	151.796	0.20
18226.00	90.430	159.600	6564.95	11482.27	-10173.48	5441.09	1753705.51	14521428.12	39°59'5.0095"N	80°35'44.0206"W	11537.12	151.861	1.28
18322.00	89.320	159.460	6565.16	11578.20	-10263.42	5474.66	1753739.07	14521338.22	39°59'4.1193"N	80°35'43.5946"W	11632.26	151.924	1.17
18418.00	89.880	159.590	6565.83	11674.14	-10353.35	5508.24	1753772.64	14521248.33	39°59'3.2290"N	80°35'43.1685"W	11727.43	151.986	0.60
18513.00	89.690	159.400	6566.19	11769.08	-10442.33	5541.51	1753805.90	14521159.38	39°59'2.3482"N	80°35'42.7462"W	11821.62	152.046	0.28
18608.00	89.790	159.780	6566.62	11864.01	-10531.36	5574.64	1753839.02	14521070.38	39°59'1.4669"N	80°35'42.3257"W	11915.80	152.106	0.41
18703.00	89.880	159.750	6566.89	11958.93	-10620.50	5607.50	1753871.86	14520981.28	39°59'0.5845"N	80°35'41.9088"W	12009.96	152.166	0.10
18799.00	89.720	159.030	6567.23	12054.87	-10710.35	5641.29	1753905.64	14520891.46	39°58'59.6950"N	80°35'41.4800"W	12105.20	152.224	0.77
18895.00	89.820	159.350	6567.61	12150.83	-10800.09	5675.40	1753939.73	14520801.76	39°58'58.8067"N	80°35'41.0471"W	12200.50	152.278	0.35
18991.00	89.230	159.550	6568.41	12246.77	-10889.98	5709.10	1753973.42	14520711.90	39°58'57.9169"N	80°35'40.6195"W	12295.75	152.334	0.65
19086.00	89.200	159.270	6569.71	12341.70	-10978.90	5742.50	1754006.81	14520623.02	39°58'57.0366"N	80°35'40.1955"W	12390.02	152.388	0.30



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 9 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

WELLPATH DATA (236 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]
19181.00	89.080	159.510	6571.14	12436.64	-11067.81	5775.94	1754040.23	14520534.14	39°58'56.1565"N	80°35'39.7712"W	12484.31	152.441	0.28
19277.00	89.200	159.530	6572.58	12532.56	-11157.73	5809.52	1754073.81	14520444.25	39°58'55.2664"N	80°35'39.3450"W	12579.57	152.495	0.13
19373.00	89.320	159.620	6573.82	12628.49	-11247.69	5843.02	1754107.29	14520354.33	39°58'54.3759"N	80°35'38.9199"W	12674.84	152.549	0.16
19468.00	89.350	159.730	6574.92	12723.41	-11336.77	5876.02	1754140.27	14520265.29	39°58'53.4941"N	80°35'38.5013"W	12769.10	152.602	0.12
19565.00	89.260	159.480	6576.10	12820.34	-11427.68	5909.82	1754174.06	14520174.41	39°58'52.5942"N	80°35'38.0724"W	12865.38	152.654	0.27
19661.00	89.420	159.490	6577.20	12916.27	-11517.59	5943.46	1754207.69	14520084.54	39°58'51.7042"N	80°35'37.6455"W	12960.69	152.705	0.17
19756.00	89.290	159.660	6578.27	13011.20	-11606.61	5976.61	1754240.83	14519995.55	39°58'50.8230"N	80°35'37.2248"W	13055.01	152.755	0.23
19852.00	89.290	158.410	6579.46	13107.15	-11696.25	6010.96	1754275.16	14519905.95	39°58'49.9356"N	80°35'36.7889"W	13150.43	152.800	1.30
19948.00	89.390	158.580	6580.57	13203.13	-11785.56	6046.15	1754310.34	14519816.67	39°58'49.0514"N	80°35'36.3421"W	13245.95	152.842	0.21
20043.00	89.600	158.400	6581.41	13298.11	-11873.94	6080.98	1754345.15	14519728.33	39°58'48.1765"N	80°35'35.8998"W	13340.49	152.882	0.29
20139.00	89.570	158.870	6582.10	13394.09	-11963.34	6115.95	1754380.11	14519638.96	39°58'47.2914"N	80°35'35.4558"W	13436.01	152.923	0.49
20235.00	89.420	158.460	6582.95	13490.06	-12052.75	6150.88	1754415.03	14519549.58	39°58'46.4062"N	80°35'35.0124"W	13531.52	152.963	0.45
20331.00	89.420	158.540	6583.92	13586.04	-12142.07	6186.06	1754450.19	14519460.30	39°58'45.5220"N	80°35'34.5657"W	13627.08	153.002	0.08
20427.00	89.320	158.470	6584.97	13682.02	-12231.39	6221.23	1754485.35	14519371.02	39°58'44.6377"N	80°35'34.1191"W	13722.63	153.041	0.13
20522.00	89.230	158.460	6586.18	13776.99	-12319.75	6256.10	1754520.21	14519282.69	39°58'43.7629"N	80°35'33.6764"W	13817.20	153.078	0.10
20618.00	89.940	159.640	6586.87	13872.95	-12409.40	6290.42	1754554.52	14519193.08	39°58'42.8755"N	80°35'33.2407"W	13912.68	153.119	1.43
20714.00	90.590	159.630	6586.43	13968.88	-12499.40	6323.83	1754587.91	14519103.11	39°58'41.9846"N	80°35'32.8169"W	14008.06	153.164	0.68
20809.00	89.390	157.780	6586.44	14063.85	-12587.90	6358.33	1754622.40	14519014.64	39°58'41.1083"N	80°35'32.3789"W	14102.61	153.201	2.32
20904.00	89.320	158.750	6587.51	14158.84	-12676.14	6393.51	1754657.56	14518926.43	39°58'40.2348"N	80°35'31.9323"W	14197.24	153.235	1.02
20999.00	89.390	158.260	6588.58	14253.81	-12764.53	6428.32	1754692.36	14518838.08	39°58'39.3597"N	80°35'31.4903"W	14291.83	153.270	0.52
21095.00	89.420	158.190	6589.58	14349.80	-12853.68	6463.93	1754727.95	14518748.97	39°58'38.4772"N	80°35'31.0381"W	14387.47	153.303	0.08
21190.00	89.390	158.370	6590.57	14444.78	-12941.93	6499.08	1754763.10	14518660.75	39°58'37.6035"N	80°35'30.5918"W	14482.11	153.335	0.19
21286.00	89.630	158.760	6591.39	14540.76	-13031.28	6534.16	1754798.16	14518571.43	39°58'36.7188"N	80°35'30.1464"W	14577.71	153.370	0.48
21382.00	90.370	160.200	6591.39	14636.70	-13121.19	6567.81	1754831.80	14518481.56	39°58'35.8288"N	80°35'29.7194"W	14673.16	153.410	1.69
21438.00	89.230	158.290	6591.58	14692.67	-13173.55	6587.66	1754851.64	14518429.22	39°58'35.3105"N	80°35'29.4676"W	14728.87	153.432	3.97
21463.00†	89.230	158.290	6591.92	14717.66	-13196.78	6596.90	1754860.88	14518406.00	39°58'35.0805"N	80°35'29.3502"W	14753.78	153.440	0.00



Actual Wellpath Report

Michael Southworth MSH 10H awp Proj: 21463'
Page 10 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXPAND ENERGY	Well	Michael Southworth MSH 10H
Field	Marshall WV	API	47-051-01511-00-00
Facility	Michael Southworth MSH Pad	Wellbore	Michael Southworth MSH 10H AWB
Slot	10H		

HOLE & CASING SECTIONS - Ref Wellbore: Michael Southworth MSH 10H AWB Ref Wellpath: Michael Southworth MSH 10H awp Proj: 21463'									
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	823.00	797.00	26.00	822.99	0.00	0.00	-0.54	-2.06
9.625in Casing	26.00	2010.00	1984.00	26.00	2006.21	0.00	0.00	-52.11	69.78

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Michael Southworth MSH 10H LP rev 1	6406.00	160.42	779.83	1749046.06	14531758.01	40°00'47.3361"N	80°36'43.3244"W	point
Michael Southworth MSH 10H wp1	6496.00	-6778.92	4165.98	1752430.90	14524821.36	39°59'38.6122"N	80°36'0.2059"W	point
Michael Southworth MSH 10H wp2	6548.00	-11744.07	6030.33	1754294.53	14519858.14	39°58'49.4621"N	80°35'36.5428"W	point
Michael Southworth MSH 10H BHL rev3	6552.00	-13205.32	6581.36	1754845.34	14518397.46	39°58'34.9968"N	80°35'29.5503"W	point

WELLPATH COMPOSITION - Ref Wellbore: Michael Southworth MSH 10H AWB Ref Wellpath: Michael Southworth MSH 10H awp Proj: 21463'						
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date	
26.00	650.00	Gyrodata 2015 - GC+WIR+DPIPE	1 Imported Gyrodata 17.5" 50' - 650'	Michael Southworth MSH 10H AWB	1/22/2025	
650.00	5522.00	Custom OWSG MWD+IFR1+SAG+FDIR (Approximation)	2 Total MWD 12.25" IFR-MSA SuperiorQC 690' - 5522'	Michael Southworth MSH 10H AWB	1/22/2025	
5522.00	21463.00	Custom OWSG MWD+IFR1+SAG+FDIR (Approximation)	3 BH MWD 8.5" IFR-MSA SuperiorQC 5623' - 21438'	Michael Southworth MSH 10H AWB	1/22/2025	