

REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 3H
Area	Ohio County, WV	Well	Roy Riggle OHI 3H
Field	Ohio	Wellbore	Roy Riggle OHI 3H AWB
Facility	Roy Riggle OHI Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Atenjen
Scale	0.999620	Report Generated	5/8/2019 at 3:45:31 PM
Convergence at slot	0.31° East	Database/Source file	WA_MPL_EASTERNUS_Defm/Roy_Riggle_OHI_3H_AWP_Proj_17498_.xml

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	7.36	10.60	1773458.12	14582282.31	40°09'05.641"N	80°31'25.986"W
Facility Reference Pt			1773447.52	14582274.95	40°09'05.569"N	80°31'26.123"W
Field Reference Pt			0.00	0.00	0°00'00.000"	86°29'19.478"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	SDC 42 (RKB)
MD Reference Pt	SDC 42 (RKB)
Field Vertical Reference	Mean Sea Level
	SDC 42 (RKB) to Facility Vertical Datum
	SDC 42 (RKB) to Mean Sea Level
	SDC 42 (RKB) to Ground Level at Slot (Slot 3H)
	Section Origin
	Section Azimuth
	1277.80ft
	1277.80ft
	26.00ft
	N 0.00, E 0.00 ft
	338.52°





# Actual Wellpath Report

Roy Riggle OHI 3H AWP Proj: 17498'

Page 2 of 8



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Area	Ohio County, WV	Well	Roy Riggle OHI 3H
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## WELLPATH DATA (193 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]	Build Rate ["/100ft]	Turn Rate ["/100ft]
0.00	0.00	44.560	0.00	0.00	0.00	0.00	1773458.11	14582282.31	40°09'05.641"N	80°31'25.986"W	0.00	0.000	0.00	0.00	0.00
26.00	0.00	44.560	26.00	0.00	0.00	0.00	1773458.11	14582282.31	40°09'05.641"N	80°31'25.986"W	0.00	0.000	0.00	0.00	0.00
151.00	0.040	44.560	151.00	0.02	0.03	0.03	1773458.15	14582282.34	40°09'05.642"N	80°31'25.986"W	0.04	44.560	0.03	0.03	35.65
208.47	0.080	198.700	208.47	0.00	0.01	0.03	1773458.15	14582282.31	40°09'05.641"N	80°31'25.986"W	0.03	76.946	0.20	0.07	268.21
297.10	0.130	219.820	297.10	-0.10	-0.13	-0.05	1773458.06	14582282.18	40°09'05.640"N	80°31'25.987"W	0.14	202.191	0.07	0.06	23.83
387.51	0.090	191.080	387.51	-0.21	-0.28	-0.13	1773457.98	14582282.03	40°09'05.638"N	80°31'25.988"W	0.31	205.440	0.07	-0.04	-31.79
484.31	0.110	195.760	484.31	-0.35	-0.44	-0.17	1773457.94	14582281.87	40°09'05.637"N	80°31'25.988"W	0.47	201.261	0.02	0.02	4.83
578.74	0.110	252.510	578.74	-0.41	-0.56	-0.28	1773457.83	14582281.75	40°09'05.636"N	80°31'25.990"W	0.62	206.971	0.11	0.00	60.10
627.62	0.120	260.260	627.62	-0.40	-0.58	-0.38	1773457.74	14582281.73	40°09'05.636"N	80°31'25.991"W	0.69	213.165	0.04	0.02	15.86
702.35	0.230	162.440	702.35	-0.53	-0.73	-0.41	1773457.71	14582281.57	40°09'05.634"N	80°31'25.991"W	0.84	209.156	0.37	0.15	-130.90
796.63	0.420	317.780	796.63	-0.40	-0.66	-0.58	1773457.53	14582281.65	40°09'05.635"N	80°31'25.994"W	0.88	221.590	0.67	0.20	164.76
890.78	0.660	314.350	890.77	0.42	-0.02	-1.20	1773456.91	14582282.28	40°09'05.641"N	80°31'26.002"W	1.20	268.842	0.26	0.25	-3.64
985.52	1.050	327.940	985.50	1.77	1.09	-2.06	1773456.06	14582283.40	40°09'05.652"N	80°31'26.012"W	2.33	297.997	0.46	0.41	14.34
1079.65	1.460	327.080	1079.61	3.79	2.83	-3.16	1773454.95	14582285.14	40°09'05.669"N	80°31'26.027"W	4.25	311.805	0.44	0.44	-0.91
1174.70	1.070	313.950	1174.64	5.79	4.46	-4.46	1773453.65	14582286.77	40°09'05.686"N	80°31'26.043"W	6.31	315.005	0.51	-0.41	-13.81
1269.00	0.840	226.840	1268.93	6.33	4.60	-5.60	1773452.52	14582286.91	40°09'05.687"N	80°31'26.058"W	7.25	309.406	1.41	-0.24	-92.38
1363.41	1.970	173.550	1363.31	4.51	2.52	-5.92	1773452.19	14582284.82	40°09'05.666"N	80°31'26.062"W	6.43	293.008	1.71	1.20	-56.45
1455.92	3.060	165.380	1455.73	0.52	-1.45	-5.12	1773453.00	14582280.85	40°09'05.627"N	80°31'26.052"W	5.32	254.145	1.24	1.18	-8.83
1549.61	3.810	163.530	1549.25	-5.06	-6.86	-3.61	1773454.51	14582275.45	40°09'05.574"N	80°31'26.033"W	7.75	207.739	0.81	0.80	-1.97
1644.36	3.490	159.740	1643.81	-11.08	-12.58	-1.72	1773456.40	14582269.73	40°09'05.517"N	80°31'26.009"W	12.70	187.765	0.42	-0.34	-4.00
1739.21	2.690	114.860	1738.53	-15.58	-16.23	1.30	1773459.42	14582266.08	40°09'05.481"N	80°31'25.970"W	16.28	175.407	2.61	-0.84	-47.32
1829.89	1.830	87.390	1829.15	-17.59	-17.06	4.68	1773462.79	14582265.26	40°09'05.472"N	80°31'25.927"W	17.69	164.654	1.50	-0.95	-30.29
1927.36	1.690	74.830	1926.57	-18.25	-16.61	7.62	1773465.73	14582265.70	40°09'05.477"N	80°31'25.889"W	18.28	155.348	0.42	-0.14	-12.89
2021.68	1.440	84.580	2020.86	-18.73	-16.13	10.15	1773468.26	14582266.18	40°09'05.481"N	80°31'25.856"W	19.06	147.838	0.39	-0.27	10.34
2028.57	1.430	84.390	2027.74	-18.78	-16.12	10.32	1773468.43	14582266.20	40°09'05.481"N	80°31'25.854"W	19.14	147.376	0.16	-0.15	-2.76
2125.55	1.300	81.690	2124.70	-19.36	-15.84	12.61	1773470.72	14582266.47	40°09'05.484"N	80°31'25.825"W	20.25	141.478	0.15	-0.13	-2.78
2219.55	1.130	73.690	2218.67	-19.69	-15.43	14.55	1773472.66	14582266.89	40°09'05.488"N	80°31'25.800"W	21.21	136.666	0.25	-0.18	-8.40
2313.72	1.110	63.420	2312.83	-19.69	-14.76	16.26	1773474.37	14582267.55	40°09'05.494"N	80°31'25.778"W	21.96	132.227	0.22	-0.02	-11.01
2408.13	1.150	53.900	2407.22	-19.37	-13.79	17.85	1773475.95	14582268.52	40°09'05.504"N	80°31'25.757"W	22.55	127.700	0.20	0.04	-10.08
2502.69	1.110	38.160	2501.76	-18.67	-12.51	19.18	1773477.29	14582269.80	40°09'05.517"N	80°31'25.740"W	22.90	123.123	0.33	-0.04	-16.65
2597.33	1.250	18.980	2596.38	-17.42	-10.82	20.08	1773478.19	14582271.49	40°09'05.533"N	80°31'25.728"W	22.81	118.309	0.44	0.15	-20.27
2691.54	1.280	3.900	2690.57	-15.69	-8.79	20.49	1773478.59	14582273.52	40°09'05.553"N	80°31'25.723"W	22.29	113.234	0.35	0.03	-16.01

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2785.71	1.300	352.480	2784.71	-13.70	-6.69	20.42	1773478.52	14582275.62	40°09'05.574"N	80°31'25.724"W	21.48	108.132	0.27	0.02	-12.13
2879.24	1.270	343.520	2878.22	-11.64	-4.64	19.98	1773478.09	14582277.67	40°09'05.594"N	80°31'25.729"W	20.52	103.073	0.22	-0.03	-9.58
3069.34	1.110	335.320	3068.28	-7.73	-0.97	18.64	1773476.75	14582281.34	40°09'05.631"N	80°31'25.746"W	18.67	92.971	0.12	-0.06	-5.11
3162.94	1.010	336.150	3161.86	-6.00	0.61	17.93	1773476.04	14582282.92	40°09'05.646"N	80°31'25.755"W	17.94	88.049	0.11	-0.11	0.89
3257.22	0.980	327.870	3256.13	-4.38	2.05	17.17	1773475.27	14582284.36	40°09'05.661"N	80°31'25.765"W	17.29	83.179	0.16	-0.03	-8.78
3351.88	1.030	320.420	3350.78	-2.77	3.39	16.19	1773474.30	14582285.70	40°09'05.674"N	80°31'25.777"W	16.55	78.161	0.15	0.05	-7.87
3540.91	3.460	121.960	3539.72	-5.77	1.49	19.53	1773477.64	14582283.79	40°09'05.655"N	80°31'25.734"W	19.59	85.645	2.51	2.51	-4.05
3635.61	3.680	115.290	3634.24	-10.28	-1.32	24.71	1773482.81	14582280.98	40°09'05.627"N	80°31'25.668"W	24.74	93.066	0.50	0.23	-7.04
3729.95	4.550	105.940	3728.33	-14.76	-3.64	31.04	1773489.14	14582278.66	40°09'05.604"N	80°31'25.587"W	31.25	96.696	1.16	0.92	-9.91
3824.55	4.520	99.230	3822.64	-18.94	-5.27	38.33	1773496.43	14582277.04	40°09'05.587"N	80°31'25.493"W	38.69	97.833	0.56	-0.03	-7.09
3918.92	5.760	87.950	3916.16	-27.86	-5.76	45.07	1773507.75	14582275.18	40°09'05.561"N	80°31'25.405"W	45.74	97.879	1.78	-0.61	-11.99





# Actual Wellpath Report

Roy Riggle OHI 3H AWP Proj: 17498'

Page 3 of 8



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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]	Build Rate ["/100ft]	Turn Rate ["/100ft]
4013.64	3.930	111.450	4011.27	-25.12	-6.84	51.21	1773509.31	14582275.47	40°09'05.571"N	80°31'25.327"W	51.67	97.603	1.66	0.18	24.73
4108.07	5.350	116.750	4105.39	-30.60	-10.00	58.16	1773516.25	14582272.31	40°09'05.539"N	80°31'25.238"W	59.01	99.758	1.57	1.50	5.61
4202.46	4.960	107.610	4199.40	-36.46	-13.22	65.98	1773524.07	14582269.10	40°09'05.507"N	80°31'25.137"W	67.29	101.328	0.96	-0.41	-9.68
4295.82	5.250	118.110	4292.39	-42.25	-16.45	73.59	1773531.68	14582265.86	40°09'05.475"N	80°31'25.039"W	75.41	102.600	1.05	0.31	11.25
4390.54	5.100	114.700	4386.73	-48.59	-20.25	81.24	1773539.32	14582262.06	40°09'05.437"N	80°31'24.941"W	83.72	103.998	0.36	-0.16	-3.60
4485.01	5.730	114.750	4480.78	-55.03	-23.98	89.34	1773547.42	14582258.34	40°09'05.399"N	80°31'24.837"W	92.50	105.026	0.67	0.67	0.05
4579.44	5.600	126.650	4574.75	-62.34	-28.70	97.31	1773555.39	14582253.61	40°09'05.352"N	80°31'24.735"W	101.46	106.434	1.25	-0.14	12.60
4673.66	4.610	123.800	4668.59	-69.36	-33.55	104.15	1773562.22	14582248.76	40°09'05.304"N	80°31'24.647"W	109.42	107.858	1.08	-1.05	-3.02
4767.32	5.670	124.720	4761.88	-76.30	-38.28	111.08	1773569.15	14582244.04	40°09'05.257"N	80°31'24.558"W	117.49	109.017	1.14	1.13	0.98
4861.13	4.980	116.370	4855.28	-83.17	-42.73	118.54	1773576.61	14582239.59	40°09'05.213"N	80°31'24.462"W	126.00	109.824	1.10	-0.74	-8.90
4954.89	6.410	121.290	4948.58	-90.35	-47.26	126.66	1773584.72	14582235.07	40°09'05.167"N	80°31'24.358"W	135.19	110.462	1.61	1.53	5.25
5051.33	6.610	118.230	5044.40	-98.87	-52.68	136.15	1773594.21	14582229.65	40°09'05.113"N	80°31'24.236"W	145.98	111.153	0.42	0.21	-3.17
5145.80	5.730	111.240	5138.32	-106.22	-56.96	145.33	1773603.39	14582225.37	40°09'05.071"N	80°31'24.118"W	156.10	111.402	1.22	-0.93	-7.40
5240.06	6.280	132.310	5232.07	-114.04	-62.14	153.53	1773611.59	14582220.19	40°09'05.019"N	80°31'24.013"W	165.63	112.034	2.40	0.58	22.35
5334.42	6.570	135.190	5325.84	-123.63	-69.44	161.15	1773619.21	14582212.89	40°09'04.946"N	80°31'23.915"W	175.48	113.311	0.46	0.31	3.05
5428.65	5.360	126.920	5419.56	-132.33	-75.91	168.47	1773626.52	14582206.43	40°09'04.882"N	80°31'23.822"W	184.78	114.255	1.57	-1.28	-8.78
5523.13	2.740	114.050	5513.80	-137.70	-79.48	174.06	1773632.11	14582202.86	40°09'04.847"N	80°31'23.750"W	191.35	114.542	2.92	-2.77	-13.62
5617.06	2.170	7.960	5607.68	-137.75	-78.63	176.36	1773634.41	14582203.70	40°09'04.855"N	80°31'23.720"W	193.10	114.031	4.19	-0.61	-112.95
5711.88	10.050	330.700	5701.91	-127.97	-69.62	172.55	1773630.60	14582212.71	40°09'04.944"N	80°31'23.769"W	186.07	111.974	8.89	8.31	-39.30
5804.92	13.450	325.650	5792.98	-109.38	-53.61	162.47	1773620.52	14582228.72	40°09'05.103"N	80°31'23.897"W	171.09	108.260	3.81	3.65	-5.43
5900.04	17.360	323.880	5884.67	-84.85	-33.00	147.86	1773605.92	14582249.32	40°09'05.307"N	80°31'24.084"W	151.50	102.582	4.14	4.11	-1.86
5994.93	22.250	324.290	5973.92	-63.72	-6.96	129.02	1773587.08	14582275.35	40°09'05.566"N	80°31'24.325"W	129.20	93.090	5.16	5.15	0.43
6089.76	28.680	322.670	6059.49	-14.39	25.74	104.71	1773562.79	14582308.04	40°09'05.890"N	80°31'24.636"W	107.83	76.188	6.82	6.78	-1.71
6184.46	34.020	324.490	6140.34	33.21	65.41	75.52	1773533.61	14582347.69	40°09'06.284"N	80°31'25.009"W	99.91	49.106	5.73	5.64	1.62
6278.57	40.290	328.840	6215.32	88.81	112.93	44.45	1773502.55	14582395.15	40°09'06.755"N	80°31'25.406"W	121.36	21.485	7.22	6.66	4.92
6373.32	48.570	330.520	6282.82	154.40	170.26	11.01	1773469.12	14582452.50	40°09'07.323"N	80°31'25.832"W	170.61	3.700	9.01	8.93	1.77
6419.08	53.580	330.120	6311.51	189.67	201.22	-6.64	1773451.48	14582483.45	40°09'07.630"N	80°31'26.058"W	201.33	358.110	10.58	10.56	-0.87
6467.05	57.340	329.310	6338.70	228.71	235.33	-26.57	1773431.56	14582517.54	40°09'07.968"N	80°31'26.312"W	236.82	353.559	7.96	7.84	-1.69
6516.14	59.450	326.680	6364.43	269.81	270.77	-48.73	1773409.40	14582552.97	40°09'08.320"N	80°31'26.595"W	275.12	349.797	6.27	4.30	-5.36
6545.19	61.210	325.320	6378.81	294.45	291.69	-62.85	1773395.29	14582573.89	40°09'08.527"N	80°31'26.775"W	298.39	347.841	7.30	6.06	-4.68
6585.00	64.110	324.220	6397.09	328.79	320.57	-83.25	1773374.90	14582602.76	40°09'08.813"N	80°31'27.036"W	331.21	345.443	7.69	7.28	-2.76
6629.00	68.060	324.800	6414.92	367.81	353.32	-106.59	1773351.56	14582635.49	40°09'09.138"N	80°31'27.334"W	369.05	343.212	9.06	8.98	1.32

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6723.00	76.360	329.130	6443.63	455.41	428.31	-155.26	1773302.91	14582710.45	40°09'09.882"N	80°31'27.956"W	455.58	340.074	9.86	8.83	4.61
6817.00	82.440	332.190	6460.92	546.92	508.94	-200.26	1773257.93	14582791.05	40°09'10.681"N	80°31'28.530"W	546.92	338.521	7.37	6.47	3.60
6912.00	90.550	332.190	6466.72	641.12	592.86	-244.23	1773213.98	14582874.95	40°09'11.513"N	80°31'29.090"W	641.20	337.611	8.54	8.54	-0.34
7006.00	91.050	331.690	6465.41	734.49	675.81	-288.44	1773169.78	14582957.86	40°09'12.335"N	80°31'29.654"W	734.79	336.887	0.75	0.53	-0.53
7100.00	91.140	331.580	6463.61	827.79	758.51	-333.09	1773125.15	14583040.52	40°09'13.154"N	80°31'30.223"W	828.42	336.292	0.15	0.10	-0.12
7194.00	91.140	334.330	6461.74	921.32	842.20	-375.82	1773082.44	14583124.19	40°09'13.984"N	80°31'30.768"W	922.25	335.952	2.92	0.00	2.93
7289.00	91.050	336.870	6459.93	1016.18	928.69	-415.05	1773043.22	14583210.65	40°09'14.840"N	80°31'31.267"W	1017.22	335.919	2.67	-0.09	2.67
7383.00	91.050	336.540	6458.20	1110.11	1015.02	-452.22	1773006.07	14583296.94	40°09'15.695"N	80°31'31.740"W	1111.20	335.986	0.35	0.00	-0.35
7477.00	91.170	337.610	6456.38	1204.06	1101.58	-488.83	1772969.47	14583383.46	40°09'16.553"N	80°31'32.205"W	1205.16	336.071	1.15	0.13	1.14
7571.00	91.140	338.210	6454.49	1298.04	1188.66	-524.17	1772934.14	14583470.51	40°09'17.415"N	80°31'32.655"W	1299.10	336.204	0.64	-0.03	0.64
7665.00	91.110	337.990	6452.64	1392.02	1275.86	-559.23	1772899.10	14583557.68	40°09'18.279"N	80°31'33.100"W	1393.03	336.331	0.24	-0.03	-0.23
7759.00	91.230	338.160	6450.72	1486.00	1363.04	-594.32	1772864.02	14583644.83	40°09'19.142"N	80°31'33.546"W	1486.97	336.442	0.22	0.13	0.18
7854.00	91.230	339.380	6448.68	1580.97	1451.57	-628.71	1772829.65	14583733.32	40°09'20.019"N	80°31'33.983"W	1581.88	336.581	1.28	0.00	1.28



## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 3H
Area	Ohio County, WV	Well	Roy Riggle OHI 3H
Field	Ohio	Wellbore	Roy Riggle OHI 3H AWB
Facility	Roy Riggle OHI Pad		

## WELLPATH DATA (193 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]
7948.00	91.200	342.530	6446.69	1674.85	1540.39	-659.37	1772798.99	14583822.11	40°09'20.898"N	80°31'34.372"W	1675.58	336.826	3.35	-0.03	3.35
8043.00	91.230	344.980	6444.68	1769.43	1631.57	-685.94	1772772.44	14583913.26	40°09'21.801"N	80°31'34.707"W	1769.90	337.197	2.58	0.03	2.58
8137.00	91.480	345.780	6442.45	1862.73	1722.50	-709.66	1772748.73	14584004.15	40°09'22.700"N	80°31'35.007"W	1862.96	337.609	0.89	0.27	0.85
8231.00	91.320	342.330	6440.16	1956.25	1812.85	-735.47	1772722.92	14584094.46	40°09'23.594"N	80°31'35.333"W	1956.36	337.918	3.67	-0.17	-3.67
8325.00	91.350	339.420	6437.96	2050.13	1901.62	-766.26	1772692.15	14584183.21	40°09'24.473"N	80°31'35.723"W	2050.20	338.053	3.10	0.03	-3.10
8419.00	91.350	341.450	6435.75	2144.05	1990.17	-797.72	1772660.69	14584271.71	40°09'25.350"N	80°31'36.123"W	2144.09	338.157	2.16	0.00	2.16
8514.00	91.140	338.980	6433.69	2238.98	2079.53	-829.87	1772628.56	14584361.04	40°09'26.235"N	80°31'36.530"W	2239.00	338.245	2.61	-0.22	-2.60
8608.00	90.950	334.860	6431.97	2332.91	2165.97	-866.71	1772591.74	14584447.45	40°09'27.091"N	80°31'36.999"W	2332.94	338.191	4.39	-0.20	-4.38
8702.00	90.830	334.460	6430.51	2426.68	2250.92	-906.93	1772551.53	14584532.37	40°09'27.932"N	80°31'37.511"W	2426.76	338.055	0.44	-0.13	-0.43
8797.00	90.770	331.870	6429.18	2521.25	2335.67	-949.81	1772508.67	14584617.09	40°09'28.772"N	80°31'38.058"W	2521.41	337.871	2.73	-0.06	-2.73
8891.00	90.830	331.460	6427.87	2614.57	2418.40	-994.42	1772464.07	14584699.79	40°09'29.592"N	80°31'38.626"W	2614.87	337.648	0.44	0.06	-0.44
8986.00	90.680	335.330	6426.62	2709.16	2503.32	-1036.95	1772421.56	14584784.67	40°09'30.434"N	80°31'39.168"W	2709.59	337.499	4.08	-0.16	4.07
9080.00	90.550	337.610	6425.61	2803.09	2589.49	-1074.48	1772384.05	14584870.81	40°09'31.287"N	80°31'39.646"W	2803.57	337.465	2.43	-0.14	2.43
9174.00	90.650	337.870	6424.63	2897.08	2676.48	-1110.08	1772348.46	14584957.77	40°09'32.149"N	80°31'40.098"W	2897.56	337.474	0.30	0.11	0.28
9269.00	90.580	340.090	6423.61	2992.06	2765.15	-1144.15	1772314.40	14585046.40	40°09'33.027"N	80°31'40.531"W	2992.52	337.521	2.34	-0.07	2.34
9363.00	90.650	343.080	6422.60	3085.91	2854.32	-1173.84	1772284.72	14585135.54	40°09'33.909"N	80°31'40.907"W	3086.27	337.645	3.18	0.07	3.18
9458.00	90.520	342.330	6421.63	3180.65	2945.02	-1202.08	1772256.49	14585226.20	40°09'34.807"N	80°31'41.265"W	3180.91	337.796	0.80	-0.14	-0.79
9552.00	90.550	342.500	6420.75	3274.43	3034.63	-1230.48	1772228.10	14585315.77	40°09'35.694"N	80°31'41.625"W	3274.61	337.928	0.18	0.03	0.18
9646.00	90.890	341.020	6419.57	3368.27	3123.89	-1259.90	1772198.69	14585405.01	40°09'36.578"N	80°31'41.997"W	3368.39	338.035	1.62	0.36	-1.57
9741.00	90.890	336.890	6418.09	3463.24	3212.53	-1294.00	1772164.60	14585493.61	40°09'37.455"N	80°31'42.431"W	3463.35	338.060	4.35	0.00	-4.35
9835.00	90.890	339.840	6416.63	3557.21	3299.88	-1328.65	1772129.97	14585580.93	40°09'38.320"N	80°31'42.871"W	3557.32	338.068	3.14	0.00	3.14
9930.00	90.770	341.910	6415.25	3652.12	3389.63	-1359.77	1772098.86	14585670.64	40°09'39.209"N	80°31'43.266"W	3652.20	338.141	2.18	-0.13	2.18
10024.00	90.770	340.620	6413.99	3746.00	3478.64	-1389.96	1772068.68	14585759.61	40°09'40.090"N	80°31'43.648"W	3746.05	338.220	1.37	0.00	-1.37
10119.00	90.800	336.870	6412.69	3840.97	3567.15	-1424.39	1772034.27	14585848.09	40°09'40.967"N	80°31'44.086"W	3841.02	338.233	3.95	0.03	-3.95
10213.00	90.770	337.430	6411.40	3934.94	3653.76	-1460.89	1771997.78	14585934.68	40°09'41.824"N	80°31'44.550"W	3935.00	338.207	0.60	-0.03	0.60
10307.00	90.550	337.280	6410.32	4028.91	3740.51	-1497.08	1771961.61	14586021.39	40°09'42.683"N	80°31'45.010"W	4028.98	338.187	0.28	-0.23	-0.16
10401.00	90.680	337.950	6409.31	4122.89	3827.42	-1532.88	1771925.82	14586108.27	40°09'43.544"N	80°31'45.465"W	4122.97	338.174	0.73	0.14	0.71
10496.00	90.580	338.190	6408.27	4217.88	3915.54	-1568.35	1771890.36	14586196.36	40°09'44.417"N	80°31'45.916"W	4217.96	338.172	0.27	-0.11	0.25
10590.00	90.580	336.970	6407.31	4311.87	4002.43	-1604.20	1771854.53	14586283.21	40°09'45.277"N	80°31'46.372"W	4311.95	338.159	1.30	0.00	-1.30
10685.00	90.620	336.290	6406.32	4406.81	4089.63	-1641.88	1771818.66	14586370.38	40°09'46.141"N	80°31'46.851"W	4406.91	338.126	0.72	0.04	-0.72
10779.00	90.520	335.790	6405.38	4500.72	4175.53	-1680.05	1771778.70	14586456.24	40°09'46.992"N	80°31'47.337"W	4500.85	338.082	0.54	-0.11	-0.53
10873.00	90.650	336.160	6404.42	4594.62	4261.38	-1718.32	1771740.45	14586542.06	40°09'47.842"N	80°31'47.824"W	4594.78	338.039	0.42	0.14	0.39



**WELLPATH DATA (193 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]
10968.00	90.550	335.270	6403.43	4689.50	4347.97	-1757.39	1771701.39	14586628.62	40°09'48.700"N	80°31'48.321"W	4689.70	337.992	0.94	-0.11	-0.94
11062.00	90.250	336.330	6402.77	4783.39	4433.70	-1795.92	1771662.88	14586674.32	40°09'49.549"N	80°31'48.812"W	4783.63	337.949	1.17	-0.32	1.13
11157.00	90.310	338.820	6402.31	4878.37	4521.51	-1832.16	1771626.66	14586802.09	40°09'50.419"N	80°31'49.273"W	4878.61	337.942	2.62	0.06	2.62
11251.00	90.400	339.060	6401.73	4972.36	4609.23	-1865.94	1771592.89	14586889.78	40°09'51.287"N	80°31'49.702"W	4972.60	337.961	0.27	0.10	0.26
11345.00	90.370	341.650	6401.09	5066.30	4697.75	-1897.54	1771561.30	14586978.26	40°09'52.164"N	80°31'50.103"W	5066.51	338.005	2.76	-0.03	2.76
11440.00	90.620	339.840	6400.27	5161.22	4787.43	-1928.86	1771529.99	14587067.91	40°09'53.052"N	80°31'50.500"W	5161.39	338.055	1.92	0.26	-1.91
11534.00	90.710	338.390	6399.18	5255.21	4875.25	-1962.37	1771496.50	14587155.69	40°09'53.921"N	80°31'50.926"W	5255.37	338.074	1.55	0.10	-1.54
11628.00	90.680	337.030	6398.04	5349.19	4962.21	-1998.02	1771460.86	14587242.63	40°09'54.782"N	80°31'51.379"W	5349.36	338.088	1.45	-0.03	-1.45
11722.00	90.620	335.720	6396.98	5443.12	5048.33	-2035.69	1771423.21	14587328.71	40°09'55.635"N	80°31'51.858"W	5443.31	338.039	1.39	-0.06	-1.39
11817.00	90.580	335.960	6395.98	5538.01	5135.00	-2074.57	1771384.34	14587415.35	40°09'56.494"N	80°31'52.353"W	5538.24	338.001	0.26	-0.04	0.25
11911.00	90.580	335.250	6395.03	5631.88	5220.60	-2113.39	1771345.53	14587500.92	40°09'57.342"N	80°31'52.848"W	5632.15	337.961	0.76	0.00	-0.76
12005.00	90.580	336.630	6394.08	5725.78	5306.43	-2151.71	1771307.23	14587586.71	40°09'58.192"N	80°31'53.335"W	5726.09	337.928	1.47	0.00	1.47
12099.00	90.680	339.970	6393.04	5819.76	5393.75	-2186.46	1771272.49	14587674.00	40°09'59.057"N	80°31'53.777"W	5820.06	337.934	3.55	0.11	3.55



# Actual Wellpath Report

Roy Riggle OHI 3H AWP Proj: 17498'

Page 5 of 8



**BAKER HUGHES**  
a GE company

## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 3H
Area	Ohio County, WV	Well	Roy Riggle OHI 3H
Field	Ohio	Wellbore	Roy Riggle OHI 3H AWB
Facility	Roy Riggle OHI Pad		

## WELLPATH DATA (193 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]
12194.00	90.650	343.120	6391.94	5914.61	5483.85	-2216.52	1771242.44	14587764.06	40°09'59.949"N	80°31'54.158"W	5914.86	337.992	3.32	-0.03	3.32
12288.00	90.580	342.450	6390.93	6008.34	5673.63	-2244.34	1771214.63	14587853.81	40°10'00.837"N	80°31'54.510"W	6008.53	338.067	0.72	-0.07	-0.71
12383.00	90.550	341.730	6390.00	6103.15	5664.02	-2273.56	1771185.43	14587944.17	40°10'01.732"N	80°31'54.880"W	6103.29	338.129	0.76	-0.03	-0.76
12477.00	90.340	341.760	6389.27	6197.00	5753.29	-2303.00	1771155.99	14588033.40	40°10'02.616"N	80°31'55.254"W	6197.11	338.184	0.23	-0.22	0.03
12572.00	90.370	341.000	6388.68	6291.88	5843.31	-2333.33	1771125.67	14588123.39	40°10'03.507"N	80°31'55.638"W	6291.96	338.232	0.80	0.03	-0.80
12666.00	90.430	339.850	6388.02	6385.82	5931.88	-2364.82	1771094.20	14588211.92	40°10'04.384"N	80°31'56.038"W	6385.89	338.265	1.21	0.06	-1.21
12760.00	90.340	339.010	6387.39	6479.81	6019.89	-2397.84	1771061.19	14588299.90	40°10'05.255"N	80°31'56.457"W	6479.87	338.282	0.91	-0.10	-0.90
12855.00	90.340	338.170	6386.83	6574.81	6108.33	-2432.51	1771026.53	14588388.30	40°10'06.131"N	80°31'56.898"W	6574.86	338.286	0.88	0.00	-0.88
12949.00	90.370	338.750	6386.24	6668.80	6195.76	-2467.02	1770992.03	14588475.70	40°10'06.997"N	80°31'57.337"W	6668.86	338.289	0.62	0.03	0.62
13044.00	90.470	338.190	6385.63	6763.80	6284.13	-2501.89	1770957.18	14588564.04	40°10'07.872"N	80°31'57.780"W	6763.86	338.291	0.59	0.00	-0.59
13138.00	90.330	338.810	6384.97	6857.80	6371.59	-2536.34	1770922.75	14588651.46	40°10'08.738"N	80°31'58.217"W	6857.85	338.294	0.66	0.06	0.66
13233.00	90.250	336.990	6384.41	6952.79	6459.60	-2572.08	1770887.02	14588739.44	40°10'09.609"N	80°31'58.672"W	6952.84	338.289	1.93	-0.19	-1.92
13327.00	90.400	335.770	6383.88	7046.72	6545.73	-2609.74	1770849.37	14588825.53	40°10'10.462"N	80°31'59.151"W	7046.79	338.263	1.31	0.16	-1.30
13421.00	90.250	334.760	6383.34	7140.56	6631.10	-2649.07	1770810.06	14588910.87	40°10'11.308"N	80°31'59.652"W	7140.66	338.224	1.09	-0.16	-1.07
13516.00	90.280	334.250	6382.90	7235.33	6716.85	-2689.96	1770769.18	14588996.59	40°10'12.158"N	80°32'00.173"W	7235.46	338.175	0.54	0.03	-0.54
13610.00	90.310	335.390	6382.42	7329.13	6801.91	-2729.95	1770729.21	14589081.62	40°10'13.000"N	80°32'00.682"W	7329.30	338.132	1.21	0.03	1.21
13705.00	90.340	338.840	6381.88	7424.09	6889.42	-2766.89	1770692.28	14589169.10	40°10'13.867"N	80°32'01.152"W	7424.27	338.119	3.63	0.03	3.63
13799.00	90.340	340.170	6381.32	7518.07	6977.47	-2799.80	1770659.38	14589257.11	40°10'14.739"N	80°32'01.570"W	7518.24	338.136	1.41	0.00	1.41
13893.00	90.120	342.470	6380.95	7611.95	7066.51	-2829.90	1770629.29	14589346.12	40°10'15.620"N	80°32'01.952"W	7612.09	338.176	2.46	-0.23	2.45
13988.00	90.180	343.610	6380.70	7706.65	7157.37	-2857.62	1770601.59	14589436.95	40°10'16.519"N	80°32'02.303"W	7706.75	338.235	1.20	0.06	1.20
14082.00	90.150	341.860	6380.43	7800.39	7247.13	-2885.51	1770573.70	14589526.67	40°10'17.408"N	80°32'02.656"W	7800.46	338.290	1.86	-0.03	-1.86
14176.00	89.970	338.630	6380.33	7894.34	7335.59	-2917.28	1770541.95	14589615.10	40°10'18.284"N	80°32'03.059"W	7894.39	338.313	3.44	-0.19	-3.44
14270.00	89.910	339.220	6380.43	7988.34	7423.30	-2951.08	1770508.16	14589702.78	40°10'19.152"N	80°32'03.489"W	7988.39	338.320	0.63	-0.06	0.63
14365.00	89.940	340.160	6380.55	8083.32	7512.39	-2984.06	1770475.20	14589791.83	40°10'20.034"N	80°32'03.908"W	8083.36	338.336	0.99	0.03	0.99
14459.00	89.880	339.400	6380.70	8177.29	7600.60	-3016.54	1770442.72	14589880.01	40°10'20.902"N	80°32'04.320"W	8177.33	338.353	0.81	-0.06	-0.81
14553.00	90.650	337.840	6380.26	8271.29	7688.13	-3050.81	1770408.47	14589967.50	40°10'21.774"N	80°32'04.756"W	8271.32	338.356	1.85	0.82	-1.66
14648.00	90.400	337.260	6379.39	8366.27	7775.92	-3087.09	1770372.21	14590055.26	40°10'22.644"N	80°32'05.217"W	8366.31	338.347	0.66	-0.26	-0.61
14741.00	90.490	336.320	6378.67	8459.22	7861.39	-3123.74	1770335.57	14590140.70	40°10'23.490"N	80°32'05.683"W	8459.27	338.330	1.02	0.10	-1.01
14835.00	90.680	336.340	6377.71	8553.15	7947.48	-3161.47	1770297.85	14590226.75	40°10'24.343"N	80°32'06.164"W	8553.21	338.308	0.20	0.20	0.02
14929.00	90.580	336.500	6376.68	8647.08	8033.63	-3199.07	1770260.26	14590312.87	40°10'25.196"N	80°32'06.642"W	8647.15	338.287	0.20	-0.11	0.17
15024.00	90.550	335.960	6375.74	8742.00	8120.56	-3237.36	1770221.99	14590399.77	40°10'26.057"N	80°32'07.130"W	8742.09	338.265	0.57	-0.03	-0.57
15118.00	90.950	337.490	6374.51	8835.94	8206.90	-3274.50	1770184.86	14590486.08	40°10'26.912"N	80°32'07.602"W	8836.04	338.248	1.68	0.43	1.63



**WELLPATH DATA (193 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]
15212.00	91.020	338.990	6372.89	8929.92	8294.19	-3309.34	1770150.03	14590573.33	40°10'27.77"N	80°32'08.045"W	8930.03	338.248	1.60	0.07	1.60
15307.00	90.950	338.060	6371.26	9024.91	8382.58	-3344.12	1770115.27	14590661.69	40°10'28.652"N	80°32'08.487"W	9025.01	338.251	0.99	-0.07	-0.99
15401.00	90.950	339.950	6369.70	9118.89	8470.32	-3377.81	1770081.60	14590749.39	40°10'29.521"N	80°32'08.915"W	9118.98	338.259	2.02	0.00	2.02
15495.00	91.380	340.890	6367.79	9212.82	8558.86	-3409.30	1770050.12	14590837.90	40°10'30.397"N	80°32'09.315"W	9212.90	338.281	1.10	0.46	1.00
15590.00	91.510	341.090	6365.39	9307.70	8648.65	-3440.23	1770019.19	14590927.66	40°10'31.286"N	80°32'09.708"W	9307.76	338.308	0.25	0.14	0.21
15685.00	91.480	342.070	6362.92	9402.53	8738.75	-3470.24	1769989.20	14591017.73	40°10'32.178"N	80°32'10.088"W	9402.58	338.342	1.03	-0.03	1.03
15779.00	91.480	341.940	6360.49	9496.32	8828.13	-3499.27	1769960.18	14591107.06	40°10'33.063"N	80°32'10.456"W	9496.35	338.378	0.14	0.00	-0.14
15873.00	91.450	339.710	6358.08	9590.21	8916.88	-3530.13	1769929.33	14591195.78	40°10'33.941"N	80°32'10.848"W	9590.23	338.402	2.37	-0.03	-2.37
15968.00	91.380	342.010	6355.74	9685.10	9006.59	-3561.27	1769898.20	14591285.46	40°10'34.830"N	80°32'11.243"W	9685.11	338.426	2.42	-0.07	2.42
16062.00	91.480	341.840	6353.39	9778.90	9095.93	-3590.43	1769869.06	14591374.76	40°10'35.714"N	80°32'11.612"W	9778.91	338.459	0.21	0.11	-0.18
16156.00	91.510	341.180	6350.94	9872.74	9185.04	-3620.23	1769839.27	14591463.84	40°10'36.596"N	80°32'11.990"W	9872.74	338.488	0.70	0.03	-0.70
16251.00	91.510	337.600	6348.44	9967.68	9273.92	-3653.65	1769805.86	14591552.68	40°10'37.476"N	80°32'12.415"W	9967.68	338.497	3.77	0.00	-3.77
16345.00	91.480	337.110	6345.98	10061.63	9360.64	-3689.83	1769769.69	14591639.37	40°10'38.335"N	80°32'12.875"W	10061.63	338.486	0.52	-0.03	-0.52





## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Roy Riggle OHI 3H BHL Rev-2	6332.11	10434.67	-4107.02	1769352.66	14592712.99	40°10'48.970"N	80°32'18.178"W	point
Roy Riggle OHI 3H LP Rev-3	6467.97	583.00	-232.19	1773226.01	14582865.08	40°09'11.415"N	80°31'28.936"W	point
Roy Riggle East Unit LL1	6999.50	2959.06	1320.50	1774778.11	14585240.24	40°09'34.812"N	80°31'08.774"W	polygon
Roy Riggle Unit Hardlines	6999.50	7029.03	-1690.79	1771767.97	14589308.65	40°10'15.190"N	80°31'47.281"W	polygon
Roy Riggle Unit LL1	6999.50	831.50	-1629.57	1771829.17	14583113.49	40°09'13.944"N	80°31'46.915"W	polygon

### REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 3H
Area	Ohio County, WV	Well	Roy Riggle OHI 3H
Field	Ohio	Wellbore	Roy Riggle OHI 3H AWB
Facility	Roy Riggle OHI Pad		

### WELLPATH COMPOSITION - Ref Wellbore: Roy Riggle OHI 3H AWB Ref Wellpath: Roy Riggle OHI 3H AWP Proj: 17498'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	627.62	OWSG MWD rev2 + HRGM	01_Premier MWD <17 1/2"> (151'-627.62')	Roy Riggle OHI 3H AWB
627.62	2028.57	OWSG MWD rev2 + HRGM	02_Premier MWD <12 1/4"> (702.35'-2028.57')	Roy Riggle OHI 3H AWB
2028.57	6545.19	OWSG MWD rev2 + HRGM	03_Premier MWD <8 3/4"> (2125.55'-6545.19')	Roy Riggle OHI 3H AWB
6545.19	17474.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8 1/2"> (6585'-17474')	Roy Riggle OHI 3H AWB
17474.00	17498.00	Blind Drilling (std)	Projection to bit	Roy Riggle OHI 3H AWB



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 3H
Area	Ohio County, WV	Well	Roy Riggle OHI 3H
Field	Ohio	Wellbore	Roy Riggle OHI 3H AWB
Facility	Roy Riggle OHI Pad		

COMMENTS
<p><b>Wellpath general comments</b>                      API: 47-069-00294-0000                      BH Job #: 109700210                      Rig: SDC 42                      Duration: 04/26/2019 - 04/29/2019</p>