

# SOUTHWESTERN ENERGY

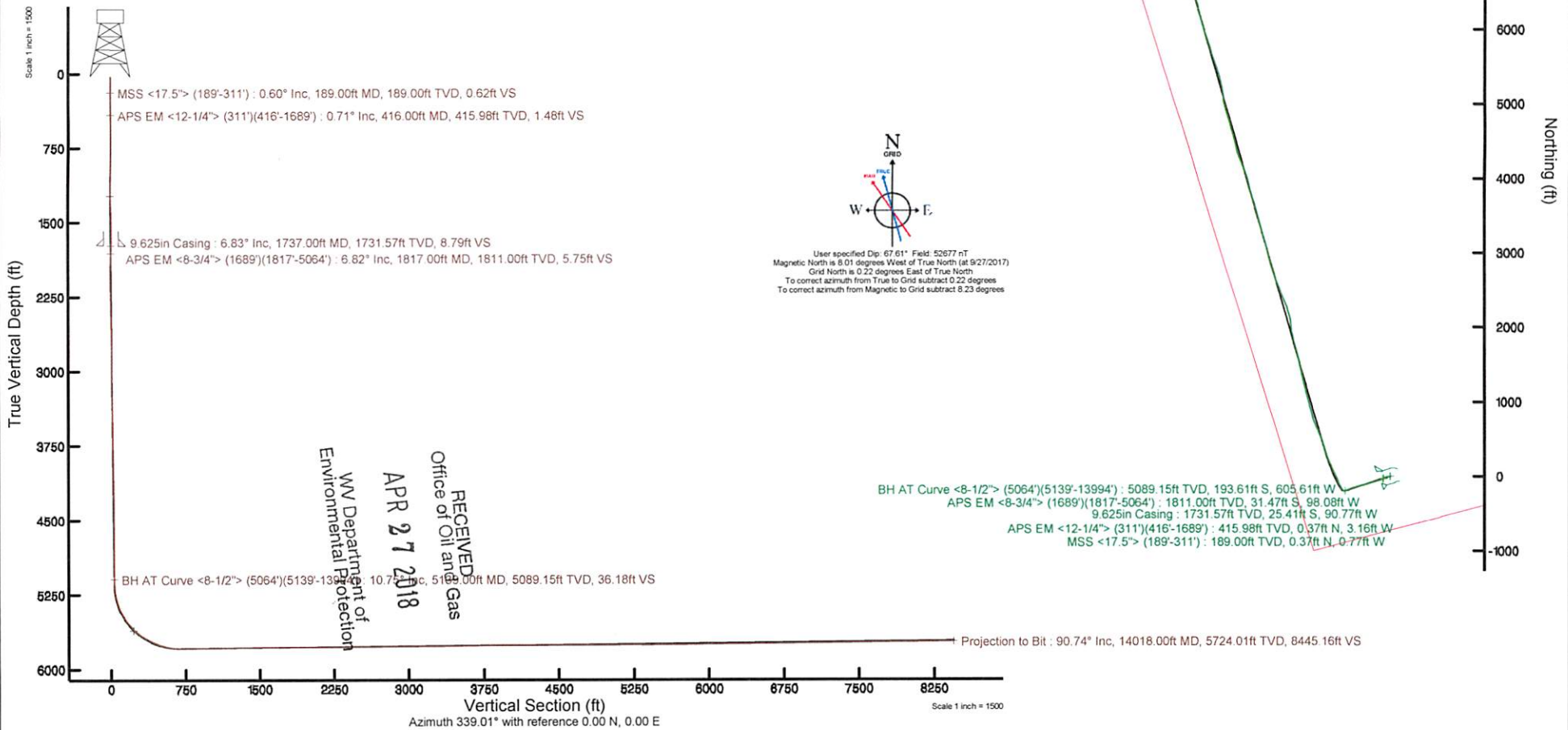


Location: Ohio County, WV Slot: Slot #1H  
 Field: Ohio Well: Edward Dremak OHI 1H  
 Facility: Edward Dremak OHI Pad Wellbore: Edward Dremak OHI 1H PWB

Plot reference wellpath is Edward Dremak OHI 1H PWP Rev-A.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC-46 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to SDC-46 (RKB)	North Reference: Grid north
SDC-46 (RKB) to Mean Sea Level: 1113.95 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: Slot #1H): -1087.95 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: thomsuzc on 2017-10-11
	Database: WA_Pennsylvania

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Edward Dremak OHI Pad	1737740.826	14584704.331	40°09'31.223"N	80°39'06.011"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #1H	37.74	24.17	1737764.985	14584742.060
				40°09'31.595"N
				80°39'05.698"W
SDC-46 (RKB) to Ground level (At Slot: Slot #1H)				26ft
Mean Sea Level to Ground level (At Slot: Slot #1H)				-1087.95ft
SDC-46 (RKB) to Mean Sea Level				1113.95ft

API: 47-069-00226-0000  
 Job #: 8775412  
 Rig: SDC 46  
 Duration: 10/01/2017 - 10/09/2017



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWB
Facility	Edward Dremak OHI Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Thomsuzc
Scale	0.999611	Report Generated	10/11/2017 at 10:00:19 AM
Convergence at slot	0.23° East	Database/Source file	WA_Pennsylvania/Edward_Dremak_OHI_1H_AWP_Proj_14018_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	37.74	24.17	1737764.99	14584742.06	40°09'31.595"N	80°39'05.698"W
Facility Reference Pt			1737740.83	14584704.33	40°09'31.223"N	80°39'06.011"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC-46 (RKB) to Facility Vertical Datum	1113.95ft
Horizontal Reference Pt	Slot	SDC-46 (RKB) to Mean Sea Level	1113.95ft
Vertical Reference Pt	SDC-46 (RKB)	SDC-46 (RKB) to Ground Level at Slot (Slot #1H)	26.00ft
MD Reference Pt	SDC-46 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	339.01°

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# Actual Wellpath Report

Edward Dremak OHI 1H AWP Proj: 14018'  
Page 2 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWB
Facility	Edward Dremak OHI Pad		

WELLPATH DATA (160 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†	0.000	295.900	0.00	0.00	0.00	0.00	1737764.99	14584742.06	40°09'31.595"N	80°39'05.698"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	295.900	26.00	0.00	0.00	0.00	1737764.99	14584742.06	40°09'31.595"N	80°39'05.698"W	0.00	0.000	0.00	0.00	0.00
189.00	0.600	295.900	189.00	0.62	0.37	-0.77	1737764.22	14584742.43	40°09'31.599"N	80°39'05.708"W	0.85	295.900	0.37	0.37	-39.33
311.00	0.600	262.500	310.99	1.24	0.57	-1.98	1737763.01	14584742.63	40°09'31.601"N	80°39'05.723"W	2.06	286.051	0.28	0.00	-27.38
416.00	0.710	258.690	415.98	1.48	0.37	-3.16	1737761.83	14584742.43	40°09'31.599"N	80°39'05.738"W	3.18	276.665	0.11	0.10	-3.63
509.00	0.900	251.590	508.97	1.61	0.03	-4.42	1737760.57	14584742.09	40°09'31.595"N	80°39'05.755"W	4.42	270.330	0.23	0.20	-7.63
602.00	1.170	236.380	601.96	1.43	-0.73	-5.90	1737759.09	14584741.33	40°09'31.588"N	80°39'05.774"W	5.95	262.938	0.41	0.29	-16.35
695.00	0.940	235.170	694.94	1.04	-1.69	-7.32	1737757.67	14584740.37	40°09'31.579"N	80°39'05.792"W	7.51	256.977	0.25	-0.25	-1.30
788.00	0.770	224.960	787.93	0.60	-2.57	-8.38	1737756.60	14584739.49	40°09'31.570"N	80°39'05.806"W	8.77	252.958	0.24	-0.18	-10.98
881.00	0.840	228.560	880.92	0.11	-3.46	-9.34	1737755.65	14584738.60	40°09'31.561"N	80°39'05.818"W	9.96	249.649	0.09	0.08	3.87
974.00	1.050	229.030	973.91	-0.42	-4.47	-10.49	1737754.50	14584737.59	40°09'31.551"N	80°39'05.833"W	11.41	246.908	0.23	0.23	0.51
1067.00	2.440	248.700	1066.87	-0.72	-5.75	-12.98	1737752.01	14584736.31	40°09'31.539"N	80°39'05.865"W	14.20	246.102	1.61	1.49	21.15
1159.00	4.370	255.900	1158.70	-0.31	-7.32	-18.20	1737746.79	14584734.75	40°09'31.523"N	80°39'05.933"W	19.62	248.104	2.14	2.10	7.83
1252.00	6.420	263.120	1251.28	1.38	-8.80	-26.80	1737738.19	14584733.26	40°09'31.509"N	80°39'06.043"W	28.21	251.819	2.32	2.20	7.76
1345.00	8.560	264.420	1343.49	4.49	-10.10	-38.86	1737726.14	14584731.97	40°09'31.497"N	80°39'06.199"W	40.15	255.431	2.31	2.30	1.40
1438.00	9.160	263.590	1435.38	8.19	-11.60	-53.10	1737711.91	14584730.47	40°09'31.482"N	80°39'06.382"W	54.35	257.679	0.66	0.65	-0.89
1531.00	8.260	256.290	1527.31	10.90	-14.01	-66.95	1737698.06	14584728.06	40°09'31.459"N	80°39'06.561"W	68.40	258.182	1.53	-0.97	-7.85
1623.00	7.580	245.840	1618.43	11.40	-18.06	-78.91	1737686.11	14584724.01	40°09'31.420"N	80°39'06.715"W	80.95	257.109	1.73	-0.74	-11.36
1689.00	6.860	235.670	1683.91	10.25	-22.06	-86.13	1737678.89	14584720.01	40°09'31.380"N	80°39'06.808"W	88.91	255.632	2.22	-1.09	-15.41
1817.00	6.820	227.880	1811.00	5.75	-31.47	-98.08	1737666.94	14584710.60	40°09'31.288"N	80°39'06.963"W	103.01	252.210	0.72	-0.03	-6.09
1910.00	7.750	235.670	1903.25	2.31	-38.71	-107.36	1737657.67	14584703.36	40°09'31.217"N	80°39'07.082"W	114.12	250.171	1.46	1.00	8.38
2003.00	7.220	243.900	1995.46	0.35	-44.82	-117.78	1737647.25	14584697.26	40°09'31.157"N	80°39'07.217"W	126.02	249.167	1.28	-0.57	8.85
2095.00	8.060	251.730	2086.65	0.14	-49.38	-129.10	1737635.93	14584692.69	40°09'31.112"N	80°39'07.363"W	138.22	249.067	1.45	0.91	8.51
2188.00	10.250	256.820	2178.46	1.57	-53.32	-143.35	1737621.69	14584688.76	40°09'31.074"N	80°39'07.547"W	152.94	249.598	2.51	2.35	5.47
2281.00	10.940	256.060	2269.87	3.78	-57.33	-159.97	1737605.08	14584684.75	40°09'31.035"N	80°39'07.761"W	169.93	250.284	0.76	0.74	-0.82
2374.00	11.180	253.790	2361.15	5.61	-61.97	-177.19	1737587.86	14584680.11	40°09'30.990"N	80°39'07.983"W	187.72	250.723	0.53	0.26	-2.44
2467.00	11.100	253.380	2452.39	7.05	-67.05	-194.43	1737570.63	14584675.04	40°09'30.940"N	80°39'08.205"W	205.67	250.973	0.12	-0.09	-0.44
2559.00	10.770	254.320	2542.72	8.52	-71.91	-211.19	1737553.88	14584670.18	40°09'30.893"N	80°39'08.421"W	223.10	251.198	0.41	-0.36	1.02
2652.00	10.360	254.680	2634.15	10.15	-76.46	-227.62	1737537.45	14584665.63	40°09'30.848"N	80°39'08.633"W	240.12	251.432	0.45	-0.44	0.39
2745.00	10.050	253.520	2725.68	11.61	-80.97	-243.47	1737521.61	14584661.12	40°09'30.804"N	80°39'08.838"W	256.58	251.604	0.40	-0.33	-1.25

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# Actual Wellpath Report

Edward Dremak OHI 1H AWP Proj: 14018'  
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWB
Facility	Edward Dremak OHI Pad		

### WELLPATH DATA (160 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]
2837.00	9.530	252.630	2816.34	12.72	-85.53	-258.44	1737506.65	14584656.57	40°09'30.760"N	80°39'09.031"W	272.22	251.689	0.59	-0.57	-0.97
2930.00	9.310	252.830	2908.08	13.71	-90.04	-272.97	1737492.12	14584652.05	40°09'30.716"N	80°39'09.218"W	287.44	251.744	0.24	-0.24	0.22
3026.00	8.570	251.450	3002.91	14.53	-94.61	-287.17	1737477.93	14584647.48	40°09'30.671"N	80°39'09.401"W	302.36	251.765	0.80	-0.77	-1.44
3119.00	7.730	248.960	3094.97	14.82	-99.06	-299.58	1737465.52	14584643.04	40°09'30.628"N	80°39'09.561"W	315.53	251.702	0.98	-0.90	-2.68
3212.00	8.190	255.980	3187.08	15.62	-102.91	-311.84	1737453.26	14584639.19	40°09'30.590"N	80°39'09.719"W	328.39	251.736	1.16	0.49	7.55
3304.00	8.720	255.950	3278.08	17.26	-106.19	-324.97	1737440.15	14584635.91	40°09'30.558"N	80°39'09.889"W	341.88	251.904	0.58	0.58	-0.03
3397.00	10.000	257.160	3369.84	19.25	-109.70	-339.68	1737425.44	14584632.40	40°09'30.524"N	80°39'10.078"W	356.95	252.102	1.39	1.38	1.30
3489.00	9.530	254.710	3460.51	21.14	-113.48	-354.81	1737410.31	14584628.62	40°09'30.487"N	80°39'10.273"W	372.52	252.264	0.68	-0.51	-2.66
3582.00	8.350	253.530	3552.38	22.44	-117.43	-368.72	1737396.41	14584624.68	40°09'30.449"N	80°39'10.453"W	386.96	252.334	1.28	-1.27	-1.27
3675.00	7.130	252.000	3644.53	23.27	-121.13	-380.68	1737384.45	14584620.98	40°09'30.413"N	80°39'10.607"W	399.49	252.350	1.33	-1.31	-1.65
3768.00	7.770	250.760	3736.74	23.77	-124.98	-392.11	1737373.03	14584617.13	40°09'30.375"N	80°39'10.754"W	411.54	252.321	0.71	0.69	-1.33
3861.00	9.100	256.470	3828.74	24.91	-128.77	-405.19	1737359.95	14584613.34	40°09'30.338"N	80°39'10.923"W	425.16	252.369	1.69	1.43	6.14
3953.00	9.640	255.940	3919.51	26.79	-132.35	-419.74	1737345.41	14584609.76	40°09'30.303"N	80°39'11.110"W	440.11	252.499	0.59	0.59	-0.58
4046.00	9.290	253.310	4011.24	28.29	-136.39	-434.48	1737330.67	14584605.72	40°09'30.264"N	80°39'11.301"W	455.39	252.572	0.60	-0.38	-2.83
4139.00	8.620	252.980	4103.11	29.34	-140.59	-448.34	1737316.82	14584601.52	40°09'30.223"N	80°39'11.479"W	469.86	252.589	0.72	-0.72	-0.35
4232.00	8.980	253.510	4195.01	30.39	-144.69	-461.96	1737303.21	14584597.43	40°09'30.183"N	80°39'11.655"W	484.09	252.609	0.40	0.39	0.57
4325.00	10.560	255.380	4286.66	31.90	-148.90	-477.17	1737288.00	14584593.22	40°09'30.142"N	80°39'11.851"W	499.86	252.669	1.73	1.70	2.01
4417.00	10.790	252.560	4377.07	33.37	-153.61	-493.54	1737271.64	14584588.51	40°09'30.096"N	80°39'12.062"W	516.89	252.712	0.62	0.25	-3.07
4510.00	9.950	249.970	4468.55	34.04	-158.97	-509.39	1737255.79	14584583.15	40°09'30.044"N	80°39'12.267"W	533.62	252.668	1.03	-0.90	-2.78
4603.00	9.090	249.850	4560.27	34.29	-164.25	-523.84	1737241.35	14584577.87	40°09'29.992"N	80°39'12.453"W	548.99	252.591	0.92	-0.92	-0.13
4696.00	8.450	248.440	4652.18	34.33	-169.30	-537.09	1737228.10	14584572.83	40°09'29.943"N	80°39'12.624"W	563.14	252.505	0.73	-0.69	-1.52
4789.00	9.580	252.220	4744.03	34.69	-174.17	-550.82	1737214.38	14584567.96	40°09'29.895"N	80°39'12.801"W	577.70	252.453	1.37	1.22	4.06
4881.00	9.920	252.400	4834.70	35.59	-178.90	-565.66	1737199.55	14584563.23	40°09'29.849"N	80°39'12.992"W	593.28	252.449	0.37	0.37	0.20
4974.00	8.440	247.550	4926.51	35.89	-183.93	-579.60	1737185.61	14584558.20	40°09'29.800"N	80°39'13.172"W	608.09	252.394	1.79	-1.59	-5.22
5064.00	9.880	250.380	5015.36	35.91	-189.05	-592.98	1737172.23	14584553.09	40°09'29.750"N	80°39'13.345"W	622.39	252.317	1.68	1.60	3.14
5139.00	10.750	249.970	5089.15	36.18	-193.61	-605.61	1737159.61	14584548.53	40°09'29.705"N	80°39'13.508"W	635.81	252.272	1.16	1.16	-0.55
5186.00	10.050	252.600	5135.38	36.51	-196.33	-613.65	1737151.58	14584545.80	40°09'29.679"N	80°39'13.611"W	644.29	252.258	1.80	-1.49	5.60
5233.00	9.980	273.990	5181.68	38.48	-197.28	-621.63	1737143.60	14584544.86	40°09'29.670"N	80°39'13.714"W	652.18	252.393	7.87	-0.15	45.51
5326.00	12.500	314.460	5273.02	51.06	-189.65	-636.87	1737128.36	14584552.48	40°09'29.745"N	80°39'13.910"W	664.51	253.417	8.69	2.71	43.52
5419.00	20.420	326.650	5362.16	76.11	-169.01	-653.01	1737112.23	14584573.11	40°09'29.950"N	80°39'14.117"W	674.52	255.489	9.25	8.52	13.11

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# Actual Wellpath Report

Edward Dremak OHI 1H AWP Proj: 14018'  
Page 4 of 9



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5511.00	29.000	333.950	5445.68	114.08	-135.50	-671.66	1737093.59	14584606.61	40°09'30.282"N	80°39'14.355"W	685.19	258.594	9.88	9.33	7.93	
5604.00	37.110	335.870	5523.57	164.64	-89.57	-693.07	1737072.19	14584652.53	40°09'30.737"N	80°39'14.629"W	698.83	262.636	8.79	8.72	2.06	
5697.00	44.940	337.490	5593.68	225.58	-33.53	-717.15	1737048.12	14584708.54	40°09'31.291"N	80°39'14.936"W	717.93	267.323	8.50	8.42	1.74	
5743.00	49.080	337.240	5625.03	259.21	-2.48	-730.10	1737035.17	14584739.58	40°09'31.599"N	80°39'15.101"W	730.10	269.805	9.01	9.00	-0.54	
5790.00	53.320	335.580	5654.48	295.79	31.07	-744.77	1737020.51	14584773.12	40°09'31.931"N	80°39'15.288"W	745.42	272.389	9.43	9.02	-3.53	
5836.00	58.820	333.910	5680.15	333.83	65.57	-761.06	1737004.22	14584807.60	40°09'32.272"N	80°39'15.497"W	763.88	274.924	12.33	11.96	-3.63	
5882.00	61.220	334.050	5703.13	373.52	101.37	-778.54	1736986.75	14584843.39	40°09'32.627"N	80°39'15.720"W	785.11	277.419	5.22	5.22	0.30	
5929.00	67.050	335.380	5723.63	415.68	139.60	-796.58	1736968.71	14584881.60	40°09'33.005"N	80°39'15.950"W	808.72	279.940	12.66	12.40	2.83	
5975.00	68.340	336.550	5741.09	458.17	178.47	-813.91	1736951.39	14584920.46	40°09'33.390"N	80°39'16.172"W	833.25	282.367	3.66	2.80	2.54	
6022.00	69.760	339.530	5757.89	502.05	219.17	-830.32	1736934.99	14584961.14	40°09'33.793"N	80°39'16.381"W	858.76	284.786	6.65	3.02	6.34	
6068.00	75.310	340.650	5771.69	545.91	260.41	-845.25	1736920.06	14585002.37	40°09'34.201"N	80°39'16.571"W	884.46	287.123	12.29	12.07	2.43	
6114.00	81.660	341.960	5780.87	590.92	303.09	-859.69	1736905.64	14585045.03	40°09'34.623"N	80°39'16.755"W	911.55	289.420	14.08	13.80	2.85	
6160.00	84.760	341.980	5786.31	636.53	346.52	-873.82	1736891.51	14585088.44	40°09'35.053"N	80°39'16.935"W	940.02	291.631	6.74	6.74	0.04	
6207.00	88.340	343.340	5789.14	683.34	391.29	-887.80	1736877.53	14585133.20	40°09'35.496"N	80°39'17.113"W	970.21	293.785	8.15	7.62	2.89	
6253.00	90.400	345.090	5789.64	729.14	435.55	-900.31	1736865.03	14585177.44	40°09'35.934"N	80°39'17.272"W	1000.13	295.817	5.88	4.48	3.80	
6346.00	90.400	338.670	5788.99	821.98	523.89	-929.22	1736836.13	14585265.74	40°09'36.808"N	80°39'17.639"W	1066.73	299.414	6.90	0.00	-6.90	
6439.00	90.310	335.380	5788.42	914.91	609.50	-965.51	1736799.85	14585351.32	40°09'37.655"N	80°39'18.103"W	1141.80	302.263	3.54	-0.10	-3.54	
6531.00	90.710	338.310	5787.60	1006.83	694.07	-1001.69	1736763.69	14585435.86	40°09'38.492"N	80°39'18.564"W	1218.65	304.718	3.21	0.43	3.18	
6624.00	90.710	343.600	5786.45	1099.73	781.95	-1032.02	1736733.37	14585523.70	40°09'39.362"N	80°39'18.951"W	1294.80	307.151	5.69	0.00	5.69	
6717.00	91.510	345.430	5784.64	1192.28	871.55	-1056.84	1736708.56	14585613.27	40°09'40.248"N	80°39'19.266"W	1369.86	309.511	2.15	0.86	1.97	
6810.00	90.710	346.740	5782.84	1284.55	961.80	-1079.20	1736686.20	14585703.48	40°09'41.141"N	80°39'19.549"W	1445.59	311.708	1.65	-0.86	1.41	
6902.00	90.590	345.060	5781.80	1375.88	1051.02	-1101.61	1736663.80	14585792.67	40°09'42.024"N	80°39'19.833"W	1522.56	313.654	1.83	-0.13	-1.83	
6995.00	90.370	345.700	5781.02	1468.30	1141.00	-1125.09	1736640.34	14585882.62	40°09'42.914"N	80°39'20.131"W	1602.41	315.402	0.73	-0.24	0.69	
7087.00	90.620	346.890	5780.22	1559.55	1230.38	-1146.88	1736618.55	14585971.96	40°09'43.798"N	80°39'20.408"W	1682.01	317.012	1.32	0.27	1.29	
7180.00	90.620	347.680	5779.22	1651.58	1321.09	-1167.35	1736598.09	14586062.64	40°09'44.695"N	80°39'20.667"W	1762.95	318.535	0.85	0.00	0.85	
7272.00	90.680	347.790	5778.17	1742.51	1410.99	-1186.89	1736578.56	14586152.50	40°09'45.584"N	80°39'20.914"W	1843.80	319.930	0.14	0.07	0.12	
7365.00	90.090	346.260	5777.55	1834.60	1501.61	-1207.77	1736557.68	14586243.08	40°09'46.480"N	80°39'21.178"W	1927.05	321.190	1.76	-0.63	-1.65	
7458.00	90.280	346.130	5777.25	1926.86	1591.92	-1229.96	1736535.50	14586333.36	40°09'47.374"N	80°39'21.460"W	2011.72	322.309	0.25	0.20	-0.14	
7551.00	90.680	345.350	5776.47	2019.22	1682.05	-1252.87	1736512.60	14586423.45	40°09'48.265"N	80°39'21.750"W	2097.37	323.320	0.94	0.43	-0.84	
7644.00	88.310	344.650	5777.29	2111.70	1771.87	-1276.94	1736488.55	14586513.24	40°09'49.154"N	80°39'22.056"W	2184.06	324.221	2.66	-2.55	-0.75	

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# Actual Wellpath Report

Edward Dremak OHI 1H AWP Proj: 14018'  
Page 5 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWB
Facility	Edward Dremak OHI Pad		

WELLPATH DATA (160 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]
7737.00	90.490	344.920	5778.26	2204.22	1861.60	-1301.34	1736464.15	14586602.93	40°09'50.041"N	80°39'22.366"W	2271.35	325.045	2.36	2.34	0.29
7830.00	90.550	351.680	5777.42	2295.94	1952.61	-1320.19	1736445.31	14586693.91	40°09'50.942"N	80°39'22.604"W	2357.03	325.937	7.27	0.06	7.27
7923.00	90.620	356.000	5776.47	2385.82	2045.05	-1330.17	1736435.34	14586786.31	40°09'51.855"N	80°39'22.728"W	2439.58	326.959	4.65	0.08	4.65
8015.00	90.460	346.110	5775.60	2475.68	2135.81	-1344.45	1736421.06	14586877.04	40°09'52.753"N	80°39'22.907"W	2523.74	327.810	10.75	-0.17	-10.75
8108.00	90.460	342.170	5774.85	2568.28	2225.25	-1369.86	1736395.66	14586966.44	40°09'53.638"N	80°39'23.230"W	2613.10	328.384	4.24	0.00	-4.24
8201.00	90.400	338.070	5774.15	2661.24	2312.69	-1401.48	1736364.05	14587053.84	40°09'54.503"N	80°39'23.633"W	2704.20	328.784	4.41	-0.06	-4.41
8294.00	90.180	338.170	5773.68	2754.23	2398.99	-1436.14	1736329.41	14587140.11	40°09'55.357"N	80°39'24.075"W	2796.00	329.093	0.26	-0.24	0.11
8386.00	90.400	338.540	5773.22	2846.22	2484.50	-1470.07	1736295.49	14587225.59	40°09'56.203"N	80°39'24.508"W	2886.84	329.387	0.47	0.24	0.40
8479.00	90.460	338.660	5772.52	2939.22	2571.09	-1504.00	1736261.57	14587312.14	40°09'57.060"N	80°39'24.941"W	2978.68	329.674	0.14	0.06	0.13
8572.00	90.400	340.150	5771.82	3032.21	2658.14	-1536.72	1736228.87	14587399.16	40°09'57.922"N	80°39'25.358"W	3070.37	329.967	1.60	-0.06	1.60
8664.00	90.830	342.630	5770.83	3124.12	2745.32	-1566.07	1736199.53	14587486.30	40°09'58.784"N	80°39'25.731"W	3160.59	330.297	2.74	0.47	2.70
8757.00	90.310	344.660	5769.91	3216.80	2834.54	-1592.26	1736173.35	14587575.49	40°09'59.667"N	80°39'26.064"W	3251.14	330.676	2.25	-0.56	2.18
8850.00	90.580	345.340	5769.19	3309.29	2924.37	-1616.33	1736149.29	14587665.29	40°10'00.556"N	80°39'26.370"W	3341.32	331.070	0.79	0.29	0.73
8943.00	90.400	345.470	5768.39	3401.71	3014.37	-1639.76	1736125.87	14587755.25	40°10'01.446"N	80°39'26.667"W	3431.50	331.455	0.24	-0.19	0.14
9036.00	91.230	346.470	5767.07	3494.01	3104.58	-1662.30	1736103.33	14587845.43	40°10'02.338"N	80°39'26.953"W	3521.60	331.834	1.40	0.89	1.08
9128.00	90.950	343.350	5765.32	3585.50	3193.38	-1686.25	1736079.40	14587934.19	40°10'03.217"N	80°39'27.257"W	3611.25	332.164	3.40	-0.30	-3.39
9221.00	90.680	343.300	5764.00	3678.23	3282.46	-1712.93	1736052.73	14588023.24	40°10'04.098"N	80°39'27.596"W	3702.52	332.443	0.30	-0.29	-0.05
9313.00	90.340	345.650	5763.18	3769.80	3371.09	-1737.55	1736028.11	14588111.84	40°10'04.975"N	80°39'27.909"W	3792.54	332.732	2.58	-0.37	2.55
9406.00	90.090	345.470	5762.83	3862.19	3461.16	-1760.74	1736004.93	14588201.86	40°10'05.866"N	80°39'28.203"W	3883.27	333.037	0.33	-0.27	-0.19
9499.00	89.750	344.780	5762.96	3954.66	3551.04	-1784.62	1735981.07	14588291.71	40°10'06.755"N	80°39'28.507"W	3974.26	333.318	0.83	-0.37	-0.74
9592.00	89.970	342.760	5763.18	4047.33	3640.33	-1810.61	1735955.09	14588380.96	40°10'07.638"N	80°39'28.837"W	4065.74	333.555	2.18	0.24	-2.17
9685.00	89.910	341.810	5763.28	4140.18	3728.92	-1838.91	1735926.80	14588469.52	40°10'08.515"N	80°39'29.197"W	4157.69	333.750	1.02	-0.06	-1.02
9777.00	90.400	345.390	5763.03	4231.87	3817.16	-1864.88	1735900.84	14588557.73	40°10'09.388"N	80°39'29.527"W	4248.35	333.962	3.93	0.53	3.89
9870.00	90.830	347.310	5762.03	4324.10	3907.52	-1886.82	1735878.90	14588648.05	40°10'10.281"N	80°39'29.805"W	4339.22	334.226	2.12	0.46	2.06
9963.00	90.550	343.340	5760.91	4416.51	3997.46	-1910.37	1735855.36	14588737.96	40°10'11.171"N	80°39'30.104"W	4430.49	334.457	4.28	-0.30	-4.27
10056.00	90.800	340.710	5759.82	4509.37	4085.91	-1939.07	1735826.67	14588826.37	40°10'12.046"N	80°39'30.470"W	4522.68	334.612	2.84	0.27	-2.83
10149.00	90.490	337.480	5758.77	4602.35	4172.77	-1972.25	1735793.51	14588913.20	40°10'12.906"N	80°39'30.893"W	4615.39	334.702	3.49	-0.33	-3.47
10241.00	90.120	334.990	5758.28	4694.23	4256.96	-2009.32	1735756.45	14588997.36	40°10'13.739"N	80°39'31.366"W	4707.34	334.732	2.74	-0.40	-2.71
10334.00	90.150	343.910	5758.06	4787.13	4343.96	-2041.93	1735723.85	14589084.32	40°10'14.600"N	80°39'31.782"W	4799.94	334.824	9.59	0.03	9.59
10427.00	90.430	345.890	5757.59	4879.64	4433.74	-2066.16	1735699.64	14589174.07	40°10'15.488"N	80°39'32.089"W	4891.53	335.014	2.15	0.30	2.13

APR 27 2018





# Actual Wellpath Report

Edward Dremak OHI 1H AWP Proj: 14018'  
Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWP
Facility	Edward Dremak OHI Pad		

WELLPATH DATA (160 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]	
10520.00	90.340	346.920	5756.97	4971.86	4524.13	-2088.02	1735677.79	14589264.42	40°10'16.382"N	80°39'32.367"W	4982.73	335.225	1.11	-0.10	1.11	
10613.00	90.310	344.830	5756.44	5064.19	4614.31	-2110.71	1735655.10	14589354.57	40°10'17.274"N	80°39'32.654"W	5074.15	335.419	2.25	-0.03	-2.25	
10705.00	90.030	343.860	5756.17	5155.79	4702.90	-2135.54	1735630.28	14589443.12	40°10'18.151"N	80°39'32.970"W	5165.05	335.578	1.10	-0.30	-1.05	
10798.00	89.940	344.030	5756.19	5248.44	4792.27	-2161.26	1735604.57	14589532.46	40°10'19.035"N	80°39'33.297"W	5257.08	335.725	0.21	-0.10	0.18	
10888.00	89.940	344.530	5756.28	5338.06	4878.90	-2185.64	1735580.20	14589619.06	40°10'19.892"N	80°39'33.607"W	5346.09	335.869	0.56	0.00	0.56	
10981.00	90.060	346.710	5756.28	5430.44	4968.98	-2208.74	1735557.11	14589709.10	40°10'20.783"N	80°39'33.900"W	5437.77	336.035	2.35	0.13	2.34	
11073.00	90.120	351.380	5756.14	5521.00	5059.28	-2226.21	1735539.64	14589799.36	40°10'21.676"N	80°39'34.120"W	5527.42	336.249	5.08	0.07	5.08	
11166.00	90.430	351.420	5755.69	5611.84	5151.24	-2240.12	1735525.74	14589891.28	40°10'22.585"N	80°39'34.295"W	5617.24	336.497	0.34	0.33	0.04	
11259.00	90.710	347.600	5754.77	5703.26	5242.66	-2257.05	1735508.82	14589982.67	40°10'23.489"N	80°39'34.509"W	5707.87	336.707	4.12	0.30	-4.11	
11349.00	90.650	348.520	5753.70	5792.13	5330.71	-2275.67	1735490.21	14590070.68	40°10'24.360"N	80°39'34.744"W	5796.13	336.882	1.02	-0.07	1.02	
11441.00	91.200	343.420	5752.21	5883.41	5419.92	-2297.96	1735467.92	14590159.86	40°10'25.243"N	80°39'35.027"W	5886.95	337.024	5.57	0.60	-5.54	
11534.00	90.650	339.080	5750.71	5976.31	5507.95	-2327.84	1735438.05	14590247.86	40°10'26.114"N	80°39'35.407"W	5979.66	337.089	4.70	-0.59	-4.67	
11627.00	90.770	340.740	5749.56	6069.28	5595.28	-2359.78	1735406.12	14590335.15	40°10'26.978"N	80°39'35.815"W	6072.54	337.133	1.79	0.13	1.78	
11720.00	90.650	342.780	5748.41	6162.16	5683.60	-2388.89	1735377.03	14590423.44	40°10'27.852"N	80°39'36.185"W	6165.23	337.202	2.20	-0.13	2.19	
11812.00	90.400	343.190	5747.56	6253.94	5771.57	-2415.81	1735350.12	14590511.37	40°10'28.722"N	80°39'36.528"W	6256.77	337.287	0.52	-0.27	0.45	
11905.00	90.460	341.350	5746.87	6346.78	5860.14	-2444.13	1735321.81	14590599.91	40°10'29.598"N	80°39'36.888"W	6349.41	337.360	1.98	0.06	-1.98	
11998.00	90.520	341.880	5746.07	6439.68	5948.39	-2473.46	1735292.49	14590688.13	40°10'30.472"N	80°39'37.262"W	6442.16	337.421	0.57	0.06	0.57	
12091.00	90.520	342.590	5745.23	6532.53	6036.96	-2501.83	1735264.13	14590776.65	40°10'31.348"N	80°39'37.623"W	6534.83	337.490	0.76	0.00	0.76	
12183.00	90.580	345.550	5744.34	6624.16	6125.41	-2527.08	1735238.89	14590865.07	40°10'32.223"N	80°39'37.944"W	6626.22	337.581	3.22	0.07	3.22	
12276.00	90.830	347.720	5743.20	6716.32	6215.88	-2548.57	1735217.41	14590955.51	40°10'33.118"N	80°39'38.216"W	6718.06	337.706	2.35	0.27	2.33	
12368.00	90.860	345.500	5741.84	6807.50	6305.36	-2569.88	1735196.11	14591044.95	40°10'34.003"N	80°39'38.486"W	6808.95	337.826	2.41	0.03	-2.41	
12461.00	90.520	341.990	5740.72	6900.16	6394.62	-2595.90	1735170.10	14591134.18	40°10'34.886"N	80°39'38.817"W	6901.44	337.905	3.79	-0.37	-3.77	
12554.00	90.250	341.290	5740.10	6993.06	6482.89	-2625.20	1735140.82	14591222.41	40°10'35.759"N	80°39'39.190"W	6994.24	337.955	0.81	-0.29	-0.75	
12646.00	90.310	345.070	5739.65	7084.80	6570.93	-2651.81	1735114.21	14591310.42	40°10'36.630"N	80°39'39.529"W	7085.85	338.023	4.11	0.07	4.11	
12739.00	90.340	348.280	5739.12	7176.95	6661.42	-2673.24	1735092.79	14591400.87	40°10'37.525"N	80°39'39.800"W	7177.79	338.134	3.45	0.03	3.45	
12832.00	90.620	357.290	5738.34	7267.18	6753.58	-2684.91	1735081.12	14591493.00	40°10'38.436"N	80°39'39.946"W	7267.71	338.320	9.69	0.30	9.69	
12925.00	90.800	356.310	5737.19	7355.73	6846.43	-2690.10	1735075.94	14591585.81	40°10'39.354"N	80°39'40.008"W	7355.97	338.549	1.07	0.19	-1.05	
13017.00	90.620	347.420	5736.04	7445.32	6937.40	-2703.11	1735062.94	14591676.75	40°10'40.254"N	80°39'40.171"W	7445.43	338.712	9.66	-0.20	-9.66	
13110.00	90.740	339.010	5734.94	7537.98	7026.36	-2729.94	1735036.12	14591765.67	40°10'41.134"N	80°39'40.513"W	7538.05	338.767	9.04	0.13	-9.04	
13203.00	90.740	339.520	5733.74	7630.98	7113.32	-2752.86	1735003.21	14591852.60	40°10'41.994"N	80°39'40.933"W	7631.04	338.774	0.55	0.00	0.55	

APR 27 2018



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWB
Facility	Edward Dremak OHI Pad		

WELLPATH DATA (160 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]
13295.00	90.980	340.060	5732.36	7722.96	7199.65	-2794.64	1734971.44	14591938.89	40°10'42.849"N	80°39'41.338"W	7723.02	338.786	0.64	0.26	0.59
13388.00	90.520	337.660	5731.14	7815.94	7286.38	-2828.17	1734937.92	14592025.59	40°10'43.707"N	80°39'41.766"W	7816.00	338.787	2.63	-0.49	-2.58
13481.00	90.490	337.460	5730.32	7908.91	7372.33	-2863.67	1734902.43	14592111.51	40°10'44.558"N	80°39'42.219"W	7908.98	338.772	0.22	-0.03	-0.22
13574.00	90.370	339.580	5729.62	8001.90	7458.86	-2897.72	1734868.39	14592198.01	40°10'45.414"N	80°39'42.653"W	8001.97	338.769	2.28	-0.13	2.28
13666.00	90.710	341.090	5728.75	8093.86	7545.49	-2928.68	1734837.45	14592284.60	40°10'46.271"N	80°39'43.048"W	8093.93	338.787	1.68	0.37	1.64
13759.00	90.770	342.270	5727.55	8186.75	7633.77	-2957.91	1734808.23	14592372.84	40°10'47.145"N	80°39'43.420"W	8186.80	338.820	1.27	0.06	1.27
13852.00	90.710	342.740	5726.35	8279.57	7722.46	-2985.87	1734780.29	14592461.50	40°10'48.022"N	80°39'43.776"W	8279.60	338.861	0.51	-0.06	0.51
13945.00	90.920	342.820	5725.03	8372.36	7811.28	-3013.39	1734752.77	14592550.29	40°10'48.901"N	80°39'44.126"W	8372.38	338.905	0.24	0.23	0.09
13994.00	90.740	343.440	5724.32	8421.23	7858.17	-3027.61	1734738.56	14592597.16	40°10'49.365"N	80°39'44.307"W	8421.24	338.929	1.32	-0.37	1.27
14018.00	90.740	343.440	5724.01	8445.16	7881.17	-3034.45	1734731.72	14592620.15	40°10'49.592"N	80°39'44.394"W	8445.16	338.942	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Edward Dremak OHI 1H AWB    Ref Wellpath: Edward Dremak OHI 1H AWP Proj: 14018'									
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]
12.25in Open Hole	359.00	1767.00	1408.00	358.99	1761.36	0.49	-2.49	-27.61	-93.58
9.625in Casing	26.00	1737.00	1711.00	26.00	1731.57	0.00	0.00	-25.41	-90.77
8.75in Open Hole	1767.00	5135.00	3368.00	1761.36	5085.22	-27.61	-93.58	-193.35	-604.92
8.5in Open Hole	5135.00	14018.00	8883.00	5085.22	5724.01	-193.35	-604.92	7881.17	-3034.45

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWB
Facility	Edward Dremak OHI Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Edward Dremak OHI 1H BHL Rev-1	5718.00	7892.40	-3028.52	1734737.65	14592631.37	40°10'49.703"N	80°39'44.317"W	point
Edward Dremak OHI 1H LP Rev-1	5789.00	391.51	-889.32	1736876.02	14585133.42	40°09'35.498"N	80°39'17.132"W	point

WELLPATH COMPOSITION - Ref Wellbore: Edward Dremak OHI 1H AWB      Ref Wellpath: Edward Dremak OHI 1H AWP Proj: 14018'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	311.00	OWSG EMS rev2 - Standard	01_MSS <17.5"> (189'-311')	Edward Dremak OHI 1H AWB
311.00	1689.00	BHI NaviTrak (Axial)	02_APS EM <12-1/4"> (311')(416'-1689')	Edward Dremak OHI 1H AWB
1689.00	5064.00	BHI NaviTrak (Axial)	03_APS EM <8-3/4"> (1689')(1817'-5064')	Edward Dremak OHI 1H AWB
5064.00	13994.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8-1/2"> (5064')(5139'-13994')	Edward Dremak OHI 1H AWB
13994.00	14018.00	Blind Drilling (std)	Projection to bit	Edward Dremak OHI 1H AWB

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #1H
Area	Ohio County, WV	Well	Edward Dremak OHI 1H
Field	Ohio	Wellbore	Edward Dremak OHI 1H AWB
Facility	Edward Dremak OHI Pad		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-069-00226-0000            Job #: 8775412            Rig: SDC 46            Duration: 10/01/2017 - 10/09/2017</p>

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