

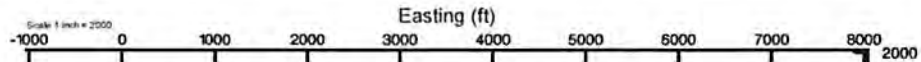
# ANTERO RESOURCES CORPORATION

Location: Doddridge Co., WV  
 Field: Doddridge  
 Facility: Addie Pad

Slot: Slot #03  
 Well: Michels Unit 2H  
 Wellbore: Michels Unit 2H PWB



API: 47-017-06812-0000  
 BHI Job #: 8819608  
 Rig: Frontier 22  
 Duration: 10/24/2017-10/27/2017



Gyrodata MS Gyro <17-1/2"> (100'-477') : 109.50ft TVD, 0.14ft N, 0.07ft E  
 Gyrodata MS Gyro <12-1/4"> (477')(531') : 540.49ft TVD, 0.70ft N, 0.80ft E  
 WFT EM <12-1/4"> (531')(611'-2524') : 620.45ft TVD, 3.41ft N, 0.75ft E  
 WFT EM <8-3/4"> (2524')(2664'-6605') : 2671.46ft TVD, 56.96ft N, 7.35ft E  
 BHI AT Curve <8-1/2"> (6614.50')(6665'-19071') : 6324.49ft TVD, 409.63ft N, 1267.63ft E  
 Marcellus POE: 6919' MD : 6454.41ft TVD, 212.48ft N, 1356.27ft E

Northing (ft)

Plot reference wellpath is Michels Unit 2H PWP Rev-A.0	Grid System NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 22 (RKB)	Scale: True distance
Frontier 22 (RKB) to Mean Sea Level 914.5 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot Slot #03): -890 feet	Created by: delaset on 2018-01-10
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn

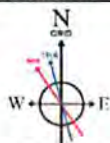
Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Addie Pad	1695325.147	14283415.126	39°20'00.530"N	80°48'20.930"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #03	-0.99	10.22	1695335.360	14283414.137
Comment	Michels Unit 2H			
Frontier 22 (RKB) to Mud line (At Slot Slot #03)	24.5ft			
Mean Sea Level to Mud line (At Slot Slot #03)	-890ft			
Frontier 22 (RKB) to Mean Sea Level	914.5ft			

Gyrodata MS Gyro <17-1/2"> (100'-477') : 0.21° Inc, 109.50ft MD, 109.50ft TVD, -0.10ft VS  
 Gyrodata MS Gyro <12-1/4"> (477')(531') : 1.21° Inc, 540.49ft MD, 540.49ft TVD, -0.33ft VS  
 WFT EM <12-1/4"> (531')(611'-2524') : 2.68° Inc, 620.45ft MD, 620.45ft TVD, -2.86ft VS

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6614.50	46.060	140.320	6290.05	439.60	1246.10	7.54	74.87
Proj. To Bottom	6689.50	50.730	145.030	6339.85	394.99	1280.01	7.80	129.11
POE	6919.04	67.930	160.158	6457.00	220.08	1368.07	9.37	324.45
Landing Pt.	7139.82	90.000	160.158	6499.00	17.50	1441.18	10.00	539.55
On Azimuth	7281.63	90.000	157.324	6499.00	-114.65	1492.59	2.00	681.30
BHL	19115.54	90.000	157.324	6499.00	-11033.83	6054.72	0.00	12515.21

WFT EM <8-3/4"> (2524')(2664'-6605') : 1.78° Inc, 2671.50ft MD, 2671.46ft TVD, -49.72ft VS

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #03	Michels Unit 2H	Michels Unit 2H AWB	Michels Unit 2H AWP Proj. 19127
Slot #03	Michels Unit 2H	Michels Unit 2H PWB	Michels Unit 2H PWP Rev-A.0



User specified Dip: 96.60° Field: 52081 nT  
 Magnetic North is 7.63 degrees West of True North (at 23-Oct-2017)  
 Grid North is 0.12 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.12 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.75 degrees

BHI AT Curve <8-1/2"> (6614.50')(6665'-19071') : 48.03° Inc, 6665.00ft MD, 6324.49ft TVD, 110.83ft VS  
 Marcellus POE: 6919' MD : 68.73° Inc, 6919.00ft MD, 6454.41ft TVD, 326.91ft VS

Projected MD at TD: 19127' : 90.95° Inc, 19127.00ft MD, 6576.14ft TVD, 12498.52ft VS

Vertical Section (ft)  
 Azimuth 157.32° with reference 0.00 N, 0.00 E

Scale 1 inch = 2000'

True Vertical Depth (ft)

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Projected MD at TD: 19127' : 6576.14ft TVD, 11018.60ft S, 6047.87ft E

Scale 1 inch = 2000'

Northing (ft)



# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Doddridge Co., WV	Well	Michels Unit 2H
Field	Doddridge	Wellbore	Michels Unit 2H AWB
Facility	Addie Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999603	Report Generated	10/Jan/2018 at 15:50
Convergence at slot	0.12° East	Database/Source file	WA_MPL_EasternUS_Defn/Michels_Unit_2H_AWP_Proj_19127_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.99	10.22	1695335.36	14283414.14	39°20'00.520"N	80°48'20.800"W
Facility Reference Pt			1695325.15	14283415.13	39°20'00.530"N	80°48'20.930"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	914.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Mud Line at Slot (Slot #03)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	157.32°

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# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Doddridge Co., WV	Well	Michels Unit 2H
Field	Doddridge	Wellbore	Michels Unit 2H AWB
Facility	Addie Pad		

WELLPATH DATA (230 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]	Comments
0.00	0.000	26.180	0.00	0.00	0.00	0.00	1695335.36	14283414.14	39°20'00.520"N	80°48'20.800"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	26.180	24.50	0.00	0.00	0.00	1695335.36	14283414.14	39°20'00.520"N	80°48'20.800"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.210	26.180	109.50	-0.10	0.14	0.07	1695335.43	14283414.28	39°20'00.521"N	80°48'20.799"W	0.18	26.180	0.25	0.25	30.80	Gyrodata MS Gyro <17-1/2"> (100'-477')
209.50	0.290	43.730	209.50	-0.32	0.49	0.32	1695335.68	14283414.62	39°20'00.525"N	80°48'20.796"W	0.59	33.671	0.11	0.08	17.55	
309.50	0.290	100.440	309.50	-0.29	0.82	0.75	1695336.11	14283414.76	39°20'00.526"N	80°48'20.790"W	0.97	50.171	0.28	0.00	56.71	
409.50	0.150	203.310	409.50	-0.06	0.46	0.95	1695336.30	14283414.59	39°20'00.525"N	80°48'20.788"W	1.05	64.150	0.35	-0.14	102.87	
486.50	0.220	199.600	486.50	0.12	0.23	0.86	1695336.22	14283414.36	39°20'00.522"N	80°48'20.789"W	0.89	75.195	0.09	0.09	-4.82	
540.50	1.210	358.250	540.49	-0.33	0.70	0.80	1695336.16	14283414.84	39°20'00.527"N	80°48'20.790"W	1.06	49.009	2.62	1.83	293.80	Gyrodata MS Gyro <12-1/4"> (477')(531')
620.50	2.680	359.150	620.45	-2.86	3.41	0.75	1695336.11	14283417.55	39°20'00.554"N	80°48'20.790"W	3.49	12.397	1.84	1.84	1.13	WFT EM <12-1/4"> (531')(611'-2524')
710.50	3.760	359.520	710.30	-7.55	8.47	0.69	1695336.05	14283422.60	39°20'00.604"N	80°48'20.791"W	8.50	4.687	1.20	1.20	0.41	
740.50	4.190	1.140	740.23	-9.46	10.55	0.71	1695336.07	14283424.68	39°20'00.624"N	80°48'20.791"W	10.57	3.839	1.48	1.43	5.40	
830.50	4.380	358.070	829.98	-15.68	17.27	0.66	1695336.02	14283431.40	39°20'00.691"N	80°48'20.791"W	17.28	2.180	0.33	0.21	-3.41	
926.50	4.610	352.870	925.68	-22.83	24.76	0.06	1695335.41	14283438.89	39°20'00.765"N	80°48'20.799"W	24.76	0.128	0.49	0.24	-5.42	
1021.50	4.860	346.640	1020.36	-30.47	32.46	-1.35	1695334.01	14283446.59	39°20'00.841"N	80°48'20.816"W	32.49	357.621	0.60	0.26	-6.56	
1116.50	4.960	342.180	1115.01	-38.54	40.29	-3.54	1695331.83	14283454.41	39°20'00.918"N	80°48'20.844"W	40.44	354.985	0.42	0.11	-4.69	
1210.50	3.600	341.550	1208.75	-45.53	46.96	-5.71	1695329.65	14283461.08	39°20'00.984"N	80°48'20.871"W	47.30	353.064	1.45	-1.45	-0.67	
1305.50	1.760	345.470	1303.64	-49.95	51.20	-7.02	1695328.34	14283465.32	39°20'01.026"N	80°48'20.888"W	51.68	352.190	1.95	-1.94	4.13	
1401.50	0.660	20.960	1399.62	-51.81	53.14	-7.20	1695328.17	14283467.26	39°20'01.045"N	80°48'20.890"W	53.63	352.290	1.33	-1.15	36.97	
1496.50	0.830	65.220	1494.61	-52.23	53.94	-6.37	1695328.99	14283468.06	39°20'01.053"N	80°48'20.880"W	54.32	353.260	0.61	0.18	46.59	
1590.50	1.140	68.280	1588.60	-52.24	54.57	-4.89	1695330.47	14283468.69	39°20'01.059"N	80°48'20.861"W	54.79	354.882	0.33	0.33	3.26	
1685.50	0.670	87.710	1683.58	-52.03	54.95	-3.45	1695331.91	14283469.06	39°20'01.063"N	80°48'20.842"W	55.05	356.402	0.58	-0.49	20.45	
1780.50	0.390	169.710	1778.58	-51.52	54.65	-2.84	1695332.52	14283468.77	39°20'01.060"N	80°48'20.835"W	54.72	357.023	0.77	-0.29	86.32	
1875.50	0.450	183.030	1873.58	-50.87	53.96	-2.80	1695332.56	14283468.08	39°20'01.053"N	80°48'20.834"W	54.03	357.025	0.12	0.06	14.02	
1969.50	0.330	143.550	1967.58	-50.27	53.37	-2.66	1695332.70	14283467.49	39°20'01.048"N	80°48'20.832"W	53.44	357.144	0.30	-0.13	-42.00	
2064.50	0.450	108.590	2062.57	-49.78	53.03	-2.15	1695333.21	14283467.15	39°20'01.044"N	80°48'20.826"W	53.08	357.882	0.27	0.13	-36.80	
2159.50	0.500	90.090	2157.57	-49.35	52.91	-1.38	1695333.98	14283467.03	39°20'01.043"N	80°48'20.816"W	52.93	358.508	0.17	0.05	-19.47	
2253.50	0.600	73.280	2251.57	-49.14	53.06	-0.50	1695334.86	14283467.17	39°20'01.044"N	80°48'20.805"W	53.06	359.463	0.20	0.11	-17.88	
2347.50	0.770	67.990	2345.56	-49.09	53.43	0.56	1695335.92	14283467.55	39°20'01.048"N	80°48'20.791"W	53.44	0.600	0.19	0.18	-5.63	
2442.50	1.060	63.920	2440.55	-49.13	54.06	1.94	1695337.30	14283468.17	39°20'01.054"N	80°48'20.774"W	54.09	2.056	0.31	0.31	-4.28	
2533.50	1.550	63.320	2531.52	-49.27	54.98	3.80	1695339.16	14283469.10	39°20'01.063"N	80°48'20.750"W	55.11	3.950	0.54	0.54	-0.66	

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# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addie Pad
Slot	Slot #03
Well	Michels Unit 2H
Wellbore	Michels Unit 2H AWB

WELLPATH DATA (230 stations) † = Interpolated/extrapolated station												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure	Dist
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
+	+	+	+	+	+	+	+	+	+	+	+	+
5478.50	24.570	58.040	5309.19	-151.95	495.53	791.70	1696126.74	14283909.47	39°20'05.401"N	80°48'10.117"W	933.99	57.957
5572.50	25.480	60.600	5394.37	-157.46	515.80	825.89	1696160.93	14283929.73	39°20'05.600"N	80°48'10.275"W	973.73	58.014
5667.50	25.320	57.720	5480.19	-163.24	536.68	860.87	1696195.89	14283950.61	39°20'05.806"N	80°48'09.829"W	1014.46	58.060
5762.50	24.550	54.280	5666.33	-171.09	559.06	894.07	1696229.08	14283972.97	39°20'06.026"N	80°48'09.406"W	1054.47	57.983
5889.50	23.100	55.420	5682.65	-181.85	588.20	935.88	1696270.87	14284002.10	39°20'06.314"N	80°48'08.873"W	1105.38	57.851
5952.50	23.110	59.520	5740.60	-186.08	601.49	956.72	1696291.69	14284015.38	39°20'06.444"N	80°48'08.608"W	1130.08	57.842
6015.50	22.350	67.700	5769.18	-186.86	606.82	967.47	1696302.44	14284020.72	39°20'06.497"N	80°48'08.471"W	1142.03	57.903
6047.50	24.330	80.230	5827.92	-183.70	613.61	991.89	1696326.86	14284027.50	39°20'06.563"N	80°48'08.160"W	1166.34	58.258
6078.50	24.780	87.240	5856.13	-180.06	616.00	1004.68	1696339.64	14284028.89	39°20'06.577"N	80°48'07.997"W	1177.97	58.528
6110.50	25.980	93.910	5885.16	-174.75	614.86	1018.12	1696353.07	14284028.76	39°20'06.575"N	80°48'07.826"W	1189.38	58.871
6141.50	26.350	101.140	5913.23	-168.12	613.14	1031.16	1696366.11	14284027.03	39°20'06.558"N	80°48'07.660"W	1199.68	59.264
6173.50	26.390	106.680	5942.02	-159.80	609.77	1044.70	1696379.64	14284023.66	39°20'06.524"N	80°48'07.488"W	1209.63	59.729
6204.50	27.320	112.500	5969.68	-150.38	605.07	1057.87	1696392.81	14284018.96	39°20'06.478"N	80°48'07.320"W	1218.69	60.232
6236.50	28.320	116.720	5997.99	-139.41	598.85	1071.44	1696406.37	14284012.74	39°20'06.416"N	80°48'07.148"W	1227.44	60.798
6267.50	30.030	120.340	6025.06	-127.63	591.62	1084.70	1696419.63	14284005.52	39°20'06.344"N	80°48'06.979"W	1235.56	61.391
6299.50	32.410	124.140	6052.42	-114.05	582.76	1098.72	1696433.64	14283996.66	39°20'06.256"N	80°48'06.801"W	1243.70	62.058
6330.50	35.490	126.770	6078.14	-99.34	572.71	1112.80	1696447.72	14283986.62	39°20'06.157"N	80°48'06.622"W	1251.53	62.767
6362.50	38.630	129.220	6103.67	-82.53	560.83	1127.99	1696462.90	14283974.74	39°20'06.039"N	80°48'06.429"W	1259.72	63.664
6393.50	40.420	132.910	6127.59	-64.84	547.86	1142.85	1696477.75	14283961.78	39°20'05.910"N	80°48'06.240"W	1267.38	64.388
6425.50	41.270	134.150	6147.21	-27.06	519.38	1172.67	1696507.56	14283933.31	39°20'05.628"N	80°48'05.862"W	1282.54	66.111
6456.50	42.650	135.600	6199.01	-7.28	504.28	1187.83	1696522.71	14283918.22	39°20'05.479"N	80°48'05.669"W	1290.44	66.997
6488.50	42.750	137.440	6221.79	12.37	489.03	1202.29	1696537.17	14283902.97	39°20'05.328"N	80°48'05.485"W	1297.94	67.866
6519.50	43.685	138.090	6244.75	32.70	473.06	1216.79	1696551.66	14283887.01	39°20'05.169"N	80°48'05.301"W	1305.51	68.755
6551.50	43.700	138.100	6245.11	33.02	472.80	1217.02	1696551.89	14283886.75	39°20'05.167"N	80°48'05.298"W	1305.63	68.769
6582.50	44.070	138.310	6267.45	53.33	456.78	1231.34	1696566.21	14283870.73	39°20'05.008"N	80°48'05.117"W	1313.34	69.647
6614.50	46.060	140.320	6290.05	74.87	439.60	1246.10	1696580.97	14283853.56	39°20'04.838"N	80°48'04.929"W	1321.37	70.568
6655.00	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6685.00	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6715.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6745.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6775.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6805.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6835.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6865.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6895.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6925.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6955.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
6985.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7015.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7045.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7075.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7105.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7135.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7165.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7195.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7225.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7255.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7285.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7315.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7345.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7375.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7405.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7435.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7465.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7495.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7525.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7555.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7585.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7615.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7645.50	48.030	148.180	6324.49	110.83	409.63	1267.53	1696602.48	14283823.60	39°20'04.541"N	80°48'04.656"W	1332.17	72.092
7675.50	48.030	148.180	6324.49									





# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127  
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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Addie Pad
Slot #3	Well	Wellbore	
Michels Unit 2H			
Michels Unit 2H AWP			

WELLPATH DATA (230 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
8830.00	161.750	6504.56	2227.52	-1545.21	2079.43	1697413.96	14281869.54	39°19'45.203"N	80°47'54.380"W	2590.69	126.616	1.13
8925.00	157.140	6505.30	2322.43	-1634.14	2112.77	1697447.29	14281780.65	39°19'44.323"N	80°47'53.958"W	2670.99	127.720	4.86
9019.00	153.480	6505.98	2416.35	-1719.52	2152.04	1697486.55	14281695.30	39°19'43.478"N	80°47'53.461"W	2754.64	128.625	3.92
9115.00	151.010	6506.75	2511.96	-1804.46	2196.76	1697531.25	14281610.40	39°19'42.638"N	80°47'52.894"W	2842.86	129.400	2.55
9210.00	149.270	6507.54	2606.21	-1886.84	2244.05	1697578.52	14281528.05	39°19'41.823"N	80°47'52.295"W	2931.89	130.058	1.83
9305.00	151.960	6508.68	2700.54	-1969.60	2290.66	1697625.11	14281445.32	39°19'41.004"N	80°47'51.704"W	3021.01	130.690	2.86
9400.00	157.780	6509.83	2795.41	-2055.57	2330.99	1697665.42	14281359.39	39°19'40.153"N	80°47'51.194"W	3107.87	131.407	6.14
9589.00	157.790	6511.32	2984.31	-2232.00	2398.70	1697733.11	14281183.03	39°19'38.408"N	80°47'50.337"W	3276.52	132.938	2.56
9684.00	161.530	6512.09	3079.21	-2321.06	2431.72	1697766.11	14281094.00	39°19'37.527"N	80°47'49.919"W	3361.63	133.666	3.94
9779.00	165.510	6513.98	3173.63	-2412.13	2458.66	1697793.04	14281002.97	39°19'36.626"N	80°47'49.579"W	3444.33	134.453	4.19
9874.00	158.660	6513.73	3268.24	-2487.86	2487.86	1697822.23	14280912.66	39°19'35.733"N	80°47'49.210"W	3528.71	135.168	7.22
9968.00	154.930	6514.38	3362.22	-2568.85	2524.89	1697859.25	14280826.32	39°19'34.878"N	80°47'48.741"W	3616.24	135.717	3.98
10064.00	156.510	6515.18	3458.17	-2676.35	2564.37	1697898.70	14280738.85	39°19'34.012"N	80°47'48.241"W	3706.59	136.224	1.65
10159.00	155.090	6515.87	3553.14	-2762.99	2603.32	1697937.64	14280652.24	39°19'33.156"N	80°47'47.748"W	3786.23	136.704	1.51
10254.00	156.030	6516.61	3648.09	-2849.47	2642.63	1697976.93	14280565.80	39°19'32.299"N	80°47'47.251"W	3866.25	137.157	1.00
10349.00	155.560	6517.44	3743.05	-2936.12	2681.58	1698015.87	14280479.19	39°19'31.442"N	80°47'46.757"W	3976.38	137.594	0.50
10444.00	156.800	6518.39	3838.02	-3023.02	2719.94	1698054.22	14280392.32	39°19'30.582"N	80°47'46.272"W	4066.54	138.021	1.31
10539.00	156.170	6519.47	3933.01	-3110.12	2757.84	1698092.10	14280305.25	39°19'29.721"N	80°47'45.792"W	4156.75	138.436	0.67
10634.00	163.000	6520.55	4027.87	-3199.10	2790.86	1698125.20	14280216.31	39°19'28.841"N	80°47'45.373"W	4245.43	138.898	7.19
10728.00	164.310	6521.31	4121.29	-3289.30	2817.41	1698151.65	14280126.15	39°19'27.948"N	80°47'44.939"W	4330.86	139.419	1.43
10823.00	155.030	6522.08	4216.10	-3378.28	2850.38	1698184.60	14280037.21	39°19'27.068"N	80°47'44.622"W	4420.11	139.844	9.77
10918.00	151.650	6523.64	4310.85	-3463.15	2892.99	1698227.20	14279952.36	39°19'26.228"N	80°47'44.082"W	4512.52	140.126	3.62
11012.00	153.600	6525.68	4404.51	-3546.60	2936.20	1698270.39	14279868.95	39°19'25.403"N	80°47'43.535"W	4604.31	140.379	2.07
11106.00	158.250	6527.63	4498.43	-3632.38	2974.53	1698308.70	14279783.20	39°19'24.554"N	80°47'43.050"W	4694.89	140.686	4.95
11200.00	157.890	6529.45	4592.41	-3719.57	3009.63	1698343.79	14279696.05	39°19'23.692"N	80°47'42.606"W	4784.67	141.022	0.39
11294.00	155.110	6531.14	4686.37	-3805.75	3047.10	1698381.25	14279609.91	39°19'22.839"N	80°47'42.131"W	4875.30	141.317	2.96
11389.00	155.130	6532.76	4781.29	-3891.92	3087.06	1698421.19	14279523.77	39°19'21.986"N	80°47'41.625"W	4967.59	141.579	0.02
11483.00	155.810	6534.35	4875.23	-3977.42	3126.08	1698460.20	14279438.30	39°19'21.140"N	80°47'41.131"W	5058.88	141.834	0.72
11578.00	156.670	6535.80	4970.20	-4064.36	3164.35	1698498.45	14279351.40	39°19'20.280"N	80°47'40.647"W	5150.94	142.097	0.92

Turn Rate	Comments	DLS	Closure Dir	Closure Dist	Longitude	Latitude	Grid North	Grid East	East	North	Vert Sect	TVD	Inclination	MD
(°/100ft)		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)
0.91		0.92	142.097	5150.94	80°47'40.647 W	39°19'20.280 N	14279351.40	1698498.45	3164.35	4970.20	-4064.36	6535.80	156.670	89.200
0.72		0.72	141.834	5058.88	80°47'41.131 W	39°19'21.140 N	14279438.30	1698460.20	3126.08	4875.23	-3977.42	6534.35	155.810	89.050
0.02		0.02	141.579	4967.59	80°47'41.625 W	39°19'21.986 N	14279523.77	1698421.19	3087.06	4781.29	-3891.92	6532.76	155.130	89.020
-2.96		0.11	141.317	4875.30	80°47'42.131 W	39°19'22.839 N	14279609.91	1698381.25	3047.10	4686.37	-3805.75	6531.14	155.110	89.020
-0.38		0.06	141.022	4784.67	80°47'42.606 W	39°19'23.692 N	14279696.05	1698343.79	3009.63	4592.41	-3719.57	6529.45	157.890	89.920
4.95		0.10	140.686	4694.89	80°47'43.050 W	39°19'24.554 N	14279783.20	1698308.70	2974.53	4498.43	-3632.38	6527.63	158.250	88.860
2.07		0.03	140.379	4604.31	80°47'43.535 W	39°19'25.403 N	14279868.95	1698270.39	2936.20	4404.51	-3546.60	6525.68	153.600	88.770
-3.56		-0.67	140.126	4512.52	80°47'44.082 W	39°19'26.228 N	14279952.36	1698227.20	2892.99	4310.85	-3463.15	6523.64	151.650	88.740
-9.77		-0.33	139.844	4420.11	80°47'44.622 W	39°19'27.068 N	14280037.21	1698184.60	2850.38	4216.10	-3378.28	6522.08	155.030	88.380
1.39		0.33	139.419	4330.86	80°47'45.373 W	39°19'27.948 N	14280126.15	1698151.65	2817.41	4121.29	-3289.30	6521.31	164.310	89.690
7.19		0.06	138.898	4245.43	80°47'46.272 W	39°19'28.841 N	14280216.31	1698125.20	2790.86	4027.87	-3199.10	6520.55	163.000	89.380
-0.66		-0.06	138.436	4156.75	80°47'47.251 W	39°19'29.721 N	14280305.25	1698092.10	2757.84	3933.01	-3110.12	6519.47	156.170	89.320
1.31		-0.11	138.021	4066.54	80°47'48.241 W	39°19'30.582 N	14280392.32	1698054.22	2719.94	3838.02	-3023.02	6518.39	156.800	89.380
-0.49		-0.03	137.594	3976.38	80°47'48.757 W	39°19'31.442 N	14280479.19	1698015.87	2681.58	3743.05	-2936.12	6517.44	155.560	89.480
1.00		-0.09	137.157	3886.25	80°47'49.241 W	39°19'32.299 N	14280565.80	1697976.93	2642.63	3648.09	-2849.47	6516.61	156.030	89.510
-1.51		0.03	136.704	3786.23	80°47'49.579 W	39°19'33.156 N	14280652.24	1697937.64	2603.32	3553.14	-2762.99	6515.87	155.090	89.600
1.65		0.09	136.224	3706.59	80°47'49.919 W	39°19'34.012 N	14280738.85	1697898.70	2564.37	3458.17	-2676.35	6515.18	156.510	89.570
-3.97		-0.26	135.717	3616.24	80°47'49.919 W	39°19'34.878 N	14280826.32	1697859.25	2524.89	3362.22	-2568.85	6514.38	154.930	89.480
-7.21		0.36	135.168	3528.71	80°47'49.919 W	39°19'35.733 N	14280912.66	1697822.23	2487.86	3268.24	-2487.86	6513.73	154.930	89.720
4.19		-0.17	134.453	3444.33	80°47'49.579 W	39°19'36.626 N	14281002.97	1697793.04	2458.66	3173.63	-2412.13	6512.98	155.510	89.380
3.94		0.00	133.666	3361.63	80°47'49.919 W	39°19'37.527 N	14281094.00	1697766.11	2431.72	3079.21	-2321.06	6512.09	161.530	9684.00
-2.56		-0.03	132.938	3276.52	80°47'50.337 W	39°19'38.408 N	14281183.03	1697733.11	2398.70	2984.31	-2232.00	6511.32	157.790	9589.00
2.60		0.06	132.189	3191.47	80°47'50.767 W	39°19'39.265 N	14281271.68	1697699.09	2364.67	2889.36	-2143.32	6510.58	160.220	9444.00
6.13		0.42	131.407	3107.87	80°47'51.194 W	39°19'40.153 N	14281359.39	1697665.42	2330.99	2795.41	-2055.57	6509.83	157.780	9400.00
2.83		-0.42	130.690	3021.01	80°47'51.704 W	39°19'41.004 N	14281445.32	1697625.11	2290.66	2700.54	-1969.60	6508.68	151.960	89.110
-1.83		-0.03	130.058	2931.89	80°47'52.295 W	39°19'41.823 N	14281528.05	1697578.52	2244.05	2606.21	-1886.84	6507.54	149.270	89.510
-2.55		0.00	129.400	2842.86	80°47'52.894 W	39°19'42.638 N	14281610.40	1697531.25	2196.76	2511.96	-1804.46	6506.75	151.010	89.540
-3.91		-0.10	128.625	2754.64	80°47'53.461 W	39°19'43.478 N	14281695.30	1697486.55	2152.04	2416.35	-1719.52	6505.98	153.480	89.540
-4.85		0.16	127.720	2670.99	80°4									



# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Doddridge Co., WV	Well	Michels Unit 2H
Field	Doddridge	Wellbore	Michels Unit 2H AWB
Facility	Addie Pad		

WELLPATH DATA (230 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)	Comments
11673.00	89.050	159.060	6537.25	5065.17	-4152.34	3200.14	1698534.23	14279263.45	39°19'19.410"N	80°47'40.194"W	5242.41	142.379	2.52	-0.16	2.52	
11767.00	88.620	160.190	6539.16	5159.08	-4240.44	3232.86	1698566.93	14279175.39	39°19'18.538"N	80°47'39.780"W	5332.23	142.679	1.29	-0.46	1.20	
11862.00	88.250	155.550	6541.76	5254.01	-4328.38	3268.63	1698602.68	14279087.48	39°19'17.668"N	80°47'39.328"W	5423.91	142.941	4.90	-0.39	-4.88	
11957.00	88.980	158.200	6544.05	5348.97	-4415.72	3305.92	1698639.96	14279000.18	39°19'16.804"N	80°47'38.855"W	5516.13	143.179	2.89	0.77	2.79	
12052.00	89.780	157.120	6545.08	5443.96	-4503.58	3342.03	1698676.06	14278912.35	39°19'15.935"N	80°47'38.399"W	5608.15	143.422	1.41	0.84	-1.14	
12147.00	88.520	153.520	6546.49	5538.88	-4589.88	3381.68	1698715.70	14278826.09	39°19'15.081"N	80°47'37.897"W	5701.12	143.618	4.01	-1.33	-3.79	
12242.00	89.660	159.910	6548.00	5633.81	-4677.08	3419.21	1698753.21	14278738.92	39°19'14.219"N	80°47'37.422"W	5793.63	143.831	6.83	1.20	6.73	
12337.00	89.110	161.210	6549.02	5728.65	-4766.66	3450.83	1698784.81	14278649.38	39°19'13.333"N	80°47'37.022"W	5884.66	144.097	1.49	-0.58	1.37	
12432.00	89.320	157.020	6550.32	5823.57	-4855.39	3484.68	1698818.65	14278560.68	39°19'12.455"N	80°47'36.594"W	5976.44	144.333	4.42	0.22	-4.41	
12527.00	88.980	158.170	6551.73	5918.56	-4943.20	3520.89	1698854.84	14278472.90	39°19'11.586"N	80°47'36.136"W	6068.93	144.539	1.26	-0.36	1.21	
12622.00	89.320	167.370	6553.14	6013.02	-5033.83	3548.99	1698882.94	14278382.31	39°19'10.690"N	80°47'35.781"W	6159.13	144.815	9.69	0.36	9.68	
12716.00	89.880	172.850	6553.80	6104.65	-5126.40	3565.13	1698899.07	14278289.78	39°19'09.774"N	80°47'35.578"W	6244.21	145.183	5.86	0.60	5.83	
12811.00	89.660	166.080	6554.18	6197.47	-5219.74	3582.49	1698916.42	14278196.47	39°19'08.851"N	80°47'35.360"W	6330.87	145.537	7.13	-0.23	-7.13	
12905.00	89.450	159.750	6554.91	6290.97	-5309.55	3610.09	1698944.01	14278106.71	39°19'07.963"N	80°47'35.011"W	6420.60	145.787	6.74	-0.22	-6.73	
13000.00	89.140	157.080	6556.08	6385.93	-5397.87	3645.04	1698978.94	14278018.42	39°19'07.089"N	80°47'34.569"W	6513.32	145.970	2.83	-0.33	-2.81	
13095.00	89.080	156.350	6557.56	6480.92	-5485.12	3682.59	1699016.48	14277931.20	39°19'06.226"N	80°47'34.094"W	6606.66	146.123	0.77	-0.06	-0.77	
13190.00	89.380	150.280	6558.84	6575.63	-5569.95	3725.22	1699059.10	14277846.40	39°19'05.387"N	80°47'33.554"W	6700.87	146.225	6.40	0.32	-6.39	
13285.00	89.080	149.150	6560.11	6669.79	-5651.98	3773.13	1699106.98	14277764.41	39°19'04.575"N	80°47'32.947"W	6795.69	146.274	1.23	-0.32	-1.19	
13380.00	88.950	148.320	6561.75	6763.71	-5733.17	3822.42	1699156.26	14277683.25	39°19'03.771"N	80°47'32.322"W	6890.59	146.308	0.88	-0.14	-0.87	
13474.00	89.320	149.340	6563.16	6856.66	-5813.59	3871.07	1699204.89	14277602.86	39°19'02.976"N	80°47'31.705"W	6984.49	146.342	1.15	0.39	1.09	
13569.00	88.980	151.270	6564.57	6950.94	-5896.10	3918.13	1699251.92	14277520.38	39°19'02.159"N	80°47'31.109"W	7079.25	146.395	2.06	-0.36	2.03	
13664.00	89.540	155.560	6565.80	7045.69	-5981.03	3960.63	1699294.41	14277435.49	39°19'01.319"N	80°47'30.571"W	7173.51	146.488	4.55	0.59	4.52	
13759.00	88.740	152.650	6567.23	7140.52	-6066.47	4002.11	1699335.87	14277350.08	39°19'00.473"N	80°47'30.046"W	7267.66	146.587	3.18	-0.84	-3.06	
13853.00	89.020	156.710	6569.07	7234.38	-6151.41	4042.29	1699376.04	14277265.18	39°18'59.633"N	80°47'29.537"W	7360.70	146.690	4.33	0.30	4.32	
13948.00	89.350	161.760	6570.42	7329.29	-6240.20	4075.96	1699409.69	14277176.42	39°18'58.754"N	80°47'29.111"W	7453.42	146.848	5.33	0.36	5.32	
14042.00	89.110	157.280	6571.68	7423.18	-6328.23	4108.83	1699442.56	14277088.43	39°18'57.884"N	80°47'28.695"W	7545.13	147.005	4.77	-0.26	-4.77	
14138.00	88.280	156.040	6573.87	7519.15	-6416.35	4146.86	1699480.56	14277000.35	39°18'57.012"N	80°47'28.214"W	7639.76	147.126	1.55	-0.86	-1.29	
14233.00	89.380	164.620	6575.81	7613.91	-6505.70	4178.80	1699512.49	14276911.03	39°18'56.128"N	80°47'27.810"W	7732.17	147.286	9.10	1.16	9.03	
14327.00	89.600	163.380	6576.65	7707.27	-6596.05	4204.70	1699538.39	14276820.71	39°18'55.234"N	80°47'27.483"W	7822.24	147.484	1.34	0.23	-1.32	
14422.00	89.140	156.670	6577.69	7802.10	-6685.28	4237.14	1699570.81	14276731.52	39°18'54.352"N	80°47'27.073"W	7914.94	147.633	7.08	-0.48	-7.06	

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# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addle Pad
Slot	Wellbore
Slot #03	Michels Unit 2H
	Michels Unit 2H AWB

## WELLPATH DATA (230 stations)

MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
14516.00	89.230	156.130	6579.03	7896.08	-6771.41	4274.76	1699608.42	14276645.42	39°18'53.500"N	80°47'26.597"W	8007.85	147.736	0.58	0.10	-0.57	
14612.00	89.290	157.300	6580.27	7992.06	-6859.58	4312.71	1699646.35	14276557.29	39°18'52.627"N	80°47'26.117"W	8102.68	147.842	1.22	0.06	1.22	
14707.00	89.290	153.330	6581.45	8086.98	-6945.88	4352.37	1699686.00	14276471.03	39°18'51.773"N	80°47'25.615"W	8196.85	147.928	4.18	0.00	-4.18	
14802.00	89.020	152.940	6582.85	8181.71	-7030.62	4395.30	1699728.91	14276386.32	39°18'50.935"N	80°47'25.071"W	8291.45	147.988	0.50	-0.28	-0.41	
14897.00	89.200	154.740	6584.33	8276.52	-7115.87	4437.18	1699770.77	14276301.10	39°18'50.091"N	80°47'24.541"W	8385.95	148.054	1.90	0.19	1.89	
14991.00	89.050	159.790	6585.76	8370.48	-7202.53	4473.49	1699807.06	14276214.48	39°18'49.234"N	80°47'24.081"W	8478.71	148.156	5.37	-0.16	5.37	
15086.00	89.170	161.290	6587.24	8465.32	-7292.09	4505.13	1699838.70	14276124.96	39°18'48.348"N	80°47'23.682"W	8571.51	148.292	1.58	0.13	1.58	
15181.00	89.140	158.040	6588.64	8560.21	-7381.23	4537.92	1699871.47	14276035.85	39°18'47.466"N	80°47'23.267"W	8664.60	148.417	3.13	-0.03	-3.13	
15276.00	89.260	159.040	6589.97	8655.17	-7469.72	4572.46	1699905.99	14275947.40	39°18'46.591"N	80°47'22.830"W	8758.08	148.528	0.77	0.13	0.76	
15370.00	88.890	161.490	6591.48	8749.03	-7558.18	4604.19	1699937.72	14275858.97	39°18'45.716"N	80°47'22.429"W	8850.12	148.652	2.64	-0.39	2.61	
15464.00	89.380	162.510	6592.90	8842.70	-7647.57	4633.23	1699966.75	14275769.62	39°18'44.832"N	80°47'22.062"W	8941.60	148.791	1.20	0.52	1.09	
15559.00	89.320	164.170	6593.98	8937.17	-7738.57	4660.47	1699993.97	14275678.65	39°18'43.932"N	80°47'21.718"W	9033.57	148.942	1.75	-0.06	1.75	
15653.00	89.140	160.400	6595.24	9030.79	-7828.09	4689.06	1700022.55	14275589.17	39°18'43.046"N	80°47'21.357"W	9125.03	149.078	4.01	-0.19	-4.01	
15748.00	89.230	157.610	6596.60	9125.73	-7916.76	4723.09	1700056.57	14275500.53	39°18'42.169"N	80°47'20.927"W	9218.61	149.180	2.94	0.09	-2.94	
15843.00	89.290	157.190	6597.82	9220.72	-8004.46	4759.60	1700083.06	14275412.87	39°18'41.301"N	80°47'20.465"W	9312.63	149.264	0.45	0.06	-0.44	
15938.00	89.140	156.250	6599.12	9315.71	-8091.72	4797.14	1700130.59	14275325.65	39°18'40.438"N	80°47'19.990"W	9406.83	149.339	1.00	-0.16	-0.99	
16033.00	89.200	153.840	6600.50	9410.61	-8177.83	4837.21	1700170.65	14275239.56	39°18'39.586"N	80°47'19.483"W	9501.35	149.396	2.54	0.06	-2.54	
16128.00	89.630	151.280	6601.47	9505.27	-8262.13	4880.99	1700214.40	14275155.30	39°18'38.752"N	80°47'18.928"W	9596.19	149.427	2.73	0.45	-2.69	
16223.00	89.110	151.730	6602.51	9599.78	-8345.62	4926.31	1700259.70	14275071.85	39°18'37.926"N	80°47'18.354"W	9691.12	149.447	0.72	-0.55	0.47	
16318.00	89.230	152.670	6603.89	9694.39	-8429.64	4970.61	1700303.99	14274987.85	39°18'37.094"N	80°47'17.793"W	9786.00	149.474	1.00	0.13	0.99	
16413.00	89.750	157.850	6604.74	9789.29	-8515.89	5010.35	1700343.71	14274901.64	39°18'36.241"N	80°47'17.290"W	9880.49	149.529	5.48	0.55	5.45	
16508.00	89.750	163.900	6605.15	9884.06	-8605.60	5041.46	1700374.81	14274811.96	39°18'35.353"N	80°47'16.897"W	9973.60	149.637	6.37	0.00	6.37	
16603.00	89.940	159.680	6605.41	9978.75	-8695.83	5071.14	1700404.48	14274721.78	39°18'34.461"N	80°47'16.522"W	10066.47	149.751	4.45	0.20	-4.44	
16698.00	89.450	157.850	6605.92	10073.72	-8784.37	5105.55	1700438.87	14274633.27	39°18'33.585"N	80°47'16.087"W	10160.30	149.835	1.99	-0.52	-1.93	
16793.00	90.310	160.920	6606.11	10168.64	-8873.28	5138.99	1700472.30	14274544.40	39°18'32.706"N	80°47'15.664"W	10253.99	149.923	3.36	0.91	3.23	
16888.00	91.050	158.630	6604.99	10263.54	-8962.38	5171.91	1700505.20	14274455.33	39°18'31.824"N	80°47'15.248"W	10347.60	150.012	2.63	0.78	-2.52	
16983.00	90.120	154.140	6604.02	10358.50	-9049.36	5210.03	1700543.31	14274368.38	39°18'30.964"N	80°47'14.766"W	10442.00	150.069	4.72	-0.98	-4.62	
17078.00	90.580	151.790	6603.44	10453.22	-9133.97	5253.20	1700586.47	14274283.80	39°18'30.126"N	80°47'14.279"W	10536.87	150.096	2.52	0.48	-2.47	
17174.00	89.970	152.480	6602.97	10548.82	-9218.84	5298.07	1700631.32	14274198.97	39°18'29.286"N	80°47'13.651"W	10632.81	150.114	0.96	-0.64	0.72	
17288.00	90.580	156.550	6602.52	10642.69	-9303.67	5338.51	1700671.74	14274114.17	39°18'28.447"N	80°47'13.139"W	10726.51	150.153	4.38	0.65	4.33	

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# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127  
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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Addle Pad
Slot	Well	Michels Unit 2H AWB	Michels Unit 2H AWB
Slot #03			

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
17364.00	91.140	158.000	6601.08	10738.68	-9392.21	5375.59	17007.08.81	14274025.67	39°18'27.57"N	80°47'12.67"W	10821.76	150.216	1.52	0.58	1.51	
17459.00	90.580	152.170	6599.66	10833.55	-9478.32	5415.59	17007.48.79	14273939.59	39°18'26.71"N	80°47'12.164"W	10916.37	150.258	6.16	-0.59	-6.14	
17553.00	90.490	149.120	6598.78	10926.90	-9560.24	5461.66	17007.94.84	14273857.71	39°18'25.908"N	80°47'11.580"W	11010.35	150.261	3.25	-0.10	-3.24	
17648.00	90.490	152.820	6597.96	11021.30	-9643.28	5507.75	17008.40.92	14273774.70	39°18'25.086"N	80°47'10.996"W	11105.33	150.267	3.89	0.00	3.89	
17743.00	90.280	156.870	6597.33	11116.19	-9729.25	5548.12	17008.81.27	14273688.76	39°18'24.236"N	80°47'10.455"W	11200.00	150.306	4.27	-0.22	4.26	
17838.00	90.430	160.070	6596.74	11211.15	-9817.61	5582.98	1700916.12	14273600.44	39°18'23.362"N	80°47'10.044"W	11294.03	150.374	3.37	0.16	3.37	
17933.00	90.890	162.060	6595.64	11305.94	-9907.46	5613.81	1700946.93	14273510.62	39°18'22.473"N	80°47'09.655"W	11387.39	150.463	2.15	0.48	2.09	
18028.00	90.950	160.540	6594.12	11400.69	-9997.43	5644.26	1700977.37	14273420.69	39°18'21.683"N	80°47'09.270"W	11480.69	150.552	1.60	0.06	-1.60	
18123.00	90.980	161.340	6592.52	11495.49	-10087.21	5675.28	1701008.38	14273330.95	39°18'20.695"N	80°47'08.878"W	11574.13	150.637	0.84	0.03	0.84	
18218.00	90.800	160.600	6591.04	11590.29	-10177.01	5706.25	1701039.34	14273241.19	39°18'19.807"N	80°47'08.487"W	11667.59	150.721	0.80	-0.19	-0.78	
18312.00	90.740	158.570	6589.78	11684.20	-10265.09	5739.03	1701072.11	14273153.14	39°18'18.935"N	80°47'08.073"W	11760.47	150.791	2.16	-0.06	-2.16	
18407.00	91.230	160.940	6588.15	11779.09	-10354.20	5771.90	1701104.96	14273064.06	39°18'18.054"N	80°47'07.657"W	11854.30	150.863	2.55	0.52	2.49	
18501.00	90.860	156.480	6586.43	11873.02	-10441.75	5806.02	1701139.06	14272976.55	39°18'17.188"N	80°47'07.226"W	11947.38	150.924	4.76	-0.39	-4.74	
18596.00	91.020	155.690	6584.87	11967.99	-10528.58	5844.52	1701177.55	14272889.75	39°18'16.329"N	80°47'06.739"W	12041.99	150.965	0.85	0.17	-0.83	
18692.00	90.920	160.990	6583.25	12063.93	-10617.76	5879.94	1701212.95	14272800.61	39°18'15.446"N	80°47'06.291"W	12137.15	151.023	5.52	-0.10	5.52	
18787.00	90.950	158.990	6581.69	12158.81	-10707.01	5912.44	1701245.44	14272721.40	39°18'14.564"N	80°47'05.880"W	12230.98	151.092	2.11	0.03	-2.11	
18882.00	91.020	158.450	6580.06	12253.76	-10795.52	5946.91	1701279.90	14272622.92	39°18'13.688"N	80°47'05.444"W	12325.13	151.161	0.57	0.07	-0.57	
18977.00	90.830	156.480	6578.53	12348.75	-10883.25	5983.31	1701316.29	14272535.23	39°18'12.820"N	80°47'04.984"W	12419.55	151.199	2.08	-0.20	-2.07	
19071.00	90.950	153.600	6577.07	12442.65	-10968.45	6022.97	1701355.93	14272450.06	39°18'11.977"N	80°47'04.482"W	12513.31	151.228	3.07	0.13	-3.06	
19127.00	90.950	153.600	6576.14	12498.52	-11018.60	6047.87	1701380.82	14272399.93	39°18'11.481"N	80°47'04.167"W	12569.26	151.239	0.00	0.00	0.00	Projected MD at TD: 19127

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# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Doddridge Co., WV	Well	Michels Unit 2H
Field	Doddridge	Wellbore	Michels Unit 2H AWB
Facility	Addie Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Michels Unit 2H AWB Ref Wellpath: Michels Unit 2H AWP Proj: 19127'										
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]	
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.00	0.12	0.06	
17.5in Open Hole	104.50	501.50	397.00	104.50	501.50	0.12	0.06	0.22	0.84	
13.375in Casing Surface	24.50	501.50	477.00	24.50	501.50	0.00	0.00	0.22	0.84	
12.25in Open Hole	501.50	2616.50	2115.00	501.50	2614.49	0.22	0.84	56.09	5.86	
9.625in Casing Intermediate	24.50	2616.50	2592.00	24.50	2614.49	0.00	0.00	56.09	5.86	
8.75in Open Hole	2616.50	6689.50	4073.00	2614.49	6340.56	56.09	5.86	393.73	1277.08	
8.5in Open Hole	6689.50	19127.00	12437.50	6340.56	6576.14	393.73	1277.08	-11018.60	6047.87	
5.5in Casing Production	24.50	19127.00	19102.50	24.50	6576.14	0.00	0.00	-11018.60	6047.87	

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Michels Unit 2H POE - Rev-2	6457.00	220.08	1368.07	1696702.89	14283634.13	39°20'02.656"N	80°48'03.383"W	point
Michels Unit 2H BHL - Rev-2	6499.00	-11033.83	6054.72	1701387.66	14272384.71	39°18'11.330"N	80°47'04.080"W	point
Michels Unit 2H LP - Rev-1	6499.00	17.50	1441.18	1696775.96	14283431.63	39°20'00.662"N	80°48'02.459"W	point

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# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Doddridge Co., WV	Well	Michels Unit 2H
Field	Doddridge	Wellbore	Michels Unit 2H AWB
Facility	Addie Pad		

WELLPATH COMPOSITION - Ref Wellbore: Michels Unit 2H AWB Ref Wellpath: Michels Unit 2H AWP Proj: 19127'				
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.50	486.50	Gyrodatta standard - Drop gyro or Multi-shot	01 Gyrodatta MS Gyro <17-1/2">(100'-477')	Michels Unit 2H AWB
486.50	540.50	Gyrodatta standard - Drop gyro or Multi-shot	02 Gyrodatta MS Gyro <12-1/4">(477')(531')	Michels Unit 2H AWB
540.50	2533.50	ISCWSA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(531')(611'-2524')	Michels Unit 2H AWB
2533.50	6614.50	ISCWSA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2524')(2664'-6605')	Michels Unit 2H AWB
6614.50	19071.00	BHI AutoTrak Curve (Short)	05 BH AT Curve <8-1/2">(6614.50')(6665'-19071')	Michels Unit 2H AWB
19071.00	19127.00	Blind Drilling (std)	Projection to bit	Michels Unit 2H AWB

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# Actual Wellpath Report

Michels Unit 2H AWP Proj: 19127'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Doddridge Co., WV	Well	Michels Unit 2H
Field	Doddridge	Wellbore	Michels Unit 2H AWB
Facility	Addie Pad		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-017-06812-0000 BHI Job #: 8819608 Rig: Frontier 22 Duration: 10/24/2017-10/27/2017 Gyrodata MS Gyro &lt;17-1/2"&gt; (100'-477') Gyrodata MS Gyro &lt;12-1/4"&gt; (477')(531') WFT EM &lt;12-1/4"&gt; (531')(611'-2524') WFT EM &lt;8-3/4"&gt; (2524')(2664'-6605') BHI AT Curve &lt;8-1/2"&gt; (6614.50')(6665'-19071') Middlesex: 6551' MD Burkett: 6759' MD Tully: 6815' MD Hamilton: 6893' MD Marcellus POE: 6919' MD Projected MD at TD: 19127'</p>

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