



# Actual Wellpath Report

Lakota Unit 1H AWP Proj: 21049'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Delaset
Scale	0.999607	Report Generated	12/12/2019 at 12:03:36 PM
Convergence at slot	0.17° East	Database	WA_MPL_EasternUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	-0.00	1715804.69	14274033.23	39°18'27.2500"N	80°44'0.5480"W
Facility Reference Pt			1715804.69	14274033.23	39°18'27.2500"N	80°44'0.5480"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 317 (RKB) to Facility Vertical Datum	1308.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1308.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot #04)	25.50ft
MD Reference Pt	H&P 317 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.59°

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## WELLPATH DATA (243 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
0.00	0.000	200.240	0.00	0.00	0.00	0.00	1715804.69	14274033.23	39°18'27.2500"N	80°44'0.5480"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	200.240	25.50	0.00	0.00	0.00	1715804.69	14274033.23	39°18'27.2500"N	80°44'0.5480"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.730	200.240	100.00	0.37	-0.45	-0.16	1715804.53	14274032.78	39°18'27.2456"N	80°44'0.5501"W	0.47	200.240	0.98	0.98	0.00	Gyrodata MS Gyro <17-1/2">(100'-479')
125.00	0.730	194.010	125.00	0.63	-0.75	-0.26	1715804.43	14274032.48	39°18'27.2426"N	80°44'0.5513"W	0.79	198.990	0.32	0.00	-24.92	
150.00	0.680	200.300	149.99	0.88	-1.04	-0.35	1715804.34	14274032.19	39°18'27.2397"N	80°44'0.5525"W	1.10	198.448	0.37	-0.20	25.16	
175.00	0.690	200.530	174.99	1.11	-1.32	-0.45	1715804.24	14274031.91	39°18'27.2370"N	80°44'0.5538"W	1.40	198.867	0.04	0.04	0.92	
200.00	0.640	197.780	199.99	1.34	-1.60	-0.55	1715804.14	14274031.63	39°18'27.2343"N	80°44'0.5551"W	1.69	198.926	0.24	-0.20	-11.00	
225.00	0.550	198.780	224.99	1.55	-1.84	-0.63	1715804.06	14274031.39	39°18'27.2318"N	80°44'0.5561"W	1.95	198.835	0.36	-0.36	4.00	
250.00	0.530	197.910	249.99	1.74	-2.07	-0.70	1715803.99	14274031.16	39°18'27.2296"N	80°44'0.5571"W	2.18	198.783	0.09	-0.08	-3.48	
275.00	0.390	198.880	274.99	1.90	-2.26	-0.77	1715803.92	14274030.97	39°18'27.2277"N	80°44'0.5579"W	2.38	198.744	0.56	-0.56	3.88	
300.00	0.420	206.110	299.99	2.03	-2.42	-0.83	1715803.86	14274030.81	39°18'27.2261"N	80°44'0.5587"W	2.56	199.011	0.24	0.12	28.92	
325.00	0.360	204.240	324.99	2.16	-2.57	-0.91	1715803.78	14274030.66	39°18'27.2246"N	80°44'0.5597"W	2.73	199.399	0.25	-0.24	-7.48	
350.00	0.440	210.750	349.99	2.28	-2.73	-0.99	1715803.70	14274030.50	39°18'27.2231"N	80°44'0.5607"W	2.90	199.903	0.37	0.32	26.04	
375.00	0.550	203.270	374.98	2.43	-2.92	-1.08	1715803.61	14274030.31	39°18'27.2212"N	80°44'0.5619"W	3.12	200.365	0.51	0.44	-29.92	
400.00	0.510	204.430	399.98	2.60	-3.13	-1.18	1715803.51	14274030.10	39°18'27.2191"N	80°44'0.5631"W	3.35	200.604	0.17	-0.16	4.64	
425.00	0.560	194.640	424.98	2.78	-3.35	-1.25	1715803.44	14274029.88	39°18'27.2169"N	80°44'0.5641"W	3.58	200.520	0.42	0.20	-39.16	
450.00	0.620	190.790	449.98	3.00	-3.60	-1.31	1715803.38	14274029.63	39°18'27.2145"N	80°44'0.5649"W	3.83	199.991	0.29	0.24	-15.40	
475.00	0.600	193.700	474.98	3.23	-3.86	-1.37	1715803.32	14274029.37	39°18'27.2119"N	80°44'0.5656"W	4.10	199.488	0.15	-0.08	11.64	
479.00	0.630	201.170	478.98	3.27	-3.90	-1.38	1715803.31	14274029.33	39°18'27.2115"N	80°44'0.5657"W	4.14	199.468	2.14	0.75	186.75	
527.00	0.390	199.220	526.98	3.60	-4.30	-1.53	1715803.16	14274028.93	39°18'27.2075"N	80°44'0.5677"W	4.57	199.557	0.50	-0.50	-4.06	APS EM <12-1/4">(479')(527'-2527')
699.00	1.750	20.500	698.96	2.02	-2.40	-0.80	1715803.89	14274030.83	39°18'27.2264"N	80°44'0.5583"W	2.53	198.499	1.24	0.79	-103.91	
794.00	3.230	19.040	793.86	-1.23	1.49	0.58	1715805.27	14274034.72	39°18'27.2648"N	80°44'0.5406"W	1.60	21.218	1.56	1.56	-1.54	
887.00	5.520	23.110	886.59	-6.66	8.08	3.19	1715807.88	14274041.31	39°18'27.3298"N	80°44'0.5072"W	8.69	21.535	2.48	2.46	4.38	
981.00	4.840	20.360	980.20	-13.14	15.96	6.34	1715811.03	14274049.18	39°18'27.4076"N	80°44'0.4667"W	17.17	21.678	0.77	-0.72	-2.93	
1076.00	3.670	20.580	1074.94	-18.63	22.56	8.81	1715813.49	14274055.78	39°18'27.4728"N	80°44'0.4352"W	24.22	21.322	1.23	-1.23	0.23	
1171.00	3.550	12.660	1169.75	-23.51	28.28	10.52	1715815.21	14274061.50	39°18'27.5292"N	80°44'0.4131"W	30.17	20.406	0.54	-0.13	-8.34	
1266.00	3.340	13.880	1264.58	-28.37	33.84	11.83	1715816.51	14274067.05	39°18'27.5841"N	80°44'0.3963"W	35.84	19.270	0.23	-0.22	1.28	
1361.00	2.550	13.670	1359.45	-32.50	38.58	12.99	1715817.68	14274071.79	39°18'27.6309"N	80°44'0.3813"W	40.71	18.614	0.83	-0.83	-0.22	
1455.00	1.870	9.170	1453.38	-35.63	42.12	13.73	1715818.42	14274075.34	39°18'27.6660"N	80°44'0.3718"W	44.30	18.055	0.75	-0.72	-4.79	
1550.00	1.660	352.000	1548.34	-38.36	45.02	13.79	1715818.47	14274078.23	39°18'27.6945"N	80°44'0.3710"W	47.08	17.028	0.60	-0.22	-18.07	

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Slot	Slot #04		

## WELLPATH DATA (243 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
1645.00	1.660	355.840	1643.30	-41.04	47.75	13.50	1715818.18	14274080.96	39°18'27.7216"N	80°44'0.3746"W	49.62	15.782	0.12	0.00	4.04	
1740.00	1.380	349.830	1738.26	-43.51	50.25	13.19	1715817.88	14274083.46	39°18'27.7463"N	80°44'0.3783"W	51.95	14.712	0.34	-0.29	-6.33	
1835.00	0.880	348.230	1833.25	-45.37	52.09	12.84	1715817.53	14274085.30	39°18'27.7645"N	80°44'0.3827"W	53.65	13.850	0.53	-0.53	-1.68	
1930.00	1.200	340.810	1928.23	-47.09	53.74	12.37	1715817.05	14274086.95	39°18'27.7808"N	80°44'0.3887"W	55.15	12.959	0.36	0.34	-7.81	
2025.00	1.080	330.180	2023.21	-48.96	55.46	11.59	1715816.28	14274088.67	39°18'27.7978"N	80°44'0.3985"W	56.66	11.809	0.26	-0.13	-11.19	
2119.00	0.460	341.630	2117.20	-50.20	56.59	11.04	1715815.72	14274089.79	39°18'27.8090"N	80°44'0.4055"W	57.65	11.035	0.68	-0.66	12.18	
2214.00	0.330	39.220	2212.20	-50.73	57.16	11.09	1715815.77	14274090.37	39°18'27.8147"N	80°44'0.4048"W	58.22	10.978	0.42	-0.14	60.62	
2309.00	0.420	42.020	2307.20	-51.05	57.63	11.49	1715816.18	14274090.84	39°18'27.8193"N	80°44'0.3997"W	58.76	11.280	0.10	0.09	2.95	
2404.00	0.620	86.810	2402.19	-51.09	57.92	12.24	1715816.93	14274091.12	39°18'27.8221"N	80°44'0.3902"W	59.20	11.934	0.46	0.21	47.15	
2499.00	0.500	75.270	2497.19	-50.93	58.05	13.15	1715817.84	14274091.26	39°18'27.8234"N	80°44'0.3785"W	59.52	12.768	0.17	-0.13	-12.15	
2527.00	0.260	93.020	2525.19	-50.89	58.08	13.34	1715818.02	14274091.29	39°18'27.8237"N	80°44'0.3762"W	59.59	12.932	0.94	-0.86	63.39	
2636.00	0.570	131.550	2634.19	-50.33	57.71	13.99	1715818.67	14274090.91	39°18'27.8200"N	80°44'0.3679"W	59.38	13.627	0.37	0.28	35.35	APS EM <8-3/4">(2527')(2636'-6530')
2731.00	0.790	341.880	2729.18	-50.58	58.02	14.14	1715818.82	14274091.22	39°18'27.8230"N	80°44'0.3660"W	59.71	13.697	1.38	0.23	-157.55	
2826.00	4.230	297.630	2824.08	-53.76	60.26	10.83	1715815.52	14274093.47	39°18'27.8453"N	80°44'0.4080"W	61.23	10.188	3.90	3.62	-46.58	
2921.00	4.410	283.650	2918.82	-58.22	62.75	4.18	1715808.86	14274095.96	39°18'27.8701"N	80°44'0.4926"W	62.89	3.808	1.12	0.19	-14.72	
3018.00	3.230	300.580	3015.60	-62.26	65.02	-1.80	1715802.89	14274098.22	39°18'27.8927"N	80°44'0.5685"W	65.05	358.414	1.67	-1.22	17.45	
3113.00	6.550	316.540	3110.25	-69.19	70.32	-7.83	1715796.86	14274103.52	39°18'27.9452"N	80°44'0.6451"W	70.75	353.643	3.74	3.49	16.80	
3208.00	8.520	308.090	3204.42	-79.97	78.59	-17.10	1715787.60	14274111.79	39°18'28.0273"N	80°44'0.7626"W	80.43	347.725	2.37	2.07	-8.89	
3303.00	9.910	303.330	3298.20	-92.26	87.43	-29.47	1715775.23	14274120.62	39°18'28.1150"N	80°44'0.9197"W	92.26	341.372	1.67	1.46	-5.01	
3398.00	8.580	294.200	3391.97	-103.48	94.82	-42.77	1715761.94	14274128.02	39°18'28.1885"N	80°44'1.0885"W	104.02	335.724	2.08	-1.40	-9.61	
3493.00	9.070	296.970	3485.84	-113.60	101.12	-55.90	1715748.81	14274134.31	39°18'28.2511"N	80°44'1.2554"W	115.55	331.065	0.68	0.52	2.92	
3588.00	11.430	304.970	3579.32	-126.49	109.92	-70.29	1715734.42	14274143.10	39°18'28.3385"N	80°44'1.4382"W	130.47	327.401	2.90	2.48	8.42	
3683.00	11.660	304.020	3672.40	-141.65	120.68	-85.96	1715718.76	14274153.87	39°18'28.4453"N	80°44'1.6371"W	148.17	324.537	0.31	0.24	-1.00	
3777.00	11.430	310.270	3764.50	-157.14	132.02	-100.94	1715703.79	14274165.20	39°18'28.5578"N	80°44'1.8273"W	166.19	322.598	1.35	-0.24	6.65	
3872.00	10.130	310.470	3857.83	-172.34	143.53	-114.48	1715690.25	14274176.70	39°18'28.6719"N	80°44'1.9991"W	183.59	321.423	1.37	-1.37	0.21	
3967.00	8.250	307.070	3951.60	-185.10	153.06	-126.28	1715678.46	14274186.23	39°18'28.7665"N	80°44'2.1488"W	198.43	320.476	2.06	-1.98	-3.58	
4062.00	7.560	308.310	4045.70	-195.94	161.04	-136.62	1715668.12	14274194.21	39°18'28.8457"N	80°44'2.2800"W	211.18	319.690	0.75	-0.73	1.31	
4157.00	8.180	316.940	4139.81	-207.31	169.85	-146.14	1715658.61	14274203.02	39°18'28.9331"N	80°44'2.4008"W	224.07	319.292	1.40	0.65	9.08	
4251.00	9.580	312.890	4232.68	-220.25	180.06	-156.44	1715648.32	14274213.22	39°18'29.0343"N	80°44'2.5314"W	238.53	319.016	1.63	1.49	-4.31	
4346.00	11.540	309.480	4326.07	-235.24	191.49	-169.56	1715635.19	14274224.64	39°18'29.1476"N	80°44'2.6980"W	255.77	318.475	2.16	2.06	-3.59	

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4441.00	11.210	317.600	4419.21	-251.72	204.35	-183.13	1715621.64	14274237.50	39°18'29.2751"N	80°44'2.8701"W	274.40	318.135	1.72	-0.35	8.55	
4536.00	11.710	326.570	4512.32	-269.47	219.21	-194.66	1715610.10	14274252.36	39°18'29.4223"N	80°44'3.0163"W	293.17	318.395	1.95	0.53	9.44	
4631.00	9.600	313.030	4605.69	-285.75	232.67	-205.77	1715599.00	14274265.81	39°18'29.5556"N	80°44'3.1571"W	310.60	318.511	3.43	-2.22	-14.25	
4725.00	7.520	293.290	4698.66	-296.73	240.45	-217.15	1715587.62	14274273.59	39°18'29.6329"N	80°44'3.3016"W	323.99	317.915	3.80	-2.21	-21.00	
4820.00	7.720	298.500	4792.82	-305.52	245.95	-228.47	1715576.31	14274279.09	39°18'29.6876"N	80°44'3.4454"W	335.70	317.111	0.76	0.21	5.48	
4915.00	9.040	305.330	4886.81	-316.20	253.32	-240.17	1715564.62	14274286.45	39°18'29.7607"N	80°44'3.5939"W	349.07	316.526	1.74	1.39	7.19	
5010.00	7.700	291.490	4980.80	-326.30	259.96	-252.18	1715552.61	14274293.09	39°18'29.8268"N	80°44'3.7465"W	362.18	315.871	2.54	-1.41	-14.57	
5107.00	7.370	288.770	5076.96	-334.23	264.35	-264.12	1715540.68	14274297.47	39°18'29.8704"N	80°44'3.8982"W	373.68	315.025	0.50	-0.34	-2.80	
5202.00	8.680	294.280	5171.03	-342.77	269.25	-276.42	1715528.38	14274302.38	39°18'29.9193"N	80°44'4.0545"W	385.88	314.248	1.60	1.38	5.80	
5297.00	9.370	302.670	5264.86	-353.65	276.38	-289.47	1715515.34	14274309.50	39°18'29.9901"N	80°44'4.2202"W	400.22	313.675	1.56	0.73	8.83	
5392.00	8.130	292.940	5358.76	-364.11	283.17	-302.16	1715502.65	14274316.29	39°18'30.0576"N	80°44'4.3815"W	414.11	313.142	2.03	-1.31	-10.24	
5487.00	7.380	303.490	5452.89	-373.35	289.16	-313.44	1715491.38	14274322.27	39°18'30.1171"N	80°44'4.5247"W	426.44	312.692	1.69	-0.79	11.11	
5582.00	9.050	314.420	5546.92	-384.80	297.75	-323.86	1715480.95	14274330.87	39°18'30.2023"N	80°44'4.6570"W	439.94	312.595	2.40	1.76	11.51	
5676.00	8.550	313.200	5639.82	-397.52	307.71	-334.24	1715470.58	14274340.82	39°18'30.3011"N	80°44'4.7886"W	454.31	312.634	0.57	-0.53	-1.30	
5771.00	7.650	314.620	5733.87	-409.37	316.99	-343.89	1715460.94	14274350.09	39°18'30.3930"N	80°44'4.9110"W	467.70	312.669	0.97	-0.95	1.49	
5866.00	8.710	322.450	5827.90	-421.80	327.13	-352.77	1715452.06	14274360.23	39°18'30.4935"N	80°44'5.0237"W	481.11	312.840	1.62	1.12	8.24	
5961.00	9.090	313.400	5921.76	-435.21	337.99	-362.61	1715442.22	14274371.09	39°18'30.6012"N	80°44'5.1484"W	495.71	312.988	1.53	0.40	-9.53	
6056.00	7.880	311.110	6015.72	-447.44	347.43	-372.97	1715431.87	14274380.52	39°18'30.6947"N	80°44'5.2799"W	509.72	312.970	1.32	-1.27	-2.41	
6151.00	9.650	301.970	6109.61	-459.18	355.93	-384.63	1715420.21	14274389.02	39°18'30.7791"N	80°44'5.4279"W	524.05	312.780	2.37	1.86	-9.62	
6246.00	12.140	293.240	6202.90	-471.96	364.09	-400.57	1715404.28	14274397.17	39°18'30.8602"N	80°44'5.6304"W	541.31	312.269	3.14	2.62	-9.19	
6340.00	11.250	252.670	6295.10	-478.71	365.26	-418.43	1715386.42	14274398.34	39°18'30.8723"N	80°44'5.8576"W	555.43	311.118	8.62	-0.95	-43.16	
6435.00	15.020	213.460	6387.77	-471.27	352.20	-434.10	1715370.76	14274385.29	39°18'30.7437"N	80°44'6.0574"W	559.01	309.053	9.94	3.97	-41.27	
6530.00	22.800	196.160	6477.65	-448.46	324.19	-446.04	1715358.83	14274357.29	39°18'30.4671"N	80°44'6.2103"W	551.41	306.010	10.01	8.19	-18.21	
6582.00	26.770	187.760	6524.86	-429.64	302.89	-450.43	1715354.44	14274336.00	39°18'30.2568"N	80°44'6.2670"W	542.80	303.919	10.19	7.63	-16.15	BH AT Curve <8-1/2">(6530')(6582'-2099')
6677.00	31.650	177.370	6607.81	-386.40	256.73	-452.18	1715352.69	14274289.86	39°18'29.8006"N	80°44'6.2909"W	519.98	299.587	7.39	5.14	-10.94	
6772.00	37.470	169.220	6686.05	-333.70	203.37	-445.62	1715359.25	14274236.52	39°18'29.2731"N	80°44'6.2095"W	489.83	294.531	7.81	6.13	-8.58	
6839.00†	41.864	164.541	6737.63	-291.14	161.78	-435.84	1715369.02	14274194.94	39°18'28.8616"N	80°44'6.0866"W	464.90	290.364	7.93	6.56	-6.98	Middlesex: 6839' MD
6867.00	43.750	162.820	6758.17	-272.13	143.52	-430.49	1715374.37	14274176.69	39°18'28.6810"N	80°44'6.0192"W	453.78	288.438	7.93	6.74	-6.15	
6961.00	50.220	159.120	6822.27	-203.47	78.64	-407.99	1715396.86	14274111.84	39°18'28.0391"N	80°44'5.7354"W	415.50	280.910	7.46	6.88	-3.94	
7008.00	53.140	158.340	6851.41	-166.64	44.28	-394.61	1715410.24	14274077.50	39°18'27.6992"N	80°44'5.5665"W	397.09	276.403	6.35	6.21	-1.66	

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# Actual Wellpath Report

Lakota Unit 1H AWP Proj: 21049'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

## WELLPATH DATA (243 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
7056.00	56.130	158.590	6879.19	-127.56	7.88	-380.24	1715424.60	14274041.10	39°18'27.3389"N	80°44'5.3851"W	380.32	271.187	6.24	6.23	0.52	Burkett: 7056' MD
7103.00	59.130	159.210	6904.35	-87.91	-29.15	-365.96	1715438.88	14274004.09	39°18'26.9725"N	80°44'5.2047"W	367.12	265.445	6.48	6.38	1.32	
7115.00†	59.797	159.281	6910.45	-77.59	-38.82	-362.29	1715442.54	14273994.43	39°18'26.8769"N	80°44'5.1585"W	364.37	263.884	5.59	5.56	0.60	Tully: 7115' MD
7151.00	61.800	159.490	6928.01	-46.19	-68.23	-351.23	1715453.60	14273965.03	39°18'26.5859"N	80°44'5.0189"W	357.80	259.007	5.59	5.56	0.58	
7198.00	64.890	159.300	6949.09	-4.22	-107.54	-336.45	1715468.37	14273925.73	39°18'26.1969"N	80°44'4.8323"W	353.22	252.274	6.58	6.57	-0.40	
7246.00	68.710	159.570	6968.00	39.86	-148.84	-320.96	1715483.86	14273884.45	39°18'25.7883"N	80°44'4.6367"W	353.79	245.121	7.98	7.96	0.56	
7256.00†	69.485	159.784	6971.57	49.20	-157.60	-317.71	1715487.10	14273875.69	39°18'25.7016"N	80°44'4.5958"W	354.66	243.616	8.00	7.75	2.14	Marcellus POE: 7256' MD
7341.00	76.080	161.530	6996.71	130.33	-234.17	-290.86	1715513.95	14273799.15	39°18'24.9440"N	80°44'4.2570"W	373.41	231.162	8.00	7.76	2.05	
7436.00	83.710	162.310	7013.37	223.79	-323.02	-261.86	1715542.93	14273710.34	39°18'24.0651"N	80°44'3.8914"W	415.83	219.031	8.07	8.03	0.82	
7531.00	89.780	163.200	7018.76	318.57	-413.56	-233.76	1715571.02	14273619.84	39°18'23.1694"N	80°44'3.5373"W	475.05	209.477	6.46	6.39	0.94	
7626.00	89.910	161.290	7019.02	413.56	-504.03	-204.79	1715599.98	14273529.40	39°18'22.2744"N	80°44'3.1722"W	544.04	202.112	2.02	0.14	-2.01	
7721.00	90.000	160.870	7019.09	508.55	-593.90	-173.99	1715630.77	14273439.57	39°18'21.3852"N	80°44'2.7837"W	618.86	196.328	0.45	0.09	-0.44	
7815.00	90.370	160.330	7018.79	602.54	-682.56	-142.76	1715661.98	14273350.94	39°18'20.5080"N	80°44'2.3898"W	697.33	191.814	0.70	0.39	-0.57	
7910.00	90.340	161.310	7018.20	697.53	-772.28	-111.55	1715693.18	14273261.25	39°18'19.6203"N	80°44'1.9961"W	780.30	188.219	1.03	-0.03	1.03	
8005.00	90.400	162.440	7017.59	792.52	-862.56	-82.00	1715722.72	14273171.01	39°18'18.7271"N	80°44'1.6235"W	866.45	185.431	1.19	0.06	1.19	
8100.00	90.370	164.110	7016.95	887.47	-953.54	-54.66	1715750.05	14273080.07	39°18'17.8272"N	80°44'1.2792"W	955.11	183.281	1.76	-0.03	1.76	
8195.00	90.650	162.850	7016.10	982.42	-1044.61	-27.65	1715777.05	14272989.03	39°18'16.9263"N	80°44'0.9390"W	1044.98	181.516	1.36	0.29	-1.33	
8289.00	90.620	161.620	7015.06	1076.40	-1134.12	1.03	1715805.72	14272899.56	39°18'16.0407"N	80°44'0.5775"W	1134.12	179.948	1.31	-0.03	-1.31	
8384.00	91.080	159.690	7013.65	1171.38	-1223.75	32.49	1715837.17	14272809.97	39°18'15.1540"N	80°44'0.1806"W	1224.18	178.479	2.09	0.48	-2.03	
8479.00	90.180	158.080	7012.61	1266.26	-1312.36	66.71	1715871.37	14272721.39	39°18'14.2772"N	80°43'59.7486"W	1314.05	177.090	1.94	-0.95	-1.69	
8574.00	90.370	156.370	7012.15	1360.98	-1399.95	103.48	1715908.13	14272633.84	39°18'13.4104"N	80°43'59.2841"W	1403.77	175.772	1.81	0.20	-1.80	
8669.00	90.150	155.550	7011.72	1455.52	-1486.70	142.18	1715946.82	14272547.11	39°18'12.5518"N	80°43'58.7951"W	1493.49	174.537	0.89	-0.23	-0.86	
8763.00	89.820	157.570	7011.75	1549.15	-1572.94	179.57	1715984.19	14272460.91	39°18'11.6984"N	80°43'58.3227"W	1583.16	173.487	2.18	-0.35	2.15	
8858.00	89.720	156.580	7012.13	1643.86	-1660.44	216.58	1716021.18	14272373.45	39°18'10.8325"N	80°43'57.8552"W	1674.50	172.569	1.05	-0.11	-1.04	
8953.00	89.940	157.850	7012.41	1738.58	-1748.02	253.37	1716057.96	14272285.90	39°18'9.9658"N	80°43'57.3905"W	1766.29	171.753	1.36	0.23	1.34	
9048.00	90.490	160.230	7012.05	1833.48	-1836.73	287.35	1716091.92	14272197.23	39°18'9.0881"N	80°43'56.9616"W	1859.07	171.108	2.57	0.58	2.51	
9143.00	90.950	164.240	7010.86	1928.44	-1927.17	316.33	1716120.89	14272106.82	39°18'8.1933"N	80°43'56.5964"W	1952.96	170.679	4.25	0.48	4.22	
9238.00	89.690	164.050	7010.33	2023.34	-2018.56	342.28	1716146.83	14272015.47	39°18'7.2893"N	80°43'56.2697"W	2047.37	170.376	1.34	-1.33	-0.20	
9333.00	89.910	163.220	7010.66	2118.28	-2109.70	369.05	1716173.59	14271924.36	39°18'6.3877"N	80°43'55.9326"W	2141.74	170.078	0.90	0.23	-0.87	
9427.00	90.370	163.540	7010.43	2212.24	-2199.78	395.93	1716200.46	14271834.32	39°18'5.4966"N	80°43'55.5940"W	2235.12	169.797	0.60	0.49	0.34	

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# Actual Wellpath Report

Lakota Unit 1H AWP Proj: 21049'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

## WELLPATH DATA (243 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
9522.00	90.280	163.510	7009.89	2307.18	-2290.88	422.87	1716227.40	14271743.26	39°18'4.5955"N	80°43'55.2547"W	2329.58	169.541	0.10	-0.09	-0.03	
9617.00	90.150	164.350	7009.53	2402.10	-2382.16	449.17	1716253.68	14271652.01	39°18'3.6925"N	80°43'54.9237"W	2424.14	169.322	0.89	-0.14	0.88	
9712.00	90.400	164.960	7009.08	2496.96	-2473.77	474.31	1716278.81	14271560.43	39°18'2.7863"N	80°43'54.6073"W	2518.83	169.146	0.69	0.26	0.64	
9807.00	90.370	166.730	7008.44	2591.69	-2565.88	497.54	1716302.03	14271468.36	39°18'1.8752"N	80°43'54.3153"W	2613.68	169.026	1.86	-0.03	1.86	
9902.00	90.650	167.840	7007.59	2686.22	-2658.55	518.45	1716322.93	14271375.73	39°18'0.9587"N	80°43'54.0528"W	2708.63	168.965	1.20	0.29	1.17	
9996.00	90.680	168.330	7006.50	2779.61	-2750.52	537.85	1716342.33	14271283.80	39°18'0.0492"N	80°43'53.8095"W	2802.61	168.936	0.52	0.03	0.52	
10091.00	90.890	167.290	7005.20	2874.04	-2843.36	557.91	1716362.38	14271190.99	39°17'59.1309"N	80°43'53.5578"W	2897.58	168.899	1.12	0.22	-1.09	
10186.00	91.140	162.550	7003.52	2968.84	-2935.05	582.62	1716387.08	14271099.34	39°17'58.2240"N	80°43'53.2470"W	2992.32	168.773	5.00	0.26	-4.99	
10281.00	91.390	157.620	7001.42	3063.75	-3024.32	614.96	1716419.40	14271010.10	39°17'57.3407"N	80°43'52.8390"W	3086.21	168.506	5.19	0.26	-5.19	
10376.00	90.250	152.870	7000.06	3158.13	-3110.56	654.72	1716459.15	14270923.90	39°17'56.4872"N	80°43'52.3365"W	3178.71	168.114	5.14	-1.20	-5.00	
10471.00	90.280	153.660	6999.62	3252.13	-3195.40	697.46	1716501.87	14270839.09	39°17'55.6474"N	80°43'51.7961"W	3270.63	167.687	0.83	0.03	0.83	
10565.00	90.150	155.270	6999.27	3345.40	-3280.21	737.98	1716542.37	14270754.31	39°17'54.8079"N	80°43'51.2839"W	3362.20	167.321	1.72	-0.14	1.71	
10660.00	90.250	159.140	6998.93	3440.10	-3367.78	774.78	1716579.16	14270666.78	39°17'53.9414"N	80°43'50.8191"W	3455.75	167.044	4.08	0.11	4.07	
10755.00	90.310	161.110	6998.47	3535.07	-3457.11	807.07	1716611.44	14270577.48	39°17'53.0575"N	80°43'50.4117"W	3550.07	166.860	2.07	0.06	2.07	
10850.00	90.520	159.900	6997.78	3630.05	-3546.66	838.77	1716643.13	14270487.97	39°17'52.1715"N	80°43'50.0118"W	3644.50	166.694	1.29	0.22	-1.27	
10945.00	90.490	158.730	6996.95	3724.96	-3635.53	872.33	1716676.67	14270399.13	39°17'51.2921"N	80°43'49.5884"W	3738.73	166.507	1.23	-0.03	-1.23	
11040.00	90.400	159.770	6996.21	3819.88	-3724.37	905.98	1716710.32	14270310.33	39°17'50.4131"N	80°43'49.1637"W	3832.98	166.328	1.10	-0.09	1.09	
11134.00	90.340	162.500	6995.60	3913.87	-3813.31	936.37	1716740.69	14270221.43	39°17'49.5332"N	80°43'48.7805"W	3926.59	166.204	2.90	-0.06	2.90	
11229.00	90.520	162.330	6994.89	4008.85	-3903.87	965.08	1716769.38	14270130.91	39°17'48.6373"N	80°43'48.4188"W	4021.39	166.114	0.26	0.19	-0.18	
11324.00	90.370	163.850	6994.15	4103.82	-3994.75	992.71	1716797.00	14270040.06	39°17'47.7382"N	80°43'48.0708"W	4116.25	166.045	1.61	-0.16	1.60	
11419.00	90.310	164.910	6993.59	4198.70	-4086.24	1018.28	1716822.57	14269948.60	39°17'46.8332"N	80°43'47.7490"W	4211.21	166.007	1.12	-0.06	1.12	
11513.00	90.550	166.730	6992.88	4292.44	-4177.37	1041.31	1716845.59	14269857.51	39°17'45.9318"N	80°43'47.4595"W	4305.20	166.003	1.95	0.26	1.94	
11608.00	90.580	167.110	6991.94	4387.02	-4269.90	1062.81	1716887.08	14269765.02	39°17'45.0166"N	80°43'47.1896"W	4400.18	166.023	0.40	0.03	0.40	
11703.00	90.650	166.620	6990.92	4481.61	-4362.41	1084.40	1716888.66	14269672.54	39°17'44.1017"N	80°43'46.9185"W	4495.17	166.041	0.52	0.07	-0.52	
11798.00	90.710	165.460	6989.80	4576.32	-4454.60	1107.31	1716911.56	14269580.39	39°17'43.1898"N	80°43'46.6306"W	4590.16	166.040	1.22	0.06	-1.22	
11893.00	90.550	162.490	6988.75	4671.22	-4545.89	1133.53	1716937.77	14269489.14	39°17'42.2868"N	80°43'46.3005"W	4685.08	165.999	3.13	-0.17	-3.13	
11988.00	90.550	161.750	6987.84	4766.21	-4636.30	1162.70	1716966.93	14269398.77	39°17'41.3923"N	80°43'45.9330"W	4779.87	165.922	0.78	0.00	-0.78	
12083.00	90.550	160.120	6986.93	4861.20	-4726.08	1193.73	1716997.94	14269309.02	39°17'40.5041"N	80°43'45.5417"W	4874.51	165.825	1.72	0.00	-1.72	
12178.00	90.550	157.880	6986.02	4956.09	-4814.76	1227.77	1717031.97	14269220.38	39°17'39.6266"N	80°43'45.1121"W	4968.83	165.694	2.36	0.00	-2.36	
12273.00	90.490	157.330	6985.15	5050.86	-4902.59	1263.96	1717068.15	14269132.58	39°17'38.7574"N	80°43'44.6551"W	5062.90	165.543	0.58	-0.06	-0.58	

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Lakota Unit 1H AWP Proj: 21049'

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Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWP
Slot	Slot #04		

## WELLPATH DATA (243 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
12367.00	90.520	161.380	6984.32	5144.76	-4990.53	1297.09	1717101.27	14269044.67	39°17'37.8872"N	80°43'44.2370"W	5156.34	165.431	4.31	0.03	4.31	
12462.00	90.520	163.200	6983.46	5239.75	-5081.02	1325.99	1717130.16	14268954.22	39°17'36.9920"N	80°43'43.8730"W	5251.19	165.374	1.92	0.00	1.92	
12557.00	90.650	162.650	6982.49	5334.72	-5171.83	1353.88	1717158.04	14268863.45	39°17'36.0937"N	80°43'43.5216"W	5346.10	165.330	0.59	0.14	-0.58	
12652.00	90.620	161.660	6981.44	5429.70	-5262.25	1382.99	1717187.14	14268773.06	39°17'35.1991"N	80°43'43.1548"W	5440.95	165.275	1.04	-0.03	-1.04	
12747.00	90.520	160.320	6980.49	5524.69	-5352.06	1413.94	1717218.07	14268683.28	39°17'34.3105"N	80°43'42.7647"W	5535.69	165.201	1.41	-0.11	-1.41	
12842.00	90.620	160.720	6979.55	5619.67	-5441.62	1445.61	1717249.73	14268593.76	39°17'33.4244"N	80°43'42.3652"W	5630.37	165.123	0.43	0.11	0.42	
12937.00	90.550	159.950	6978.58	5714.64	-5531.08	1477.58	1717281.69	14268504.34	39°17'32.5393"N	80°43'41.9620"W	5725.04	165.043	0.81	-0.07	-0.81	
13031.00	90.520	158.840	6977.70	5808.57	-5619.06	1510.66	1717314.75	14268416.39	39°17'31.6688"N	80°43'41.5447"W	5818.58	164.952	1.18	-0.03	-1.18	
13126.00	90.620	158.630	6976.76	5903.45	-5707.58	1545.11	1717349.19	14268327.90	39°17'30.7928"N	80°43'41.1098"W	5913.03	164.852	0.24	0.11	-0.22	
13221.00	90.550	157.750	6975.79	5998.27	-5795.78	1580.41	1717384.47	14268239.74	39°17'29.9200"N	80°43'40.6643"W	6007.39	164.747	0.93	-0.07	-0.93	
13316.00	90.520	156.550	6974.90	6092.98	-5883.32	1617.30	1717421.35	14268152.24	39°17'29.0537"N	80°43'40.1985"W	6101.56	164.629	1.26	-0.03	-1.26	
13411.00	90.520	156.760	6974.04	6187.63	-5970.54	1654.94	1717458.97	14268065.05	39°17'28.1905"N	80°43'39.7231"W	6195.66	164.507	0.22	0.00	0.22	
13505.00	90.580	157.160	6973.13	6281.31	-6057.04	1691.73	1717495.75	14267978.59	39°17'27.3345"N	80°43'39.2585"W	6288.85	164.395	0.43	0.06	0.43	
13600.00	90.680	156.410	6972.09	6376.10	-6144.98	1727.64	1717531.65	14267890.68	39°17'26.4643"N	80°43'38.8051"W	6383.22	164.297	1.32	0.11	1.32	
13695.00	90.710	161.750	6970.94	6471.04	-6234.27	1760.00	1717564.00	14267801.42	39°17'25.5807"N	80°43'38.3969"W	6477.95	164.235	3.52	0.03	3.52	
13790.00	90.650	164.810	6969.81	6565.98	-6325.24	1787.33	1717591.31	14267710.49	39°17'24.6808"N	80°43'38.0529"W	6572.91	164.221	3.22	-0.06	3.22	
13885.00	90.920	167.620	6968.51	6660.66	-6417.49	1809.96	1717613.93	14267618.28	39°17'23.7684"N	80°43'37.7685"W	6667.84	164.250	2.97	0.28	2.96	
13980.00	90.860	169.970	6967.03	6754.89	-6510.66	1828.42	1717632.38	14267525.15	39°17'22.8470"N	80°43'37.5374"W	6762.53	164.313	2.47	-0.06	2.47	
14074.00	90.520	169.620	6965.90	6847.92	-6603.16	1845.07	1717649.03	14267432.68	39°17'21.9322"N	80°43'37.3291"W	6856.10	164.388	0.52	-0.36	-0.37	
14169.00	90.710	168.030	6964.88	6942.15	-6696.35	1863.48	1717667.43	14267339.53	39°17'21.0106"N	80°43'37.0986"W	6950.81	164.449	1.69	0.20	-1.67	
14264.00	90.650	166.540	6963.75	7036.68	-6789.01	1884.39	1717688.33	14267246.90	39°17'20.0942"N	80°43'36.8362"W	7045.68	164.487	1.57	-0.06	-1.57	
14359.00	90.710	166.110	6962.63	7131.34	-6881.31	1906.84	1717710.78	14267154.64	39°17'19.1812"N	80°43'36.5541"W	7140.63	164.512	0.46	0.06	-0.45	
14454.00	90.770	165.390	6961.40	7226.09	-6973.38	1930.23	1717734.15	14267062.60	39°17'18.2705"N	80°43'36.2603"W	7235.60	164.528	0.76	0.06	-0.76	
14549.00	90.740	163.400	6960.15	7320.96	-7064.87	1955.78	1717759.70	14266971.16	39°17'17.3656"N	80°43'35.9388"W	7330.58	164.526	2.09	-0.03	-2.09	
14644.00	90.950	163.340	6958.75	7415.90	-7155.89	1982.96	1717786.87	14266880.17	39°17'16.4652"N	80°43'35.5966"W	7425.55	164.511	0.23	0.22	-0.06	
14738.00	91.290	162.690	6956.91	7509.86	-7245.77	2010.42	1717814.31	14266790.33	39°17'15.5760"N	80°43'35.2509"W	7519.50	164.493	0.78	0.36	-0.69	
14833.00	91.290	159.830	6954.77	7604.82	-7335.70	2040.93	1717844.81	14266700.43	39°17'14.6862"N	80°43'34.8663"W	7614.32	164.452	3.01	0.00	-3.01	
14928.00	90.950	157.650	6952.91	7699.68	-7424.21	2075.37	1717879.24	14266611.95	39°17'13.8104"N	80°43'34.4317"W	7708.83	164.382	2.32	-0.36	-2.29	
15023.00	89.850	152.450	6952.25	7794.02	-7510.31	2115.43	1717919.28	14266525.89	39°17'12.9582"N	80°43'33.9256"W	7802.55	164.269	5.59	-1.16	-5.47	
15118.00	90.150	153.900	6952.25	7888.00	-7595.09	2158.29	1717962.13	14266441.15	39°17'12.1190"N	80°43'33.3836"W	7895.80	164.136	1.56	0.32	1.53	

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# Actual Wellpath Report

Lakota Unit 1H AWP Proj: 21049'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

WELLPATH DATA (243 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
15213.00	90.150	155.150	6952.00	7982.28	-7680.85	2199.15	1718002.97	14266355.42	39°17'11.2701"N	80°43'32.8673"W	7989.48	164.023	1.32	0.00	1.32	
15308.00	90.340	162.250	6951.59	8077.09	-7769.30	2233.64	1718037.45	14266267.00	39°17'10.3949"N	80°43'32.4321"W	8084.01	163.960	7.48	0.20	7.47	
15402.00	90.250	166.580	6951.11	8170.95	-7859.82	2258.89	1718062.69	14266176.52	39°17'9.4994"N	80°43'32.1145"W	8177.98	163.966	4.61	-0.10	4.61	
15497.00	90.400	167.150	6950.57	8265.55	-7952.34	2280.48	1718084.27	14266084.04	39°17'8.5844"N	80°43'31.8435"W	8272.86	163.999	0.62	0.16	0.60	
15592.00	90.460	166.260	6949.86	8360.17	-8044.79	2302.32	1718106.10	14265991.63	39°17'7.6700"N	80°43'31.5692"W	8367.75	164.029	0.94	0.06	-0.94	
15687.00	90.460	164.910	6949.09	8454.93	-8136.79	2325.97	1718129.74	14265899.66	39°17'6.7600"N	80°43'31.2720"W	8462.71	164.047	1.42	0.00	-1.42	
15782.00	90.490	164.170	6948.31	8549.80	-8228.35	2351.29	1718155.05	14265808.14	39°17'5.8543"N	80°43'30.9535"W	8557.70	164.052	0.78	0.03	-0.78	
15877.00	90.520	163.130	6947.47	8644.74	-8319.50	2378.04	1718181.79	14265717.02	39°17'4.9525"N	80°43'30.6170"W	8652.70	164.048	1.10	0.03	-1.09	
15971.00	90.430	161.390	6946.69	8738.72	-8409.03	2406.68	1718210.41	14265627.53	39°17'4.0669"N	80°43'30.2562"W	8746.65	164.029	1.85	-0.10	-1.85	
16066.00	90.370	159.350	6946.03	8833.69	-8498.50	2438.59	1718242.31	14265538.09	39°17'3.1816"N	80°43'29.8538"W	8841.45	163.990	2.15	-0.06	-2.15	
16161.00	90.950	160.150	6944.93	8928.64	-8587.62	2471.47	1718275.18	14265449.01	39°17'2.2997"N	80°43'29.4391"W	8936.18	163.944	1.04	0.61	0.84	
16256.00	90.770	159.820	6943.51	9023.59	-8676.87	2503.98	1718307.68	14265359.79	39°17'1.4166"N	80°43'29.0291"W	9030.95	163.903	0.40	-0.19	-0.35	
16351.00	90.920	160.480	6942.11	9118.55	-8766.22	2536.23	1718339.92	14265270.48	39°17'0.5326"N	80°43'28.6224"W	9125.73	163.864	0.71	0.16	0.69	
16446.00	90.770	160.060	6940.70	9213.51	-8855.63	2568.30	1718371.97	14265181.10	39°16'59.6479"N	80°43'28.2180"W	9220.54	163.827	0.47	-0.16	-0.44	
16540.00	90.800	160.590	6939.42	9307.48	-8944.13	2599.94	1718403.61	14265092.63	39°16'58.7722"N	80°43'27.8190"W	9314.36	163.792	0.56	0.03	0.56	
16635.00	90.740	162.200	6938.14	9402.47	-9034.16	2630.25	1718433.90	14265002.65	39°16'57.8815"N	80°43'27.4371"W	9409.26	163.767	1.70	-0.06	1.69	
16730.00	90.770	162.570	6936.89	9497.45	-9124.69	2659.00	1718462.63	14264912.14	39°16'56.9858"N	80°43'27.0750"W	9504.23	163.754	0.39	0.03	0.39	
16825.00	90.770	161.730	6935.61	9592.44	-9215.11	2688.11	1718491.74	14264821.76	39°16'56.0913"N	80°43'26.7083"W	9599.18	163.738	0.88	0.00	-0.88	
16920.00	90.430	160.100	6934.62	9687.42	-9304.88	2719.17	1718522.79	14264732.03	39°16'55.2031"N	80°43'26.3168"W	9694.06	163.710	1.75	-0.36	-1.72	
17015.00	89.820	154.870	6934.41	9782.14	-9392.61	2755.54	1718559.14	14264644.33	39°16'54.3349"N	80°43'25.8577"W	9788.47	163.650	5.54	-0.64	-5.51	
17109.00	90.120	155.120	6934.46	9875.52	-9477.80	2795.27	1718598.86	14264559.18	39°16'53.4917"N	80°43'25.3557"W	9881.41	163.568	0.42	0.32	0.27	
17204.00	90.120	155.980	6934.26	9969.99	-9564.28	2834.59	1718638.16	14264472.73	39°16'52.6358"N	80°43'24.8590"W	9975.49	163.492	0.91	0.00	0.91	
17299.00	90.220	156.050	6933.98	10064.54	-9651.08	2873.21	1718676.76	14264385.97	39°16'51.7768"N	80°43'24.3713"W	10069.69	163.421	0.13	0.11	0.07	
17394.00	90.150	155.240	6933.67	10159.03	-9737.62	2912.38	1718715.92	14264299.46	39°16'50.9202"N	80°43'23.8765"W	10163.82	163.349	0.86	-0.07	-0.85	
17489.00	90.120	155.130	6933.45	10253.44	-9823.85	2952.26	1718755.78	14264213.27	39°16'50.0667"N	80°43'23.3728"W	10257.87	163.273	0.12	-0.03	-0.12	
17584.00	90.310	155.460	6933.09	10347.86	-9910.15	2991.96	1718795.47	14264127.00	39°16'49.2125"N	80°43'22.8713"W	10351.95	163.200	0.40	0.20	0.35	
17678.00	90.120	156.080	6932.74	10441.38	-9995.87	3030.54	1718834.03	14264041.31	39°16'48.3642"N	80°43'22.3840"W	10445.17	163.134	0.69	-0.20	0.66	
17773.00	90.490	158.790	6932.23	10536.12	-10083.59	3066.99	1718870.46	14263953.63	39°16'47.4961"N	80°43'21.9239"W	10539.70	163.083	2.88	0.39	2.85	
17868.00	90.370	161.010	6931.52	10631.07	-10172.79	3099.63	1718903.10	14263864.46	39°16'46.6134"N	80°43'21.5123"W	10634.54	163.054	2.34	-0.13	2.34	
17962.00	90.220	165.380	6931.03	10725.01	-10262.76	3126.80	1718930.26	14263774.53	39°16'45.7234"N	80°43'21.1703"W	10728.52	163.055	4.65	-0.16	4.65	

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# Actual Wellpath Report

Lakota Unit 1H AWP Proj: 21049'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

## WELLPATH DATA (243 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
18057.00	90.340	169.030	6930.57	10819.54	-10355.38	3147.84	1718951.28	14263681.94	39°16'44.8073"N	80°43'20.9064"W	10823.25	163.092	3.84	0.13	3.84	
18152.00	90.090	172.050	6930.21	10913.37	-10449.08	3163.45	1718966.89	14263588.28	39°16'43.8808"N	80°43'20.7115"W	10917.45	163.156	3.19	-0.26	3.18	
18247.00	90.680	176.210	6929.57	11006.08	-10543.56	3173.16	1718976.60	14263493.84	39°16'42.9467"N	80°43'20.5917"W	11010.70	163.250	4.42	0.62	4.38	
18341.00	91.690	172.390	6927.63	11097.74	-10637.05	3182.49	1718985.93	14263400.38	39°16'42.0223"N	80°43'20.4766"W	11102.94	163.343	4.20	1.07	-4.06	
18436.00	91.020	167.590	6925.38	11191.66	-10730.55	3199.00	1719002.42	14263306.92	39°16'41.0977"N	80°43'20.2704"W	11197.25	163.400	5.10	-0.71	-5.05	
18531.00	90.310	160.720	6924.28	11286.50	-10821.88	3224.92	1719028.33	14263215.63	39°16'40.1942"N	80°43'19.9444"W	11292.18	163.406	7.27	-0.75	-7.23	
18626.00	90.340	157.640	6923.74	11381.41	-10910.67	3258.68	1719062.08	14263126.88	39°16'39.3157"N	80°43'19.5185"W	11386.91	163.371	3.24	0.03	-3.24	
18721.00	90.340	160.490	6923.18	11476.30	-10999.38	3292.62	1719096.01	14263038.20	39°16'38.4378"N	80°43'19.0904"W	11481.63	163.335	3.00	0.00	3.00	
18816.00	90.150	160.950	6922.77	11571.29	-11089.06	3323.99	1719127.36	14262948.56	39°16'37.5506"N	80°43'18.6950"W	11576.53	163.314	0.52	-0.20	0.48	
18911.00	90.370	161.680	6922.34	11666.29	-11179.05	3354.42	1719157.79	14262858.60	39°16'36.6602"N	80°43'18.3115"W	11671.47	163.297	0.80	0.23	0.77	
19006.00	90.220	161.850	6921.85	11761.29	-11269.27	3384.15	1719187.50	14262768.41	39°16'35.7675"N	80°43'17.9371"W	11766.44	163.285	0.24	-0.16	0.18	
19101.00	90.370	161.270	6921.36	11856.29	-11359.40	3414.20	1719217.54	14262678.33	39°16'34.8759"N	80°43'17.5585"W	11861.39	163.271	0.63	0.16	-0.61	
19195.00	90.150	160.930	6920.93	11950.28	-11448.33	3444.65	1719247.97	14262589.43	39°16'33.9960"N	80°43'17.1748"W	11955.32	163.254	0.43	-0.23	-0.36	
19290.00	90.060	159.870	6920.76	12045.26	-11537.82	3476.51	1719279.83	14262499.97	39°16'33.1105"N	80°43'16.7731"W	12050.20	163.232	1.12	-0.09	-1.12	
19385.00	90.030	157.600	6920.68	12140.13	-11626.35	3510.97	1719314.27	14262411.48	39°16'32.2345"N	80°43'16.3384"W	12144.91	163.197	2.39	-0.03	-2.39	
19480.00	90.000	158.600	6920.66	12234.96	-11714.49	3546.40	1719349.69	14262323.37	39°16'31.3622"N	80°43'15.8913"W	12239.53	163.157	1.05	-0.03	1.05	
19574.00	90.060	160.300	6920.61	12328.89	-11802.50	3579.39	1719382.67	14262235.39	39°16'30.4913"N	80°43'15.4752"W	12333.34	163.129	1.81	0.06	1.81	
19669.00	89.690	163.040	6920.82	12423.88	-11892.68	3609.27	1719412.53	14262145.26	39°16'29.5992"N	80°43'15.0989"W	12428.30	163.118	2.91	-0.39	2.88	
19764.00	89.600	161.090	6921.41	12518.87	-11983.05	3638.52	1719441.77	14262054.92	39°16'28.7050"N	80°43'14.7305"W	12523.27	163.110	2.05	-0.09	-2.05	
19859.00	89.940	161.410	6921.79	12613.87	-12073.01	3669.06	1719472.30	14261964.99	39°16'27.8150"N	80°43'14.3457"W	12618.22	163.096	0.49	0.36	0.34	
19954.00	90.030	160.430	6921.81	12708.86	-12162.79	3700.11	1719503.34	14261875.25	39°16'26.9267"N	80°43'13.9543"W	12713.15	163.079	1.04	0.09	-1.03	
20049.00	89.970	158.820	6921.81	12803.80	-12251.84	3733.19	1719536.40	14261786.23	39°16'26.0455"N	80°43'13.5373"W	12807.98	163.054	1.70	-0.06	-1.69	
20143.00	89.970	158.590	6921.86	12897.68	-12339.43	3767.32	1719570.52	14261698.68	39°16'25.1788"N	80°43'13.1066"W	12901.71	163.022	0.24	0.00	-0.24	
20238.00	90.060	158.010	6921.84	12992.52	-12427.69	3802.45	1719605.64	14261610.45	39°16'24.3053"N	80°43'12.6635"W	12996.39	162.988	0.62	0.09	-0.61	
20333.00	90.090	158.100	6921.71	13087.34	-12515.81	3837.95	1719641.12	14261522.37	39°16'23.4333"N	80°43'12.2155"W	13091.04	162.952	0.10	0.03	0.09	
20428.00	90.150	159.870	6921.51	13182.24	-12604.49	3872.02	1719675.18	14261433.73	39°16'22.5558"N	80°43'11.7858"W	13185.81	162.923	1.86	0.06	1.86	
20522.00	90.120	158.890	6921.29	13276.17	-12692.46	3905.12	1719708.27	14261345.79	39°16'21.6853"N	80°43'11.3683"W	13279.63	162.898	1.04	-0.03	-1.04	
20617.00	90.060	158.830	6921.14	13371.06	-12781.07	3939.38	1719742.52	14261257.22	39°16'20.8085"N	80°43'10.9362"W	13374.40	162.870	0.09	-0.06	-0.06	
20712.00	90.090	160.400	6921.02	13466.00	-12870.12	3972.47	1719775.59	14261168.20	39°16'19.9273"N	80°43'10.5189"W	13469.24	162.847	1.65	0.03	1.65	
20807.00	90.280	161.910	6920.71	13561.00	-12960.02	4003.16	1719806.27	14261078.33	39°16'19.0378"N	80°43'10.1323"W	13564.20	162.835	1.60	0.20	1.59	

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# Actual Wellpath Report

Lakota Unit 1H AWP Proj: 21049'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

WELLPATH DATA (243 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
20902.00	90.150	163.710	6920.36	13655.97	-13050.77	4031.23	1719834.33	14260987.62	39°16'18.1400"N	80°43'9.7789"W	13659.19	162.835	1.90	-0.14	1.89	
20997.00	90.030	164.740	6920.21	13750.87	-13142.19	4057.06	1719860.15	14260896.23	39°16'17.2356"N	80°43'9.4541"W	13754.16	162.844	1.09	-0.13	1.08	
21049.00‡	90.030	164.740	6920.18	13802.79	-13192.36	4070.75	1719873.83	14260846.09	39°16'16.7394"N	80°43'9.2821"W	13806.13	162.851	0.00	0.00	0.00	Projected MD at TD: 21049'

HOLE & CASING SECTIONS - Ref Wellbore: Lakota Unit 1H AWB Ref Wellpath: Lakota Unit 1H AWP Proj: 21049'									
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	25.50	105.50	80.00	25.50	105.50	0.00	0.00	-0.51	-0.19
17.5in Open Hole	105.50	580.00	474.50	105.50	579.98	-0.51	-0.19	-4.36	-1.54
13.375in Casing Surface	25.50	560.70	535.20	25.50	560.68	0.00	0.00	-4.41	-1.56
12.25in Open Hole	580.00	2600.00	2020.00	579.98	2598.19	-4.36	-1.54	57.91	13.74
9.625in Casing Intermediate	25.50	2544.00	2518.50	25.50	2542.19	0.00	0.00	58.07	13.42
8.75in Open Hole	2600.00	6598.00	3998.00	2598.19	6539.10	57.91	13.74	295.64	-451.29
8.5in Open Hole	6598.00	21049.00	14451.00	6539.10	6920.18	295.64	-451.29	-13192.36	4070.75
5.5in Casing Surface	25.50	21049.00	21023.50	25.50	6920.18	0.00	0.00	-13192.36	4070.75

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# Actual Wellpath Report

Lakota Unit 1H AWP Proj: 21049'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Lakota Unit 1H
Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Lakota Unit 1H - POE - Rev-2	6969.00	-112.27	-320.82	1715484.00	14273921.00	39°18'26.1497"N	80°44'4.6336"W	point
Lakota Unit 1H - BHL - Rev-2	7015.00	-13226.46	4044.91	1719848.00	14260812.00	39°16'16.4032"N	80°43'9.6120"W	point
Lakota Unit 1H - LP - Rev-2	7015.00	-351.88	-241.05	1715563.73	14273681.49	39°18'23.7792"N	80°44'3.6278"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Lakota Unit 1H AWB Ref Wellpath: Lakota Unit 1H AWP Proj: 21049'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	479.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2">(100'-479')	Lakota Unit 1H AWB	
479.00	2527.00	BH NaviTrak (Axial)	02 APS EM <12-1/4">(479')(527'-2527')	Lakota Unit 1H AWB	
2527.00	6530.00	BH NaviTrak (Axial)	03 APS EM <8-3/4">(2527')(2636'-6530')	Lakota Unit 1H AWB	
6530.00	21049.00	BH AutoTrak Curve (Short)	04 BH AT Curve <8-1/2">(6530')(6582'-20997')	Lakota Unit 1H AWB	

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Lakota Unit 1H AWP Proj: 21049'

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Field	Doddridge	API	47-017-06892-0000
Facility	George Scott Pad	Wellbore	Lakota Unit 1H AWB
Slot	Slot #04		

## COMMENTS

### Wellpath general comments

API: 47-017-06892-0000  
 BHI Job #: 110060921B  
 Rig: H&P 317  
 Duration: 10/02/2019-12/09/2019  
 Gyrodata MS Gyro <17-1/2">(100'-479')  
 APS EM <12-1/4">(479')(527'-2527')  
 APS EM <8-3/4">(2527')(2636'-6530')  
 BH AT Curve <8-1/2">(6530')(6582'-20997')  
 Middlesex: 6839' MD  
 Burkett: 7056' MD  
 Tully: 7115' MD  
 Marcellus POE: 7256' MD  
 Projected MD at TD: 21049'

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