



ANTERO RESOURCES CORPORATION



Location: Tyler County, WV
Field: Tyler
Facility: Grand Pad

Slot: Slot #08
Well: Torowap Unit 1H
Wellbore: Torowap Unit 1H PWB

Easting (ft)

Plot reference wellpath is Torowap Unit 1H PWP Rev-B.1	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean Sea Level: 1288.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot #08): -1243 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: srbairner on 2022-06-10; Database: WA_MPL_EASTERNUS_Defn



BH AT Curve <8-1/2"> (5981')(6084'-18542') : 6056.93ft TVD, 319.63ft N, 117.56ft W
 APS EM <8-3/4"> (2498')(2569'-5981') : 2568.81ft TVD, 14.98ft S, 22.57ft E
 APS EM <12-1/4"> (380')(410'-2498') : 410.00ft TVD, 0.57ft S, 0.88ft E
 Gyrodata MS Gyro <17-1/2"> (100'-380') : 100.00ft TVD, 0.25ft S, 0.21ft E

API: 47-095-02765-0000
 BH Job #: 111277219
 Rig: H&P 317
 Duration: 4/28/2022-5/2/2022

Scale 1 inch = 100'



Gyrodata MS Gyro <17-1/2"> (100'-380') : 0.50" Inc, 100.00ft MD, 100.00ft TVD, 0.30ft VS
 APS EM <12-1/4"> (380')(410'-2498') : 0.21" Inc, 410.00ft MD, 410.00ft TVD, 0.83ft VS

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Grand Pad	1693813.970	14346649.540	39°30'25.7868"N	80°48'38.4804"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #08	168.74	-60.98	1693753.010	14346616.210
			39°30'27.4360"N	80°48'39.2540"W
Comment: Torowap Unit 1H				
H&P 317 (RKB) to Ground level (At Slot: Slot #08)				25.5ft
Mean Sea Level to Ground level (At Slot: Slot #08)				-1243ft
H&P 317 (RKB) to Mean Sea Level				1268.5ft

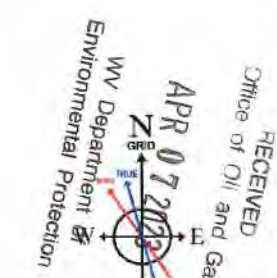
APS EM <8-3/4"> (2498')(2569'-5981') : 0.93" Inc, 2569.00ft MD, 2568.81ft TVD, 21.48ft VS

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS ("/100ft)	VS (ft)
Tie On	2498.00	0.760	124.100	2497.82	-14.40	21.68	0.51	20.64
Proj. to Bottom	2575.00	0.760	124.100	2574.81	-14.08	22.55	0.00	21.48
Drill Out	2655.00	0.780	124.100	2654.81	-15.59	23.45	0.00	22.35
End of Drop	2733.00	0.000	332.414	2732.80	-15.89	23.89	1.00	22.77
KOP 1	3309.35	0.000	332.414	3309.15	-15.89	23.89	0.00	22.77
End of Build	3738.90	8.591	332.414	3737.10	12.60	9.00	2.00	-9.00
Curve KOP	6074.03	8.591	332.414	6046.02	321.77	-152.53	0.00	-363.82
POE	7116.44	74.817	149.000	6844.00	-121.57	120.48	8.00	154.03
Landing Pt.	7306.23	90.000	149.000	6869.00	-282.35	217.09	8.00	337.43
On AZI	7709.88	90.000	161.109	6869.00	-647.66	387.01	3.00	738.08
BHL	18563.88	90.000	161.109	6869.00	-10917.05	3901.12	0.00	11592.08

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #08	Torowap Unit 1H	Torowap Unit 1H AWP	Torowap Unit 1H AWP Proj: 18567'
Slot #08	Torowap Unit 1H	Torowap Unit 1H PWB	Torowap Unit 1H PWP Rev-B.1

BH AT Curve <8-1/2"> (5981')(6084'-18542') : 4.84" Inc, 6084.00ft MD, 6056.93ft TVD, -340.48ft VS

Marcellus POE: 7096' MD : 73.76" Inc, 7096.00ft MD, 6837.52ft TVD, 151.00ft VS



User specified (HDGM) Dip: 66.41° Field: 51727 nT
 Magnetic North is 7.46 degrees West of True North (at 4/25/2022)
 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 7.58 degrees

Projected MD at TD: 18567' : 6886.55ft TVD, 10936.38ft S, 3914.81ft E
 BHL 53

Projected MD at TD: 18567' : 89.72" Inc, 18567.00ft MD, 6886.55ft TVD, 11614.80ft VS

True Vertical Depth (ft)

Northing (ft)

Vertical Section (ft)
 Azimuth 161.11° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500'



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Toroweap Unit 1H AWP Proj: 18567'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Toroweap Unit 1H
Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999603	Report Generated	6/10/2022 at 4:18:55 PM
Convergence at slot	0.12" 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	166.74	-60.98	1693753.01	14346816.21	39°30'27.4360"N	80°48'39.2540"W
Facility Reference Pt			1693813.97	14346649.54	39°30'25.7868"N	80°48'38.4804"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	1268.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1268.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot #08)	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	161.11°

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Toroweap Unit 1H
Field	Tyler		API	47-095-02765-0000
Facility	Grand Pad		Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08			

WELLPATH DATA (208 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	140.100	0.00	0.00	0.00	0.00	1693753.01	14346816.21	39°30'27.4360"N	80°48'39.2540"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	140.100	25.50	0.00	0.00	0.00	1693753.01	14346816.21	39°30'27.4360"N	80°48'39.2540"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.500	140.100	100.00	0.30	-0.25	0.21	1693753.22	14346815.96	39°30'27.4335"N	80°48'39.2513"W	0.33	140.100	0.67	0.67	0.00	Gyrodata MS Gyro <17-1/2"> (100'-380')
200.00	0.190	136.440	200.00	0.86	-0.70	0.60	1693753.61	14346815.51	39°30'27.4290"N	80°48'39.2463"W	0.93	139.446	0.31	-0.31	-3.66	
300.10	0.150	9.700	300.10	0.90	-0.70	0.74	1693753.75	14346815.51	39°30'27.4291"N	80°48'39.2445"W	1.01	133.254	0.30	-0.04	-126.61	
380.00	0.070	81.620	380.00	0.81	-0.59	0.81	1693753.81	14346815.63	39°30'27.4302"N	80°48'39.2437"W	1.00	126.014	0.18	-0.10	90.01	
410.00	0.210	80.740	410.00	0.83	-0.57	0.88	1693753.89	14346815.64	39°30'27.4303"N	80°48'39.2428"W	1.05	123.177	0.47	0.47	-2.93	APS EM <12-1/4"> (380')(410'-2498')
501.00	0.600	105.580	500.99	1.12	-0.67	1.50	1693754.51	14346815.54	39°30'27.4293"N	80°48'39.2348"W	1.65	114.207	0.46	0.43	27.30	
592.00	0.570	88.730	591.99	1.53	-0.79	2.41	1693755.42	14346815.42	39°30'27.4281"N	80°48'39.2232"W	2.54	108.191	0.19	-0.03	-18.52	
682.00	0.330	93.840	681.99	1.77	-0.80	3.12	1693756.13	14346815.41	39°30'27.4280"N	80°48'39.2142"W	3.22	104.390	0.27	-0.27	5.68	
773.00	0.600	98.600	772.98	2.09	-0.89	3.85	1693756.86	14346815.32	39°30'27.4271"N	80°48'39.2049"W	3.95	102.998	0.30	0.30	5.23	
863.00	0.600	168.970	862.98	2.77	-1.42	4.41	1693757.42	14346814.79	39°30'27.4218"N	80°48'39.1978"W	4.63	107.882	0.77	0.00	78.19	
953.00	0.570	99.260	952.98	3.45	-1.96	4.94	1693757.95	14346814.25	39°30'27.4165"N	80°48'39.1910"W	5.31	111.609	0.74	-0.03	-77.46	
1044.00	0.500	137.110	1043.97	4.03	-2.32	5.66	1693758.66	14346813.89	39°30'27.4129"N	80°48'39.1819"W	6.11	112.304	0.39	-0.08	41.59	
1138.00	0.690	114.750	1137.97	4.79	-2.86	6.45	1693759.46	14346813.35	39°30'27.4076"N	80°48'39.1718"W	7.05	113.888	0.32	0.20	-23.79	
1233.00	0.340	110.760	1232.96	5.37	-3.20	7.23	1693760.24	14346813.01	39°30'27.4042"N	80°48'39.1618"W	7.91	113.848	0.37	-0.37	-4.20	
1328.00	0.580	101.520	1327.96	5.79	-3.39	7.97	1693760.97	14346812.82	39°30'27.4023"N	80°48'39.1524"W	8.66	113.068	0.26	0.25	-9.73	
1422.00	0.850	121.350	1421.95	6.57	-3.85	9.03	1693762.04	14346812.36	39°30'27.3977"N	80°48'39.1389"W	9.82	113.098	0.39	0.29	21.10	
1517.00	0.830	130.750	1516.94	7.70	-4.67	10.15	1693763.16	14346811.55	39°30'27.3896"N	80°48'39.1246"W	11.17	114.687	0.15	-0.02	9.89	
1612.00	0.670	132.610	1611.93	8.78	-5.49	11.08	1693764.09	14346810.72	39°30'27.3815"N	80°48'39.1127"W	12.37	116.361	0.17	-0.17	1.96	
1706.00	1.070	126.260	1705.92	9.99	-6.38	12.19	1693765.20	14346809.83	39°30'27.3726"N	80°48'39.0986"W	13.76	117.630	0.44	0.43	-6.76	
1801.00	0.850	115.690	1800.91	11.21	-7.21	13.54	1693766.55	14346809.00	39°30'27.3644"N	80°48'39.0814"W	15.35	118.038	0.30	-0.23	-11.13	
1896.00	0.720	123.290	1895.90	12.18	-7.85	14.68	1693767.68	14346808.37	39°30'27.3581"N	80°48'39.0669"W	16.64	118.126	0.18	-0.14	8.00	
1991.00	0.810	145.130	1990.89	13.29	-8.72	15.56	1693768.56	14346807.49	39°30'27.3494"N	80°48'39.0557"W	17.84	119.278	0.32	0.09	22.99	
2086.00	1.170	134.600	2085.88	14.81	-9.96	16.64	1693769.64	14346806.26	39°30'27.3372"N	80°48'39.0420"W	19.39	120.901	0.42	0.38	-11.08	
2180.00	0.860	146.640	2179.86	16.35	-11.22	17.71	1693770.71	14346804.99	39°30'27.3247"N	80°48'39.0284"W	20.96	122.360	0.40	-0.33	12.81	
2275.00	1.040	139.000	2274.85	17.84	-12.47	18.66	1693771.67	14346803.75	39°30'27.3124"N	80°48'39.0162"W	22.44	123.738	0.23	0.19	-8.04	
2370.00	0.970	119.530	2369.84	19.24	-13.51	19.93	1693772.93	14346802.70	39°30'27.3020"N	80°48'39.0001"W	24.08	124.138	0.37	-0.07	-20.49	
2464.00	0.840	112.630	2463.83	20.29	-14.17	21.26	1693774.26	14346802.05	39°30'27.2955"N	80°48'38.9831"W	25.55	123.686	0.18	-0.14	-7.34	
2498.00	0.780	124.100	2497.82	20.64	-14.40	21.68	1693774.68	14346801.82	39°30'27.2932"N	80°48'38.9778"W	26.02	123.585	0.51	-0.18	33.74	

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Toroweap Unit 1H
Field	Tyler		API	47-095-02765-0000
Facility	Grand Pad		Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08			

WELLPATH DATA (208 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
2569.00	0.930	122.480	2568.81	21.48	-14.98	22.57	1693775.57	14346801.24	39°30'27.2875"N	80°48'38.9665"W	27.08	123.571	0.21	0.21	-2.28	APS EM <8-3/4"> (2498')(2569'-5981')
2664.00	0.940	128.420	2663.80	22.73	-15.87	23.83	1693776.83	14346800.34	39°30'27.2786"N	80°48'38.9504"W	28.63	123.673	0.10	0.01	6.25	
2758.00	0.790	136.910	2757.79	23.97	-16.83	24.87	1693777.87	14346799.39	39°30'27.2691"N	80°48'38.9371"W	30.03	124.078	0.21	-0.16	9.03	
2853.00	0.850	139.040	2852.78	25.22	-17.84	25.78	1693778.78	14346798.38	39°30'27.2591"N	80°48'38.9255"W	31.35	124.676	0.07	0.06	2.24	
2948.00	0.660	114.720	2947.77	26.25	-18.60	26.74	1693779.74	14346797.62	39°30'27.2516"N	80°48'38.9133"W	32.57	124.817	0.39	-0.20	-25.60	
3042.00	0.440	88.170	3041.77	26.73	-18.81	27.59	1693780.59	14346797.40	39°30'27.2495"N	80°48'38.9024"W	33.40	124.285	0.35	-0.23	-28.24	
3139.00	0.840	88.880	3138.76	27.06	-18.79	28.68	1693781.68	14346797.43	39°30'27.2497"N	80°48'38.8886"W	34.28	123.229	0.41	0.41	0.73	
3233.00	0.530	105.690	3232.76	27.52	-18.89	29.79	1693782.78	14346797.33	39°30'27.2486"N	80°48'38.8745"W	35.27	122.385	0.39	-0.33	17.88	
3328.00	2.280	335.500	3327.73	25.89	-17.29	29.42	1693782.42	14346798.93	39°30'27.2645"N	80°48'38.8790"W	34.13	120.439	2.79	1.84	-137.04	
3423.00	4.490	328.200	3422.56	20.38	-12.41	26.68	1693779.68	14346803.81	39°30'27.3128"N	80°48'38.9139"W	29.43	114.944	2.37	2.33	-7.68	
3517.00	6.200	326.050	3516.15	11.89	-5.07	21.91	1693774.91	14346811.14	39°30'27.3854"N	80°48'38.9746"W	22.49	103.034	1.83	1.82	-2.29	
3612.00	6.020	325.030	3610.61	2.15	3.27	16.19	1693769.19	14346819.47	39°30'27.4679"N	80°48'39.0474"W	16.51	78.592	0.22	-0.19	-1.07	
3707.00	7.320	324.370	3704.96	-8.43	12.27	9.81	1693762.81	14346828.47	39°30'27.5570"N	80°48'39.1285"W	15.71	38.635	1.37	1.37	-0.69	
3801.00	8.400	328.060	3798.08	-20.86	22.96	2.68	1693755.69	14346839.16	39°30'27.6628"N	80°48'39.2191"W	23.12	6.669	1.27	1.15	3.93	
3896.00	8.050	324.210	3892.10	-33.98	34.25	-4.88	1693748.14	14346850.44	39°30'27.7745"N	80°48'39.3153"W	34.59	351.896	0.69	-0.37	-4.05	
3991.00	6.610	323.520	3986.33	-45.56	44.04	-12.02	1693741.00	14346860.23	39°30'27.8715"N	80°48'39.4061"W	45.65	344.736	1.52	-1.52	-0.73	
4085.00	7.180	328.920	4079.65	-56.46	53.42	-18.27	1693734.75	14346869.61	39°30'27.9643"N	80°48'39.4856"W	56.46	341.122	0.92	0.61	5.74	
4180.00	8.080	335.930	4173.81	-68.91	64.60	-24.05	1693728.96	14346880.79	39°30'28.0749"N	80°48'39.5591"W	68.93	339.577	1.36	0.95	7.38	
4275.00	9.320	332.280	4267.71	-83.16	77.51	-30.36	1693722.67	14346893.69	39°30'28.2026"N	80°48'39.6392"W	83.24	338.612	1.43	1.31	-3.84	
4370.00	8.290	328.600	4361.59	-97.45	90.16	-37.50	1693715.52	14346906.34	39°30'28.3279"N	80°48'39.7300"W	97.65	337.415	1.24	-1.08	-3.87	
4464.00	6.390	322.860	4454.82	-109.03	100.12	-44.19	1693708.83	14346916.29	39°30'28.4264"N	80°48'39.8151"W	109.44	336.183	2.16	-2.02	-6.11	
4559.00	7.900	326.000	4549.08	-120.36	109.75	-51.04	1693701.99	14346925.91	39°30'28.5217"N	80°48'39.9021"W	121.03	335.060	1.64	1.59	3.31	
4653.00	9.730	325.020	4641.96	-134.23	121.61	-59.20	1693693.83	14346937.77	39°30'28.6391"N	80°48'40.0060"W	135.26	334.042	1.95	1.95	-1.04	
4748.00	10.560	322.560	4735.48	-150.19	135.10	-69.10	1693683.94	14346951.26	39°30'28.7726"N	80°48'40.1319"W	151.74	332.912	0.99	0.87	-2.59	
4843.00	10.000	329.510	4828.96	-166.53	149.12	-78.57	1693674.47	14346965.27	39°30'28.9114"N	80°48'40.2524"W	168.55	332.214	1.43	-0.59	7.32	
4937.00	10.290	338.310	4921.49	-182.91	163.96	-85.82	1693667.23	14346980.10	39°30'29.0582"N	80°48'40.3445"W	185.06	332.371	1.68	0.31	9.36	
5035.00	10.090	343.790	5017.95	-200.23	180.33	-91.45	1693661.60	14346996.47	39°30'29.2201"N	80°48'40.4159"W	202.19	333.109	1.01	-0.20	5.59	
5129.00	7.880	335.920	5110.79	-214.87	194.12	-96.38	1693656.67	14347010.26	39°30'29.3566"N	80°48'40.4784"W	216.73	333.596	2.68	-2.35	-8.37	
5224.00	8.130	346.940	5204.87	-228.04	206.61	-100.55	1693652.50	14347022.74	39°30'29.4801"N	80°48'40.5313"W	229.78	334.049	1.63	0.26	11.60	
5319.00	8.630	354.020	5298.86	-241.67	220.25	-102.81	1693650.24	14347036.37	39°30'29.6149"N	80°48'40.5598"W	243.06	334.976	1.21	0.53	7.45	

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Actual Wellpath Report

Toroweap Unit 1H AWP Proj: 18567'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Toroweap Unit 1H
Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08		

WELLPATH DATA (208 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
5413.00	7.270	349.950	5391.96	-254.42	233.12	-104.59	1693648.46	14347049.23	39°30'29.7421"N	80°48'40.5821"W	255.50	335.837	1.56	-1.45	-4.33	
5508.00	7.000	355.780	5486.22	-265.96	244.81	-106.06	1693646.99	14347060.92	39°30'29.8577"N	80°48'40.6006"W	266.80	336.576	0.81	-0.28	6.14	
5602.00	9.670	355.730	5579.22	-279.15	258.40	-107.07	1693645.98	14347074.50	39°30'29.9920"N	80°48'40.6131"W	279.70	337.492	2.84	2.84	-0.05	
5697.00	9.070	345.630	5672.96	-294.33	273.61	-109.52	1693643.53	14347089.71	39°30'30.1424"N	80°48'40.6440"W	294.72	338.184	1.84	-0.63	-10.63	
5792.00	8.840	348.040	5766.80	-309.04	288.00	-112.90	1693640.16	14347104.10	39°30'30.2847"N	80°48'40.6866"W	309.34	338.595	0.46	-0.24	2.54	
5886.00	7.150	343.730	5859.89	-322.06	300.69	-116.03	1693637.02	14347116.78	39°30'30.4102"N	80°48'40.7263"W	322.30	338.899	1.91	-1.80	-4.59	
5981.00	5.350	352.190	5954.32	-332.31	310.75	-118.29	1693634.77	14347126.84	39°30'30.5097"N	80°48'40.7548"W	332.50	339.160	2.12	-1.89	8.91	
6084.00	4.840	18.520	6056.93	-340.48	319.63	-117.56	1693635.49	14347135.71	39°30'30.5974"N	80°48'40.7453"W	340.56	339.806	2.30	-0.50	25.56	BH AT Curve <8-1/2"> (5981')(6084'-18542')
6179.00	2.010	65.640	6151.76	-343.82	324.12	-114.77	1693638.28	14347140.20	39°30'30.6417"N	80°48'40.7096"W	343.84	340.501	3.97	-2.98	49.60	
6273.00	6.340	138.050	6245.53	-339.20	320.94	-109.79	1693643.28	14347137.02	39°30'30.6101"N	80°48'40.6462"W	339.20	341.114	6.43	4.61	77.03	
6368.00	13.690	150.040	6339.03	-323.31	307.27	-100.66	1693652.39	14347123.36	39°30'30.4749"N	80°48'40.5300"W	323.34	341.862	8.00	7.74	12.62	
6463.00	21.320	152.740	6429.56	-295.15	282.15	-87.12	1693665.93	14347098.24	39°30'30.2263"N	80°48'40.3579"W	295.29	342.841	8.07	8.03	2.84	
6557.00	29.140	150.230	6514.53	-255.71	247.03	-67.90	1693685.14	14347063.15	39°30'29.8789"N	80°48'40.1136"W	256.19	344.632	8.39	8.32	-2.67	
6596.00†	32.357	149.502	6548.05	-236.16	229.79	-57.88	1693695.15	14347045.91	39°30'29.7083"N	80°48'39.9863"W	236.97	345.862	8.30	8.25	-1.87	Sycamore: 6596' MD
6651.00	36.900	148.670	6593.29	-205.60	202.99	-41.82	1693711.21	14347019.12	39°30'29.4431"N	80°48'39.7821"W	207.26	348.359	8.30	8.26	-1.51	
6736.00†	43.190	153.198	6658.34	-151.81	155.18	-15.40	1693737.61	14346971.32	39°30'28.9699"N	80°48'39.4463"W	155.94	354.332	8.15	7.40	5.33	Middlesex: 6736' MD
6746.00	43.940	153.660	6665.59	-144.98	149.01	-12.32	1693740.70	14346965.16	39°30'28.9090"N	80°48'39.4071"W	149.52	355.274	8.15	7.50	4.62	
6840.00	54.020	152.880	6727.21	-74.81	85.77	19.57	1693772.57	14346901.95	39°30'28.2832"N	80°48'39.0020"W	87.97	12.854	10.74	10.72	-0.83	
6886.00†	58.119	152.089	6752.88	-37.09	51.93	37.21	1693790.20	14346868.12	39°30'27.9484"N	80°48'38.7779"W	63.88	35.619	9.02	8.91	-1.72	Burkett: 6886' MD
6935.00	62.490	151.320	6777.15	4.89	14.46	57.38	1693810.37	14346830.67	39°30'27.5777"N	80°48'38.5215"W	59.18	75.852	9.02	8.92	-1.57	
6947.00†	63.244	151.018	6782.62	15.41	5.11	62.53	1693815.52	14346821.32	39°30'27.4852"N	80°48'38.4560"W	62.74	85.329	6.67	6.28	-2.52	Tully: 6947' MD
6977.00	65.130	150.280	6795.68	41.97	-18.43	75.77	1693828.75	14346797.79	39°30'27.2523"N	80°48'38.2878"W	77.98	103.670	6.67	6.29	-2.46	
7030.00	68.750	149.370	6816.44	89.78	-60.58	100.28	1693853.25	14346755.66	39°30'26.8352"N	80°48'37.9762"W	117.16	121.134	7.01	6.83	-1.72	
7082.00	72.910	149.350	6833.51	137.86	-102.83	125.31	1693878.27	14346713.43	39°30'26.4171"N	80°48'37.6580"W	162.10	129.372	8.00	8.00	-0.04	
7096.00†	73.762	149.790	6837.52	151.00	-114.39	132.10	1693885.06	14346701.87	39°30'26.3027"N	80°48'37.5717"W	174.74	130.890	6.79	6.09	3.15	Marcellus POE: 7096' MD
7124.00	75.470	150.660	6844.95	177.51	-137.82	145.51	1693898.46	14346678.44	39°30'26.0708"N	80°48'37.4013"W	200.42	133.447	6.79	6.10	3.11	
7219.00	84.330	156.040	6861.61	270.06	-221.33	187.34	1693940.28	14346594.97	39°30'25.2446"N	80°48'36.8697"W	289.97	139.753	10.86	9.33	5.66	
7314.00	90.150	152.800	6866.18	364.25	-306.86	228.30	1693981.22	14346509.47	39°30'24.3984"N	80°48'36.3496"W	382.47	143.352	7.01	6.13	-3.41	
7409.00	89.970	153.240	6866.08	458.30	-391.52	271.40	1694024.30	14346424.84	39°30'23.5608"N	80°48'35.8020"W	476.39	145.271	0.50	-0.19	0.46	
7503.00	90.150	156.320	6865.98	551.72	-476.55	311.45	1694064.33	14346339.85	39°30'22.7196"N	80°48'35.2933"W	569.30	146.834	3.28	0.19	3.28	

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Toroweap Unit 1H AWP Proj: 18567'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Toroweap Unit 1H
Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08		

WELLPATH DATA (208 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
7598.00	90.030	159.370	6865.83	646.55	-564.53	347.27	1694100.14	14346251.91	39°30'21.8493"N	80°48'34.8387"W	662.79	148.402	3.21	-0.13	3.21	
7693.00	90.000	161.290	6865.81	741.54	-653.98	379.24	1694132.10	14346162.49	39°30'20.9646"N	80°48'34.4332"W	755.99	149.891	2.02	-0.03	2.02	
7787.00	89.600	161.040	6866.14	835.54	-742.95	409.59	1694162.44	14346073.56	39°30'20.0846"N	80°48'34.0484"W	848.37	151.132	0.50	-0.43	-0.27	
7882.00	89.750	160.720	6866.68	930.54	-832.70	440.71	1694193.54	14345983.84	39°30'19.1969"N	80°48'33.6539"W	942.13	152.110	0.37	0.16	-0.34	
7976.00	91.510	161.210	6865.64	1024.53	-921.56	471.36	1694224.18	14345895.02	39°30'18.3181"N	80°48'33.2652"W	1035.11	152.911	1.94	1.87	0.52	
8071.00	89.940	159.490	6864.44	1119.50	-1011.01	503.30	1694256.11	14345805.60	39°30'17.4333"N	80°48'32.8601"W	1129.36	153.535	2.45	-1.65	-1.81	
8165.00	89.230	162.240	6865.12	1213.49	-1099.80	534.11	1694286.91	14345716.84	39°30'16.5551"N	80°48'32.4695"W	1222.64	154.097	3.02	-0.76	2.93	
8260.00	89.420	160.370	6866.24	1308.48	-1189.78	564.56	1694317.34	14345626.90	39°30'15.6652"N	80°48'32.0835"W	1316.93	154.615	1.98	0.20	-1.97	
8354.00	90.060	161.400	6866.67	1402.48	-1278.60	595.34	1694348.11	14345538.12	39°30'14.7868"N	80°48'31.6932"W	1410.40	155.032	1.29	0.68	1.10	
8449.00	90.120	160.250	6866.52	1497.47	-1368.32	626.54	1694379.30	14345448.43	39°30'13.8993"N	80°48'31.2976"W	1504.95	155.397	1.21	0.06	-1.21	
8544.00	89.970	161.050	6866.44	1592.47	-1457.96	658.02	1694410.77	14345358.83	39°30'13.0128"N	80°48'30.8984"W	1599.57	155.709	0.86	-0.16	0.84	
8639.00	90.620	162.490	6865.95	1687.46	-1548.18	687.74	1694440.47	14345268.64	39°30'12.1204"N	80°48'30.5217"W	1694.07	156.048	1.66	0.68	1.52	
8733.00	89.600	160.540	6865.77	1781.45	-1637.33	717.54	1694470.26	14345179.53	39°30'11.2387"N	80°48'30.1440"W	1787.65	156.335	2.34	-1.09	-2.07	
8827.00	90.310	161.260	6865.85	1875.45	-1726.15	748.30	1694501.01	14345090.75	39°30'10.3602"N	80°48'29.7540"W	1881.37	156.563	1.08	0.76	0.77	
8921.00	89.910	160.840	6865.67	1969.45	-1815.06	778.82	1694531.52	14345001.88	39°30'9.4809"N	80°48'29.3670"W	1975.09	156.776	0.62	-0.43	-0.45	
9016.00	90.520	160.910	6865.31	2064.45	-1904.81	809.95	1694562.63	14344912.16	39°30'8.5931"N	80°48'28.9724"W	2069.86	156.964	0.65	0.64	0.07	
9110.00	90.890	161.100	6864.15	2158.44	-1993.69	840.54	1694593.21	14344823.32	39°30'7.7141"N	80°48'28.5845"W	2163.63	157.140	0.44	0.39	0.20	
9205.00	89.880	160.900	6863.51	2253.43	-2083.51	871.47	1694624.13	14344733.53	39°30'6.8257"N	80°48'28.1924"W	2258.42	157.302	1.08	-1.06	-0.21	
9299.00	90.060	160.320	6863.56	2347.43	-2172.18	902.67	1694655.32	14344644.90	39°30'5.9487"N	80°48'27.7967"W	2352.27	157.434	0.65	0.19	-0.62	
9393.00	90.280	160.300	6863.28	2441.42	-2260.68	934.35	1694686.98	14344556.43	39°30'5.0734"N	80°48'27.3951"W	2446.16	157.545	0.24	0.23	-0.02	
9488.00	90.430	160.290	6862.70	2536.41	-2350.12	966.38	1694719.00	14344467.03	39°30'4.1888"N	80°48'26.9889"W	2541.05	157.647	0.16	0.16	-0.01	
9582.00	90.710	160.750	6861.76	2630.40	-2438.73	997.72	1694750.33	14344378.45	39°30'3.3123"N	80°48'26.5914"W	2634.93	157.750	0.57	0.30	0.49	
9677.00	89.140	162.090	6861.89	2725.39	-2528.77	1027.99	1694780.59	14344288.44	39°30'2.4217"N	80°48'26.2078"W	2729.74	157.877	2.17	-1.65	1.41	
9771.00	90.150	161.290	6862.47	2819.38	-2618.01	1057.52	1694810.11	14344199.24	39°30'1.5391"N	80°48'25.8335"W	2823.53	158.004	1.37	1.07	-0.85	
9865.00	90.180	160.570	6862.20	2913.38	-2706.85	1088.23	1694840.81	14344110.44	39°30'0.6604"N	80°48'25.4442"W	2917.41	158.098	0.77	0.03	-0.77	
9960.00	90.120	160.850	6861.95	3008.38	-2796.52	1119.61	1694872.18	14344020.81	39°29'59.7736"N	80°48'25.0463"W	3012.32	158.181	0.30	-0.06	0.29	
10055.00	89.940	160.310	6861.90	3103.38	-2886.11	1151.20	1694903.75	14343931.25	39°29'58.8874"N	80°48'24.6458"W	3107.23	158.254	0.60	-0.19	-0.57	
10149.00	89.600	160.590	6862.28	3197.37	-2974.69	1182.66	1694935.19	14343842.70	39°29'58.0113"N	80°48'24.2469"W	3201.17	158.319	0.47	-0.36	0.30	
10244.00	89.450	160.280	6863.06	3292.36	-3064.20	1214.47	1694966.99	14343753.23	39°29'57.1259"N	80°48'23.8436"W	3296.10	158.380	0.36	-0.16	-0.33	
10339.00	90.740	161.760	6862.91	3387.35	-3154.03	1245.36	1694997.88	14343663.43	39°29'56.2375"N	80°48'23.4519"W	3391.00	158.454	2.07	1.36	1.56	

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Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
10433.00	90.680	160.910	6861.74	3481.34	-3243.08	1275.44	1695027.95	14343574.42	39°29'55.3567"N	80°48'23.0706"W	3484.87	158.531	0.91	-0.06	-0.90	
10528.00	90.030	161.130	6861.15	3576.34	-3332.92	1306.34	1695058.83	14343484.62	39°29'54.4682"N	80°48'22.6790"W	3579.78	158.597	0.72	-0.68	0.23	
10623.00	89.630	160.250	6861.43	3671.34	-3422.57	1337.76	1695090.23	14343395.01	39°29'53.5815"N	80°48'22.2807"W	3674.72	158.651	1.02	-0.42	-0.93	
10717.00	90.830	161.460	6861.06	3765.33	-3511.37	1368.58	1695121.05	14343306.24	39°29'52.7032"N	80°48'21.8899"W	3768.65	158.706	1.81	1.28	1.29	
10812.00	90.120	161.570	6860.27	3860.33	-3601.46	1398.70	1695151.15	14343216.18	39°29'51.8121"N	80°48'21.5081"W	3863.53	158.775	0.76	-0.75	0.12	
10907.00	88.280	160.120	6861.60	3955.31	-3691.19	1429.87	1695182.31	14343126.49	39°29'50.9247"N	80°48'21.1130"W	3958.46	158.825	2.47	-1.94	-1.53	
11001.00	90.990	159.710	6862.19	4049.28	-3779.46	1462.15	1695214.57	14343038.26	39°29'50.0515"N	80°48'20.7037"W	4052.43	158.850	2.92	2.88	-0.44	
11095.00	90.340	161.140	6861.10	4143.26	-3868.02	1493.64	1695246.05	14342949.73	39°29'49.1756"N	80°48'20.3045"W	4146.39	158.886	1.67	-0.69	1.52	
11190.00	90.710	160.870	6860.23	4238.26	-3957.84	1524.56	1695276.96	14342859.95	39°29'48.2872"N	80°48'19.9125"W	4241.32	158.933	0.48	0.39	-0.28	
11285.00	90.460	160.830	6859.26	4333.25	-4047.58	1555.72	1695308.11	14342770.24	39°29'47.3996"N	80°48'19.5175"W	4336.26	158.975	0.27	-0.26	-0.04	
11379.00	90.920	161.340	6858.13	4427.24	-4136.50	1586.19	1695338.56	14342681.36	39°29'46.5202"N	80°48'19.1313"W	4430.19	159.020	0.73	0.49	0.54	
11473.00	90.460	161.420	6857.00	4521.24	-4225.57	1616.20	1695368.56	14342592.33	39°29'45.6392"N	80°48'18.7509"W	4524.11	159.069	0.50	-0.49	0.09	
11568.00	90.650	161.330	6856.08	4616.23	-4315.59	1646.54	1695398.89	14342502.34	39°29'44.7489"N	80°48'18.3664"W	4619.03	159.117	0.22	0.20	-0.09	
11663.00	90.430	160.870	6855.18	4711.23	-4405.46	1677.31	1695429.65	14342412.50	39°29'43.8599"N	80°48'17.9764"W	4713.97	159.156	0.54	-0.23	-0.48	
11758.00	90.860	161.410	6854.11	4806.22	-4495.36	1708.02	1695460.34	14342322.65	39°29'42.9708"N	80°48'17.5871"W	4808.90	159.196	0.73	0.45	0.57	
11852.00	89.970	160.870	6853.43	4900.22	-4584.31	1738.40	1695490.72	14342233.73	39°29'42.0911"N	80°48'17.2020"W	4902.85	159.233	1.11	-0.95	-0.57	
11947.00	90.000	160.300	6853.46	4995.21	-4673.90	1769.98	1695522.28	14342144.17	39°29'41.2049"N	80°48'16.8017"W	4997.82	159.259	0.60	0.03	-0.60	
12042.00	89.320	162.060	6854.02	5090.21	-4763.82	1800.62	1695552.92	14342054.29	39°29'40.3155"N	80°48'16.4133"W	5092.76	159.294	1.99	-0.72	1.85	
12136.00	88.520	159.250	6855.79	5184.18	-4852.49	1831.75	1695584.03	14341965.66	39°29'39.4385"N	80°48'16.0187"W	5186.71	159.319	3.11	-0.85	-2.99	
12231.00	90.310	161.150	6856.76	5279.15	-4941.86	1863.93	1695616.19	14341876.32	39°29'38.5546"N	80°48'15.6107"W	5281.69	159.335	2.75	1.88	2.00	
12326.00	90.180	160.930	6856.36	5374.15	-5031.70	1894.79	1695647.05	14341786.51	39°29'37.6659"N	80°48'15.2195"W	5376.64	159.365	0.27	-0.14	-0.23	
12420.00	89.320	160.880	6856.77	5468.15	-5120.53	1925.54	1695677.79	14341697.72	39°29'36.7874"N	80°48'14.8297"W	5470.61	159.392	0.92	-0.91	-0.05	
12515.00	89.600	161.170	6857.66	5563.14	-5210.36	1956.43	1695708.66	14341607.92	39°29'35.8989"N	80°48'14.4382"W	5565.57	159.419	0.42	0.29	0.31	
12609.00	89.110	160.940	6858.72	5657.14	-5299.27	1986.95	1695739.17	14341519.06	39°29'35.0195"N	80°48'14.0514"W	5659.52	159.447	0.58	-0.52	-0.24	
12731.00	89.780	159.930	6859.90	5779.12	-5414.21	2027.80	1695780.00	14341404.15	39°29'33.8826"N	80°48'13.5335"W	5781.50	159.467	0.99	0.55	-0.83	
12799.00	89.510	161.160	6860.32	5847.11	-5478.33	2050.45	1695802.64	14341340.07	39°29'33.2484"N	80°48'13.2464"W	5849.48	159.480	1.85	-0.40	1.81	
12893.00	89.780	160.750	6860.91	5941.11	-5567.18	2081.12	1695833.30	14341251.25	39°29'32.3696"N	80°48'12.8577"W	5943.45	159.503	0.52	0.29	-0.44	
12988.00	90.430	162.150	6860.73	6036.11	-5657.24	2111.34	1695863.51	14341161.22	39°29'31.4789"N	80°48'12.4747"W	6038.39	159.534	1.62	0.68	1.47	
13083.00	88.980	160.970	6861.22	6131.10	-5747.36	2141.39	1695893.55	14341071.14	39°29'30.5875"N	80°48'12.0939"W	6133.33	159.565	1.97	-1.53	-1.24	
13177.00	89.850	159.780	6862.18	6225.08	-5835.89	2172.96	1695925.10	14340982.64	39°29'29.7119"N	80°48'11.6937"W	6227.31	159.577	1.57	0.93	-1.27	

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Toroweap Unit 1H AWP Proj: 18567'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Toroweap Unit 1H
Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08		

WELLPATH DATA (208 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
13272.00	90.150	160.660	6862.18	6320.07	-5925.29	2205.11	1695957.24	14340893.29	39°29'28.8277"N	80°48'11.2862"W	6322.30	159.587	0.98	0.32	0.93	
13366.00	89.850	161.940	6862.18	6414.07	-6014.32	2235.24	1695987.36	14340804.29	39°29'27.9470"N	80°48'10.9043"W	6416.26	159.612	1.40	-0.32	1.36	
13461.00	90.060	161.800	6862.26	6509.06	-6104.61	2264.81	1696016.91	14340714.04	39°29'27.0541"N	80°48'10.5297"W	6511.19	159.645	0.27	0.22	-0.15	
13555.00	89.510	160.790	6862.61	6603.06	-6193.64	2294.95	1696047.05	14340625.04	39°29'26.1735"N	80°48'10.1477"W	6605.15	159.669	1.22	-0.59	-1.07	
13650.00	89.660	160.460	6863.30	6698.05	-6283.26	2326.47	1696078.55	14340535.46	39°29'25.2871"N	80°48'9.7482"W	6700.13	159.682	0.38	0.16	-0.35	
13744.00	90.340	161.730	6863.30	6792.05	-6372.18	2356.92	1696108.99	14340446.57	39°29'24.4075"N	80°48'9.3623"W	6794.10	159.702	1.53	0.72	1.35	
13839.00	89.720	161.400	6863.25	6887.04	-6462.31	2386.96	1696139.02	14340356.48	39°29'23.5162"N	80°48'8.9816"W	6889.05	159.727	0.74	-0.65	-0.35	
13934.00	89.570	160.470	6863.84	6982.04	-6552.09	2417.99	1696170.04	14340266.73	39°29'22.6281"N	80°48'8.5883"W	6984.03	159.744	0.99	-0.16	-0.98	
14028.00	89.820	159.770	6864.34	7076.03	-6640.49	2449.96	1696201.99	14340178.37	39°29'21.7538"N	80°48'8.1831"W	7078.02	159.749	0.79	0.27	-0.74	
14122.00	88.650	162.250	6865.59	7170.01	-6729.36	2480.54	1696232.56	14340089.53	39°29'20.8748"N	80°48'7.7955"W	7171.98	159.765	2.92	-1.24	2.64	
14217.00	89.480	160.210	6867.14	7264.99	-6819.29	2511.10	1696263.11	14339999.64	39°29'19.9853"N	80°48'7.4082"W	7266.93	159.785	2.32	0.87	-2.15	
14312.00	89.850	160.710	6867.70	7359.98	-6908.82	2542.87	1696294.87	14339910.15	39°29'19.0998"N	80°48'7.0055"W	7361.93	159.793	0.65	0.39	0.53	
14406.00	89.880	161.830	6867.92	7453.98	-6997.84	2573.06	1696325.04	14339821.16	39°29'18.2193"N	80°48'6.6230"W	7455.89	159.812	1.19	0.03	1.19	
14501.00	89.600	161.230	6868.35	7548.97	-7087.94	2603.15	1696355.13	14339731.10	39°29'17.3281"N	80°48'6.2417"W	7550.85	159.833	0.70	-0.29	-0.63	
14595.00	89.750	160.460	6868.88	7642.97	-7176.73	2634.00	1696385.96	14339642.34	39°29'16.4499"N	80°48'5.8508"W	7644.83	159.848	0.83	0.16	-0.82	
14690.00	90.490	161.620	6868.68	7737.97	-7266.58	2664.86	1696416.81	14339552.53	39°29'15.5612"N	80°48'5.4596"W	7739.81	159.861	1.45	0.78	1.22	
14784.00	90.340	161.410	6868.00	7831.96	-7355.73	2694.67	1696446.60	14339463.42	39°29'14.6795"N	80°48'5.0820"W	7833.77	159.880	0.27	-0.16	-0.22	
14878.00	89.780	160.900	6867.91	7925.96	-7444.69	2725.03	1696476.95	14339374.49	39°29'13.7996"N	80°48'4.6973"W	7927.74	159.896	0.81	-0.60	-0.54	
14973.00	89.940	161.320	6868.14	8020.96	-7534.57	2755.78	1696507.70	14339284.65	39°29'12.9106"N	80°48'4.3075"W	8022.72	159.910	0.47	0.17	0.44	
15068.00	89.820	161.820	6868.34	8115.96	-7624.70	2785.82	1696537.72	14339194.55	39°29'12.0192"N	80°48'3.9270"W	8117.68	159.929	0.54	-0.13	0.53	
15162.00	89.380	161.400	6868.99	8209.95	-7713.89	2815.47	1696567.36	14339105.39	39°29'11.1370"N	80°48'3.5513"W	8211.64	159.949	0.65	-0.47	-0.45	
15257.00	89.450	160.930	6869.96	8304.95	-7803.80	2846.14	1696598.02	14339015.52	39°29'10.2477"N	80°48'3.1627"W	8306.61	159.962	0.50	0.07	-0.49	
15351.00	90.150	161.310	6870.29	8398.95	-7892.74	2876.56	1696628.42	14338926.61	39°29'9.3680"N	80°48'2.7772"W	8400.59	159.975	0.85	0.74	0.40	
15446.00	89.290	161.030	6870.76	8493.94	-7982.66	2907.22	1696659.07	14338836.74	39°29'8.4787"N	80°48'2.3887"W	8495.57	159.989	0.95	-0.91	-0.29	
15541.00	90.220	161.000	6871.16	8588.94	-8072.49	2938.12	1696689.96	14338746.94	39°29'7.5902"N	80°48'1.9971"W	8590.55	160.000	0.98	0.98	-0.03	
15635.00	89.690	161.040	6871.24	8682.94	-8161.38	2968.70	1696720.52	14338658.09	39°29'6.7110"N	80°48'1.6097"W	8684.54	160.011	0.57	-0.56	0.04	
15730.00	90.220	161.770	6871.31	8777.94	-8251.42	2998.99	1696750.80	14338568.08	39°29'5.8204"N	80°48'1.2258"W	8779.51	160.026	0.95	0.56	0.77	
15825.00	89.850	161.410	6871.25	8872.94	-8341.55	3028.99	1696780.79	14338477.98	39°29'4.9289"N	80°48'0.8457"W	8874.47	160.043	0.54	-0.39	-0.38	
15919.00	89.660	161.060	6871.65	8966.93	-8430.56	3059.23	1696811.02	14338389.02	39°29'4.0486"N	80°48'0.4626"W	8968.45	160.055	0.42	-0.20	-0.37	
16014.00	89.630	161.300	6872.24	9061.93	-8520.47	3089.88	1696841.65	14338299.13	39°29'3.1592"N	80°48'0.0743"W	9063.43	160.067	0.25	-0.03	0.25	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Toroweap Unit 1H
Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08		

WELLPATH DATA (208 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
16108.00	90.030	161.030	6872.52	9155.93	-8609.44	3120.22	1696871.99	14338210.20	39°29'2.2793"N	80°47'59.6898"W	9157.42	160.079	0.51	0.43	-0.29	
16203.00	90.090	161.680	6872.42	9250.93	-8699.45	3150.60	1696902.35	14338120.22	39°29'1.3890"N	80°47'59.3050"W	9252.39	160.092	0.69	0.06	0.68	
16297.00	89.630	160.860	6872.65	9344.93	-8788.47	3180.78	1696932.52	14338031.24	39°29'0.5085"N	80°47'58.9225"W	9346.37	160.103	1.00	-0.49	-0.87	
16391.00	89.110	160.660	6873.68	9438.92	-8877.22	3211.75	1696963.48	14337942.53	39°28'59.6307"N	80°47'58.5300"W	9440.36	160.110	0.59	-0.55	-0.21	
16486.00	89.780	161.060	6874.61	9533.91	-8966.96	3242.90	1696994.62	14337852.82	39°28'58.7431"N	80°47'58.1353"W	9535.35	160.117	0.82	0.71	0.42	
16580.00	89.880	161.210	6874.88	9627.91	-9055.91	3273.29	1697025.00	14337763.91	39°28'57.8633"N	80°47'57.7502"W	9629.33	160.127	0.19	0.11	0.16	
16675.00	89.690	160.740	6875.24	9722.91	-9145.72	3304.26	1697055.95	14337674.13	39°28'56.9750"N	80°47'57.3578"W	9724.32	160.136	0.53	-0.20	-0.49	
16770.00	90.370	161.390	6875.19	9817.91	-9235.58	3335.09	1697086.77	14337584.31	39°28'56.0862"N	80°47'56.9673"W	9819.31	160.145	0.99	0.72	0.68	
16864.00	89.820	162.620	6875.03	9911.90	-9324.98	3364.13	1697115.80	14337494.95	39°28'55.2020"N	80°47'56.5994"W	9913.25	160.162	1.43	-0.59	1.31	
16958.00	89.260	161.040	6875.79	10005.88	-9414.29	3393.44	1697145.09	14337405.68	39°28'54.3187"N	80°47'56.2282"W	10007.21	160.178	1.78	-0.60	-1.68	
17053.00	89.290	160.330	6876.99	10100.87	-9503.93	3424.86	1697176.50	14337316.07	39°28'53.4320"N	80°47'55.8300"W	10102.20	160.183	0.75	0.03	-0.75	
17147.00	89.940	160.930	6877.62	10194.87	-9592.61	3456.03	1697207.66	14337227.43	39°28'52.5549"N	80°47'55.4350"W	10196.19	160.187	0.94	0.69	0.64	
17242.00	89.820	161.330	6877.82	10289.87	-9682.50	3486.76	1697238.38	14337137.57	39°28'51.6658"N	80°47'55.0457"W	10291.18	160.196	0.44	-0.13	0.42	
17336.00	89.720	161.420	6878.20	10383.86	-9771.58	3516.78	1697268.39	14337048.53	39°28'50.7847"N	80°47'54.6653"W	10385.16	160.206	0.14	-0.11	0.10	
17431.00	89.350	160.460	6878.97	10478.86	-9861.37	3547.80	1697299.40	14336958.78	39°28'49.8966"N	80°47'54.2723"W	10480.14	160.213	1.08	-0.39	-1.01	
17525.00	89.630	160.920	6879.81	10572.85	-9950.07	3578.88	1697330.47	14336870.10	39°28'49.0192"N	80°47'53.8784"W	10574.14	160.217	0.57	0.30	0.49	
17620.00	89.170	160.880	6880.80	10667.85	-10039.84	3609.97	1697361.54	14336780.37	39°28'48.1314"N	80°47'53.4846"W	10669.13	160.223	0.49	-0.48	-0.04	
17715.00	89.910	161.360	6881.56	10762.84	-10129.72	3640.71	1697392.26	14336690.52	39°28'47.2423"N	80°47'53.0951"W	10764.11	160.231	0.93	0.78	0.51	
17809.00	89.080	160.900	6882.39	10856.84	-10218.67	3671.11	1697422.65	14336601.62	39°28'46.3626"N	80°47'52.7100"W	10858.09	160.239	1.01	-0.88	-0.49	
17903.00	89.480	160.970	6883.57	10950.83	-10307.50	3701.81	1697453.34	14336512.82	39°28'45.4839"N	80°47'52.3210"W	10952.08	160.245	0.43	0.43	0.07	
17997.00	89.350	160.670	6884.53	11044.82	-10396.28	3732.69	1697484.21	14336424.07	39°28'44.6058"N	80°47'51.9297"W	11046.07	160.250	0.35	-0.14	-0.32	
18092.00	90.340	161.510	6884.79	11139.82	-10486.15	3763.48	1697514.98	14336334.24	39°28'43.7169"N	80°47'51.5396"W	11141.06	160.257	1.37	1.04	0.88	
18186.00	89.880	161.570	6884.61	11233.82	-10575.32	3793.24	1697544.74	14336245.11	39°28'42.8350"N	80°47'51.1626"W	11235.03	160.268	0.49	-0.49	0.06	
18281.00	89.480	161.170	6885.14	11328.82	-10665.34	3823.59	1697575.07	14336155.13	39°28'41.9446"N	80°47'50.7782"W	11330.01	160.277	0.60	-0.42	-0.42	
18375.00	89.720	161.050	6885.80	11422.81	-10754.27	3854.02	1697605.49	14336066.23	39°28'41.0649"N	80°47'50.3926"W	11424.00	160.284	0.29	0.26	-0.13	
18470.00	89.850	161.300	6886.15	11517.81	-10844.19	3884.67	1697636.13	14335976.35	39°28'40.1756"N	80°47'50.0043"W	11518.99	160.291	0.30	0.14	0.26	
18542.00	89.720	162.250	6886.42	11589.81	-10912.58	3907.19	1697658.64	14335907.99	39°28'39.4992"N	80°47'49.7191"W	11590.96	160.300	1.33	-0.18	1.32	
18567.00	89.720	162.250	6886.55	11614.80	-10936.38	3914.81	1697666.26	14335884.19	39°28'39.2637"N	80°47'49.6226"W	11615.95	160.305	0.00	0.00	0.00	Projected MD at TD: 18567'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Toroweap Unit 1H
Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08		

HOLE & CASING SECTIONS - Ref Wellbore: Toroweap Unit 1H AWB Ref Wellpath: Toroweap Unit 1H AWP Proj: 18567'

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	-0.29	0.24
17.5in Open Hole	105.50	381.00	275.50	105.50	381.00	-0.29	0.24	-0.58	0.81
13.375in Casing Surface	25.50	361.00	335.50	25.50	361.00	0.00	0.00	-0.59	0.78
12.25in Open Hole	381.00	2575.00	2194.00	381.00	2574.81	-0.58	0.81	-15.03	22.65
9.625in Casing Intermediate	25.50	2555.00	2529.50	25.50	2554.82	0.00	0.00	-14.86	22.38
8.75in Open Hole	2575.00	6052.00	3477.00	2574.81	6025.04	-15.03	22.65	317.01	-118.22
8.5in Open Hole	6052.00	18567.00	12515.00	6025.04	6886.55	317.01	-118.22	-10936.38	3914.81
5.5in Casing Production	25.50	18547.00	18521.50	25.50	6886.45	0.00	0.00	-10917.34	3908.72

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Field	Tyler	API	47-095-02765-0000
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Slot	Slot #08		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Toroweap Unit 1H POE Rev-3	6844.00	-121.57	120.48	1693873.44	14346694.69	39°30'26.2320"N	80°48'37.7202"W	point
Toroweap Unit 1H AZI Rev-3	6869.00	-647.66	387.01	1694139.87	14346168.80	39°30'21.0268"N	80°48'34.3339"W	point
Toroweap Unit 1H BHL Rev-3	6869.00	-10917.05	3901.12	1697652.57	14335903.51	39°28'39.4551"N	80°47'49.7967"W	point
Toroweap Unit 1H LP Rev-3	6869.00	-282.35	217.09	1693970.01	14346533.97	39°30'24.6409"N	80°48'36.4919"W	point
Toroweap Unit 1H 50' L/R Hard Line	7000.00	-5782.36	2144.06	1695896.22	14341036.16	39°29'30.2416"N	80°48'12.0608"W	rectangle
2D Rectangle 10854 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Toroweap Unit 1H AWB Ref Wellpath: Toroweap Unit 1H AWP Proj: 18567'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	380.00	Gyrodata 2015 - GC+WR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (100'-380')	Toroweap Unit 1H AWB	3/10/2022
380.00	2498.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-1/4"> (380')(410'-2498')	Toroweap Unit 1H AWB	3/10/2022
2498.00	5981.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (2498')(2569'-5981')	Toroweap Unit 1H AWB	4/12/2022
5981.00	18567.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (5981')(6084'-18542')	Toroweap Unit 1H AWB	4/12/2022

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Actual Wellpath Report

Toroweap Unit 1H AWP Proj: 18567'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Toroweap Unit 1H
Field	Tyler	API	47-095-02765-0000
Facility	Grand Pad	Wellbore	Toroweap Unit 1H AWB
Slot	Slot #08		

COMMENTS

Wellpath general comments

API: 47-095-02765-0000
 BH Job #: 111277219
 Rig: H&P 317
 Duration: 4/28/2022-5/2/2022
 Gyrodata MS Gyro <17-1/2"> (100'-380')
 APS EM <12-1/4"> (380')(410'-2498')
 APS EM <8-3/4"> (2498')(2569'-5981')
 BH AT Curve <8-1/2"> (5981')(6084'-18542')
 Sycamore: 6596' MD
 Middlesex: 6736' MD
 Burkett: 6886' MD
 Tully: 6947' MD
 Marcellus POE: 7096' MD
 Projected MD at TD: 18567'

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