

ANTERO RESOURCES CORPORATION

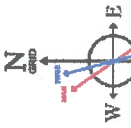
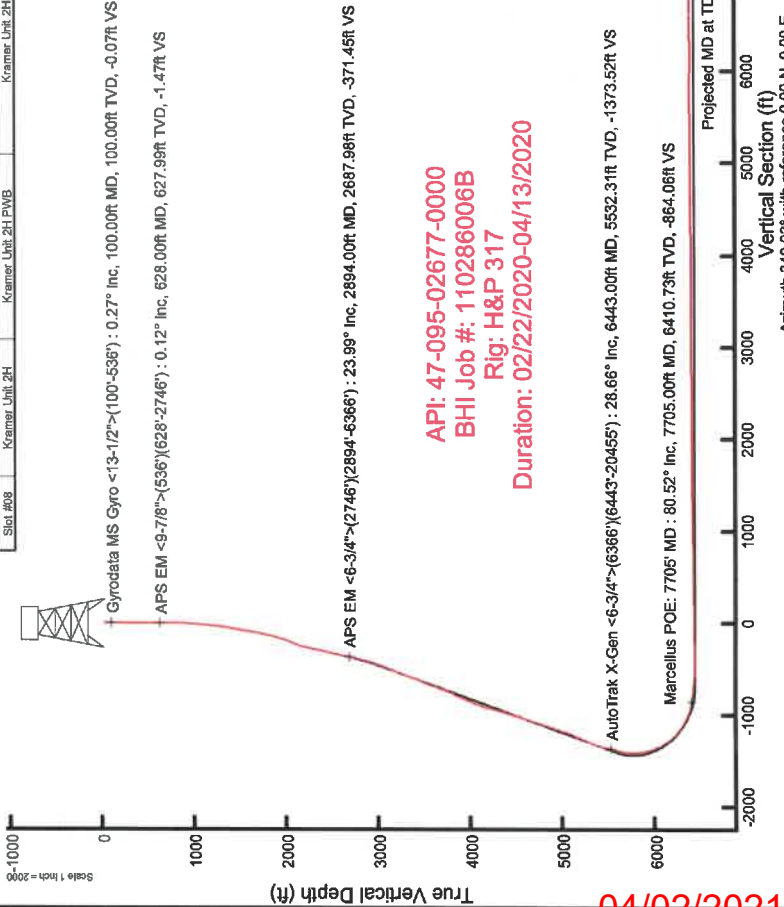
Location: Tyler County, WV
 Slot: Slot #08
 Well: Kramer Unit 2H
 Facility: Hoque Pad
 Wellbore: Kramer Unit 2H PWB

Fig. reference weights in Kramer Unit 2H PWB Rev-B.0	Unit System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RWS)	North Reference Grid north
Reference weights measured depths are referenced to H&P 317 (RWS)	Scale: True distance
H&P 317 (RWS) to Mean Sea Level (MSL)	Coordinates are in feet referenced to SRT
Mean Sea Level to Ground level (At Slot Slot #08)	Depth in feet
Other well: H&P are referenced to each other about 80 feet	Created by: J. Baker on 2020-04-13 Database: VLS_H&P_Baker08_08.dwg

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Hoque Pad	1088760.410	8972677.15807N	89°53'35.59107W
Slot	Local E (ft)	Local N (ft)	Longitude
Slot #08	76.67	108872.051	89°53'32.69807W
H&P 317 (RWS) to Ground level (At Slot Slot #08)	25.81ft		
Mean Sea Level to Ground level (At Slot Slot #08)	-1014.0ft		
H&P 317 (RWS) to Mean Sea Level	1040ft		

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local E (ft)	Local N (ft)	DLS (ft/100ft)	VS (ft)
Run On	2746.00	28.170	100.470	2553.94	-91.24	783.72	1.17	-942.29
Prog to BH	2919.00	28.170	100.470	2819.45	-97.00	815.38	0.00	-956.16
D/H/O/L Csg	2919.00	28.170	100.470	2709.20	-105.10	859.75	0.00	-970.91
Hold Tangent	3255.57	37.162	98.651	3026.81	-138.46	1048.03	3.00	-473.28
Curve KOP	6522.20	37.162	99.651	5000.10	-496.24	2875.45	0.00	-1412.80
POE	7674.25	72.539	540.934	6416.00	129.01	3186.62	8.00	-919.21
Landing PL	7892.51	90.000	540.934	6446.00	332.12	3116.42	8.00	-704.32
BHL	20511.83	90.000	540.934	6448.00	42258.68	-11005.72	0.00	11914.80

Well Data		
Slot	Well	Wellbore
Slot #08	Kramer Unit 2H	Kramer Unit 2H AWB
	Kramer Unit 2H	Kramer Unit 2H PWB
		Kramer Unit 2H PWP Rev-B.0



User specified (UDGM) Dip: 68.47° Field: 51737.5T
 Magnetic North is 7.60 degrees West of True North (at 4/6/2020)
 Grid North is 0.06 degrees East of True North
 To correct azimuth from True to Grid subtract 0.06 degrees
 To correct azimuth from Magnetic to Grid subtract 7.66 degrees

04/02/2021



Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480'
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Field	Tyler
Facility	Hogue Pad
Slot	Slot #08
Well	Kramer Unit 2H
API	47-095-02677-0000
Wellbore	Kramer Unit 2H AWB

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999601
Convergence at slot	0.06° East
Software System	WellArchitect® 6.0
User	Delaset
Report Generated	4/20/2020 at 3:23:12 PM
Database	WA_MPL_EasternUS_Defn

Wellpath Location	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Northing[US ft]	Easting[US ft]	Latitude	Longitude
Slot Location	76.57	71.67	14333680.80	1669212.05	39°28'17.9540"N	80°53'52.6660"W
Facility Reference Pt			1669140.41	14333604.26	39°28'17.1980"N	80°53'53.5810"W
Field Reference Pt			0.00	0.00	0°00'00.0000"	85°29'19.3013"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	H&P 317 (RKB)
MD Reference Pt	H&P 317 (RKB)
Field Vertical Reference	Mean Sea Level
	H&P 317 (RKB) to Facility Vertical Datum
	H&P 317 (RKB) to Mean Sea Level
	H&P 317 (RKB) to Ground Level at Slot (Slot #08)
	Section Origin
	Section Azimuth
	25.50ft
	1040.00ft
	25.50ft
	N 0.00, E 0.00 ft
	340.93°

Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480'
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Facility	Hogue Pad
Slot	Slot #08
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API	47-095-02677-0000
Wellbore	Kramer Unit 2H AWB

WELLPATH DATA (223 stations) † = interpolated, ‡ = extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00†	0.00	228.800	0.00	0.00	0.00	0.00	1669212.05	14333680.80	39°28'17.9540"N	80°53'52.6660"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.00	228.800	25.50	0.00	0.00	0.00	1669212.05	14333680.80	39°28'17.9540"N	80°53'52.6660"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.270	228.800	100.00	-0.07	-0.12	-0.13	1669211.92	14333680.69	39°28'17.9529"N	80°53'52.6677"W	0.18	228.800	0.36	0.36	0.00	Gyrodota MS Gyro <13-1/2"> (100'-536')
200.00	0.300	218.100	200.00	-0.30	-0.48	-0.47	1669211.58	14333680.32	39°28'17.9493"N	80°53'52.6720"W	0.67	224.641	0.06	0.03	-10.70	
300.00	0.340	214.430	300.00	-0.62	-0.93	-0.80	1669211.25	14333679.87	39°28'17.9448"N	80°53'52.6762"W	1.23	220.783	0.04	0.04	-3.67	
400.00	0.240	216.990	400.00	-0.91	-1.34	-1.09	1669210.96	14333679.46	39°28'17.9408"N	80°53'52.6800"W	1.73	219.236	0.10	-0.10	2.56	
500.00	0.140	203.360	500.00	-1.12	-1.62	-1.27	1669210.78	14333679.18	39°28'17.9380"N	80°53'52.6822"W	2.06	218.076	0.11	-0.10	-13.63	
536.00	0.210	163.490	535.99	-1.21	-1.72	-1.27	1669210.78	14333679.08	39°28'17.9370"N	80°53'52.6822"W	2.14	216.336	0.38	0.19	-110.75	
628.00	0.120	177.550	627.99	-1.47	-1.98	-1.22	1669210.84	14333678.82	39°28'17.9344"N	80°53'52.6815"W	2.32	211.529	0.11	-0.10	15.28	APS EM <9-7/8"> (536') (628'-2746')
869.00	2.820	103.700	868.90	-4.93	-3.64	4.56	1669216.61	14333677.17	39°28'17.9180"N	80°53'52.6079"W	5.83	128.597	1.16	1.12	-30.84	
961.00	9.340	99.140	960.33	-9.69	-5.36	14.14	1669226.18	14333675.44	39°28'17.9009"N	80°53'52.4858"W	15.12	110.768	7.10	7.08	-4.96	
1056.00	13.670	92.770	1053.40	-17.51	-7.13	32.97	1669245.01	14333673.38	39°28'17.8832"N	80°53'52.2457"W	33.73	102.201	4.74	4.58	-6.71	
1151.00	14.960	88.860	1145.45	-25.46	-7.43	56.44	1669268.47	14333673.38	39°28'17.8800"N	80°53'51.9464"W	56.93	97.496	1.70	1.36	-4.12	
1246.00	16.720	87.420	1236.84	-33.12	-6.57	82.36	1669294.37	14333674.24	39°28'17.8882"N	80°53'51.6159"W	82.62	94.560	1.90	1.85	-1.52	
1341.00	20.730	92.480	1326.80	-43.17	-6.68	112.82	1669324.83	14333674.12	39°28'17.8867"N	80°53'51.2275"W	113.02	93.389	4.55	4.22	5.33	
1436.00	24.490	93.790	1414.48	-57.01	-8.71	149.28	1669361.27	14333672.09	39°28'17.8662"N	80°53'50.7626"W	149.53	93.339	3.99	3.96	1.38	
1530.00	28.010	91.390	1498.78	-72.29	-10.53	190.80	1669402.77	14333670.27	39°28'17.8477"N	80°53'50.2332"W	191.09	93.160	3.91	3.74	-2.55	
1625.00	30.220	88.880	1581.77	-87.46	-10.61	237.01	1669448.97	14333670.20	39°28'17.8465"N	80°53'49.6439"W	237.25	92.563	2.66	2.33	-2.64	
1720.00	30.410	89.020	1663.78	-102.30	-9.73	284.95	1669496.99	14333671.08	39°28'17.8546"N	80°53'49.0325"W	285.12	91.956	0.21	0.20	0.15	
1815.00	29.190	92.840	1746.23	-118.41	-10.47	332.14	1669544.06	14333670.34	39°28'17.8468"N	80°53'48.4309"W	332.30	91.805	2.37	-1.28	4.02	
1909.00	29.630	94.990	1828.12	-136.44	-13.62	378.18	1669590.08	14333667.18	39°28'17.8151"N	80°53'47.8438"W	378.43	92.063	1.22	0.47	2.23	
2004.00	30.760	99.830	1910.24	-157.76	-19.81	425.52	1669637.40	14333660.99	39°28'17.7534"N	80°53'47.2402"W	425.98	92.666	2.82	1.19	5.03	
2099.00	33.940	103.820	1990.49	-183.91	-30.30	475.23	1669687.09	14333650.51	39°28'17.6492"N	80°53'46.8065"W	476.20	93.648	4.03	3.35	4.21	
2194.00	35.070	104.540	2068.78	-213.42	-43.49	527.40	1669739.24	14333637.33	39°28'17.5182"N	80°53'45.9414"W	529.19	94.714	1.26	1.19	0.76	
2289.00	34.270	103.940	2146.91	-243.10	-56.78	579.78	1669791.60	14333624.04	39°28'17.3862"N	80°53'45.2737"W	582.56	95.594	0.92	-0.84	-0.63	
2384.00	27.620	99.210	2228.35	-268.13	-66.76	627.54	1669839.34	14333614.06	39°28'17.2870"N	80°53'44.6649"W	631.08	96.073	7.45	-7.00	-4.98	
2479.00	23.730	97.230	2313.96	-287.04	-72.70	668.26	1669880.04	14333608.13	39°28'17.2279"N	80°53'44.1458"W	672.20	96.209	4.19	-4.03	-2.03	
2573.00	26.040	98.410	2399.23	-304.95	-78.10	707.44	1669919.20	14333602.74	39°28'17.1741"N	80°53'43.6462"W	711.73	96.300	2.51	2.46	1.28	
2668.00	27.070	100.190	2484.21	-325.13	-84.97	749.34	1669961.09	14333595.86	39°28'17.1057"N	80°53'43.1120"W	754.14	96.469	1.37	1.08	1.87	
2746.00	26.170	100.470	2553.94	-342.29	-91.24	783.72	1669995.46	14333589.50	39°28'17.0434"N	80°53'42.6736"W	789.02	96.640	1.17	-1.15	0.36	

Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Kramer Unit 2H
Field	Tyler	API	47-095-02677-0000
Facility	Hogue Pad	Wellbore	Kramer Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (223 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
2894.00	23.990	96.660	2687.98	-371.45	-100.66	845.71	1670057.43	14333580.18	39°28'16.9496"N	80°53'41.8833"W	851.68	96.788	1.83	-1.47	-2.57	APPS EM <6-3/4' >(2746' 2894-6366')
2989.00	27.180	100.350	2773.66	-390.50	-106.80	886.25	1670097.95	14333574.05	39°28'16.8884"N	80°53'41.3665"W	892.66	96.871	3.75	3.36	3.88	
3084.00	31.010	98.570	2856.66	-412.52	-114.35	931.81	1670143.49	14333566.50	39°28'16.8133"N	80°53'40.7856"W	938.80	96.996	4.13	4.03	-1.87	
3178.00	33.970	97.760	2935.94	-435.61	-121.50	981.79	1670193.45	14333559.35	39°28'16.7420"N	80°53'40.1485"W	989.28	97.055	3.18	3.15	-0.86	
3273.00	37.520	98.510	3013.03	-460.99	-129.37	1036.72	1670248.35	14333551.48	39°28'16.6636"N	80°53'39.4482"W	1044.76	97.113	3.77	3.74	0.79	
3368.00	40.010	98.870	3087.10	-488.70	-138.36	1095.51	1670307.12	14333542.50	39°28'16.5740"N	80°53'38.6886"W	1104.21	97.198	2.63	2.62	0.38	
3462.00	38.930	104.230	3159.68	-519.08	-150.28	1194.01	1670365.60	14333530.58	39°28'16.4555"N	80°53'37.9828"W	1163.76	97.420	3.80	-1.15	5.70	
3562.00	36.790	100.320	3238.64	-551.03	-163.37	1213.94	1670425.51	14333517.49	39°28'16.3254"N	80°53'37.1388"W	1224.89	97.665	3.21	-2.14	-3.91	
3657.00	37.920	99.280	3314.16	-578.85	-173.18	1270.74	1670482.28	14333507.69	39°28'16.2279"N	80°53'36.4847"W	1282.49	97.761	1.36	1.19	-1.09	
3752.00	40.200	96.870	3387.92	-606.13	-181.55	1330.00	1670541.52	14333499.32	39°28'16.1444"N	80°53'35.7092"W	1342.33	97.773	2.88	2.40	-2.54	
3846.00	40.000	99.500	3459.83	-633.85	-190.17	1389.92	1670601.41	14333490.71	39°28'16.0585"N	80°53'34.9452"W	1402.87	97.791	1.81	-0.21	2.80	
3941.00	39.490	104.290	3532.89	-665.07	-202.67	1449.32	1670660.79	14333478.21	39°28'15.9343"N	80°53'34.1880"W	1463.42	97.960	3.27	-0.54	5.04	
4035.00	37.560	98.700	3606.45	-694.87	-214.38	1506.63	1670718.08	14333466.50	39°28'15.8179"N	80°53'33.4574"W	1521.81	98.098	4.23	-2.05	-5.95	
4130.00	35.550	100.560	3682.76	-722.02	-223.83	1562.41	1670773.83	14333457.06	39°28'15.7239"N	80°53'32.7463"W	1578.36	98.153	2.42	-2.12	1.96	
4225.00	37.640	103.520	3759.04	-751.30	-235.67	1617.77	1670829.18	14333445.22	39°28'15.6061"N	80°53'32.0405"W	1634.85	98.288	2.88	2.20	3.12	
4319.00	40.040	104.720	3832.25	-783.58	-250.07	1674.93	1670886.31	14333430.83	39°28'15.4632"N	80°53'31.3118"W	1693.50	98.492	2.68	2.55	1.28	
4414.00	40.450	105.610	3904.76	-818.11	-266.13	1734.17	1670945.53	14333414.78	39°28'15.3038"N	80°53'30.5567"W	1754.47	98.725	0.74	0.43	0.94	
4509.00	37.620	100.940	3978.56	-850.16	-279.93	1792.34	1671003.68	14333400.99	39°28'15.1667"N	80°53'29.8151"W	1814.07	98.877	4.29	-2.98	-4.92	
4604.00	36.740	101.750	4054.25	-879.22	-291.22	1848.63	1671059.94	14333389.70	39°28'15.0545"N	80°53'29.0975"W	1871.43	98.952	1.06	-0.93	0.85	
4699.00	36.370	98.840	4130.57	-906.97	-301.33	1904.29	1671115.57	14333379.59	39°28'14.9538"N	80°53'28.3880"W	1927.98	98.992	1.87	-0.38	-3.06	
4794.00	35.500	94.800	4207.50	-931.32	-307.97	1959.61	1671170.88	14333372.96	39°28'14.8875"N	80°53'27.6826"W	1983.67	98.931	2.66	-0.92	-4.25	
4889.00	34.520	93.640	4285.31	-952.87	-311.99	2013.97	1671225.21	14333368.94	39°28'14.8472"N	80°53'26.9896"W	2037.99	98.806	1.25	-1.03	-1.22	
4983.00	37.090	91.290	4361.54	-973.02	-314.32	2068.90	1671280.12	14333366.61	39°28'14.8235"N	80°53'26.2892"W	2092.64	98.639	3.10	2.73	-2.50	
5078.00	41.210	94.180	4435.21	-995.35	-317.24	2128.78	1671339.97	14333363.69	39°28'14.7939"N	80°53'25.5257"W	2152.29	98.476	4.74	4.34	3.04	
5172.00	36.110	96.550	4508.59	-1019.57	-322.66	2187.22	1671398.39	14333358.27	39°28'14.7396"N	80°53'24.7606"W	2210.89	98.392	5.65	-5.43	2.52	
5267.00	35.360	96.380	4585.70	-1043.49	-328.91	2242.35	1671453.50	14333352.02	39°28'14.6772"N	80°53'24.0777"W	2266.34	98.345	0.80	-0.79	-0.18	
5362.00	33.520	99.620	4664.05	-1067.90	-336.35	2295.54	1671506.67	14333344.59	39°28'14.6030"N	80°53'23.3995"W	2320.05	98.336	2.73	-1.94	3.41	
5456.00	34.950	99.270	4741.76	-1093.14	-345.03	2347.70	1671566.81	14333335.91	39°28'14.5166"N	80°53'22.7345"W	2372.92	98.361	1.54	1.52	-0.37	
5551.00	37.490	99.660	4818.40	-1119.96	-354.26	2403.07	1671614.16	14333326.68	39°28'14.4247"N	80°53'22.0287"W	2429.04	98.386	2.68	2.67	0.41	
5646.00	35.150	94.300	4894.96	-1144.71	-361.17	2458.86	1671669.92	14333319.78	39°28'14.3558"N	80°53'21.3174"W	2485.24	98.356	4.15	-2.46	-5.64	

Actual Wellpath Report

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Facility	Hogue Pad
Slot	Slot #08
Well	Kramer Unit 2H
API	47-095-02677-0000
Wellbore	Kramer Unit 2H AWB

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MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
ft	°	°	ft	ft	ft	ft	US ft	US ft	°	°	ft	°	"/100ft	"/100ft	"/100ft	
5741.00	36.200	96.270	4972.13	-1167.57	-366.28	2514.02	1671725.06	14333314.67	39°28'14.3045"N	80°53'20.6141"W	2540.56	98.289	1.64	1.11	2.07	
5836.00	40.210	98.280	5046.77	-1193.67	-373.76	2572.28	1671783.30	14333307.19	39°28'14.2299"N	80°53'19.8713"W	2599.29	98.267	4.42	4.22	2.12	
5931.00	40.820	101.320	5119.00	-1223.47	-384.28	2633.08	1671844.07	14333296.68	39°28'14.1252"N	80°53'19.0962"W	2660.97	98.303	2.18	0.64	3.20	
6026.00	37.850	102.550	5192.47	-1254.47	-396.71	2691.98	1671902.96	14333284.25	39°28'14.0017"N	80°53'18.3453"W	2721.06	98.383	3.23	-3.13	1.29	
6120.00	37.410	103.840	5266.92	-1285.10	-409.80	2747.86	1671958.81	14333274.16	39°28'13.8745"N	80°53'17.6330"W	2778.26	98.482	0.96	-0.47	1.37	
6215.00	37.450	104.030	5342.35	-1316.56	-423.71	2803.90	1672014.83	14333257.26	39°28'13.7334"N	80°53'16.9186"W	2835.73	98.593	0.13	0.04	0.20	
6310.00	34.850	97.610	5419.09	-1344.53	-434.31	2858.86	1672069.76	14333246.66	39°28'13.6280"N	80°53'16.2180"W	2891.66	98.638	4.83	-2.74	-6.76	
6366.00	31.950	96.170	5466.83	-1358.04	-438.02	2889.45	1672100.35	14333242.95	39°28'13.5909"N	80°53'15.8279"W	2922.47	98.620	5.37	-5.18	-2.57	
6443.00	28.660	92.520	5532.31	-1373.52	-441.03	2928.17	1672139.05	14333239.95	39°28'13.5607"N	80°53'15.3343"W	2961.20	98.565	4.89	-4.27	-4.74	AutoTrak X-Gen <6-3/4">(6366"(6443"-20455')
6538.00	31.590	95.940	5614.47	-1392.43	-444.60	2975.69	1672186.55	14333236.38	39°28'13.5248"N	80°53'14.7284"W	3008.72	98.498	3.57	3.08	3.60	
6633.00	33.630	86.750	5694.54	-1410.14	-445.69	3026.74	1672237.58	14333235.29	39°28'13.5134"N	80°53'14.0774"W	3059.38	98.377	5.63	2.15	-9.67	
6727.00	30.310	68.970	5774.45	-1416.44	-435.68	3074.99	1672285.81	14333245.30	39°28'13.6118"N	80°53'13.4620"W	3105.70	98.064	10.58	-3.53	-18.91	
6822.00	29.970	57.910	5856.67	-1410.27	-414.45	3117.50	1672328.30	14333266.52	39°28'13.8211"N	80°53'12.9196"W	3144.93	97.573	5.85	-0.36	-11.64	
6917.00	31.900	45.320	5938.24	-1394.05	-384.16	3155.50	1672366.28	14333296.79	39°28'14.1199"N	80°53'12.4346"W	3178.80	96.941	7.10	2.03	-13.25	
7012.00	34.710	33.200	6017.72	-1366.61	-343.82	3188.20	1672398.97	14333337.11	39°28'14.5182"N	80°53'12.0170"W	3206.69	96.155	7.59	2.96	-12.76	
7107.00	37.940	26.520	6094.29	-1329.24	-294.80	3215.61	1672426.37	14333386.12	39°28'15.0024"N	80°53'11.6666"W	3229.10	95.238	5.87	3.40	-8.08	
7201.00	42.240	15.110	6166.27	-1282.44	-238.13	3236.33	1672447.09	14333442.77	39°28'15.5623"N	80°53'11.4015"W	3245.08	94.208	8.46	4.57	-11.07	
7296.00	48.900	1.270	6232.90	-1222.25	-171.27	3245.48	1672456.23	14333509.60	39°28'16.2229"N	80°53'11.2838"W	3250.00	93.021	12.52	7.01	-14.57	
7342.00†	51.833	357.181	6282.24	-1188.62	-135.87	3244.98	1672455.73	14333544.99	39°28'16.5726"N	80°53'11.2897"W	3247.82	92.398	9.35	6.39	-8.83	Middlesex: 7342 MD
7391.00	55.100	353.180	6291.42	-1150.47	-96.66	3241.64	1672452.39	14333584.18	39°28'16.9604"N	80°53'11.3316"W	3243.08	91.708	9.35	6.67	-8.17	
7486.00	62.480	345.820	6340.66	-1070.24	-16.94	3226.66	1672437.42	14333663.86	39°28'17.7484"N	80°53'11.5213"W	3226.70	90.301	10.20	7.77	-7.75	
7507.00†	64.063	344.703	6350.10	-1051.54	1.19	3221.89	1672432.65	14333681.99	39°28'17.9277"N	80°53'11.5819"W	3221.89	89.979	8.91	7.54	-5.32	Burkett: 7507 MD
7534.00	66.110	343.310	6361.48	-1027.09	24.73	3215.14	1672425.90	14333705.52	39°28'18.1604"N	80°53'11.6676"W	3215.23	89.559	8.91	7.58	-5.16	
7561.00†	67.500	342.801	6372.11	-1002.29	48.47	3207.91	1672418.67	14333729.25	39°28'18.3952"N	80°53'11.7594"W	3208.27	89.134	5.43	5.15	-1.85	Tully: 7561 MD
7581.00	68.530	342.430	6379.60	-983.75	66.17	3202.36	1672413.13	14333746.94	39°28'18.5701"N	80°53'11.8298"W	3203.05	88.816	5.43	5.15	-1.85	
7676.00	79.520	343.030	6405.71	-892.06	153.25	3175.30	1672386.08	14333833.99	39°28'19.4312"N	80°53'12.1735"W	3179.00	87.237	11.58	11.57	0.63	
7705.00†	80.521	342.186	6410.73	-864.06	180.51	3166.77	1672377.55	14333881.24	39°28'19.7006"N	80°53'12.2819"W	3171.91	86.738	4.49	3.45	-2.91	Marcellus POE: 7705 MD
7770.00	82.770	340.310	6420.18	-799.75	241.40	3146.09	1672356.88	14333922.10	39°28'20.3027"N	80°53'12.5446"W	3155.34	85.612	4.49	3.46	-2.89	
7865.00	85.450	340.950	6429.92	-705.27	330.54	3114.75	1672325.56	14334011.21	39°28'21.1841"N	80°53'12.9427"W	3132.24	83.942	2.90	2.82	0.67	
7960.00	85.420	340.540	6437.49	-610.57	419.94	3083.53	1672294.34	14334100.57	39°28'22.0681"N	80°53'13.3395"W	3111.99	82.245	0.43	-0.03	-0.43	

Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Kramer Unit 2H
Field	Tyler	API	47-095-02677-0000
Facility	Hogue Pad	Wellbore	Kramer Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (223 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
8085.00	89.950	340.240	6441.32	-515.67	508.33	3051.68	1672262.50	14334189.93	39°28'22.9520"N	80°53'13.7442"W	3093.89	80.525	4.78	4.77	-0.32	
8150.00	90.110	341.000	6441.27	-420.68	598.95	3020.15	1672230.99	14334279.51	39°28'23.8381"N	80°53'14.1448"W	3078.97	78.783	0.82	0.17	0.80	
8245.00	90.720	341.050	6440.58	-325.68	688.78	2989.26	1672200.12	14334369.31	39°28'24.7263"N	80°53'14.5373"W	3067.59	77.024	0.64	0.64	0.05	
8340.00	90.850	340.020	6439.28	-230.69	778.34	2957.61	1672168.47	14334458.83	39°28'25.6119"N	80°53'14.9395"W	3058.31	75.256	1.09	0.14	-1.08	
8435.00	90.850	336.830	6437.87	-135.81	866.67	2922.68	1672133.56	14334547.12	39°28'26.4852"N	80°53'15.3834"W	3048.47	73.483	3.36	0.00	-3.36	
8529.00	90.790	330.030	6436.53	-42.67	950.68	2880.67	1672091.56	14334631.10	39°28'27.3161"N	80°53'15.9179"W	3033.49	71.736	7.23	-0.06	-7.23	
8624.00	90.880	332.450	6435.14	50.95	1033.95	2834.97	1672045.88	14334714.33	39°28'28.1396"N	80°53'16.4993"W	3017.63	69.962	2.55	0.09	2.55	
8719.00	91.030	343.040	6433.55	145.66	1121.73	2799.05	1672009.97	14334802.08	39°28'29.0077"N	80°53'16.9560"W	3015.45	68.161	11.15	0.16	11.15	
8813.00	90.720	342.040	6432.12	239.61	1211.39	2770.84	1671981.78	14334891.71	39°28'29.8942"N	80°53'17.3142"W	3024.08	66.385	1.11	-0.33	-1.06	
8908.00	90.660	341.930	6430.97	334.59	1301.73	2741.47	1671952.42	14334982.00	39°28'30.7873"N	80°53'17.6874"W	3034.82	64.600	0.13	-0.06	-0.12	
9003.00	89.890	337.910	6430.52	429.55	1390.93	2708.66	1671919.82	14335071.17	39°28'31.6694"N	80°53'18.1019"W	3045.09	62.821	4.31	-0.81	-4.23	
9098.00	90.290	342.530	6430.37	524.52	1480.30	2676.72	1671887.69	14335160.51	39°28'32.5531"N	80°53'18.5103"W	3058.78	61.056	4.88	0.42	4.86	
9192.00	90.780	341.660	6429.49	618.49	1569.74	2647.82	1671858.81	14335249.92	39°28'33.4374"N	80°53'18.8774"W	3078.16	59.339	1.06	0.52	-0.93	
9287.00	90.780	341.530	6428.20	713.48	1659.88	2617.83	1671828.83	14335340.01	39°28'34.3286"N	80°53'19.2585"W	3099.71	57.623	0.14	0.00	-0.14	
9382.00	91.030	343.360	6426.70	808.43	1750.44	2589.18	1671800.19	14335430.54	39°28'35.2240"N	80°53'19.6224"W	3125.36	55.939	1.94	0.26	1.93	
9477.00	91.030	344.300	6424.99	903.29	1841.66	2562.73	1671773.75	14335521.73	39°28'36.1259"N	80°53'19.9583"W	3155.83	54.298	0.99	0.00	0.99	
9571.00	90.780	344.020	6423.50	997.13	1932.08	2537.07	1671748.11	14335612.11	39°28'37.0199"N	80°53'20.2840"W	3188.99	52.709	0.40	-0.27	-0.30	
9666.00	90.630	344.100	6422.34	1091.98	2023.42	2510.98	1671722.03	14335703.41	39°28'37.9230"N	80°53'20.6153"W	3224.79	51.137	0.18	-0.16	0.08	
9761.00	90.630	343.850	6421.29	1186.84	2114.72	2484.76	1671695.82	14335794.68	39°28'38.8257"N	80°53'20.9483"W	3262.84	49.600	0.26	0.00	-0.26	
9856.00	90.820	344.450	6420.09	1281.68	2206.11	2458.82	1671669.88	14335886.02	39°28'39.7291"N	80°53'21.2777"W	3303.43	48.101	0.66	0.20	0.63	
9951.00	90.720	345.220	6418.81	1376.45	2297.79	2433.97	1671645.04	14335977.67	39°28'40.6356"N	80°53'21.5931"W	3347.24	46.649	0.82	-0.11	0.81	
10045.00	90.290	344.840	6417.98	1470.21	2388.59	2409.89	1671620.77	14336068.44	39°28'41.5333"N	80°53'21.9014"W	3392.93	45.252	0.61	-0.46	-0.40	
10140.00	90.480	344.610	6417.35	1565.00	2480.24	2384.66	1671595.75	14336160.04	39°28'42.4394"N	80°53'22.2191"W	3440.66	43.875	0.31	0.20	-0.24	
10235.00	90.260	341.280	6416.73	1659.92	2571.04	2356.80	1671567.91	14336250.81	39°28'43.3372"N	80°53'22.5729"W	3487.80	42.511	3.51	-0.23	-3.51	
10329.00	90.050	341.300	6416.48	1753.92	2660.08	2328.65	1671537.77	14336339.81	39°28'44.2175"N	80°53'22.9561"W	3534.02	41.175	0.22	-0.22	0.02	
10424.00	89.920	342.000	6416.50	1848.91	2750.24	2296.74	1671507.87	14336429.94	39°28'45.1090"N	80°53'23.3361"W	3583.14	39.865	0.75	-0.14	0.74	
10519.00	90.200	341.850	6416.40	1943.90	2840.56	2267.27	1671478.41	14336520.22	39°28'46.0020"N	80°53'23.7106"W	3634.45	38.596	0.33	0.29	-0.16	
10614.00	90.110	341.710	6416.15	2038.89	2930.79	2237.56	1671448.72	14336610.42	39°28'46.8942"N	80°53'24.0860"W	3687.31	37.361	0.18	-0.09	-0.15	
10709.00	90.140	342.070	6415.94	2133.87	3021.09	2208.03	1671419.20	14336700.68	39°28'47.7869"N	80°53'24.4632"W	3741.97	36.162	0.38	0.03	0.38	
10804.00	90.420	342.710	6415.47	2228.84	3111.63	2179.29	1671390.47	14336791.19	39°28'48.6822"N	80°53'24.8283"W	3798.89	35.006	0.74	0.29	0.67	

Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Field	Tyler
Facility	Hogue Pad
Slot	Slot #08
Well	Kramer Unit 2H
API	47-095-02677-0000
Wellbore	Kramer Unit 2H AWB

WELLPATH DATA (223 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
10899.00	90.350	342.290	6414.84	2323.80	3202.23	2150.73	1671361.91	1433668.175	39°28'49.5780"N	80°53'25.1912"W	3857.45	33.887	0.45	-0.07	-0.44	
10984.00	90.290	339.320	6414.35	2418.79	3291.94	2119.50	1671930.70	1433697.142	39°28'50.4650"N	80°53'25.5881"W	3915.24	32.775	3.13	-0.13	-3.13	
11088.00	90.510	342.300	6413.75	2512.78	3380.71	2088.60	1671299.81	14337060.15	39°28'51.3426"N	80°53'25.9807"W	3973.84	31.708	3.18	0.30	3.17	
11183.00	90.380	339.650	6413.01	2607.77	3470.51	2057.64	1671268.86	14337149.91	39°28'52.2305"N	80°53'26.3742"W	4034.63	30.663	2.79	-0.14	-2.79	
11277.00	90.230	340.540	6412.51	2701.75	3556.89	2025.63	1671236.87	14337238.26	39°28'53.1044"N	80°53'26.7810"W	4094.98	29.648	0.96	-0.16	0.95	
11372.00	90.350	339.450	6412.03	2796.74	3648.15	1993.14	1671204.39	14337327.49	39°28'53.9871"N	80°53'27.1941"W	4157.12	28.650	1.15	0.13	-1.15	
11467.00	90.260	339.870	6411.52	2891.71	3737.23	1960.12	1671171.38	14337416.53	39°28'54.8678"N	80°53'27.6138"W	4220.06	27.676	0.45	-0.09	0.44	
11561.00	90.080	339.510	6411.24	2985.69	3825.38	1927.49	1671138.77	14337504.65	39°28'55.7395"N	80°53'28.0286"W	4283.55	26.742	0.43	-0.19	-0.38	
11656.00	90.230	340.110	6410.99	3080.67	3914.54	1894.70	1671105.99	14337593.78	39°28'56.6211"N	80°53'28.4454"W	4348.97	25.828	0.65	0.16	0.63	
11751.00	90.140	340.110	6410.68	3175.66	4003.88	1862.38	1671073.68	14337683.07	39°28'57.5044"N	80°53'28.8562"W	4415.82	24.945	0.09	-0.08	0.00	
11846.00	90.170	339.880	6410.42	3270.65	4093.14	1829.88	1671041.20	14337772.30	39°28'58.3870"N	80°53'29.2693"W	4483.56	24.088	0.24	0.03	-0.24	
11940.00	90.140	339.730	6410.17	3364.63	4181.37	1797.43	1671008.76	14337860.49	39°28'59.2593"N	80°53'29.6818"W	4551.33	23.261	0.16	-0.03	-0.16	
12035.00	90.170	340.460	6409.91	3459.62	4270.69	1765.09	1670976.43	14337949.78	39°29'0.1425"N	80°53'30.0929"W	4621.07	22.455	0.77	0.03	0.77	
12129.00	90.540	340.440	6409.33	3553.61	4359.27	1733.63	1670944.99	14338038.32	39°29'1.0184"N	80°53'30.4927"W	4691.34	21.687	0.39	0.39	-0.02	
12224.00	90.290	339.190	6408.64	3648.59	4448.43	1700.85	1670912.22	14338127.45	39°29'1.9000"N	80°53'30.9094"W	4762.50	20.924	1.34	-0.26	-1.32	
12318.00	90.450	342.970	6408.03	3742.57	4537.33	1670.38	1670881.76	14338216.31	39°29'2.7790"N	80°53'31.2967"W	4835.03	20.211	4.02	0.17	4.02	
12413.00	90.110	338.750	6407.57	3837.55	4627.06	1639.24	1670850.63	14338306.01	39°29'3.6662"N	80°53'31.6925"W	4908.85	19.508	4.46	-0.36	-4.44	
12508.00	90.110	340.010	6407.39	3932.51	4715.97	1605.78	1670817.19	14338394.88	39°29'4.5483"N	80°53'32.1178"W	4981.86	18.804	1.33	0.00	1.33	
12603.00	89.980	340.360	6407.31	4027.50	4805.35	1573.58	1670785.00	14338484.22	39°29'5.4290"N	80°53'32.5272"W	5056.43	18.132	0.39	-0.14	0.37	
12698.00	90.540	339.260	6406.88	4122.48	4894.51	1540.79	1670752.23	14338573.35	39°29'6.3106"N	80°53'32.9440"W	5131.30	17.474	1.30	0.59	-1.16	
12792.00	90.450	339.650	6406.07	4216.45	4982.52	1507.81	1670719.25	14338661.33	39°29'7.1809"N	80°53'33.3634"W	5205.67	16.837	0.43	-0.10	0.41	
12887.00	90.600	340.120	6405.20	4311.43	5071.73	1475.14	1670686.60	14338750.49	39°29'8.0629"N	80°53'33.7787"W	5281.90	16.217	0.52	0.16	0.49	
12982.00	90.380	340.110	6404.39	4406.42	5161.06	1442.83	1670654.30	14338839.79	39°29'8.9462"N	80°53'34.1895"W	5358.94	15.619	0.23	-0.23	-0.01	
13076.00	90.290	338.830	6403.84	4500.38	5249.09	1409.86	1670621.35	14338927.78	39°29'9.8166"N	80°53'34.6085"W	5435.13	15.034	1.37	-0.10	-1.36	
13171.00	90.380	340.180	6403.28	4595.35	5338.07	1376.60	1670588.10	14339016.73	39°29'10.6984"N	80°53'35.0314"W	5512.71	14.461	1.42	0.09	1.42	
13266.00	90.050	339.410	6402.92	4690.33	5427.22	1343.79	1670555.30	14339105.85	39°29'11.5779"N	80°53'35.4485"W	5591.11	13.907	0.88	-0.35	-0.81	
13361.00	90.170	339.520	6402.74	4785.30	5516.18	1310.47	1670521.99	14339194.77	39°29'12.4576"N	80°53'35.8722"W	5669.71	13.364	0.17	0.13	0.12	
13456.00	90.230	339.360	6402.41	4879.26	5604.20	1277.46	1670488.99	14339282.75	39°29'13.3278"N	80°53'36.2919"W	5747.95	12.841	0.18	0.08	-0.17	
13550.00	90.380	341.300	6401.91	4974.25	5693.65	1245.48	1670457.03	14339372.16	39°29'14.2123"N	80°53'36.6984"W	5828.28	12.339	2.05	0.16	2.04	
13645.00	90.320	341.070	6401.33	5069.25	5783.57	1214.84	1670426.41	14339462.05	39°29'15.1014"N	80°53'37.0878"W	5909.78	11.863	0.25	-0.06	-0.24	

Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480'
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Field	Tyler
Facility	Hogue Pad
Slot	Slot #08
Well	Kramer Unit 2H
API	47-095-02677-0000
Wellbore	Kramer Unit 2H AWB

WELLPATH DATA (223 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 (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
13739.00	90.230	341.760	6400.88	5163.25	5872.67	1184.88	1670396.46	1433965.11	39°29'15.9823"N	80°53'37.4686"W	5991.01	11.407	0.74	-0.10	0.73	
13834.00	90.170	341.480	6400.55	5258.24	5962.82	1154.93	1670366.52	1433964.23	39°29'16.8737"N	80°53'37.8493"W	6073.64	10.962	0.30	-0.06	-0.29	
13929.00	90.320	341.670	6400.14	5353.23	6052.95	1124.90	1670336.50	14339731.32	39°29'17.7648"N	80°53'38.2309"W	6156.59	10.528	0.25	0.16	0.20	
14029.00	90.260	341.260	6399.66	5447.23	6142.07	1095.02	1670306.63	14339820.41	39°29'18.6460"N	80°53'38.6107"W	6238.92	10.109	0.44	-0.06	-0.44	
14118.00	90.380	341.770	6399.13	5542.22	6232.17	1064.90	1670276.53	14339910.47	39°29'19.5368"N	80°53'38.9935"W	6322.49	9.697	0.55	0.13	0.54	
14213.00	90.170	341.310	6398.68	5637.21	6322.28	1034.82	1670246.46	14340000.54	39°29'20.4277"N	80°53'39.3753"W	6406.41	9.296	0.53	-0.22	-0.48	
14307.00	90.080	341.210	6398.47	5731.21	6411.29	1004.62	1670216.27	14340089.52	39°29'21.3079"N	80°53'39.7597"W	6489.53	8.906	0.14	-0.10	-0.11	
14402.00	89.520	340.480	6398.80	5826.21	6501.03	973.45	1670185.11	14340179.23	39°29'22.1952"N	80°53'40.1559"W	6573.51	8.516	0.97	-0.59	-0.77	
14496.00	90.140	341.310	6399.08	5920.21	6589.85	942.68	1670154.36	14340268.01	39°29'23.0734"N	80°53'40.5370"W	6656.94	8.141	1.10	0.66	0.88	
14591.00	89.620	340.990	6399.28	6015.21	6679.76	911.99	1670123.68	14340357.88	39°29'23.9623"N	80°53'40.9372"W	6741.73	7.775	0.64	-0.55	-0.34	
14686.00	90.080	341.530	6399.53	6110.20	6769.72	881.47	1670093.17	14340447.81	39°29'24.8518"N	80°53'41.3251"W	6826.87	7.419	0.75	0.48	0.57	
14780.00	90.020	341.190	6399.45	6204.20	6858.79	851.43	1670063.14	14340536.84	39°29'25.7324"N	80°53'41.7070"W	6911.43	7.076	0.37	-0.06	-0.36	
14875.00	90.170	342.140	6399.29	6299.19	6948.97	821.54	1670033.26	14340626.98	39°29'26.6240"N	80°53'42.0868"W	6997.36	6.743	1.01	0.16	1.00	
14970.00	90.200	342.000	6398.98	6394.17	7039.35	792.30	1670004.03	14340717.33	39°29'27.5176"N	80°53'42.4685"W	7083.80	6.422	0.15	0.03	-0.15	
15064.00	90.020	341.570	6398.80	6488.16	7128.64	762.91	1669974.66	14340806.58	39°29'28.4005"N	80°53'42.8320"W	7169.35	6.109	0.50	-0.19	-0.46	
15159.00	90.080	341.070	6398.72	6583.16	7218.64	732.49	1669944.24	14340896.54	39°29'29.2903"N	80°53'43.2187"W	7255.70	5.794	0.53	0.06	-0.53	
15253.00	90.020	341.070	6398.64	6677.16	7307.54	701.95	1669913.72	14340985.41	39°29'30.1683"N	80°53'43.6070"W	7341.17	5.487	0.09	-0.06	-0.06	
15348.00	89.950	341.320	6398.66	6772.16	7397.45	671.28	1669883.06	14341075.28	39°29'31.0582"N	80°53'43.9969"W	7427.84	5.185	0.33	-0.07	0.33	
15442.00	90.020	341.190	6398.69	6866.16	7486.46	641.07	1669852.86	14341164.26	39°29'31.9383"N	80°53'44.3808"W	7513.86	4.894	0.16	0.07	-0.14	
15537.00	90.050	341.600	6398.63	6961.15	7576.50	610.76	1669822.57	14341254.26	39°29'32.8285"N	80°53'44.7661"W	7601.08	4.609	0.43	0.03	0.43	
15632.00	89.950	341.240	6398.63	7056.15	7666.55	580.49	1669792.31	14341344.27	39°29'33.7189"N	80°53'45.1509"W	7688.49	4.330	0.39	-0.11	-0.38	
15726.00	90.230	341.870	6398.48	7150.14	7755.72	550.75	1669762.58	14341433.41	39°29'34.6005"N	80°53'45.5289"W	7775.25	4.062	0.73	0.30	0.67	
15821.00	89.890	340.440	6398.38	7245.14	7845.62	520.06	1669731.91	14341523.28	39°29'35.4894"N	80°53'45.9190"W	7862.84	3.792	1.59	-0.36	-1.51	
15915.00	90.450	342.280	6398.10	7339.13	7934.69	490.02	1669701.88	14341612.31	39°29'36.3700"N	80°53'46.3009"W	7949.80	3.534	2.05	0.60	1.96	
16010.00	90.320	341.680	6397.47	7434.11	8025.02	460.63	1669672.50	14341702.61	39°29'37.2632"N	80°53'46.6744"W	8038.23	3.285	0.65	-0.14	-0.63	
16104.00	90.230	340.420	6397.01	7528.11	8113.93	430.11	1669641.99	14341791.47	39°29'38.1422"N	80°53'47.0625"W	8125.32	3.034	1.34	-0.10	-1.34	
16199.00	90.380	340.780	6396.51	7623.11	8203.53	398.55	1669610.44	14341881.04	39°29'39.0282"N	80°53'47.4637"W	8213.21	2.781	0.41	0.16	0.38	
16294.00	90.260	340.490	6395.98	7718.10	8293.16	367.05	1669578.96	14341970.63	39°29'39.9143"N	80°53'47.8642"W	8301.28	2.534	0.33	-0.13	-0.31	
16388.00	90.290	340.500	6395.53	7812.10	8381.76	335.67	1669547.58	14342059.20	39°29'40.7904"N	80°53'48.2632"W	8388.48	2.293	0.03	0.03	0.01	
16483.00	90.380	340.970	6394.97	7907.10	8471.44	304.32	1669516.25	14342148.84	39°29'41.6771"N	80°53'48.6617"W	8476.90	2.057	0.50	0.09	0.49	

Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480'
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Field	Tyler
Facility	Hogue Pad
Slot	Slot #08
Well	Kramer Unit 2H
API	47-095-02677-0000
Wellbore	Kramer Unit 2H AWB

WELLPATH DATA (223 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
16578.00	90.290	341.240	6394.42	8002.10	8561.32	273.56	1669485.50	14342238.69	39°29'42.5687"N	80°53'49.0528"W	8565.69	-1.830	0.30	-0.03	0.28	
16672.00	90.320	340.700	6393.92	8096.09	8650.18	242.91	1669454.87	14342327.51	39°29'43.4443"N	80°53'49.4425"W	8653.59	1.609	0.58	0.03	-0.57	
16767.00	90.350	341.380	6393.36	8191.09	8740.02	212.05	1669424.01	14342417.32	39°29'44.3326"N	80°53'49.8349"W	8742.60	1.390	0.72	0.03	0.72	
16862.00	90.140	340.150	6392.95	8286.09	8829.72	180.75	1669392.73	14342506.98	39°29'45.2194"N	80°53'50.2328"W	8831.57	1.173	1.31	-0.22	-1.29	
16957.00	90.350	341.080	6392.55	8381.08	8919.33	149.22	1669361.21	14342596.55	39°29'46.1055"N	80°53'50.6337"W	8920.58	0.958	1.00	0.22	0.98	
17051.00	90.290	341.090	6392.02	8475.08	9008.25	118.75	1669330.75	14342685.44	39°29'46.9847"N	80°53'51.0211"W	9009.04	0.755	0.06	-0.06	0.01	
17146.00	90.350	340.640	6391.49	8570.08	9098.00	87.61	1669299.82	14342775.15	39°29'47.8720"N	80°53'51.4170"W	9098.42	0.552	0.48	0.06	-0.47	
17241.00	90.230	340.270	6391.01	8665.08	9187.53	55.93	1669267.85	14342864.64	39°29'48.7572"N	80°53'51.8212"W	9187.70	0.348	0.41	-0.13	-0.39	
17335.00	90.350	340.390	6390.54	8759.07	9276.04	24.19	1669236.23	14342953.12	39°29'49.6324"N	80°53'52.2235"W	9276.07	0.149	0.18	0.13	0.13	
17430.00	90.260	340.540	6390.03	8854.07	9365.57	-7.58	1669204.47	14343042.62	39°29'50.5176"N	80°53'52.6274"W	9365.57	359.954	0.18	-0.09	0.16	
17525.00	90.380	340.740	6389.50	8949.06	9455.20	-39.07	1669172.99	14343132.21	39°29'51.4038"N	80°53'53.0278"W	9455.28	359.763	0.25	0.13	0.21	
17619.00	90.170	339.860	6389.05	9043.06	9543.69	-70.76	1669141.32	14343220.67	39°29'52.2787"N	80°53'53.4308"W	9543.96	359.575	0.96	-0.22	-0.94	
17714.00	90.320	340.640	6388.64	9138.05	9633.10	-102.86	1669109.23	14343310.04	39°29'53.1628"N	80°53'53.8390"W	9633.65	359.388	0.84	0.16	0.82	
17809.00	90.260	340.160	6388.16	9233.04	9722.60	-134.73	1669077.38	14343399.50	39°29'54.0476"N	80°53'54.2442"W	9723.53	359.206	0.51	-0.06	-0.51	
17903.00	90.170	339.570	6387.81	9327.02	9810.85	-167.08	1669045.03	14343487.72	39°29'54.9202"N	80°53'54.6557"W	9812.27	359.024	0.63	-0.10	-0.63	
17998.00	90.790	341.380	6387.01	9422.01	9900.38	-198.83	1669013.30	14343577.21	39°29'55.8055"N	80°53'55.0594"W	9902.38	358.849	2.01	0.65	1.91	
18093.00	90.450	340.440	6386.98	9517.01	9990.15	-229.90	1668982.24	14343666.95	39°29'56.6930"N	80°53'55.4544"W	9992.80	358.682	1.05	-0.36	-0.99	
18187.00	90.110	338.440	6385.52	9610.97	10078.16	-262.91	1668949.25	14343754.92	39°29'57.5632"N	80°53'55.8743"W	10081.59	358.506	2.16	-0.36	-2.13	
18282.00	90.290	340.660	6385.19	9705.93	10167.16	-296.10	1668916.07	14343843.89	39°29'58.4432"N	80°53'56.2964"W	10171.48	358.332	2.34	0.19	2.34	
18377.00	90.290	341.800	6384.71	9800.93	10257.06	-326.32	1668885.36	14343933.74	39°29'59.3320"N	80°53'56.6870"W	10262.26	358.175	0.99	0.00	0.99	
18471.00	90.200	341.240	6384.31	9894.93	10346.16	-356.78	1668855.42	14344022.81	39°30'0.2130"N	80°53'57.0678"W	10352.31	358.025	0.39	-0.10	-0.38	
18566.00	90.110	339.700	6384.05	9989.92	10435.69	-388.53	1668823.67	14344112.30	39°30'01.0982"N	80°53'57.4717"W	10442.92	357.868	1.62	-0.09	-1.62	
18661.00	90.170	341.120	6383.82	10084.91	10525.19	-420.38	1668791.84	14344201.77	39°30'01.9831"N	80°53'57.8767"W	10533.58	357.713	1.50	0.06	1.49	
18756.00	90.350	341.650	6383.39	10178.91	10614.21	-450.54	1668761.69	14344290.76	39°30'02.8633"N	80°53'58.2802"W	10623.77	357.569	0.40	0.19	0.35	
18849.00	90.320	341.850	6382.85	10272.90	10703.38	-480.29	1668731.95	14344379.89	39°30'03.7449"N	80°53'58.6384"W	10714.15	357.431	0.22	-0.03	0.21	
18944.00	90.200	341.470	6382.41	10367.90	10793.50	-510.34	1668701.91	14344469.98	39°30'04.6359"N	80°53'59.0205"W	10805.56	357.293	0.23	-0.13	-0.19	
19038.00	90.230	341.260	6382.06	10461.89	10882.57	-540.38	1668671.89	14344559.01	39°30'05.5166"N	80°53'59.4024"W	10895.98	357.157	0.23	0.03	-0.22	
19133.00	90.290	341.780	6381.63	10556.89	10972.67	-570.49	1668641.79	14344649.07	39°30'06.4074"N	80°53'59.7853"W	10987.49	357.024	0.55	0.06	0.55	
19228.00	90.140	342.080	6381.27	10651.87	11062.99	-599.96	1668612.33	14344739.35	39°30'07.3003"N	80°54'0.1599"W	11079.24	356.896	0.35	-0.16	0.32	
19323.00	90.200	341.280	6380.99	10746.86	11153.17	-629.82	1668582.49	14344829.50	39°30'08.1920"N	80°54'0.5396"W	11170.94	356.768	0.84	0.06	-0.84	



Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Kramer Unit 2H
Field	Tyler	API	47-095-02677-0000
Facility	Hogue Pad	Wellbore	Kramer Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (223 stations) † = interpolated, ‡ = extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (1/100ft)	Build Rate (1/100ft)	Turn Rate (1/100ft)	Turn Rate Comments
19417.00	90.320	341.390	6380.57	10840.86	11242.23	-859.90	1668552.41	14344918.52	39°30'9.0725"N	80°54'0.9221"W	11261.58	356.641	0.17	0.13	0.12	
19512.00	90.290	341.380	6380.06	10935.86	11332.26	-890.23	1668522.10	14345008.51	39°30'9.9626"N	80°54'1.3077"W	11353.26	356.515	0.03	-0.03	-0.01	
19607.00	90.230	340.920	6379.63	11030.85	11422.16	-720.92	1668491.42	14345098.38	39°30'10.8515"N	80°54'1.6979"W	11444.89	356.389	0.49	-0.06	-0.48	
19702.00	90.170	341.970	6379.30	11125.85	11512.22	-751.15	1668481.20	14345188.40	39°30'11.7419"N	80°54'2.0823"W	11536.70	356.267	1.11	-0.06	1.11	
19796.00	90.320	342.450	6378.89	11219.82	11601.72	-779.87	1668432.50	14345277.87	39°30'12.6268"N	80°54'2.4475"W	11627.91	356.154	0.93	-0.16	0.51	
19891.00	90.230	341.200	6378.44	11314.81	11691.98	-809.50	1668402.88	14345368.09	39°30'13.5192"N	80°54'2.8242"W	11719.97	356.039	1.32	-0.09	-1.32	
19986.00	90.290	341.430	6378.01	11409.81	11781.97	-839.93	1668372.45	14345458.05	39°30'14.4089"N	80°54'3.2112"W	11811.87	355.922	0.25	0.06	0.24	
20080.00	90.230	340.770	6377.58	11503.80	11870.90	-870.38	1668342.02	14345546.94	39°30'15.2882"N	80°54'3.5984"W	11902.77	355.807	0.71	-0.06	-0.70	
20175.00	90.420	341.040	6377.04	11598.80	11960.67	-901.46	1668310.95	14345636.68	39°30'16.1758"N	80°54'3.9936"W	11994.60	355.690	0.35	0.20	0.28	
20270.00	90.510	340.460	6376.27	11693.80	12050.36	-932.78	1668279.65	14345726.33	39°30'17.0625"N	80°54'4.3919"W	12086.41	355.574	0.62	0.09	-0.61	
20365.00	90.450	341.040	6375.48	11788.79	12140.04	-964.10	1668248.34	14345815.98	39°30'17.9492"N	80°54'4.7902"W	12178.27	355.459	0.61	-0.06	0.61	
20455.00	90.690	341.480	6374.58	11878.79	12225.27	-993.01	1668219.44	14345901.17	39°30'18.7918"N	80°54'5.1579"W	12265.53	355.356	0.56	0.27	0.49	
20480.00‡	90.690	341.480	6374.28	11903.78	12248.97	-1000.95	1668211.50	14345924.86	39°30'19.0262"N	80°54'5.2589"W	12289.80	355.328	0.00	0.00	0.00	Projected MD at TD: 20480'

HOLE & CASING SECTIONS - Ref Wellbore: Kramer Unit 2H AWB Ref Wellpath: Kramer Unit 2H AWP Proj: 20480'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	End N/S (ft)	Start E/W (ft)	End E/W (ft)
16in Conductor	25.50	105.50	80.00	25.50	105.50	0.00	0.00	0.00	-0.15
13.5in Open Hole	105.50	613.10	507.60	105.50	613.09	-0.13	-0.13	-0.15	-1.22
10.75in Casing Surface	25.50	613.10	587.60	25.50	613.09	0.00	0.00	0.00	-1.22
9.875in Open Hole	613.10	2819.00	2205.90	613.09	2619.76	-1.95	-1.95	-1.22	814.85
7.625in Casing Intermediate	25.50	2803.80	2778.30	25.50	2606.00	0.00	0.00	0.00	808.46
6.75in Open Hole	2819.00	20480.00	17661.00	2619.76	6374.28	-96.49	-96.49	814.85	-1000.95
5in Casing Production	25.50	20480.00	20454.50	25.50	6374.28	0.00	0.00	0.00	-1000.95



Actual Wellpath Report

Kramer Unit 2H AWP Proj: 20480'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Kramer Unit 2H
Field	Tyler	API	47-095-02677-0000
Facility	Hogue Pad	Wellbore	Kramer Unit 2H AWB
Slot	Slot #08		

TARGETS

Name	TVD (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Shape
Kramer Unit 2H - POE - Rev-2	6416.00	129.01	3186.62	1672397.39	14333809.76	39°28'19.1914"N	80°53'12.0296"W	point
Kramer Unit 2H - BHL - Rev-2	6449.00	12258.98	-1005.72	1668206.73	14345934.87	39°30'19.1252"N	80°54'5.3196"W	point
Kramer Unit 2H - LP - Rev-2	6449.00	332.12	3116.42	1672327.22	14334012.79	39°28'21.1987"N	80°53'12.9215"W	point
Kramer Unit 2H - 50' L/R Hardline	6500.00	6194.00	1090.45	1670302.06	14339872.31	39°29'19.1592"N	80°53'38.6683"W	rectangle

2D Rectangle 12837.4 x 100.

WELLPATH COMPOSITION - Ref Wellbore: Kramer Unit 2H AWB Ref Wellpath: Kramer Unit 2H AWP Proj: 20480'

Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	536.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <13-1/2">(100'-536')	Kramer Unit 2H AWB	2/19/2020
536.00	2746.00	BH NavITrak (2019) (Axial)	02 APS EM <9-7/8">(536')(628'-2746')	Kramer Unit 2H AWB	2/19/2020
2746.00	6366.00	BH NavITrak (2019) (Axial)	03 APS EM <6-3/4">(2746')(2894'-6366')	Kramer Unit 2H AWB	2/19/2020
6366.00	20480.00	BH OnTrak (2019) (Short spacing)	04 AutoTrak X-Gen <6-3/4">(6366')(6443'-20455')	Kramer Unit 2H AWB	2/19/2020



REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Field	Tyler
Facility	Hogue Pad
Slot	Slot #08
Well	Kramer Unit 2H
API	47-095-02677-0000
Wellbore	Kramer Unit 2H AWB

COMMENTS
<p>Wellpath general comments API: 47-095-02677-0000 BHI Job #: 110286006B Rig: H&P 317 Duration: 02/22/2020-04/13/2020 Gyrodatta MS Gyro <13-1/2">(100'-536') APS EM <9-7/8">(536')(628'-2746') APS EM <6-3/4">(2746')(2894'-6366') AutoTrak X-Gen <6-3/4">(6366')(6443'-20455') Middlesex: 7342' MD Burkett: 7507' MD Tully: 7561' MD Marcellus POE: 7705' MD Projected MD at TD: 20480'</p>