

ANTERO RESOURCES CORPORATION

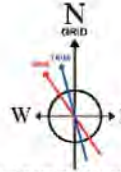
Location: Tyler County, WV
 Field: Tyler
 Facility: Blizzard Pad

Slot: Slot #08
 Well: Loraina Unit 2H
 Wellbore: Loraina Unit 2H PWB

Plot reference wellbore is Loraina Unit 2H PWB Rev-B.0	Grid System: NAD83 / UTM Zone 17 North, US feet
The vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Reference wellbore measured depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean True Level: 1025.5 feet	Coordinates are in feet referenced to Grid
Mean Sea Level to Ground level (At Slot: Slot #08): -1104 feet	Depths are in feet
Offset Wellbore MDs are referenced to each gain's default MD datum	Created by: delpet on 2020-06-29; Database: WA_MPL_ExportUS_Debl

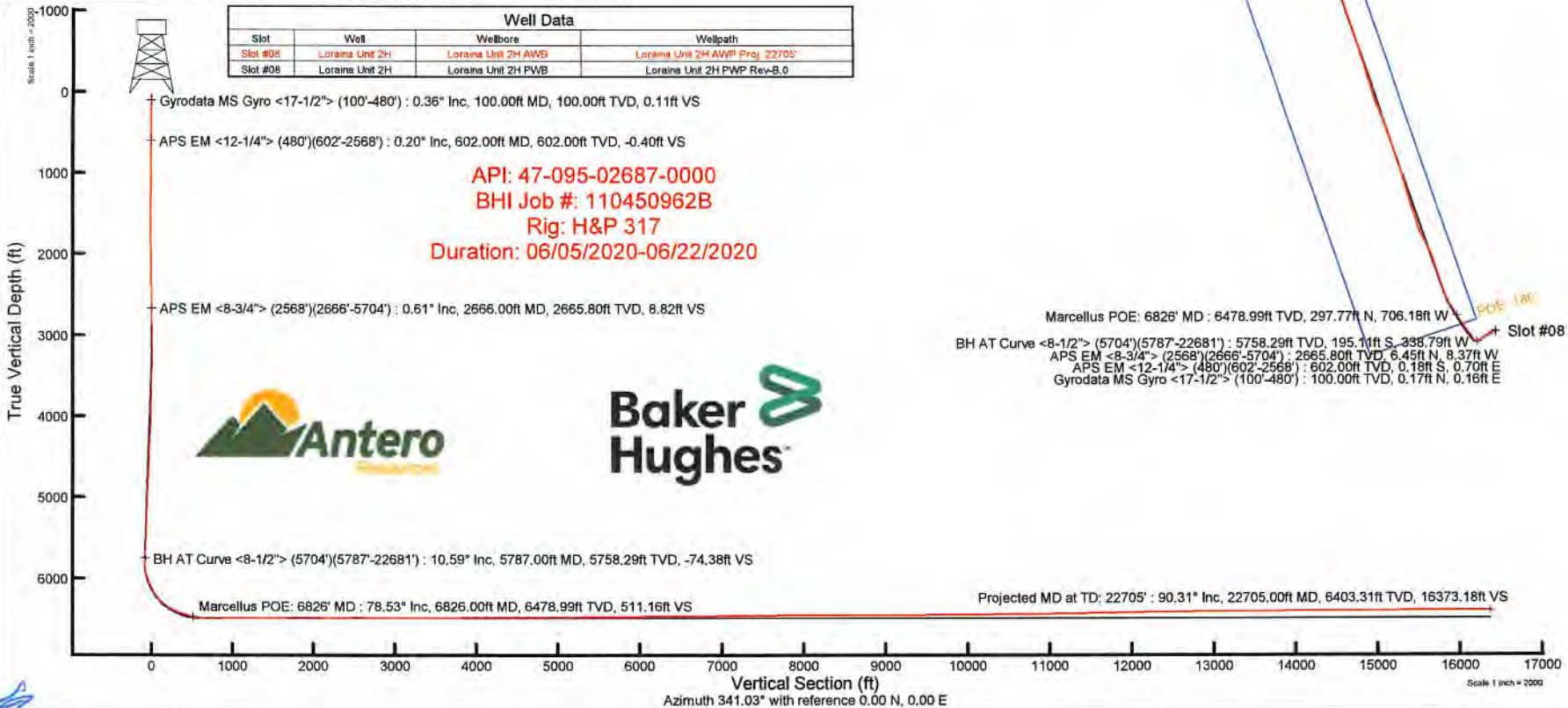
Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Blizzard Pad	1682398.190	14343430.420	39°29'54.1703"N	80°51'4.2494"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot #08	194.92	163.95	1682562.070	14343625.260	39°29'56.0940"N
H&P 317 (RKB) to Ground level (At Slot: Slot #08)					25.5ft
Mean Sea Level to Ground level (At Slot: Slot #08)					-1004ft
H&P 317 (RKB) to Mean Sea Level					1029.5ft

Well Profile Data							
Design Comment	MD (ft)	Inc (")	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	2568.00	0.870	341.020	2567.81	5.23	-8.04	7.56
Proj. to Bottom	2645.00	0.870	341.020	2644.80	5.33	-8.42	8.73
Drill Out Csg	2745.00	0.870	341.020	2744.79	7.77	-8.92	10.25
Hold Vertical	2788.50	0.000	237.936	2788.29	8.08	-9.03	10.58
KOP 1	3000.00	0.000	237.936	2999.79	8.08	-9.03	10.58
Hold	3428.47	8.569	237.936	3426.66	-8.90	-36.13	3.33
Curve KOP	5813.31	8.569	237.936	5784.88	-197.54	-337.28	-77.17
PQE	6756.48	75.125	329.000	6475.00	217.65	-683.05	427.87
Landing PL	6942.41	90.000	329.000	6499.00	375.24	-777.74	607.68
On Azimuth	7343.45	90.000	341.031	6499.00	736.08	-946.82	1005.78
BHL	22702.94	90.000	341.031	6499.00	15293.47	-5939.50	16365.27



User specified (HDGM) Dip: 68.49° Field: 51795 nT
 Magnetic North is 7.58 degrees West of True North (at 6/12/2020)
 Grid North is 0.10 degrees East of True North
 To correct azimuth from True to Grid subtract 0.10 degrees
 To correct azimuth from Magnetic to Grid subtract 7.66 degrees

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #08	Loraina Unit 2H	Loraina Unit 2H AWP	Loraina Unit 2H AWP Proj. 22705'
Slot #08	Loraina Unit 2H	Loraina Unit 2H PWB	Loraina Unit 2H PWP Rev-B.0





Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H 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	Delaset
Scale	0.999602	Report Generated	6/29/2020 at 3:45:11 PM
Convergence at slot	0.10° 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	194.92	163.95	1682562.07	14343625.26	39°29'56.0940"N	80°51'2.1540"W
Facility Reference Pt			1682398.19	14343430.42	39°29'54.1703"N	80°51'4.2494"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	1029.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1029.50ft
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	341.03°



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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	43.880	0.00	0.00	0.00	0.00	1682562.07	14343625.26	39°29'56.0940"N	80°51'2.1540"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	43.880	25.50	0.00	0.00	0.00	1682562.07	14343625.26	39°29'56.0940"N	80°51'2.1540"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.360	43.880	100.00	0.11	0.17	0.16	1682562.23	14343625.43	39°29'56.0957"N	80°51'2.1519"W	0.23	43.880	0.48	0.48	0.00	Gyrodata MS Gyro <17-1/2"> (100'-480')
200.00	0.130	123.530	200.00	0.16	0.33	0.47	1682562.54	14343625.59	39°29'56.0973"N	80°51'2.1479"W	0.58	54.985	0.36	-0.23	79.65	
300.00	0.130	136.750	300.00	-0.03	0.19	0.65	1682562.72	14343625.45	39°29'56.0959"N	80°51'2.1457"W	0.67	73.861	0.03	0.00	13.22	
400.00	0.060	244.110	400.00	-0.14	0.08	0.68	1682562.75	14343625.34	39°29'56.0948"N	80°51'2.1453"W	0.68	83.125	0.16	-0.07	107.36	
480.00	0.180	207.980	480.00	-0.23	-0.05	0.58	1682562.65	14343625.21	39°29'56.0936"N	80°51'2.1466"W	0.58	94.683	0.17	0.15	-45.16	
602.00	0.200	79.700	602.00	-0.40	-0.18	0.70	1682562.77	14343625.08	39°29'56.0923"N	80°51'2.1450"W	0.72	104.316	0.28	0.02	-105.15	APS EM <12-1/4"> (480')(602'-2568')
693.00	0.600	244.640	693.00	-0.47	-0.35	0.43	1682562.50	14343624.91	39°29'56.0905"N	80°51'2.1485"W	0.55	129.750	0.87	0.44	181.25	
784.00	0.610	234.440	783.99	-0.67	-0.84	-0.40	1682561.67	14343624.42	39°29'56.0857"N	80°51'2.1591"W	0.93	205.373	0.12	0.01	-11.21	
875.00	1.050	258.880	874.98	-0.69	-1.28	-1.61	1682560.46	14343623.98	39°29'56.0814"N	80°51'2.1745"W	2.06	231.467	0.61	0.48	26.86	
968.00	0.570	238.680	967.97	-0.67	-1.89	-2.84	1682559.23	14343623.57	39°29'56.0774"N	80°51'2.1903"W	3.31	239.299	0.59	-0.52	-21.72	
1060.00	1.120	229.140	1059.96	-1.11	-2.51	-3.91	1682558.16	14343622.75	39°29'56.0693"N	80°51'2.2039"W	4.65	237.284	0.62	0.60	-10.37	
1154.00	0.520	229.340	1153.95	-1.61	-3.39	-4.93	1682557.14	14343621.87	39°29'56.0606"N	80°51'2.2169"W	5.99	235.473	0.64	-0.64	0.21	
1249.00	0.750	217.460	1248.95	-2.11	-4.17	-5.64	1682556.44	14343621.09	39°29'56.0530"N	80°51'2.2260"W	7.01	233.525	0.28	0.24	-12.51	
1344.00	0.940	235.340	1343.94	-2.66	-5.10	-6.66	1682555.42	14343620.16	39°29'56.0437"N	80°51'2.2390"W	8.39	232.518	0.34	0.20	18.82	
1438.00	0.570	166.570	1437.93	-3.34	-6.00	-7.18	1682554.89	14343619.27	39°29'56.0349"N	80°51'2.2457"W	9.36	230.135	0.96	-0.39	-73.16	
1533.00	0.770	223.970	1532.92	-4.10	-6.92	-7.51	1682554.56	14343618.35	39°29'56.0258"N	80°51'2.2500"W	10.21	227.376	0.70	0.21	60.42	
1628.00	0.540	221.350	1627.92	-4.61	-7.71	-8.25	1682553.82	14343617.55	39°29'56.0180"N	80°51'2.2594"W	11.30	226.945	0.24	-0.24	-2.76	
1723.00	0.480	317.590	1722.92	-4.47	-7.75	-8.82	1682553.26	14343617.51	39°29'56.0176"N	80°51'2.2666"W	11.74	228.674	0.80	-0.06	101.31	
1818.00	0.840	354.680	1817.91	-3.42	-6.77	-9.15	1682552.92	14343618.50	39°29'56.0273"N	80°51'2.2708"W	11.38	233.519	0.57	0.38	39.04	
1912.00	0.840	17.600	1911.90	-2.20	-5.42	-9.01	1682553.07	14343619.84	39°29'56.0406"N	80°51'2.2690"W	10.51	238.943	0.36	0.00	24.38	
2007.00	1.020	17.020	2006.89	-0.96	-3.95	-8.55	1682553.53	14343621.31	39°29'56.0551"N	80°51'2.2631"W	9.42	245.191	0.19	0.19	-0.61	
2102.00	0.730	10.500	2101.88	0.25	-2.55	-8.19	1682553.88	14343622.71	39°29'56.0690"N	80°51'2.2585"W	8.58	252.720	0.32	-0.31	-6.86	
2197.00	1.090	10.490	2196.86	1.57	-1.06	-7.92	1682554.16	14343624.20	39°29'56.0837"N	80°51'2.2550"W	7.99	262.342	0.38	0.38	-0.01	
2292.00	1.090	3.520	2291.85	3.19	0.73	-7.70	1682554.38	14343625.99	39°29'56.1013"N	80°51'2.2521"W	7.73	275.389	0.14	0.00	-7.34	
2387.00	0.990	8.130	2386.83	4.75	2.44	-7.52	1682554.55	14343627.70	39°29'56.1183"N	80°51'2.2499"W	7.91	287.970	0.14	-0.11	4.85	
2481.00	0.900	342.830	2480.82	6.21	3.95	-7.63	1682554.45	14343629.21	39°29'56.1332"N	80°51'2.2512"W	8.59	297.377	0.45	-0.10	-26.91	
2568.00	0.870	341.020	2567.81	7.56	5.23	-8.04	1682554.03	14343630.48	39°29'56.1458"N	80°51'2.2565"W	9.59	303.017	0.05	-0.03	-2.08	
2666.00	0.610	351.020	2665.80	8.82	6.45	-8.37	1682553.71	14343631.70	39°29'56.1579"N	80°51'2.2606"W	10.56	307.610	0.30	-0.27	10.20	APS EM <8-3/4"> (2568')(2666'-5704')



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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
2761.00	0.700	326.250	2760.79	9.87	7.43	-8.77	1682553.31	14343632.68	39°29'56.1676"N	80°51'2.2657"W	11.49	310.268	0.31	0.09	-26.07	
2855.00	0.900	325.700	2854.78	11.14	8.52	-9.50	1682552.57	14343633.77	39°29'56.1784"N	80°51'2.2750"W	12.76	311.860	0.21	0.21	-0.59	
2950.00	0.720	326.210	2949.77	12.44	9.63	-10.26	1682551.82	14343634.88	39°29'56.1894"N	80°51'2.2846"W	14.07	313.190	0.19	-0.19	0.54	
3045.00	1.970	256.080	3044.75	13.16	9.73	-12.17	1682549.90	14343634.99	39°29'56.1904"N	80°51'2.3090"W	15.58	308.638	1.95	1.32	-73.82	
3140.00	4.780	258.590	3139.58	13.82	8.55	-17.64	1682544.44	14343633.81	39°29'56.1789"N	80°51'2.3788"W	19.60	295.873	2.96	2.96	2.64	
3235.00	5.540	248.910	3234.19	14.18	6.12	-25.80	1682536.28	14343631.38	39°29'56.1550"N	80°51'2.4829"W	26.51	283.349	1.21	0.80	-10.19	
3330.00	6.600	242.740	3328.66	13.22	1.97	-34.93	1682527.15	14343627.23	39°29'56.1141"N	80°51'2.5995"W	34.99	273.229	1.31	1.12	-6.49	
3425.00	7.260	240.370	3422.97	11.32	-3.50	-45.00	1682517.09	14343621.76	39°29'56.0602"N	80°51'2.7281"W	45.14	265.556	0.76	0.69	-2.49	
3522.00	7.020	230.560	3519.22	8.11	-10.29	-54.91	1682507.19	14343614.97	39°29'55.9932"N	80°51'2.8546"W	55.86	259.382	1.28	-0.25	-10.11	
3617.00	7.590	233.790	3613.45	4.22	-17.69	-64.45	1682497.64	14343607.58	39°29'55.9203"N	80°51'2.9765"W	66.84	254.654	0.74	0.60	3.40	
3712.00	6.810	233.780	3707.70	0.69	-24.72	-74.06	1682488.04	14343600.55	39°29'55.8509"N	80°51'3.0992"W	78.08	251.540	0.82	-0.82	-0.01	
3807.00	7.210	242.470	3801.99	-1.86	-30.81	-83.89	1682478.21	14343594.47	39°29'55.7909"N	80°51'3.2248"W	89.37	249.835	1.19	0.42	9.15	
3902.00	7.980	243.500	3896.15	-3.61	-36.50	-95.08	1682467.03	14343588.77	39°29'55.7348"N	80°51'3.3676"W	101.84	248.996	0.82	0.81	1.08	
3997.00	8.470	245.450	3990.18	-5.16	-42.35	-107.34	1682454.77	14343582.92	39°29'55.6772"N	80°51'3.5242"W	115.40	248.468	0.59	0.52	2.05	
4091.00	8.710	240.410	4083.12	-7.14	-48.74	-119.83	1682442.29	14343576.53	39°29'55.6142"N	80°51'3.6836"W	129.36	247.864	0.84	0.26	-5.36	
4186.00	8.920	227.270	4177.01	-11.44	-57.29	-131.50	1682430.63	14343567.99	39°29'55.5299"N	80°51'3.8326"W	143.44	246.456	2.13	0.22	-13.83	
4281.00	8.130	226.000	4270.96	-17.25	-66.96	-141.74	1682420.39	14343558.33	39°29'55.4346"N	80°51'3.9635"W	156.76	244.713	0.85	-0.83	-1.34	
4376.00	8.670	236.240	4364.95	-21.92	-75.60	-152.52	1682409.61	14343549.69	39°29'55.3493"N	80°51'4.1012"W	170.23	243.633	1.67	0.57	10.78	
4471.00	10.290	247.160	4458.65	-24.32	-82.88	-166.30	1682395.84	14343542.41	39°29'55.2776"N	80°51'4.2771"W	185.81	243.510	2.54	1.71	11.49	
4566.00	9.350	240.710	4552.26	-26.27	-89.95	-180.85	1682381.29	14343535.35	39°29'55.2080"N	80°51'4.4629"W	201.98	243.556	1.52	-0.99	-6.79	
4661.00	8.040	231.510	4646.17	-29.88	-97.86	-192.78	1682369.37	14343527.44	39°29'55.1300"N	80°51'4.6152"W	216.20	243.087	2.01	-1.38	-9.68	
4756.00	8.270	233.800	4740.21	-34.12	-106.03	-203.49	1682358.66	14343519.27	39°29'55.0495"N	80°51'4.7521"W	229.46	242.479	0.42	0.24	2.41	
4850.00	9.370	233.400	4833.10	-38.44	-114.58	-215.09	1682347.06	14343510.72	39°29'54.9651"N	80°51'4.9002"W	243.71	241.955	1.17	1.17	-0.43	
4945.00	8.530	238.270	4926.95	-42.34	-122.90	-227.29	1682334.87	14343502.41	39°29'54.8831"N	80°51'5.0560"W	258.39	241.599	1.19	-0.88	5.13	
5040.00	8.960	238.420	5020.84	-45.51	-130.48	-239.59	1682322.58	14343494.83	39°29'54.8084"N	80°51'5.2130"W	272.82	241.427	0.45	0.45	0.16	
5135.00	9.300	244.290	5114.64	-48.03	-137.68	-252.81	1682309.36	14343487.63	39°29'54.7374"N	80°51'5.3818"W	287.87	241.426	1.04	0.36	6.18	
5230.00	7.680	231.880	5208.60	-51.01	-144.93	-264.72	1682297.46	14343480.38	39°29'54.6659"N	80°51'5.5339"W	301.80	241.299	2.57	-1.71	-13.06	
5324.00	8.650	238.810	5301.65	-54.57	-152.47	-275.71	1682286.47	14343472.85	39°29'54.5916"N	80°51'5.6743"W	315.06	241.056	1.47	1.03	7.37	
5419.00	8.550	236.950	5395.58	-57.80	-160.02	-287.74	1682274.45	14343465.30	39°29'54.5172"N	80°51'5.8279"W	329.24	240.920	0.31	-0.11	-1.96	
5514.00	8.980	239.560	5489.47	-60.99	-167.63	-300.05	1682262.14	14343457.70	39°29'54.4422"N	80°51'5.9851"W	343.70	240.809	0.62	0.45	2.75	



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'
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REFERENCE WELLPATH IDENTIFICATION			
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Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

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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
5609.00	10.200	235.970	5583.15	-64.65	-176.10	-313.42	1682248.78	14343449.23	39°29'54.3587"N	80°51'6.1558"W	359.50	240.670	1.43	1.28	-3.78	
5704.00	10.160	233.380	5676.65	-69.38	-185.80	-327.11	1682235.09	14343439.53	39°29'54.2630"N	80°51'6.3307"W	376.20	240.403	0.48	-0.04	-2.73	
5787.00	10.590	229.580	5758.29	-74.38	-195.11	-338.79	1682223.41	14343430.22	39°29'54.1712"N	80°51'6.4799"W	390.96	240.062	0.97	0.52	-4.58	BH AT Curve <8-1/2"> (5704)/(5787'-22681')
5819.00	11.190	237.890	5789.72	-76.17	-198.67	-343.66	1682218.54	14343426.67	39°29'54.1361"N	80°51'6.5421"W	396.96	239.968	5.25	1.88	25.97	
5914.00	10.390	301.520	5883.34	-71.64	-199.09	-358.82	1682203.39	14343426.25	39°29'54.1322"N	80°51'6.7355"W	410.36	240.976	11.95	-0.84	66.98	
6008.00	16.200	323.300	5974.84	-52.58	-184.13	-373.91	1682188.31	14343441.21	39°29'54.2804"N	80°51'6.9276"W	416.78	243.783	8.06	6.18	23.17	
6103.00	22.470	323.900	6064.44	-22.58	-158.81	-392.54	1682169.69	14343466.52	39°29'54.5309"N	80°51'7.1648"W	423.45	247.974	6.60	6.60	0.63	
6198.00	30.710	327.560	6149.32	18.44	-123.60	-416.29	1682145.94	14343501.71	39°29'54.8792"N	80°51'7.4670"W	434.26	253.463	8.84	8.67	3.85	
6293.00	38.750	325.140	6227.34	70.71	-78.66	-446.35	1682115.90	14343546.63	39°29'55.3239"N	80°51'7.8495"W	453.23	260.006	8.59	8.46	-2.55	
6388.00	48.360	322.470	6296.11	133.11	-25.98	-485.06	1682077.20	14343599.29	39°29'55.8451"N	80°51'8.3422"W	485.76	266.934	10.30	10.12	-2.81	
6407.00†	49.735	322.768	6308.56	146.72	-14.58	-493.77	1682068.49	14343610.69	39°29'55.9580"N	80°51'8.4531"W	493.99	268.309	7.33	7.24	1.57	Middlesex: 6407' MD
6483.00	55.240	323.850	6354.83	204.13	33.75	-529.76	1682032.52	14343659.00	39°29'56.4363"N	80°51'8.9112"W	530.84	273.646	7.33	7.24	1.42	
6530.00	60.400	325.940	6379.85	242.33	66.29	-552.61	1682009.68	14343691.53	39°29'56.7583"N	80°51'9.2020"W	556.57	276.841	11.61	10.98	4.45	
6578.00	64.660	326.700	6401.99	283.52	101.73	-576.22	1681986.08	14343726.95	39°29'57.1088"N	80°51'9.5024"W	585.13	280.012	8.99	8.87	1.58	
6582.00†	64.981	326.787	6403.69	287.02	104.76	-578.20	1681984.10	14343729.97	39°29'57.1388"N	80°51'9.5277"W	587.62	280.269	8.28	8.04	2.19	Burkett: 6582' MD
6625.00	68.440	327.700	6420.69	325.38	137.97	-599.57	1681962.74	14343763.17	39°29'57.4674"N	80°51'9.7995"W	615.24	282.959	8.28	8.04	2.12	
6641.00†	69.202	327.367	6426.47	339.88	150.56	-607.58	1681954.74	14343775.75	39°29'57.5919"N	80°51'9.9014"W	625.95	283.917	5.14	4.76	-2.08	Tully: 6641' MD
6672.00	70.680	326.730	6437.10	368.14	174.99	-623.42	1681938.90	14343800.18	39°29'57.8337"N	80°51'10.1029"W	647.51	285.679	5.14	4.77	-2.05	
6719.00	72.660	326.380	6451.88	411.34	212.21	-648.00	1681914.33	14343837.39	39°29'58.2020"N	80°51'10.4158"W	681.87	288.133	4.27	4.21	-0.74	
6767.00	74.740	325.320	6465.35	455.80	250.34	-673.87	1681888.47	14343875.50	39°29'58.5792"N	80°51'10.7450"W	718.86	290.380	4.82	4.33	-2.21	
6826.00†	78.534	326.141	6478.99	511.16	297.77	-706.18	1681856.17	14343922.91	39°29'59.0485"N	80°51'11.1562"W	766.39	292.863	6.57	6.43	1.39	Marcellus POE: 6826' MD
6862.00	80.850	326.630	6485.43	545.42	327.26	-725.79	1681836.57	14343952.39	39°29'59.3403"N	80°51'11.4057"W	796.16	294.271	6.57	6.43	1.36	
6957.00	83.770	329.680	6498.14	637.18	407.22	-775.44	1681786.94	14344032.32	39°30'0.1314"N	80°51'12.0374"W	875.86	297.706	4.42	3.07	3.21	
7052.00	91.050	328.600	6502.43	729.98	488.63	-824.09	1681738.31	14344113.70	39°30'0.9367"N	80°51'12.6564"W	958.06	300.665	7.75	7.66	-1.14	
7147.00	90.770	331.930	6500.92	823.29	571.10	-871.20	1681691.22	14344196.13	39°30'1.7526"N	80°51'13.2556"W	1041.70	303.246	3.52	-0.29	3.51	
7242.00	90.490	339.440	6499.88	917.80	657.61	-910.28	1681652.15	14344282.60	39°30'2.6082"N	80°51'13.7524"W	1122.97	305.845	7.91	-0.29	7.91	
7337.00	90.800	341.110	6498.81	1012.78	747.02	-942.34	1681620.11	14344371.98	39°30'3.4924"N	80°51'14.1595"W	1202.52	308.405	1.79	0.33	1.76	
7432.00	90.000	342.420	6498.14	1107.77	837.25	-972.07	1681590.39	14344462.17	39°30'4.3846"N	80°51'14.5369"W	1282.93	310.739	1.62	-0.84	1.38	
7527.00	90.220	339.700	6497.96	1202.76	927.10	-1002.90	1681559.57	14344551.98	39°30'5.2731"N	80°51'14.9283"W	1365.76	312.751	2.87	0.23	-2.86	
7621.00	90.280	342.280	6497.55	1296.75	1015.96	-1033.52	1681528.97	14344640.81	39°30'6.1519"N	80°51'15.3171"W	1449.25	314.509	2.75	0.06	2.74	



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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
7716.00	90.370	340.590	6497.01	1391.74	1106.01	-1063.76	1681498.74	14344730.83	39°30'7.0424"N	80°51'15.7010"W	1534.55	316.116	1.78	0.09	-1.78	
7811.00	91.050	340.940	6495.84	1486.73	1195.70	-1095.05	1681467.45	14344820.48	39°30'7.9293"N	80°51'16.0984"W	1621.37	317.516	0.81	0.72	0.37	
7906.00	90.650	341.700	6494.43	1581.72	1285.69	-1125.48	1681437.04	14344910.43	39°30'8.8191"N	80°51'16.4847"W	1708.71	318.801	0.90	-0.42	0.80	
8001.00	90.650	342.780	6493.35	1676.69	1376.15	-1154.45	1681408.08	14345000.86	39°30'9.7137"N	80°51'16.8525"W	1796.26	320.007	1.14	0.00	1.14	
8096.00	89.880	336.390	6492.91	1771.61	1465.14	-1187.57	1681374.97	14345089.81	39°30'10.5937"N	80°51'17.2732"W	1885.99	320.973	6.77	-0.81	-6.73	
8191.00	89.970	333.170	6493.03	1866.03	1551.07	-1228.05	1681334.51	14345175.71	39°30'11.4436"N	80°51'17.7877"W	1978.36	321.630	3.39	0.09	-3.39	
8285.00	90.030	335.740	6493.03	1959.41	1635.87	-1268.58	1681294.00	14345260.48	39°30'12.2824"N	80°51'18.3030"W	2070.11	322.207	2.73	0.06	2.73	
8380.00	89.750	333.210	6493.22	2053.78	1721.59	-1309.51	1681253.08	14345346.17	39°30'13.1303"N	80°51'18.8235"W	2163.03	322.742	2.68	-0.29	-2.66	
8475.00	89.850	333.050	6493.55	2147.88	1806.34	-1352.45	1681210.16	14345430.88	39°30'13.9685"N	80°51'19.3695"W	2256.54	323.177	0.20	0.11	-0.17	
8570.00	88.950	339.890	6494.54	2242.51	1893.38	-1390.35	1681172.28	14345517.88	39°30'14.8294"N	80°51'19.8513"W	2349.03	323.709	7.26	-0.95	7.20	
8665.00	90.800	342.390	6494.75	2337.50	1983.27	-1421.05	1681141.58	14345607.74	39°30'15.7183"N	80°51'20.2411"W	2439.83	324.378	3.27	1.95	2.63	
8759.00	90.520	346.170	6493.67	2431.33	2073.73	-1446.52	1681116.13	14345698.16	39°30'16.6127"N	80°51'20.5641"W	2528.39	325.103	4.03	-0.30	4.02	
8854.00	90.490	340.260	6492.83	2526.21	2164.64	-1473.94	1681088.72	14345789.03	39°30'17.5117"N	80°51'20.9121"W	2618.81	325.748	6.22	-0.03	-6.22	
8949.00	89.080	339.250	6493.19	2621.19	2253.77	-1506.81	1681055.86	14345878.13	39°30'18.3931"N	80°51'21.3296"W	2711.08	326.234	1.83	-1.48	-1.06	
9044.00	89.170	343.190	6494.64	2716.15	2343.68	-1537.38	1681025.30	14345968.00	39°30'19.2822"N	80°51'21.7179"W	2802.92	326.736	4.15	0.09	4.15	
9234.00	90.000	344.720	6496.01	2905.89	2526.27	-1589.89	1680972.81	14346150.52	39°30'21.0876"N	80°51'22.3841"W	2984.93	327.816	0.92	0.44	0.81	
9329.00	89.630	344.620	6496.32	3000.70	2617.89	-1615.01	1680947.71	14346242.10	39°30'21.9935"N	80°51'22.7026"W	3075.97	328.329	0.40	-0.39	-0.11	
9423.00	89.510	343.830	6497.03	3094.55	2708.34	-1640.56	1680922.16	14346332.52	39°30'22.8879"N	80°51'23.0268"W	3166.48	328.795	0.85	-0.13	-0.84	
9518.00	90.490	344.590	6497.03	3189.40	2799.76	-1666.41	1680896.32	14346423.90	39°30'23.7918"N	80°51'23.3547"W	3258.15	329.239	1.31	1.03	0.80	
9613.00	90.090	342.640	6496.54	3284.30	2890.89	-1693.21	1680869.54	14346515.00	39°30'24.6929"N	80°51'23.6948"W	3350.26	329.642	2.10	-0.42	-2.05	
9708.00	90.180	345.180	6496.32	3379.17	2982.16	-1719.54	1680843.22	14346606.23	39°30'25.5954"N	80°51'24.0288"W	3442.40	330.032	2.68	0.09	2.67	
9803.00	90.550	342.890	6495.71	3474.04	3073.49	-1745.67	1680817.10	14346697.52	39°30'26.4984"N	80°51'24.3603"W	3534.64	330.405	2.44	0.39	-2.41	
9898.00	90.770	339.120	6494.62	3569.01	3163.30	-1776.58	1680786.20	14346787.29	39°30'27.3865"N	80°51'24.7528"W	3628.04	330.680	3.97	0.23	-3.97	
9992.00	90.030	338.870	6493.96	3662.95	3251.05	-1810.27	1680752.52	14346875.01	39°30'28.2543"N	80°51'25.1809"W	3721.07	330.890	0.83	-0.79	-0.27	
10087.00	90.310	340.860	6493.68	3757.92	3340.24	-1842.97	1680719.83	14346964.16	39°30'29.1363"N	80°51'25.5963"W	3814.93	331.112	2.12	0.28	2.09	
10182.00	90.150	340.700	6493.30	3852.92	3429.94	-1874.25	1680688.57	14347053.83	39°30'30.0234"N	80°51'25.9935"W	3908.62	331.346	0.24	-0.17	-0.17	
10277.00	90.680	340.880	6492.61	3947.92	3519.65	-1905.50	1680657.33	14347143.50	39°30'30.9105"N	80°51'26.3905"W	4002.36	331.569	0.59	0.56	0.19	
10372.00	90.120	340.600	6491.95	4042.92	3609.33	-1936.84	1680626.01	14347233.14	39°30'31.7973"N	80°51'26.7884"W	4096.17	331.781	0.66	-0.59	-0.29	
10467.00	90.000	341.140	6491.85	4137.91	3699.08	-1967.97	1680594.89	14347322.86	39°30'32.6848"N	80°51'27.1838"W	4190.00	331.986	0.58	-0.13	0.57	
10561.00	90.460	339.200	6491.47	4231.90	3787.50	-1999.86	1680563.01	14347411.25	39°30'33.5592"N	80°51'27.5888"W	4283.06	332.165	2.12	0.49	-2.06	



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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
10856.00	90.090	337.930	6491.02	4326.81	3875.93	-2034.57	1680528.31	14347499.64	39°30'34.4337"N	80°51'28.0300"W	4377.48	332.304	1.39	-0.39	-1.34	
10751.00	89.080	340.340	6491.70	4421.74	3964.69	-2068.40	1680494.49	14347588.36	39°30'35.3115"N	80°51'28.4599"W	4471.81	332.449	2.75	-1.06	2.54	
10846.00	91.790	340.680	6490.98	4516.73	4054.23	-2100.10	1680462.81	14347677.87	39°30'36.1970"N	80°51'28.8624"W	4565.88	332.616	2.87	2.85	0.36	
10940.00	90.310	336.930	6489.26	4610.62	4141.84	-2134.07	1680428.85	14347765.45	39°30'37.0634"N	80°51'29.2941"W	4659.30	332.740	4.29	-1.57	-3.99	
11035.00	88.980	336.490	6489.85	4705.35	4229.10	-2171.63	1680391.31	14347852.67	39°30'37.9263"N	80°51'29.7715"W	4754.08	332.820	1.47	-1.40	-0.46	
11130.00	90.830	341.810	6490.01	4800.26	4317.84	-2205.43	1680357.52	14347941.37	39°30'38.8039"N	80°51'30.2010"W	4848.47	332.943	5.93	1.95	5.60	
11225.00	91.110	342.070	6488.40	4895.23	4408.15	-2234.88	1680328.09	14348031.64	39°30'39.6969"N	80°51'30.5749"W	4942.31	333.116	0.40	0.29	0.27	
11320.00	90.250	343.640	6487.27	4990.17	4498.92	-2262.88	1680300.10	14348122.38	39°30'40.5945"N	80°51'30.9303"W	5035.96	333.298	1.88	-0.91	1.65	
11415.00	90.310	341.220	6486.81	5085.14	4589.48	-2291.55	1680271.43	14348212.90	39°30'41.4899"N	80°51'31.2944"W	5129.77	333.467	2.55	0.06	-2.55	
11510.00	89.110	341.050	6487.29	5180.13	4679.37	-2322.27	1680240.73	14348302.76	39°30'42.3789"N	80°51'31.6845"W	5223.93	333.606	1.28	-1.26	-0.18	
11604.00	91.230	343.210	6487.01	5274.11	4768.82	-2351.11	1680211.90	14348392.18	39°30'43.2634"N	80°51'32.0507"W	5316.90	333.756	3.22	2.26	2.30	
11699.00	90.580	343.040	6485.51	5369.03	4859.72	-2378.68	1680184.34	14348483.04	39°30'44.1622"N	80°51'32.4007"W	5410.64	333.920	0.71	-0.68	-0.18	
11794.00	89.200	342.140	6485.69	5463.99	4950.37	-2407.11	1680155.93	14348573.65	39°30'45.0585"N	80°51'32.7615"W	5504.57	334.069	1.73	-1.45	-0.95	
11889.00	91.200	342.260	6485.36	5558.97	5040.81	-2436.15	1680126.90	14348664.06	39°30'45.9529"N	80°51'33.1302"W	5598.63	334.206	2.11	2.11	0.13	
11984.00	90.550	342.900	6483.91	5653.92	5131.44	-2464.58	1680098.47	14348754.65	39°30'46.8491"N	80°51'33.4913"W	5692.62	334.345	0.96	-0.68	0.67	
12079.00	89.630	343.780	6483.76	5748.84	5222.45	-2491.82	1680071.25	14348845.63	39°30'47.7490"N	80°51'33.8369"W	5786.47	334.493	1.34	-0.97	0.93	
12173.00	91.720	342.920	6482.65	5842.75	5312.50	-2518.75	1680044.33	14348935.64	39°30'48.6394"N	80°51'34.1787"W	5879.35	334.634	2.40	2.22	-0.91	
12268.00	90.620	341.460	6480.71	5937.71	5402.93	-2547.80	1680015.29	14349026.02	39°30'49.5335"N	80°51'34.5476"W	5973.51	334.753	1.92	-1.16	-1.54	
12363.00	90.180	342.110	6480.05	6032.70	5493.16	-2577.49	1679985.61	14349116.23	39°30'50.4258"N	80°51'34.9247"W	6067.81	334.863	0.83	-0.46	0.68	
12458.00	90.280	341.140	6479.67	6127.69	5583.32	-2607.44	1679955.67	14349206.34	39°30'51.3173"N	80°51'35.3050"W	6162.16	334.967	1.03	0.11	-1.02	
12553.00	90.250	341.470	6479.23	6222.69	5673.30	-2637.89	1679925.24	14349296.29	39°30'52.2071"N	80°51'35.6917"W	6256.58	335.063	0.35	-0.03	0.35	
12648.00	89.910	342.170	6479.10	6317.68	5763.56	-2667.53	1679895.61	14349386.52	39°30'53.0996"N	80°51'36.0681"W	6350.93	335.164	0.82	-0.36	0.74	
12743.00	90.680	340.980	6478.61	6412.67	5853.69	-2697.55	1679865.59	14349476.61	39°30'53.9908"N	80°51'36.4494"W	6445.34	335.258	1.49	0.81	-1.25	
12838.00	90.550	340.740	6477.59	6507.66	5943.43	-2728.70	1679834.46	14349566.31	39°30'54.8783"N	80°51'36.8451"W	6539.89	335.340	0.29	-0.14	-0.25	
12932.00	90.860	341.250	6476.43	6601.66	6032.30	-2759.31	1679803.86	14349655.15	39°30'55.7571"N	80°51'37.2339"W	6633.43	335.420	0.63	0.33	0.54	
13027.00	90.310	342.860	6475.46	6696.63	6122.67	-2788.58	1679774.61	14349745.48	39°30'56.6507"N	80°51'37.6055"W	6727.80	335.513	1.79	-0.58	1.69	
13122.00	90.520	340.780	6474.77	6791.62	6212.92	-2818.21	1679744.98	14349835.69	39°30'57.5431"N	80°51'37.9819"W	6822.22	335.601	2.20	0.22	-2.19	
13217.00	90.370	341.290	6474.03	6886.61	6302.76	-2849.09	1679714.12	14349925.50	39°30'58.4315"N	80°51'38.3741"W	6916.80	335.675	0.56	-0.16	0.54	
13312.00	91.110	341.880	6472.81	6981.60	6392.89	-2879.10	1679684.13	14350015.59	39°30'59.3227"N	80°51'38.7552"W	7011.29	335.755	1.00	0.78	0.62	
13407.00	90.340	340.810	6471.60	7076.59	6482.89	-2909.48	1679653.75	14350105.55	39°31'0.2127"N	80°51'39.1411"W	7105.83	335.830	1.39	-0.81	-1.13	



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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
13502.00	90.060	341.970	6471.27	7171.58	6572.92	-2939.80	1679623.45	14350195.55	39°31'1.1029"N	80°51'39.5261"W	7200.39	335.903	1.26	-0.29	1.22	
13596.00	90.460	340.990	6470.85	7265.58	6662.05	-2969.65	1679593.61	14350284.64	39°31'1.9843"N	80°51'39.9054"W	7293.95	335.975	1.13	0.43	-1.04	
13691.00	90.090	341.750	6470.39	7360.57	6752.07	-3000.00	1679563.27	14350374.83	39°31'2.8744"N	80°51'40.2908"W	7388.53	336.044	0.89	-0.39	0.80	
13786.00	90.710	340.920	6469.73	7455.57	6842.07	-3030.40	1679532.88	14350464.59	39°31'3.7644"N	80°51'40.6770"W	7483.13	336.111	1.09	0.65	-0.87	
13881.00	90.550	341.990	6468.88	7550.56	6932.13	-3060.81	1679502.68	14350554.61	39°31'4.6649"N	80°51'41.0607"W	7577.71	336.178	1.14	-0.17	1.13	
13976.00	91.110	340.870	6467.31	7645.55	7022.17	-3090.86	1679472.44	14350644.62	39°31'5.5453"N	80°51'41.4449"W	7672.31	336.243	1.32	0.59	-1.18	
14070.00	89.780	341.670	6466.58	7739.54	7111.19	-3121.05	1679442.27	14350733.60	39°31'6.4256"N	80°51'41.8283"W	7765.95	336.304	1.65	-1.41	0.85	
14165.00	91.050	341.370	6465.89	7834.53	7201.28	-3151.16	1679412.17	14350823.66	39°31'7.3165"N	80°51'42.2108"W	7860.55	336.367	1.37	1.34	-0.32	
14260.00	89.540	341.240	6465.40	7929.53	7291.27	-3181.61	1679381.74	14350913.61	39°31'8.2063"N	80°51'42.5976"W	7955.20	336.426	1.60	-1.59	-0.14	
14355.00	90.490	341.710	6465.37	8024.52	7381.34	-3211.79	1679351.56	14351003.65	39°31'9.0970"N	80°51'42.9809"W	8049.83	336.485	1.12	1.00	0.49	
14450.00	89.720	342.560	6465.20	8119.50	7471.76	-3240.93	1679322.43	14351094.03	39°31'9.9911"N	80°51'43.3510"W	8144.38	336.551	1.21	-0.81	0.89	
14545.00	90.180	341.620	6465.28	8214.48	7562.16	-3270.15	1679293.23	14351184.39	39°31'10.8849"N	80°51'43.7221"W	8238.94	336.615	1.10	0.48	-0.99	
14639.00	90.250	341.720	6464.93	8308.48	7651.39	-3299.71	1679263.68	14351273.59	39°31'11.7672"N	80°51'44.0975"W	8332.57	336.672	0.13	0.07	0.11	
14734.00	90.340	341.470	6464.44	8403.47	7741.53	-3329.70	1679233.70	14351363.69	39°31'12.6586"N	80°51'44.4785"W	8427.23	336.727	0.28	0.09	-0.26	
14829.00	90.120	340.940	6464.06	8498.47	7831.46	-3360.31	1679203.10	14351453.59	39°31'13.5479"N	80°51'44.8673"W	8521.94	336.777	0.60	-0.23	-0.56	
14924.00	89.630	342.140	6464.27	8593.46	7921.57	-3390.39	1679173.04	14351543.66	39°31'14.4389"N	80°51'45.2494"W	8616.61	336.829	1.36	-0.52	1.26	
15019.00	90.120	339.960	6464.47	8688.46	8011.41	-3421.24	1679142.20	14351633.47	39°31'15.3273"N	80°51'45.8413"W	8711.35	336.875	2.35	0.52	-2.29	
15113.00	89.940	341.290	6464.43	8782.45	8100.09	-3452.42	1679111.03	14351722.11	39°31'16.2042"N	80°51'46.0375"W	8805.15	336.915	1.43	-0.19	1.41	
15208.00	90.060	340.220	6464.43	8877.45	8189.78	-3483.74	1679079.73	14351811.76	39°31'17.0911"N	80°51'46.4353"W	8899.94	336.956	1.13	0.13	-1.13	
15303.00	90.830	339.310	6463.69	8972.42	8278.91	-3516.59	1679046.88	14351900.86	39°31'17.9725"N	80°51'46.8529"W	8994.82	336.986	1.25	0.81	-0.96	
15398.00	90.150	339.530	6462.87	9067.38	8367.84	-3549.98	1679013.51	14351989.76	39°31'18.8520"N	80°51'47.2772"W	9089.73	337.011	0.75	-0.72	0.23	
15493.00	90.220	340.270	6462.57	9162.36	8457.06	-3582.63	1678980.87	14352078.93	39°31'19.7342"N	80°51'47.6921"W	9184.61	337.041	0.78	0.07	0.78	
15587.00	90.340	340.930	6462.11	9256.36	8545.72	-3613.85	1678949.66	14352167.56	39°31'20.6109"N	80°51'48.0888"W	9278.43	337.077	0.71	0.13	0.70	
15682.00	90.490	340.480	6461.42	9351.35	8635.38	-3645.24	1678918.28	14352257.19	39°31'21.4976"N	80°51'48.4877"W	9373.24	337.114	0.50	0.16	-0.47	
15777.00	90.520	341.350	6460.58	9446.35	8725.15	-3676.30	1678887.24	14352346.92	39°31'22.3853"N	80°51'48.8823"W	9468.03	337.152	0.92	0.03	0.92	
15872.00	90.490	340.370	6459.75	9541.34	8814.90	-3707.45	1678856.10	14352436.63	39°31'23.2727"N	80°51'49.2780"W	9562.82	337.189	1.03	-0.03	-1.03	
15967.00	90.180	340.280	6459.19	9636.33	8904.35	-3739.44	1678824.13	14352526.05	39°31'24.1573"N	80°51'49.6844"W	9657.68	337.220	0.34	-0.33	-0.09	
16062.00	90.920	340.690	6458.28	9731.32	8993.89	-3771.17	1678792.41	14352615.55	39°31'25.0427"N	80°51'50.0877"W	9752.52	337.252	0.89	0.78	0.43	
16157.00	90.280	340.850	6457.28	9826.32	9083.58	-3802.46	1678761.13	14352705.21	39°31'25.9296"N	80°51'50.4852"W	9847.34	337.285	0.69	-0.67	0.17	
16251.00	90.340	340.170	6456.78	9920.31	9172.19	-3833.82	1678729.78	14352793.78	39°31'26.8059"N	80°51'50.8837"W	9941.19	337.316	0.73	0.06	-0.72	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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
16346.00	90.770	339.940	6455.86	10015.29	9261.49	-3866.22	1678697.39	14352883.05	39°31'27.6889"N	80°51'51.2955"W	10036.08	337.342	0.51	0.45	-0.24	
16441.00	90.180	340.580	6455.07	10110.28	9350.90	-3898.31	1678665.32	14352972.42	39°31'28.5731"N	80°51'51.7032"W	10130.95	337.369	0.92	-0.62	0.67	
16536.00	90.430	339.750	6454.56	10205.27	9440.27	-3930.54	1678633.10	14353061.75	39°31'29.4568"N	80°51'52.1128"W	10225.84	337.395	0.91	0.26	-0.87	
16631.00	90.740	340.890	6453.59	10300.25	9529.71	-3962.53	1678601.12	14353151.16	39°31'30.3412"N	80°51'52.5194"W	10320.71	337.422	1.24	0.33	1.20	
16726.00	90.180	340.990	6452.83	10395.25	9619.50	-3993.55	1678570.11	14353240.91	39°31'31.2291"N	80°51'52.9135"W	10415.53	337.454	0.60	-0.59	0.11	
16821.00	90.520	339.710	6452.25	10490.24	9708.96	-4025.50	1678538.18	14353330.34	39°31'32.1138"N	80°51'53.3195"W	10510.40	337.480	1.39	0.36	-1.35	
16915.00	90.980	341.940	6451.02	10584.23	9797.73	-4056.37	1678507.32	14353419.08	39°31'32.9916"N	80°51'53.7117"W	10604.23	337.510	2.42	0.49	2.37	
17010.00	90.150	339.990	6450.08	10679.22	9887.53	-4087.35	1678476.35	14353508.84	39°31'33.8795"N	80°51'54.1054"W	10699.05	337.541	2.23	-0.87	-2.05	
17105.00	90.580	340.000	6449.48	10774.20	9976.80	-4119.85	1678443.87	14353598.07	39°31'34.7623"N	80°51'54.5184"W	10793.96	337.562	0.45	0.45	0.01	
17200.00	90.460	341.280	6448.61	10869.19	10066.42	-4151.34	1678412.39	14353687.65	39°31'35.6485"N	80°51'54.9185"W	10888.82	337.589	1.35	-0.13	1.35	
17294.00	90.800	340.010	6447.58	10963.18	10155.10	-4182.49	1678381.25	14353776.30	39°31'36.5254"N	80°51'55.3144"W	10982.68	337.615	1.40	0.36	-1.35	
17389.00	90.520	342.140	6446.49	11058.17	10244.95	-4213.30	1678350.46	14353866.11	39°31'37.4139"N	80°51'55.7058"W	11077.50	337.645	2.26	-0.29	2.24	
17484.00	90.800	339.930	6445.39	11153.16	10334.78	-4244.17	1678319.60	14353955.91	39°31'38.3022"N	80°51'56.0981"W	11172.32	337.674	2.34	0.29	-2.33	
17579.00	91.200	340.530	6443.73	11248.13	10424.17	-4276.30	1678287.48	14354045.26	39°31'39.1861"N	80°51'56.5064"W	11267.21	337.695	0.76	0.42	0.63	
17674.00	90.980	340.560	6441.93	11343.11	10513.73	-4307.93	1678255.86	14354134.78	39°31'40.0717"N	80°51'56.9084"W	11362.08	337.719	0.23	-0.23	0.03	
17769.00	90.800	340.400	6440.45	11438.09	10603.26	-4339.67	1678224.13	14354224.28	39°31'40.9570"N	80°51'57.3118"W	11456.96	337.742	0.25	-0.19	-0.17	
17864.00	91.170	339.960	6438.82	11533.07	10692.62	-4371.88	1678191.94	14354313.60	39°31'41.8407"N	80°51'57.7211"W	11551.86	337.762	0.61	0.39	-0.46	
17958.00	91.230	341.410	6436.85	11627.04	10781.30	-4402.96	1678160.87	14354402.25	39°31'42.7176"N	80°51'58.1161"W	11645.71	337.785	1.54	0.06	1.54	
18053.00	90.890	340.010	6435.09	11722.02	10870.95	-4434.34	1678129.51	14354491.87	39°31'43.6041"N	80°51'58.5148"W	11740.57	337.809	1.52	-0.36	-1.47	
18148.00	90.950	341.120	6433.57	11817.01	10960.53	-4465.94	1678097.91	14354581.40	39°31'44.4899"N	80°51'58.9165"W	11835.45	337.831	1.17	0.06	1.17	
18243.00	91.140	340.370	6431.83	11911.99	11050.20	-4497.27	1678066.60	14354671.04	39°31'45.3766"N	80°51'59.3145"W	11930.31	337.854	0.81	0.20	-0.79	
18338.00	91.080	340.480	6429.99	12006.97	11139.69	-4529.09	1678034.79	14354760.49	39°31'46.2615"N	80°51'59.7189"W	12025.20	337.875	0.13	-0.06	0.12	
18432.00	91.290	340.340	6428.05	12100.94	11228.23	-4560.60	1678003.29	14354849.00	39°31'47.1371"N	80°52'0.1194"W	12119.09	337.894	0.27	0.22	-0.15	
18527.00	90.950	340.990	6426.19	12195.92	11317.85	-4592.05	1677971.86	14354938.59	39°31'48.0233"N	80°52'0.5191"W	12213.96	337.916	0.77	-0.36	0.68	
18622.00	90.400	339.460	6425.07	12290.90	11407.24	-4624.19	1677939.73	14355027.94	39°31'48.9072"N	80°52'0.9275"W	12308.87	337.934	1.71	-0.58	-1.61	
18717.00	90.310	340.720	6424.48	12385.88	11496.56	-4656.54	1677907.40	14355117.22	39°31'49.7905"N	80°52'1.3387"W	12403.80	337.950	1.33	-0.09	1.33	
18812.00	90.770	340.710	6423.59	12480.88	11586.23	-4687.91	1677876.04	14355206.85	39°31'50.6771"N	80°52'1.7374"W	12498.69	337.971	0.48	0.48	-0.01	
18907.00	90.830	340.700	6422.26	12575.87	11675.88	-4719.30	1677844.66	14355296.47	39°31'51.5636"N	80°52'2.1363"W	12593.57	337.992	0.06	0.06	-0.01	
19002.00	90.710	340.640	6420.99	12670.86	11765.52	-4750.74	1677813.23	14355386.07	39°31'52.4500"N	80°52'2.5359"W	12688.46	338.012	0.14	-0.13	-0.06	
19096.00	90.740	340.220	6419.80	12764.84	11854.08	-4782.22	1677781.76	14355474.60	39°31'53.3258"N	80°52'2.9361"W	12782.37	338.030	0.45	0.03	-0.45	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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
19191.00	90.150	340.300	6419.06	12859.83	11943.49	-4814.31	1677749.69	14355563.98	39°31'54.2099"N	80°52'3.3439"W	12877.29	338.046	0.63	-0.62	0.08	
19286.00	90.340	340.370	6418.65	12954.82	12032.95	-4846.28	1677717.73	14355653.40	39°31'55.0945"N	80°52'3.7502"W	12972.22	338.063	0.21	0.20	0.07	
19381.00	90.400	340.200	6418.04	13049.81	12122.38	-4878.33	1677685.70	14355742.79	39°31'55.9789"N	80°52'4.1575"W	13067.14	338.079	0.19	0.06	-0.18	
19476.00	90.370	341.090	6417.40	13144.81	12212.01	-4909.81	1677654.22	14355832.39	39°31'56.8651"N	80°52'4.5577"W	13162.04	338.098	0.94	-0.03	0.94	
19571.00	90.460	340.780	6416.71	13239.81	12301.80	-4940.84	1677623.21	14355922.14	39°31'57.7530"N	80°52'4.9520"W	13256.93	338.118	0.34	0.09	-0.33	
19666.00	90.090	342.400	6416.26	13334.80	12391.93	-4970.84	1677593.22	14356012.23	39°31'58.6442"N	80°52'5.3332"W	13351.75	338.143	1.75	-0.39	1.71	
19761.00	90.370	342.460	6415.88	13429.77	12482.50	-4999.52	1677564.55	14356102.77	39°31'59.5397"N	80°52'5.6975"W	13446.48	338.173	0.30	0.29	0.06	
19856.00	90.400	341.840	6415.24	13524.75	12572.92	-5028.64	1677535.44	14356193.15	39°32'0.4339"N	80°52'6.0675"W	13541.25	338.201	0.65	0.03	-0.65	
19950.00	90.520	342.630	6414.48	13618.72	12662.44	-5057.32	1677506.78	14356282.63	39°32'1.3190"N	80°52'6.4318"W	13635.02	338.228	0.85	0.13	0.84	
20045.00	90.060	342.070	6414.00	13713.70	12752.96	-5086.12	1677477.98	14356373.12	39°32'2.2141"N	80°52'6.7978"W	13729.77	338.257	0.76	-0.48	-0.59	
20140.00	90.340	342.350	6413.67	13808.68	12843.42	-5115.14	1677448.97	14356463.54	39°32'3.1085"N	80°52'7.1665"W	13824.55	338.284	0.42	0.29	0.29	
20235.00	90.340	342.450	6413.11	13903.65	12933.97	-5143.87	1677420.26	14356554.06	39°32'4.0039"N	80°52'7.5315"W	13919.30	338.312	0.11	0.00	0.11	
20330.00	90.650	343.180	6412.29	13998.60	13024.73	-5171.94	1677392.20	14356644.78	39°32'4.9012"N	80°52'7.8880"W	14014.01	338.343	0.83	0.33	0.77	
20425.00	90.400	342.440	6411.41	14093.55	13115.48	-5200.01	1677364.14	14356735.49	39°32'5.7986"N	80°52'8.2446"W	14108.72	338.373	0.82	-0.26	-0.78	
20520.00	90.370	342.400	6410.78	14188.52	13206.04	-5228.70	1677335.46	14356826.02	39°32'6.6940"N	80°52'8.6092"W	14203.48	338.400	0.05	-0.03	-0.04	
20615.00	90.680	343.130	6409.91	14283.47	13296.77	-5256.85	1677307.32	14356916.71	39°32'7.5911"N	80°52'8.9667"W	14298.20	338.429	0.83	0.33	0.77	
20709.00	90.060	342.340	6409.30	14377.42	13386.53	-5284.75	1677279.44	14357006.44	39°32'8.4787"N	80°52'9.3211"W	14391.93	338.457	1.07	-0.66	-0.84	
20804.00	90.180	342.040	6409.10	14472.40	13476.98	-5313.81	1677250.39	14357096.85	39°32'9.3730"N	80°52'9.6903"W	14486.73	338.481	0.34	0.13	-0.32	
20899.00	90.180	342.430	6408.80	14567.38	13567.45	-5342.79	1677221.42	14357187.28	39°32'10.2676"N	80°52'10.0586"W	14581.53	338.506	0.41	0.00	0.41	
20994.00	90.340	343.140	6408.37	14662.33	13658.19	-5370.91	1677193.31	14357277.99	39°32'11.1648"N	80°52'10.4157"W	14676.27	338.533	0.77	0.17	0.75	
21089.00	90.030	342.270	6408.06	14757.29	13748.89	-5399.15	1677165.08	14357368.65	39°32'12.0616"N	80°52'10.7745"W	14771.01	338.560	0.97	-0.33	-0.92	
21184.00	90.120	342.230	6407.94	14852.27	13839.37	-5428.11	1677136.13	14357459.09	39°32'12.9563"N	80°52'11.1425"W	14865.82	338.584	0.10	0.09	-0.04	
21279.00	90.220	340.680	6407.66	14947.26	13929.43	-5458.32	1677105.93	14357549.12	39°32'13.8468"N	80°52'11.5265"W	14960.70	338.602	1.63	0.11	-1.63	
21374.00	90.120	340.430	6407.38	15042.26	14019.01	-5489.95	1677074.32	14357638.67	39°32'14.7326"N	80°52'11.9285"W	15055.64	338.614	0.28	-0.11	-0.26	
21468.00	90.180	340.150	6407.13	15136.25	14107.51	-5521.65	1677042.63	14357727.12	39°32'15.6077"N	80°52'12.3315"W	15149.60	338.625	0.30	0.06	-0.30	
21563.00	90.220	340.400	6406.80	15231.24	14196.93	-5553.71	1677010.58	14357816.51	39°32'16.4920"N	80°52'12.7391"W	15244.56	338.635	0.27	0.04	0.26	
21658.00	90.280	340.510	6406.38	15326.24	14286.46	-5585.50	1676978.81	14357906.00	39°32'17.3772"N	80°52'13.1431"W	15339.51	338.646	0.13	0.06	0.12	
21753.00	90.250	341.140	6405.94	15421.24	14376.18	-5616.70	1676947.62	14357995.69	39°32'18.2645"N	80°52'13.5397"W	15434.44	338.660	0.66	-0.03	0.66	
21848.00	90.000	340.320	6405.74	15516.23	14465.86	-5648.05	1676916.28	14358085.34	39°32'19.1512"N	80°52'13.9382"W	15529.38	338.672	0.90	-0.26	-0.86	
21942.00	90.060	340.300	6405.68	15610.23	14554.37	-5679.72	1676884.62	14358173.80	39°32'20.0264"N	80°52'14.3409"W	15623.34	338.682	0.07	0.06	-0.02	



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

WELLPATH DATA (249 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
22037.00	90.090	340.090	6405.56	15705.22	14643.75	-5711.91	1676852.44	14358263.15	39°32'20.9102"N	80°52'14.7501"W	15718.31	338.691	0.22	0.03	-0.22	
22132.00	90.370	340.920	6405.18	15800.21	14733.30	-5743.61	1676820.75	14358352.67	39°32'21.7957"N	80°52'15.1531"W	15813.26	338.702	0.92	0.29	0.87	
22227.00	90.120	340.310	6404.78	15895.21	14822.91	-5775.14	1676789.24	14358442.24	39°32'22.6818"N	80°52'15.5539"W	15908.21	338.714	0.69	-0.26	-0.64	
22322.00	90.090	340.380	6404.60	15990.20	14912.38	-5807.10	1676757.29	14358531.67	39°32'23.5665"N	80°52'15.9601"W	16003.17	338.723	0.08	-0.03	0.07	
22417.00	90.250	340.940	6404.32	16085.20	15002.01	-5838.56	1676725.85	14358621.27	39°32'24.4529"N	80°52'16.3601"W	16098.11	338.735	0.61	0.17	0.59	
22512.00	90.150	340.050	6403.99	16180.19	15091.56	-5870.28	1676694.14	14358710.78	39°32'25.3383"N	80°52'16.7633"W	16193.07	338.745	0.94	-0.11	-0.94	
22607.00	90.150	340.550	6403.74	16275.18	15181.00	-5902.30	1676662.13	14358800.19	39°32'26.2227"N	80°52'17.1704"W	16288.03	338.754	0.53	0.00	0.53	
22681.00	90.310	340.940	6403.44	16349.18	15250.86	-5926.71	1676637.73	14358870.02	39°32'26.9135"N	80°52'17.4806"W	16361.99	338.763	0.57	0.22	0.53	
22705.00‡	90.310	340.940	6403.31	16373.18	15273.54	-5934.54	1676629.90	14358892.69	39°32'27.1378"N	80°52'17.5802"W	16385.97	338.766	0.00	0.00	0.00	Projected MD at TD: 22705'

HOLE & CASING SECTIONS - Ref Wellbore: Loraina Unit 2H AWB Ref Wellpath: Loraina Unit 2H AWP Proj: 22705'									
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	0.19	0.19
17.5in Open Hole	105.50	534.00	428.50	105.50	534.00	0.19	0.19	-0.16	0.56
13.375in Casing Surface	25.50	534.00	508.50	25.50	534.00	0.00	0.00	-0.16	0.56
12.25in Open Hole	534.00	2645.00	2111.00	534.00	2644.80	-0.16	0.56	6.22	-8.32
9.625in Casing Intermediate	25.50	2625.00	2599.50	25.50	2624.80	0.00	0.00	5.98	-8.27
8.75in Open Hole	2645.00	5813.00	3168.00	2644.80	5783.83	6.22	-8.32	-198.04	-342.69
8.5in Open Hole	5813.00	22705.00	16892.00	5783.83	6403.31	-198.04	-342.69	15273.54	-5934.54
5.5in Casing Production	25.50	22705.00	22679.50	25.50	6403.31	0.00	0.00	15273.54	-5934.54



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina 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
Loraina Unit 2H POE Rev-2	6475.00	217.65	-683.05	1681879.29	14343842.82	39°29'58.2562"N	80°51'10.8628"W	point
Loraina Unit 2H BHL Rev-2	6499.00	15263.47	-5939.50	1676624.95	14358882.63	39°32'27.0384"N	80°52'17.6436"W	point
Loraina Unit 2H LP Rev-2	6499.00	375.24	-777.74	1681784.64	14344000.35	39°29'59.8153"N	80°51'12.0675"W	point

WELLPATH COMPOSITION - Ref Wellbore: Loraina Unit 2H AWB Ref Wellpath: Loraina Unit 2H AWP Proj: 22705'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	480.00	Gyrodatta 2015 - GC+WIR+CAS	01 Gyrodatta MS Gyro <17-1/2"> (100'-480')	Loraina Unit 2H AWB	6/4/2020
480.00	2568.00	BH NaviTrak (2019) (Axial)	02 APS EM <12-1/4"> (480')(602'-2568')	Loraina Unit 2H AWB	6/4/2020
2568.00	5704.00	BH NaviTrak (2019) (Axial)	03 APS EM <8-3/4"> (2568')(2666'-5704')	Loraina Unit 2H AWB	6/12/2020
5704.00	22705.00	BH AutoTrak Curve (2019) (Short spacing)	04 BH AT Curve <8-1/2"> (5704')(5787'-22681')	Loraina Unit 2H AWB	6/12/2020



Actual Wellpath Report

Loraina Unit 2H AWP Proj: 22705'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Loraina Unit 2H
Field	Tyler	API	47-095-02687-0000
Facility	Blizzard Pad	Wellbore	Loraina Unit 2H AWB
Slot	Slot #08		

COMMENTS

Wellpath general comments

API: 47-095-02687-0000

BHI Job #: 110450962B

Rig: H&P 317

Duration: 06/05/2020-06/22/2020

Gyrodata MS Gyro <17-1/2"> (100'-480')

APS EM <12-1/4"> (480')(602'-2568')

APS EM <8-3/4"> (2568')(2666'-5704')

BH AT Curve <8-1/2"> (5704')(5787'-22681')

Middlesex: 6407' MD

Burkett: 6582' MD

Tully: 6641' MD

Marcellus POE: 6826' MD

Projected MD at TD: 22705'