

# ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV  
 Facility: Ritchie  
 Wellbore: Leeroy Unit 2H PWB  
 Well: Leeroy Unit 2H  
 Slot: Slot #02

API: 47-085-10363-0000  
 BHI Job #: 109501210  
 Rig: H&P 317  
 Duration: 11/19/2018-11/23/2018

Gyrodatta MS Gyro <17-1/2">(50°-486') : 60.50ft TVD, 0.04ft S, 0.04ft E  
 WFT EM <12-1/4">(486°)(533°-2508') : 543.48ft TVD, 3.43ft S, 0.84ft W  
 WFT EM <8-3/4">(2508°)(2653°-6011') : 2632.69ft TVD, 111.63ft N, 321.49ft W  
 BH AT Curve <8-1/2">(6021.50°)(6069°-14451') : 5967.41ft TVD, 163.83ft N, 860.29ft W

Marcellus POE: 6699' MD : 6321.98ft TVD, 312.99ft S, 724.83ft W  
 POE: 106'

Grid System: NAD27 / UTM Zone 17 North, US feet	
North Reference: Grid north	
Scale: True distance	
Measured depths are referenced to H&P 317 (RKB)	
H&P 317 (RKB) to Mean Sea Level: 995.5 feet	
Mean Sea Level to Ground level (At Slot: Slot #02): -070 feet	
Coordinates are in feet referenced to Slot	
Database: WA, MPL, EASTERNUS, DFRN	

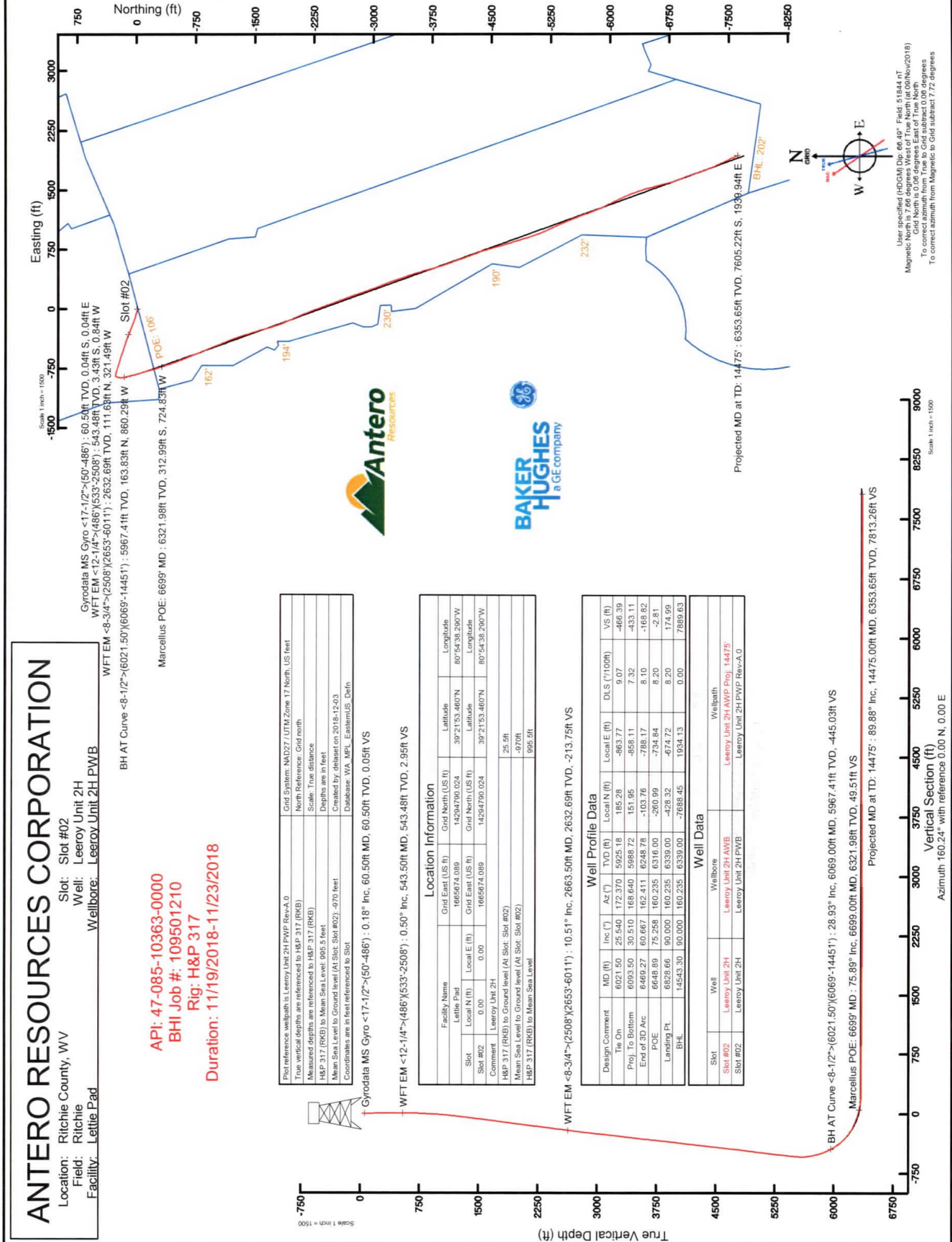
Gyrodatta MS Gyro <17-1/2">(50°-486') : 0.18° Inc, 60.50ft MD, 60.50ft TVD, 0.05ft VS	
WFT EM <12-1/4">(486°)(533°-2508') : 0.50° Inc, 543.50ft MD, 543.48ft TVD, 2.95ft VS	
WFT EM <8-3/4">(2508°)(2653°-6011') : 10.51° Inc, 2663.50ft MD, 2632.69ft TVD, -2.13.75ft VS	

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Lettie Pad	1065874.089	14294790.024	80°54'38.290"W
Slot	Local E (ft)	Local N (ft)	Latitude
Slot #02	0.00	1665674.089	39°21'53.460"N
Comment	Leeroy Unit 2H	Leeroy Unit 2H	Latitude
H&P 317 (RKB) to Ground level (At Slot: Slot #02)			80°54'38.290"W
Mean Sea Level to Ground level (At Slot: Slot #02)			25.5ft
H&P 317 (RKB) to Mean Sea Level			-070ft
			995.5ft

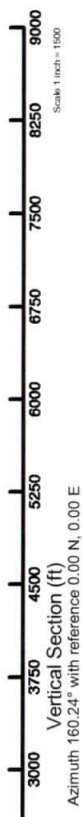
Well Profile Data				
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)
Time On	6021.50	25.540	172.370	5925.18
Proj. To Bottom	6093.50	30.510	168.640	5988.72
End of 3D Arc	6460.27	60.667	162.411	6248.78
POE	6648.89	75.258	160.235	6316.00
Landing Pt.	6828.66	90.000	160.235	6339.00
BHL	14543.30	90.000	160.235	6339.00
				-7688.45
				1934.13
				0.00
				7889.63

Well Data		
Well	Wellbore	Wellbath
Slot #02	Leeroy Unit 2H	Leeroy Unit 2H AVP Proj. 14475
Slot #02	Leeroy Unit 2H	Leeroy Unit 2H PWP Rev-A.0

BH AT Curve <8-1/2">(6021.50°)(6069°-14451') : 28.93° Inc, 6069.00ft MD, 5967.41ft TVD, -445.03ft VS  
 Marcellus POE: 6699' MD : 75.89° Inc, 6699.00ft MD, 6321.98ft TVD, 49.51ft VS  
 Projected MD at TD: 14475' : 89.88° Inc, 14475.00ft MD, 6353.65ft TVD, 7813.26ft VS



User specified (HDGM) Dip: 66.49° Field: 51844.NT  
 Magnetic Declination: 10.00° (11/19/2018)  
 Grid North is 0.00° degrees East of True North  
 To correct azimuth from True to Grid subtract 0.00° degrees  
 To correct azimuth from Magnetic to Grid subtract 7.7° degrees





# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Ritchie County, WV	Well	Leeroy Unit 2H
Field	Ritchie	Wellbore	Leeroy Unit 2H AWB
Facility	Lettie Pad		

## REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	03/Dec/2018 at 15:18
Convergence at slot	0.06° East	Database/Source file	WA_MPL_EasternUS_Defn/Leeroy_Unit_2H_AWP_Proj_14475_.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1665674.09	14294790.02	39°21'53.460"N	80°54'38.290"W
Facility Reference Pt			1665674.09	14294790.02	39°21'53.460"N	80°54'38.290"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

## WELLPATH DATUM

Calculation method	Minimum curvature	H&P 317 (RKB) to Facility Vertical Datum	25.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	995.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot #02)	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	160.24°

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #02
Operator	ANTERO RESOURCES CORPORATION	Well	Leeroy Unit 2H
Area	Ritchie County, WV	Wellbore	Leeroy Unit 2H AWB
Field	Ritchie		
Facility	Lettie Pad		

WELLPATH DATA (192 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
0.00H	0.000	140.340	0.00	0.00	0.00	0.00	1665674.09	14294790.02	39°21'53.460"N	80°54'38.290"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	140.340	-25.50	0.00	0.00	0.00	1665674.09	14294790.02	39°21'53.460"N	80°54'38.290"W	0.00	0.000	0.00	0.00	0.00	
60.50	0.180	140.340	60.50	0.05	-0.04	0.04	1665674.12	14294789.98	39°21'53.460"N	80°54'38.290"W	0.05	140.340	0.51	0.51	400.97	Gyrodatta MS Gyro <17-1/2">(50'-486')
85.50	0.230	136.000	85.50	0.13	-0.11	0.10	1665674.18	14294789.92	39°21'53.459"N	80°54'38.289"W	0.14	138.832	0.21	0.21	0.20	-17.36
110.50	0.290	165.790	110.50	0.24	-0.21	0.15	1665674.23	14294789.82	39°21'53.458"N	80°54'38.288"W	0.25	144.796	0.58	0.58	0.24	119.16
135.50	0.250	150.290	135.50	0.36	-0.31	0.19	1665674.28	14294789.71	39°21'53.457"N	80°54'38.288"W	0.37	149.158	0.33	-0.16	-62.00	
160.50	0.370	179.900	160.50	0.49	-0.44	0.22	1665674.30	14294789.58	39°21'53.456"N	80°54'38.287"W	0.49	154.091	0.79	0.48	118.44	
185.50	0.330	195.150	185.50	0.62	-0.59	0.20	1665674.29	14294789.43	39°21'53.454"N	80°54'38.288"W	0.62	161.673	0.40	-0.16	61.00	
210.50	0.420	184.670	210.50	0.77	-0.75	0.17	1665674.26	14294789.27	39°21'53.453"N	80°54'38.288"W	0.77	167.280	0.45	0.36	-41.92	
235.50	0.440	185.350	235.50	0.94	-0.94	0.15	1665674.24	14294789.08	39°21'53.451"N	80°54'38.288"W	0.95	170.717	0.08	0.08	2.72	
260.50	0.330	186.390	260.50	1.09	-1.11	0.14	1665674.23	14294788.92	39°21'53.449"N	80°54'38.288"W	1.12	172.961	0.44	-0.44	4.16	
285.50	0.320	192.070	285.50	1.20	-1.24	0.09	1665674.18	14294788.79	39°21'53.448"N	80°54'38.289"W	1.24	175.765	0.58	-0.04	102.72	
310.50	0.340	194.530	310.50	1.30	-1.37	0.04	1665674.12	14294788.65	39°21'53.446"N	80°54'38.290"W	1.37	178.492	0.41	0.08	-70.16	
335.50	0.350	204.740	335.50	1.42	-1.51	-0.01	1665674.07	14294788.51	39°21'53.445"N	80°54'38.290"W	1.51	180.551	0.25	0.04	40.84	
360.50	0.440	205.100	360.49	1.54	-1.67	-0.09	1665674.00	14294788.36	39°21'53.444"N	80°54'38.291"W	1.67	182.994	0.36	0.36	1.44	
385.50	0.400	207.210	385.49	1.67	-1.83	-0.17	1665673.92	14294788.19	39°21'53.442"N	80°54'38.292"W	1.84	185.235	0.17	-0.16	8.44	
410.50	0.560	215.700	410.49	1.80	-2.01	-0.28	1665673.81	14294788.02	39°21'53.440"N	80°54'38.294"W	2.03	187.909	0.70	0.64	33.96	
435.50	0.520	203.380	435.49	1.95	-2.21	-0.40	1665673.69	14294787.81	39°21'53.438"N	80°54'38.295"W	2.25	190.134	0.49	-0.16	-49.28	
460.50	0.690	199.660	460.49	2.15	-2.46	-0.49	1665673.60	14294787.57	39°21'53.436"N	80°54'38.296"W	2.51	191.288	0.70	0.68	-15.56	
485.50	0.860	199.660	485.49	2.41	-2.78	-0.60	1665673.48	14294787.25	39°21'53.433"N	80°54'38.298"W	2.84	192.272	0.68	0.68	0.68	
498.50	0.810	198.560	498.49	2.53	-2.93	-0.66	1665673.43	14294787.10	39°21'53.431"N	80°54'38.298"W	3.00	192.637	0.48	-0.45	-10.00	
543.50	0.500	202.280	543.48	2.95	-3.43	-0.84	1665673.25	14294786.59	39°21'53.423"N	80°54'38.301"W	3.53	193.750	0.67	-0.66	7.91	WFT EM <12-1/4">(486')(533'-2508')
636.50	1.300	274.970	636.47	2.81	-3.72	-2.04	1665672.04	14294786.31	39°21'53.423"N	80°54'38.316"W	4.24	208.819	1.34	0.86	78.16	
727.50	3.390	286.700	727.39	0.78	-2.85	-5.65	1665668.44	14294787.17	39°21'53.432"N	80°54'38.362"W	6.33	243.203	2.34	2.30	12.89	
817.50	4.850	286.740	817.16	-3.07	-0.99	-11.84	1665662.25	14294789.03	39°21'53.450"N	80°54'38.441"W	11.88	265.206	1.62	1.62	0.04	
911.50	6.390	289.250	910.70	-8.73	1.88	-20.59	1665653.51	14294791.90	39°21'53.479"N	80°54'38.552"W	20.67	275.207	1.66	1.64	2.67	
1005.50	7.640	287.790	1004.00	-15.83	5.51	-31.48	1665642.63	14294795.53	39°21'53.515"N	80°54'38.691"W	31.95	279.929	1.34	1.33	-1.55	
1101.50	8.900	286.080	1099.00	-24.06	9.52	-44.69	1665629.42	14294799.54	39°21'53.554"N	80°54'38.859"W	45.69	282.022	1.34	1.31	-1.78	
1196.50	9.770	286.780	1192.74	-33.17	13.88	-59.47	1665614.65	14294803.90	39°21'53.598"N	80°54'39.047"W	61.07	283.137	0.92	0.92	0.74	
1291.50	10.460	287.860	1286.26	-43.23	18.85	-75.39	1665598.73	14294808.87	39°21'53.647"N	80°54'39.250"W	77.71	284.038	0.75	0.73	1.14	

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Lettie Pad
Slot	Slot #02
Well	Leeroy Unit 2H
Wellbore	Leeroy Unit 2H AWB

WELLPATH DATA (192 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VertSect (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
1385.50	11.160	285.920	1378.59	-53.74	23.96	-92.26	1665561.86	14294813.98	39°21'53.698"N	80°54'39.464"W	95.32	284.560	0.84	0.74	-2.06	
1480.50	11.320	289.320	1471.77	-64.98	29.57	-109.90	1665564.23	14294819.58	39°21'53.753"N	80°54'39.689"W	113.81	285.059	0.72	0.17	3.58	
1575.50	11.410	292.640	1564.91	-77.20	36.27	-127.37	1665546.77	14294826.28	39°21'53.820"N	80°54'39.911"W	132.44	285.895	0.70	0.09	3.49	
1670.50	11.370	287.220	1658.04	-89.17	42.66	-144.99	1665529.16	14294832.67	39°21'53.883"N	80°54'40.136"W	151.14	286.396	1.13	-0.04	-5.71	
1765.50	11.430	287.200	1751.17	-100.46	48.22	-162.93	1665511.23	14294838.22	39°21'53.938"N	80°54'40.364"W	169.91	286.486	0.06	0.06	-0.02	
1860.50	11.250	290.590	1844.31	-112.12	54.26	-180.60	1665493.57	14294844.26	39°21'53.998"N	80°54'40.589"W	188.57	286.723	0.73	-0.19	3.57	
1954.50	11.980	291.860	1936.41	-124.48	61.09	-198.16	1665476.01	14294851.09	39°21'54.066"N	80°54'40.812"W	207.36	287.133	0.72	0.67	1.35	
2049.50	12.490	292.190	2029.27	-137.85	68.61	-216.75	1665457.43	14294858.60	39°21'54.140"N	80°54'41.049"W	227.35	287.564	0.65	0.64	0.35	
2144.50	10.660	291.850	2122.33	-150.55	75.76	-234.42	1665439.77	14294865.75	39°21'54.211"N	80°54'41.274"W	246.35	287.910	1.93	-1.93	-0.36	
2239.50	9.470	288.570	2215.87	-161.23	81.52	-249.98	1665424.21	14294872.13	39°21'54.268"N	80°54'41.472"W	262.94	288.061	1.39	-1.25	-3.45	
2334.50	10.550	291.090	2309.42	-171.77	87.14	-265.50	1665408.69	14294877.13	39°21'54.324"N	80°54'41.669"W	279.44	288.169	1.23	1.14	2.65	
2429.50	10.940	294.500	2402.75	-183.75	94.00	-281.82	1665392.38	14294883.99	39°21'54.392"N	80°54'41.877"W	297.09	288.447	0.78	0.41	3.59	
2518.50	10.710	294.220	2490.17	-195.38	100.90	-297.05	1665377.16	14294890.88	39°21'54.460"N	80°54'42.071"W	313.72	288.761	0.27	-0.26	-0.31	
2663.50	10.510	293.180	2632.69	-213.75	111.63	-321.49	1665352.73	14294901.61	39°21'54.566"N	80°54'42.382"W	340.32	289.149	0.19	-0.14	-0.72	WFT EM <-8.3/4>(2508)/(2653'-6011')
2758.50	10.320	291.230	2726.13	-225.23	118.12	-337.39	1665336.84	14294908.10	39°21'54.631"N	80°54'42.584"W	357.47	289.296	0.42	-0.20	-2.05	
2852.50	9.960	289.710	2818.66	-235.92	123.91	-352.89	1665321.34	14294913.89	39°21'54.688"N	80°54'42.781"W	374.01	289.348	0.48	-0.38	-1.62	
2947.50	9.920	288.700	2912.23	-246.24	129.31	-368.38	1665305.86	14294919.28	39°21'54.742"N	80°54'42.979"W	390.41	289.342	0.19	-0.04	-1.06	
3042.50	9.600	286.330	3005.86	-255.99	134.16	-383.73	1665290.51	14294924.13	39°21'54.790"N	80°54'43.174"W	406.50	289.271	1.26	-0.34	-2.49	
3142.50	10.600	290.690	3104.31	-268.87	139.75	-400.34	1665273.91	14294929.72	39°21'54.845"N	80°54'43.385"W	424.03	289.244	1.26	1.00	4.36	
3237.50	10.460	289.740	3197.11	-278.02	145.75	-416.63	1665257.63	14294935.72	39°21'54.905"N	80°54'43.593"W	441.39	289.282	0.23	-0.15	-1.00	
3332.50	10.170	287.750	3291.17	-288.62	151.22	-432.73	1665241.53	14294941.19	39°21'54.969"N	80°54'43.798"W	458.39	289.263	0.48	-0.31	-2.09	
3427.50	10.740	289.960	3384.60	-299.38	156.80	-449.04	1665225.23	14294946.76	39°21'55.014"N	80°54'44.005"W	475.63	289.249	0.73	0.60	2.33	
3522.50	10.700	289.130	3477.94	-310.57	162.71	-465.69	1665208.58	14294952.67	39°21'55.073"N	80°54'44.217"W	493.30	289.260	0.17	-0.04	-0.87	
3617.50	10.340	287.640	3571.34	-321.29	168.19	-482.15	1665192.13	14294958.14	39°21'55.127"N	80°54'44.427"W	510.64	289.230	0.47	-0.38	-1.57	
3712.50	9.810	285.320	3664.88	-331.12	172.91	-498.08	1665176.21	14294962.86	39°21'55.174"N	80°54'44.629"W	527.24	289.145	0.70	-0.56	-2.44	
3807.50	10.200	286.780	3758.43	-340.78	177.48	-513.94	1665160.36	14294967.43	39°21'55.219"N	80°54'44.831"W	543.72	289.051	0.49	0.41	1.54	
3902.50	9.830	285.680	3851.98	-350.49	182.10	-529.80	1665144.50	14294972.05	39°21'55.265"N	80°54'45.033"W	560.22	288.968	0.44	-0.39	-1.16	
3997.50	10.390	286.730	3945.51	-360.29	186.75	-545.81	1665128.50	14294976.70	39°21'55.311"N	80°54'45.237"W	576.88	288.889	0.62	0.59	1.11	
4092.50	10.680	290.080	4038.91	-371.02	192.24	-562.28	1665112.03	14294982.19	39°21'55.365"N	80°54'45.447"W	594.24	288.875	0.71	0.31	3.53	
4187.50	11.160	290.180	4132.19	-382.56	198.44	-579.18	1665095.14	14294988.38	39°21'55.427"N	80°54'45.662"W	612.23	288.912	0.51	0.51	0.11	

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #02
Operator	ANTERO RESOURCES CORPORATION	Well	Leeroy Unit 2H
Area	Ritchie County, WV	Wellbore	Leeroy Unit 2H AWB
Field	Ritchie		
Facility	Lettie Pad		

WELLPATH DATA (192 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VertSect (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
4282.50	10.920	288.890	4225.43	-394.08	204.52	-596.32	1665078.01	14294994.46	39°21'55.487"N	80°54'45.880"W	630.42	288.930	0.36	-0.25	-1.38	
4376.50	10.640	288.300	4317.77	-404.99	210.13	-612.99	1665061.35	14295000.07	39°21'55.543"N	80°54'46.092"W	648.00	288.921	0.32	-0.30	-0.63	
4471.50	10.140	287.580	4411.21	-415.47	215.41	-629.28	1665045.06	14295005.35	39°21'55.595"N	80°54'46.299"W	665.13	288.896	0.54	-0.53	-0.76	
4566.50	9.740	287.440	4504.79	-425.40	220.34	-644.92	1665029.42	14295010.28	39°21'55.644"N	80°54'46.499"W	681.53	288.863	0.42	-0.42	-0.15	
4661.50	10.440	287.550	4598.32	-435.48	225.35	-660.80	1665013.56	14295015.28	39°21'55.694"N	80°54'46.701"W	698.16	288.830	0.74	0.74	0.12	
4756.50	10.260	286.580	4691.77	-445.71	230.36	-677.11	1664997.25	14295020.29	39°21'55.743"N	80°54'46.908"W	715.22	288.788	0.26	-0.19	-1.02	
4851.50	10.740	285.410	4785.18	-455.82	235.12	-693.75	1664980.61	14295025.05	39°21'55.791"N	80°54'47.120"W	732.51	288.722	0.55	0.51	-1.23	
4945.50	11.480	289.010	4877.42	-466.73	240.50	-711.04	1664963.33	14295030.42	39°21'55.844"N	80°54'47.340"W	750.61	288.687	1.08	0.79	3.83	
5041.50	11.610	288.300	4971.48	-478.66	246.64	-729.25	1664945.13	14295036.57	39°21'55.905"N	80°54'47.572"W	769.83	288.686	0.20	0.14	-0.74	
5136.50	11.310	287.450	5064.58	-490.19	252.44	-747.21	1664927.18	14295042.36	39°21'55.962"N	80°54'47.800"W	788.70	288.667	0.36	-0.32	-0.89	
5230.50	11.050	286.160	5249.99	-512.12	263.13	-782.31	1664892.09	14295053.05	39°21'56.016"N	80°54'48.024"W	807.05	288.635	0.13	-0.11	-0.39	
5325.50	10.860	285.610	5343.26	-522.64	268.07	-799.67	1664874.74	14295057.99	39°21'56.117"N	80°54'48.468"W	825.37	288.590	0.25	-0.17	-0.97	
5420.50	10.590	284.850	5436.60	-532.78	272.72	-816.73	1664857.69	14295062.63	39°21'56.163"N	80°54'48.685"W	843.41	288.533	0.23	-0.20	-0.58	
5515.50	10.180	283.090	5530.04	-542.29	276.86	-833.34	1664841.08	14295066.77	39°21'56.204"N	80°54'48.897"W	861.06	288.465	0.32	-0.28	-0.80	
5610.50	8.590	271.020	5561.61	-544.67	277.54	-838.49	1664835.94	14295067.45	39°21'56.211"N	80°54'48.962"W	878.13	288.378	0.55	-0.43	-1.85	
5642.50	7.920	246.360	5592.30	-545.35	276.72	-842.76	1664831.67	14295066.64	39°21'56.203"N	80°54'49.017"W	887.03	288.315	7.88	-4.97	-37.72	
5673.50	8.820	222.800	5623.97	-544.07	274.04	-846.45	1664827.98	14295063.95	39°21'56.177"N	80°54'49.064"W	899.70	287.939	10.99	2.81	-73.62	
5705.50	10.820	208.800	5654.52	-541.05	269.74	-849.47	1664824.96	14295059.66	39°21'56.134"N	80°54'49.102"W	891.27	287.617	10.00	6.45	-45.16	
5736.50	12.400	204.710	5685.86	-536.61	263.99	-852.35	1664822.08	14295053.91	39°21'56.077"N	80°54'49.139"W	892.30	287.209	5.56	4.94	-12.78	
5800.50	13.740	202.150	5717.03	-531.33	257.35	-855.22	1664819.21	14295047.27	39°21'56.012"N	80°54'49.176"W	893.10	286.747	4.56	4.19	-8.00	
5831.50	15.940	198.030	5747.00	-525.22	249.89	-857.93	1664816.51	14295039.81	39°21'55.938"N	80°54'49.210"W	893.58	286.239	7.87	7.10	-13.29	
5863.50	17.770	193.290	5777.62	-517.66	240.96	-860.41	1664814.03	14295030.89	39°21'55.850"N	80°54'49.242"W	893.51	285.645	7.15	5.72	-14.81	
5895.50	18.690	190.660	5808.02	-509.14	231.17	-862.48	1664811.96	14295021.10	39°21'55.753"N	80°54'49.268"W	892.92	285.004	3.86	2.88	-8.22	
5926.50	19.610	188.090	5837.30	-500.26	221.14	-864.13	1664810.31	14295011.07	39°21'55.654"N	80°54'49.290"W	891.98	284.354	4.02	2.97	-8.29	
5958.50	21.130	182.960	5867.30	-490.19	210.06	-865.18	1664809.25	14295000.00	39°21'55.544"N	80°54'49.303"W	890.32	283.647	7.32	4.75	-16.03	
5989.50	23.150	176.370	5896.02	-479.18	198.39	-865.09	1664809.35	14294988.34	39°21'55.429"N	80°54'49.302"W	887.54	282.916	10.32	6.52	-21.26	
6021.50	25.540	172.370	5925.18	-466.39	185.28	-863.77	1664810.66	14294975.23	39°21'55.299"N	80°54'49.285"W	883.42	282.106	9.07	7.47	-12.50	
6069.00	28.930	169.370	5967.41	-445.03	163.83	-860.29	1664814.14	14294953.79	39°21'55.087"N	80°54'49.241"W	875.75	280.782	7.70	7.14	-6.32	BH AT Curve <-8-1/2">-(6021.50)-(6069.-14451')
6104.00	30.880	168.200	5997.74	-427.77	146.71	-856.89	1664817.54	14294936.68	39°21'54.918"N	80°54'49.198"W	869.36	279.716	5.82	5.57	-3.34	

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Ritchie County, WV	Well	Leeroy Unit 2H
Field	Ritchie	Wellbore	Leeroy Unit 2H AWB
Facility	Lettie Pad		

## WELLPATH DATA (192 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 (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
6150.00	34.950	165.950	6036.35	-402.96	122.37	-851.28	14294912.34	39°21'54.678"N	80°54'49.127"W	860.03	278.180	9.24	8.85	-4.89		
6198.00	39.070	165.240	6074.67	-374.20	94.39	-844.08	14294884.37	39°21'54.401"N	80°54'49.036"W	849.34	276.381	8.63	8.58	-1.48		
6240.00	42.280	164.800	6106.52	-346.92	67.95	-837.01	14294857.95	39°21'54.140"N	80°54'48.946"W	839.76	274.641	7.67	7.64	-1.05		
6293.00	46.820	164.430	6144.28	-309.86	32.11	-827.14	14294822.12	39°21'53.785"N	80°54'48.821"W	827.76	272.223	8.58	8.57	-0.70		
6317.00†	49.112	164.212	6160.35	-292.08	14.95	-822.32	14294806.97	39°21'53.616"N	80°54'48.760"W	822.46	271.042	9.57	9.55	-0.91	Middlesex: 6317' MD	
6342.00	51.500	164.000	6176.32	-272.89	-3.55	-817.05	14294786.48	39°21'53.433"N	80°54'48.693"W	817.06	269.751	9.57	9.55	-0.85		
6388.00	55.410	164.150	6203.70	-236.02	-39.08	-806.92	14294750.96	39°21'53.082"N	80°54'48.564"W	807.86	267.227	8.50	8.50	0.33		
6437.00	60.310	164.300	6229.76	-194.65	-79.00	-795.64	14294711.06	39°21'52.687"N	80°54'48.421"W	793.55	264.330	10.00	10.00	0.31		
6483.00	64.550	164.330	6251.05	-153.98	-118.25	-784.62	14294689.78	39°21'52.299"N	80°54'48.281"W	793.48	261.430	9.22	9.22	0.07		
6510.00†	66.892	164.028	6262.15	-129.43	-141.92	-777.91	14294648.16	39°21'52.065"N	80°54'48.196"W	790.75	259.661	8.73	8.67	-1.12	Burkett: 6510' MD	
6532.00	68.800	163.790	6270.45	-109.10	-161.50	-772.26	14294628.59	39°21'51.871"N	80°54'48.125"W	788.97	258.188	8.73	8.67	-1.08		
6577.00	70.380	163.220	6286.14	-86.99	-201.94	-760.29	14294588.17	39°21'51.471"N	80°54'47.973"W	786.65	255.125	3.71	3.51	-1.27		
6610.00†	71.786	162.472	6296.84	-35.81	-231.77	-751.08	14294558.35	39°21'51.177"N	80°54'47.856"W	786.02	252.851	4.77	4.26	-2.27	Tully: 6610' MD	
6623.00	72.340	162.180	6300.84	-23.45	-243.55	-747.32	14294546.57	39°21'51.060"N	80°54'47.808"W	786.01	251.949	4.77	4.27	-2.24		
6672.00	74.100	162.080	6314.99	23.44	-288.20	-732.93	14294501.94	39°21'50.619"N	80°54'47.625"W	787.55	248.535	3.60	3.59	-0.20		
6699.00†	75.889	161.723	6321.98	49.51	-312.99	-724.83	14294494.55	39°21'50.374"N	80°54'47.522"W	789.52	246.645	6.75	6.62	-1.32	Marcellus POE: 6699' MD	
6720.00	77.280	161.450	6326.85	69.93	-332.37	-718.37	14294457.79	39°21'50.182"N	80°54'47.441"W	791.54	245.172	6.75	6.63	-1.30		
6767.00	80.570	161.680	6335.88	116.03	-376.12	-703.79	14294414.06	39°21'49.749"N	80°54'47.255"W	797.99	241.879	7.02	7.00	0.49		
6814.00	83.740	161.220	6342.29	162.58	-420.25	-688.98	14294369.94	39°21'49.313"N	80°54'47.067"W	807.04	238.618	6.81	6.74	-0.98		
6862.00	86.980	160.260	6346.17	210.41	-465.41	-673.20	14294324.80	39°21'48.867"N	80°54'46.867"W	818.42	235.342	7.04	6.75	-2.00		
6909.00	89.820	160.000	6347.49	257.39	-509.59	-657.23	14294280.64	39°21'48.430"N	80°54'46.664"W	831.65	232.211	6.07	6.04	-0.55		
6957.00	89.880	158.870	6347.61	305.38	-554.53	-640.37	14294235.71	39°21'47.985"N	80°54'46.450"W	847.10	229.109	2.36	0.12	-2.35		
7052.00	89.910	156.950	6347.79	400.30	-642.55	-604.65	14294147.73	39°21'47.115"N	80°54'45.996"W	882.31	223.259	2.02	0.03	-2.02		
7146.00	90.060	158.070	6347.81	494.19	-729.40	-568.69	14294060.91	39°21'46.256"N	80°54'45.540"W	924.90	217.942	1.20	0.16	1.19		
7241.00	90.060	157.560	6347.71	589.10	-817.37	-532.82	14293972.98	39°21'45.387"N	80°54'45.084"W	975.70	213.099	0.54	0.00	-0.54		
7336.00	89.750	157.990	6347.87	694.02	-905.31	-496.89	14293885.07	39°21'44.517"N	80°54'44.628"W	1032.71	208.761	0.56	-0.33	0.45		
7431.00	89.660	158.080	6348.36	778.94	-993.42	-461.35	14293797.01	39°21'43.646"N	80°54'44.176"W	1095.32	204.911	0.13	-0.09	0.09		
7526.00	89.630	158.070	6348.95	873.88	-1081.54	-425.88	14293708.92	39°21'42.775"N	80°54'43.726"W	1162.37	201.493	0.03	-0.03	-0.01		
7620.00	89.660	158.870	6349.53	967.83	-1168.98	-391.39	14293621.51	39°21'41.910"N	80°54'43.288"W	1232.76	198.511	0.85	0.03	0.85		
7715.00	89.630	160.880	6350.12	1062.82	-1258.17	-358.70	14293532.35	39°21'41.028"N	80°54'42.873"W	1308.31	195.913	2.12	-0.03	2.12		

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #02
ANTERO RESOURCES CORPORATION	Well	Leeroy Unit 2H
Ritchie County, WV	Wellbore	Leeroy Unit 2H AWB
Ritchie		
Lettie Pad		

## WELLPATH DATA (192 stations)

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)	(°)	(P/100ft)	(P/100ft)	(P/100ft)	
7810.00	89.690	162.280	6350.68	1157.79	-1348.30	-328.69	1665345.53	14293442.26	39°21'40.137"N	80°54'42.492"W	1387.79	193.700	1.48	0.06	1.47	
7905.00	89.630	162.890	6351.24	1252.71	-1438.95	-300.25	1665373.96	14293351.65	39°21'39.241"N	80°54'42.131"W	1489.94	191.786	0.65	-0.06	0.64	
8000.00	89.630	162.430	6351.86	1347.62	-1529.63	-271.94	1665402.26	14293261.01	39°21'38.344"N	80°54'41.771"W	1553.61	190.081	0.48	0.00	-0.48	
8095.00	89.820	164.730	6352.31	1442.45	-1620.75	-245.09	1665429.10	14293169.93	39°21'37.444"N	80°54'41.431"W	1639.17	188.599	2.43	0.20	2.42	
8189.00	89.850	164.090	6352.58	1536.20	-1711.29	-219.83	1665454.35	14293079.42	39°21'36.548"N	80°54'41.110"W	1725.35	187.320	0.68	0.03	-0.68	
8284.00	89.820	158.670	6352.86	1631.15	-1801.28	-189.50	1665484.66	14292989.47	39°21'35.659"N	80°54'40.725"W	1811.22	186.006	5.71	-0.03	-5.71	
8379.00	89.630	156.620	6353.31	1726.04	-1889.13	-153.37	1665520.78	14292901.65	39°21'34.790"N	80°54'40.266"W	1895.35	184.842	2.17	-0.20	-2.16	
8474.00	89.940	155.560	6353.67	1820.79	-1975.98	-114.87	1665559.26	14292814.84	39°21'33.931"N	80°54'39.777"W	1979.32	183.327	1.16	0.33	-1.12	
8569.00	89.350	157.050	6354.26	1915.56	-2062.97	-76.70	1665597.42	14292727.88	39°21'33.207"N	80°54'39.292"W	2064.39	182.129	1.69	-0.62	1.57	
8663.00	89.850	159.690	6354.92	2009.50	-2150.34	-42.05	1665632.05	14292640.55	39°21'32.071"N	80°54'38.852"W	2150.75	181.120	2.86	0.53	2.81	
8758.00	90.030	159.170	6355.02	2104.49	-2239.28	-8.67	1665665.42	14292551.64	39°21'31.328"N	80°54'38.429"W	2239.30	180.222	0.58	0.19	-0.55	
8853.00	89.690	159.490	6355.25	2199.48	-2328.16	24.86	1665698.94	14292462.79	39°21'30.449"N	80°54'38.003"W	2328.30	179.388	0.49	-0.36	0.34	
8948.00	90.400	160.630	6355.17	2294.48	-2417.47	57.26	1665731.32	14292373.53	39°21'29.566"N	80°54'37.591"W	2418.15	178.643	1.41	0.75	1.20	
9043.00	89.940	159.380	6354.89	2389.47	-2506.74	89.74	1665763.79	14292284.29	39°21'28.684"N	80°54'37.179"W	2508.34	177.950	1.40	-0.48	-1.32	
9138.00	90.030	159.230	6354.92	2484.46	-2595.61	123.31	1665797.35	14292195.46	39°21'27.805"N	80°54'36.753"W	2598.54	177.280	0.18	0.09	-0.16	
9233.00	90.180	160.480	6354.74	2579.46	-2684.79	156.03	1665830.06	14292106.31	39°21'26.923"N	80°54'36.337"W	2689.33	176.674	1.33	0.16	1.32	
9328.00	90.060	161.280	6354.54	2674.45	-2774.55	187.15	1665861.16	14292016.58	39°21'26.036"N	80°54'35.942"W	2780.86	176.141	0.85	-0.13	0.84	
9423.00	90.120	161.380	6354.39	2769.43	-2864.55	217.56	1665891.56	14291926.62	39°21'25.146"N	80°54'35.556"W	2872.80	175.657	0.12	0.06	0.11	
9517.00	90.490	159.590	6353.89	2863.43	-2953.15	248.96	1665922.95	14291838.06	39°21'24.270"N	80°54'35.158"W	2963.62	175.181	1.94	0.39	-1.90	
9612.00	90.030	158.470	6353.46	2958.40	-3041.85	282.96	1665956.93	14291749.39	39°21'23.393"N	80°54'34.726"W	3054.99	174.686	1.27	-0.48	-1.18	
9707.00	90.180	158.640	6353.29	3053.36	-3130.28	317.69	1665991.65	14291661.00	39°21'22.518"N	80°54'34.285"W	3146.36	174.205	0.24	0.16	0.18	
9798.00	90.000	160.020	6353.15	3144.35	-3215.42	349.81	1666023.76	14291575.90	39°21'21.677"N	80°54'33.877"W	3234.39	173.791	1.53	-0.20	1.52	
9897.00	90.180	161.820	6352.99	3243.34	-3308.97	382.17	1666056.10	14291482.38	39°21'20.752"N	80°54'33.466"W	3330.97	173.412	1.83	0.18	1.82	
9992.00	90.030	160.770	6352.82	3338.32	-3398.96	412.64	1666086.56	14291392.43	39°21'19.862"N	80°54'33.060"W	3423.91	173.078	1.12	-0.16	-1.11	
10087.00	90.000	161.940	6352.79	3433.30	-3488.97	443.01	1666116.92	14291302.46	39°21'18.972"N	80°54'32.694"W	3516.98	172.764	1.23	-0.03	1.23	
10181.00	90.580	163.310	6352.31	3527.21	-3578.68	471.08	1666144.98	14291212.78	39°21'18.085"N	80°54'32.338"W	3609.55	172.501	1.58	0.62	1.46	
10276.00	90.280	163.830	6351.60	3622.05	-3669.79	497.95	1666171.83	14291121.70	39°21'17.184"N	80°54'31.997"W	3703.42	172.273	0.63	-0.32	0.55	
10369.00	90.460	164.150	6351.00	3714.85	-3759.18	523.59	1666197.47	14291032.35	39°21'16.301"N	80°54'31.672"W	3795.47	172.071	0.39	0.19	0.34	
10463.00	90.740	163.210	6350.02	3808.67	-3849.39	550.01	1666223.87	14290942.18	39°21'15.409"N	80°54'31.337"W	3888.48	171.869	1.04	0.30	-1.00	
10561.00	90.460	158.860	6348.99	3906.64	-3942.04	581.85	1666255.70	14290849.56	39°21'14.493"N	80°54'30.933"W	3984.75	171.604	4.45	-0.29	-4.44	

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'  
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Lettie Pad
Slot	Slot #02
Well	Leeroy Unit 2H
Wellbore	Leeroy Unit 2H AWB

WELLPATH DATA (192 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
10655.00	90.490	160.550	6348.20	4001.62	-4031.14	614.80	1666288.64	14290760.50	39°21'13.612"N	80°54'30.514"W	4077.75	171.329	1.78	0.03	1.78	
10750.00	90.520	161.450	6347.37	4095.61	-4120.01	645.40	1666319.23	14290671.66	39°21'12.733"N	80°54'30.126"W	4170.26	171.097	0.96	0.03	0.96	
10845.00	90.460	159.650	6346.56	4190.60	-4209.59	677.03	1666350.85	14290582.13	39°21'11.847"N	80°54'29.724"W	4263.68	170.863	1.90	-0.06	-1.89	
10940.00	89.750	158.810	6346.39	4285.59	-4298.41	710.72	1666384.52	14290493.34	39°21'10.969"N	80°54'29.297"W	4356.77	170.611	1.16	-0.75	-0.88	
11035.00	89.510	161.870	6347.00	4380.57	-4387.86	742.67	1666416.46	14290403.93	39°21'10.085"N	80°54'28.891"W	4450.27	170.393	3.23	-0.25	3.22	
11130.00	89.940	164.480	6347.46	4475.44	-4478.78	770.17	1666443.95	14290313.04	39°21'09.186"N	80°54'28.542"W	4544.52	170.243	2.78	0.45	2.75	
11225.00	90.150	164.930	6347.38	4570.15	-4570.42	795.23	1666469.00	14290221.44	39°21'08.280"N	80°54'28.224"W	4639.09	170.130	0.52	0.22	0.47	
11319.00	89.910	162.380	6347.33	4663.98	-4660.61	821.68	1666495.44	14290131.28	39°21'07.388"N	80°54'27.889"W	4732.49	170.001	2.72	-0.26	-2.71	
11414.00	90.000	162.580	6347.41	4758.90	-4751.20	850.28	1666524.03	14290040.73	39°21'06.493"N	80°54'27.526"W	4826.69	169.854	0.23	0.09	0.21	
11509.00	89.880	164.030	6347.51	4853.76	-4842.20	877.57	1666551.31	14289949.77	39°21'05.593"N	80°54'27.180"W	4921.08	169.728	1.53	-0.13	1.53	
11604.00	90.090	162.730	6347.53	4948.62	-4933.23	904.74	1666578.47	14289858.78	39°21'04.693"N	80°54'26.835"W	5015.50	169.608	1.39	0.22	-1.37	
11699.00	91.200	160.770	6346.46	5043.57	-5023.44	934.49	1666608.20	14289768.60	39°21'03.801"N	80°54'26.458"W	5109.62	169.462	2.37	1.17	-2.06	
11794.00	90.120	158.160	6345.37	5138.55	-5112.39	967.81	1666641.51	14289679.69	39°21'02.922"N	80°54'26.035"W	5203.18	169.280	2.97	-1.14	-2.75	
11889.00	89.820	155.870	6345.42	5233.39	-5199.84	1004.90	1666678.59	14289592.27	39°21'02.057"N	80°54'25.564"W	5296.05	169.062	2.43	-0.32	-2.41	
11984.00	89.660	155.310	6345.85	5328.08	-5286.34	1044.16	1666717.83	14289505.80	39°21'01.201"N	80°54'25.065"W	5388.48	168.827	0.61	-0.17	-0.59	
12079.00	89.230	156.550	6346.77	5422.80	-5373.08	1082.90	1666756.56	14289419.10	39°21'00.344"N	80°54'24.573"W	5481.12	168.605	1.38	-0.45	1.31	
12174.00	89.880	157.480	6347.51	5517.65	-5460.53	1120.00	1666793.64	14289331.68	39°20'59.479"N	80°54'24.102"W	5574.21	168.409	1.19	0.68	0.98	
12268.00	89.880	158.480	6347.70	5611.57	-5547.67	1155.24	1666828.87	14289244.58	39°20'58.617"N	80°54'23.654"W	5666.68	168.237	1.06	0.00	1.06	
12363.00	89.940	160.160	6347.85	5706.56	-5636.55	1188.79	1666862.40	14289155.74	39°20'57.739"N	80°54'23.229"W	5760.55	168.080	1.77	0.06	1.77	
12458.00	89.940	160.110	6347.95	5801.56	-5725.90	1221.07	1666894.67	14289066.43	39°20'56.855"N	80°54'22.819"W	5854.65	167.962	0.05	0.00	-0.05	
12553.00	90.090	157.320	6347.93	5896.52	-5814.41	1255.55	1666929.14	14288977.95	39°20'55.980"N	80°54'22.381"W	5948.42	167.815	2.94	0.16	-2.94	
12648.00	89.780	154.580	6348.04	5991.24	-5901.15	1294.26	1666967.83	14288889.24	39°20'55.122"N	80°54'21.889"W	6041.42	167.630	2.90	-0.33	-2.88	
12742.00	89.780	154.490	6348.40	6084.77	-5986.02	1334.68	1667008.23	14288806.41	39°20'54.283"N	80°54'21.376"W	6133.01	167.431	0.10	0.00	-0.10	
12837.00	89.690	153.140	6348.84	6179.17	-6071.27	1376.60	1667050.14	14288721.19	39°20'53.440"N	80°54'20.844"W	6225.38	167.225	1.42	-0.09	-1.42	
12932.00	89.780	155.390	6349.28	6273.65	-6156.84	1417.85	1667091.37	14288635.66	39°20'52.594"N	80°54'20.320"W	6317.98	167.032	2.37	0.09	2.37	
13027.00	89.780	158.810	6349.64	6368.49	-6244.34	1454.81	1667128.31	14288548.19	39°20'51.729"N	80°54'19.850"W	6411.57	166.885	3.60	0.00	3.60	
13122.00	89.820	161.380	6349.97	6463.48	-6333.65	1487.15	1667160.64	14288458.91	39°20'50.846"N	80°54'19.440"W	6505.90	166.786	2.71	0.04	2.71	
13217.00	89.850	164.250	6350.25	6558.38	-6424.40	1515.21	1667188.69	14288368.20	39°20'49.949"N	80°54'19.084"W	6600.67	166.729	3.02	0.03	3.02	
13312.00	89.690	164.960	6350.63	6653.10	-6515.99	1540.43	1667213.90	14288276.65	39°20'49.043"N	80°54'18.764"W	6695.60	166.699	0.77	-0.17	0.75	
13407.00	89.540	165.590	6351.27	6747.73	-6607.87	1564.58	1667238.04	14288184.81	39°20'48.135"N	80°54'18.458"W	6790.57	166.679	0.68	-0.16	0.66	

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Ritchie County, WV	Well	Leeroy Unit 2H
Field	Ritchie	Wellbore	Leeroy Unit 2H AWB
Facility	Lettie Pad		

## WELLPATH DATA (192 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
13502.00	89.420	167.010	6352.13	6842.19	-6700.16	1587.08	1667260.53	14288092.55	39°20'47.222"N	80°54'18.173"W	6885.56	166.674	1.50	-0.13	1.49	
13596.00	90.180	161.640	6352.46	6935.92	-6790.63	1612.46	1667285.91	14288002.12	39°20'46.328"N	80°54'17.851"W	6979.45	166.642	5.77	0.81	-5.71	
13691.00	89.420	157.620	6352.79	7030.89	-6879.67	1645.53	1667318.95	14287913.12	39°20'45.447"N	80°54'17.431"W	7073.73	166.548	4.31	-0.80	-4.23	
13786.00	89.850	160.190	6353.39	7125.86	-6968.29	1679.71	1667353.13	14287824.53	39°20'44.571"N	80°54'16.997"W	7167.88	166.447	2.74	0.45	2.71	
13881.00	90.120	162.090	6353.42	7220.84	-7058.19	1710.42	1667383.82	14287734.87	39°20'43.682"N	80°54'16.608"W	7262.48	166.378	2.02	0.28	2.00	
13976.00	90.220	162.140	6353.14	7315.79	-7148.60	1739.60	1667412.99	14287644.30	39°20'42.789"N	80°54'16.237"W	7357.22	166.323	0.12	0.11	0.05	
14071.00	89.940	158.000	6353.00	7410.77	-7237.89	1771.97	1667445.35	14287555.04	39°20'41.906"N	80°54'15.827"W	7451.64	166.243	4.37	-0.29	-4.36	
14165.00	89.910	156.280	6353.13	7504.63	-7324.50	1808.49	1667481.85	14287468.46	39°20'41.049"N	80°54'15.363"W	7544.46	166.131	1.83	-0.03	-1.83	
14262.00	89.910	154.790	6353.28	7601.30	-7412.79	1848.66	1667522.01	14287380.21	39°20'40.176"N	80°54'14.853"W	7639.83	165.997	1.54	0.00	-1.54	
14355.00	89.910	153.660	6353.42	7693.78	-7496.54	1889.10	1667562.43	14287296.50	39°20'39.348"N	80°54'14.339"W	7730.89	165.856	1.22	0.00	-1.22	
14451.00	89.880	155.780	6353.60	7789.33	-7583.34	1930.09	1667603.41	14287209.73	39°20'38.490"N	80°54'13.819"W	7825.10	165.720	2.21	-0.03	2.21	
14475.00	89.880	155.780	6353.65	7813.26	-7605.22	1939.94	1667613.25	14287187.85	39°20'38.273"N	80°54'13.694"W	7848.74	165.690	0.00	0.00	0.00	Projected MD at TD: 14475'

## HOLE & CASING SECTIONS - Ref Wellbore: Leeroy Unit 2H AWB Ref Wellpath: Leeroy Unit 2H AWP Proj: 14475'

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)
20in Conductor	25.50	105.50	80.00	25.50	105.50	0.00	-0.18	0.00	-0.18
17.5in Open Hole	105.50	508.10	402.60	105.50	508.09	-0.18	-3.08	0.14	-0.71
13.375in Casing Surface	25.50	508.10	482.60	25.50	508.09	0.00	-3.08	0.00	-0.71
12.25in Open Hole	508.10	2599.90	2091.80	508.09	2570.17	-3.08	107.00	-0.71	-310.80
9.625in Casing Intermediate	25.50	2599.90	2574.40	25.50	2570.17	0.00	107.00	0.00	-310.80
8.75in Open Hole	2599.90	6093.50	3493.60	2570.17	5988.70	107.00	151.95	-310.80	-857.97
8.5in Open Hole	6093.50	14475.00	8381.50	5988.70	14475.00	151.95	-7605.22	-857.97	1939.94
5.5in Casing Production	25.50	14475.00	14449.50	25.50	6353.65	0.00	-7605.22	0.00	1939.94

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #02
ANTERO RESOURCES CORPORATION	Well	Leeroy Unit 2H
Area	Wellbore	Leeroy Unit 2H AWB
Field		
Facility		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Leeroy Unit 2H POE Rev-2	6316.00	-260.99	-734.84	1664939.54	14294529.14	39°21'50.888"N	80°54'47.649"W	point
Leeroy Unit 2H BHL Rev-2	6339.00	-7707.27	1940.89	1667614.20	14287085.84	39°20'37.265"N	80°54'13.683"W	point
Leeroy Unit 2H BHL Rev-3	6339.00	-7688.45	1934.13	1667607.44	14287104.66	39°20'37.451"N	80°54'13.769"W	point
Leeroy Unit 2H LP Rev-2	6339.00	-428.32	-674.72	1664999.64	14294361.88	39°21'49.233"N	80°54'46.886"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Leeroy Unit 2H AWB Ref Wellpath: Leeroy Unit 2H AWP Proj: 14475'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.50	496.50	Gyrodata standard - Drop gyro or Multi-shot	01. Gyrodata MS Gyro <17-1/2">(50'-486')	Leeroy Unit 2H AWB
496.50	2518.50	ISCWSA MWD, Rev. 4 (Standard)	02. WFT EM <12-1/4">(486')(533'-2508')	Leeroy Unit 2H AWB
2518.50	6021.50	ISCWSA MWD, Rev. 4 (Standard)	03. WFT EM <8-3/4">(2508')(2653'-6011')	Leeroy Unit 2H AWB
6021.50	14451.00	BHI AutoTrak Curve (Short)	04. BH AT Curve <8-1/2">(6021.50)(6069'-14451')	Leeroy Unit 2H AWB
14451.00	14475.00	Blind Drilling (std)	Projection to bit	Leeroy Unit 2H AWB

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# Actual Wellpath Report

Leeroy Unit 2H AWP Proj: 14475'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #02
ANTERO RESOURCES CORPORATION	Well	Leeroy Unit 2H
Ritchie County, WV	Wellbore	Leeroy Unit 2H AWB
Ritchie		
Lettie Pad		

## COMMENTS

**Wellpath general comments**  
 API: 47-085-10363-0000  
 BHI Job #: 109501210  
 Rig: H&P 317  
 Duration: 11/19/2018-11/23/2018  
 Gyrodatta MS Gyro <17-1/2">(50'-486')  
 WFT EM <12-1/4">(486')(533'-2508')  
 WFT EM <8-3/4">(2508')(2653'-6011')  
 BH AT Curve <8-1/2">(6021.50')(6069'-14451')  
 Middlesex: 6317' MD  
 Burkett: 6510' MD  
 Tully: 6610' MD  
 Marcellus POE: 6699' MD  
 Projected MD at TD: 14475'

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