



ANTERO RESOURCES CORPORATION

Location: Wetzel County, WV
Field: Wetzel
Facility: Galmish Pad

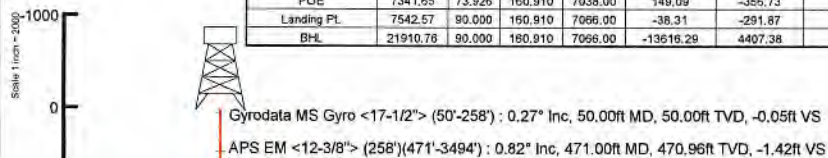
Slot: Slot E
Well: Pine Unit 2H
Wellbore: Pine Unit 2H PWB



Plot reference wellpath is Pine Unit 2H PWB Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 519 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 519 (RKB)	Scale: True distance
H&P 519 (RKB) to Mean Sea Level: 1191 feet	Coordinates are in feet referenced to SMI
Mean Sea Level to Ground level (At Slot Slot E): -1161 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: edecar on 2024-05-29; Database: WA_MPL_EASTERNUS_Oils

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Galmish Pad	1726218.430	14372266.790	39°34'35.1900"N	80°41'43.8200"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot E	-31.24	33.78	1726250.200	14372235.560	39°34'37.8800"N
Comment	Pine Unit 2H				
H&P 519 (RKB) to Ground level (At Slot Slot E)	30 ft				
Mean Sea Level to Ground level (At Slot Slot E)	-1161 ft				
H&P 519 (RKB) to Mean Sea Level	1191 ft				

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	3494.00	8.870	319.280	3468.56	269.44	-190.95	0.91	-317.07
Proj. to Bottom	3556.00	8.870	319.280	3538.71	277.73	-198.09	0.00	-327.25
Drill Out	3645.00	8.870	319.280	3617.75	287.08	-206.14	0.00	-338.71
End of 3D Arc	3686.24	9.839	321.449	3658.44	292.25	-210.41	2.50	-344.99
Curve KOP	6301.35	9.839	321.449	6235.08	641.73	-488.91	0.00	-769.33
POE	7341.65	73.526	160.910	7038.00	149.09	-356.73	8.00	-257.56
Landing PL	7542.57	90.000	160.910	7066.00	-38.31	-291.87	8.00	-59.26
BHL	21910.76	90.000	160.910	7066.00	-13616.29	4407.38	0.00	14308.92



User specified (HDGM) Dip: 66.27° Field: 51576 nT
Magnetic North is 8.03 degrees West of True North (at 8/20/2024)
Grid North is 0.19 degrees East of True North
To correct azimuth from True to Grid subtract 8.22 degrees
To correct azimuth from Magnetic to Grid subtract 8.22 degrees

APS EM <8-3/4"> (3494')(3556'-6199') : 7.90" Inc, 3556.00ft MD, 3529.89ft TVD, -325.50ft VS

Well Data			
Slot	Well	Wellbore	Wellpath
Slot E	Pine Unit 2H	Pine Unit 2H AWB	Pine Unit 2H AWP Proj. 21913'
Slot E	Pine Unit 2H	Pine Unit 2H PWB	Pine Unit 2H PWP Rev-B.0

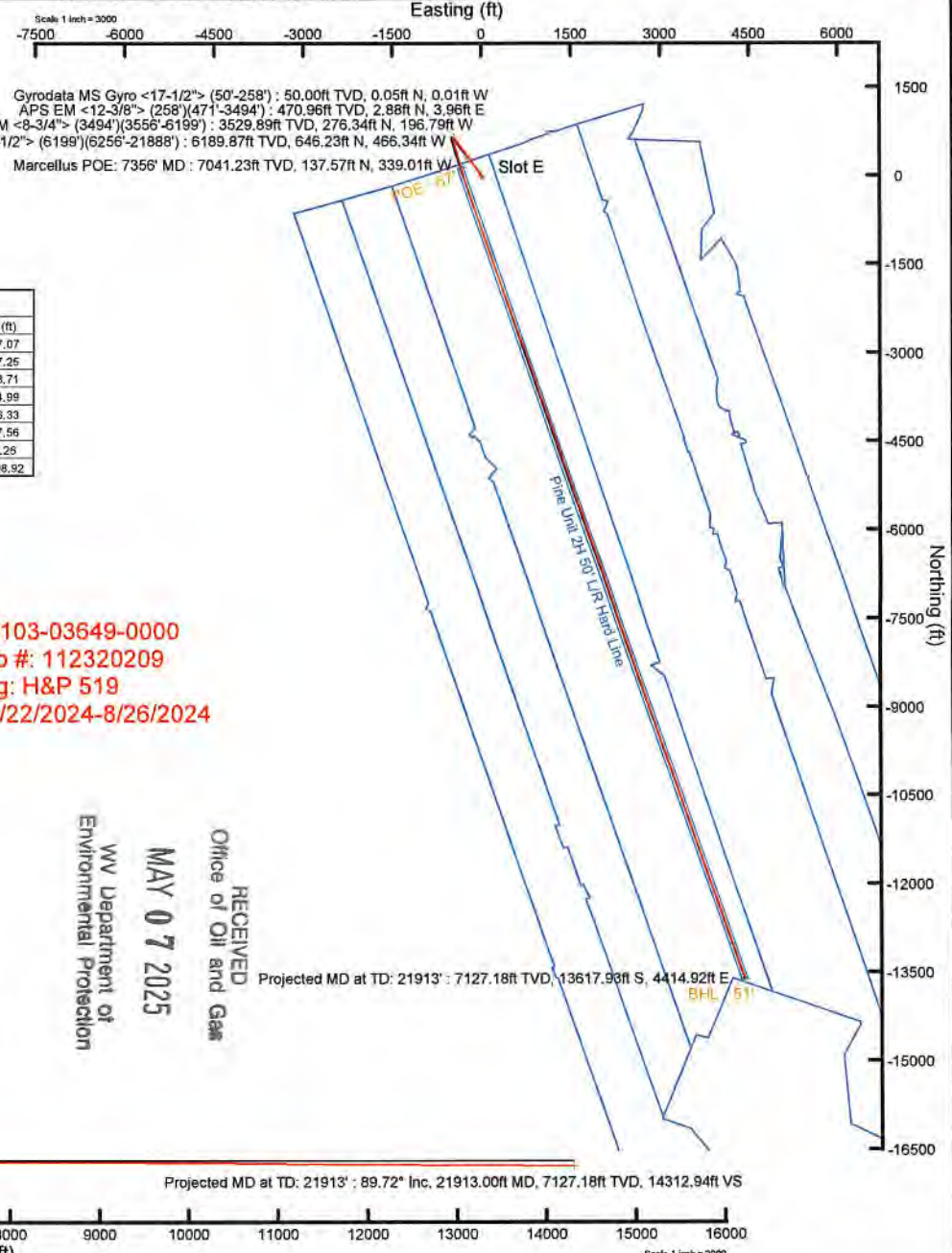
BH Lucida <8-1/2"> (6199')(6256'-21888') : 5.75" Inc, 6256.00ft MD, 6189.87ft TVD, -763.21ft VS

Marcellus POE: 7356' MD : 75.03" Inc, 7356.00ft MD, 7041.23ft TVD, -240.87ft VS

Projected MD at TD: 21913' : 89.72" Inc, 21913.00ft MD, 7127.18ft TVD, 14312.94ft VS

API: 47-103-03649-0000
BH Job #: 112320209
Rig: H&P 519
Duration: 8/22/2024-8/26/2024

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Vertical Section (ft)
Azimuth 160.91° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999608	Report Generated	8/29/2024 at 11:32:38 PM
Convergence at slot	0.19° 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	-31.24	33.78	1726250.20	14372235.56	39°34'37.8800"N	80°41'43.3899"W
Facility Reference Pt			1726216.43	14372266.79	39°34'38.1900"N	80°41'43.8200"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 519 (RKB) to Facility Vertical Datum	1191.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	1191.00ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot E)	30.00ft
MD Reference Pt	H&P 519 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	160.91°

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Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (243 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	352.920	0.00	0.00	0.00	0.00	1726250.20	14372235.56	39°34'37.8800"N	80°41'43.3899"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	352.920	30.00	0.00	0.00	0.00	1726250.20	14372235.56	39°34'37.8800"N	80°41'43.3899"W	0.00	0.000	0.00	0.00	0.00	
50.00	0.270	352.920	50.00	-0.05	0.05	-0.01	1726250.19	14372235.61	39°34'37.8805"N	80°41'43.3900"W	0.05	352.920	1.35	1.35	0.00	Gyrodata MS Gyro <17-1/2"> (50'-258')
100.00	0.460	14.050	100.00	-0.33	0.36	0.03	1726250.23	14372235.92	39°34'37.8836"N	80°41'43.3896"W	0.36	4.531	0.46	0.38	42.26	
150.00	0.810	18.170	150.00	-0.78	0.89	0.19	1726250.39	14372236.45	39°34'37.8888"N	80°41'43.3875"W	0.91	11.901	0.71	0.70	8.24	
200.00	0.850	35.490	199.99	-1.27	1.53	0.51	1726250.71	14372237.09	39°34'37.8951"N	80°41'43.3833"W	1.61	18.569	0.51	0.08	34.64	
250.00	0.880	50.350	249.98	-1.62	2.07	1.02	1726251.22	14372237.63	39°34'37.9005"N	80°41'43.3768"W	2.31	26.277	0.45	0.06	29.72	
258.00	0.820	59.470	257.98	-1.66	2.14	1.12	1726251.32	14372237.70	39°34'37.9012"N	80°41'43.3755"W	2.42	27.614	1.85	-0.75	114.00	
471.00	0.820	91.490	470.96	-1.42	2.88	3.96	1726254.16	14372238.44	39°34'37.9083"N	80°41'43.3393"W	4.89	53.984	0.21	0.00	15.03	APS EM <12-3/8"> (258')(471'-3494')
560.00	0.940	352.760	559.96	-1.91	3.58	4.50	1726254.70	14372239.14	39°34'37.9153"N	80°41'43.3323"W	5.75	51.473	1.50	0.13	-110.93	
648.00	1.560	342.700	648.94	-3.84	5.47	4.05	1726254.25	14372241.02	39°34'37.9339"N	80°41'43.3380"W	6.80	36.536	0.74	0.70	-11.30	
738.00	1.440	336.390	737.90	-6.17	7.65	3.24	1726253.44	14372243.20	39°34'37.9555"N	80°41'43.3482"W	8.30	22.971	0.23	-0.13	-7.09	
827.00	1.330	332.220	826.88	-8.30	9.58	2.31	1726252.51	14372245.14	39°34'37.9747"N	80°41'43.3600"W	9.86	13.560	0.17	-0.12	-4.69	
919.00	1.480	325.180	918.85	-10.50	11.50	1.14	1726251.34	14372247.06	39°34'37.9937"N	80°41'43.3749"W	11.56	5.638	0.25	0.16	-7.65	
1009.00	1.470	319.270	1008.82	-12.69	13.33	-0.28	1726249.92	14372248.89	39°34'38.0118"N	80°41'43.3930"W	13.34	358.792	0.17	-0.01	-6.57	
1103.00	1.540	312.950	1102.79	-14.93	15.11	-1.99	1726248.21	14372250.66	39°34'38.0294"N	80°41'43.4147"W	15.24	352.488	0.19	0.07	-6.72	
1198.00	1.420	316.180	1197.76	-17.13	16.83	-3.74	1726246.46	14372252.38	39°34'38.0465"N	80°41'43.4370"W	17.24	347.464	0.15	-0.13	3.40	
1292.00	1.240	312.100	1291.73	-19.07	18.35	-5.30	1726244.90	14372253.90	39°34'38.0616"N	80°41'43.4569"W	19.10	343.881	0.22	-0.19	-4.34	
1386.00	1.010	298.230	1385.71	-20.58	19.42	-6.79	1726243.42	14372254.98	39°34'38.0722"N	80°41'43.4758"W	20.58	340.738	0.38	-0.24	-14.76	
1481.00	1.780	326.910	1480.69	-22.61	21.04	-8.32	1726241.88	14372256.59	39°34'38.0883"N	80°41'43.4953"W	22.63	338.422	1.05	0.79	30.19	
1575.00	3.280	326.650	1574.59	-26.61	24.50	-10.59	1726239.62	14372260.05	39°34'38.1225"N	80°41'43.5241"W	26.69	336.625	1.62	1.62	-0.28	
1670.00	5.060	325.260	1669.34	-33.28	30.21	-14.47	1726235.74	14372265.76	39°34'38.1791"N	80°41'43.5734"W	33.50	334.407	1.88	1.87	-1.46	
1764.00	7.090	322.730	1762.81	-42.79	38.23	-20.35	1726229.86	14372273.78	39°34'38.2586"N	80°41'43.6481"W	43.31	331.981	2.18	2.16	-2.69	
1859.00	9.330	326.260	1856.83	-55.81	49.31	-28.17	1726222.04	14372284.85	39°34'38.3683"N	80°41'43.7476"W	56.79	330.255	2.42	2.36	3.72	
1953.00	10.450	325.690	1949.43	-71.41	62.68	-37.21	1726213.00	14372298.22	39°34'38.5008"N	80°41'43.8625"W	72.90	329.305	1.20	1.19	-0.61	
2047.00	9.960	320.900	2041.94	-87.27	76.03	-47.14	1726203.07	14372311.56	39°34'38.6331"N	80°41'43.9887"W	89.46	328.199	1.04	-0.52	-5.10	
2141.00	10.330	327.520	2134.48	-103.11	89.45	-56.80	1726193.43	14372324.98	39°34'38.7660"N	80°41'44.1114"W	105.96	327.587	1.30	0.39	7.04	
2236.00	10.630	330.620	2227.89	-120.02	104.27	-65.67	1726184.56	14372339.79	39°34'38.9128"N	80°41'44.2241"W	123.23	327.798	0.67	0.32	3.26	
2330.00	10.470	329.330	2320.30	-136.91	119.17	-74.28	1726175.95	14372354.69	39°34'39.0604"N	80°41'44.3334"W	140.43	328.065	0.30	-0.17	-1.37	
2424.00	10.050	327.690	2412.80	-153.27	133.45	-83.02	1726167.21	14372368.96	39°34'39.2018"N	80°41'44.4444"W	157.17	328.114	0.54	-0.45	-1.74	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'
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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Pine Unit 2H
Field	Wetzel		API	47-103-03649-0000
Facility	Galmish Pad		Wellbore	Pine Unit 2H AWB
Slot	Slot E			

WELLPATH DATA (243 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
2519.00	9.870	325.690	2506.37	-169.19	147.18	-92.04	1726158.20	14372382.69	39°34'39.3378"N	80°41'44.5590"W	173.59	327.980	0.41	-0.19	-2.11	
2613.00	9.670	324.330	2599.00	-184.53	160.25	-101.19	1726149.05	14372395.75	39°34'39.4672"N	80°41'44.6752"W	189.52	327.731	0.32	-0.21	-1.45	
2707.00	9.470	322.650	2691.70	-199.44	172.81	-110.48	1726139.76	14372408.30	39°34'39.5917"N	80°41'44.7934"W	205.11	327.409	0.37	-0.21	-1.79	
2801.00	9.270	320.200	2784.44	-213.87	184.78	-120.02	1726130.23	14372420.26	39°34'39.7102"N	80°41'44.9147"W	220.33	326.995	0.47	-0.21	-2.61	
2896.00	9.060	319.230	2878.23	-227.98	196.32	-129.80	1726120.45	14372431.80	39°34'39.8247"N	80°41'45.0391"W	235.35	326.529	0.27	-0.22	-1.02	
2990.00	8.870	317.670	2971.08	-241.51	207.28	-139.51	1726110.74	14372442.76	39°34'39.9333"N	80°41'45.1627"W	249.86	326.057	0.33	-0.20	-1.66	
3085.00	8.490	315.150	3064.99	-254.56	217.67	-149.39	1726100.87	14372453.14	39°34'40.0363"N	80°41'45.2884"W	264.00	325.537	0.57	-0.40	-2.65	
3179.00	9.480	321.460	3157.84	-268.11	228.64	-159.11	1726091.15	14372464.11	39°34'40.1451"N	80°41'45.4120"W	278.56	325.167	1.48	1.05	6.71	
3273.00	9.820	324.190	3250.51	-283.08	241.20	-168.62	1726081.64	14372476.66	39°34'40.2695"N	80°41'45.5330"W	294.30	325.043	0.61	0.36	2.90	
3368.00	9.520	321.110	3344.16	-298.23	253.88	-178.30	1726071.98	14372489.34	39°34'40.3952"N	80°41'45.6560"W	310.24	324.921	0.63	-0.32	-3.24	
3462.00	8.960	321.060	3436.94	-312.43	265.63	-187.78	1726062.50	14372501.08	39°34'40.5116"N	80°41'45.7765"W	325.30	324.743	0.60	-0.60	-0.05	
3494.00	8.870	319.280	3468.56	-317.07	269.44	-190.95	1726059.32	14372504.89	39°34'40.5493"N	80°41'45.8169"W	330.24	324.674	0.91	-0.28	-5.56	
3556.00	7.900	320.340	3529.89	-325.50	276.34	-196.79	1726053.49	14372511.79	39°34'40.6177"N	80°41'45.8912"W	339.25	324.544	1.58	-1.56	1.71	APS EM <8-3/4"> (3494')(3556'-6199')
3650.00	9.330	324.470	3622.83	-338.86	287.51	-205.34	1726044.94	14372522.96	39°34'40.7285"N	80°41'45.9999"W	353.31	324.466	1.66	1.52	4.39	
3745.00	9.390	324.890	3716.57	-353.70	300.12	-214.27	1726036.01	14372535.56	39°34'40.8534"N	80°41'46.1134"W	368.76	324.475	0.10	0.06	0.44	
3839.00	10.650	328.520	3809.13	-369.55	313.80	-223.22	1726027.07	14372549.24	39°34'40.9889"N	80°41'46.2271"W	385.10	324.574	1.50	1.34	3.86	
3934.00	10.940	327.670	3902.45	-386.90	328.91	-232.63	1726017.67	14372564.34	39°34'41.1385"N	80°41'46.3466"W	402.86	324.729	0.35	0.31	-0.89	
4028.00	10.160	325.110	3994.86	-403.56	343.24	-242.14	1726008.16	14372578.67	39°34'41.2805"N	80°41'46.4674"W	420.06	324.799	0.97	-0.83	-2.72	
4122.00	11.700	328.810	4087.15	-420.86	358.20	-251.82	1725998.48	14372593.62	39°34'41.4286"N	80°41'46.5904"W	437.86	324.892	1.80	1.64	3.94	
4216.00	12.210	329.930	4179.11	-439.94	374.95	-261.73	1725988.57	14372610.37	39°34'41.5945"N	80°41'46.7163"W	457.27	325.083	0.60	0.54	1.19	
4311.00	11.180	326.730	4272.14	-458.73	391.35	-271.82	1725978.49	14372626.76	39°34'41.7569"N	80°41'46.8444"W	476.49	325.217	1.28	-1.08	-3.37	
4405.00	12.210	324.730	4364.19	-477.11	407.08	-282.56	1725967.75	14372642.48	39°34'41.9128"N	80°41'46.9809"W	495.54	325.235	1.18	1.10	-2.13	
4499.00	11.580	323.360	4456.17	-495.65	422.77	-293.93	1725956.39	14372658.16	39°34'42.0682"N	80°41'47.1254"W	514.91	325.191	0.73	-0.67	-1.46	
4594.00	10.110	317.050	4549.48	-512.37	436.53	-305.30	1725945.02	14372671.91	39°34'42.2045"N	80°41'47.2701"W	532.70	325.031	1.99	-1.55	-6.64	
4688.00	10.040	324.090	4642.03	-527.76	449.20	-315.73	1725934.59	14372684.59	39°34'42.3301"N	80°41'47.4027"W	549.06	324.898	1.31	-0.07	7.49	
4783.00	9.280	324.150	4735.68	-543.02	462.12	-325.07	1725925.26	14372697.50	39°34'42.4581"N	80°41'47.5215"W	565.00	324.876	0.80	-0.80	0.06	
4877.00	9.750	321.230	4828.39	-557.77	474.47	-334.50	1725915.84	14372709.84	39°34'42.5805"N	80°41'47.6413"W	580.52	324.816	0.72	0.50	-3.11	
4971.00	10.040	318.760	4920.99	-572.86	486.83	-344.88	1725905.45	14372722.20	39°34'42.7030"N	80°41'47.7734"W	596.62	324.686	0.55	0.31	-2.63	
5066.00	8.950	310.250	5014.69	-586.88	497.84	-355.98	1725894.36	14372733.20	39°34'42.8121"N	80°41'47.9147"W	612.02	324.433	1.87	-1.15	-8.66	
5160.00	8.240	322.380	5107.64	-599.56	507.90	-365.68	1725884.67	14372743.26	39°34'42.9119"N	80°41'48.0380"W	625.84	324.247	2.07	-0.76	12.90	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (243 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
5254.00	10.140	336.880	5200.45	-614.21	520.85	-373.04	1725877.31	14372756.20	39°34'43.0401"N	80°41'48.1315"W	640.65	324.389	3.17	2.02	15.43	
5348.00	10.330	332.550	5292.95	-630.80	535.94	-380.17	1725870.18	14372771.28	39°34'43.1895"N	80°41'48.2220"W	657.08	324.650	0.84	0.20	-4.61	
5443.00	9.020	328.210	5386.60	-646.49	549.82	-388.02	1725862.33	14372785.17	39°34'43.3270"N	80°41'48.3216"W	672.95	324.789	1.58	-1.38	-4.57	
5539.00	7.960	323.070	5481.55	-660.16	561.53	-395.98	1725854.38	14372796.87	39°34'43.4430"N	80°41'48.4228"W	687.11	324.809	1.36	-1.10	-5.35	
5634.00	9.250	324.060	5575.48	-673.73	572.98	-404.41	1725845.94	14372808.31	39°34'43.5564"N	80°41'48.5300"W	701.32	324.785	1.37	1.36	1.04	
5728.00	10.980	325.760	5668.01	-689.60	586.49	-413.89	1725836.48	14372821.82	39°34'43.6903"N	80°41'48.6504"W	717.83	324.790	1.87	1.84	1.81	
5822.00	9.760	321.040	5760.48	-705.74	600.09	-423.93	1725826.43	14372835.41	39°34'43.8250"N	80°41'48.7781"W	734.73	324.761	1.58	-1.30	-5.02	
5917.00	8.120	315.930	5854.32	-719.39	611.17	-433.66	1725816.71	14372846.49	39°34'43.9349"N	80°41'48.9019"W	749.40	324.642	1.92	-1.73	-5.38	
6011.00	9.040	315.960	5947.27	-732.11	621.25	-443.42	1725806.96	14372856.57	39°34'44.0348"N	80°41'49.0260"W	763.26	324.483	0.98	0.98	0.03	
6105.00	8.700	317.270	6040.14	-745.32	631.78	-453.37	1725797.01	14372867.09	39°34'44.1392"N	80°41'49.1527"W	777.62	324.336	0.42	-0.36	1.39	
6199.00	7.190	318.490	6133.24	-757.27	641.41	-462.10	1725788.29	14372876.72	39°34'44.2346"N	80°41'49.2637"W	790.53	324.230	1.62	-1.61	1.30	
6256.00	5.750	318.720	6189.87	-763.21	646.23	-466.34	1725784.04	14372881.53	39°34'44.2824"N	80°41'49.3177"W	796.92	324.184	2.53	-2.53	0.40	BH Lucida <8-1/2"> (6199')(6256'-21888')
6350.00	5.650	300.330	6283.42	-771.08	652.10	-473.45	1725776.94	14372887.41	39°34'44.3407"N	80°41'49.4082"W	805.85	324.019	1.94	-0.11	-19.56	
6445.00	3.120	167.810	6378.27	-772.07	651.94	-476.94	1725773.45	14372887.24	39°34'44.3392"N	80°41'49.4528"W	807.77	323.812	8.52	-2.66	-139.49	
6540.00	10.140	176.240	6472.58	-761.42	641.05	-475.85	1725774.54	14372876.36	39°34'44.2316"N	80°41'49.4393"W	798.36	323.414	7.44	7.39	8.87	
6634.00	16.900	172.080	6563.92	-740.02	619.24	-473.42	1725776.97	14372854.55	39°34'44.0159"N	80°41'49.4092"W	779.47	322.601	7.26	7.19	-4.43	
6728.00	24.650	169.130	6651.75	-707.16	586.40	-467.83	1725782.55	14372821.73	39°34'43.6912"N	80°41'49.3393"W	750.15	321.417	8.32	8.24	-3.14	
6767.00†	27.720	167.355	6686.74	-690.09	569.56	-464.31	1725786.07	14372804.90	39°34'43.5246"N	80°41'49.2951"W	734.84	320.813	8.12	7.87	-4.55	Sycamore: 6767' MD
6822.00	32.080	165.390	6734.41	-662.81	542.93	-457.82	1725792.56	14372778.28	39°34'43.2612"N	80°41'49.2133"W	710.19	319.861	8.12	7.93	-3.57	
6916.00	40.120	164.080	6810.30	-607.59	489.56	-443.19	1725807.18	14372724.93	39°34'42.7333"N	80°41'49.0288"W	660.37	317.846	8.59	8.55	-1.39	
6926.00†	41.017	163.929	6817.90	-601.10	483.31	-441.40	1725808.97	14372718.68	39°34'42.6715"N	80°41'49.0062"W	654.54	317.595	9.03	8.97	-1.51	Middlesex: 6926' MD
7011.00	48.650	162.830	6878.13	-541.27	425.94	-424.24	1725826.13	14372661.34	39°34'42.1039"N	80°41'48.7895"W	601.17	315.115	9.03	8.98	-1.29	
7074.00†	53.697	163.121	6917.62	-492.23	379.03	-409.88	1725840.49	14372614.44	39°34'41.6397"N	80°41'48.6081"W	558.27	312.761	8.02	8.01	0.46	Burkett: 7074' MD
7105.00	56.180	163.250	6935.42	-466.88	354.74	-402.54	1725847.82	14372590.16	39°34'41.3994"N	80°41'48.5154"W	536.54	311.388	8.02	8.01	0.42	
7130.00†	57.658	163.419	6949.07	-445.95	334.67	-396.53	1725853.83	14372570.10	39°34'41.2009"N	80°41'48.4395"W	518.88	310.165	5.94	5.91	0.68	Tully: 7130' MD
7199.00	61.740	163.860	6983.88	-386.46	277.52	-379.76	1725870.59	14372512.97	39°34'40.6355"N	80°41'48.2278"W	470.35	306.159	5.94	5.92	0.64	
7294.00	70.060	163.780	7022.63	-299.93	194.31	-355.61	1725894.73	14372429.79	39°34'39.8123"N	80°41'47.9230"W	405.24	298.653	8.76	8.76	-0.08	
7356.00†	75.027	163.600	7041.23	-240.87	137.57	-339.01	1725911.33	14372373.07	39°34'39.2510"N	80°41'47.7134"W	365.85	292.087	8.02	8.01	-0.29	Marcellus POE: 7356' MD
7388.00	77.590	163.510	7048.80	-209.82	107.75	-330.20	1725920.13	14372343.27	39°34'38.9560"N	80°41'47.6023"W	347.34	288.072	8.02	8.01	-0.28	
7483.00	85.590	163.370	7062.68	-116.01	17.74	-303.44	1725946.88	14372253.30	39°34'38.0655"N	80°41'47.2644"W	303.96	273.346	8.42	8.42	-0.15	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (243 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
7577.00	89.690	161.800	7066.55	-22.15	-71.85	-275.33	1725974.97	14372163.74	39°34'37.1791"N	80°41'46.9093"W	284.56	255.374	4.67	4.36	-1.67	
7671.00	88.490	159.520	7068.05	71.83	-160.53	-244.21	1726006.08	14372075.10	39°34'36.3017"N	80°41'46.5157"W	292.25	236.682	2.74	-1.28	-2.43	
7766.00	89.510	161.300	7069.70	166.81	-250.01	-212.37	1726037.92	14371965.65	39°34'35.4163"N	80°41'46.1128"W	328.03	220.346	2.16	1.07	1.87	
7860.00	89.780	161.550	7070.29	260.80	-339.11	-182.42	1726067.85	14371896.58	39°34'34.5346"N	80°41'45.7343"W	385.07	208.278	0.39	0.29	0.27	
7954.00	89.630	161.750	7070.77	354.79	-428.33	-152.83	1728097.43	14371807.40	39°34'33.6519"N	80°41'45.3602"W	454.78	199.637	0.27	-0.16	0.21	
8048.00	89.750	161.590	7071.28	448.78	-517.56	-123.27	1728126.98	14371718.20	39°34'32.7690"N	80°41'44.9866"W	532.04	193.397	0.21	0.13	-0.17	
8142.00	89.720	161.300	7071.71	542.78	-606.67	-93.36	1728156.88	14371629.13	39°34'31.8873"N	80°41'44.6084"W	613.81	188.748	0.31	-0.03	-0.31	
8237.00	89.750	161.510	7072.15	637.77	-696.71	-63.06	1728187.16	14371539.12	39°34'30.9964"N	80°41'44.2254"W	699.56	185.172	0.22	0.03	0.22	
8331.00	89.780	161.450	7072.54	731.77	-785.84	-33.21	1728217.01	14371450.03	39°34'30.1145"N	80°41'43.8480"W	786.54	182.420	0.07	0.03	-0.06	
8426.00	89.750	161.670	7072.93	826.78	-875.96	-3.16	1728247.04	14371359.94	39°34'29.2228"N	80°41'43.4682"W	875.97	180.207	0.23	-0.03	0.23	
8520.00	89.780	161.910	7073.31	920.75	-965.26	26.22	1728276.41	14371270.68	39°34'28.3394"N	80°41'43.0969"W	965.61	178.444	0.26	0.03	0.26	
8614.00	89.720	161.640	7073.72	1014.74	-1054.54	55.62	1728305.79	14371181.44	39°34'27.4560"N	80°41'42.7253"W	1056.01	176.981	0.29	-0.06	-0.29	
8709.00	89.880	160.900	7074.06	1109.73	-1144.51	86.12	1728336.29	14371091.50	39°34'26.5658"N	80°41'42.3397"W	1147.74	175.697	0.80	0.17	-0.78	
8803.00	89.750	160.360	7074.36	1203.73	-1233.19	117.30	1728367.45	14371002.86	39°34'25.6883"N	80°41'41.9454"W	1238.75	174.567	0.59	-0.14	-0.57	
8898.00	89.660	160.570	7074.85	1298.73	-1322.72	149.06	1728399.20	14370913.36	39°34'24.8024"N	80°41'41.5436"W	1331.09	173.570	0.24	-0.09	0.22	
8992.00	89.850	160.580	7075.25	1392.72	-1411.37	180.32	1728430.45	14370824.75	39°34'23.9252"N	80°41'41.1482"W	1422.84	172.719	0.20	0.20	0.01	
9086.00	89.320	160.390	7075.93	1486.72	-1499.96	211.72	1728461.84	14370736.19	39°34'23.0486"N	80°41'40.7511"W	1514.83	171.966	0.60	-0.56	-0.20	
9181.00	89.510	160.650	7076.90	1581.71	-1589.52	243.40	1728493.51	14370646.67	39°34'22.1624"N	80°41'40.3504"W	1608.05	171.294	0.34	0.20	0.27	
9275.00	89.570	159.750	7077.66	1675.70	-1677.96	275.24	1728525.33	14370558.26	39°34'21.2873"N	80°41'39.9477"W	1700.38	170.684	0.96	0.06	-0.96	
9369.00	89.600	160.520	7078.34	1769.69	-1766.36	307.18	1728557.26	14370469.89	39°34'20.4125"N	80°41'39.5436"W	1792.87	170.134	0.82	0.03	0.82	
9464.00	89.450	160.270	7079.12	1864.68	-1855.85	339.06	1728589.12	14370380.44	39°34'19.5270"N	80°41'39.1405"W	1886.57	169.646	0.31	-0.16	-0.26	
9558.00	89.910	159.990	7079.65	1958.67	-1944.25	371.01	1728621.06	14370292.07	39°34'18.6522"N	80°41'38.7363"W	1979.34	169.197	0.57	0.49	-0.30	
9653.00	91.050	161.150	7078.85	2053.66	-2033.84	402.61	1728652.65	14370202.52	39°34'17.7658"N	80°41'38.3367"W	2073.30	168.803	1.71	1.20	1.22	
9747.00	90.090	160.170	7077.92	2147.65	-2122.53	433.74	1728683.76	14370113.87	39°34'16.8882"N	80°41'37.9431"W	2166.39	168.451	1.46	-1.02	-1.04	
9841.00	90.180	160.390	7077.70	2241.65	-2211.01	465.45	1728715.47	14370025.42	39°34'16.0126"N	80°41'37.5419"W	2259.47	168.112	0.25	0.10	0.23	
9935.00	90.030	160.410	7077.52	2335.64	-2299.57	496.99	1728746.99	14369936.90	39°34'15.1363"N	80°41'37.1431"W	2352.66	167.805	0.16	-0.16	0.02	
10029.00	90.060	159.490	7077.45	2429.63	-2387.87	529.21	1728779.20	14369848.63	39°34'14.2626"N	80°41'36.7354"W	2445.81	167.504	0.98	0.03	-0.98	
10124.00	89.940	160.230	7077.45	2524.61	-2477.06	561.92	1728811.90	14369759.48	39°34'13.3800"N	80°41'36.3216"W	2540.00	167.219	0.79	-0.13	0.78	
10218.00	89.970	160.360	7077.52	2618.61	-2565.55	593.62	1728843.58	14369671.02	39°34'12.5043"N	80°41'35.9207"W	2633.33	166.972	0.14	0.03	0.14	
10312.00	90.090	160.280	7077.48	2712.60	-2654.06	625.27	1728875.23	14369582.54	39°34'11.6285"N	80°41'35.5203"W	2726.72	166.743	0.15	0.13	-0.09	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (243 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
10406.00	89.690	159.580	7077.66	2806.59	-2742.35	657.53	1726907.47	14369494.28	39°34'10.7548"N	80°41'35.1123"W	2820.08	166.517	0.86	-0.43	-0.74	
10500.00	89.510	157.820	7078.31	2900.51	-2829.93	691.67	1726941.60	14369406.75	39°34'9.8881"N	80°41'34.6801"W	2913.23	166.265	1.88	-0.19	-1.87	
10594.00	89.380	159.630	7079.22	2994.44	-2917.51	725.78	1726975.69	14369319.19	39°34'9.0213"N	80°41'34.2484"W	3006.43	166.030	1.93	-0.14	1.93	
10688.00	89.850	159.790	7079.85	3088.41	-3005.68	758.37	1727008.27	14369231.06	39°34'8.1489"N	80°41'33.8360"W	3099.88	165.839	0.53	0.50	0.17	
10782.00	89.940	160.900	7080.03	3182.41	-3094.20	789.99	1727039.88	14369142.58	39°34'7.2730"N	80°41'33.4362"W	3193.46	165.678	1.18	0.10	1.18	
10877.00	90.030	161.380	7080.05	3277.41	-3184.10	820.70	1727070.58	14369052.71	39°34'6.3834"N	80°41'33.0480"W	3288.17	165.547	0.51	0.09	0.51	
10971.00	90.090	161.490	7079.95	3371.40	-3273.21	850.63	1727100.49	14368963.64	39°34'5.5017"N	80°41'32.6697"W	3381.93	165.432	0.13	0.06	0.12	
11065.00	90.150	161.650	7079.76	3465.40	-3362.39	880.34	1727130.20	14368874.50	39°34'4.6194"N	80°41'32.2941"W	3475.72	165.328	0.18	0.06	0.17	
11159.00	89.420	160.790	7080.11	3559.39	-3451.38	910.61	1727160.45	14368785.54	39°34'3.7388"N	80°41'31.9116"W	3569.49	165.220	1.20	-0.78	-0.91	
11253.00	89.720	161.490	7080.81	3653.39	-3540.33	940.99	1727190.82	14368696.82	39°34'2.8587"N	80°41'31.5275"W	3663.25	165.115	0.81	0.32	0.74	
11347.00	90.180	161.290	7080.90	3747.38	-3629.42	970.99	1727220.81	14368607.57	39°34'1.9772"N	80°41'31.1484"W	3757.06	165.022	0.53	0.49	-0.21	
11441.00	90.220	161.830	7080.57	3841.38	-3718.59	1000.72	1727250.53	14368518.44	39°34'1.0949"N	80°41'30.7726"W	3850.89	164.938	0.58	0.04	0.57	
11534.00	89.910	161.020	7080.46	3934.37	-3806.74	1030.35	1727280.14	14368430.32	39°34'0.2226"N	80°41'30.3982"W	3943.72	164.855	0.93	-0.33	-0.87	
11628.00	89.880	159.510	7080.64	4028.36	-3895.22	1062.09	1727311.87	14368341.87	39°33'59.3471"N	80°41'29.9968"W	4037.42	164.748	1.61	-0.03	-1.61	
11723.00	89.720	158.910	7080.97	4123.32	-3984.03	1095.81	1727345.57	14368253.10	39°33'58.4682"N	80°41'29.5701"W	4131.99	164.621	0.65	-0.17	-0.63	
11817.00	90.180	162.190	7081.05	4217.31	-4072.66	1127.10	1727376.86	14368164.51	39°33'57.5913"N	80°41'29.1744"W	4225.74	164.531	3.52	0.49	3.49	
11912.00	89.720	159.670	7081.13	4312.30	-4162.43	1158.14	1727407.88	14368074.76	39°33'56.7029"N	80°41'28.7820"W	4320.55	164.452	2.70	-0.48	-2.65	
12006.00	89.290	161.100	7081.94	4406.29	-4250.97	1189.69	1727439.42	14367986.26	39°33'55.8268"N	80°41'28.3830"W	4414.31	164.365	1.59	-0.46	1.52	
12100.00	90.310	161.080	7082.27	4500.29	-4339.90	1220.15	1727469.87	14367897.37	39°33'54.9469"N	80°41'27.9979"W	4508.16	164.297	1.09	1.09	-0.02	
12193.00	89.820	161.150	7082.17	4593.28	-4427.89	1250.26	1727499.96	14367809.41	39°33'54.0762"N	80°41'27.6174"W	4601.02	164.232	0.53	-0.53	0.08	
12287.00	90.550	161.440	7081.86	4687.28	-4516.93	1280.40	1727530.10	14367720.41	39°33'53.1953"N	80°41'27.2364"W	4694.90	164.174	0.84	0.78	0.31	
12381.00	89.940	161.180	7081.46	4781.28	-4605.97	1310.52	1727560.21	14367631.41	39°33'52.3142"N	80°41'26.8557"W	4788.78	164.118	0.71	-0.65	-0.28	
12475.00	89.510	161.590	7081.91	4875.27	-4695.05	1340.53	1727590.20	14367542.36	39°33'51.4328"N	80°41'26.4765"W	4882.67	164.065	0.63	-0.46	0.44	
12569.00	89.780	161.870	7082.49	4969.26	-4784.31	1370.00	1727619.66	14367453.13	39°33'50.5497"N	80°41'26.1042"W	4976.59	164.021	0.41	0.29	0.30	
12663.00	89.820	161.190	7082.82	5063.25	-4873.47	1399.77	1727649.42	14367364.01	39°33'49.6675"N	80°41'25.7279"W	5070.51	163.975	0.72	0.04	-0.72	
12758.00	89.570	160.930	7083.33	5158.25	-4963.32	1430.61	1727680.25	14367274.19	39°33'48.7784"N	80°41'25.3381"W	5165.38	163.921	0.38	-0.26	-0.27	
12852.00	89.660	161.340	7083.96	5252.25	-5052.27	1461.00	1727710.63	14367185.28	39°33'47.8983"N	80°41'24.9540"W	5259.27	163.871	0.45	0.10	0.44	
12946.00	89.350	161.090	7084.77	5346.24	-5141.26	1491.27	1727740.88	14367096.33	39°33'47.0177"N	80°41'24.5714"W	5353.17	163.825	0.42	-0.33	-0.27	
13040.00	89.480	160.740	7085.73	5440.24	-5230.09	1522.00	1727771.61	14367007.53	39°33'46.1388"N	80°41'24.1829"W	5447.05	163.775	0.40	0.14	-0.37	
13134.00	89.380	160.950	7086.67	5534.23	-5318.88	1552.85	1727802.44	14366918.78	39°33'45.2602"N	80°41'23.7930"W	5540.92	163.725	0.25	-0.11	0.22	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (243 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
13228.00	89.510	161.010	7087.58	5628.23	-5407.74	1583.48	1727833.06	14366829.95	39°33'44.3809"N	80°41'23.4058"W	5634.81	163.679	0.15	0.14	0.06	
13323.00	89.540	161.390	7088.37	5723.23	-5497.67	1614.09	1727863.66	14366740.05	39°33'43.4911"N	80°41'23.0189"W	5729.72	163.638	0.40	0.03	0.40	
13417.00	89.850	161.220	7088.87	5817.22	-5586.71	1644.22	1727893.78	14366651.05	39°33'42.6100"N	80°41'22.6381"W	5823.64	163.600	0.38	0.33	-0.18	
13511.00	89.660	160.930	7089.27	5911.22	-5675.63	1674.71	1727924.25	14366562.17	39°33'41.7302"N	80°41'22.2528"W	5917.55	163.560	0.37	-0.20	-0.31	
13605.00	89.600	160.490	7089.87	6005.22	-5764.35	1705.76	1727955.29	14366473.48	39°33'40.8523"N	80°41'21.8602"W	6011.43	163.516	0.47	-0.06	-0.47	
13699.00	90.000	160.640	7090.20	6099.22	-5852.99	1737.04	1727986.56	14366384.87	39°33'39.9752"N	80°41'21.4648"W	6105.31	163.470	0.45	0.43	0.16	
13792.00	89.750	161.180	7090.41	6192.21	-5940.88	1767.45	1728016.96	14366297.02	39°33'39.1055"N	80°41'21.0803"W	6198.22	163.432	0.64	-0.27	0.58	
13887.00	90.400	161.630	7090.28	6287.21	-6030.92	1797.75	1728047.24	14366207.02	39°33'38.2146"N	80°41'20.6975"W	6293.16	163.401	0.83	0.68	0.47	
13980.00	90.030	160.830	7089.93	6380.21	-6118.97	1827.67	1728077.15	14366119.00	39°33'37.3434"N	80°41'20.3193"W	6386.09	163.370	0.95	-0.40	-0.86	
14075.00	90.060	160.950	7089.86	6475.21	-6208.73	1858.77	1728108.24	14366029.27	39°33'36.4551"N	80°41'19.9262"W	6481.00	163.333	0.13	0.03	0.13	
14169.00	90.060	161.270	7089.76	6569.21	-6297.67	1889.21	1728138.66	14365940.37	39°33'35.5751"N	80°41'19.5416"W	6574.93	163.302	0.34	0.00	0.34	
14264.00	89.910	161.090	7089.78	6664.21	-6387.59	1919.85	1728169.30	14365850.48	39°33'34.6854"N	80°41'19.1543"W	6669.87	163.271	0.25	-0.16	-0.19	
14358.00	89.880	161.080	7089.96	6758.20	-6476.51	1950.32	1728199.76	14365761.59	39°33'33.8055"N	80°41'18.7691"W	6763.80	163.241	0.03	-0.03	-0.01	
14452.00	89.940	160.940	7090.10	6852.20	-6565.40	1980.91	1728230.33	14365672.75	39°33'32.9260"N	80°41'18.3825"W	6857.73	163.210	0.16	0.06	-0.15	
14547.00	90.340	161.380	7089.87	6947.20	-6655.31	2011.59	1728261.00	14365582.87	39°33'32.0363"N	80°41'17.9948"W	6952.67	163.182	0.63	0.42	0.46	
14641.00	89.880	161.070	7089.69	7041.20	-6744.31	2041.84	1728291.24	14365493.91	39°33'31.1557"N	80°41'17.6125"W	7046.62	163.156	0.59	-0.49	-0.33	
14735.00	90.030	160.980	7089.77	7135.20	-6833.20	2072.41	1728321.79	14365405.05	39°33'30.2761"N	80°41'17.2262"W	7140.55	163.128	0.19	0.16	-0.10	
14829.00	89.880	161.310	7089.84	7229.20	-6922.15	2102.79	1728352.16	14365316.13	39°33'29.3959"N	80°41'16.8423"W	7234.50	163.102	0.39	-0.16	0.35	
14924.00	90.000	161.270	7089.94	7324.20	-7012.13	2133.26	1728382.62	14365226.19	39°33'28.5056"N	80°41'16.4572"W	7329.45	163.079	0.13	0.13	-0.04	
15018.00	89.940	160.970	7089.99	7418.20	-7101.08	2163.68	1728413.03	14365137.28	39°33'27.6255"N	80°41'16.0728"W	7423.39	163.054	0.33	-0.06	-0.32	
15112.00	89.880	160.810	7090.14	7512.20	-7189.90	2194.45	1728443.79	14365048.49	39°33'26.7466"N	80°41'15.6838"W	7517.33	163.027	0.18	-0.06	-0.17	
15206.00	89.910	160.740	7090.31	7606.20	-7278.65	2225.40	1728474.73	14364959.77	39°33'25.8683"N	80°41'15.2926"W	7611.26	162.999	0.08	0.03	-0.07	
15301.00	90.310	161.590	7090.13	7701.19	-7368.56	2256.07	1728505.39	14364869.90	39°33'24.9787"N	80°41'14.9050"W	7706.21	162.977	0.99	0.42	0.89	
15395.00	90.000	160.940	7089.87	7795.19	-7457.58	2286.27	1728535.57	14364780.91	39°33'24.0978"N	80°41'14.5235"W	7800.16	162.956	0.77	-0.33	-0.69	
15490.00	89.940	160.880	7089.92	7890.19	-7547.36	2317.34	1728566.62	14364691.17	39°33'23.2095"N	80°41'14.1308"W	7895.10	162.931	0.09	-0.06	-0.06	
15678.00	90.030	161.380	7089.97	8078.19	-7725.25	2378.14	1728627.40	14364513.35	39°33'21.4492"N	80°41'13.3625"W	8083.01	162.890	0.27	0.05	0.27	
15772.00	89.750	160.440	7090.15	8172.19	-7814.08	2408.88	1728658.13	14364424.55	39°33'20.5703"N	80°41'12.9739"W	8176.96	162.867	1.04	-0.30	-1.00	
15867.00	90.310	161.510	7090.10	8267.19	-7903.89	2439.85	1728689.09	14364334.78	39°33'19.6816"N	80°41'12.5826"W	8271.90	162.845	1.27	0.59	1.13	
15961.00	90.060	160.970	7089.80	8361.18	-7992.90	2470.08	1728719.31	14364245.81	39°33'18.8009"N	80°41'12.2006"W	8365.87	162.827	0.63	-0.27	-0.57	
16055.00	90.030	160.870	7089.72	8455.18	-8081.73	2500.81	1728750.02	14364157.01	39°33'17.9219"N	80°41'11.8122"W	8459.81	162.806	0.11	-0.03	-0.11	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWP
Slot	Slot E		

WELLPATH DATA (243 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
16150.00	90.120	160.720	7089.60	8550.18	-8171.45	2532.06	1728781.26	14364067.33	39°33'17.0341"N	80°41'11.4173"W	8554.76	162.784	0.18	0.09	-0.16	
16244.00	90.030	161.160	7089.48	8644.18	-8260.29	2562.75	1728811.94	14363978.52	39°33'16.1550"N	80°41'11.0293"W	8648.71	162.764	0.48	-0.10	0.47	
16339.00	90.120	161.120	7089.35	8739.18	-8350.19	2593.46	1728842.64	14363888.65	39°33'15.2654"N	80°41'10.6413"W	8743.67	162.746	0.10	0.09	-0.04	
16433.00	90.150	161.010	7089.13	8833.18	-8439.11	2623.96	1728873.13	14363799.78	39°33'14.3856"N	80°41'10.2558"W	8837.63	162.728	0.12	0.03	-0.12	
16527.00	89.940	161.070	7089.06	8927.18	-8528.01	2654.51	1728903.66	14363710.91	39°33'13.5060"N	80°41'9.8699"W	8931.59	162.710	0.23	-0.22	0.06	
16622.00	90.220	161.110	7088.92	9022.18	-8617.88	2685.29	1728934.44	14363621.07	39°33'12.6167"N	80°41'9.4808"W	9026.55	162.693	0.30	0.29	0.04	
16716.00	90.150	160.990	7088.62	9116.18	-8706.78	2715.82	1728964.95	14363532.20	39°33'11.7370"N	80°41'9.0951"W	9120.51	162.676	0.15	-0.07	-0.13	
16810.00	89.970	161.320	7088.52	9210.18	-8795.74	2746.18	1728995.30	14363443.28	39°33'10.8567"N	80°41'8.7114"W	9214.48	162.661	0.40	-0.19	0.35	
16905.00	89.910	161.060	7088.62	9305.18	-8885.67	2776.81	1729025.92	14363353.39	39°33'9.9669"N	80°41'8.3244"W	9309.45	162.646	0.28	-0.06	-0.27	
16999.00	89.170	160.580	7089.38	9399.17	-8974.45	2807.69	1729056.79	14363264.64	39°33'9.0884"N	80°41'7.9341"W	9403.40	162.627	0.94	-0.79	-0.51	
17094.00	89.820	161.020	7090.21	9494.17	-9064.16	2838.94	1729088.02	14363174.97	39°33'8.2007"N	80°41'7.5393"W	9498.35	162.609	0.83	0.68	0.46	
17188.00	89.940	161.170	7090.41	9588.17	-9153.09	2869.39	1729118.46	14363086.07	39°33'7.3207"N	80°41'7.1544"W	9592.31	162.594	0.20	0.13	0.16	
17283.00	89.780	160.920	7090.64	9683.17	-9242.94	2900.25	1729149.31	14362996.26	39°33'6.4317"N	80°41'6.7645"W	9687.28	162.579	0.31	-0.17	-0.26	
17377.00	89.880	161.380	7090.92	9777.17	-9331.90	2930.62	1729179.67	14362907.34	39°33'5.5514"N	80°41'6.3808"W	9781.25	162.565	0.50	0.11	0.49	
17472.00	89.850	161.270	7091.15	9872.16	-9421.89	2961.04	1729210.07	14362817.37	39°33'4.6609"N	80°41'5.9965"W	9876.23	162.554	0.12	-0.03	-0.12	
17566.00	89.940	161.040	7091.32	9966.16	-9510.85	2991.40	1729240.42	14362728.45	39°33'3.7806"N	80°41'5.6128"W	9970.20	162.540	0.26	0.10	-0.24	
17660.00	89.750	160.880	7091.57	10060.16	-9599.71	3022.07	1729271.08	14362639.63	39°33'2.9014"N	80°41'5.2253"W	10064.16	162.526	0.26	-0.20	-0.17	
17755.00	89.510	160.610	7092.19	10155.16	-9689.40	3053.39	1729302.39	14362549.98	39°33'2.0139"N	80°41'4.8294"W	10159.11	162.509	0.38	-0.25	-0.28	
17849.00	89.290	160.950	7093.17	10249.15	-9778.15	3084.34	1729333.32	14362461.26	39°33'1.1357"N	80°41'4.4384"W	10253.07	162.493	0.43	-0.23	0.36	
17944.00	89.260	160.740	7094.37	10344.15	-9867.88	3115.51	1729364.48	14362371.56	39°33'0.2477"N	80°41'4.0445"W	10348.02	162.478	0.22	-0.03	-0.22	
18038.00	89.350	161.000	7095.51	10438.14	-9956.69	3146.31	1729395.27	14362282.79	39°32'59.3690"N	80°41'3.6552"W	10441.98	162.463	0.29	0.10	0.28	
18132.00	89.110	160.790	7096.77	10532.13	-10045.50	3177.07	1729426.02	14362194.01	39°32'58.4902"N	80°41'3.2665"W	10535.93	162.449	0.34	-0.26	-0.22	
18227.00	89.350	161.010	7098.05	10627.12	-10135.26	3208.16	1729457.09	14362104.29	39°32'57.6020"N	80°41'2.8737"W	10630.89	162.436	0.34	0.25	0.23	
18322.00	89.170	160.760	7099.28	10722.11	-10225.02	3239.26	1729488.19	14362014.57	39°32'56.7138"N	80°41'2.4807"W	10725.85	162.422	0.32	-0.19	-0.26	
18416.00	89.420	161.010	7100.44	10816.11	-10313.83	3270.04	1729518.95	14361925.79	39°32'55.8350"N	80°41'2.0917"W	10819.81	162.409	0.38	0.27	0.27	
18511.00	89.170	160.940	7101.60	10911.10	-10403.63	3301.01	1729549.91	14361836.02	39°32'54.9464"N	80°41'1.7004"W	10914.77	162.396	0.27	-0.26	-0.07	
18605.00	89.420	160.600	7102.76	11005.09	-10492.38	3331.96	1729580.85	14361747.31	39°32'54.0682"N	80°41'1.3092"W	11008.72	162.382	0.45	0.27	-0.36	
18700.00	89.480	161.060	7103.67	11100.09	-10582.11	3363.16	1729612.04	14361657.62	39°32'53.1803"N	80°41'0.9151"W	11103.69	162.369	0.49	0.06	0.48	
18794.00	88.860	161.060	7105.03	11194.08	-10671.01	3393.67	1729642.53	14361568.75	39°32'52.3006"N	80°41'0.5296"W	11197.65	162.358	0.66	-0.66	0.00	
18888.00	89.380	161.000	7106.48	11288.06	-10759.89	3424.22	1729673.07	14361479.90	39°32'51.4211"N	80°41'0.1436"W	11291.61	162.347	0.56	0.55	-0.06	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (243 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
18983.00	89.290	160.780	7107.58	11383.06	-10849.65	3455.32	1729704.16	14361390.18	39°32'50.5329"N	80°40'59.7506"W	11386.58	162.335	0.25	-0.09	-0.23	
19077.00	89.420	160.960	7108.64	11477.05	-10938.45	3486.12	1729734.95	14361301.41	39°32'49.6542"N	80°40'59.3614"W	11480.54	162.323	0.24	0.14	0.19	
19171.00	88.550	160.680	7110.30	11571.04	-11027.22	3517.00	1729765.81	14361212.68	39°32'48.7758"N	80°40'58.9712"W	11574.49	162.311	0.97	-0.93	-0.30	
19266.00	89.290	161.330	7112.09	11666.02	-11117.03	3547.91	1729796.72	14361122.90	39°32'47.8871"N	80°40'58.5808"W	11669.45	162.300	1.04	0.78	0.68	
19360.00	89.750	160.690	7112.88	11760.01	-11205.91	3578.50	1729827.29	14361034.06	39°32'47.0076"N	80°40'58.1942"W	11763.42	162.290	0.84	0.49	-0.68	
19455.00	89.850	161.170	7113.21	11855.01	-11295.70	3609.54	1729858.32	14360944.31	39°32'46.1192"N	80°40'57.8020"W	11858.40	162.279	0.52	0.11	0.51	
19549.00	89.570	160.880	7113.69	11949.01	-11384.59	3640.10	1729888.87	14360855.45	39°32'45.2396"N	80°40'57.4159"W	11952.37	162.269	0.43	-0.30	-0.31	
19644.00	89.320	160.570	7114.61	12044.01	-11474.26	3671.46	1729920.22	14360765.82	39°32'44.3523"N	80°40'57.0196"W	12047.33	162.257	0.42	-0.26	-0.33	
19738.00	89.970	160.940	7115.19	12138.00	-11563.00	3702.44	1729951.19	14360677.11	39°32'43.4741"N	80°40'56.6281"W	12141.30	162.245	0.80	0.69	0.39	
19833.00	89.570	160.910	7115.57	12233.00	-11652.79	3733.49	1729982.22	14360587.36	39°32'42.5857"N	80°40'56.2359"W	12236.27	162.235	0.42	-0.42	-0.03	
19927.00	89.820	161.070	7116.07	12327.00	-11741.66	3764.11	1730012.83	14360498.52	39°32'41.7063"N	80°40'55.8490"W	12330.25	162.225	0.32	0.27	0.17	
20021.00	89.880	161.250	7116.32	12421.00	-11830.62	3794.46	1730043.17	14360409.59	39°32'40.8260"N	80°40'55.4656"W	12424.23	162.217	0.20	0.06	0.19	
20115.00	89.850	160.870	7116.54	12515.00	-11919.53	3824.97	1730073.67	14360320.72	39°32'39.9462"N	80°40'55.0801"W	12518.21	162.209	0.41	-0.03	-0.40	
20210.00	89.570	160.780	7117.02	12610.00	-12009.26	3856.18	1730104.86	14360231.03	39°32'39.0583"N	80°40'54.6859"W	12613.18	162.198	0.31	-0.29	-0.09	
20304.00	89.260	159.800	7117.98	12703.98	-12097.75	3887.88	1730136.55	14360142.57	39°32'38.1827"N	80°40'54.2852"W	12707.13	162.184	1.09	-0.33	-1.04	
20398.00	89.820	160.720	7118.74	12797.97	-12186.22	3919.62	1730168.28	14360054.14	39°32'37.3072"N	80°40'53.8840"W	12801.07	162.170	1.15	0.60	0.98	
20492.00	89.630	161.180	7119.19	12891.97	-12275.07	3950.30	1730198.95	14359965.32	39°32'36.4280"N	80°40'53.4964"W	12895.05	162.161	0.53	-0.20	0.49	
20587.00	89.720	160.850	7119.73	12986.97	-12364.90	3981.21	1730229.84	14359875.53	39°32'35.5391"N	80°40'53.1059"W	12990.03	162.153	0.36	0.09	-0.35	
20681.00	89.690	160.760	7120.21	13080.97	-12453.67	4012.11	1730260.74	14359786.79	39°32'34.6606"N	80°40'52.7155"W	13084.00	162.143	0.10	-0.03	-0.10	
20776.00	89.780	160.960	7120.65	13175.97	-12543.42	4043.26	1730291.87	14359697.08	39°32'33.7725"N	80°40'52.3219"W	13178.97	162.134	0.23	0.09	0.21	
20870.00	89.720	160.920	7121.06	13269.97	-12632.27	4073.96	1730322.55	14359608.27	39°32'32.8934"N	80°40'51.9341"W	13272.95	162.125	0.08	-0.06	-0.04	
20964.00	89.850	160.790	7121.41	13363.97	-12721.07	4104.79	1730353.37	14359519.50	39°32'32.0147"N	80°40'51.5446"W	13366.93	162.116	0.20	0.14	-0.14	
21059.00	89.480	161.050	7121.97	13458.97	-12810.85	4135.84	1730384.41	14359429.76	39°32'31.1263"N	80°40'51.1523"W	13461.91	162.108	0.48	-0.39	0.27	
21153.00	89.600	160.710	7122.72	13552.96	-12899.66	4166.63	1730415.19	14359340.98	39°32'30.2474"N	80°40'50.7633"W	13555.88	162.099	0.38	0.13	-0.36	
21247.00	89.750	161.190	7123.26	13646.96	-12988.51	4197.31	1730445.86	14359252.16	39°32'29.3682"N	80°40'50.3758"W	13649.86	162.091	0.53	0.16	0.51	
21341.00	89.720	160.850	7123.69	13740.96	-13077.40	4227.88	1730476.42	14359163.31	39°32'28.4887"N	80°40'49.9896"W	13743.84	162.084	0.36	-0.03	-0.36	
21435.00	89.140	160.770	7124.63	13834.95	-13166.17	4258.78	1730507.30	14359074.57	39°32'27.6102"N	80°40'49.5992"W	13837.82	162.075	0.62	-0.62	-0.09	
21529.00	89.820	161.110	7125.48	13928.95	-13255.01	4289.47	1730537.98	14358985.77	39°32'26.7311"N	80°40'49.2114"W	13931.79	162.068	0.81	0.72	0.36	
21624.00	89.750	161.000	7125.84	14023.95	-13344.86	4320.31	1730568.81	14358895.95	39°32'25.8420"N	80°40'48.8218"W	14026.78	162.061	0.14	-0.07	-0.12	
21718.00	89.690	160.980	7126.29	14117.95	-13433.74	4350.93	1730599.42	14358807.11	39°32'24.9626"N	80°40'48.4351"W	14120.76	162.054	0.07	-0.06	-0.02	



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (243 stations) † = interpolated, ‡ = extrapolated station																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
21812.00	89.780	160.850	7126.73	14211.95	-13522.57	4381.67	1730630.14	14358718.31	39°32'24.0835"N	80°40'48.0468"W	14214.74	162.046	0.17	0.10	-0.14	
21888.00	89.720	160.730	7127.06	14287.94	-13594.34	4406.67	1730655.14	14358646.57	39°32'23.3734"N	80°40'47.7309"W	14290.72	162.040	0.18	-0.08	-0.16	
21913.00‡	89.720	160.730	7127.18	14312.94	-13617.93	4414.92	1730663.39	14358622.98	39°32'23.1398"N	80°40'47.6266"W	14315.72	162.037	0.00	0.00	0.00	Projected MD at TD: 21913'

HOLE & CASING SECTIONS - Ref Wellbore: Pine Unit 2H AWB Ref Wellpath: Pine Unit 2H AWP Proj: 21913'									
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	30.00	130.00	100.00	30.00	130.00	0.00	0.00	0.64	0.11
17.5in Open Hole	130.00	384.00	254.00	130.00	383.97	0.64	0.11	2.77	2.75
13.375in Casing Surface	30.00	364.00	334.00	30.00	363.97	0.00	0.00	2.71	2.48
12.375in Open Hole	384.00	3565.00	3181.00	383.97	3538.81	2.77	2.75	277.30	-197.58
9.625in Casing Intermediate	30.00	3535.00	3505.00	30.00	3509.10	0.00	0.00	274.08	-194.90
8.75in Open Hole	3565.00	6274.00	2709.00	3538.81	6207.78	277.30	-197.58	647.54	-467.57
8.5in Open Hole	6274.00	21913.00	15639.00	6207.78	7127.18	647.54	-467.57	-13617.93	4414.92
5.5in Casing Production	30.00	21893.00	21863.00	30.00	7127.09	0.00	0.00	-13599.06	4408.32



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Pine Unit 2H POE Rev-3	7038.00	149.09	-356.73	1725893.61	14372384.59	39°34'39.3654"N	80°41'47.9393"W	point
Pine Unit 2H BHL Rev-3	7066.00	-13616.29	4407.38	1730655.85	14358624.63	39°32'23.1564"N	80°40'47.7228"W	point
Pine Unit 2H LP Rev-3	7066.00	-38.31	-291.87	1725958.44	14372197.27	39°34'37.5112"N	80°41'47.1191"W	point
Pine Unit 2H 50' L/R Hard Line	7500.00	-6733.60	2025.33	1728274.73	14365504.61	39°33'31.2621"N	80°41'17.8229"W	rectangle
2D Rectangle 14566.5 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Pine Unit 2H AWB Ref Wellpath: Pine Unit 2H AWP Proj: 21913'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	258.00	Gyrodata 2015 - GC+WR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (50'-258')	Pine Unit 2H AWB	7/19/2024
258.00	3494.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-3/8"> (258')(471'-3494')	Pine Unit 2H AWB	7/19/2024
3494.00	6199.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (3494')(3556'-6199')	Pine Unit 2H AWB	8/20/2024
6199.00	21913.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH Lucida <8-1/2"> (6199')(6256'-21888')	Pine Unit 2H AWB	8/20/2024



Actual Wellpath Report

Pine Unit 2H AWP Proj: 21913'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Pine Unit 2H
Field	Wetzel	API	47-103-03649-0000
Facility	Galmish Pad	Wellbore	Pine Unit 2H AWB
Slot	Slot E		

COMMENTS

Wellpath general comments

API: 47-103-03649-0000

BH Job #: 112320209

Rig: H&P 519

Duration: 8/22/2024-8/26/2024

Gyrodatta MS Gyro <17-1/2"> (50'-258')

APS EM <12-3/8"> (258')(471'-3494')

APS EM <8-3/4"> (3494')(3556'-6199')

BH Lucida <8-1/2"> (6199')(6256'-21888')

Sycamore: 6767' MD

Middlesex: 6926' MD

Burkett: 7074' MD

Tully: 7130' MD

Marcellus POE: 7356' MD

Projected MD at TD: 21913'