





# Actual Wellpath Report

California Unit 2H AWP Proj: 20600'  
Page 1 of 13



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	California Unit 2H
Field	Doddridge	Wellbore	California Unit 2H AWB
Facility	Balli Pad		

## REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Delaset
Scale	0.999602	Report Generated	29/Jun/2017 at 18:37
Convergence at slot	0.10° East	Database/Source file	WA_MPL_EasternUS_Defn/California_Unit_2H_AWP_Proj_20600_.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2.41	90.08	1684580.15	14272035.65	39°18'08.220"N	80°50'37.980"W
Facility Reference Pt			1684490.11	14272033.24	39°18'08.198"N	80°50'39.126"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Frontier 32 (RKB) to Facility Vertical Datum	32.00ft
Horizontal Reference Pt	Slot	Frontier 32 (RKB) to Mean Sea Level	1167.00ft
Vertical Reference Pt	Frontier 32 (RKB)	Frontier 32 (RKB) to Mud Line at Slot (Slot #10)	32.00ft
MD Reference Pt	Frontier 32 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	341.68°

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Page 2 of 13



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Area	Doddridge Co., WV	Well	California Unit 2H
Field	Doddridge	Wellbore	California Unit 2H AWB
Facility	Balli Pad		

WELLPATH DATA (268 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
0.00	0.00	134.280	0.00	0.00	0.00	0.00	1684580.15	14272035.65	39°18'08.220"N	80°50'37.980"W	0.00	0.000	0.00	0.00	0.00	
32.00	0.00	134.280	32.00	0.00	0.00	0.00	1684580.15	14272035.65	39°18'08.220"N	80°50'37.980"W	0.00	0.000	0.00	0.00	0.00	
119.00	0.08	134.280	119.00	-0.05	-0.04	0.04	1684580.20	14272035.60	39°18'08.220"N	80°50'37.979"W	0.06	134.280	0.09	0.09	154.34	Gyrodata MS Gyro <17-1/2"> (100'-323')
219.00	0.06	230.690	219.00	-0.13	-0.12	0.05	1684580.21	14272035.52	39°18'08.219"N	80°50'37.979"W	0.14	156.928	0.11	-0.02	96.41	
319.00	0.06	1.600	319.00	-0.10	-0.11	0.01	1684580.17	14272035.54	39°18'08.219"N	80°50'37.980"W	0.11	172.468	0.11	0.00	130.91	
342.00	0.02	188.560	342.00	-0.10	-0.10	0.01	1684580.17	14272035.55	39°18'08.219"N	80°50'37.980"W	0.10	172.001	0.35	-0.17	-752.35	
400.00	0.17	291.520	400.00	-0.05	-0.08	-0.07	1684580.09	14272035.57	39°18'08.219"N	80°50'37.981"W	0.10	221.961	0.30	0.26	177.52	Gyrodata MS Gyro <12-1/4"> (323')(381'-870')
461.00	0.40	142.220	461.00	-0.19	-0.21	-0.02	1684580.13	14272035.43	39°18'08.218"N	80°50'37.980"W	0.21	185.869	0.91	0.38	-244.75	
521.00	1.29	125.510	520.99	-0.94	-0.77	0.66	1684580.81	14272034.88	39°18'08.212"N	80°50'37.972"W	1.01	139.495	1.52	1.48	-27.85	
581.00	2.28	128.780	580.96	-2.48	-1.91	2.14	1684582.29	14272033.74	39°18'08.201"N	80°50'37.953"W	2.86	131.769	1.66	1.65	5.45	
651.00	3.24	126.350	650.88	-5.27	-3.95	4.82	1684584.97	14272031.69	39°18'08.181"N	80°50'37.919"W	6.23	129.382	1.38	1.37	-3.47	
702.00	3.85	125.990	701.78	-7.83	-5.81	7.36	1684587.51	14272029.83	39°18'08.162"N	80°50'37.886"W	9.38	128.298	1.20	1.20	-0.71	
762.00	3.99	129.660	761.64	-11.24	-8.33	10.60	1684590.75	14272027.32	39°18'08.137"N	80°50'37.845"W	13.48	128.164	0.48	0.23	6.12	
822.00	3.86	130.800	821.50	-14.74	-10.98	13.73	1684593.88	14272024.67	39°18'08.111"N	80°50'37.806"W	17.58	128.644	0.25	-0.22	1.90	
889.00	3.72	137.030	888.36	-18.65	-14.05	16.92	1684597.07	14272021.61	39°18'08.081"N	80°50'37.765"W	21.99	129.691	0.65	-0.21	9.30	
1006.00	3.50	154.130	1005.13	-25.64	-20.04	21.07	1684601.21	14272015.62	39°18'08.022"N	80°50'37.712"W	29.07	133.561	0.94	-0.19	14.62	Directional ONE MWD <12-1/4"> (870')(987'-2498')
1069.00	2.96	158.160	1068.03	-29.17	-23.28	22.51	1684602.66	14272012.38	39°18'07.990"N	80°50'37.694"W	32.38	135.955	0.93	-0.86	6.40	
1132.00	2.07	156.330	1130.97	-31.93	-25.83	23.57	1684603.72	14272009.83	39°18'07.964"N	80°50'37.681"W	34.97	137.612	1.42	-1.41	-2.90	
1195.00	1.32	154.450	1193.94	-33.78	-27.53	24.34	1684604.49	14272008.13	39°18'07.948"N	80°50'37.671"W	36.75	138.509	1.19	-1.19	-2.98	
1258.00	0.17	90.500	1256.93	-34.53	-28.18	24.75	1684604.89	14272007.48	39°18'07.941"N	80°50'37.666"W	37.51	138.707	1.99	-1.83	-101.51	
1321.00	0.32	11.670	1319.93	-34.41	-28.01	24.88	1684605.02	14272007.65	39°18'07.943"N	80°50'37.664"W	37.46	138.386	0.53	0.24	-125.13	
1384.00	0.43	13.530	1382.93	-34.06	-27.61	24.97	1684605.11	14272008.05	39°18'07.947"N	80°50'37.663"W	37.22	137.870	0.18	0.17	2.95	
1447.00	0.41	7.720	1445.93	-33.65	-27.15	25.06	1684605.20	14272008.50	39°18'07.951"N	80°50'37.662"W	36.95	137.301	0.07	-0.03	-9.22	
1510.00	0.41	13.890	1508.93	-33.26	-26.71	25.14	1684605.28	14272008.94	39°18'07.956"N	80°50'37.661"W	36.68	136.735	0.07	0.00	9.79	
1573.00	0.36	352.330	1571.92	-32.87	-26.30	25.17	1684605.31	14272009.36	39°18'07.960"N	80°50'37.660"W	36.40	136.256	0.24	-0.08	-34.22	
1637.00	0.34	350.990	1635.92	-32.49	-25.91	25.11	1684605.26	14272009.75	39°18'07.963"N	80°50'37.661"W	36.08	135.896	0.03	-0.03	-2.09	
1700.00	0.55	355.320	1698.92	-32.01	-25.42	25.06	1684605.20	14272010.23	39°18'07.968"N	80°50'37.662"W	35.70	135.415	0.34	0.33	6.87	
1763.00	0.40	352.670	1761.92	-31.50	-24.90	25.01	1684605.15	14272010.75	39°18'07.973"N	80°50'37.662"W	35.29	134.884	0.24	-0.24	-4.21	
1826.00	0.42	150.700	1824.92	-31.51	-24.89	25.09	1684605.23	14272010.77	39°18'07.974"N	80°50'37.661"W	35.34	134.768	1.28	0.03	250.84	
1890.00	0.99	164.290	1888.91	-32.30	-25.62	25.35	1684605.50	14272010.03	39°18'07.966"N	80°50'37.658"W	36.05	135.303	0.92	0.89	21.23	

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Page 3 of 13



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Area	Doddridge Co., WV		Well	California Unit 2H
Field	Doddridge		Wellbore	California Unit 2H AWP
Facility	Balli Pad			

WELLPATH DATA (268 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Buidl Rate	Turn Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	("/100ft)	("/100ft)	("/100ft)	
1953.00	1.160	171.550	1951.90	-33.47	-26.78	25.60	1684605.74	14272008.88	39°18'07.955"N	80°50'37.655"W	37.04	136.294	0.35	0.27	11.52	
2016.00	1.310	175.760	2014.89	-34.79	-28.13	25.74	1684605.89	14272007.53	39°18'07.942"N	80°50'37.653"W	38.13	137.535	0.28	0.24	6.68	
2079.00	1.470	173.290	2077.87	-36.28	-29.65	25.89	1684606.03	14272006.01	39°18'07.927"N	80°50'37.651"W	39.36	138.871	0.27	0.25	-3.92	
2142.00	1.040	194.390	2140.85	-37.56	-31.01	25.84	1684605.99	14272004.65	39°18'07.913"N	80°50'37.652"W	40.36	140.189	0.99	-0.68	33.49	
2206.00	0.810	242.750	2204.85	-38.12	-31.77	25.30	1684605.44	14272003.88	39°18'07.906"N	80°50'37.659"W	40.61	141.477	1.23	-0.36	75.58	
2269.00	0.980	255.620	2267.84	-38.15	-32.11	24.38	1684604.52	14272003.55	39°18'07.902"N	80°50'37.671"W	40.32	142.796	0.42	0.27	20.43	
2332.00	1.100	245.830	2330.83	-38.17	-32.49	23.30	1684603.45	14272003.16	39°18'07.898"N	80°50'37.684"W	39.99	144.352	0.34	0.19	-15.54	
2395.00	1.380	254.260	2393.81	-38.20	-32.95	22.02	1684602.17	14272002.71	39°18'07.894"N	80°50'37.701"W	39.63	146.240	0.53	0.44	13.38	
2458.00	0.540	290.840	2456.81	-37.98	-33.05	21.02	1684601.16	14272002.61	39°18'07.893"N	80°50'37.713"W	39.16	147.547	1.59	-1.33	58.06	
2517.00	0.900	327.020	2515.80	-37.35	-32.56	20.50	1684800.65	14272003.10	39°18'07.898"N	80°50'37.720"W	38.48	147.801	0.95	0.61	61.32	
2616.00	1.220	339.930	2614.78	-35.55	-30.92	19.72	1684599.86	14272004.74	39°18'07.914"N	80°50'37.730"W	36.67	147.472	0.40	0.32	13.04	Directional ONE MWD <8-3/4"> (2498')(2597'-5631')
2679.00	1.220	345.300	2677.77	-34.21	-29.64	19.32	1684599.46	14272006.02	39°18'07.927"N	80°50'37.735"W	35.38	146.905	0.18	0.00	8.52	
2742.00	0.340	185.790	2740.77	-33.71	-29.18	19.13	1684599.27	14272006.48	39°18'07.931"N	80°50'37.737"W	34.89	146.750	2.45	-1.40	-253.19	
2806.00	2.020	168.350	2804.75	-35.00	-30.47	19.34	1684599.48	14272005.19	39°18'07.919"N	80°50'37.735"W	36.09	147.599	2.65	2.62	-27.25	
2870.00	3.710	164.200	2868.67	-38.19	-33.57	20.13	1684800.27	14272002.09	39°18'07.888"N	80°50'37.725"W	39.14	149.051	2.66	2.64	-6.48	
2933.00	4.340	163.100	2931.51	-42.61	-37.81	21.38	1684601.52	14271997.85	39°18'07.846"N	80°50'37.709"W	43.43	150.517	1.01	1.00	-1.75	
2996.00	4.180	157.890	2994.34	-47.29	-42.22	22.93	1684603.08	14271993.44	39°18'07.802"N	80°50'37.689"W	48.04	151.487	0.66	-0.25	-8.27	
3059.00	4.450	168.720	3057.16	-52.00	-46.74	24.28	1684604.42	14271988.92	39°18'07.758"N	80°50'37.672"W	52.67	152.554	1.36	0.43	17.19	
3122.00	5.750	176.600	3119.91	-57.48	-52.29	24.94	1684605.09	14271983.38	39°18'07.703"N	80°50'37.664"W	57.93	154.499	2.34	2.06	12.51	
3185.00	6.780	186.790	3182.54	-63.90	-59.13	24.69	1684604.83	14271976.54	39°18'07.635"N	80°50'37.667"W	64.08	157.338	2.40	1.63	16.17	
3248.00	7.580	194.970	3245.04	-70.74	-66.84	23.18	1684603.32	14271968.83	39°18'07.559"N	80°50'37.687"W	70.74	160.876	2.06	1.27	12.98	
3311.00	7.690	203.860	3307.49	-77.33	-74.71	20.40	1684600.54	14271960.97	39°18'07.481"N	80°50'37.722"W	77.44	164.729	1.88	0.17	14.11	
3375.00	7.270	204.920	3370.94	-83.46	-82.30	16.96	1684597.11	14271953.38	39°18'07.406"N	80°50'37.766"W	84.03	168.356	0.69	-0.66	1.66	
3437.00	6.790	193.300	3432.48	-89.44	-89.42	14.46	1684594.61	14271946.26	39°18'07.336"N	80°50'37.798"W	90.58	170.813	2.42	-0.77	-18.74	
3501.00	7.550	184.880	3495.98	-96.52	-97.29	13.24	1684593.36	14271938.39	39°18'07.258"N	80°50'37.814"W	98.19	172.254	2.02	1.19	-13.16	
3564.00	7.600	184.210	3558.43	-104.18	-105.57	12.58	1684592.73	14271930.11	39°18'07.176"N	80°50'37.822"W	106.32	173.206	0.16	0.08	-1.06	
3626.00	8.210	189.980	3619.84	-111.86	-114.02	11.51	1684591.66	14271921.67	39°18'07.093"N	80°50'37.836"W	114.60	174.236	1.61	0.98	9.31	
3690.00	8.280	190.620	3683.18	-119.92	-123.05	9.87	1684590.02	14271912.64	39°18'07.004"N	80°50'37.857"W	123.45	175.415	0.18	0.11	1.00	
3753.00	7.990	190.190	3745.55	-127.73	-131.82	8.26	1684588.41	14271903.88	39°18'06.917"N	80°50'37.878"W	132.08	176.416	0.47	-0.46	-0.68	
3815.00	7.270	191.690	3807.00	-134.92	-139.90	6.70	1684586.85	14271895.80	39°18'06.837"N	80°50'37.898"W	140.06	177.258	1.20	-1.16	2.42	

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Page 4 of 13



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Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Balli Pad
Slot	Slot #10
Well	California Unit 2H
Wellbore	California Unit 2H AWB

WELLPATH DATA (268 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Bulld Rate (F/100ft)	Turn Rate (F/100ft)	Comments
3875.00	7.850	187.410	3869.45	-142.25	-148.07	5.34	1684585.49	14271887.63	39°18'06.756"N	80°50'37.915"W	148.17	177.936	1.28	0.32	-6.79	
3941.00	7.870	183.950	3931.86	-150.11	-156.64	4.49	1684584.64	14271879.07	39°18'06.672"N	80°50'37.926"W	156.71	178.360	0.75	0.03	-5.49	
4004.00	7.330	184.070	3994.30	-157.82	-164.95	3.90	1684584.05	14271870.78	39°18'06.590"N	80°50'37.934"W	165.00	178.645	0.86	-0.86	0.19	
4068.00	7.770	186.040	4057.75	-165.47	-173.31	3.01	1684583.16	14271862.40	39°18'06.507"N	80°50'37.946"W	173.34	179.005	1.07	0.69	6.20	
4131.00	8.080	191.190	4120.15	-173.14	-181.87	1.55	1684581.71	14271853.85	39°18'06.422"N	80°50'37.964"W	181.88	179.511	0.85	0.49	5.00	
4194.00	7.540	189.630	4182.56	-180.54	-190.29	0.00	1684580.16	14271845.43	39°18'06.339"N	80°50'37.984"W	190.29	179.999	0.92	-0.86	-2.48	
4259.00	6.600	184.710	4247.07	-187.85	-198.22	-1.02	1684579.14	14271837.51	39°18'06.261"N	80°50'37.997"W	198.22	180.294	1.72	-1.45	-7.57	
4323.00	6.200	186.560	4310.67	-194.37	-205.32	-1.71	1684578.44	14271830.41	39°18'06.191"N	80°50'38.006"W	205.32	180.478	0.70	-0.62	2.89	
4386.00	6.930	192.360	4373.26	-200.73	-212.41	-2.92	1684577.24	14271823.32	39°18'06.121"N	80°50'38.022"W	212.43	180.787	1.56	1.16	9.21	
4449.00	7.460	189.700	4435.76	-207.60	-220.15	-4.42	1684575.74	14271815.58	39°18'06.044"N	80°50'38.041"W	220.20	181.150	0.99	0.84	-4.22	
4512.00	8.550	190.590	4498.15	-215.31	-228.79	-5.97	1684574.19	14271806.95	39°18'05.959"N	80°50'38.061"W	228.66	181.495	1.74	1.73	1.41	
4575.00	8.790	184.690	4560.43	-223.84	-238.19	-7.22	1684572.93	14271797.55	39°18'05.866"N	80°50'38.077"W	238.30	181.737	1.46	0.38	-9.37	
4639.00	10.070	186.620	4623.56	-233.42	-248.62	-8.27	1684571.89	14271787.13	39°18'05.753"N	80°50'38.091"W	248.76	181.905	2.06	2.00	3.02	
4702.00	10.950	182.840	4685.50	-243.98	-250.07	-9.20	1684570.96	14271775.68	39°18'05.650"N	80°50'38.103"W	260.23	182.026	1.77	1.40	-6.00	
4765.00	11.020	182.120	4747.35	-255.22	-272.06	-9.72	1684570.44	14271763.89	39°18'05.531"N	80°50'38.110"W	272.23	182.046	0.24	0.11	-1.14	
4828.00	10.830	189.120	4809.21	-266.11	-283.92	-10.88	1684569.28	14271751.84	39°18'05.414"N	80°50'38.125"W	284.13	182.195	2.13	-0.30	11.11	
4892.00	10.870	188.280	4872.07	-276.84	-295.83	-12.70	1684567.46	14271739.93	39°18'05.296"N	80°50'38.148"W	296.10	182.459	0.25	0.06	-1.31	
4955.00	11.250	188.880	4933.90	-287.62	-307.78	-14.51	1684565.65	14271727.99	39°18'05.178"N	80°50'38.171"W	308.12	182.698	0.63	0.60	0.95	
5018.00	10.460	190.960	4995.77	-298.08	-319.47	-16.54	1684563.62	14271716.31	39°18'05.063"N	80°50'38.197"W	319.90	182.964	1.40	-1.25	3.30	
5081.00	10.470	192.500	5057.72	-307.98	-330.67	-18.87	1684561.29	14271705.11	39°18'04.952"N	80°50'38.227"W	331.21	183.266	0.44	0.02	2.44	
5145.00	8.090	194.700	5120.88	-316.75	-340.70	-21.27	1684558.89	14271695.08	39°18'04.853"N	80°50'38.258"W	341.37	183.572	3.76	-3.72	3.44	
5209.00	6.620	192.920	5183.36	-323.57	-348.53	-23.21	1684556.96	14271687.25	39°18'04.776"N	80°50'38.283"W	349.30	183.809	2.36	-2.33	-2.83	
5271.00	6.450	191.040	5245.95	-329.76	-355.55	-24.70	1684555.47	14271680.24	39°18'04.706"N	80°50'38.302"W	356.40	183.973	0.43	-0.27	-2.98	
5335.00	6.280	180.810	5309.56	-336.20	-362.57	-25.43	1684554.73	14271673.22	39°18'04.637"N	80°50'38.312"W	363.46	184.013	1.79	-0.27	-15.98	
5398.00	6.520	179.290	5372.17	-342.87	-369.60	-25.44	1684554.72	14271666.20	39°18'04.567"N	80°50'38.312"W	370.47	183.937	0.47	0.38	-2.41	
5461.00	6.570	176.560	5434.75	-349.76	-376.77	-25.18	1684554.99	14271659.03	39°18'04.497"N	80°50'38.309"W	377.61	183.823	0.50	0.08	-4.33	
5524.00	6.680	176.160	5497.33	-356.79	-384.02	-24.72	1684555.45	14271651.78	39°18'04.425"N	80°50'38.303"W	384.82	183.663	0.19	0.17	-0.63	
5587.00	7.100	182.290	5559.88	-363.98	-391.57	-24.63	1684555.54	14271644.23	39°18'04.350"N	80°50'38.302"W	392.34	183.599	1.34	0.67	9.73	
5650.00	7.660	182.990	5622.36	-371.54	-399.65	-25.00	1684555.16	14271636.15	39°18'04.270"N	80°50'38.307"W	400.43	183.580	0.90	0.89	1.11	
5692.00	8.500	178.350	5663.94	-377.12	-405.55	-25.06	1684555.11	14271630.26	39°18'04.212"N	80°50'38.308"W	406.32	183.536	2.63	2.00	-11.05	BH IAT Curve -8-1/2"= (6650)\(5692-2057.5)





# Actual Wellpath Report

California Unit 2H AWP Proj: 20600'

Page 5 of 13



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddrige Co., WV
Field	Doddrige
Facility	Ballif Pad
Well	California Unit 2H
Slot	Slot #10

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[m]	[°]	[°]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[°]	[m]	[m]	[m]	[m]
5727.00	178.360	5698.56	-382.08	-410.73	-24.91	1684555.25	14271625.08	39°18'04.161"N	80°50'38.306"W	411.48	183.471	0.06	0.03	0.03		
5774.00	180.860	5745.07	-388.48	-417.45	-24.86	1684555.31	14271618.37	39°18'04.095"N	80°50'38.305"W	418.19	183.408	1.49	-1.28	5.32		
5823.00	186.790	5793.69	-394.16	-423.56	-25.23	1684554.93	14271612.25	39°18'04.034"N	80°50'38.310"W	424.31	183.410	3.34	-2.98	12.10		
5870.00	208.820	5840.50	-397.63	-427.57	-26.31	1684553.86	14271608.25	39°18'03.995"N	80°50'38.324"W	428.37	183.521	6.89	-5.57	46.87		
5917.00	236.170	5887.40	-399.08	-429.74	-28.25	1684551.92	14271606.08	39°18'03.973"N	80°50'38.349"W	430.66	183.761	3.75	-0.79	58.19		
5964.00	276.210	5934.28	-398.58	-430.30	-31.53	1684548.64	14271605.52	39°18'03.968"N	80°50'38.390"W	431.45	184.190	7.12	3.57	85.19		
6011.00	316.950	5981.05	-395.22	-428.08	-35.49	1684544.68	14271607.74	39°18'03.990"N	80°50'38.441"W	429.54	184.739	9.25	3.23	86.68		
6058.00	323.570	6027.47	-388.42	-422.42	-40.05	1684540.12	14271613.39	39°18'04.046"N	80°50'38.499"W	424.32	185.416	9.76	9.53	14.09		
6106.00	322.880	6074.24	-378.20	-413.79	-46.51	1684533.66	14271622.02	39°18'04.131"N	80°50'38.581"W	416.40	186.414	7.63	-1.44	7.79		
6153.00	326.540	6119.33	-365.55	-402.98	-54.12	1684526.06	14271632.83	39°18'04.238"N	80°50'38.677"W	406.60	187.649	6.89	6.53	7.79		
6200.00	331.000	6163.63	-350.24	-389.53	-62.21	1684517.96	14271646.27	39°18'04.371"N	80°50'38.780"W	394.47	189.074	7.68	7.00	9.49		
6247.00	333.880	6206.91	-332.17	-373.29	-70.65	1684509.53	14271662.50	39°18'04.532"N	80°50'38.887"W	379.92	190.718	7.86	7.49	6.13		
6294.00	335.770	6248.94	-311.30	-354.27	-79.57	1684500.61	14271681.52	39°18'04.720"N	80°50'39.000"W	363.09	192.659	8.18	7.98	4.02		
6341.00	337.070	6289.40	-287.51	-332.37	-89.11	1684491.08	14271703.41	39°18'04.936"N	80°50'39.121"W	344.11	195.008	9.11	9.00	2.77		
6389.00	337.830	6328.82	-260.22	-307.09	-99.60	1684480.60	14271728.68	39°18'05.187"N	80°50'39.254"W	322.84	197.969	8.80	8.75	1.68		
6436.00	337.830	6365.47	-230.87	-279.85	-110.70	1684469.50	14271755.91	39°18'05.456"N	80°50'39.394"W	300.95	201.582	8.02	0.00	0.00		
6484.00	337.710	6400.85	-198.52	-249.84	-122.96	1684457.24	14271785.91	39°18'05.733"N	80°50'39.550"W	278.46	206.206	7.75	-0.25	7.75		
6531.00	337.620	6433.19	-164.52	-218.30	-135.92	1684444.29	14271817.43	39°18'06.065"N	80°50'39.714"W	257.16	211.907	9.15	9.15	-0.19		
6579.00	338.720	6463.69	-127.53	-183.90	-149.69	1684430.52	14271851.82	39°18'06.405"N	80°50'39.888"W	237.12	219.145	8.07	7.88	2.29		
6626.00	339.600	6490.95	-89.29	-148.13	-163.30	1684416.92	14271887.57	39°18'06.759"N	80°50'40.061"W	220.47	227.789	9.04	8.91	1.87		
6675.00	339.330	6516.29	-47.40	-108.87	-178.01	1684402.22	14271926.82	39°18'07.147"N	80°50'40.247"W	208.66	238.550	9.07	9.06	-0.55		
6717.00	339.384	6535.28	-9.98	-73.82	-191.21	1684389.02	14271961.85	39°18'07.494"N	80°50'40.414"W	204.97	248.889	9.72	9.72	0.13		Burket: 6717 MD
6722.00	339.390	6537.36	-5.44	-69.57	-192.81	1684387.42	14271966.10	39°18'07.536"N	80°50'40.434"W	204.98	250.160	9.72	9.72	0.12		
6769.00	340.000	6555.46	37.90	-28.90	-207.86	1684372.38	14272006.76	39°18'07.938"N	80°50'40.625"W	209.66	262.066	7.35	7.26	1.30		
6796.00	340.490	6564.92	63.19	-5.09	-216.41	1684363.83	14272030.55	39°18'08.173"N	80°50'40.733"W	216.47	268.652	3.79	3.38	1.82		fully: 6796 MD
6819.00	340.850	6571.66	82.01	12.68	-222.64	1684357.60	14272048.32	39°18'08.349"N	80°50'40.812"W	223.00	273.258	3.79	3.39	1.80		
6864.00	341.170	6586.58	127.63	55.81	-237.48	1684342.77	14272091.43	39°18'08.776"N	80°50'41.000"W	243.95	283.225	5.25	5.21	0.67		
6910.00	341.405	6598.46	172.06	97.89	-251.73	1684328.52	14272133.50	39°18'09.192"N	80°50'41.180"W	270.10	291.250	8.23	8.21	0.51		Marcellus POE: 6910 MD
6911.00	341.410	6598.68	173.03	98.82	-252.05	1684328.21	14272134.42	39°18'09.201"N	80°50'41.184"W	270.72	291.408	8.23	8.21	0.50		

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# Actual Wellpath Report

California Unit 2H AWP Proj: 20600'

Page 6 of 13



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	California Unit 2H
Field	Doddridge	Wellbore	California Unit 2H AWB
Facility	Balli Pad		

WELLPATH DATA (268 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
6959.00	80.510	342.630	6608.04	220.10	143.59	-266.57	1684313.69	14272179.18	39°18'09.644"N	80°50'41.368"W	302.78	298.309	7.73	7.31	2.54	
7006.00	83.250	343.900	6614.68	266.61	188.14	-279.97	1684300.30	14272223.71	39°18'10.084"N	80°50'41.537"W	337.31	303.902	6.41	5.83	2.70	
7055.00	84.170	344.690	6620.05	315.26	235.03	-293.15	1684287.12	14272270.58	39°18'10.548"N	80°50'41.704"W	375.73	308.720	2.47	1.88	1.61	
7102.00	89.170	345.920	6622.78	362.07	280.40	-305.05	1684275.23	14272315.93	39°18'10.997"N	80°50'41.854"W	414.34	312.589	10.95	10.64	2.62	
7150.00	90.180	345.220	6623.05	409.96	326.88	-317.01	1684263.27	14272362.40	39°18'11.456"N	80°50'42.005"W	455.35	315.879	2.58	2.10	-1.46	
7245.00	89.970	343.460	6622.93	504.85	418.35	-342.65	1684237.64	14272453.83	39°18'12.361"N	80°50'42.330"W	540.77	320.681	1.87	-0.22	-1.85	
7340.00	89.940	343.340	6623.00	599.81	509.39	-369.79	1684210.51	14272544.84	39°18'13.261"N	80°50'42.673"W	629.47	324.022	0.13	-0.03	-0.13	
7436.00	89.940	342.190	6623.10	695.79	601.08	-398.23	1684182.08	14272636.49	39°18'14.168"N	80°50'43.033"W	721.03	326.474	1.20	0.00	-1.20	
7531.00	89.970	342.650	6623.18	790.78	691.64	-426.93	1684153.40	14272727.01	39°18'15.063"N	80°50'43.396"W	812.80	328.314	0.49	0.03	0.48	
7625.00	89.970	341.840	6623.23	884.78	781.17	-455.59	1684124.74	14272816.50	39°18'15.949"N	80°50'43.759"W	904.32	329.748	0.86	0.00	-0.86	
7719.00	89.940	341.450	6623.30	978.78	870.38	-485.19	1684095.15	14272905.68	39°18'16.831"N	80°50'44.133"W	996.48	330.863	0.42	-0.03	-0.41	
7814.00	89.910	340.490	6623.42	1073.77	960.19	-516.17	1684064.19	14272995.45	39°18'17.719"N	80°50'44.525"W	1090.14	331.739	1.01	-0.03	-1.01	
7909.00	90.000	337.280	6623.50	1168.64	1048.80	-550.39	1684029.99	14273084.03	39°18'18.595"N	80°50'44.959"W	1184.44	332.311	3.38	0.09	-3.38	
8003.00	90.030	336.700	6623.47	1262.33	1135.32	-587.13	1683993.26	14273170.51	39°18'19.451"N	80°50'45.424"W	1278.15	332.654	0.62	0.03	-0.62	
8098.00	90.060	336.440	6623.40	1356.95	1222.49	-624.91	1683955.50	14273257.65	39°18'20.313"N	80°50'45.903"W	1372.95	332.925	0.28	0.03	-0.27	
8192.00	90.090	337.990	6623.28	1450.66	1309.15	-661.31	1683919.11	14273344.27	39°18'21.170"N	80°50'46.364"W	1466.70	333.200	1.65	0.03	1.65	
8288.00	90.120	337.550	6623.10	1546.44	1398.01	-697.63	1683882.80	14273433.10	39°18'22.049"N	80°50'46.824"W	1562.41	333.480	0.46	0.03	-0.46	
8382.00	90.250	338.670	6622.80	1640.25	1485.24	-732.67	1683847.77	14273520.29	39°18'22.912"N	80°50'47.268"W	1656.12	333.743	1.20	0.14	1.19	
8477.00	90.310	344.750	6622.33	1735.21	1575.39	-762.47	1683817.99	14273610.41	39°18'23.804"N	80°50'47.645"W	1750.21	334.174	6.40	0.06	6.40	
8572.00	90.150	345.020	6621.95	1830.06	1667.11	-787.24	1683793.22	14273702.08	39°18'24.710"N	80°50'47.958"W	1843.64	334.722	0.33	-0.17	0.28	
8668.00	90.060	342.090	6621.78	1926.00	1759.17	-814.42	1683766.06	14273794.11	39°18'25.621"N	80°50'48.302"W	1938.54	335.158	3.05	-0.09	-3.05	
8763.00	90.120	340.520	6621.63	2020.99	1849.15	-844.87	1683735.62	14273884.06	39°18'26.511"N	80°50'48.688"W	2033.02	335.445	1.65	0.06	-1.65	
8855.00	90.060	340.620	6621.48	2112.97	1935.91	-875.47	1683705.03	14273970.78	39°18'27.369"N	80°50'49.075"W	2124.67	335.666	0.13	-0.07	0.11	
8949.00	90.150	343.550	6621.31	2206.96	2025.35	-904.38	1683676.13	14274060.18	39°18'28.253"N	80°50'49.441"W	2218.09	335.938	3.12	0.10	3.12	
9044.00	90.400	341.070	6620.85	2301.95	2115.84	-933.25	1683647.28	14274150.64	39°18'29.148"N	80°50'49.806"W	2312.52	336.199	2.62	0.26	-2.61	
9139.00	90.000	339.840	6620.52	2396.92	2205.37	-965.03	1683615.51	14274240.13	39°18'30.033"N	80°50'50.209"W	2407.27	336.367	1.36	-0.42	-1.29	
9234.00	90.000	343.460	6620.52	2491.91	2295.52	-994.93	1683585.62	14274330.25	39°18'30.925"N	80°50'50.587"W	2501.86	336.567	3.81	0.00	3.81	
9328.00	89.970	345.000	6620.55	2585.81	2385.98	-1020.48	1683560.08	14274420.67	39°18'31.819"N	80°50'50.910"W	2595.05	336.844	1.64	-0.03	1.64	
9422.00	90.150	345.280	6620.45	2679.64	2476.84	-1044.58	1683535.99	14274511.49	39°18'32.718"N	80°50'51.215"W	2688.10	337.133	0.35	0.19	0.30	
9517.00	90.030	344.450	6620.30	2774.49	2568.54	-1069.39	1683511.19	14274603.16	39°18'33.625"N	80°50'51.528"W	2782.27	337.396	0.88	-0.13	-0.87	

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Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Balli Pad
Slot	Slot #10
Well	California Unit 2H
Wellbore	California Unit 2H AWP

**WELLPATH DATA (268 stations)**

MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
9612.00	89.970	344.540	6620.30	2869.38	-1094.78	1683485.81	14274694.67	39°18'34.530"N	80°50'51.850"W	2876.56	337.630	0.11	-0.06	0.09		
9706.00	89.780	344.700	6620.50	2963.25	-1119.71	1683460.89	14274785.26	39°18'35.426"N	80°50'52.165"W	2969.88	337.851	0.26	-0.20	0.17		
9801.00	90.090	345.100	6620.61	3058.10	-1173.48	1683407.15	14274967.33	39°18'37.227"N	80°50'52.845"W	3158.91	338.193	0.53	0.00	0.42		
9896.00	90.000	339.320	6620.46	3153.06	-1292.86	1683407.15	14274967.33	39°18'37.227"N	80°50'52.845"W	3158.91	338.193	0.53	0.00	0.42		
9990.00	90.000	336.640	6620.39	3246.85	-1208.72	168337.92	14275054.43	39°18'38.089"N	80°50'53.291"W	3252.90	338.187	2.85	-0.10	-2.85		
10066.00	89.910	340.540	6620.46	3342.70	-1243.75	1683336.90	14275143.75	39°18'38.973"N	80°50'53.735"W	3348.88	338.198	4.06	-0.09	4.06		
10180.00	90.250	344.870	6620.33	3436.66	-1271.69	1683308.97	14275233.44	39°18'39.860"N	80°50'54.089"W	3442.57	338.321	4.62	0.36	4.61		
10180.00	90.250	344.870	6620.33	3436.66	-1271.69	1683308.97	14275233.44	39°18'39.860"N	80°50'54.089"W	3442.57	338.321	4.62	0.36	4.61		
10559.00	90.280	340.820	6619.50	3815.43	-1379.78	1683200.93	14275596.50	39°18'43.452"N	80°50'55.456"W	3820.16	338.827	4.72	0.20	-4.71		
10654.00	89.720	338.610	6619.50	3910.37	-1412.71	1683168.01	14275685.57	39°18'44.333"N	80°50'55.873"W	3915.15	338.849	2.40	-0.59	-2.33		
10749.00	89.780	342.470	6619.91	4005.33	-1444.36	1683136.38	14275775.09	39°18'45.218"N	80°50'56.274"W	4010.09	338.889	4.06	0.06	4.06		
10843.00	90.030	346.240	6620.07	4099.21	-1469.70	1683111.04	14275865.56	39°18'46.113"N	80°50'56.594"W	4103.65	339.014	4.02	0.27	4.01		
10938.00	90.520	344.150	6619.61	4194.02	-1493.28	1683086.78	14275957.36	39°18'47.022"N	80°50'56.901"W	4198.11	339.153	2.26	-0.52	-2.20		
11033.00	90.220	342.650	6619.00	4288.98	-1521.11	1683059.65	14276048.36	39°18'47.922"N	80°50'57.245"W	4292.85	339.247	1.61	-0.32	-1.58		
11127.00	89.880	341.080	6618.92	4382.97	-1550.37	1683030.40	14276137.65	39°18'48.805"N	80°50'57.615"W	4386.75	339.303	1.71	-0.36	-1.67		
11221.00	89.540	340.080	6619.39	4476.95	-1581.62	1682999.16	14276226.26	39°18'49.682"N	80°50'58.011"W	4480.72	339.330	1.12	-0.36	-1.06		
11316.00	89.450	338.000	6620.23	4571.84	-1615.60	1682965.20	14276314.93	39°18'50.559"N	80°50'58.441"W	4575.71	339.324	2.19	-0.09	-2.19		
11411.00	89.880	340.180	6620.79	4666.74	-1649.52	1682931.29	14276403.63	39°18'51.437"N	80°50'58.871"W	4670.70	339.319	2.32	0.45	2.27		
11506.00	89.970	342.280	6620.91	4761.73	-1680.10	1682900.72	14276493.53	39°18'52.326"N	80°50'59.258"W	4765.65	339.357	2.23	0.09	2.23		
11601.00	90.060	344.000	6620.89	4856.70	-1707.66	1682873.18	14276584.41	39°18'53.225"N	80°50'59.607"W	4860.44	339.431	1.81	0.00	1.81		
11696.00	90.060	341.600	6620.79	4951.67	-1735.75	1682845.10	14276675.12	39°18'54.122"N	80°50'59.962"W	4955.27	339.495	2.53	0.00	-2.53		
11792.00	90.000	337.720	6620.74	5047.59	-1769.11	1682811.75	14276765.08	39°18'55.012"N	80°51'00.385"W	5051.25	339.499	4.04	-0.06	-4.04		
11887.00	90.000	337.700	6620.74	5142.36	-1805.14	1682775.73	14276852.94	39°18'55.882"N	80°51'00.841"W	5146.21	339.466	0.02	0.00	-0.02		
11927.00	90.120	339.300	6620.66	5237.23	-1839.58	1682741.31	14276941.44	39°18'56.757"N	80°51'01.278"W	5241.20	339.452	2.20	0.09	2.20		
12077.00	90.120	339.300	6620.49	5332.17	-1872.78	1682708.12	14277030.41	39°18'57.638"N	80°51'01.698"W	5336.19	339.454	0.52	0.03	-0.52		
12172.00	90.000	344.660	6620.39	5427.13	-1902.16	1682676.76	14277120.69	39°18'58.531"N	80°51'02.070"W	5431.07	339.498	5.64	-0.13	5.64		
12267.00	90.060	345.370	6620.34	5521.97	-1926.72	1682654.20	14277212.42	39°18'59.438"N	80°51'02.381"W	5525.64	339.593	0.75	0.06	0.75		
12362.00	90.650	340.550	6619.75	5616.92	-1954.55	1682626.39	14277303.18	39°19'00.336"N	80°51'02.733"W	5620.44	339.650	5.11	0.62	-5.07		

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# Actual Wellpath Report

California Unit 2H AWP Proj: 20600  
Page 8 of 13



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Balli Pad
Slot	California Unit 2H
Slot #10	California Unit 2H AWB

## WELLPATH DATA (268 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)	(ft)	(ft)	(N)	(W)	(ft)	(Dir)	(ft)	(ft/100ft)	(°/100ft)	
12458.00	89.940	339.140	6619.25	5712.86	-1987.63	1682593.32	14277393.26	39°19'01.227"N	80°51'03.152"W	57°16.44	339.653	1.64	-0.74	-1.47	2.49	
12554.00	90.770	341.530	6618.66	5808.83	-2019.93	1682561.03	14277483.62	39°19'02.121"N	80°51'03.561"W	58°12.42	339.664	2.64	0.86	-2.49		
12649.00	89.880	338.960	6618.12	5903.79	-2052.04	1682528.94	14277572.98	39°19'03.005"N	80°51'03.967"W	59°07.41	339.674	2.86	-0.94	-2.71		
12743.00	89.750	339.940	6618.42	5897.71	-2085.03	1682495.96	14277660.96	39°19'03.876"N	80°51'04.385"W	60°01.41	339.670	1.05	-0.14	1.04		
12838.00	89.170	342.440	6619.32	6092.70	-2115.66	1682465.34	14277750.84	39°19'04.765"N	80°51'04.773"W	60°06.36	339.694	2.70	-0.61	2.63		
12933.00	89.510	345.160	6620.41	6187.62	-2142.16	1682438.85	14277842.02	39°19'05.667"N	80°51'05.109"W	61°19.11	339.757	2.89	0.36	2.86		
13028.00	89.630	348.110	6621.13	6282.25	-2164.11	1682418.90	14277934.40	39°19'06.581"N	80°51'05.386"W	62°25.42	339.860	3.11	0.13	3.11		
13122.00	89.880	351.800	6621.53	6375.25	-2180.51	1682400.52	14278026.90	39°19'07.496"N	80°51'05.593"W	63°27.97	340.008	3.93	0.27	3.93		
13217.00	89.880	348.790	6621.73	6469.17	-2196.52	1682384.51	14278120.49	39°19'08.421"N	80°51'05.794"W	64°14.45	340.159	3.17	0.00	-3.17		
13312.00	90.370	344.780	6621.52	6563.77	-2218.23	1682362.81	14278212.92	39°19'09.336"N	80°51'06.069"W	65°06.81	340.254	4.25	0.52	-4.22		
13408.00	91.420	340.400	6620.02	6659.73	-2246.95	1682334.11	14278304.45	39°19'10.241"N	80°51'06.432"W	66°01.69	340.288	4.69	1.09	-4.56		
13503.00	89.450	336.110	6619.30	6754.53	-2282.13	1682298.94	14278392.63	39°19'11.113"N	80°51'06.878"W	67°06.60	340.259	4.97	-2.07	-4.52		
13598.00	89.230	336.740	6620.39	6849.12	-2320.12	1682260.96	14278479.66	39°19'11.975"N	80°51'07.360"W	68°01.39	340.206	0.70	-0.23	0.66		
13694.00	89.020	341.280	6621.86	6944.98	-2354.19	1682226.60	14278569.22	39°19'12.861"N	80°51'07.795"W	69°07.33	340.190	4.73	-0.22	4.73		
13788.00	90.400	335.320	6622.34	7038.97	-2384.63	1682196.47	14278658.22	39°19'13.741"N	80°51'08.177"W	70°11.31	340.205	1.47	1.47	0.04		
13883.00	89.450	335.300	6622.46	7133.77	-2419.73	1682161.39	14278746.42	39°19'14.614"N	80°51'08.621"W	71°06.21	340.179	6.42	-1.00	-6.34		
13977.00	89.820	336.620	6623.06	7227.29	-2458.02	1682123.12	14278832.22	39°19'15.463"N	80°51'09.107"W	72°09.66	340.125	1.46	0.39	-1.40		
14072.00	89.540	335.560	6623.59	7321.84	-2496.52	1682084.63	14278919.03	39°19'16.322"N	80°51'09.595"W	73°24.72	340.072	1.15	-0.29	-1.12		
14167.00	89.350	336.140	6624.51	7416.34	-2535.39	1682045.78	14279005.68	39°19'17.179"N	80°51'10.088"W	74°19.46	340.018	0.64	-0.20	0.61		
14262.00	89.480	341.580	6625.48	7511.19	-2569.63	1682011.55	14279094.21	39°19'18.055"N	80°51'10.522"W	75°14.40	340.004	5.73	0.14	5.73		
14356.00	89.910	340.760	6625.98	7605.18	-2599.97	1681981.22	14279183.14	39°19'18.935"N	80°51'10.905"W	76°08.38	340.018	0.98	0.46	-0.87		
14451.00	89.350	340.200	6626.59	7700.16	-2631.71	1681949.49	14279272.65	39°19'19.820"N	80°51'11.308"W	77°03.38	340.024	0.83	-0.59	-4.31		
14546.00	89.720	344.290	6627.37	7795.13	-2660.68	1681920.54	14279363.06	39°19'20.715"N	80°51'11.675"W	77°58.28	340.051	4.32	0.39	4.31		
14640.00	89.820	341.960	6627.74	7889.09	-2687.96	1681893.27	14279452.97	39°19'21.604"N	80°51'12.020"W	78°52.14	340.087	2.48	0.11	-2.48		
14735.00	90.180	342.770	6627.49	7984.08	-2716.74	1681864.50	14279543.47	39°19'22.499"N	80°51'12.384"W	79°47.07	340.114	0.93	0.38	0.85		
14830.00	90.120	345.260	6627.49	8079.00	-2742.90	1681838.35	14279634.75	39°19'23.402"N	80°51'12.715"W	80°41.84	340.160	2.62	-0.06	2.62		
14926.00	90.310	344.770	6627.13	8174.83	-2767.72	1681813.54	14279727.45	39°19'24.319"N	80°51'13.029"W	81°17.50	340.217	0.55	0.20	-0.51		
15021.00	90.220	344.720	6626.69	8269.70	-2792.72	1681788.55	14279819.07	39°19'25.226"N	80°51'13.345"W	82°12.21	340.269	0.11	-0.09	-0.05		
15115.00	90.120	8363.56	7877.22	-2817.45	1681763.83	14279909.72	39°19'26.122"N	80°51'13.658"W	83°05.92	8460.65	340.319	0.12	-0.11	0.05		
15210.00	90.220	8458.43	7968.84	-2842.58	1681738.71	1428001.30	39°19'27.028"N	80°51'13.975"W	8460.65	340.368	0.25	0.11	-0.23			

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# Actual Wellpath Report

California Unit 2H AWP Proj: 20600

Page 9 of 13



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Ballii Pad
Slot	Slot #10
Well	California Unit 2H
Wellbore	California Unit 2H AWP

## WELLPATH DATA (268 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
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(m)	(m)	(°)	(°)	(m)	(°)	(m)	(°/100ft)	(°/100ft)	
15305.00	90.150	345.400	6625.83	8553.27	8060.59	-2867.21	1681714.09	14280093.01	39°19'27.936"N	80°51'14.288"W	8555.35	340.419	0.90	-0.07	0.89	
15400.00	90.340	342.750	6625.42	8648.18	8151.93	-2893.27	1681668.04	14280184.32	39°19'28.839"N	80°51'14.617"W	8650.15	340.459	2.80	0.20	-2.79	
15495.00	90.280	337.830	6624.91	8743.12	8241.34	-2925.30	1681656.02	14280273.69	39°19'29.723"N	80°51'15.023"W	8745.11	340.457	5.18	-0.06	-5.18	
15589.00	90.400	336.170	6624.35	8837.86	8327.86	-2962.03	1681619.31	14280360.18	39°19'30.579"N	80°51'15.489"W	8838.94	340.421	1.77	0.13	-1.77	
15683.00	90.340	336.680	6623.74	8930.41	8414.01	-2999.62	1681581.73	14280446.29	39°19'31.431"N	80°51'15.965"W	8932.71	340.379	0.55	-0.06	0.54	
15777.00	90.150	336.980	6623.34	9024.07	8500.43	-3036.61	1681544.76	14280532.68	39°19'32.285"N	80°51'16.434"W	9026.53	340.342	0.38	-0.20	0.32	
15872.00	90.030	337.920	6623.19	9118.81	8588.16	-3073.04	1681508.34	14280620.38	39°19'33.153"N	80°51'16.896"W	9121.41	340.312	1.00	-0.13	0.99	
15967.00	90.370	340.490	6622.15	9308.49	8764.89	-3142.74	1681438.67	14280797.04	39°19'34.901"N	80°51'17.779"W	9311.29	340.274	2.88	-0.06	2.88	
16062.00	90.300	340.490	6622.81	9213.60	8676.14	-3108.88	1681472.51	14280708.32	39°19'34.023"N	80°51'17.350"W	9216.32	340.286	0.46	0.42	-0.18	
16159.00	90.430	340.290	6621.47	9405.46	8856.27	-3175.29	1681406.13	14280888.37	39°19'35.805"N	80°51'18.192"W	9408.29	340.275	0.22	0.06	-0.21	
16253.00	90.340	343.590	6620.84	9499.45	8945.62	-3204.43	1681377.01	14280977.69	39°19'36.688"N	80°51'18.561"W	9502.24	340.292	3.51	-0.10	3.51	
16348.00	90.430	343.260	6620.20	9594.40	9036.67	-3231.53	1681349.92	14281068.70	39°19'37.589"N	80°51'18.904"W	9597.09	340.323	0.36	0.09	-0.35	
16442.00	90.430	345.290	6619.49	9688.30	9127.15	-3257.00	1681324.45	14281159.14	39°19'38.483"N	80°51'19.226"W	9690.86	340.361	2.16	0.00	2.16	
16537.00	90.460	345.540	6618.76	9783.09	9219.08	-3280.92	1681300.54	14281251.04	39°19'39.392"N	80°51'19.528"W	9785.49	340.410	0.27	0.03	0.26	
16631.00	90.400	343.940	6618.05	9876.95	9309.76	-3305.66	1681275.81	14281341.68	39°19'40.289"N	80°51'19.841"W	9879.22	340.451	1.70	-0.06	-1.70	
16726.00	90.400	343.810	6617.39	9971.88	9401.02	-3332.05	1681249.44	14281432.91	39°19'41.191"N	80°51'20.175"W	9974.05	340.484	0.14	0.00	-0.14	
16821.00	90.490	347.620	6616.65	10066.52	9493.06	-3356.48	1681226.01	14281524.91	39°19'42.101"N	80°51'20.472"W	10068.64	340.533	4.01	0.09	4.01	
16916.00	90.490	348.650	6615.84	10161.02	9586.03	-3375.01	1681206.49	14281617.84	39°19'43.021"N	80°51'20.718"W	10162.81	340.604	1.08	0.00	1.08	
17011.00	90.680	343.900	6614.87	10255.80	9678.29	-3397.55	1681183.97	14281710.06	39°19'43.933"N	80°51'21.003"W	10257.32	340.656	5.00	0.20	-5.00	
17106.00	90.430	341.810	6613.94	10350.65	9769.06	-3425.55	1681155.98	14281800.80	39°19'44.830"N	80°51'21.358"W	10352.24	340.677	2.22	-0.26	-2.20	
17201.00	90.430	342.680	6613.23	10445.64	9859.53	-3454.52	1681127.02	14281891.23	39°19'45.725"N	80°51'21.724"W	10447.20	340.691	0.92	0.00	0.92	
17296.00	90.180	342.460	6612.73	10540.63	9950.16	-3482.97	1681098.57	14281981.83	39°19'46.621"N	80°51'22.085"W	10542.15	340.708	0.35	-0.26	-0.23	
17392.00	90.120	342.490	6612.47	10636.62	10041.71	-3511.88	1681069.68	14282073.34	39°19'47.526"N	80°51'22.451"W	10638.10	340.724	0.07	-0.06	0.03	
17486.00	90.250	341.010	6612.17	10730.62	10130.98	-3541.32	1681040.25	14282162.57	39°19'48.409"N	80°51'22.824"W	10732.08	340.733	1.58	0.14	-1.57	
17581.00	90.120	339.840	6611.86	10826.59	10220.48	-3573.14	1681008.44	14282252.04	39°19'49.294"N	80°51'23.227"W	10827.08	340.730	1.24	-0.14	-1.23	
17677.00	90.090	338.350	6611.69	10921.49	10310.16	-3607.40	1680974.20	14282341.68	39°19'50.181"N	80°51'23.661"W	10923.04	340.716	1.55	-0.03	-1.55	
17772.00	90.180	338.980	6611.46	11016.36	10398.65	-3641.96	1680939.65	14282430.14	39°19'51.056"N	80°51'24.099"W	11017.98	340.698	0.67	0.09	0.66	
17868.00	90.310	338.900	6611.05	11112.25	10488.24	-3676.46	1680905.17	14282519.69	39°19'51.942"N	80°51'24.536"W	11113.93	340.683	0.16	-0.14	-0.08	
17963.00	90.220	339.070	6610.62	11207.14	10576.92	-3710.53	1680871.11	14282608.33	39°19'52.819"N	80°51'24.968"W	11208.89	340.668	0.20	-0.09	0.18	
18059.00	90.180	339.790	6610.28	11303.07	10666.80	-3744.26	1680837.40	14282698.18	39°19'53.708"N	80°51'25.395"W	11304.66	340.658	0.75	-0.04	0.75	

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# Actual Wellpath Report

California Unit 2H AWP Proj: 20600'  
Page 10 of 13



Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddrige Co., WV	Well	California Unit 2H
Field	Doddrige	Wellbore	California Unit 2H AWB
Facility	Balli Pad		

WELLPATH DATA (268 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	DLS
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
18154.00	90.150	340.910	6170.01	11398.04	10756.26	-3776.20	1680805.46	14282787.61	39°19'54.593"N	80°51'25.800"W	11399.86	340.655
18248.00	90.220	340.070	6609.70	11492.02	10844.86	-3807.59	1680774.08	14282876.17	39°19'55.469"N	80°51'26.198"W	11493.86	340.654
18342.00	90.150	342.620	6609.40	11566.01	10933.92	-3837.66	1680744.03	14282965.19	39°19'56.350"N	80°51'26.579"W	11587.84	340.660
18437.00	90.280	344.760	6609.04	11680.94	11025.09	-3864.34	1680717.36	14283056.33	39°19'57.251"N	80°51'26.916"W	11682.71	340.684
18532.00	90.090	345.780	6608.74	11775.75	11116.96	-3888.49	1680693.22	14283148.16	39°19'58.160"N	80°51'27.222"W	11777.40	340.721
18627.00	90.220	346.820	6608.48	11870.44	11209.26	-3910.99	1680670.73	14283240.42	39°19'59.072"N	80°51'27.506"W	11871.96	340.766
18721.00	90.180	344.500	6608.15	11964.21	11300.32	-3934.27	1680647.46	14283333.45	39°19'59.973"N	80°51'27.801"W	11965.61	340.804
18816.00	90.150	340.820	6607.88	12059.15	11391.43	-3961.17	1680620.57	14283422.52	39°20'00.874"N	80°51'28.141"W	12060.50	340.826
18911.00	90.180	340.580	6607.60	12154.15	11481.56	-3991.17	1680590.58	14283512.62	39°20'01.765"N	80°51'28.521"W	12155.48	340.832
19006.00	90.180	340.260	6607.31	12249.13	11571.07	-4023.01	1680568.75	14283602.09	39°20'02.650"N	80°51'28.825"W	12250.48	340.829
19100.00	90.430	339.000	6606.80	12343.06	11659.19	-4055.73	1680526.05	14283690.17	39°20'03.522"N	80°51'29.339"W	12344.45	340.819
19194.00	90.050	339.020	6606.40	12436.96	11746.95	-4089.40	1680492.39	14283777.90	39°20'04.389"N	80°51'29.766"W	12438.41	340.806
19289.00	90.150	338.250	6606.23	12531.82	11835.42	-4124.01	1680457.80	14283866.33	39°20'05.264"N	80°51'30.205"W	12533.34	340.789
19383.00	90.150	338.860	6605.98	12625.68	11922.91	-4158.37	1680423.44	14283953.79	39°20'06.130"N	80°51'30.640"W	12627.27	340.773
19478.00	90.220	342.940	6605.68	12720.65	12012.66	-4189.45	1680392.38	14284043.51	39°20'07.017"N	80°51'31.034"W	12722.25	340.774
19572.00	90.150	344.430	6605.37	12814.59	12102.87	-4215.86	1680365.98	14284133.68	39°20'07.909"N	80°51'31.368"W	12816.12	340.795
19666.00	90.090	345.080	6605.18	12908.46	12193.57	-4240.57	1680341.28	14284224.34	39°20'08.806"N	80°51'31.681"W	12909.90	340.824
19760.00	90.340	343.280	6604.82	13002.36	12284.00	-4266.20	1680315.66	14284314.74	39°20'09.700"N	80°51'32.005"W	13003.73	340.848
19854.00	90.250	342.000	6604.34	13096.35	12373.72	-4294.24	1680287.63	14284404.41	39°20'10.587"N	80°51'32.361"W	13097.69	340.861
19948.00	90.310	341.940	6603.88	13190.34	12463.10	-4323.34	1680258.54	14284493.76	39°20'11.471"N	80°51'32.729"W	13191.67	340.869
20042.00	90.280	341.560	6603.40	13284.34	12552.37	-4352.78	1680229.12	14284583.00	39°20'12.354"N	80°51'33.102"W	13285.65	340.875
20136.00	90.250	342.090	6602.96	13378.34	12641.68	-4382.10	1680199.81	14284672.27	39°20'13.237"N	80°51'33.473"W	13379.64	340.882
20230.00	90.150	343.360	6602.63	13472.32	12731.44	-4410.01	1680171.91	14284761.99	39°20'14.125"N	80°51'33.827"W	13473.59	340.895
20324.00	90.220	345.340	6602.33	13566.22	12821.95	-4435.37	1680146.56	14284852.46	39°20'15.020"N	80°51'34.148"W	13567.41	340.918
20418.00	90.150	345.860	6602.03	13660.00	12912.99	-4458.74	1680123.19	14284943.47	39°20'15.920"N	80°51'34.444"W	13661.10	340.951
20511.00	90.090	339.160	6601.63	13752.86	13002.68	-4483.31	1680098.63	14285033.13	39°20'16.807"N	80°51'34.754"W	13753.90	340.976
20605.00	90.180	339.160	6601.60	13846.84	13086.66	-4512.69	1680069.27	14285117.08	39°20'17.637"N	80°51'35.127"W	13842.87	340.974
20700.00	0.00											0.00
20800.00	0.00											0.00
20900.00	0.00											0.00
21000.00	0.00											0.00
21100.00	0.00											0.00
21200.00	0.00											0.00
21300.00	0.00											0.00
21400.00	0.00											0.00
21500.00	0.00											0.00
21600.00	0.00											0.00
21700.00	0.00											0.00
21800.00	0.00											0.00
21900.00	0.00											0.00
22000.00	0.00											0.00
22100.00	0.00											0.00
22200.00	0.00											0.00
22300.00	0.00											0.00
22400.00	0.00											0.00
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25500.00	0.00											0.00
25600.00	0.00											0.00
25700.00	0.00											0.00
25800.00	0.00											0.00
25900.00	0.00											0.00
26000.00	0.00											0.00
26100.00	0.00											0.00
26200.00	0.00											0.00
26300.00	0.00											0.00
26400.00	0.00											0.00
26500.00	0.00											0.00
26600.00	0.00											0.00
26700.00	0.00											0.00
26800.00	0.00											0.00
26900.00	0.00											0.00
27000.00	0.00											0.00
27100.00	0.00											0.00
27200.00	0.00											0.00
27300.00	0.00											0.00
27400.00	0.00											0.00
27500.00	0.00											0.00
27600.00	0.00											0.00
27700.00	0.00											





# Actual Wellpath Report

California Unit 2H AWP Proj: 20600'

Page 11 of 13



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	California Unit 2H
Field	Doddridge	Wellbore	California Unit 2H AWB
Facility	Balli Pad		

HOLE & CASING SECTIONS - Ref Wellbore: California Unit 2H AWB Ref Wellpath: California Unit 2H AWP Proj: 20600'										
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	32.00	72.00	40.00	32.00	72.00	0.00	0.00	-0.01	0.01	
17.5in Open Hole	72.00	375.90	303.90	72.00	375.90	-0.01	0.01	-0.09	-0.01	
13.375in Casing Surface	32.00	375.90	343.90	32.00	375.90	0.00	0.00	-0.09	-0.01	
12.25in Open Hole	375.90	2588.70	2212.80	375.90	2587.49	-0.09	-0.01	-31.44	19.92	
9.625in Casing Intermediate	32.00	2588.70	2556.70	32.00	2587.49	0.00	0.00	-31.44	19.92	
8.75in Open Hole	2588.70	5731.00	3142.30	2587.49	5702.51	-31.44	19.92	-411.32	-24.89	
8.5in Open Hole	5731.00	20600.00	14869.00	5702.51	6601.60	-411.32	-24.89	13086.66	-4512.69	
5.5in Casing Production	32.00	20600.00	20568.00	32.00	6601.60	0.00	0.00	13086.66	-4512.69	

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
California Unit 2H POE - Rev-2	6596.00	68.21	-229.70	1684350.55	14272103.83	39°18'08.898"N	80°50'40.900"W	point
California Unit 2H BHL - Rev-2	6620.00	13102.04	-4545.72	1680036.25	14285132.45	39°20'17.790"N	80°51'35.547"W	point
California Unit 2H LP - Rev-1	6620.00	242.74	-287.49	1684292.78	14272278.29	39°18'10.624"N	80°50'41.632"W	point

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# Actual Wellpath Report

California Unit 2H AWP Proj: 20600'

Page 12 of 13



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	California Unit 2H
Field	Doddridge	Wellbore	California Unit 2H AWB
Facility	Balli Pad		

WELLPATH COMPOSITION - Ref Wellbore: California Unit 2H AWB Ref Wellpath: California Unit 2H AWP Proj: 20600'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	342.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-323')	California Unit 2H AWB
342.00	889.00	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodata MS Gyro<12-1/4">(323')(381'-870')	California Unit 2H AWB
889.00	2517.00	ISCWSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD<12-1/4">(870')(987'-2498')	California Unit 2H AWB
2517.00	5650.00	ISCWSA MWD, Rev. 4 (Standard)	04 Directional ONE MWD<8-3/4">(2498')(2597'-5631')	California Unit 2H AWB
5650.00	20575.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2"> (5650')(5692'-20575')	California Unit 2H AWB
20575.00	20600.00	Blind Drilling (std)	Projection to bit	California Unit 2H AWB

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California Unit 2H AWP Proj: 20600'

Page 13 of 13



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	California Unit 2H
Field	Doddridge	Wellbore	California Unit 2H AWB
Facility	Balli Pad		

COMMENTS
<p>Wellpath general comments API: 47-017-06797-0000 BHI Job #: 8614173 Rig: Frontier 32 Duration: 06/21/2017-06/25/2017 Gyrodatta MS Gyro &lt;17-1/2"&gt; (100'-323') Gyrodatta MS Gyro &lt;12-1/4"&gt; (323')(381'-870') Directional ONE MWD &lt;12-1/4"&gt; (870')(987'-2498') Directional ONE MWD &lt;8-3/4"&gt; (2498')(2597'-5631') BHI AT Curve &lt;8-1/2"&gt; (5650')(5692'-20575') Middlesex: 6505' MD Burket: 6717' MD Tully: 6796' MD Marcellus POE: 6910' MD Projected MD at TD: 20600'</p>

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