



# ANTERO RESOURCES CORPORATION



Location: Doddridge Co., WV  
 Field: Doddridge  
 Facility: OXFD 98 Pad

Slot: Slot B  
 Well: Redwood Unit 2H  
 Wellbore: Redwood Unit 2H PWB

Plot reference wellpath is Redwood Unit 2H PWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Reference wellbore measured depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean Sea Level: 1146.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot B): -1121 feet	Depths are in feet
Offset wellbore MDs are referenced to each path's default MD datum	Created by: edkayari on 2023-10-16, Database: WA_MPL_EASTERNUS_Osh

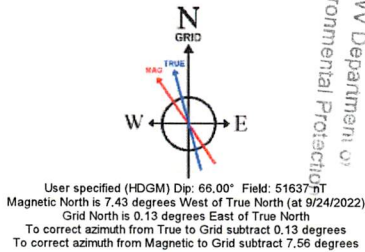
Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
OXFD 98 Pad	1697152.730	14254203.830	39°15'11.6600"N	80°47'58.4860"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot B	-42.93	-13.52	1697139.220	14254160.920
			39°15'11.2360"N	80°47'58.6590"W
Comment: Redwood Unit 2H				
H&P 317 (RKB) to Ground level (At Slot: Slot B)	25.5ft			
Mean Sea Level to Ground level (At Slot: Slot B)	-1121ft			
H&P 317 (RKB) to Mean Sea Level	1146.5ft			

Well Data			
Slot	Well	Wellbore	Wellpath
Slot B	Redwood Unit 2H	Redwood Unit 2H AWB	Redwood Unit 2H AWP Proj: 14091'
Slot B	Redwood Unit 2H	Redwood Unit 2H PWB	Redwood Unit 2H PWP Rev-B.0

Gyrodata MS Gyro <17-1/2"> (100'-386.51') : 0.22° Inc, 100.00ft MD, 100.00ft TVD, -0.11ft VS  
 APS EM <12-1/4"> (386.51')(507'-2525') : 2.23° Inc, 507.00ft MD, 506.93ft TVD, -4.62ft VS

Well Profile Data							
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	2525.00	6.530	179.120	2512.37	-223.04	37.85	-225.91
Proj. to Bottom	2600.00	6.530	179.120	2586.88	-231.57	37.98	-234.40
Drill Out	2680.00	6.530	179.120	2666.36	-240.67	38.12	-243.45
End of 3D Arc	2733.99	6.296	169.671	2720.02	-246.65	38.70	-249.46
Curve KOP	5860.07	6.296	169.671	5827.25	-583.91	100.17	-591.55
Build / Avoid NGZ	6312.70	30.000	0.000	6292.78	-492.10	104.77	-500.87
POE	6872.27	74.506	353.409	6597.00	-62.27	72.15	-70.14
Landing Pt.	7059.69	89.500	353.409	6623.00	121.57	50.91	114.93
BHL	14070.51	89.500	353.409	6684.18	7085.79	-753.72	7125.47

APS EM <8-3/4"> (2525')(2654'-5684') : 6.43° Inc, 2654.00ft MD, 2640.55ft TVD, -240.32ft VS

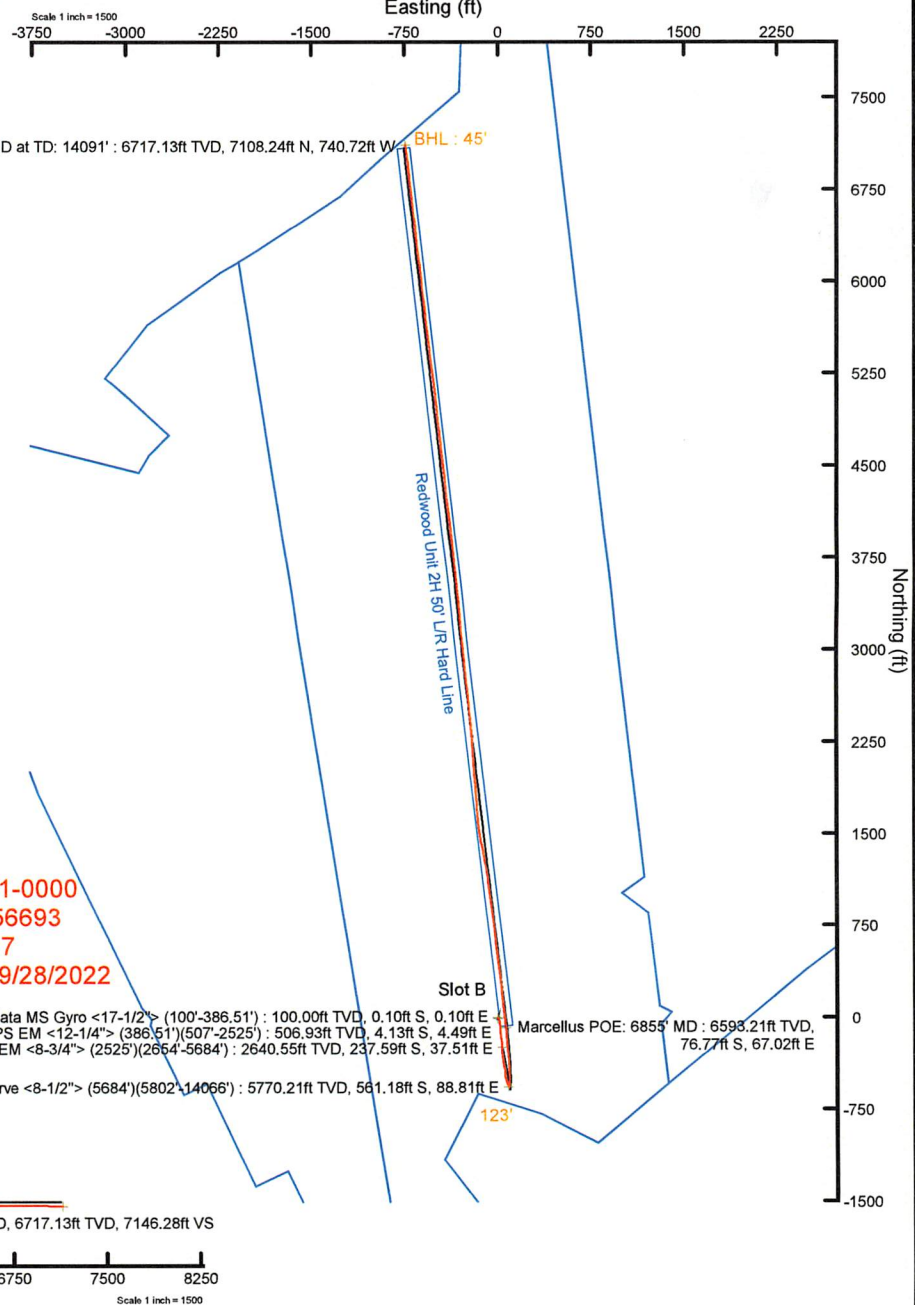


BH AT Curve <8-1/2"> (5684')(5802'-14066') : 4.16° Inc, 5802.00ft MD, 5770.21ft TVD, -567.67ft VS

Marcellus POE: 6855' MD : 76.02° Inc, 6855.00ft MD, 6593.21ft TVD, -83.96ft VS

Projected MD at TD: 14091' : 88.68° Inc, 14091.00ft MD, 6717.13ft TVD, 7146.28ft VS

Vertical Section (ft)  
 Azimuth 353.41° with reference 0.00 N, 0.00 E



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API: 47-017-06931-0000  
 BH Job #: 111456693  
 Rig: H&P 317  
 Duration: 9/26/2022-9/28/2022



# Actual Wellpath Report

Redwood Unit 2H AWP Proj: 14091'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 2H
Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999604	Report Generated	10/14/2022 at 10:37:13 PM
Convergence at slot	0.13° 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	-42.93	-13.52	1697139.22	14254160.92	39°15'11.2360"N	80°47'58.6590"W
Facility Reference Pt			1697152.73	14254203.83	39°15'11.6600"N	80°47'58.4860"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 317 (RKB) to Facility Vertical Datum	1146.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1146.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot B)	25.50ft
MD Reference Pt	H&P 317 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	353.41°

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Redwood Unit 2H AWP Proj: 14091'  
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Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (157 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	0.00	136.100	0.00	0.00	0.00	0.00	1697139.22	14254160.92	39°15'11.2360"N	80°47'58.6590"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	136.100	25.50	0.00	0.00	0.00	1697139.22	14254160.92	39°15'11.2360"N	80°47'58.6590"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.220	136.100	100.00	-0.11	-0.10	0.10	1697139.32	14254160.82	39°15'11.2350"N	80°47'58.6578"W	0.14	136.100	0.30	0.30	0.00	Gyrodata MS Gyro <17-1/2"> (100'-386.51')
200.00	0.260	154.230	200.00	-0.48	-0.45	0.33	1697139.55	14254160.47	39°15'11.2316"N	80°47'58.6548"W	0.56	143.407	0.09	0.04	18.13	
300.00	0.700	134.820	300.00	-1.17	-1.08	0.86	1697140.08	14254159.84	39°15'11.2253"N	80°47'58.6481"W	1.38	141.393	0.46	0.44	-19.41	
386.51	1.050	121.820	386.50	-2.08	-1.87	1.91	1697141.13	14254159.05	39°15'11.2175"N	80°47'58.6348"W	2.67	134.391	0.46	0.40	-15.03	
507.00	2.230	135.680	506.93	-4.62	-4.13	4.49	1697143.71	14254156.79	39°15'11.1951"N	80°47'58.6021"W	6.10	132.629	1.03	0.98	11.50	APS EM <12-1/4"> (386.51')(507'-2525')
598.00	4.530	145.560	597.77	-9.20	-8.36	7.76	1697146.97	14254152.56	39°15'11.1532"N	80°47'58.5607"W	11.41	137.147	2.60	2.53	10.86	
689.00	5.890	160.740	688.40	-16.93	-15.73	11.33	1697150.55	14254145.19	39°15'11.0803"N	80°47'58.5155"W	19.39	144.242	2.12	1.49	16.68	
778.00	6.220	165.270	776.90	-26.16	-24.71	14.06	1697153.28	14254136.22	39°15'10.9915"N	80°47'58.4810"W	28.43	150.354	0.65	0.37	5.09	
869.00	6.460	164.200	867.34	-36.09	-34.40	16.71	1697155.92	14254126.53	39°15'10.8957"N	80°47'58.4476"W	38.24	154.093	0.29	0.26	-1.18	
960.00	6.550	176.100	957.76	-46.33	-44.51	18.46	1697157.67	14254116.43	39°15'10.7957"N	80°47'58.4257"W	48.18	157.476	1.48	0.10	13.08	
1050.00	6.940	174.370	1047.14	-56.89	-55.04	19.34	1697158.55	14254105.90	39°15'10.6916"N	80°47'58.4148"W	58.34	160.640	0.49	0.43	-1.92	
1145.00	6.840	178.350	1141.45	-68.27	-66.40	20.06	1697159.28	14254094.54	39°15'10.5793"N	80°47'58.4058"W	69.37	163.187	0.51	-0.11	4.19	
1239.00	6.930	175.570	1234.78	-79.51	-77.65	20.66	1697159.88	14254083.30	39°15'10.4681"N	80°47'58.3985"W	80.36	165.099	0.37	0.10	-2.96	
1334.00	6.900	176.790	1329.08	-90.94	-89.07	21.43	1697160.64	14254071.89	39°15'10.3553"N	80°47'58.3892"W	91.61	166.474	0.16	-0.03	1.28	
1428.00	6.760	178.160	1422.42	-102.09	-100.23	21.92	1697161.13	14254060.73	39°15'10.2449"N	80°47'58.3832"W	102.60	167.664	0.23	-0.15	1.46	
1523.00	6.790	174.590	1516.75	-113.27	-111.41	22.63	1697161.84	14254049.55	39°15'10.1344"N	80°47'58.3745"W	113.69	168.519	0.44	0.03	-3.76	
1618.00	6.760	174.050	1611.09	-124.48	-122.56	23.74	1697162.95	14254038.40	39°15'10.0241"N	80°47'58.3607"W	124.84	169.039	0.07	-0.03	-0.57	
1713.00	6.700	174.450	1705.44	-135.61	-133.64	24.85	1697164.06	14254027.33	39°15'9.9146"N	80°47'58.3469"W	135.93	169.465	0.08	-0.06	0.42	
1902.00	6.560	170.120	1893.17	-157.41	-155.25	27.77	1697166.98	14254005.73	39°15'9.7010"N	80°47'58.3104"W	157.72	169.858	0.27	-0.07	-2.29	
1996.00	6.440	170.610	1986.57	-168.04	-165.74	29.55	1697168.76	14253995.24	39°15'9.5972"N	80°47'58.2880"W	168.36	169.890	0.14	-0.13	0.52	
2091.00	5.990	168.390	2081.01	-178.30	-175.85	31.42	1697170.63	14253985.14	39°15'9.4973"N	80°47'58.2646"W	178.64	169.870	0.54	-0.47	-2.34	
2186.00	6.160	168.680	2175.48	-188.32	-185.71	33.42	1697172.63	14253975.29	39°15'9.3998"N	80°47'58.2395"W	188.69	169.799	0.18	0.18	0.31	
2280.00	6.110	166.510	2268.94	-198.31	-195.52	35.58	1697174.78	14253965.48	39°15'9.3028"N	80°47'58.2123"W	198.73	169.687	0.25	-0.05	-2.31	
2375.00	6.460	175.740	2363.37	-208.67	-205.76	37.15	1697176.36	14253955.24	39°15'9.2015"N	80°47'58.1926"W	209.09	169.765	1.12	0.37	9.72	
2469.00	6.760	178.350	2456.75	-219.46	-216.57	37.70	1697176.91	14253944.44	39°15'9.0947"N	80°47'58.1858"W	219.82	170.124	0.45	0.32	2.78	
2525.00	6.530	179.120	2512.37	-225.91	-223.04	37.85	1697177.05	14253937.96	39°15'9.0307"N	80°47'58.1842"W	226.23	170.369	0.44	-0.41	1.37	
2654.00	6.430	183.590	2640.55	-240.32	-237.59	37.51	1697176.71	14253923.43	39°15'8.8870"N	80°47'58.1889"W	240.53	171.029	0.40	-0.08	3.47	APS EM <8-3/4"> (2525')(2654'-5684')
2749.00	6.070	174.300	2734.98	-250.58	-247.90	37.67	1697176.88	14253913.12	39°15'8.7851"N	80°47'58.1871"W	250.74	171.359	1.13	-0.38	-9.78	

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# Actual Wellpath Report

Redwood Unit 2H AWP Proj: 14091'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 2H
Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (157 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
2843.00	5.760	169.980	2828.48	-260.26	-257.49	38.99	1697178.19	14253903.54	39°15'8.6903"N	80°47'58.1707"W	260.42	171.390	0.58	-0.33	-4.60	
2938.00	7.650	182.540	2922.84	-271.26	-268.50	39.54	1697178.74	14253892.53	39°15'8.5814"N	80°47'58.1640"W	271.39	171.623	2.51	1.99	13.22	
3032.00	7.520	179.780	3016.01	-283.55	-280.90	39.28	1697178.49	14253880.13	39°15'8.4588"N	80°47'58.1676"W	283.63	172.039	0.41	-0.14	-2.94	
3129.00	6.400	175.720	3112.30	-295.26	-292.64	39.71	1697178.92	14253868.40	39°15'8.3428"N	80°47'58.1625"W	295.32	172.272	1.26	-1.15	-4.19	
3224.00	6.010	166.920	3206.74	-305.50	-302.76	41.23	1697180.44	14253858.28	39°15'8.2427"N	80°47'58.1434"W	305.56	172.245	1.08	-0.41	-9.26	
3318.00	7.650	175.670	3300.08	-316.64	-313.80	42.82	1697182.02	14253847.25	39°15'8.1336"N	80°47'58.1236"W	316.71	172.230	2.06	1.74	9.31	
3412.00	7.520	170.970	3393.25	-329.04	-326.11	44.26	1697183.46	14253834.94	39°15'8.0119"N	80°47'58.1056"W	329.10	172.272	0.67	-0.14	-5.00	
3507.00	6.970	166.490	3487.50	-340.97	-337.86	46.58	1697185.78	14253823.20	39°15'7.8957"N	80°47'58.0764"W	341.05	172.150	0.83	-0.58	-4.72	
3602.00	8.800	178.790	3581.60	-353.93	-350.73	48.08	1697187.28	14253810.33	39°15'7.7685"N	80°47'58.0577"W	354.01	172.194	2.61	1.93	12.95	
3696.00	8.890	174.910	3674.48	-368.35	-365.15	48.88	1697188.08	14253795.92	39°15'7.6259"N	80°47'58.0480"W	368.41	172.376	0.64	0.10	-4.13	
3791.00	8.590	170.900	3768.38	-382.77	-379.47	50.65	1697189.85	14253781.60	39°15'7.4844"N	80°47'58.0259"W	382.83	172.397	0.71	-0.32	-4.22	
3886.00	7.440	168.030	3862.45	-395.99	-392.49	53.05	1697192.25	14253768.59	39°15'7.3556"N	80°47'57.9958"W	396.06	172.303	1.28	-1.21	-3.02	
3980.00	6.460	168.630	3955.76	-407.31	-403.63	55.35	1697194.55	14253757.45	39°15'7.2455"N	80°47'57.9668"W	407.41	172.191	1.05	-1.04	0.64	
4075.00	6.200	157.900	4050.18	-417.58	-413.62	58.34	1697197.53	14253747.46	39°15'7.1466"N	80°47'57.9291"W	417.71	171.972	1.27	-0.27	-11.29	
4169.00	5.550	184.010	4143.71	-426.94	-422.86	59.93	1697199.12	14253738.23	39°15'7.0553"N	80°47'57.9092"W	427.09	171.934	2.90	-0.69	27.78	
4264.00	5.310	179.760	4238.28	-435.83	-431.84	59.62	1697198.82	14253729.25	39°15'6.9665"N	80°47'57.9133"W	435.94	172.139	0.49	-0.25	-4.47	
4358.00	4.990	172.120	4331.90	-444.24	-440.24	60.20	1697199.40	14253720.86	39°15'6.8835"N	80°47'57.9061"W	444.34	172.213	0.80	-0.34	-8.13	
4453.00	4.000	166.060	4426.61	-451.66	-447.55	61.57	1697200.76	14253713.55	39°15'6.8112"N	80°47'57.8890"W	451.76	172.167	1.15	-1.04	-6.38	
4547.00	3.370	198.270	4520.42	-457.41	-453.35	61.49	1697200.69	14253707.75	39°15'6.7539"N	80°47'57.8901"W	457.50	172.276	2.27	-0.67	34.27	
4642.00	4.220	187.770	4615.22	-463.33	-459.47	60.14	1697199.34	14253701.63	39°15'6.6934"N	80°47'57.9074"W	463.39	172.542	1.15	0.89	-11.05	
4737.00	3.860	178.040	4709.98	-469.91	-466.13	59.78	1697198.98	14253694.98	39°15'6.6276"N	80°47'57.9122"W	469.95	172.692	0.81	-0.38	-10.24	
4831.00	5.550	164.700	4803.66	-477.56	-473.67	61.09	1697200.28	14253687.43	39°15'6.5530"N	80°47'57.8958"W	477.60	172.651	2.13	1.80	-14.19	
4925.00	5.460	166.220	4897.23	-486.49	-482.40	63.35	1697202.55	14253678.71	39°15'6.4667"N	80°47'57.8673"W	486.54	172.518	0.18	-0.10	1.62	
5022.00	4.470	157.390	4993.87	-494.70	-490.37	65.91	1697205.10	14253670.74	39°15'6.3879"N	80°47'57.8351"W	494.78	172.345	1.29	-1.02	-9.10	
5116.00	5.610	168.910	5087.50	-502.80	-498.26	68.20	1697207.39	14253662.85	39°15'6.3098"N	80°47'57.8062"W	502.91	172.206	1.62	1.21	12.26	
5211.00	5.620	168.320	5182.05	-512.06	-507.38	70.03	1697209.22	14253653.75	39°15'6.2197"N	80°47'57.7831"W	512.19	172.141	0.06	0.01	-0.62	
5306.00	5.390	164.290	5276.61	-521.10	-516.23	72.18	1697211.37	14253644.90	39°15'6.1322"N	80°47'57.7560"W	521.25	172.040	0.47	-0.24	-4.24	
5400.00	6.780	161.330	5370.08	-530.89	-525.73	75.15	1697214.34	14253635.39	39°15'6.0382"N	80°47'57.7185"W	531.08	171.865	1.52	1.48	-3.15	
5495.00	6.660	158.090	5464.43	-541.68	-536.16	79.01	1697218.19	14253624.97	39°15'5.9350"N	80°47'57.6698"W	541.95	171.618	0.42	-0.13	-3.41	
5589.00	5.460	155.130	5557.90	-551.19	-545.27	82.92	1697222.11	14253615.86	39°15'5.8449"N	80°47'57.6203"W	551.54	171.353	1.32	-1.28	-3.15	

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Redwood Unit 2H AWP Proj: 14091'  
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Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (157 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
5684.00	4.430	157.910	5652.54	-559.01	-552.77	86.20	1697225.39	14253608.37	39°15'5.7707"N	80°47'57.5788"W	559.45	171.137	1.11	-1.08	2.93	
5802.00	4.160	167.930	5770.21	-567.67	-561.18	88.81	1697227.99	14253599.96	39°15'5.6875"N	80°47'57.5459"W	568.17	171.007	0.67	-0.23	8.49	BH AT Curve <8-1/2"> (5684')(5802'-14066')
5896.00	4.160	168.410	5863.97	-574.46	-567.86	90.21	1697229.39	14253593.29	39°15'5.6215"N	80°47'57.5283"W	574.98	170.974	0.04	0.00	0.51	
5991.00	3.310	25.130	5958.88	-575.56	-568.75	92.07	1697231.25	14253592.40	39°15'5.6126"N	80°47'57.5047"W	576.15	170.805	7.47	-0.89	-150.82	
6085.00	10.000	12.770	6052.20	-565.54	-558.32	95.03	1697234.21	14253602.82	39°15'5.7156"N	80°47'57.4668"W	566.35	170.341	7.24	7.12	-13.15	
6180.00	16.540	2.210	6144.63	-544.37	-536.74	97.37	1697236.56	14253624.40	39°15'5.9289"N	80°47'57.4364"W	545.50	169.717	7.31	6.88	-11.12	
6275.00	23.520	1.880	6233.83	-512.21	-504.24	98.52	1697237.70	14253656.88	39°15'6.2501"N	80°47'57.4209"W	513.77	168.945	7.35	7.35	-0.35	
6297.00†	25.369	1.326	6253.85	-503.20	-495.14	98.77	1697237.95	14253665.98	39°15'6.3400"N	80°47'57.4174"W	504.90	168.719	8.47	8.40	-2.52	Sycamore: 6297' MD
6369.00	31.430	359.940	6317.16	-469.24	-460.92	99.11	1697238.29	14253700.19	39°15'6.6783"N	80°47'57.4122"W	471.45	167.865	8.47	8.42	-1.92	
6455.00†	40.005	355.704	6386.93	-419.25	-410.83	97.01	1697236.19	14253750.26	39°15'7.1734"N	80°47'57.4374"W	422.12	166.714	10.37	9.97	-4.93	Middlesex: 6455' MD
6464.00	40.910	355.350	6393.78	-413.41	-405.00	96.56	1697235.74	14253756.08	39°15'7.2310"N	80°47'57.4431"W	416.35	166.591	10.37	10.05	-3.93	
6558.00	50.450	354.560	6459.38	-346.26	-338.09	90.61	1697229.79	14253822.96	39°15'7.8924"N	80°47'57.5167"W	350.03	164.997	10.17	10.15	-0.84	
6653.00	58.400	354.330	6514.60	-269.07	-261.25	83.13	1697222.32	14253899.77	39°15'8.6521"N	80°47'57.6097"W	274.16	162.349	8.37	8.37	-0.24	
6659.00†	58.887	354.412	6517.72	-263.94	-256.15	82.63	1697221.81	14253904.87	39°15'8.7025"N	80°47'57.6159"W	269.15	162.122	8.20	8.12	1.36	Burkett: 6659' MD
6729.00†	64.575	355.311	6550.86	-202.34	-194.77	77.12	1697216.31	14253966.22	39°15'9.3093"N	80°47'57.6842"W	209.49	158.399	8.20	8.13	1.28	Tully: 6729' MD
6748.00	66.120	355.540	6558.79	-185.08	-177.56	75.74	1697214.93	14253983.43	39°15'9.4794"N	80°47'57.7012"W	193.04	156.898	8.20	8.13	1.20	
6829.00†	73.853	354.818	6586.49	-109.07	-101.78	69.34	1697208.53	14254059.18	39°15'10.2285"N	80°47'57.7805"W	123.16	145.734	9.58	9.55	-0.89	Hamilton: 6829' MD
6843.00	75.190	354.700	6590.22	-95.58	-88.34	68.11	1697207.30	14254072.61	39°15'10.3614"N	80°47'57.7957"W	111.55	142.370	9.58	9.55	-0.85	
6855.00†	76.016	354.541	6593.21	-83.96	-76.77	67.02	1697206.21	14254084.18	39°15'10.4758"N	80°47'57.8093"W	101.91	138.881	7.00	6.88	-1.33	Marcellus POE: 6855' MD
6937.00	81.660	353.480	6609.07	-3.55	3.20	58.62	1697197.82	14254164.12	39°15'11.2664"N	80°47'57.9138"W	58.71	86.873	7.00	6.88	-1.29	
7032.00	87.630	354.830	6617.94	90.99	97.25	49.00	1697188.20	14254258.13	39°15'12.1962"N	80°47'58.0335"W	108.90	26.740	6.44	6.28	1.42	
7127.00	89.260	353.460	6620.51	185.94	191.72	39.31	1697178.51	14254352.56	39°15'13.1300"N	80°47'58.1539"W	195.70	11.588	2.24	1.72	-1.44	
7221.00	89.420	353.490	6621.60	279.93	285.10	28.63	1697167.84	14254445.91	39°15'14.0533"N	80°47'58.2871"W	286.53	5.734	0.17	0.17	0.03	
7316.00	89.380	353.530	6622.59	374.93	379.49	17.89	1697157.10	14254540.26	39°15'14.9864"N	80°47'58.4209"W	379.91	2.699	0.06	-0.04	0.04	
7410.00	89.820	352.390	6623.25	468.92	472.77	6.37	1697145.59	14254633.51	39°15'15.9087"N	80°47'58.5647"W	472.82	0.772	1.30	0.47	-1.21	
7505.00	89.260	353.010	6624.01	563.91	567.00	-5.70	1697133.52	14254727.69	39°15'16.8403"N	80°47'58.7155"W	567.03	359.424	0.88	-0.59	0.65	
7599.00	88.800	353.810	6625.60	657.89	660.36	-16.49	1697122.74	14254821.02	39°15'17.7633"N	80°47'58.8500"W	660.57	358.570	0.98	-0.49	0.85	
7694.00	89.200	353.570	6627.26	752.88	754.77	-26.93	1697112.31	14254915.39	39°15'18.6966"N	80°47'58.9801"W	755.25	357.957	0.49	0.42	-0.25	
7789.00	88.490	351.950	6629.18	847.85	848.99	-38.89	1697100.34	14255009.58	39°15'19.6281"N	80°47'59.1296"W	849.88	357.377	1.86	-0.75	-1.71	
7883.00	90.620	351.860	6629.91	941.81	942.05	-52.13	1697087.11	14255102.59	39°15'20.5482"N	80°47'59.2952"W	943.49	356.833	2.27	2.27	-0.10	

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# Actual Wellpath Report

Redwood Unit 2H AWP Proj: 14091'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 2H
Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (157 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
7978.00	88.610	353.960	6630.54	1036.79	1036.31	-63.85	1697075.39	14255196.82	39°15'21.4801"N	80°47'59.4416"W	1038.28	356.474	3.06	-2.12	2.21	
8072.00	90.250	354.270	6631.48	1130.78	1129.81	-73.49	1697065.76	14255290.28	39°15'22.4044"N	80°47'59.5615"W	1132.20	356.278	1.78	1.74	0.33	
8166.00	89.050	346.900	6632.05	1224.59	1222.47	-88.86	1697050.40	14255382.91	39°15'23.3206"N	80°47'59.7542"W	1225.70	355.843	7.94	-1.28	-7.84	
8261.00	90.740	351.130	6632.23	1319.29	1315.71	-106.95	1697032.31	14255476.10	39°15'24.2425"N	80°47'59.9817"W	1320.05	355.353	4.79	1.78	4.45	
8355.00	89.170	347.860	6632.30	1413.05	1408.12	-124.09	1697015.18	14255568.48	39°15'25.1562"N	80°48'0.1969"W	1413.57	354.964	3.86	-1.67	-3.48	
8450.00	89.320	352.030	6633.55	1507.85	1501.63	-140.67	1696998.61	14255661.95	39°15'26.0809"N	80°48'0.4051"W	1508.20	354.648	4.39	0.16	4.39	
8544.00	87.870	353.440	6635.86	1601.81	1594.84	-152.55	1696986.73	14255755.13	39°15'27.0024"N	80°48'0.5535"W	1602.12	354.536	2.15	-1.54	1.50	
8639.00	89.510	357.320	6638.03	1696.71	1689.49	-160.20	1696979.08	14255849.73	39°15'27.9380"N	80°48'0.6481"W	1697.07	354.583	4.43	1.73	4.08	
8734.00	88.400	355.430	6639.76	1791.56	1784.28	-166.21	1696973.08	14255944.48	39°15'28.8750"N	80°48'0.7218"W	1792.00	354.678	2.31	-1.17	-1.99	
8828.00	90.520	355.550	6640.65	1885.49	1877.98	-173.60	1696965.69	14256038.15	39°15'29.8013"N	80°48'0.8131"W	1885.98	354.719	2.26	2.26	0.13	
8923.00	88.950	356.190	6641.09	1980.40	1972.72	-180.44	1696958.85	14256132.86	39°15'30.7379"N	80°48'0.8974"W	1980.96	354.774	1.78	-1.65	0.67	
9017.00	91.510	356.160	6640.71	2074.28	2066.51	-186.71	1696952.59	14256226.60	39°15'31.6650"N	80°48'0.9745"W	2074.92	354.837	2.72	2.72	-0.03	
9112.00	89.260	356.590	6640.07	2169.14	2161.31	-192.71	1696946.58	14256321.37	39°15'32.6021"N	80°48'1.0482"W	2169.88	354.905	2.41	-2.37	0.45	
9206.00	88.550	356.350	6641.87	2262.99	2255.11	-198.50	1696940.80	14256415.13	39°15'33.5293"N	80°48'1.1191"W	2263.83	354.970	0.80	-0.76	-0.26	
9301.00	89.290	354.860	6643.66	2357.90	2349.81	-205.78	1696933.52	14256509.80	39°15'34.4655"N	80°48'1.2090"W	2358.80	354.995	1.75	0.78	-1.57	
9395.00	89.110	353.860	6644.97	2451.88	2443.35	-215.02	1696924.29	14256603.29	39°15'35.3902"N	80°48'1.3238"W	2452.79	354.971	1.08	-0.19	-1.06	
9490.00	88.980	353.940	6646.56	2546.86	2537.80	-225.11	1696914.20	14256697.70	39°15'36.3239"N	80°48'1.4495"W	2547.76	354.931	0.16	-0.14	0.08	
9584.00	90.090	354.110	6647.32	2640.85	2631.28	-234.89	1696904.42	14256791.15	39°15'37.2481"N	80°48'1.5713"W	2641.74	354.899	1.19	1.18	0.18	
9678.00	89.720	353.470	6647.48	2734.85	2724.73	-245.06	1696894.25	14256884.56	39°15'38.1719"N	80°48'1.6979"W	2735.73	354.861	0.79	-0.39	-0.68	
9773.00	90.220	354.120	6647.53	2829.85	2819.17	-255.33	1696883.99	14256978.97	39°15'39.1056"N	80°48'1.8258"W	2830.71	354.825	0.86	0.53	0.68	
9867.00	88.950	354.380	6648.21	2923.83	2912.69	-264.75	1696874.58	14257072.45	39°15'40.0302"N	80°48'1.9429"W	2924.70	354.806	1.38	-1.35	0.28	
9962.00	89.290	354.080	6649.67	3018.81	3007.20	-274.30	1696865.03	14257166.92	39°15'40.9645"N	80°48'2.0617"W	3019.68	354.788	0.48	0.36	-0.32	
10056.00	89.540	353.170	6650.63	3112.80	3100.61	-284.73	1696854.60	14257260.30	39°15'41.8879"N	80°48'2.1918"W	3113.66	354.753	1.00	0.27	-0.97	
10151.00	89.850	354.160	6651.13	3207.80	3195.03	-295.22	1696844.12	14257354.68	39°15'42.8214"N	80°48'2.3224"W	3208.64	354.721	1.09	0.33	1.04	
10245.00	89.110	354.660	6651.98	3301.78	3288.58	-304.37	1696834.97	14257448.19	39°15'43.7462"N	80°48'2.4362"W	3302.63	354.712	0.95	-0.79	0.53	
10340.00	88.710	353.620	6653.79	3396.75	3383.06	-314.07	1696825.27	14257542.64	39°15'44.6803"N	80°48'2.5568"W	3397.61	354.696	1.17	-0.42	-1.09	
10434.00	89.110	353.990	6655.58	3490.74	3476.50	-324.21	1696815.14	14257636.03	39°15'45.6040"N	80°48'2.6831"W	3491.58	354.672	0.58	0.43	0.39	
10529.00	89.200	354.440	6656.98	3585.72	3571.00	-333.79	1696805.57	14257730.50	39°15'46.5382"N	80°48'2.8022"W	3586.57	354.660	0.48	0.09	0.47	
10623.00	89.110	354.540	6658.37	3679.69	3664.56	-342.81	1696796.55	14257824.02	39°15'47.4631"N	80°48'2.9143"W	3680.56	354.656	0.14	-0.10	0.11	
10718.00	89.260	354.650	6659.72	3774.66	3759.13	-351.76	1696787.60	14257918.55	39°15'48.3980"N	80°48'3.0254"W	3775.55	354.654	0.20	0.16	0.12	

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# Actual Wellpath Report

Redwood Unit 2H AWP Proj: 14091'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 2H
Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (157 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
10812.00	89.260	354.310	6660.93	3868.63	3852.68	-360.80	1696778.56	14258012.07	39°15'49.3229"N	80°48'3.1378"W	3869.54	354.650	0.36	0.00	-0.36	
10907.00	89.080	354.380	6662.31	3963.61	3947.21	-370.16	1696769.21	14258106.56	39°15'50.2574"N	80°48'3.2541"W	3964.53	354.643	0.20	-0.19	0.07	
11001.00	89.480	353.970	6663.49	4057.60	4040.72	-379.70	1696759.67	14258200.03	39°15'51.1818"N	80°48'3.3728"W	4058.52	354.632	0.61	0.43	-0.44	
11096.00	89.690	350.610	6664.18	4152.56	4134.84	-392.44	1696746.93	14258294.12	39°15'52.1123"N	80°48'3.5322"W	4153.42	354.578	3.54	0.22	-3.54	
11190.00	90.430	354.290	6664.08	4246.53	4228.01	-404.79	1696734.59	14258387.25	39°15'53.0335"N	80°48'3.6866"W	4247.34	354.531	3.99	0.79	3.91	
11285.00	88.610	355.460	6664.88	4341.49	4322.62	-413.28	1696726.11	14258481.82	39°15'53.9688"N	80°48'3.7918"W	4342.33	354.539	2.28	-1.92	1.23	
11380.00	88.710	353.290	6667.10	4436.45	4417.13	-422.59	1696716.80	14258576.29	39°15'54.9031"N	80°48'3.9075"W	4437.30	354.535	2.29	0.11	-2.28	
11475.00	88.950	351.480	6669.04	4531.41	4511.27	-435.17	1696704.22	14258670.39	39°15'55.8338"N	80°48'4.0649"W	4532.21	354.490	1.92	0.25	-1.91	
11569.00	89.850	353.670	6670.02	4625.38	4604.47	-447.32	1696692.08	14258763.56	39°15'56.7552"N	80°48'4.2167"W	4626.15	354.451	2.52	0.96	2.33	
11664.00	89.290	355.760	6670.73	4720.35	4699.06	-456.07	1696683.33	14258858.11	39°15'57.6903"N	80°48'4.3253"W	4721.14	354.457	2.28	-0.59	2.20	
11759.00	89.200	351.740	6671.99	4815.32	4793.47	-466.41	1696673.00	14258952.48	39°15'58.6236"N	80°48'4.4542"W	4816.10	354.443	4.23	-0.09	-4.23	
11853.00	88.950	353.570	6673.50	4909.30	4886.68	-478.42	1696660.99	14259045.65	39°15'59.5452"N	80°48'4.6043"W	4910.04	354.408	1.96	-0.27	1.95	
11948.00	89.290	354.040	6674.96	5004.28	4981.11	-488.67	1696650.74	14259140.05	39°16'0.4788"N	80°48'4.7320"W	5005.03	354.397	0.61	0.36	0.49	
12042.00	88.680	353.500	6676.63	5098.27	5074.54	-498.87	1696640.55	14259233.44	39°16'1.4024"N	80°48'4.8591"W	5099.01	354.385	0.87	-0.65	-0.57	
12137.00	88.830	353.630	6678.69	5193.24	5168.92	-509.52	1696629.91	14259327.78	39°16'2.3355"N	80°48'4.9918"W	5193.97	354.370	0.21	0.16	0.14	
12231.00	88.210	352.460	6681.12	5287.21	5262.20	-520.89	1696618.53	14259421.02	39°16'3.2576"N	80°48'5.1339"W	5287.92	354.347	1.41	-0.66	-1.24	
12326.00	88.800	353.300	6683.60	5382.17	5356.43	-532.66	1696606.77	14259515.22	39°16'4.1893"N	80°48'5.2809"W	5382.85	354.321	1.08	0.62	0.88	
12421.00	88.580	353.020	6685.77	5477.14	5450.73	-543.98	1696595.46	14259609.48	39°16'5.1215"N	80°48'5.4221"W	5477.81	354.301	0.37	-0.23	-0.29	
12516.00	88.430	351.010	6688.25	5572.08	5544.77	-557.17	1696582.27	14259703.48	39°16'6.0513"N	80°48'5.5872"W	5572.70	354.262	2.12	-0.16	-2.12	
12610.00	89.570	353.490	6689.89	5666.04	5637.89	-569.84	1696569.61	14259796.57	39°16'6.9719"N	80°48'5.7457"W	5666.62	354.229	2.90	1.21	2.64	
12705.00	88.580	355.980	6691.42	5760.99	5732.47	-578.56	1696560.89	14259891.11	39°16'7.9069"N	80°48'5.8539"W	5761.59	354.237	2.82	-1.04	2.62	
12799.00	88.520	351.950	6693.80	5854.94	5825.90	-588.43	1696551.02	14259984.50	39°16'8.8306"N	80°48'5.9769"W	5855.54	354.233	4.29	-0.06	-4.29	
12894.00	88.550	353.130	6696.23	5949.89	5920.06	-600.76	1696538.70	14260078.62	39°16'9.7615"N	80°48'6.1310"W	5950.47	354.206	1.24	0.03	1.24	
12989.00	88.610	353.700	6698.59	6044.86	6014.41	-611.65	1696527.81	14260172.93	39°16'10.6942"N	80°48'6.2669"W	6045.43	354.193	0.60	0.06	0.60	
13083.00	88.400	354.090	6701.04	6138.83	6107.84	-621.65	1696517.82	14260266.33	39°16'11.6179"N	80°48'6.3914"W	6139.39	354.189	0.47	-0.22	0.41	
13178.00	88.220	350.040	6703.84	6233.74	6201.87	-634.75	1696504.72	14260360.32	39°16'12.5476"N	80°48'6.5554"W	6234.27	354.156	4.27	-0.19	-4.26	
13273.00	87.810	356.350	6707.14	6328.63	6296.10	-646.00	1696493.48	14260454.51	39°16'13.4791"N	80°48'6.6957"W	6329.15	354.142	6.65	-0.43	6.64	
13367.00	89.720	355.090	6709.16	6422.53	6389.81	-653.01	1696486.47	14260548.18	39°16'14.4055"N	80°48'6.7823"W	6423.09	354.165	2.43	2.03	-1.34	
13462.00	88.580	352.240	6710.57	6517.51	6484.20	-663.49	1696475.99	14260642.54	39°16'15.3387"N	80°48'6.9129"W	6518.06	354.158	3.23	-1.20	-3.00	
13557.00	91.170	352.330	6710.78	6612.48	6578.34	-676.24	1696463.24	14260736.64	39°16'16.2694"N	80°48'7.0725"W	6613.00	354.131	2.73	2.73	0.09	

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# Actual Wellpath Report

Redwood Unit 2H AWP Proj: 14091'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 2H
Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (157 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
13651.00	89.970	353.720	6709.84	6706.47	6671.63	-687.66	1696451.84	14260829.90	39°16'17.1917"N	80°48'7.2150"W	6706.98	354.115	1.95	-1.28	1.48	
13746.00	89.510	353.370	6710.28	6801.47	6766.03	-698.34	1696441.16	14260924.25	39°16'18.1249"N	80°48'7.3482"W	6801.97	354.107	0.61	-0.48	-0.37	
13841.00	89.170	355.060	6711.37	6896.45	6860.54	-707.91	1696431.59	14261018.72	39°16'19.0592"N	80°48'7.4673"W	6896.96	354.109	1.81	-0.36	1.78	
13935.00	88.250	352.720	6713.49	6990.41	6953.97	-717.91	1696421.59	14261112.12	39°16'19.9829"N	80°48'7.5918"W	6990.93	354.106	2.67	-0.98	-2.49	
14030.00	88.950	350.440	6715.81	7085.33	7047.91	-731.82	1696407.69	14261206.02	39°16'20.9117"N	80°48'7.7661"W	7085.80	354.072	2.51	0.74	-2.40	
14066.00	88.680	352.100	6716.55	7121.30	7083.49	-737.28	1696402.23	14261241.58	39°16'21.2634"N	80°48'7.8345"W	7121.75	354.058	4.67	-0.75	4.61	
14091.00‡	88.680	352.100	6717.13	7146.28	7108.24	-740.72	1696398.80	14261266.33	39°16'21.5082"N	80°48'7.8775"W	7146.73	354.051	0.00	0.00	0.00	Projected MD at TD: 14091'

HOLE & CASING SECTIONS - Ref Wellbore: Redwood Unit 2H AWB Ref Wellpath: Redwood Unit 2H AWP Proj: 14091'										
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]	
20in Conductor	25.50	126.00	100.50	25.50	126.00	0.00	0.00	-0.18	0.17	
17.5in Open Hole	126.00	359.00	233.00	126.00	358.99	-0.18	0.17	-1.61	1.51	
13.375in Casing Surface	25.50	339.00	313.50	25.50	338.99	0.00	0.00	-1.43	1.26	
12.25in Open Hole	359.00	2600.00	2241.00	358.99	2586.89	-1.61	1.51	-231.53	37.79	
9.625in Casing Intermediate	25.50	2580.00	2554.50	25.50	2567.02	0.00	0.00	-229.28	37.84	
8.75in Open Hole	2600.00	5753.00	3153.00	2586.89	5721.35	-231.53	37.79	-557.70	87.92	
8.5in Open Hole	5753.00	14091.00	8338.00	5721.35	6717.13	-557.70	87.92	7108.24	-740.72	
5.5in Casing Production	25.50	14071.00	14045.50	25.50	6716.67	0.00	0.00	7088.44	-737.97	

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# Actual Wellpath Report

Redwood Unit 2H AWP Proj: 14091'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 2H
Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Redwood Unit 2H POE Rev-3	6597.00	-62.27	72.15	1697211.34	14254098.67	39°15'10.6189"N	80°47'57.7436"W	point
Redwood Unit 2H LP Rev-3	6623.00	121.57	50.91	1697190.11	14254282.45	39°15'12.4365"N	80°47'58.0085"W	point
Redwood Unit 2H BHL Rev-3	6684.18	7085.79	-753.72	1696385.80	14261243.89	39°16'21.2866"N	80°48'8.0435"W	point
Redwood Unit 2H 50' L/R Hard Line	7000.00	3511.76	-340.79	1696798.57	14257671.28	39°15'45.9528"N	80°48'2.8929"W	rectangle
2D Rectangle 7195.61 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Redwood Unit 2H AWB Ref Wellpath: Redwood Unit 2H AWP Proj: 14091'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	386.51	Gyrodatta 2015 - GC+WIR+DPIPE	01 Gyrodatta MS Gyro <17-1/2"> (100'-386.51')	Redwood Unit 2H AWB	8/14/2022
386.51	2525.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-1/4"> (386.51')(507'-2525')	Redwood Unit 2H AWB	8/14/2022
2525.00	5684.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (2525')(2654'-5684')	Redwood Unit 2H AWB	9/24/2022
5684.00	14091.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (5684')(5802'-14066')	Redwood Unit 2H AWB	9/24/2022

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 Redwood Unit 2H AWP Proj: 14091'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 2H
Field	Doddridge	API	47-017-06931-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 2H AWB
Slot	Slot B		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-017-06931-0000            BH Job #: 111456693            Rig: H&amp;P 317            Duration: 9/26/2022-9/28/2022            Gyrodata MS Gyro &lt;17-1/2"&gt; (100'-386.51')            APS EM &lt;12-1/4"&gt; (386.51')(507'-2525')            APS EM &lt;8-3/4"&gt; (2525')(2654'-5684')            BH AT Curve &lt;8-1/2"&gt; (5684')(5802'-14066')            Sycamore: 6297' MD            Middlesex: 6455' MD            Burkett: 6659' MD            Tully: 6729' MD            Hamilton: 6829' MD            Marcellus POE: 6855' MD            Projected MD at TD: 14091'</p>

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