



ANTERO RESOURCES CORPORATION

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

Slot: Slot A
Well: Redwood Unit 3H
Wellbore: Redwood Unit 3H PWB



Easting (ft)

Scale 1 inch = 2000

Plot reference wellpath is Redwood Unit 3H PWP Rev-C.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 A): -1121 feet	Depths are in feet
Offset wellbore MDs are referenced to each path's default MD datum	Created by: edisayar on 2022-10-14; Database: WA_MPL_EASTERNUS_DeK

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 A	-57.20	-17.89	1697134.850	14254148.650
Comment	Redwood Unit 3H			
H&P 317 (RKB) to Ground level (At Slot: Slot A)	25.5ft			
Mean Sea Level to Ground level (At Slot: Slot A)	-1121ft			
H&P 317 (RKB) to Mean Sea Level	1146.5ft			

API: 47-017-06932-0000
BH Job #: 111456702
Rig: H&P 317
Duration: 10/4/2022-10/9/2022

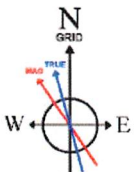
Well Data			
Slot	Well	Wellbore	Wellpath
Slot A	Redwood Unit 3H	Redwood Unit 3H AWB	Redwood Unit 3H AWP Proj. 17842'
Slot A	Redwood Unit 3H	Redwood Unit 3H PWB	Redwood Unit 3H PWP Rev-C.0

Gyrodatta MS Gyro <17-1/2"> (100'-290') : 0.12° Inc, 100.00ft MD, 100.00ft TVD, -0.07ft VS

APS EM <12-1/4"> (290')(416'-2534') : 1.90° Inc, 416.00ft MD, 415.95ft TVD, -2.71ft VS

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)
Tie On	6729.00	44.790	2.940	6533.99	-604.68	956.32	9.92
Proj. to Bottom	6775.00	51.500	0.500	6594.67	-570.46	957.31	15.11
Landing Pt. / 2D Build	7007.84	90.000	360.000	6640.00	-354.75	958.13	16.54
Turn	7639.46	90.000	347.378	6640.00	271.77	888.84	2.00
On AZI	7947.72	90.000	353.538	6640.00	575.62	837.77	2.00
BHL	17867.72	90.000	353.538	6640.00	10432.60	-278.63	0.00

APS EM <8-3/4"> (2534')(2654'-5777') : 13.97° Inc, 2654.00ft MD, 2590.39ft TVD, -405.25ft VS



User specified (HDGM) Dip: 66.00° Field: 51633 nT
Magnetic North is 7.43 degrees West of True North (at 10/3/2022)
Grid North is 0.13 degrees East of True North
To correct azimuth from True to Grid subtract 0.13 degrees
To correct azimuth from Magnetic to Grid subtract 7.56 degrees

Sperry MWD <8-1/2"> (5777')(5902'-6729') : 9.85° Inc, 5902.00ft MD, 5761.81ft TVD, -909.56ft VS

BH AT Curve <8-1/2"> (6729')(6755'-17817') : 49.80° Inc, 6755.00ft MD, 6551.62ft TVD, -689.58ft VS
Marcellus POE: 6822' MD : 59.21° Inc, 6822.00ft MD, 6590.46ft TVD, -635.85ft VS

Gyrodatta MS Gyro <17-1/2"> (100'-290') : 100.00ft TVD, 0.07ft S, 0.04ft E

APS EM <12-1/4"> (290')(416'-2534') : 415.95ft TVD, 2.30ft S, 3.74ft E

APS EM <8-3/4"> (2534')(2654'-5777') : 2590.39ft TVD, 367.25ft S, 358.48ft E

Sperry MWD <8-1/2"> (5777')(5902'-6729') : 5761.81ft TVD, 814.47ft S, 891.14ft E

Marcellus POE: 6822' MD : 531.19ft S, 960.22ft E
POE : 267' : 531.19ft S, 960.22ft E
BH AT Curve <8-1/2"> (6729')(6755'-17817') : 6551.62ft TVD, 585.60ft S, 957.22ft E

Projected MD at TD: 17842' : 89.94° Inc, 17842.00ft MD, 6751.76ft TVD, 10363.04ft VS

Vertical Section (ft)
Azimuth 353.54° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500

True Vertical Depth (ft)

6750

6000

5250

4500

3750

3000

2250

1500

750

0

-750

Northing (ft)

11000

10000

9000

8000

7000

6000

5000

4000

3000

2000

1000

0

-1000

Scale 1 inch = 1500

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Actual Wellpath Report

Redwood Unit 3H AWP Proj: 17842'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 3H
Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

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 11:09:19 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	-57.20	-17.89	1697134.85	14254146.65	39°15'11.0950"N	80°47'58.7150"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 A)	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	353.54°

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Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

WELLPATH DATA (202 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	149.530	0.00	0.00	0.00	0.00	1697134.85	14254146.65	39°15'11.0950"N	80°47'58.7150"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.00	149.530	25.50	0.00	0.00	0.00	1697134.85	14254146.65	39°15'11.0950"N	80°47'58.7150"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.12	149.530	100.00	-0.07	-0.07	0.04	1697134.89	14254146.58	39°15'11.0944"N	80°47'58.7145"W	0.08	149.530	0.16	0.16	0.00	Gyrodata MS Gyro <17-1/2"> (100'-290')
200.00	0.26	113.040	200.00	-0.28	-0.25	0.30	1697135.15	14254146.40	39°15'11.0926"N	80°47'58.7112"W	0.39	129.250	0.18	0.14	-36.49	
290.00	0.91	121.690	289.99	-0.82	-0.70	1.10	1697135.95	14254145.95	39°15'11.0881"N	80°47'58.7011"W	1.30	122.592	0.73	0.72	9.61	
416.00	1.90	121.040	415.95	-2.71	-2.30	3.74	1697138.59	14254144.35	39°15'11.0722"N	80°47'58.6676"W	4.39	121.648	0.79	0.79	-0.52	APS EM <12-1/4"> (290')(416'-2534')
507.00	3.88	133.570	506.84	-5.99	-5.20	7.26	1697142.11	14254141.45	39°15'11.0434"N	80°47'58.6228"W	8.93	125.628	2.27	2.18	13.77	
598.00	6.55	118.720	597.45	-11.34	-9.82	14.05	1697148.89	14254136.83	39°15'10.9977"N	80°47'58.5367"W	17.14	124.963	3.26	2.93	-16.32	
689.00	8.75	119.280	687.64	-18.37	-15.70	24.64	1697159.48	14254130.95	39°15'10.9393"N	80°47'58.4023"W	29.21	122.511	2.42	2.42	0.62	
778.00	11.40	117.320	775.26	-27.22	-23.05	38.36	1697173.19	14254123.61	39°15'10.8664"N	80°47'58.2281"W	44.75	121.003	3.00	2.98	-2.20	
868.00	13.77	120.600	863.09	-38.62	-32.59	55.48	1697190.31	14254114.08	39°15'10.7717"N	80°47'58.0106"W	64.34	120.427	2.75	2.63	3.64	
958.00	15.39	123.240	950.19	-52.71	-44.59	74.69	1697209.51	14254102.08	39°15'10.6527"N	80°47'57.7668"W	86.99	120.834	1.95	1.80	2.93	
1050.00	16.13	131.000	1038.74	-69.92	-59.66	94.55	1697229.36	14254087.01	39°15'10.5033"N	80°47'57.5148"W	111.80	122.253	2.43	0.80	8.43	
1145.00	16.37	140.300	1129.96	-90.85	-78.63	113.06	1697247.87	14254068.06	39°15'10.3154"N	80°47'57.2800"W	137.72	124.815	2.75	0.25	9.79	
1239.00	14.41	147.210	1220.60	-112.41	-98.65	127.86	1697262.66	14254048.04	39°15'10.1172"N	80°47'57.0924"W	161.50	127.652	2.85	-2.09	7.35	
1334.00	13.85	146.480	1312.72	-133.13	-118.07	140.54	1697275.34	14254028.63	39°15'9.9250"N	80°47'56.9318"W	183.56	130.034	0.62	-0.59	-0.77	
1428.00	14.10	144.050	1403.94	-153.12	-136.72	153.48	1697288.27	14254009.98	39°15'9.7404"N	80°47'56.7679"W	205.54	131.695	0.68	0.27	-2.59	
1523.00	14.33	142.580	1496.03	-173.27	-155.42	167.42	1697302.20	14253991.29	39°15'9.5552"N	80°47'56.5912"W	228.44	132.873	0.45	0.24	-1.55	
1618.00	14.70	141.280	1588.00	-193.55	-174.17	182.10	1697316.88	14253972.55	39°15'9.3696"N	80°47'56.4051"W	251.98	133.724	0.52	0.39	-1.37	
1713.00	14.84	139.920	1679.86	-213.87	-192.88	197.47	1697332.24	14253953.85	39°15'9.1843"N	80°47'56.2102"W	276.04	134.326	0.39	0.15	-1.43	
1807.00	14.60	138.830	1770.77	-233.63	-211.01	213.02	1697347.79	14253935.73	39°15'9.0048"N	80°47'56.0131"W	299.84	134.728	0.39	-0.26	-1.16	
1902.00	14.80	137.540	1862.67	-253.29	-228.97	229.10	1697363.85	14253917.77	39°15'8.8269"N	80°47'55.8093"W	323.90	134.985	0.40	0.21	-1.36	
1996.00	14.69	137.990	1953.57	-272.70	-246.69	245.18	1697379.93	14253900.06	39°15'8.6515"N	80°47'55.6053"W	347.80	135.176	0.17	-0.12	0.48	
2091.00	15.19	136.740	2045.36	-292.47	-264.70	261.77	1697396.51	14253882.06	39°15'8.4731"N	80°47'55.3949"W	372.27	135.319	0.63	0.53	-1.32	
2186.00	15.26	136.190	2137.02	-312.37	-282.79	278.95	1697413.69	14253863.98	39°15'8.2939"N	80°47'55.1770"W	397.22	135.391	0.17	0.07	-0.58	
2280.00	15.30	136.390	2227.70	-332.09	-300.69	296.07	1697430.80	14253846.08	39°15'8.1166"N	80°47'54.9599"W	421.99	135.444	0.07	0.04	0.21	
2375.00	14.18	138.370	2319.57	-351.60	-318.47	312.45	1697447.17	14253828.31	39°15'7.9405"N	80°47'54.7523"W	446.14	135.547	1.29	-1.18	2.08	
2469.00	13.83	136.810	2410.78	-370.01	-335.26	327.78	1697462.50	14253811.52	39°15'7.7742"N	80°47'54.5578"W	468.87	135.646	0.55	-0.37	-1.66	
2534.00	13.81	135.920	2473.90	-382.38	-346.50	338.50	1697473.21	14253800.29	39°15'7.6629"N	80°47'54.4219"W	484.40	135.669	0.33	-0.03	-1.37	
2654.00	13.97	136.240	2590.39	-405.25	-367.25	358.48	1697493.19	14253779.55	39°15'7.4574"N	80°47'54.1685"W	513.21	135.692	0.15	0.13	0.27	APS EM <8-3/4"> (2534')(2654'-5777')

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Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

WELLPATH DATA (202 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
2749.00	13.490	133.150	2682.68	-422.81	-383.11	374.50	1697509.20	14253763.69	39°15'7.3002"N	80°47'53.9653"W	535.74	135.652	0.92	-0.51	-3.25	
2843.00	12.880	132.060	2774.20	-439.01	-397.63	390.27	1697524.97	14253749.18	39°15'7.1564"N	80°47'53.7652"W	557.15	135.535	0.70	-0.65	-1.16	
2938.00	12.150	131.920	2866.94	-454.42	-411.40	405.57	1697540.26	14253735.41	39°15'7.0200"N	80°47'53.5711"W	577.70	135.409	0.77	-0.77	-0.15	
3032.00	11.020	128.650	2959.02	-468.18	-423.62	419.95	1697554.63	14253723.20	39°15'6.8989"N	80°47'53.3887"W	596.50	135.249	1.39	-1.20	-3.48	
3127.00	12.260	136.500	3052.07	-482.66	-436.61	433.99	1697568.66	14253710.21	39°15'6.7702"N	80°47'53.2106"W	615.61	135.173	2.11	1.31	8.26	
3222.00	12.760	130.840	3144.82	-498.43	-450.79	448.87	1697583.54	14253696.04	39°15'6.6297"N	80°47'53.0219"W	636.15	135.122	1.39	0.53	-5.96	
3316.00	11.700	129.820	3236.69	-512.94	-463.68	464.04	1697598.71	14253683.16	39°15'6.5019"N	80°47'52.8293"W	656.00	134.978	1.15	-1.13	-1.09	
3410.00	12.660	136.500	3328.57	-528.06	-477.26	478.45	1697613.11	14253669.58	39°15'6.3674"N	80°47'52.6465"W	675.79	134.928	1.81	1.02	7.11	
3505.00	13.010	133.990	3421.20	-544.61	-492.23	493.31	1697627.97	14253654.61	39°15'6.2191"N	80°47'52.4581"W	696.89	134.937	0.69	0.37	-2.64	
3599.00	13.040	131.250	3512.78	-560.61	-506.58	508.90	1697643.55	14253640.28	39°15'6.0770"N	80°47'52.2603"W	718.05	134.869	0.66	0.03	-2.91	
3694.00	12.260	129.880	3605.48	-575.84	-520.11	524.70	1697659.34	14253626.75	39°15'5.9429"N	80°47'52.0599"W	738.80	134.748	0.88	-0.82	-1.44	
3789.00	14.310	130.660	3697.93	-591.74	-534.23	541.35	1697675.98	14253612.64	39°15'5.8030"N	80°47'51.8487"W	760.56	134.621	2.17	2.16	0.82	
3884.00	13.490	127.740	3790.15	-608.07	-548.66	559.01	1697693.64	14253598.21	39°15'5.6599"N	80°47'51.6245"W	783.28	134.464	1.14	-0.86	-3.07	
3978.00	12.570	127.040	3881.73	-622.76	-561.53	575.85	1697710.47	14253585.34	39°15'5.5323"N	80°47'51.4109"W	804.31	134.279	0.99	-0.98	-0.74	
4073.00	11.010	124.300	3974.72	-635.80	-572.87	591.60	1697726.21	14253574.01	39°15'5.4199"N	80°47'51.2110"W	823.51	134.079	1.74	-1.64	-2.88	
4167.00	10.890	137.820	4067.03	-648.87	-584.51	604.98	1697739.58	14253562.37	39°15'5.3045"N	80°47'51.0413"W	841.22	134.014	2.73	-0.13	14.38	
4262.00	10.260	135.090	4160.41	-662.78	-597.15	616.97	1697751.58	14253549.73	39°15'5.1793"N	80°47'50.8891"W	858.63	134.065	0.85	-0.66	-2.87	
4356.00	10.850	143.730	4252.83	-677.01	-610.22	628.12	1697762.72	14253536.68	39°15'5.0500"N	80°47'50.7478"W	875.73	134.172	1.79	0.63	9.19	
4451.00	10.840	143.410	4346.13	-692.50	-624.60	638.73	1697773.33	14253522.30	39°15'4.9076"N	80°47'50.6133"W	893.37	134.359	0.06	-0.01	-0.34	
4545.00	10.760	131.070	4438.48	-706.62	-637.46	650.62	1697785.21	14253509.44	39°15'4.7802"N	80°47'50.4626"W	910.86	134.415	2.46	-0.09	-13.13	
4640.00	11.790	128.380	4531.64	-720.00	-649.32	664.91	1697799.50	14253497.59	39°15'4.6627"N	80°47'50.2812"W	929.37	134.320	1.22	1.08	-2.83	
4735.00	13.600	124.280	4624.32	-734.14	-661.63	681.75	1697816.33	14253485.28	39°15'4.5406"N	80°47'50.0675"W	950.02	134.142	2.13	1.91	-4.32	
4829.00	11.870	120.120	4716.01	-747.11	-672.71	699.25	1697833.82	14253474.21	39°15'4.4307"N	80°47'49.8454"W	970.30	133.892	2.08	-1.84	-4.43	
4923.00	12.520	122.710	4807.88	-759.31	-683.07	716.18	1697850.75	14253463.85	39°15'4.3280"N	80°47'49.6304"W	989.70	133.644	0.90	0.69	2.76	
5020.00	14.280	121.630	4902.24	-773.33	-695.02	735.22	1697869.78	14253451.90	39°15'4.2094"N	80°47'49.3888"W	1011.73	133.390	1.83	1.81	-1.11	
5114.00	13.950	127.890	4993.41	-788.40	-708.06	754.03	1697888.58	14253438.87	39°15'4.0801"N	80°47'49.1500"W	1034.37	133.199	1.66	-0.35	6.66	
5209.00	12.540	126.800	5085.88	-803.48	-721.27	771.33	1697905.87	14253425.66	39°15'3.9491"N	80°47'48.9306"W	1056.02	133.079	1.51	-1.48	-1.15	
5304.00	13.270	128.340	5178.48	-818.23	-734.22	788.14	1697922.68	14253412.73	39°15'3.8209"N	80°47'48.7172"W	1077.14	132.971	0.85	0.77	1.62	
5398.00	11.970	129.230	5270.21	-832.80	-747.07	804.15	1697938.68	14253399.87	39°15'3.6934"N	80°47'48.5141"W	1097.62	132.893	1.40	-1.38	0.95	
5493.00	12.780	132.620	5363.00	-847.79	-760.42	819.52	1697954.04	14253386.53	39°15'3.5612"N	80°47'48.3191"W	1117.96	132.858	1.15	0.85	3.57	

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Actual Wellpath Report

Redwood Unit 3H AWP Proj: 17842'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 3H
Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

WELLPATH DATA (202 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
5587.00	14.500	129.290	5454.35	-864.08	-774.91	836.28	1697970.79	14253372.05	39°15'3.4176"N	80°47'48.1065"W	1140.11	132.819	2.01	1.83	-3.54	
5682.00	12.790	127.690	5546.66	-879.93	-788.87	853.80	1697988.31	14253358.09	39°15'3.2792"N	80°47'47.8841"W	1162.45	132.736	1.84	-1.80	-1.68	
5777.00	13.180	132.330	5639.23	-895.40	-802.60	870.13	1698004.63	14253344.37	39°15'3.1432"N	80°47'47.6769"W	1183.76	132.688	1.17	0.41	4.88	
5902.00	9.850	102.240	5761.81	-909.56	-814.47	891.14	1698025.63	14253332.50	39°15'3.0253"N	80°47'47.4102"W	1207.27	132.426	5.41	-2.66	-24.07	Sperry MWD <8-1/2"> (5777')(5902'-6729')
5996.00	11.390	69.060	5854.28	-909.82	-812.86	907.68	1698042.17	14253334.11	39°15'3.0409"N	80°47'47.1999"W	1218.45	131.845	6.61	1.64	-35.30	
6091.00	8.400	75.450	5947.86	-906.50	-807.76	923.16	1698057.65	14253339.21	39°15'3.0910"N	80°47'47.0030"W	1226.67	131.186	3.35	-3.15	6.73	
6186.00	9.210	73.660	6041.74	-904.22	-803.88	937.18	1698071.65	14253343.09	39°15'3.1290"N	80°47'46.8248"W	1234.72	130.622	0.90	0.85	-1.88	
6280.00	11.970	28.000	6134.28	-894.87	-793.14	948.99	1698083.46	14253353.83	39°15'3.2349"N	80°47'46.6742"W	1236.79	129.888	9.11	2.94	-48.57	
6375.00	16.370	3.160	6226.45	-873.52	-771.04	954.36	1698088.83	14253375.92	39°15'3.4532"N	80°47'46.6053"W	1226.91	128.935	7.80	4.63	-26.15	
6401.00†	17.157	0.311	6251.35	-866.10	-763.55	954.59	1698089.06	14253383.41	39°15'3.5273"N	80°47'46.6023"W	1222.39	128.655	4.38	3.03	-10.96	Sycamore: 6401' MD
6470.00	19.410	353.890	6316.87	-844.52	-741.97	953.42	1698087.89	14253404.98	39°15'3.7406"N	80°47'46.6165"W	1208.11	127.891	4.38	3.27	-9.31	
6540.00	27.170	357.610	6381.12	-816.91	-714.39	951.51	1698085.98	14253432.55	39°15'4.0132"N	80°47'46.6399"W	1189.84	126.899	11.28	11.09	5.31	
6541.00†	27.256	357.698	6382.01	-816.45	-713.93	951.49	1698085.97	14253433.00	39°15'4.0177"N	80°47'46.6402"W	1189.55	126.882	9.47	8.57	8.79	Middlesex: 6541' MD
6635.00	35.500	4.180	6462.21	-768.06	-665.11	952.62	1698087.09	14253481.81	39°15'4.5003"N	80°47'46.6244"W	1161.83	124.922	9.47	8.77	6.90	
6704.00†	42.318	3.226	6515.88	-725.43	-621.88	955.39	1698089.86	14253525.01	39°15'4.9274"N	80°47'46.5880"W	1139.96	123.061	9.92	9.88	-1.38	Burkett: 6704' MD
6729.00	44.790	2.940	6533.99	-708.44	-604.68	956.32	1698090.79	14253542.21	39°15'5.0974"N	80°47'46.5757"W	1131.45	122.305	9.92	9.89	-1.14	
6747.00†	48.258	2.621	6546.38	-695.55	-591.64	956.95	1698091.42	14253555.25	39°15'5.2263"N	80°47'46.5673"W	1125.07	121.727	19.31	19.27	-1.77	Tully: 6747' MD
6755.00	49.800	2.490	6551.62	-689.58	-585.60	957.22	1698091.69	14253561.28	39°15'5.2859"N	80°47'46.5637"W	1122.14	121.457	19.31	19.27	-1.64	BH AT Curve <8-1/2"> (6729')(6755'-17817')
6794.00	55.310	3.290	6575.32	-659.04	-554.69	958.79	1698093.26	14253592.18	39°15'5.5914"N	80°47'46.5429"W	1107.68	120.051	14.22	14.13	2.05	
6809.00†	57.400	3.490	6583.63	-646.74	-542.23	959.53	1698093.99	14253604.64	39°15'5.7146"N	80°47'46.5332"W	1102.14	119.471	13.98	13.94	1.33	Hamilton: 6809' MD
6822.00†	59.212	3.656	6590.46	-635.85	-531.19	960.22	1698094.68	14253615.67	39°15'5.8237"N	80°47'46.5241"W	1097.35	118.951	13.98	13.94	1.28	Marcellus POE: 6822' MD
6842.00	62.000	3.900	6600.28	-618.70	-513.80	961.36	1698095.83	14253633.05	39°15'5.9955"N	80°47'46.5090"W	1090.05	118.122	13.98	13.94	1.22	
6889.00	70.230	4.790	6619.29	-576.53	-470.99	964.63	1698099.09	14253675.85	39°15'6.4186"N	80°47'46.4663"W	1073.47	116.024	17.60	17.51	1.89	
6936.00	77.910	5.810	6632.18	-532.32	-426.02	968.81	1698103.27	14253720.80	39°15'6.8630"N	80°47'46.4119"W	1058.34	113.737	16.47	16.34	2.17	
6984.00	86.430	7.340	6638.72	-486.04	-378.83	974.25	1698108.72	14253767.97	39°15'7.3293"N	80°47'46.3413"W	1045.31	111.248	18.03	17.75	3.19	
7031.00	90.220	6.480	6640.09	-440.34	-332.20	979.90	1698114.36	14253814.58	39°15'7.7900"N	80°47'46.2681"W	1034.68	108.727	8.27	8.06	-1.83	
7125.00	89.910	0.280	6639.98	-347.77	-238.41	985.44	1698119.90	14253908.34	39°15'8.7169"N	80°47'46.1950"W	1013.87	103.600	6.60	-0.33	-6.60	
7220.00	90.000	356.240	6640.06	-253.11	-143.47	982.56	1698117.02	14254003.23	39°15'9.6553"N	80°47'46.2290"W	992.98	98.308	4.25	0.09	-4.25	
7314.00	89.850	350.360	6640.18	-159.15	-50.16	971.60	1698106.06	14254096.51	39°15'10.5779"N	80°47'46.3656"W	972.89	92.955	6.26	-0.16	-6.26	
7409.00	89.910	346.820	6640.38	-64.52	42.95	952.81	1698087.28	14254189.58	39°15'11.4985"N	80°47'46.6018"W	953.77	87.419	3.73	0.06	-3.73	

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Redwood Unit 3H AWP Proj: 17842'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Redwood Unit 3H
Field	Doddridge		API	47-017-06932-0000
Facility	OXFD 98 Pad		Wellbore	Redwood Unit 3H AWB
Slot	Slot A			

WELLPATH DATA (202 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
7503.00	90.150	347.210	6640.33	28.87	134.55	931.69	1698066.16	14254281.14	39°15'12.4043"N	80°47'46.8677"W	941.35	81.783	0.49	0.26	0.41	
7598.00	89.820	347.300	6640.36	123.30	227.21	910.73	1698045.21	14254373.77	39°15'13.3206"N	80°47'47.1315"W	938.64	75.992	0.36	-0.35	0.09	
7693.00	89.880	346.360	6640.60	217.65	319.71	889.08	1698023.58	14254466.23	39°15'14.2353"N	80°47'47.4040"W	944.82	70.222	0.99	0.06	-0.99	
7787.00	89.290	349.650	6641.29	311.19	411.64	869.55	1698004.05	14254558.13	39°15'15.1444"N	80°47'47.6497"W	962.06	64.667	3.56	-0.63	3.50	
7882.00	89.660	351.370	6642.16	406.05	505.33	853.89	1697988.40	14254651.78	39°15'16.0708"N	80°47'47.8461"W	992.21	59.383	1.85	0.39	1.81	
7976.00	90.770	353.040	6641.80	500.02	598.46	841.14	1697975.65	14254744.87	39°15'16.9915"N	80°47'48.0055"W	1032.31	54.569	2.13	1.18	1.78	
8071.00	90.250	352.770	6640.96	595.01	692.73	829.41	1697963.93	14254839.10	39°15'17.9235"N	80°47'48.1520"W	1080.64	50.131	0.62	-0.55	-0.28	
8165.00	90.580	353.230	6640.28	689.00	786.02	817.95	1697952.48	14254932.36	39°15'18.8459"N	80°47'48.2949"W	1134.41	46.140	0.60	0.35	0.49	
8259.00	90.490	353.160	6639.40	783.00	879.36	806.81	1697941.34	14255025.66	39°15'19.7686"N	80°47'48.4338"W	1193.40	42.537	0.12	-0.10	-0.07	
8354.00	90.520	350.950	6638.56	877.96	973.43	793.68	1697928.22	14255119.70	39°15'20.6987"N	80°47'48.5981"W	1255.99	39.192	2.33	0.03	-2.33	
8448.00	91.110	353.800	6637.22	971.92	1066.58	781.21	1697915.75	14255212.81	39°15'21.6197"N	80°47'48.7539"W	1322.08	36.221	3.10	0.63	3.03	
8543.00	90.430	353.720	6635.95	1066.91	1161.01	770.89	1697905.43	14255307.20	39°15'22.5532"N	80°47'48.8825"W	1393.63	33.583	0.72	-0.72	-0.08	
8638.00	90.520	353.470	6635.16	1161.90	1255.42	760.29	1697894.84	14255401.57	39°15'23.4865"N	80°47'49.0145"W	1467.69	31.199	0.28	0.09	-0.26	
8732.00	90.860	353.480	6634.03	1255.90	1348.80	749.61	1697884.16	14255494.91	39°15'24.4097"N	80°47'49.1476"W	1543.11	29.064	0.36	0.36	0.01	
8827.00	90.340	353.070	6633.03	1350.89	1443.14	738.49	1697873.04	14255589.22	39°15'25.3424"N	80°47'49.2864"W	1621.12	27.100	0.70	-0.55	-0.43	
8921.00	90.770	354.150	6632.12	1444.88	1536.55	728.02	1697862.58	14255682.59	39°15'26.2659"N	80°47'49.4167"W	1700.30	25.352	1.24	0.46	1.15	
9016.00	90.120	353.280	6631.39	1539.88	1630.98	717.62	1697852.19	14255776.98	39°15'27.1994"N	80°47'49.5462"W	1781.87	23.749	1.14	-0.68	-0.92	
9111.00	90.150	353.180	6631.16	1634.88	1725.31	706.43	1697840.99	14255871.28	39°15'28.1321"N	80°47'49.6859"W	1864.33	22.267	0.11	0.03	-0.11	
9205.00	90.030	353.450	6631.01	1728.88	1818.67	695.48	1697830.06	14255964.60	39°15'29.0551"N	80°47'49.8223"W	1947.12	20.927	0.31	-0.13	0.29	
9299.00	90.000	355.340	6630.99	1822.86	1912.22	686.30	1697820.88	14256058.11	39°15'29.9798"N	80°47'49.9364"W	2031.65	19.743	2.01	-0.03	2.01	
9394.00	90.180	354.560	6630.84	1917.83	2006.85	677.94	1697812.52	14256152.70	39°15'30.9153"N	80°47'50.0400"W	2118.27	18.666	0.84	0.19	-0.82	
9488.00	89.570	352.810	6631.05	2011.83	2100.28	667.60	1697802.19	14256246.09	39°15'31.8390"N	80°47'50.1688"W	2203.83	17.634	1.97	-0.65	-1.86	
9583.00	89.510	350.210	6631.81	2106.76	2194.22	653.58	1697788.17	14256340.00	39°15'32.7678"N	80°47'50.3444"W	2289.49	16.587	2.74	-0.06	-2.74	
9677.00	87.850	353.090	6633.97	2200.67	2287.19	639.93	1697774.53	14256432.93	39°15'33.6870"N	80°47'50.5152"W	2375.03	15.631	3.54	-1.77	3.06	
9771.00	89.230	352.350	6636.37	2294.63	2380.40	628.02	1697762.62	14256526.10	39°15'34.6085"N	80°47'50.6640"W	2461.85	14.780	1.67	1.47	-0.79	
9866.00	90.030	353.490	6636.98	2389.62	2474.67	616.32	1697750.92	14256620.33	39°15'35.5405"N	80°47'50.8101"W	2550.26	13.985	1.47	0.84	1.20	
9960.00	89.570	352.560	6637.31	2483.61	2567.97	604.90	1697739.51	14256713.60	39°15'36.4629"N	80°47'50.9526"W	2638.25	13.255	1.10	-0.49	-0.99	
10055.00	90.220	353.040	6637.48	2578.60	2662.22	592.99	1697727.61	14256807.81	39°15'37.3947"N	80°47'51.1013"W	2727.47	12.557	0.85	0.68	0.51	
10149.00	89.910	353.440	6637.38	2672.60	2755.57	581.93	1697716.55	14256901.12	39°15'38.3176"N	80°47'51.2393"W	2816.34	11.925	0.54	-0.33	0.43	
10244.00	89.820	352.100	6637.60	2767.59	2849.81	569.97	1697704.60	14256995.33	39°15'39.2493"N	80°47'51.3886"W	2906.25	11.310	1.41	-0.09	-1.41	

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10338.00	89.940	353.110	6637.80	2861.57	2943.03	557.88	1697692.50	14257088.50	39°15'40.1709"N	80°47'51.5398"W	2995.44	10.734	1.08	0.13	1.07	
10433.00	89.420	352.940	6638.33	2956.57	3037.32	546.34	1697680.97	14257182.76	39°15'41.1032"N	80°47'51.6838"W	3086.07	10.197	0.58	-0.55	-0.18	
10527.00	88.950	353.130	6639.67	3050.56	3130.62	534.94	1697669.58	14257276.02	39°15'42.0255"N	80°47'51.8260"W	3175.99	9.697	0.54	-0.50	0.20	
10622.00	90.800	354.220	6639.87	3145.55	3225.03	524.48	1697659.12	14257370.40	39°15'42.9590"N	80°47'51.9564"W	3267.40	9.237	2.26	1.95	1.15	
10716.00	89.050	352.860	6640.00	3239.54	3318.43	513.90	1697648.55	14257463.76	39°15'43.8823"N	80°47'52.0882"W	3357.99	8.803	2.36	-1.86	-1.45	
10811.00	89.630	352.790	6641.09	3334.53	3412.68	502.04	1697636.69	14257557.97	39°15'44.8141"N	80°47'52.2363"W	3449.41	8.369	0.61	0.61	-0.07	
10905.00	89.850	352.650	6641.52	3428.52	3505.92	490.12	1697624.78	14257651.18	39°15'45.7359"N	80°47'52.3851"W	3540.02	7.958	0.28	0.23	-0.15	
11000.00	89.850	352.890	6641.77	3523.51	3600.17	478.17	1697612.83	14257745.38	39°15'46.6677"N	80°47'52.5345"W	3631.78	7.566	0.25	0.00	0.25	
11095.00	90.400	353.350	6641.56	3618.51	3694.48	466.79	1697601.45	14257839.66	39°15'47.6001"N	80°47'52.6765"W	3723.85	7.201	0.75	0.58	0.48	
11189.00	89.600	354.780	6641.56	3712.50	3787.97	457.07	1697591.74	14257933.12	39°15'48.5244"N	80°47'52.7974"W	3815.45	6.880	1.74	-0.85	1.52	
11284.00	88.740	349.350	6642.94	3807.42	3882.02	443.96	1697578.64	14258027.12	39°15'49.4542"N	80°47'52.9614"W	3907.32	6.524	5.79	-0.91	-5.72	
11379.00	89.600	353.320	6644.31	3902.32	3975.91	429.65	1697564.33	14258120.97	39°15'50.3825"N	80°47'53.1406"W	3999.05	6.168	4.28	0.91	4.18	
11473.00	89.480	353.500	6645.07	3996.32	4069.28	418.87	1697553.55	14258214.31	39°15'51.3056"N	80°47'53.2751"W	4090.78	5.877	0.23	-0.13	0.19	
11568.00	88.860	352.740	6646.44	4091.30	4163.59	407.49	1697542.18	14258308.58	39°15'52.2379"N	80°47'53.4171"W	4183.48	5.590	1.03	-0.65	-0.80	
11663.00	88.920	353.680	6648.28	4186.28	4257.90	396.26	1697530.95	14258402.86	39°15'53.1704"N	80°47'53.5572"W	4276.30	5.317	0.99	0.06	0.99	
11758.00	87.780	354.240	6651.02	4281.24	4352.33	386.27	1697520.96	14258497.25	39°15'54.1039"N	80°47'53.6816"W	4369.44	5.072	1.34	-1.20	0.59	
11852.00	89.850	354.380	6652.96	4375.21	4445.84	376.95	1697511.65	14258590.72	39°15'55.0284"N	80°47'53.7974"W	4461.80	4.846	2.21	2.20	0.15	
11946.00	88.310	354.000	6654.47	4469.18	4539.35	367.44	1697502.14	14258684.19	39°15'55.9527"N	80°47'53.9157"W	4554.19	4.628	1.69	-1.64	-0.40	
12041.00	89.080	354.560	6656.64	4564.15	4633.85	357.97	1697492.68	14258778.65	39°15'56.8870"N	80°47'54.0334"W	4647.65	4.417	1.00	0.81	0.59	
12136.00	88.800	354.710	6658.39	4659.12	4728.42	349.09	1697483.80	14258873.18	39°15'57.8219"N	80°47'54.1436"W	4741.28	4.222	0.33	-0.29	0.16	
12230.00	89.020	353.550	6660.18	4753.09	4821.90	339.48	1697474.19	14258966.63	39°15'58.7461"N	80°47'54.2631"W	4833.84	4.027	1.26	0.23	-1.23	
12325.00	89.600	355.700	6661.33	4848.06	4916.47	330.58	1697465.30	14259061.17	39°15'59.6810"N	80°47'54.3736"W	4927.57	3.847	2.34	0.61	2.26	
12420.00	88.400	352.440	6662.98	4943.03	5010.94	320.77	1697455.49	14259155.59	39°16'0.6148"N	80°47'54.4957"W	5021.19	3.663	3.66	-1.26	-3.43	
12514.00	90.580	354.400	6663.82	5037.02	5104.30	310.00	1697444.72	14259248.92	39°16'1.5379"N	80°47'54.6300"W	5113.71	3.475	3.12	2.32	2.09	
12609.00	88.490	354.240	6664.59	5132.00	5198.83	300.60	1697435.33	14259343.41	39°16'2.4724"N	80°47'54.7468"W	5207.51	3.309	2.21	-2.20	-0.17	
12703.00	88.890	354.530	6666.74	5225.96	5292.35	291.40	1697426.14	14259436.89	39°16'3.3969"N	80°47'54.8611"W	5300.37	3.152	0.53	0.43	0.31	
12798.00	88.370	354.390	6669.01	5320.92	5386.88	282.23	1697416.97	14259531.39	39°16'4.3314"N	80°47'54.9750"W	5394.27	2.999	0.57	-0.55	-0.15	
12893.00	88.400	354.210	6671.69	5415.88	5481.37	272.80	1697407.54	14259625.84	39°16'5.2656"N	80°47'55.0922"W	5488.16	2.849	0.19	0.03	-0.19	
12987.00	88.400	354.020	6674.31	5509.84	5574.84	263.17	1697397.91	14259719.27	39°16'6.1896"N	80°47'55.2121"W	5581.05	2.703	0.20	0.00	-0.20	
13082.00	88.950	353.870	6676.51	5604.81	5669.29	253.15	1697387.90	14259813.68	39°16'7.1233"N	80°47'55.3368"W	5674.94	2.557	0.60	0.58	-0.16	

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Redwood Unit 3H AWP Proj: 17842'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 3H
Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

WELLPATH DATA (202 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
13177.00	88.490	354.280	6678.63	5699.78	5763.76	243.35	1697378.10	14259908.11	39°16'8.0572"N	80°47'55.4588"W	5768.89	2.418	0.65	-0.48	0.43	
13272.00	88.650	354.590	6681.00	5794.74	5858.28	234.14	1697368.89	14260002.59	39°16'8.9916"N	80°47'55.5732"W	5862.95	2.289	0.37	0.17	0.33	
13366.00	88.370	354.350	6683.45	5888.69	5951.81	225.08	1697359.84	14260096.09	39°16'9.9163"N	80°47'55.6857"W	5956.06	2.166	0.39	-0.30	-0.26	
13461.00	88.370	354.320	6686.15	5983.65	6046.31	215.71	1697350.47	14260190.55	39°16'10.8505"N	80°47'55.8022"W	6050.15	2.043	0.03	0.00	-0.03	
13555.00	87.720	353.820	6689.36	6077.59	6139.75	206.00	1697340.77	14260283.95	39°16'11.7742"N	80°47'55.9230"W	6143.20	1.922	0.87	-0.69	-0.53	
13650.00	90.680	352.260	6690.68	6172.56	6234.03	194.49	1697329.26	14260378.19	39°16'12.7063"N	80°47'56.0667"W	6237.06	1.787	3.52	3.12	-1.64	
13745.00	90.150	353.910	6690.00	6267.55	6328.33	183.05	1697317.83	14260472.46	39°16'13.6386"N	80°47'56.2094"W	6330.98	1.657	1.82	-0.56	1.74	
13840.00	88.680	353.030	6690.97	6362.54	6422.70	172.25	1697307.03	14260566.80	39°16'14.5716"N	80°47'56.3441"W	6425.01	1.536	1.80	-1.55	-0.93	
13934.00	88.430	350.020	6693.34	6456.44	6515.64	158.40	1697293.19	14260659.69	39°16'15.4905"N	80°47'56.5175"W	6517.56	1.393	3.21	-0.27	-3.20	
14029.00	89.570	353.330	6694.99	6551.37	6609.61	144.65	1697279.45	14260753.62	39°16'16.4195"N	80°47'56.6897"W	6611.19	1.254	3.68	1.20	3.48	
14123.00	89.380	355.200	6695.86	6645.35	6703.13	135.26	1697270.06	14260847.11	39°16'17.3441"N	80°47'56.8065"W	6704.49	1.156	2.00	-0.20	1.99	
14218.00	87.720	352.910	6698.26	6740.31	6797.58	125.43	1697260.23	14260941.52	39°16'18.2778"N	80°47'56.9289"W	6798.73	1.057	2.98	-1.75	-2.41	
14312.00	87.010	350.050	6702.58	6834.14	6890.43	111.52	1697246.32	14261034.34	39°16'19.1959"N	80°47'57.1031"W	6891.33	0.927	3.13	-0.76	-3.04	
14407.00	89.630	354.540	6705.37	6929.04	6984.50	98.79	1697233.60	14261128.37	39°16'20.1259"N	80°47'57.2623"W	6985.20	0.810	5.47	2.76	4.73	
14502.00	88.800	353.740	6706.67	7024.02	7078.99	89.09	1697223.91	14261222.82	39°16'21.0601"N	80°47'57.3829"W	7079.56	0.721	1.21	-0.87	-0.84	
14596.00	88.250	351.800	6709.09	7117.98	7172.21	77.27	1697212.09	14261316.00	39°16'21.9817"N	80°47'57.5307"W	7172.63	0.617	2.14	-0.59	-2.06	
14691.00	90.460	353.560	6710.16	7212.95	7266.42	65.17	1697199.99	14261410.18	39°16'22.9131"N	80°47'57.6819"W	7266.71	0.514	2.97	2.33	1.85	
14785.00	89.140	354.100	6710.49	7306.95	7359.87	55.06	1697189.89	14261503.59	39°16'23.8369"N	80°47'57.8077"W	7360.08	0.429	1.52	-1.40	0.57	
14880.00	89.110	353.310	6711.94	7401.94	7454.29	44.65	1697179.48	14261597.97	39°16'24.7703"N	80°47'57.9375"W	7454.42	0.343	0.83	-0.03	-0.83	
14974.00	88.620	350.950	6713.80	7495.88	7547.38	31.78	1697166.62	14261691.02	39°16'25.6907"N	80°47'58.0985"W	7547.45	0.241	2.56	-0.52	-2.51	
15069.00	89.200	356.670	6715.61	7590.82	7641.77	21.55	1697156.39	14261785.37	39°16'26.6238"N	80°47'58.2260"W	7641.80	0.162	6.05	0.61	6.02	
15164.00	89.020	352.440	6717.09	7685.78	7736.31	12.53	1697147.38	14261879.88	39°16'27.5584"N	80°47'58.3379"W	7736.32	0.093	4.46	-0.19	-4.45	
15259.00	88.980	353.390	6718.74	7780.76	7830.57	0.82	1697135.67	14261974.10	39°16'28.4903"N	80°47'58.4842"W	7830.57	0.006	1.00	-0.04	1.00	
15353.00	89.200	353.430	6720.24	7874.74	7923.93	-9.97	1697124.89	14262067.43	39°16'29.4134"N	80°47'58.6188"W	7923.94	359.928	0.24	0.23	0.04	
15448.00	89.260	352.900	6721.51	7969.73	8018.25	-21.27	1697113.59	14262161.71	39°16'30.3458"N	80°47'58.7599"W	8018.28	359.848	0.56	0.06	-0.56	
15542.00	89.290	353.550	6722.70	8063.72	8111.58	-32.36	1697102.50	14262255.00	39°16'31.2686"N	80°47'58.8982"W	8111.65	359.771	0.69	0.03	0.69	
15637.00	89.380	355.140	6723.81	8158.70	8206.11	-41.72	1697093.15	14262349.49	39°16'32.2031"N	80°47'59.0146"W	8206.22	359.709	1.68	0.09	1.67	
15731.00	88.890	353.300	6725.22	8252.68	8299.62	-51.19	1697083.68	14262442.96	39°16'33.1275"N	80°47'59.1323"W	8299.78	359.647	2.03	-0.52	-1.96	
15826.00	88.550	356.290	6727.35	8347.62	8394.19	-59.80	1697075.07	14262537.50	39°16'34.0624"N	80°47'59.2392"W	8394.41	359.592	3.17	-0.36	3.15	
15920.00	90.980	353.220	6727.73	8441.58	8487.78	-68.39	1697066.48	14262631.05	39°16'34.9876"N	80°47'59.3458"W	8488.06	359.538	4.17	2.59	-3.27	

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Redwood Unit 3H
Field	Doddridge		API	47-017-06932-0000
Facility	OXFD 98 Pad		Wellbore	Redwood Unit 3H AWB
Slot	Slot A			

WELLPATH DATA (202 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
16015.00	88.980	353.530	6727.77	8536.58	8582.14	-79.35	1697055.53	14262725.37	39°16'35.9204"N	80°47'59.4825"W	8582.51	359.470	2.13	-2.11	0.33	
16109.00	89.200	353.890	6729.26	8630.57	8675.56	-89.65	1697045.24	14262818.76	39°16'36.8440"N	80°47'59.6109"W	8676.03	359.408	0.45	0.23	0.38	
16204.00	89.320	354.650	6730.49	8725.55	8770.08	-99.13	1697035.76	14262913.24	39°16'37.7784"N	80°47'59.7288"W	8770.64	359.352	0.81	0.13	0.80	
16299.00	88.950	350.910	6731.92	8820.51	8864.30	-111.07	1697023.82	14263007.42	39°16'38.7099"N	80°47'59.8779"W	8865.00	359.282	3.96	-0.39	-3.94	
16393.00	89.380	351.360	6733.29	8914.42	8957.17	-125.55	1697009.35	14263100.25	39°16'39.6281"N	80°48'0.0595"W	8958.05	359.197	0.66	0.46	0.48	
16488.00	90.770	351.590	6733.17	9009.36	9051.11	-139.64	1696995.27	14263194.16	39°16'40.5570"N	80°48'0.2360"W	9052.19	359.116	1.48	1.46	0.24	
16583.00	88.580	352.970	6733.71	9104.32	9145.24	-152.40	1696982.51	14263288.25	39°16'41.4876"N	80°48'0.3956"W	9146.51	359.045	2.72	-2.31	1.45	
16678.00	89.600	353.660	6735.21	9199.31	9239.58	-163.45	1696971.46	14263382.55	39°16'42.4203"N	80°48'0.5335"W	9241.03	358.987	1.30	1.07	0.73	
16772.00	88.740	353.370	6736.58	9293.30	9332.97	-174.07	1696960.85	14263475.91	39°16'43.3435"N	80°48'0.6659"W	9334.60	358.931	0.97	-0.91	-0.31	
16867.00	87.140	355.090	6739.99	9388.22	9427.42	-183.61	1696951.31	14263570.32	39°16'44.2772"N	80°48'0.7846"W	9429.21	358.884	2.47	-1.68	1.81	
16962.00	90.280	353.420	6742.13	9483.18	9521.91	-193.12	1696941.81	14263664.76	39°16'45.2113"N	80°48'0.9029"W	9523.87	358.838	3.74	3.31	-1.76	
17056.00	88.460	353.880	6743.16	9577.17	9615.32	-203.52	1696931.41	14263758.14	39°16'46.1348"N	80°48'1.0324"W	9617.47	358.787	2.00	-1.94	0.49	
17151.00	88.460	353.060	6745.72	9672.13	9709.67	-214.32	1696920.62	14263852.45	39°16'47.0676"N	80°48'1.1671"W	9712.03	358.736	0.86	0.00	-0.86	
17245.00	89.380	352.960	6747.49	9766.11	9802.95	-225.75	1696909.19	14263945.70	39°16'47.9898"N	80°48'1.3100"W	9805.55	358.681	0.98	0.98	-0.11	
17340.00	89.200	353.360	6748.66	9861.10	9897.27	-237.07	1696897.88	14264039.98	39°16'48.9222"N	80°48'1.4512"W	9900.11	358.628	0.46	-0.19	0.42	
17434.00	89.720	354.910	6749.55	9955.09	9990.77	-246.67	1696888.28	14264133.44	39°16'49.8466"N	80°48'1.5707"W	9993.81	358.586	1.74	0.55	1.65	
17529.00	89.170	352.350	6750.47	10050.08	10085.17	-257.21	1696877.74	14264227.80	39°16'50.7798"N	80°48'1.7021"W	10088.45	358.539	2.76	-0.58	-2.69	
17623.00	89.660	353.870	6751.43	10144.06	10178.48	-268.49	1696866.47	14264321.08	39°16'51.7024"N	80°48'1.8428"W	10182.02	358.489	1.70	0.52	1.62	
17718.00	90.180	354.250	6751.56	10239.06	10272.97	-278.32	1696856.64	14264415.53	39°16'52.6365"N	80°48'1.9652"W	10276.74	358.448	0.68	0.55	0.40	
17812.00	89.630	354.750	6751.72	10333.05	10366.54	-287.33	1696847.64	14264509.06	39°16'53.5615"N	80°48'2.0772"W	10370.52	358.412	0.79	-0.59	0.53	
17817.00	89.940	354.530	6751.74	10338.05	10371.52	-287.79	1696847.17	14264514.04	39°16'53.6107"N	80°48'2.0830"W	10375.51	358.411	7.60	6.20	-4.40	
17842.00‡	89.940	354.530	6751.76	10363.04	10396.40	-290.18	1696844.79	14264538.91	39°16'53.8567"N	80°48'2.1126"W	10400.45	358.401	0.00	0.00	0.00	Projected MD at TD: 17842'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 3H
Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

HOLE & CASING SECTIONS - Ref Wellbore: Redwood Unit 3H AWB Ref Wellpath: Redwood Unit 3H AWP Proj: 17842'									
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	-0.11	0.08
17.5in Open Hole	126.00	351.00	225.00	126.00	350.98	-0.11	0.08	-1.34	2.14
13.375in Casing Surface	25.50	331.00	305.50	25.50	330.99	0.00	0.00	-1.10	1.75
12.25in Open Hole	351.00	2609.00	2258.00	350.98	2546.71	-1.34	2.14	-359.43	350.97
9.625in Casing Intermediate	25.50	2589.00	2563.50	25.50	2527.30	0.00	0.00	-355.97	347.64
8.75in Open Hole	2609.00	5848.00	3239.00	2546.71	5708.68	-359.43	350.97	-811.14	882.09
8.5in Open Hole	5848.00	17842.00	11994.00	5708.68	6751.76	-811.14	882.09	10396.40	-290.18
5.5in Casing Production	25.50	17822.00	17796.50	25.50	6751.74	0.00	0.00	10376.50	-288.27

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Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Redwood Unit 3H POE Rev-3	6598.00	-344.16	941.95	1698076.42	14253802.63	39°15'7.6727"N	80°47'46.7510"W	point
Redwood Unit 3H BHL Rev-3	6624.00	10951.80	-337.43	1696797.55	14265094.09	39°16'59.3471"N	80°48'2.6980"W	point
Redwood Unit 3H AZI Rev-1	6640.00	575.62	837.77	1697972.29	14254722.04	39°15'16.7659"N	80°47'48.0490"W	point
Redwood Unit 3H BHL Rev-5	6640.00	10432.60	-278.63	1696856.33	14264575.09	39°16'54.2142"N	80°48'1.9647"W	point
Redwood Unit 3H LP Rev-4	6640.00	-354.75	958.13	1698092.60	14253792.04	39°15'7.5676"N	80°47'46.5455"W	point
Redwood Unit 3H 50' L/R Hard Line Rev-2	7000.00	5044.22	331.66	1697466.38	14259188.86	39°16'0.9436"N	80°47'54.3563"W	rectangle
2D Rectangle 10845.7 x 100.								

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Slot	Slot A		

WELLPATH COMPOSITION - Ref Wellbore: Redwood Unit 3H AWB Ref Wellpath: Redwood Unit 3H AWP Proj: 17842'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	290.00	Gyrodata 2015 - GC+WIR+DPIPE	01_Gyrodata MS Gyro <17-1/2"> (100'-290')	Redwood Unit 3H AWB	8/3/2022
290.00	2534.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02_APS EM <12-1/4"> (290')(416'-2534')	Redwood Unit 3H AWB	8/3/2022
2534.00	5777.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03_APS EM <8-3/4"> (2534')(2654'-5777')	Redwood Unit 3H AWB	9/28/2022
5777.00	6729.00	OWSG MWD rev2 + HRGM	04_Sperry MWD <8-1/2"> (5777')(5902'-6729')	Redwood Unit 3H AWB	9/28/2022
6729.00	17842.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	05_BH AT Curve <8-1/2"> (6729')(6755'-17817')	Redwood Unit 3H AWB	10/3/2022

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Actual Wellpath Report

Redwood Unit 3H AWP Proj: 17842'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Redwood Unit 3H
Field	Doddridge	API	47-017-06932-0000
Facility	OXFD 98 Pad	Wellbore	Redwood Unit 3H AWB
Slot	Slot A		

COMMENTS

Wellpath general comments

API: 47-017-06932-0000
 BH Job #: 111456702
 Rig: H&P 317
 Duration: 10/4/2022-10/9/2022
 Gyrodata MS Gyro <17-1/2"> (100'-290')
 APS EM <12-1/4"> (290')(416'-2534')
 APS EM <8-3/4"> (2534')(2654'-5777')
 Sperry MWD <8-1/2"> (5777')(5902'-6729')
 BH AT Curve <8-1/2"> (6729')(6755'-17817')
 Sycamore: 6401' MD
 Middlesex: 6541' MD
 Burkett: 6704' MD
 Tully: 6747' MD
 Hamilton: 6809' MD
 Marcellus POE: 6822' MD
 Projected MD at TD: 17842'

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