

ANTERO RESOURCES CORPORATION

Location: Doddridge Co., WV
 Field: Doddridge
 Facility: Addie Pad

Slot: Slot #08
 Well: Cobra Unit 1H
 Wellbore: Cobra Unit 1H PWB

Reference wellbore is Cobra Unit 1H PWB Rev-A-0
 True vertical depths are referenced to Frontier 22 (RKB)
 Measured depths are referenced to Frontier 22 (RKB)
 Frontier 22 (RKB) to Mean Sea Level: 914.5 feet
 Mean Sea Level to Mud line (At Slot Slot #08): -310 feet
 Coordinates are in feet referenced to Slot



Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Addie Pad	1695325.147	14283415.126	80°48'20.930"W
Local N (ft)	Local E (ft)	Grid North (US ft)	Longitude
Slot #08	60.51	39°20'00.530"N	80°48'20.160"W
Slot #08	-0.88	1695385.029	14283414.245
Comment	Cobra Unit 1H		
Frontier 22 (RKB) to Mud line (At Slot Slot #08)	24.5 ft		
Mean Sea Level to Mud line (At Slot Slot #08)	-800 ft		
Frontier 22 (RKB) to Mean Sea Level	914.5 ft		

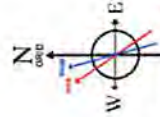
API: 47-017-06809-0000
 BHI Job #: 8883961
 Rig: Frontier 22

Gyrodatta MS Gyro <17-1/2> (100-472) : 0.24° Inc. 109.50ft MD, 109.50ft TVD, 0.01ft VS
 Gyrodatta MS Gyro <12-1/4> (472)(499-680) : 0.31° Inc. 508.50ft MD, 508.50ft TVD, -0.80ft VS
 WFT EM <12-1/4> (680)(792-2525) : 6.30° Inc. 801.03ft MD, 801.03ft TVD, -8.01ft VS

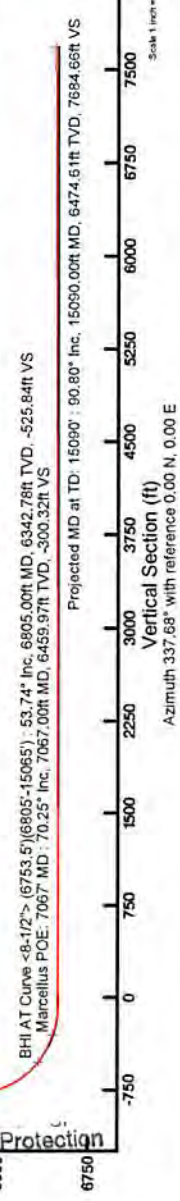
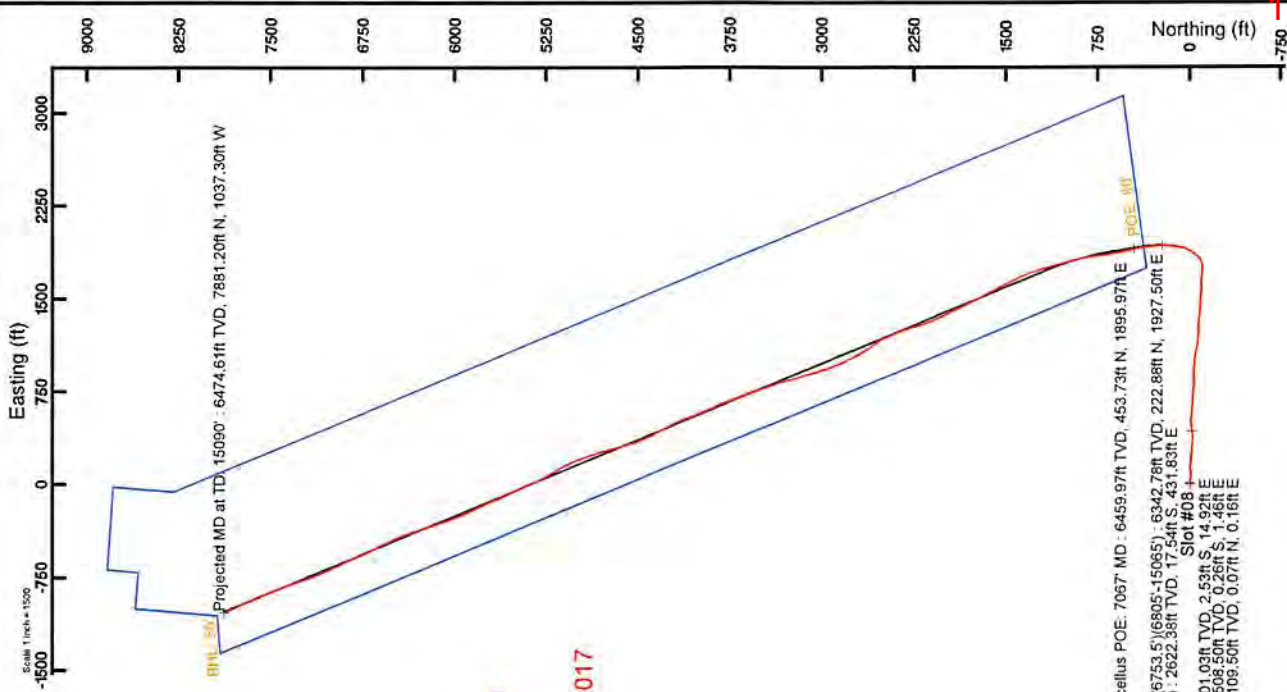
Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6753.50	49.450	3.770	6310.78	182.57	1926.65	-562.81
Proj. To Bottom	6825.50	55.340	359.690	6354.71	239.54	1928.29	-510.73
POE	7046.63	69.500	350.500	6457.00	433.94	1910.58	-324.17
Landing PL	7233.92	90.000	350.500	6499.00	663.02	1872.25	-97.70
On Admuth	7831.93	90.000	337.676	6499.00	1186.93	1722.32	445.75
BHL	15072.31	90.000	337.676	6499.00	-1027.94	0.00	7686.13

WFT EM <8-3/4> (2525)(2662-6744) : 13.14° Inc. 2671.50ft MD, 2622.38ft TVD, -180.23ft VS

Well Data		
Well	Wellbore	Wellbath
Slot #08	Cobra Unit 1H AHB	Cobra Unit 1H PWB
Slot #08	Cobra Unit 1H PWB	Cobra Unit 1H PWB Rev-A-0



User specified Dip: 66.50° Field 52071 nt
 Magnetic declination: 66.50° West of True North (4/21/16/2017)
 Grid No: 0115
 To correct azimuth from True to Grid subtract 0.12 degrees
 To correct azimuth from Magnetic to Grid subtract 7.75 degrees



Projected MD at TD: 15090' : 90.80° Inc. 15090.00ft MD, 6474.61ft TVD, 7684.66ft VS
 Azimuth 337.68° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090'
Page 1 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Cobra Unit 1H
Field	Doddridge	Wellbore	Cobra Unit 1H AWB
Facility	Addie Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999603	Report Generated	11/Jan/2018 at 13:48
Convergence at slot	0.12° East	Database/Source file	WA_MPL_EasternUS_Defn/Cobra_Unit_1H_AWP_Proj_15090_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.88	60.51	1695385.63	14283414.25	39°20'00.520"N	80°48'20.160"W
Facility Reference Pt			1695325.15	14283415.13	39°20'00.530"N	80°48'20.930"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	914.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Mud Line at Slot (Slot #08)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	337.68°

RECEIVED
 Office of Oil and Gas
 NOV 14 2018
 WV Department of
 Environmental Protection



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090'

Page 2 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #08
Area	Doddridge Co., WV		Well
Field	Doddridge		Wellbore
Facility	Addie Pad		Cobra Unit 1H AWB

WELLPATH DATA (191 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	65.760	0.00	0.00	0.00	0.00	1695385.63	14283414.24	39°20'00.520"N	80°48'20.160"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.00	65.760	24.50	0.00	0.00	0.00	1695385.63	14283414.24	39°20'00.520"N	80°48'20.160"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.240	65.760	109.50	0.01	0.07	0.16	1695385.79	14283414.32	39°20'00.521"N	80°48'20.158"W	0.18	65.760	0.28	0.28	77.36	Gyrodata MS Gyro <17-1/2"> (100'-472')
209.50	0.250	110.480	209.50	-0.14	0.08	0.56	1695386.19	14283414.33	39°20'00.521"N	80°48'20.153"W	0.56	81.560	0.19	0.01	44.72	
309.50	0.050	88.800	309.50	-0.30	0.01	0.81	1695386.43	14283414.25	39°20'00.520"N	80°48'20.150"W	0.81	89.479	0.20	-0.20	-21.68	
409.50	0.250	113.830	409.50	-0.47	-0.08	1.05	1695386.68	14283414.17	39°20'00.519"N	80°48'20.147"W	1.05	94.356	0.21	0.20	25.03	
481.50	0.260	113.340	481.50	-0.70	-0.21	1.34	1695386.97	14283414.04	39°20'00.518"N	80°48'20.143"W	1.36	98.811	0.01	0.01	-0.68	
508.50	0.310	116.350	508.50	-0.80	-0.26	1.46	1695387.09	14283413.98	39°20'00.517"N	80°48'20.141"W	1.49	100.250	0.19	0.19	11.15	Gyrodata MS Gyro <12-1/4"> (472')(499'-680')
598.50	1.100	105.070	598.49	-1.51	-0.60	2.52	1695388.14	14283413.65	39°20'00.514"N	80°48'20.128"W	2.59	103.355	0.89	0.88	-12.53	
689.50	3.140	101.740	689.42	-3.43	-1.33	5.80	1695391.43	14283412.91	39°20'00.507"N	80°48'20.086"W	5.95	102.930	2.24	2.24	-3.66	
801.50	6.300	95.380	801.03	-8.01	-2.53	14.92	1695400.55	14283411.71	39°20'00.495"N	80°48'19.970"W	15.14	99.630	2.86	2.82	-5.68	WFT EM <12-1/4"> (680')(792'-2525')
895.50	8.150	93.780	894.28	-13.34	-3.46	26.71	1695412.33	14283410.79	39°20'00.485"N	80°48'19.820"W	26.93	97.371	1.98	1.97	-1.70	
990.50	9.910	93.390	988.10	-19.85	-4.38	41.59	1695427.20	14283409.86	39°20'00.476"N	80°48'19.631"W	41.82	96.016	1.85	1.85	-0.41	
1084.50	11.970	93.300	1080.38	-27.57	-5.42	59.40	1695445.00	14283408.82	39°20'00.465"N	80°48'19.404"W	59.64	95.216	2.19	2.19	-0.10	
1179.50	12.130	91.080	1173.29	-35.80	-6.18	79.21	1695464.81	14283408.07	39°20'00.457"N	80°48'19.152"W	79.45	94.459	0.52	0.17	-2.34	
1274.50	11.800	84.280	1266.23	-42.54	-5.40	98.86	1695484.45	14283408.85	39°20'00.465"N	80°48'18.902"W	99.01	93.125	1.52	-0.35	-7.16	
1368.50	11.980	84.490	1358.22	-48.10	-3.50	118.13	1695503.71	14283410.74	39°20'00.483"N	80°48'18.657"W	118.18	91.698	0.20	0.19	0.22	
1462.50	12.100	91.770	1450.15	-54.95	-2.87	137.69	1695523.27	14283411.38	39°20'00.489"N	80°48'18.408"W	137.72	91.194	1.62	0.13	7.74	
1557.50	12.340	95.490	1543.00	-63.75	-4.15	157.75	1695543.31	14283410.10	39°20'00.476"N	80°48'18.153"W	157.80	91.507	0.87	0.25	3.92	
1651.50	13.160	93.410	1634.68	-73.08	-5.75	178.43	1695563.99	14283408.50	39°20'00.459"N	80°48'17.889"W	178.52	91.845	1.00	0.87	-2.21	
1746.50	13.620	89.910	1727.10	-82.01	-6.37	200.41	1695585.96	14283407.88	39°20'00.453"N	80°48'17.610"W	200.51	91.821	0.98	0.48	-3.68	
1841.50	13.930	94.430	1819.37	-91.39	-7.24	223.00	1695608.54	14283407.01	39°20'00.444"N	80°48'17.322"W	223.11	91.859	1.18	0.33	4.76	
1936.50	15.190	98.850	1911.32	-102.97	-10.04	246.70	1695632.23	14283404.21	39°20'00.416"N	80°48'17.021"W	246.90	92.330	1.77	1.33	4.65	
2030.50	14.990	97.580	2002.08	-115.41	-13.53	270.92	1695656.44	14283400.72	39°20'00.380"N	80°48'16.713"W	271.25	92.860	0.41	-0.21	-1.35	
2125.50	14.610	96.290	2093.93	-127.27	-16.47	295.00	1695680.52	14283397.78	39°20'00.351"N	80°48'16.406"W	295.46	93.195	0.53	-0.40	-1.36	
2220.50	15.590	95.400	2185.65	-138.95	-18.98	319.62	1695705.12	14283395.27	39°20'00.326"N	80°48'16.093"W	320.19	93.399	1.06	1.03	-0.94	
2314.50	14.970	92.370	2276.33	-149.89	-20.67	344.33	1695729.82	14283393.58	39°20'00.308"N	80°48'15.778"W	344.95	93.436	1.08	-0.66	-3.22	
2409.50	14.680	90.040	2368.17	-159.60	-21.19	368.63	1695754.11	14283393.06	39°20'00.303"N	80°48'15.469"W	369.23	93.290	0.70	-0.31	-2.45	
2503.50	14.350	87.880	2459.17	-168.15	-20.77	392.18	1695777.65	14283393.49	39°20'00.306"N	80°48'15.170"W	392.73	93.031	0.67	-0.35	-2.30	
2534.50	14.060	87.250	2489.22	-170.74	-20.44	399.78	1695785.25	14283393.81	39°20'00.309"N	80°48'15.073"W	400.30	92.927	1.06	-0.94	-2.03	

RECEIVED
 Office of Oil and Gas
 NOV 14 2018
 WV Department of
 Environmental Protection



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090

Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Addle Pad
	Cobra Unit 1H	Wellbore	
	Cobra Unit 1H		
	Slot #08		

REFERENCE WELLPATH IDENTIFICATION

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)
2671.50	13.140	82.230	2622.38	-180.23	-17.54	431.83	1695817.29	14283396.71	39°20'00.33"N	80°48'14.665"W	432.19	92.326	1.09	-0.67	-3.66	W/FT EM <B-3/4> (2525)(2662-6744)
2766.50	12.520	79.700	2715.01	-185.08	-14.24	452.66	1695838.11	14283400.01	39°20'00.370"N	80°48'14.400"W	452.89	91.802	0.88	-0.65	-2.66	
2860.50	14.100	81.800	2806.48	-190.00	-10.78	474.02	1695859.46	14283403.47	39°20'00.403"N	80°48'14.128"W	474.14	91.303	1.76	1.68	2.23	
2954.50	16.550	85.860	2897.13	-196.97	-8.18	498.71	1695884.14	14283406.07	39°20'00.428"N	80°48'13.813"W	498.78	90.940	2.84	2.61	4.32	
3049.50	17.630	93.610	2987.95	-207.48	-8.11	526.57	1695911.99	14283406.14	39°20'00.429"N	80°48'13.459"W	526.63	90.883	2.65	1.14	8.16	
3143.50	18.770	96.730	3077.25	-221.05	-10.78	556.80	1695941.20	14283403.47	39°20'00.402"N	80°48'13.087"W	555.90	91.111	1.60	1.21	3.32	
3237.50	20.970	97.420	3165.65	-236.74	-14.73	587.50	1695972.89	14283399.53	39°20'00.362"N	80°48'12.684"W	587.68	91.436	2.35	2.34	0.73	
3332.50	23.370	95.050	3253.62	-253.84	-18.58	623.13	1696008.51	14283395.67	39°20'00.323"N	80°48'12.230"W	623.41	91.708	2.70	2.53	-2.49	
3427.50	26.830	93.340	3329.64	-271.79	-21.49	663.31	1696048.68	14283392.76	39°20'00.293"N	80°48'11.719"W	663.66	91.856	3.72	3.64	-1.80	
3521.50	27.750	92.250	3423.17	-290.08	-23.58	706.36	1696091.71	14283390.67	39°20'00.272"N	80°48'11.171"W	706.75	91.912	1.11	0.98	-1.16	
3615.50	26.920	95.230	3506.68	-309.02	-26.38	749.42	1696134.75	14283387.87	39°20'00.243"N	80°48'10.623"W	749.88	92.016	1.70	-0.88	3.17	
3709.50	26.160	93.750	3590.77	-327.97	-29.68	791.29	1696176.60	14283384.58	39°20'00.210"N	80°48'10.091"W	791.84	92.148	1.07	-0.81	-1.57	
3804.50	25.300	90.720	3676.36	-345.12	-31.30	832.48	1696217.78	14283382.95	39°20'00.193"N	80°48'09.566"W	833.07	92.153	1.65	-0.91	-3.19	
3899.50	24.170	88.590	3762.64	-360.00	-31.08	872.23	1696257.51	14283383.18	39°20'00.194"N	80°48'09.061"W	872.78	92.041	1.51	-1.19	-2.24	
3993.50	23.880	91.110	3848.50	-374.44	-30.97	910.50	1696295.76	14283383.28	39°20'00.194"N	80°48'08.574"W	911.02	91.948	1.13	-0.30	2.68	
4087.50	23.240	96.080	3934.67	-390.83	-33.31	947.97	1696333.22	14283380.95	39°20'00.170"N	80°48'08.097"W	948.56	92.012	2.22	-0.69	5.29	
4182.50	21.970	94.810	4022.37	-407.85	-36.78	984.32	1696369.56	14283377.48	39°20'00.135"N	80°48'07.634"W	985.01	92.140	1.43	-1.34	-1.34	
4276.50	21.170	95.550	4109.78	-423.80	-39.90	1018.74	1696403.96	14283374.36	39°20'00.104"N	80°48'07.196"W	1019.52	92.243	0.90	-0.85	0.79	
4371.50	21.180	101.810	4198.38	-441.45	-45.07	1052.61	1696437.82	14283369.19	39°20'00.052"N	80°48'06.765"W	1053.58	92.452	0.01	6.59	2.10	
4467.50	20.480	103.830	4288.11	-461.09	-52.64	1085.90	1696471.09	14283361.63	39°19'59.976"N	80°48'06.342"W	1087.17	92.775	1.04	-0.73	2.10	
4562.50	22.080	101.160	4376.63	-480.75	-60.06	1119.56	1696504.74	14283354.21	39°19'59.902"N	80°48'05.914"W	1121.17	93.071	1.97	1.68	-2.82	
4656.50	25.210	96.130	4462.74	-500.03	-65.62	1156.81	1696541.97	14283348.65	39°19'59.847"N	80°48'05.440"W	1158.67	93.247	3.96	3.33	-3.40	
4751.50	26.690	93.850	4548.16	-519.08	-69.21	1198.21	1696583.36	14283345.06	39°19'59.810"N	80°48'04.913"W	1200.21	93.306	1.88	1.56	-2.40	
4846.50	25.440	92.430	4633.50	-537.03	-71.51	1239.89	1696626.02	14283342.76	39°19'59.787"N	80°48'04.383"W	1241.95	93.301	1.47	-1.32	-1.49	
4940.50	25.750	92.760	4718.27	-554.14	-73.35	1280.46	1696665.57	14283340.93	39°19'59.768"N	80°48'03.866"W	1282.56	93.278	0.36	0.33	0.35	
5035.50	26.520	95.930	4803.56	-572.93	-76.53	1322.17	1696707.27	14283337.74	39°19'59.735"N	80°48'03.336"W	1324.38	93.313	1.68	0.81	3.34	
5129.50	26.150	96.180	4887.81	-592.75	-80.93	1363.63	1696748.72	14283333.35	39°19'59.691"N	80°48'02.808"W	1366.03	93.396	0.41	-0.39	0.27	
5224.50	25.210	94.860	4973.42	-611.98	-84.90	1404.61	1696789.68	14283329.38	39°19'59.651"N	80°48'02.287"W	1407.17	93.459	1.16	-0.99	-1.39	
5318.50	26.750	94.950	5057.92	-630.82	-88.42	1445.63	1696830.68	14283325.86	39°19'59.615"N	80°48'01.765"W	1448.33	93.500	1.64	1.64	0.10	
5413.50	26.510	94.200	5142.82	-650.10	-91.82	1488.12	1696873.16	14283322.46	39°19'59.580"N	80°48'01.224"W	1490.95	93.531	0.40	-0.19	-0.79	



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090
Page 4 of 10



REFERENCE WELLPATH IDENTIFICATION		Slot #08
Operator	ANTERO RESOURCES CORPORATION	Cobra Unit 1H
Area	Doddridge Co., WV	Cobra Unit 1H AWB
Field	Doddridge	
Facility	Addie Pad	

WELLPATH DATA (191 stations) † = Interpolated/extrapolated station																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [1/100ft]	Build Rate [1/100ft]	Turn Rate [1/100ft]	Comments
5607.50	25.920	92.600	5227.13	-668.14	-94.29	1529.61	1696914.63	14283319.99	39°19'59.555"N	80°48'00.696"W	1532.52	93.528	1.02	-0.59	-1.70	
5602.50	24.840	90.840	5312.96	-684.74	-85.53	1570.31	1696955.31	14283318.76	39°19'59.542"N	80°48'00.178"W	1573.21	93.481	1.39	-1.14	-1.85	
5696.50	25.870	92.130	5397.91	-700.99	-96.58	1610.54	1696995.53	14283317.70	39°19'59.531"N	80°47'59.666"W	1613.44	93.432	1.24	1.10	1.37	
5791.50	26.160	93.750	5483.28	-718.78	-98.72	1652.15	1697037.12	14283315.56	39°19'59.509"N	80°47'59.137"W	1655.10	93.419	0.81	0.31	1.71	
5885.50	25.220	94.120	5567.99	-736.80	-101.51	1692.81	1697077.76	14283312.77	39°19'59.480"N	80°47'58.620"W	1695.85	93.432	1.01	-1.00	0.39	
5980.50	24.520	93.390	5654.18	-754.36	-104.13	1732.67	1697117.61	14283310.15	39°19'59.453"N	80°47'58.112"W	1735.80	93.439	0.80	-0.74	-0.77	
6011.50	24.520	92.200	5682.38	-759.82	-104.76	1745.52	1697130.45	14283309.53	39°19'59.447"N	80°47'57.949"W	1748.66	93.435	1.59	0.00	-3.84	
6043.50	24.480	91.330	5711.50	-765.24	-105.17	1758.78	1697143.71	14283309.12	39°19'59.443"N	80°47'57.780"W	1761.93	93.422	1.13	-0.12	-2.72	
6075.50	24.080	86.910	5740.67	-770.05	-104.97	1771.93	1697156.86	14283309.32	39°19'59.444"N	80°47'57.613"W	1775.04	93.390	5.81	-1.25	-13.81	
6106.50	21.640	79.280	5769.24	-773.28	-103.57	1783.87	1697168.79	14283310.72	39°19'59.458"N	80°47'57.461"W	1786.87	93.323	12.36	-7.87	-24.58	
6137.50	19.390	69.530	5798.28	-774.60	-100.70	1794.31	1697179.22	14283313.58	39°19'59.486"N	80°47'57.328"W	1797.13	93.212	13.18	-7.26	-31.48	
6169.50	18.720	60.550	5828.64	-774.14	-96.32	1803.76	1697188.67	14283317.96	39°19'59.529"N	80°47'57.207"W	1806.33	93.057	9.39	-2.09	-28.06	
6200.50	19.320	53.890	5857.85	-772.30	-90.85	1812.24	1697197.14	14283323.43	39°19'59.583"N	80°47'57.099"W	1814.51	92.870	7.26	1.94	-21.48	
6232.50	20.710	50.630	5887.92	-769.37	-84.14	1820.89	1697205.79	14283330.14	39°19'59.649"N	80°47'56.989"W	1822.83	92.646	5.57	4.34	-10.19	
6264.50	22.370	47.510	5917.68	-765.61	-76.44	1829.75	1697214.65	14283337.84	39°19'59.729"N	80°47'56.876"W	1831.35	92.392	6.30	5.19	-9.75	
6295.50	23.350	43.330	5946.25	-761.05	-67.99	1838.32	1697223.22	14283346.29	39°19'59.806"N	80°47'56.767"W	1839.58	92.118	6.12	3.16	-13.48	
6327.50	25.360	39.050	5975.40	-755.15	-58.05	1846.99	1697231.88	14283356.22	39°19'59.906"N	80°47'56.656"W	1847.90	91.800	8.36	6.28	-13.38	
6358.50	27.190	35.120	6003.20	-748.15	-47.10	1855.25	1697240.14	14283367.17	39°20'00.014"N	80°47'56.551"W	1855.85	91.454	8.14	5.90	-12.68	
6389.50	28.970	32.670	6030.55	-740.03	-34.98	1863.38	1697248.26	14283379.27	39°20'00.134"N	80°47'56.447"W	1863.70	91.076	6.84	5.74	-7.90	
6421.50	30.970	30.730	6058.27	-730.64	-21.38	1871.77	1697256.65	14283392.87	39°20'00.268"N	80°47'56.340"W	1871.89	90.654	6.94	6.25	-6.06	
6452.50	33.290	28.860	6084.52	-720.51	-7.07	1879.95	1697264.83	14283407.18	39°20'00.409"N	80°47'56.235"W	1879.96	90.216	8.14	7.48	-6.03	
6484.50	35.870	27.390	6110.87	-708.94	8.95	1888.50	1697273.38	14283423.19	39°20'00.568"N	80°47'56.126"W	1888.53	89.729	8.47	8.06	-4.59	
6515.50	37.890	24.960	6135.66	-696.61	25.64	1896.70	1697281.57	14283439.88	39°20'00.732"N	80°47'56.021"W	1896.87	89.225	8.04	6.52	-7.84	
6547.50	38.970	20.430	6160.74	-682.55	43.99	1904.36	1697289.23	14283458.21	39°20'00.914"N	80°47'55.923"W	1904.87	88.677	9.42	3.37	-14.16	
6578.50	40.090	15.280	6184.65	-667.48	62.76	1910.40	1697295.26	14283476.88	39°20'01.099"N	80°47'55.848"W	1911.43	88.119	11.17	3.61	-16.61	
6609.50	40.980	10.130	6208.22	-650.98	82.40	1914.92	1697299.68	14283496.61	39°20'01.293"N	80°47'55.789"W	1916.59	87.536	11.17	2.87	-16.61	
6641.50	42.420	7.980	6232.11	-632.81	103.42	1918.16	1697303.03	14283517.62	39°20'01.501"N	80°47'55.746"W	1920.95	86.914	6.34	4.50	-6.72	
6668.00†	43.445	7.234	6251.51	-617.17	121.31	1920.55	1697305.41	14283535.50	39°20'01.677"N	80°47'55.715"W	1924.38	86.386	4.32	3.87	-2.82	Middlesex: 6668 MD
6672.50	43.620	7.110	6254.78	-614.47	124.38	1920.94	1697305.80	14283538.58	39°20'01.708"N	80°47'55.710"W	1924.96	86.295	4.32	3.88	-2.75	
6704.50	45.380	5.950	6277.60	-594.82	146.67	1923.48	1697308.35	14283560.85	39°20'01.928"N	80°47'55.677"W	1929.07	85.640	6.06	5.50	-3.62	

RECEIVED
Office of Oil and Gas

NOV 14 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090



Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addie Pad
Slot	Slot #08
Cobra Unit 1H	Well
Cobra Unit 1H AWP	Wellbore

WELLPATH DATA (191 stations) † = Interpolated/extrapolated station												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	East	Grid East	Grid North	Latitude	Longitude	Closure
(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(US ft)	(US ft)	(m)	(m)	(m)
6736.50	47.950	4.910	6299.56	-574.22	169.83	1925.68	1697310.54	14283584.01	39°20'02.157"N	80°47'55.648"W	1933.16	84.960
6753.50	49.450	3.770	6310.78	-562.81	182.57	1926.65	1697311.51	14283596.74	39°20'02.283"N	80°47'55.636"W	1935.28	84.587
6805.00	53.740	358.800	6342.78	-525.84	222.88	1927.50	1697312.86	14283637.04	39°20'02.681"N	80°47'55.624"W	1940.34	83.404
6859.00	58.240	354.890	6372.98	-483.57	267.55	1925.00	1697309.86	14283681.69	39°20'03.123"N	80°47'55.654"W	1943.50	82.087
6887.00†	60.298	353.676	6387.29	-460.50	291.50	1922.60	1697307.46	14283705.63	39°20'03.358"N	80°47'55.684"W	1944.57	81.379
6906.00	61.700	352.880	6396.50	-444.50	308.00	1920.65	1697305.51	14283722.12	39°20'03.523"N	80°47'55.708"W	1945.19	80.889
6952.00†	65.791	350.892	6416.85	-404.51	348.83	1914.82	1697299.68	14283762.93	39°20'03.926"N	80°47'55.761"W	1946.33	79.675
6963.00	65.880	350.850	6417.26	-403.63	349.73	1895.97	1697299.54	14283763.83	39°20'04.935"N	80°47'55.783"W	1946.35	79.649
7000.00	67.720	349.840	6435.77	-361.48	392.31	1907.42	1697292.29	14283806.40	39°20'04.356"N	80°47'55.874"W	1947.35	78.378
7038.00†	68.899	349.340	6449.81	-326.93	427.04	1901.04	1697285.91	14283841.12	39°20'04.700"N	80°47'55.954"W	1948.42	77.340
7048.00	69.210	349.210	6453.39	-317.78	436.22	1899.31	1697284.18	14283850.29	39°20'04.790"N	80°47'55.976"W	1948.76	77.065
7055.00	71.790	349.220	6469.08	-274.38	479.74	1891.02	1697275.89	14283893.79	39°20'05.221"N	80°47'56.081"W	1950.92	75.765
7075.00†	70.253	349.214	6459.97	-300.32	453.73	1895.97	1697280.84	14283867.79	39°20'04.963"N	80°47'56.018"W	1949.50	76.542
7085.00	70.900	350.920	6502.93	-77.16	677.60	1853.67	1697238.56	14284091.57	39°20'07.177"N	80°47'56.550"W	1973.63	69.920
7143.00	76.450	348.920	6482.21	-229.13	525.05	1882.26	1697267.14	14283939.09	39°20'05.669"N	80°47'56.191"W	1954.12	74.414
7180.00	78.760	348.860	6492.58	-184.10	570.09	1873.41	1697258.30	14283984.11	39°20'06.114"N	80°47'56.302"W	1958.24	73.075
7238.00	83.770	349.160	6499.56	-137.60	616.66	1864.37	1697249.26	14284030.65	39°20'06.574"N	80°47'56.416"W	1963.70	71.698
7300.00	90.300	350.920	6502.93	-77.16	677.60	1853.67	1697238.56	14284091.57	39°20'07.177"N	80°47'56.550"W	1973.63	69.920
7333.00	90.000	351.460	6502.92	-45.07	710.21	1848.62	1697233.51	14284124.17	39°20'07.499"N	80°47'56.614"W	1980.35	68.984
7428.00	89.970	347.580	6501.92	139.43	898.00	1820.23	1697205.14	14284311.89	39°20'09.356"N	80°47'56.970"W	2028.89	63.741
7478.00	90.620	353.290	6502.41	46.82	804.56	1836.01	1697220.91	14284218.28	39°20'08.430"N	80°47'56.771"W	2004.48	66.342
7523.00	89.970	347.580	6501.87	139.43	898.00	1820.23	1697205.14	14284311.89	39°20'09.356"N	80°47'56.970"W	2028.89	63.741
7617.00	90.090	345.230	6501.87	232.34	989.36	1798.14	1697183.05	14284403.21	39°20'10.260"N	80°47'57.248"W	2052.35	61.180
7712.00	90.060	345.490	6501.75	326.49	1081.27	1774.13	1697159.05	14284495.09	39°20'11.169"N	80°47'57.551"W	2077.66	58.639
7807.00	90.060	343.860	6501.65	420.77	1172.89	1749.02	1697133.95	14284586.67	39°20'12.075"N	80°47'57.868"W	2105.88	56.154
7902.00	90.310	342.620	6501.34	515.33	1263.85	1721.63	1697108.57	14284677.60	39°20'12.974"N	80°47'58.214"W	2135.73	53.717
7997.00	90.220	337.810	6500.90	610.20	1363.22	1689.48	1697074.44	14284766.93	39°20'13.868"N	80°47'58.621"W	2164.61	51.306
8092.00	90.250	333.790	6500.51	705.13	1439.86	1650.55	1697035.52	14284853.52	39°20'14.715"N	80°47'59.114"W	2190.31	48.900
8186.00	90.120	332.450	6500.21	798.83	1523.69	1608.05	1696993.03	14284937.33	39°20'15.545"N	80°47'59.652"W	2215.28	46.543
8281.00	90.280	332.180	6499.88	893.42	1607.82	1563.91	1696848.91	14285021.42	39°20'16.377"N	80°48'00.212"W	2242.96	44.207
8376.00	90.250	332.310	6499.44	987.99	1691.89	1519.67	1696804.69	14285105.46	39°20'17.209"N	80°48'00.772"W	2274.18	41.930
8472.00	90.220	332.630	6499.04	1083.59	1777.02	1475.30	1696860.34	14285190.55	39°20'18.057"N	80°48'01.335"W	2309.61	39.700

† = Interpolated/extrapolated station

Marcellus POE: 7067' MD

Hamilton: 7038' MD

Tully: 6952' MD

Burkett: 6887' MD

BHI AT Curve <8-1/2"> (6753.5)-(6805-15065)

MD (m) Inclination (m) Azimuth (m) TVD (m) Vert Sect (m) North (m) East (m) East (m) Grid East (US ft) Grid North (US ft) Latitude (m) Longitude (m) Closure (m) Dir (m) Dist (m) Closure (m) DLS (m) Build Rate (m) Turn Rate (m) Comments



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090'

Page 6 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Cobra Unit 1H
Field	Doddridge	Wellbore	Cobra Unit 1H AWB
Facility	Addie Pad		

WELLPATH DATA (191 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
8567.00	90.220	335.390	6498.68	1178.38	1862.40	1433.67	1696818.73	14285275.90	39°20'18.896"N	80°48'01.862"W	2350.31	37.589	2.91	0.00	2.91	
8662.00	90.180	334.310	6498.35	1273.27	1948.39	1393.30	1696778.37	14285361.86	39°20'19.747"N	80°48'02.374"W	2395.31	35.569	1.14	-0.04	-1.14	
8757.00	90.120	334.780	6498.10	1368.12	2034.17	1352.47	1696737.56	14285447.60	39°20'20.596"N	80°48'02.891"W	2442.75	33.619	0.50	-0.06	0.49	
8851.00	90.180	339.200	6497.85	1462.09	2120.67	1315.73	1696700.84	14285534.07	39°20'21.452"N	80°48'03.356"W	2495.67	31.817	4.70	0.06	4.70	
8946.00	90.220	344.360	6497.52	1556.82	2210.87	1286.04	1696671.16	14285624.24	39°20'22.344"N	80°48'03.731"W	2557.71	30.186	5.43	0.04	5.43	
9040.00	90.180	341.780	6497.19	1650.39	2300.79	1258.67	1696643.80	14285714.12	39°20'23.233"N	80°48'04.077"W	2622.57	28.681	2.74	-0.04	-2.74	
9135.00	90.120	337.890	6496.94	1745.31	2389.95	1225.93	1696611.07	14285803.24	39°20'24.115"N	80°48'04.491"W	2686.03	27.156	4.10	-0.06	-4.09	
9230.00	90.180	336.240	6496.69	1840.30	2477.44	1188.91	1696574.06	14285890.70	39°20'24.981"N	80°48'04.960"W	2747.94	25.636	1.74	0.06	-1.74	
9325.00	90.180	324.050	6496.40	1934.30	2559.67	1141.71	1696526.88	14285972.90	39°20'25.794"N	80°48'05.559"W	2802.75	24.039	12.83	0.00	-12.83	
9419.00	90.060	327.640	6496.20	2026.29	2637.45	1088.94	1696474.13	14286050.64	39°20'26.564"N	80°48'06.228"W	2853.41	22.435	3.82	-0.13	3.82	
9514.00	90.090	331.790	6496.07	2120.35	2719.47	1041.04	1696426.25	14286132.63	39°20'27.376"N	80°48'06.835"W	2911.92	20.947	4.37	0.03	4.37	
9608.00	90.030	334.110	6495.98	2214.02	2803.18	998.30	1696383.53	14286216.31	39°20'28.204"N	80°48'07.377"W	2975.63	19.602	2.47	-0.06	2.47	
9703.00	90.120	338.250	6495.85	2308.97	2890.07	959.94	1696345.18	14286303.16	39°20'29.064"N	80°48'07.863"W	3045.32	18.374	4.36	0.09	4.36	
9798.00	90.150	342.630	6495.63	2403.84	2979.56	928.14	1696313.40	14286392.62	39°20'29.949"N	80°48'08.265"W	3120.77	17.302	4.61	0.03	4.61	
9893.00	90.150	343.310	6495.38	2498.43	3070.40	900.32	1696285.59	14286483.42	39°20'30.847"N	80°48'08.617"W	3199.67	16.342	0.72	0.00	0.72	
9988.00	90.150	343.880	6495.13	2592.92	3161.53	873.49	1696258.77	14286574.51	39°20'31.749"N	80°48'08.956"W	3279.97	15.445	0.60	0.00	0.60	
10083.00	90.180	345.150	6494.86	2687.25	3253.08	848.12	1696233.41	14286666.02	39°20'32.654"N	80°48'09.276"W	3361.82	14.613	1.34	0.03	1.34	
10177.00	90.150	343.460	6494.59	2780.62	3343.57	822.70	1696208.00	14286756.48	39°20'33.549"N	80°48'09.597"W	3443.29	13.823	1.80	-0.03	-1.80	
10272.00	90.180	339.830	6494.31	2875.37	3433.72	792.79	1696178.10	14286846.60	39°20'34.441"N	80°48'09.975"W	3524.05	13.001	3.82	0.03	-3.82	
10368.00	90.180	339.450	6494.01	2971.32	3523.72	759.39	1696144.71	14286936.56	39°20'35.331"N	80°48'10.398"W	3604.62	12.162	0.40	0.00	-0.40	
10462.00	90.090	339.270	6493.79	3065.27	3611.69	726.25	1696111.59	14287024.49	39°20'36.201"N	80°48'10.817"W	3683.98	11.370	0.21	-0.10	-0.19	
10556.00	90.280	341.060	6493.49	3159.18	3700.11	694.36	1696079.71	14287112.88	39°20'37.076"N	80°48'11.221"W	3764.69	10.628	1.91	0.20	1.90	
10651.00	90.430	340.450	6492.90	3254.04	3789.80	663.05	1696048.41	14287202.53	39°20'37.963"N	80°48'11.617"W	3847.36	9.924	0.66	0.16	-0.64	
10745.00	90.280	334.620	6492.31	3348.00	3876.62	627.14	1696012.52	14287289.32	39°20'38.822"N	80°48'12.071"W	3927.02	9.189	6.20	-0.16	-6.20	
10840.00	90.220	336.790	6491.90	3442.94	3963.20	588.06	1695973.45	14287375.87	39°20'39.678"N	80°48'12.566"W	4006.59	8.440	2.29	-0.06	2.28	
10935.00	90.280	340.930	6491.48	3537.90	4051.79	553.80	1695939.21	14287464.42	39°20'40.555"N	80°48'13.000"W	4089.46	7.783	4.36	0.06	4.36	
11030.00	90.220	338.210	6491.07	3632.83	4140.81	520.65	1695906.07	14287553.40	39°20'41.435"N	80°48'13.420"W	4173.41	7.167	2.86	-0.06	-2.86	
11126.00	90.150	332.850	6490.76	3728.73	4228.15	480.90	1695866.33	14287640.71	39°20'42.299"N	80°48'13.923"W	4255.41	6.489	5.58	-0.07	-5.58	
11221.00	90.120	331.380	6490.54	3823.28	4312.12	436.47	1695821.92	14287724.64	39°20'43.130"N	80°48'14.486"W	4334.15	5.780	1.55	-0.03	-1.55	
11317.00	90.310	334.380	6490.18	3918.93	4397.55	392.71	1695778.18	14287810.04	39°20'43.975"N	80°48'15.041"W	4415.05	5.103	3.13	0.20	3.12	

Date: 4/20/18
Time: 11:52 AM



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090'

Page 7 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Cobra Unit 1H
Field	Doddridge	Wellbore	Cobra Unit 1H AWP
Facility	Addie Pad		

WELLPATH DATA (191 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
11412.00	90.310	339.390	6489.66	4013.89	4484.90	355.43	1695740.91	14287897.35	39°20'44.839"N	80°48'15.513"W	4498.96	4.531	5.27	0.00	5.27	
11507.00	90.090	343.320	6489.33	4108.68	4574.89	325.06	1695710.56	14287987.31	39°20'45.730"N	80°48'15.897"W	4586.43	4.064	4.14	-0.23	4.14	
11602.00	90.180	344.850	6489.11	4203.08	4666.25	299.01	1695684.52	14288078.63	39°20'46.633"N	80°48'16.226"W	4675.82	3.666	1.61	0.09	1.61	
11697.00	90.280	344.630	6488.72	4297.36	4757.90	274.01	1695659.53	14288170.25	39°20'47.539"N	80°48'16.542"W	4765.78	3.296	0.25	0.11	-0.23	
11792.00	90.250	341.780	6489.28	4391.91	4848.83	246.56	1695632.09	14288261.15	39°20'48.439"N	80°48'16.889"W	4855.10	2.911	3.00	-0.03	-3.00	
11887.00	90.280	340.920	6487.85	4486.71	4938.84	216.18	1695601.73	14288351.12	39°20'49.329"N	80°48'17.273"W	4943.57	2.506	0.91	0.03	-0.91	
11982.00	90.250	338.120	6487.41	4581.65	5027.83	182.95	1695568.50	14288440.07	39°20'50.209"N	80°48'17.694"W	5031.16	2.084	2.95	-0.03	-2.95	
12077.00	90.340	330.660	6486.92	4676.43	5113.44	141.91	1695527.49	14288525.64	39°20'51.056"N	80°48'18.214"W	5115.40	1.590	7.85	0.09	-7.85	
12172.00	90.180	327.750	6486.48	4770.38	5195.03	93.28	1695478.87	14288607.21	39°20'51.864"N	80°48'18.830"W	5195.87	1.029	3.07	-0.17	-3.06	
12267.00	90.060	333.970	6486.29	4864.66	5277.97	47.05	1695432.66	14288690.11	39°20'52.684"N	80°48'19.417"W	5278.18	0.511	6.55	-0.13	6.55	
12362.00	90.520	338.870	6485.80	4959.61	5365.01	9.06	1695394.68	14288777.11	39°20'53.545"N	80°48'19.898"W	5365.01	0.097	5.18	0.48	5.16	
12457.00	90.460	336.030	6484.99	5054.59	5452.73	-27.37	1695358.27	14288864.80	39°20'54.413"N	80°48'20.359"W	5452.80	359.712	2.99	-0.06	-2.99	
12552.00	90.250	334.920	6484.40	5149.52	5539.16	-66.80	1695318.85	14288951.19	39°20'55.268"N	80°48'20.859"W	5539.56	359.309	1.19	-0.22	-1.17	
12647.00	90.120	337.240	6484.10	5244.47	5625.99	-105.32	1695280.35	14289037.99	39°20'56.127"N	80°48'21.347"W	5626.98	358.928	2.45	-0.14	2.44	
12742.00	90.180	336.890	6483.85	5339.47	5713.48	-142.34	1695243.35	14289125.45	39°20'56.993"N	80°48'21.815"W	5715.25	358.573	0.37	0.06	-0.37	
12837.00	90.220	334.640	6483.52	5434.41	5800.10	-181.33	1695204.37	14289212.04	39°20'57.850"N	80°48'22.309"W	5802.94	358.209	2.37	0.04	-2.37	
12932.00	90.120	334.630	6483.23	5529.27	5885.94	-222.03	1695163.69	14289297.84	39°20'58.699"N	80°48'22.825"W	5890.13	357.840	0.11	-0.11	-0.01	
13026.00	90.090	338.900	6483.06	5623.24	5972.30	-259.10	1695126.63	14289384.16	39°20'59.553"N	80°48'23.295"W	5977.92	357.516	4.54	-0.03	4.54	
13121.00	90.220	341.410	6482.80	5718.14	6061.65	-291.35	1695094.39	14289473.48	39°21'00.437"N	80°48'23.703"W	6068.65	357.248	2.65	0.14	2.64	
13217.00	90.120	340.660	6482.52	5813.98	6152.44	-322.55	1695063.21	14289564.23	39°21'01.335"N	80°48'24.097"W	6160.89	356.999	0.79	-0.10	-0.78	
13312.00	90.310	342.510	6482.16	5908.75	6242.57	-352.56	1695033.21	14289654.33	39°21'02.227"N	80°48'24.477"W	6252.52	356.768	1.96	0.20	1.95	
13407.00	90.280	341.810	6481.67	6003.46	6333.00	-381.66	1695004.12	14289744.72	39°21'03.121"N	80°48'24.845"W	6344.49	356.551	0.74	-0.03	-0.74	
13503.00	90.310	338.550	6481.18	6099.35	6423.30	-414.21	1694971.59	14289834.98	39°21'04.014"N	80°48'25.257"W	6436.64	356.310	3.40	0.03	-3.40	
13598.00	90.220	336.710	6480.74	6194.35	6511.14	-450.36	1694935.45	14289922.79	39°21'04.883"N	80°48'25.715"W	6526.70	356.043	1.94	-0.09	-1.94	
13693.00	90.180	331.350	6480.41	6289.12	6596.52	-481.95	1694893.88	14290008.14	39°21'05.728"N	80°48'26.242"W	6614.84	355.735	5.64	-0.04	-5.64	
13786.00	90.060	335.160	6480.21	6381.83	6679.56	-533.79	1694852.05	14290091.14	39°21'06.549"N	80°48'26.772"W	6700.85	355.431	4.10	-0.13	4.10	
13881.00	90.090	338.430	6480.09	6476.80	6766.86	-571.22	1694814.64	14290178.41	39°21'07.413"N	80°48'27.246"W	6790.92	355.175	3.44	0.03	3.44	
13976.00	90.180	336.180	6479.87	6571.79	6854.50	-607.87	1694778.00	14290266.01	39°21'08.280"N	80°48'27.710"W	6881.40	354.932	2.37	0.09	-2.37	
14071.00	90.180	333.380	6479.57	6666.66	6940.43	-648.34	1694737.54	14290351.91	39°21'09.130"N	80°48'28.223"W	6970.65	354.663	2.95	0.00	-2.95	
14166.00	90.180	335.260	6479.27	6761.49	7026.04	-689.51	1694696.40	14290437.49	39°21'09.977"N	80°48'28.745"W	7059.80	354.395	1.98	0.00	1.98	



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090



Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addie Pad
Well	Cobra Unit 1H
Wellbore	Cobra Unit 1H AWB
Slot	Slot #08

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
14260.00	38.750	6479.33	6855.47	7112.35	-726.73	1694659.19	14290523.76	39°21'10.831"N	80°48'29.216"W	7149.38	354.166	354.973	3.03	-0.46	3.00	
14356.00	89.820	340.850	6479.69	6951.41	7202.24	-760.40	1694625.53	14290613.62	80°48'29.843"W	7242.27	353.973	353.973	2.89	0.07	2.89	
14450.00	89.820	342.900	6479.98	7045.16	7291.57	-789.64	1694596.30	14290702.91	80°48'30.013"W	7334.20	353.819	353.819	2.18	0.00	2.18	
14545.00	89.910	339.640	6480.21	7139.96	7381.53	-820.14	1694565.81	14290792.83	80°48'30.398"W	7426.95	353.660	353.660	3.43	0.09	-3.43	
14639.00	89.830	336.480	6480.68	7233.94	7468.71	-855.28	1694530.71	14290879.98	80°48'30.843"W	7517.52	353.467	353.467	3.37	-0.30	-3.36	
14734.00	90.890	335.930	6480.15	7328.91	7555.63	-893.59	1694492.40	14290966.86	80°48'31.329"W	7608.29	353.255	353.255	1.45	1.33	-0.58	
14829.00	90.950	337.090	6478.63	7423.87	7642.74	-931.45	1694454.55	14291053.94	80°48'31.808"W	7699.29	353.051	353.051	1.22	0.06	1.22	
14924.00	90.950	337.080	6477.05	7518.86	7730.24	-968.43	1694417.58	14291141.40	80°48'32.277"W	7790.66	352.859	352.859	0.01	0.00	-0.01	
15019.00	90.800	336.070	6475.60	7613.83	7817.39	-1006.20	1694379.83	14291228.52	80°48'32.755"W	7881.88	352.666	352.666	1.07	-0.16	-1.06	
15065.00	90.800	333.030	6474.96	7659.75	7858.92	-1025.96	1694360.08	14291270.03	80°48'33.006"W	7925.61	352.562	352.562	6.61	0.00	-6.61	
15090.00	90.800	333.030	6474.61	7694.66	7881.20	-1037.30	1694348.75	14291282.30	80°48'33.149"W	7949.17	352.502	352.502	0.00	0.00	0.00	Projected MD at TD: 15090'

String/Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start E/W	End N/S	End E/W
20in Conductor	104.50	104.50	80.00	24.50	104.50	(ft)	(ft)	0.00	0.06
17.5in Open Hole	104.50	500.50	396.00	104.50	500.50	(ft)	(ft)	0.06	-0.25
13.75in Casing Surface	24.50	500.50	476.00	24.50	500.50	(ft)	(ft)	0.00	-0.25
12.25in Open Hole	500.50	2616.50	2116.00	500.50	2616.50	(ft)	(ft)	-0.25	1.43
9.625in Casing Intermediate	24.50	2616.50	2592.00	24.50	2616.50	(ft)	(ft)	0.00	-19.02
8.75in Open Hole	2616.50	6825.50	4209.00	2568.86	6825.50	(ft)	(ft)	-19.02	239.58
8.5in Open Hole	6825.50	15090.00	8264.50	6354.65	15090.00	(ft)	(ft)	239.58	1926.92
5.5in Casing Production	24.50	15090.00	15065.50	24.50	15090.00	(ft)	(ft)	0.00	7881.20

RECEIVED
Office of Oil and Gas
NOV 14 2018
WV Department of
Environmental Protection



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090'

Page 9 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Cobra Unit 1H
Field	Doddridge	Wellbore	Cobra Unit 1H AWB
Facility	Addie Pad		

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
Cobra Unit 1H POE - Rev-2	6457.00	433.94	1910.58	1697295.45	14283848.02	39°20'04.768"N	80°47'55.833"W	point	
Cobra Unit 1H BHL - Rev-1	6499.00	7886.63	-1027.94	1694358.10	14291297.73	39°21'18.490"N	80°48'33.030"W	point	
Cobra Unit 1H LP - Rev-1	6499.00	663.02	1872.25	1697257.13	14284077.00	39°20'07.033"N	80°47'56.314"W	point	

WELLPATH COMPOSITION - Ref Wellbore: Cobra Unit 1H AWB Ref Wellpath: Cobra Unit 1H AWP Proj: 15090'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
24.50	481.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-472')	Cobra Unit 1H AWB	
481.50	689.50	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodata MS Gyro <12-1/4">(472')(499'-680')	Cobra Unit 1H AWB	
689.50	2534.50	ISCWSA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(680')(792'-2525')	Cobra Unit 1H AWB	
2534.50	6753.50	ISCWSA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2525')(2662'-6744')	Cobra Unit 1H AWB	
6753.50	15065.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(6753.5')(6805'-15065')	Cobra Unit 1H AWB	
15065.00	15090.00	Blind Drilling (std)	Projection to bit	Cobra Unit 1H AWB	

RECEIVED
 Office of Oil and Gas
 NOV 14 2018
 WV Department of
 Environmental Protection



Actual Wellpath Report

Cobra Unit 1H AWP Proj: 15090'

Page 10 of 10



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Cobra Unit 1H
Field	Doddridge	Wellbore	Cobra Unit 1H AWB
Facility	Addie Pad		

COMMENTS

Wellpath general comments

API: 47-017-06809-0000

BHI Job #: 8883961

Rig: Frontier 22

Duration: 11/23/2017-11/25/2017

Gyrodata MS Gyro <17-1/2"> (100'-472')

Gyrodata MS Gyro <12-1/4"> (472')(499'-680')

WFT EM <12-1/4"> (680')(792'-2525')

WFT EM <8-3/4"> (2525')(2662'-6744')

BHI AT Curve <8-1/2"> (6753.5')(6805'-15065')

Middlesex: 6668' MD

Burkett: 6887' MD

Tully: 6952' MD

Hamilton: 7038' MD

Marcellus POE: 7067' MD

Projected MD at TD: 15090'

RECEIVED
Office of Oil and Gas
NOV 14 2018
WV Department of
Environmental Protection