

ANTERO RESOURCES CORPORATION

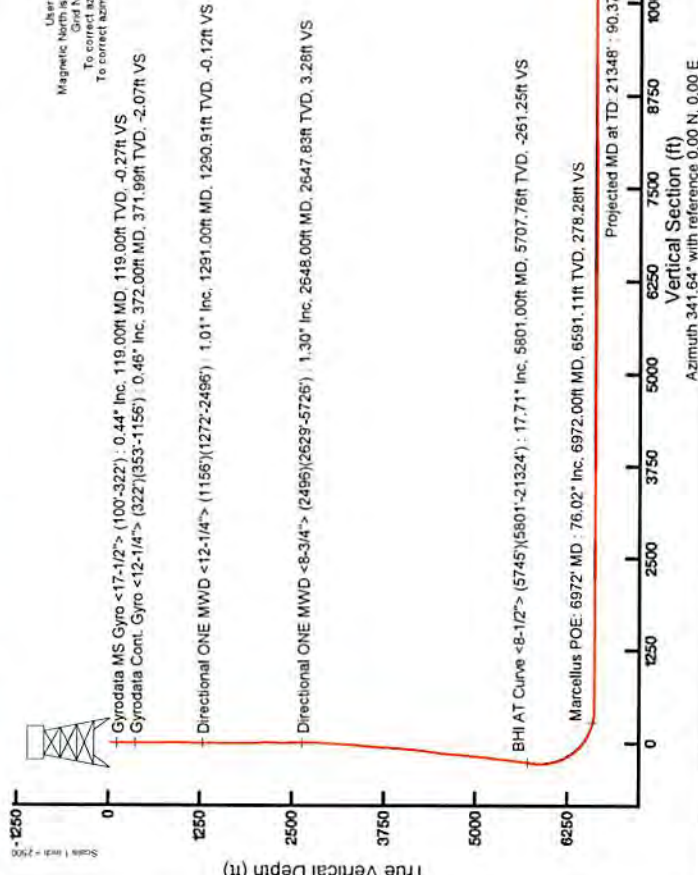
Location: Doddridge Co., WV
 Slot: Slot #09
 Well: California Unit 1H
 Wellbore: California Unit 1H PWB
 Facility: Balli Pad

Grid System	NAD83 / UTM Zone 17 North, US Feet
True vertical depths are referenced to Frontier 32 (RB#)	
* WGS84 was transformed from a different geoid datum	
North Inclinometer	Gold north
Scale	True distance
Depth	see in fact
Created by	substation 2017-06-23
Database	WML, Estam2015, Data

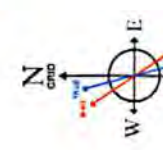
Location Information			
Facility Name	Grid East (US Ft)	Grid North (US Ft)	Latitude Longitude
Balli Pad	1654490.110	14272033.240	39°18'08.198"N 80°50'39.125"W
Slot	Local N (ft)	Local N (ft)	Local E (ft)
Slot #09	138	79.86	1654509.940
Comment	California Unit 1H		
Frontier 32 (RB#) to Mud Line (At Slot Slot #09)	32ft		
Mean Sea Level to Mud Line (At Slot Slot #09)	-1135ft		
Frontier 32 (RB#) to Mean Sea Level	1167ft		

Well Profile Data			
Design Comment	MD (ft)	Inc (°)	Local N (ft)
Is On	5745.00	17.310	226.800
Proj To Bottom	5326.00	17.310	226.800
Curve KOP	5866.75	17.530	226.800
End of 3D Arc	6244.15	21.656	311.839
POE	6953.44	75.125	341.644
Landing Pt	7138.38	90.000	341.644
BHL	21356.38	90.000	341.644

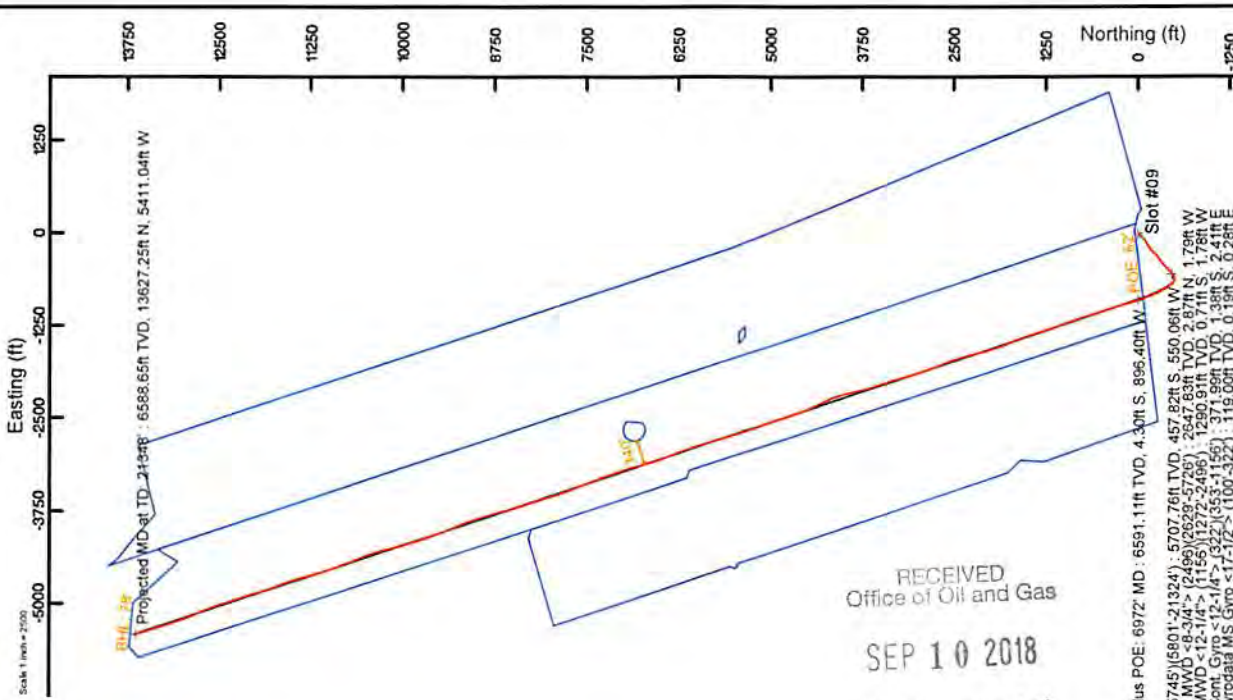
Well Data			
Slot	Well	Wellbore	Wellpath
Slot #09	California Unit 1H	California Unit 1H PWB	California Unit 1H PWB Rev-A.0



User specified Dip: 69.51° Field: 52067 ft
 Magnetic North is 7.64 degrees East of True North
 Grid North is 0.10 degrees East of True North
 To correct azimuth from True to Grid subtract 0.10 degrees
 To correct azimuth from Magnetic to Grid subtract 7.74 degrees



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API: 47-017-06796-0000
 BHI Job #: 8588833
 Rig: Frontier 32
 Duration: 06/12/2017-06/17/2017





Actual Wellpath Report
California Unit 1H AWP Proj: 21348'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Doddridge Co., WV	Well	California Unit 1H
Field	Doddridge	Wellbore	California Unit 1H AWB
Facility	Balli Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Delaset
Scale	0.999602	Report Generated	29/Jun/2017 at 17:33
Convergence at slot	0.10° East	Database/Source file	WA_MPL_EasternUS_Defn/California_Unit_1H_AWP_Proj_21348_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1.38	79.86	1684569.94	14272034.62	39°18'08.210"N	80°50'38.110"W
Facility Reference Pt			1684490.11	14272033.24	39°18'08.198"N	80°50'39.126"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Frontier 32 (RKB) to Facility Vertical Datum	32.00ft
Horizontal Reference Pt	Slot	Frontier 32 (RKB) to Mean Sea Level	1167.00ft
Vertical Reference Pt	Frontier 32 (RKB)	Frontier 32 (RKB) to Mud Line at Slot (Slot #09)	32.00ft
MD Reference Pt	Frontier 32 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	341.64°

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California Unit 1H AWP Proj: 21348'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #09
Area	Doddridge Co., WV		Well
Field	Doddridge		Wellbore
Facility	Balli Pad		California Unit 1H AWB

WELLPATH DATA (276 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†	0.000	124.440	0.00	0.00	0.00	0.00	1684569.94	14272034.62	39°18'08.210"N	80°50'38.110"W	0.00	0.000	0.00	0.00	0.00	
32.00	0.000	124.440	32.00	0.00	0.00	0.00	1684569.94	14272034.62	39°18'08.210"N	80°50'38.110"W	0.00	0.000	0.00	0.00	0.00	
119.00	0.440	124.440	119.00	-0.27	-0.19	0.28	1684570.22	14272034.43	39°18'08.208"N	80°50'38.106"W	0.33	124.440	0.51	0.51	143.03	Gyrodata MS Gyro <17-1/2"> (100'-322')
219.00	0.610	126.030	218.99	-1.00	-0.72	1.02	1684570.96	14272033.90	39°18'08.203"N	80°50'38.097"W	1.25	125.117	0.17	0.17	1.59	
319.00	0.580	108.490	318.99	-1.74	-1.19	1.93	1684571.87	14272033.43	39°18'08.198"N	80°50'38.085"W	2.27	121.676	0.18	-0.03	-17.54	
341.00	0.600	110.600	340.99	-1.88	-1.27	2.15	1684572.09	14272033.35	39°18'08.197"N	80°50'38.083"W	2.49	120.584	0.13	0.09	9.59	
372.00	0.460	115.520	371.99	-2.07	-1.38	2.41	1684572.35	14272033.24	39°18'08.196"N	80°50'38.079"W	2.78	119.777	0.47	-0.45	15.87	Gyrodata Cont. Gyro <12-1/4"> (322')(353'-1156')
432.00	0.120	118.420	431.99	-2.28	-1.51	2.68	1684572.62	14272033.11	39°18'08.195"N	80°50'38.076"W	3.08	119.416	0.57	-0.57	4.83	
491.00	0.580	304.330	490.99	-2.09	-1.37	2.49	1684572.43	14272033.25	39°18'08.196"N	80°50'38.078"W	2.84	118.880	1.19	0.78	-295.07	
552.00	0.900	307.710	551.98	-1.45	-0.91	1.88	1684571.80	14272033.71	39°18'08.201"N	80°50'38.086"W	2.07	116.027	0.53	0.52	5.54	
612.00	0.890	313.330	611.97	-0.64	-0.30	1.15	1684571.08	14272034.32	39°18'08.207"N	80°50'38.095"W	1.18	104.625	0.15	-0.02	9.37	
673.00	0.730	325.410	672.97	0.15	0.35	0.58	1684570.52	14272034.97	39°18'08.213"N	80°50'38.103"W	0.68	59.186	0.38	-0.26	19.80	
734.00	0.700	337.080	733.96	0.89	1.01	0.21	1684570.15	14272035.63	39°18'08.220"N	80°50'38.107"W	1.03	12.000	0.24	-0.05	19.13	
794.00	0.780	338.460	793.96	1.66	1.73	-0.08	1684569.86	14272036.35	39°18'08.227"N	80°50'38.111"W	1.73	357.408	0.14	0.13	2.30	
860.00	0.580	311.720	859.95	2.39	2.36	-0.48	1684569.46	14272036.98	39°18'08.233"N	80°50'38.116"W	2.41	348.410	0.57	-0.33	-40.52	
923.00	0.630	240.040	922.95	2.59	2.39	-1.01	1684568.93	14272037.01	39°18'08.234"N	80°50'38.123"W	2.60	337.025	1.11	0.11	-113.78	
986.00	0.960	230.510	985.94	2.33	1.88	-1.72	1684568.22	14272036.50	39°18'08.229"N	80°50'38.132"W	2.55	317.564	0.56	0.52	-15.13	
1049.00	1.230	226.780	1048.93	1.85	1.08	-2.62	1684567.32	14272035.70	39°18'08.221"N	80°50'38.143"W	2.84	292.464	0.44	0.43	-5.92	
1112.00	0.810	209.980	1111.92	1.27	0.24	-3.34	1684566.60	14272034.85	39°18'08.212"N	80°50'38.152"W	3.34	274.029	0.81	-0.67	-26.67	
1175.00	0.550	116.300	1174.92	0.77	-0.28	-3.29	1684566.65	14272034.34	39°18'08.207"N	80°50'38.152"W	3.30	265.051	1.60	-0.41	-148.70	
1291.00	1.010	100.330	1290.91	-0.12	-0.71	-1.78	1684568.16	14272033.91	39°18'08.203"N	80°50'38.133"W	1.92	248.156	0.43	0.40	-13.77	Directional ONE MWD <12-1/4"> (1156')(1272'-2496')
1354.00	0.480	87.380	1353.90	-0.45	-0.80	-0.97	1684568.97	14272033.82	39°18'08.202"N	80°50'38.122"W	1.26	230.497	0.88	-0.84	-20.56	
1417.00	0.410	328.990	1416.90	-0.31	-0.60	-0.83	1684569.11	14272034.02	39°18'08.204"N	80°50'38.121"W	1.02	234.130	1.21	-0.11	-187.92	
1480.00	0.540	295.300	1479.90	0.12	-0.27	-1.21	1684568.73	14272034.35	39°18'08.207"N	80°50'38.125"W	1.24	257.299	0.47	0.21	-51.89	
1543.00	0.640	281.080	1542.90	0.50	-0.07	-1.82	1684568.12	14272034.55	39°18'08.209"N	80°50'38.133"W	1.82	267.700	0.29	0.16	-24.16	
1606.00	0.820	271.420	1605.89	0.83	0.01	-2.62	1684567.33	14272034.63	39°18'08.210"N	80°50'38.143"W	2.62	270.125	0.35	0.29	-15.33	
1669.00	0.590	251.720	1668.89	0.98	-0.08	-3.37	1684566.57	14272034.54	39°18'08.209"N	80°50'38.153"W	3.37	268.559	0.53	-0.37	-31.27	
1732.00	0.530	192.990	1731.88	0.73	-0.47	-3.75	1684566.19	14272034.15	39°18'08.205"N	80°50'38.158"W	3.78	262.843	0.88	-0.10	-93.22	
1795.00	0.710	178.890	1794.88	0.11	-1.14	-3.81	1684566.14	14272033.48	39°18'08.199"N	80°50'38.158"W	3.97	253.258	0.37	0.29	-22.38	
1858.00	0.250	149.390	1857.88	-0.40	-1.66	-3.72	1684566.22	14272032.96	39°18'08.194"N	80°50'38.157"W	4.08	246.006	0.79	-0.71	-46.83	

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Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #09
Area	Doddridge Co., WV		Well	California Unit 1H
Field	Doddridge		Wellbore	California Unit 1H AWB
Facility	Balli Pad			

WELLPATH DATA (276 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
1921.00	0.550	28.520	1920.88	-0.33	-1.52	-3.51	1684566.43	14272033.11	39°18'08.195"N	80°50'38.155"W	3.82	246.636	1.14	0.46	-191.86	
1994.00	0.910	15.720	1983.87	0.29	-0.77	-3.23	1684566.71	14272033.85	39°18'08.202"N	80°50'38.151"W	3.32	256.615	0.62	0.57	-20.32	
2047.00	1.080	15.400	2046.86	1.20	0.29	-2.93	1684567.01	14272034.91	39°18'08.213"N	80°50'38.147"W	2.95	275.564	0.27	0.27	-0.51	
2110.00	0.520	7.320	2109.86	1.95	1.14	-2.74	1684567.20	14272035.76	39°18'08.221"N	80°50'38.145"W	2.97	292.619	0.90	-0.89	-12.83	
2174.00	0.400	207.490	2173.86	2.05	1.23	-2.81	1684567.13	14272035.85	39°18'08.222"N	80°50'38.146"W	3.07	293.894	1.42	-0.19	-249.73	
2236.00	0.690	210.960	2235.85	1.66	0.72	-3.10	1684566.84	14272035.34	39°18'08.217"N	80°50'38.149"W	3.18	283.074	0.47	0.47	5.60	
2299.00	0.350	198.530	2298.85	1.26	0.21	-3.35	1684566.59	14272034.83	39°18'08.212"N	80°50'38.153"W	3.36	273.614	0.57	-0.54	-19.73	
2363.00	0.240	62.700	2362.85	1.12	0.09	-3.30	1684566.64	14272034.71	39°18'08.211"N	80°50'38.152"W	3.30	271.529	0.86	-0.17	-212.23	
2426.00	0.390	41.550	2425.85	1.25	0.31	-3.04	1684566.90	14272034.93	39°18'08.213"N	80°50'38.149"W	3.05	275.807	0.30	0.24	-33.57	
2489.00	0.480	31.080	2488.85	1.53	0.70	-2.76	1684567.18	14272035.32	39°18'08.217"N	80°50'38.145"W	2.85	284.143	0.19	0.14	-16.65	
2515.00	0.550	23.590	2514.85	1.69	0.90	-2.65	1684567.29	14272035.52	39°18'08.219"N	80°50'38.144"W	2.80	288.794	0.37	0.27	-28.73	
2648.00	1.300	23.950	2647.83	3.28	2.87	-1.79	1684568.15	14272037.49	39°18'08.238"N	80°50'38.133"W	3.38	328.078	0.56	0.56	0.27	Directional ONE MWD <8-3/4"> (2496)(2629-5726)
2713.00	0.500	359.220	2712.82	4.10	3.82	-1.49	1684568.45	14272038.44	39°18'08.248"N	80°50'38.129"W	4.10	338.706	1.34	-1.23	-38.05	
2776.00	1.480	232.660	2775.81	4.10	3.61	-2.14	1684567.80	14272038.22	39°18'08.246"N	80°50'38.137"W	4.19	329.297	2.89	1.56	-200.89	
2839.00	4.130	230.280	2838.73	3.01	1.66	-4.53	1684565.41	14272036.28	39°18'08.227"N	80°50'38.168"W	4.83	290.136	4.21	4.21	-3.78	
2902.00	6.260	228.750	2901.47	0.84	-2.05	-8.86	1684561.08	14272032.57	39°18'08.190"N	80°50'38.223"W	9.10	256.958	3.39	3.38	-2.43	
2966.00	7.490	225.980	2965.01	-2.32	-7.25	-14.48	1684555.46	14272027.37	39°18'08.139"N	80°50'38.294"W	16.20	243.404	1.99	1.92	-4.33	
3029.00	8.050	223.970	3027.43	-6.15	-13.28	-20.50	1684549.45	14272021.35	39°18'08.079"N	80°50'38.371"W	24.43	237.064	0.99	0.89	-3.19	
3092.00	9.210	225.660	3089.72	-10.40	-19.98	-27.17	1684542.78	14272014.65	39°18'08.013"N	80°50'38.456"W	33.72	233.670	1.88	1.84	2.68	
3155.00	9.440	224.130	3151.88	-15.00	-27.21	-34.37	1684535.58	14272007.42	39°18'07.942"N	80°50'38.548"W	43.84	231.633	0.54	0.37	-2.43	
3218.00	8.710	223.520	3214.09	-19.63	-34.38	-41.25	1684528.70	14272000.26	39°18'07.871"N	80°50'38.636"W	53.70	230.194	1.17	-1.16	-0.97	
3282.00	8.400	224.340	3277.38	-24.06	-41.24	-47.86	1684522.10	14271993.40	39°18'07.803"N	80°50'38.720"W	63.17	229.251	0.52	-0.48	1.28	
3345.00	8.540	224.400	3339.69	-28.31	-47.87	-54.35	1684515.61	14271986.77	39°18'07.738"N	80°50'38.802"W	72.42	228.626	0.22	0.22	0.10	
3408.00	9.680	222.990	3401.90	-32.99	-55.09	-61.23	1684508.73	14271979.56	39°18'07.667"N	80°50'38.890"W	82.36	228.025	1.84	1.81	-2.24	
3471.00	10.850	220.700	3463.89	-38.58	-63.46	-68.71	1684501.26	14271971.19	39°18'07.584"N	80°50'38.985"W	93.53	227.277	1.97	1.86	-3.63	
3535.00	12.080	226.640	3526.61	-44.51	-72.62	-77.51	1684492.46	14271962.03	39°18'07.494"N	80°50'39.098"W	106.21	226.864	2.66	1.92	9.28	
3598.00	13.320	232.130	3588.07	-49.72	-81.60	-88.03	1684481.94	14271953.05	39°18'07.405"N	80°50'39.232"W	120.03	227.170	2.74	1.97	8.71	
3661.00	14.600	236.470	3649.21	-54.22	-90.44	-100.38	1684469.60	14271944.21	39°18'07.318"N	80°50'39.389"W	135.12	227.980	2.62	2.03	6.89	
3724.00	16.240	240.870	3709.95	-57.95	-99.12	-114.69	1684455.29	14271935.54	39°18'07.232"N	80°50'39.571"W	151.59	229.166	3.20	2.60	6.98	
3787.00	15.640	239.590	3770.52	-61.37	-107.71	-129.71	1684440.28	14271926.96	39°18'07.148"N	80°50'39.762"W	168.60	230.296	1.10	-0.95	-2.03	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Doddridge Co., WV	Well	California Unit 1H
Field	Doddridge	Wellbore	California Unit 1H AWB
Facility	Balli Pad		

WELLPATH DATA (276 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
3850.00	15.100	240.120	3831.27	-64.78	-116.09	-144.15	1684425.84	14271918.57	39°18'07.065"N	80°50'39.946"W	185.09	231.154	0.89	-0.86	0.84	
3913.00	15.550	239.100	3892.03	-68.25	-124.52	-158.51	1684411.49	14271910.15	39°18'06.982"N	80°50'40.129"W	201.57	231.849	0.83	0.71	-1.62	
3976.00	15.710	238.720	3952.70	-71.99	-133.28	-173.05	1684396.96	14271901.39	39°18'06.896"N	80°50'40.314"W	218.43	232.396	0.30	0.25	-0.60	
4039.00	16.340	234.670	4013.25	-76.48	-142.84	-187.57	1684382.45	14271891.84	39°18'06.801"N	80°50'40.499"W	235.76	232.710	2.04	1.00	-6.43	
4102.00	16.520	231.610	4073.68	-82.14	-153.52	-201.82	1684368.20	14271881.16	39°18'06.696"N	80°50'40.681"W	253.58	232.740	1.40	0.29	-4.86	
4165.00	15.180	230.510	4134.29	-88.18	-164.33	-215.21	1684354.82	14271870.35	39°18'06.589"N	80°50'40.851"W	270.78	232.635	2.18	-2.13	-1.75	
4230.00	13.750	225.180	4197.23	-94.69	-175.19	-227.26	1684342.78	14271859.50	39°18'06.482"N	80°50'41.005"W	286.94	232.371	3.00	-2.20	-8.20	
4293.00	14.350	223.860	4258.34	-101.67	-186.10	-237.98	1684332.06	14271848.60	39°18'06.375"N	80°50'41.141"W	302.10	231.974	1.08	0.95	-2.10	
4357.00	15.840	223.340	4320.13	-109.50	-198.17	-249.47	1684320.57	14271836.53	39°18'06.256"N	80°50'41.288"W	318.60	231.537	2.34	2.33	-0.81	
4420.00	16.030	220.890	4380.86	-117.76	-210.60	-260.71	1684309.33	14271824.11	39°18'06.133"N	80°50'41.431"W	335.15	231.070	1.65	-1.29	-3.89	
4483.00	15.350	220.060	4441.66	-126.30	-223.16	-271.43	1684298.62	14271811.55	39°18'06.009"N	80°50'41.568"W	351.39	230.575	0.61	0.51	-1.32	
4547.00	16.240	223.580	4503.24	-134.95	-236.12	-283.05	1684287.00	14271798.59	39°18'05.881"N	80°50'41.716"W	368.61	230.165	2.04	1.39	5.50	
4609.00	16.610	229.680	4562.72	-142.34	-248.14	-295.78	1684274.27	14271786.58	39°18'05.763"N	80°50'41.878"W	386.08	230.006	2.84	0.60	9.84	
4673.00	17.680	235.580	4623.88	-148.45	-259.55	-310.78	1684259.29	14271775.17	39°18'05.650"N	80°50'42.059"W	404.91	230.132	3.19	1.67	9.22	
4736.00	17.680	236.440	4683.90	-153.60	-270.25	-326.64	1684243.43	14271764.48	39°18'05.545"N	80°50'42.271"W	423.94	230.397	0.41	0.00	1.37	
4799.00	16.540	234.780	4744.11	-158.71	-280.71	-341.94	1684228.14	14271754.02	39°18'05.441"N	80°50'42.466"W	442.40	230.616	1.97	-1.81	-2.63	
4862.00	15.650	233.720	4804.64	-163.93	-290.91	-356.12	1684213.97	14271743.83	39°18'05.341"N	80°50'42.646"W	459.83	230.755	1.49	-1.41	-1.68	
4926.00	15.810	236.030	4866.25	-168.93	-300.89	-370.30	1684199.78	14271733.85	39°18'05.242"N	80°50'42.827"W	477.14	230.905	1.01	0.25	3.61	
4989.00	15.300	234.450	4926.94	-173.70	-310.52	-384.19	1684185.91	14271724.23	39°18'05.148"N	80°50'43.004"W	493.98	231.053	1.05	-0.81	-2.51	
5052.00	14.950	233.260	4987.76	-178.72	-320.21	-397.46	1684172.64	14271714.54	39°18'05.052"N	80°50'43.173"W	510.40	231.144	0.74	-0.56	-1.89	
5115.00	14.580	230.240	5048.68	-184.17	-330.14	-410.07	1684160.04	14271704.61	39°18'04.954"N	80°50'43.334"W	526.45	231.163	1.36	-0.59	-4.79	
5178.00	14.080	227.820	5109.72	-190.16	-340.36	-421.84	1684148.27	14271694.40	39°18'04.853"N	80°50'43.484"W	542.03	231.102	1.24	-0.79	-3.84	
5241.00	13.550	223.770	5170.90	-196.70	-350.83	-432.63	1684137.49	14271683.93	39°18'04.750"N	80°50'43.621"W	557.00	230.960	1.75	-0.84	-6.43	
5304.00	14.580	224.110	5232.01	-203.82	-361.86	-443.25	1684126.87	14271672.91	39°18'04.641"N	80°50'43.756"W	572.20	230.773	1.64	1.63	0.54	
5367.00	16.700	229.150	5292.67	-210.95	-373.47	-455.62	1684114.50	14271661.30	39°18'04.526"N	80°50'43.914"W	589.13	230.658	3.99	3.37	8.00	
5430.00	16.830	229.430	5352.99	-217.86	-385.33	-469.40	1684100.73	14271649.45	39°18'04.410"N	80°50'44.089"W	607.30	230.617	0.24	0.21	0.44	
5493.00	16.610	227.370	5413.33	-225.01	-397.36	-482.95	1684087.18	14271637.42	39°18'04.291"N	80°50'44.262"W	625.40	230.553	1.00	-0.35	-3.27	
5556.00	16.310	226.860	5473.75	-232.42	-409.50	-496.03	1684074.11	14271625.28	39°18'04.171"N	80°50'44.429"W	643.22	230.458	0.53	-0.48	-0.81	
5619.00	17.380	231.400	5534.05	-239.38	-421.42	-509.84	1684060.31	14271613.36	39°18'04.053"N	80°50'44.605"W	661.46	230.423	2.69	1.70	7.21	
5682.00	17.050	229.780	5594.23	-246.08	-433.26	-524.24	1684045.91	14271601.53	39°18'03.937"N	80°50'44.788"W	680.11	230.428	0.93	-0.52	-2.60	

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #09
Area	Doddridge Co., WV		Well	California Unit 1H
Field	Doddridge		Wellbore	California Unit 1H AWB
Facility	Balli Pad			

WELLPATH DATA (276 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)	
5745.00	17.530	226.800	5654.38	-253.50	-445.72	-538.21	1684031.95	14271589.08	39°18'03.814"N	80°50'44.966"W	698.81	230.370	1.59	0.76	-4.70	
5801.00	17.710	222.060	5707.76	-261.25	-457.82	-550.06	1684020.10	14271576.98	39°18'03.694"N	80°50'45.117"W	715.66	230.229	2.58	0.32	-8.46	BHI AT Curve <8-1/2"> (5745')(5801'-21324')
5816.00	17.360	221.010	5722.06	-263.52	-461.20	-553.06	1684017.10	14271573.60	39°18'03.661"N	80°50'45.155"W	720.13	230.175	3.15	-2.33	-7.00	
5863.00	16.850	222.730	5766.98	-270.38	-471.50	-562.28	1684007.88	14271563.31	39°18'03.559"N	80°50'45.273"W	733.81	230.019	1.53	-1.09	3.66	
5910.00	16.660	231.930	5811.99	-275.95	-480.66	-572.21	1683997.96	14271554.16	39°18'03.469"N	80°50'45.399"W	747.30	229.970	5.65	-0.40	19.57	
5957.00	15.430	244.190	5857.17	-279.03	-487.54	-583.15	1683987.03	14271547.28	39°18'03.401"N	80°50'45.539"W	760.10	230.103	7.65	-2.62	26.09	
6005.00	14.430	258.580	5903.57	-279.14	-491.50	-594.76	1683975.42	14271543.31	39°18'03.362"N	80°50'45.686"W	771.57	230.430	7.98	-2.08	29.98	
6052.00	15.220	274.390	5949.02	-276.05	-492.19	-606.66	1683963.52	14271542.63	39°18'03.356"N	80°50'45.838"W	781.21	230.947	8.74	1.68	33.64	
6100.00	16.150	287.160	5995.25	-269.73	-489.74	-619.32	1683950.86	14271545.08	39°18'03.380"N	80°50'45.999"W	789.56	231.664	7.43	1.94	26.60	
6147.00	17.390	295.770	6040.26	-261.04	-484.75	-631.90	1683938.30	14271550.06	39°18'03.430"N	80°50'46.159"W	796.42	232.507	5.90	2.64	18.32	
6194.00	18.750	300.860	6084.94	-250.43	-477.82	-644.71	1683925.49	14271556.99	39°18'03.498"N	80°50'46.322"W	802.47	233.456	4.43	2.89	10.83	
6241.00	21.200	305.890	6129.11	-237.81	-468.97	-658.08	1683912.12	14271565.84	39°18'03.586"N	80°50'46.491"W	808.08	234.525	6.36	5.21	10.70	
6290.00	24.650	312.370	6174.24	-221.70	-456.88	-672.81	1683897.39	14271577.92	39°18'03.706"N	80°50'46.679"W	813.28	235.821	8.71	7.04	13.22	
6337.00	27.930	317.180	6216.38	-203.12	-442.20	-687.54	1683882.67	14271592.60	39°18'03.851"N	80°50'46.866"W	817.47	237.253	8.32	6.98	10.23	
6385.00	31.410	321.300	6258.09	-181.15	-424.18	-703.01	1683867.21	14271610.61	39°18'04.029"N	80°50'47.062"W	821.07	238.894	8.40	7.25	8.58	
6432.00	35.060	325.370	6297.40	-156.70	-403.51	-718.35	1683851.88	14271631.28	39°18'04.234"N	80°50'47.257"W	823.92	240.676	9.10	7.77	8.66	
6478.00	38.310	328.890	6334.28	-130.10	-380.42	-733.23	1683837.01	14271654.35	39°18'04.463"N	80°50'47.445"W	826.04	242.578	8.41	7.07	7.65	
6525.00	41.870	331.100	6370.24	-100.46	-354.20	-748.34	1683821.90	14271680.56	39°18'04.722"N	80°50'47.637"W	827.93	244.671	8.16	7.57	4.70	
6573.00	45.610	332.210	6404.91	-67.78	-325.00	-764.08	1683806.16	14271709.75	39°18'05.011"N	80°50'47.837"W	830.33	246.958	7.95	7.79	2.31	
6578.00†	46.021	332.374	6408.40	-64.24	-321.82	-765.75	1683804.50	14271712.93	39°18'05.042"N	80°50'47.858"W	830.63	247.204	8.55	8.22	3.28	Middlesex: 6578' MD
6620.00	49.480	333.670	6436.63	-33.51	-294.12	-779.84	1683790.41	14271740.62	39°18'05.316"N	80°50'48.037"W	833.46	249.336	8.55	8.24	3.09	
6668.00	53.460	335.690	6466.53	3.76	-260.18	-795.88	1683774.38	14271774.55	39°18'05.652"N	80°50'48.240"W	837.33	251.897	8.92	8.29	4.21	
6715.00	57.310	337.370	6493.22	42.28	-224.70	-811.27	1683759.00	14271810.01	39°18'06.003"N	80°50'48.435"W	841.81	254.519	8.70	8.19	3.57	
6764.00	61.160	337.620	6518.28	84.26	-185.81	-827.38	1683742.89	14271848.88	39°18'06.388"N	80°50'48.639"W	847.99	257.343	7.87	7.86	0.51	
6785.00†	63.103	337.894	6528.10	102.78	-168.63	-834.41	1683735.87	14271866.06	39°18'06.557"N	80°50'48.728"W	851.28	258.575	9.33	9.25	1.30	Burket: 6785' MD
6811.00	65.510	338.220	6539.37	126.17	-146.90	-843.16	1683727.12	14271887.78	39°18'06.772"N	80°50'48.839"W	855.86	260.117	9.33	9.26	1.25	
6856.00†	69.138	339.244	6556.71	167.63	-108.21	-858.21	1683712.07	14271926.46	39°18'07.155"N	80°50'49.029"W	865.01	262.814	8.33	8.06	2.27	Tully: 6856' MD
6859.00	69.380	339.310	6557.78	170.43	-105.58	-859.21	1683711.08	14271929.08	39°18'07.181"N	80°50'49.042"W	865.67	262.994	8.33	8.07	2.21	
6906.00	72.270	339.540	6573.21	214.78	-64.03	-874.81	1683695.48	14271970.62	39°18'07.592"N	80°50'49.240"W	877.15	265.814	6.17	6.15	0.49	
6952.00	75.130	340.240	6586.12	258.91	-22.57	-889.98	1683680.31	14272012.06	39°18'08.002"N	80°50'49.432"W	890.27	268.547	6.39	6.22	1.52	

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Actual Wellpath Report

California Unit 1H AWP Proj: 21348'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddrige Co., WV
Field	Doddrige
Facility	Balli Pad
Well	California Unit 1H AWB
Slot	California Unit 1H AWB
Slot #09	

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
9610.00	90.220	340.770	6616.79	2912.22	2503.39	-1702.50	1682858.12	14274537.01	39°18'32.98"N	80°50'59.71"W	3027.45	325.781	2.60	0.04	-2.60	
9705.00	90.120	339.190	6616.51	3007.18	2592.65	-1735.02	1682835.61	14274626.23	39°18'33.86"N	80°51'00.12"W	3119.63	326.209	1.67	-0.11	-1.66	
9799.00	90.120	338.970	6616.31	3101.08	2680.45	-1768.59	1682802.06	14274714.00	39°18'34.73"N	80°51'00.55"W	3211.34	326.583	0.23	0.00	-0.23	
9894.00	90.120	338.140	6616.11	3195.95	2768.87	-1803.32	1682767.34	14274802.38	39°18'35.60"N	80°51'00.99"W	3304.33	326.924	0.87	0.00	-0.87	
9899.00	90.060	339.990	6615.96	3290.85	2857.60	-1837.26	1682733.41	14274891.07	39°18'36.48"N	80°51'01.42"W	3397.26	327.261	1.95	-0.06	-1.95	
10084.00	90.090	340.900	6615.84	3385.82	2947.12	-1869.06	1682701.63	14274980.56	39°18'37.37"N	80°51'01.82"W	3489.82	327.617	0.96	0.03	-0.96	
10178.00	89.720	343.450	6615.99	3479.81	3036.60	-1897.83	1682672.87	14275070.00	39°18'38.25"N	80°51'02.18"W	3580.88	327.995	2.74	-0.39	-2.71	
10273.00	89.690	344.400	6616.48	3574.73	3127.88	-1924.14	1682646.57	14275161.25	39°18'39.15"N	80°51'02.52"W	3672.32	328.402	1.00	-0.03	-1.00	
10368.00	89.540	344.880	6617.12	3669.60	3219.48	-1949.30	1682621.42	14275252.82	39°18'40.06"N	80°51'02.83"W	3763.62	328.806	0.53	-0.16	-0.51	
10463.00	89.690	342.430	6617.76	3764.53	3310.63	-1976.03	1682594.70	14275343.93	39°18'40.96"N	80°51'03.17"W	3855.52	329.168	2.58	0.16	-2.58	
10557.00	89.720	342.980	6618.24	3858.52	3400.38	-2003.98	1682566.76	14275433.64	39°18'41.85"N	80°51'03.53"W	3946.96	329.488	0.59	0.03	-0.59	
10651.00	89.630	341.610	6618.78	3952.51	3489.93	-2032.56	1682538.19	14275523.15	39°18'42.73"N	80°51'03.89"W	4038.68	329.783	1.46	-0.10	-1.46	
10746.00	89.720	340.920	6619.32	4047.50	3579.89	-2063.07	1682507.69	14275613.08	39°18'43.62"N	80°51'04.27"W	4131.82	330.045	0.73	0.09	-0.73	
10840.00	89.570	342.860	6619.90	4141.49	3669.23	-2092.29	1682478.48	14275702.38	39°18'44.51"N	80°51'04.64"W	4223.85	330.307	2.07	-0.16	-2.06	
10935.00	89.880	346.470	6620.35	4236.35	3760.83	-2117.41	1682453.38	14275793.95	39°18'45.416"N	80°51'04.966"W	4315.93	330.620	3.81	0.33	-3.80	
11029.00	90.000	348.670	6620.45	4329.84	3852.62	-2137.64	1682433.15	14275885.70	39°18'46.324"N	80°51'05.222"W	4405.93	330.976	2.34	0.13	-2.34	
11124.00	89.910	347.140	6620.53	4424.27	3945.51	-2157.55	1682413.25	14275978.55	39°18'47.242"N	80°51'05.473"W	4496.89	331.329	1.61	-0.09	-1.61	
11218.00	90.150	344.640	6620.48	4518.00	4036.67	-2180.46	1682390.35	14276069.67	39°18'48.143"N	80°51'05.763"W	4587.93	331.624	2.67	0.26	-2.66	
11313.00	90.090	339.800	6620.28	4612.97	4127.10	-2209.46	1682361.36	14276160.07	39°18'49.038"N	80°51'06.130"W	4681.31	331.837	5.10	-0.06	-5.09	
11408.00	89.970	336.180	6620.23	4707.76	4215.16	-2245.06	1682325.78	14276248.10	39°18'49.909"N	80°51'06.581"W	4775.76	331.960	3.81	-0.13	-3.81	
11502.00	90.030	335.960	6620.23	4801.31	4301.08	-2283.19	1682287.66	14276333.98	39°18'50.758"N	80°51'07.064"W	4869.52	332.039	0.24	0.06	-0.23	
11597.00	90.060	335.680	6620.15	4895.82	4387.75	-2322.10	1682248.77	14276420.61	39°18'51.616"N	80°51'07.558"W	4964.32	332.111	0.30	0.03	-0.29	
11692.00	89.970	334.320	6620.13	4990.19	4473.84	-2362.25	1682208.64	14276506.68	39°18'52.467"N	80°51'08.067"W	5059.20	332.165	1.43	-0.09	-1.43	
11786.00	90.060	337.710	6620.11	5083.72	4559.72	-2400.45	1682170.45	14276592.51	39°18'53.317"N	80°51'08.551"W	5152.98	332.236	3.61	0.10	-3.61	
11880.00	89.910	339.820	6620.13	5177.59	4647.27	-2434.65	1682136.26	14276680.03	39°18'54.183"N	80°51'08.984"W	5246.39	332.350	2.04	-0.16	-2.03	
11975.00	89.970	342.670	6620.23	5272.57	4737.16	-2465.35	1682105.58	14276769.89	39°18'55.071"N	80°51'09.373"W	5340.28	332.506	3.21	0.06	-3.21	
12069.00	89.940	344.240	6620.30	5366.52	4827.27	-2492.12	1682078.82	14276859.96	39°18'55.962"N	80°51'09.712"W	5432.60	332.695	1.67	-0.03	-1.67	
12164.00	89.880	342.200	6620.45	5461.48	4918.22	-2519.54	1682051.41	14276950.87	39°18'56.862"N	80°51'10.059"W	5526.02	332.874	2.15	-0.06	-2.15	
12259.00	89.480	340.080	6620.98	5556.47	5008.11	-2550.25	1682020.71	14277040.73	39°18'57.751"N	80°51'10.448"W	5620.05	333.014	2.27	-0.42	-2.23	
12354.00	89.690	340.130	6621.67	5651.43	5097.44	-2582.58	1681988.40	14277130.02	39°18'58.634"N	80°51'10.857"W	5714.33	333.131	0.23	0.22	0.05	

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Actual Wellpath Report

California Unit 1H AWP Proj: 21348
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REFERENCE WELLPATH IDENTIFICATION		Slot #09
Operator	ANTERO RESOURCES CORPORATION	California Unit 1H
Area	Doddridge Co., WV	California Unit 1H AWB
Field	Doddridge	
Facility	Baill Pad	

WELLPATH DATA (276 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
12450.00	89.600	340.580	6622.27	5747.41	5187.85	-2614.85	1681956.14	1427220.39	39°18'59.528"N	80°51'11.266"W	5809.58	333.250	0.48	-0.09	0.47	
12544.00	89.910	340.320	6622.67	5841.39	5276.43	-2646.30	1681924.69	1427308.94	39°19'00.404"N	80°51'11.664"W	5902.85	333.365	0.43	0.33	-0.28	
12938.00	89.690	340.970	6623.00	5935.37	5365.11	-2677.46	1681893.55	1427397.59	39°19'01.281"N	80°51'12.059"W	5996.10	333.479	0.73	-0.23	0.69	
12733.00	89.600	342.850	6623.58	6030.36	5455.41	-2706.95	1681864.07	1427487.85	39°19'02.174"N	80°51'12.432"W	6090.08	333.610	1.98	-0.09	1.98	
12828.00	89.690	344.680	6624.17	6125.29	5546.62	-2733.51	1681837.52	1427579.02	39°19'03.078"N	80°51'12.768"W	6183.61	333.765	1.93	0.09	1.93	
12922.00	89.380	344.180	6624.94	6219.18	5637.16	-2758.74	1681812.30	1427669.53	39°19'03.972"N	80°51'13.087"W	6276.01	333.924	0.63	-0.33	-0.53	
13017.00	89.910	342.830	6625.52	6314.12	5728.25	-2785.71	1681785.34	1427760.58	39°19'04.872"N	80°51'13.428"W	6369.70	334.066	1.53	0.56	-1.42	
13103.00	89.630	342.710	6626.17	6410.10	5819.94	-2814.15	1681756.92	1427852.23	39°19'05.779"N	80°51'13.788"W	6464.61	334.195	0.63	-0.61	-0.12	
13302.00	89.320	342.760	6627.90	6504.08	5909.66	-2842.16	1681728.91	1427941.92	39°19'06.666"N	80°51'14.143"W	6557.59	334.315	0.35	0.33	-0.11	
13397.00	89.380	341.660	6628.98	6694.05	6090.81	-2899.46	1681700.65	1428032.58	39°19'07.563"N	80°51'14.501"W	6651.59	334.435	0.36	-0.33	0.16	
13492.00	89.940	340.830	6629.54	6789.05	6180.76	-2930.00	1681671.64	1428122.99	39°19'08.457"N	80°51'14.868"W	6745.72	334.544	1.16	0.06	-1.16	
13587.00	90.120	339.770	6629.49	6884.02	6270.20	-2962.03	1681641.11	1428212.91	39°19'09.347"N	80°51'15.255"W	6840.08	334.637	1.05	0.59	-0.87	
13683.00	90.000	339.090	6629.39	6979.95	6360.08	-2995.76	1681609.10	1428302.31	39°19'10.231"N	80°51'15.661"W	6934.62	334.714	1.13	0.19	-1.12	
13778.00	90.090	339.980	6629.32	7074.88	6449.08	-3028.97	1681575.38	1428392.15	39°19'11.120"N	80°51'16.088"W	7030.30	334.778	0.72	-0.13	-0.71	
13873.00	90.030	340.500	6629.22	7169.85	6538.48	-3061.09	1681542.18	1428481.12	39°19'12.001"N	80°51'16.509"W	7124.98	334.842	0.94	0.09	0.94	
13968.00	90.150	343.940	6629.07	7264.83	6628.93	-3090.09	1681510.07	1428570.49	39°19'12.885"N	80°51'16.916"W	7219.56	334.913	0.55	-0.06	0.55	
14063.00	90.060	345.070	6628.90	7359.71	6720.48	-3115.47	1681481.08	1428660.90	39°19'13.779"N	80°51'17.283"W	7313.78	335.007	3.62	0.13	3.62	
14158.00	90.180	346.840	6628.70	7454.44	6812.63	-3138.53	1681455.71	1428752.41	39°19'14.684"N	80°51'17.604"W	7407.50	335.129	1.19	-0.09	1.19	
14254.00	90.060	343.600	6628.50	7550.24	6905.45	-3163.02	1681432.67	1428844.53	39°19'15.596"N	80°51'17.996"W	7500.82	335.265	1.87	0.13	1.86	
14348.00	90.030	341.920	6628.42	7644.22	6995.22	-3190.87	1681408.19	1428937.31	39°19'16.513"N	80°51'18.205"W	7595.38	335.390	3.38	-0.12	-3.38	
14443.00	90.120	339.650	6628.30	7739.20	7084.92	-3222.13	1681380.34	1429027.04	39°19'17.401"N	80°51'18.558"W	7688.61	335.480	1.79	-0.03	-1.79	
14539.00	90.400	340.940	6627.86	7835.17	7175.30	-3254.49	1681349.10	1429116.71	39°19'18.288"N	80°51'18.954"W	7783.20	335.545	2.38	0.09	-2.38	
14634.00	90.490	341.720	6627.12	7930.17	7265.30	-3284.90	1681316.75	1429207.05	39°19'19.182"N	80°51'19.364"W	7878.87	335.602	1.36	0.29	1.33	
14729.00	90.430	338.080	6626.36	8025.10	7354.50	-3317.53	1681286.35	1429297.02	39°19'20.072"N	80°51'19.749"W	7973.40	335.671	0.83	0.09	0.82	
14825.00	90.460	338.800	6625.62	8120.95	7443.78	-3352.80	1681253.73	1429386.18	39°19'20.964"N	80°51'20.162"W	8068.13	335.720	3.82	-0.06	-3.82	
14920.00	90.490	339.010	6624.83	8215.84	7532.41	-3386.99	1681184.30	1429475.43	39°19'21.837"N	80°51'20.609"W	8164.02	335.752	0.74	0.03	0.74	
15013.00	90.430	337.730	6624.08	8308.68	7618.86	-3421.27	1681150.04	1429564.02	39°19'22.713"N	80°51'21.042"W	8258.87	335.789	0.22	0.03	0.22	
15109.00	90.400	339.220	6623.39	8404.53	7708.16	-3456.49	1681114.83	1429650.43	39°19'23.568"N	80°51'21.477"W	8351.77	335.817	1.38	-0.06	-1.38	
15202.00	90.490	341.010	6622.66	8497.48	7795.61	-3488.12	1681083.21	1429739.70	39°19'24.452"N	80°51'21.923"W	8447.67	335.848	1.55	-0.03	1.55	
								1429827.11	39°19'25.316"N	80°51'22.324"W	8540.40	335.894	1.93	0.10	1.92	

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Doddrige Co., WY	Well	California Unit 1H
Field	Doddrige	Wellbore	California Unit 1H AWB
Facility	Balli Pad		

WELLPATH DATA (276 stations)

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]
15297.00	90.370	341.040	6621.95	8592.48	7885.44	-3519.01	1681052.34	14279916.91	39°19'26.205"N	80°51'22.715"W	8635.02	335.950	0.13	-0.13	0.03	
15391.00	90.400	343.160	6621.32	8686.47	7974.89	-3547.90	1681023.46	14280006.32	39°19'27.089"N	80°51'23.081"W	8728.48	336.016	0.03	0.03	2.26	
15486.00	90.460	343.660	6620.61	8781.43	8065.93	-3575.02	1680996.34	14280097.32	39°19'27.990"N	80°51'23.424"W	8822.70	336.096	0.06	0.06	0.53	
15581.00	90.400	343.830	6619.89	8876.36	8157.13	-3601.62	1680969.76	14280188.49	39°19'28.891"N	80°51'23.761"W	8916.86	336.177	-0.06	-0.06	0.18	
15676.00	90.400	342.170	6619.23	8971.33	8247.97	-3629.39	1680942.00	14280279.29	39°19'29.790"N	80°51'24.112"W	9011.19	336.249	1.75	0.00	-1.75	
15771.00	90.520	342.680	6618.47	9066.32	8338.51	-3658.15	1680913.25	14280369.80	39°19'30.685"N	80°51'24.477"W	9105.65	336.313	0.45	0.13	0.43	
15864.00	90.460	342.700	6617.67	9159.30	8427.27	-3685.90	1680885.51	14280458.52	39°19'31.563"N	80°51'24.828"W	9198.08	336.376	0.14	-0.06	0.13	
15959.00	90.430	342.910	6616.93	9255.25	8519.22	-3713.48	1680857.95	14280550.43	39°19'32.472"N	80°51'25.177"W	9293.38	336.448	1.26	-0.03	1.26	
16056.00	90.400	345.920	6616.23	9351.09	8611.90	-3738.46	1680832.97	14280643.08	39°19'33.388"N	80°51'25.493"W	9388.34	336.534	2.09	-0.03	2.09	
16151.00	90.400	346.910	6615.57	9445.75	8704.24	-3760.77	1680810.67	14280735.38	39°19'34.301"N	80°51'25.775"W	9481.94	336.633	1.04	0.00	1.04	
16246.00	90.310	342.960	6614.98	9540.58	8795.96	-3785.46	1680785.99	14280827.06	39°19'35.208"N	80°51'26.087"W	9575.94	336.715	4.16	-0.09	-4.16	
16341.00	90.280	340.900	6614.49	9635.57	8886.26	-3814.92	1680756.54	14280917.33	39°19'36.101"N	80°51'26.460"W	9670.54	336.766	2.17	-0.03	-2.17	
16436.00	90.250	343.670	6614.05	9730.55	8976.75	-3843.83	1680727.65	14281007.78	39°19'36.996"N	80°51'26.826"W	9765.09	336.819	2.92	-0.03	2.92	
16531.00	90.370	343.660	6613.54	9825.49	9067.91	-3870.55	1680700.94	14281098.91	39°19'37.897"N	80°51'27.165"W	9859.42	336.865	0.13	0.13	-0.01	
16626.00	90.340	336.770	6612.95	9920.40	9157.25	-3902.68	1680668.82	14281188.21	39°19'38.781"N	80°51'27.522"W	9954.20	336.917	7.25	-0.03	-7.25	
16720.00	90.340	337.090	6612.39	10014.09	9243.73	-3939.52	1680632.00	14281274.66	39°19'39.636"N	80°51'28.039"W	10048.20	336.917	0.34	0.00	0.34	
16815.00	90.180	338.730	6611.96	10108.88	9331.75	-3975.24	1680596.29	14281362.64	39°19'40.507"N	80°51'28.492"W	10143.18	336.926	1.73	-0.17	1.73	
16910.00	90.310	338.640	6611.55	10203.75	9420.25	-4009.77	1680561.77	14281451.11	39°19'41.382"N	80°51'28.929"W	10238.14	336.943	0.17	0.14	-0.09	
17004.00	90.490	339.140	6610.89	10297.64	9507.94	-4043.63	1680527.93	14281538.76	39°19'42.249"N	80°51'29.358"W	10332.08	336.960	0.57	0.19	0.53	
17097.00	90.310	339.200	6610.25	10390.55	9594.86	-4076.70	1680494.87	14281626.65	39°19'43.109"N	80°51'29.777"W	10425.01	336.980	0.20	-0.19	0.06	
17193.00	90.090	340.180	6609.91	10486.50	9684.89	-4110.02	1680461.66	14281715.64	39°19'43.999"N	80°51'30.200"W	10520.90	337.005	1.05	-0.23	1.02	
17288.00	90.060	341.800	6609.79	10581.49	9774.71	-4140.96	1680430.63	14281805.42	39°19'44.887"N	80°51'30.592"W	10615.67	337.041	1.71	-0.03	1.71	
17382.00	90.150	343.850	6609.61	10675.46	9864.51	-4168.72	1680402.89	14281895.19	39°19'45.775"N	80°51'30.943"W	10709.19	337.091	2.18	0.10	2.18	
17477.00	90.030	344.500	6609.46	10770.37	9955.91	-4194.62	1680376.99	14281986.55	39°19'46.679"N	80°51'31.271"W	10803.47	337.153	0.70	-0.13	0.68	
17573.00	90.120	343.360	6609.34	10866.29	10048.16	-4221.20	1680350.43	14282078.76	39°19'47.581"N	80°51'31.607"W	10898.61	337.213	1.19	0.09	-1.19	
17669.00	90.030	345.950	6609.21	10962.15	10140.73	-4246.60	1680325.04	14282171.29	39°19'48.507"N	80°51'31.929"W	10984.00	337.278	2.70	-0.09	2.70	
17765.00	90.060	347.110	6609.14	11057.80	10234.09	-4268.96	1680302.69	14282264.61	39°19'49.430"N	80°51'32.211"W	11088.76	337.357	1.21	0.03	1.21	
17860.00	90.150	345.800	6608.96	11152.46	10326.44	-4291.21	1680280.44	14282356.93	39°19'50.343"N	80°51'32.493"W	11182.57	337.434	1.38	0.09	-1.38	
17956.00	90.060	339.800	6608.79	11248.40	10418.11	-4319.59	1680252.08	14282448.56	39°19'51.249"N	80°51'32.852"W	11278.11	337.480	6.25	-0.09	-6.25	
18051.00	90.180	338.440	6608.59	11343.30	10506.86	-4353.44	1680218.24	14282537.28	39°19'52.127"N	80°51'33.281"W	11373.07	337.494	1.44	0.13	-1.43	

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Balli Pad
Slot	Slot #09
Well	California Unit 1H AWP

WELLPATH DATA (276 stations)		MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft/100ft	ft/100ft	ft/100ft	
18145.00	90.340	339.250	6608.16	11437.19	10594.53	-4387.37	1680184.33	1680184.33	1680184.33	14282624.91	39°19'52.994"N	80°51'33.711"W	11467.04	337.505	0.88	0.17	0.03	0.86
18239.00	90.370	338.570	6607.58	11531.08	10682.23	-4421.19	1680150.52	1680150.52	1680150.52	14282712.58	39°19'53.861"N	80°51'34.140"W	11561.01	337.516	0.72	0.03	-0.72	1.66
18334.00	90.340	340.150	6606.99	11626.00	10771.13	-4454.68	1680117.04	1680117.04	1680117.04	14282801.44	39°19'54.740"N	80°51'34.564"W	11655.96	337.531	1.66	-0.03	1.66	1.82
18428.00	90.220	340.270	6606.53	11719.97	10859.57	-4486.50	1680085.23	1680085.23	1680085.23	14282889.85	39°19'55.615"N	80°51'34.967"W	11749.85	337.553	0.18	-0.13	0.13	1.00
18523.00	90.340	338.950	6606.07	11814.91	10948.62	-4519.60	1680052.15	1680052.15	1680052.15	14282978.86	39°19'56.496"N	80°51'35.387"W	11844.79	337.569	1.40	-0.13	-1.39	1.82
18618.00	90.340	341.220	6605.50	11909.86	11037.93	-4551.96	1680019.80	1680019.80	1680019.80	14283068.14	39°19'57.379"N	80°51'35.797"W	11939.69	337.589	2.39	0.00	2.39	1.00
18713.00	90.280	344.440	6604.99	12004.83	11128.68	-4580.00	1679991.77	1679991.77	1679991.77	14283158.85	39°19'58.276"N	80°51'36.152"W	12034.28	337.630	3.39	-0.06	3.39	1.82
18808.00	90.220	343.270	6604.57	12099.72	11220.16	-4605.62	1679966.17	1679966.17	1679966.17	14283250.30	39°19'59.181"N	80°51'36.476"W	12128.63	337.683	0.19	-0.06	-0.18	1.82
18902.00	90.000	343.840	6604.39	12193.64	11310.55	-4631.44	1679940.35	1679940.35	1679940.35	14283340.64	39°20'00.075"N	80°51'36.803"W	12222.06	337.732	0.51	-0.23	-0.46	1.82
18998.00	90.090	344.660	6604.32	12289.52	11403.01	-4657.25	1679914.55	1679914.55	1679914.55	14283433.07	39°20'00.989"N	80°51'37.130"W	12317.41	337.784	1.17	0.09	-1.17	1.82
19093.00	90.060	342.680	6604.19	12384.45	11494.24	-4683.73	1679888.09	1679888.09	1679888.09	14283524.26	39°20'01.691"N	80°51'37.465"W	12411.88	337.830	2.40	-0.03	-2.40	1.82
19188.00	90.120	338.940	6604.05	12479.42	11583.94	-4714.95	1679856.88	1679856.88	1679856.88	14283613.93	39°20'02.778"N	80°51'37.860"W	12509.74	337.852	3.94	0.06	-3.94	1.82
19282.00	90.150	338.400	6603.82	12573.29	11671.50	-4749.14	1679822.70	1679822.70	1679822.70	14283701.46	39°20'03.644"N	80°51'38.294"W	12600.73	337.859	0.58	0.03	-0.57	1.82
19375.00	90.060	339.910	6603.65	12666.20	11758.41	-4782.23	1679789.62	1679789.62	1679789.62	14283788.33	39°20'04.503"N	80°51'38.713"W	12693.70	337.868	1.63	-0.10	1.62	1.82
19469.00	89.970	341.630	6603.63	12760.19	11847.17	-4813.19	1679758.68	1679758.68	1679758.68	14283877.05	39°20'05.381"N	80°51'39.106"W	12787.58	337.889	1.83	-0.10	1.83	1.82
19564.00	90.340	343.360	6603.37	12856.18	11937.76	-4841.76	1679730.11	1679730.11	1679730.11	14283967.61	39°20'06.277"N	80°51'39.467"W	12882.27	337.923	1.86	0.39	1.82	1.82
19659.00	90.460	342.790	6602.71	12950.14	12028.65	-4869.42	1679702.47	1679702.47	1679702.47	14284058.46	39°20'07.176"N	80°51'39.818"W	12976.89	337.961	0.61	0.13	-0.60	1.82
19753.00	90.650	342.200	6601.80	13044.13	12118.29	-4897.69	1679674.21	1679674.21	1679674.21	14284148.06	39°20'08.062"N	80°51'40.176"W	13070.59	337.994	0.66	-0.14	-0.63	1.82
19848.00	90.520	342.790	6600.83	13139.11	12208.88	-4926.26	1679645.65	1679645.65	1679645.65	14284238.62	39°20'08.958"N	80°51'40.538"W	13165.29	338.026	0.64	0.00	-0.59	1.82
19942.00	90.520	342.240	6599.88	13233.10	12298.54	-4954.51	1679617.42	1679617.42	1679617.42	14284328.24	39°20'09.844"N	80°51'40.895"W	13259.00	338.058	0.59	0.00	-0.59	1.82
20036.00	90.550	340.480	6599.10	13327.09	12387.60	-4984.55	1679587.39	1679587.39	1679587.39	14284417.27	39°20'10.725"N	80°51'41.275"W	13352.84	338.081	1.87	0.03	-1.87	1.82
20130.00	90.520	342.620	6598.22	13421.08	12476.73	-5014.37	1679557.57	1679557.57	1679557.57	14284506.36	39°20'11.607"N	80°51'41.654"W	13446.66	338.105	2.17	-0.03	2.17	1.82
20223.00	90.710	341.140	6597.22	13514.07	12565.09	-5043.37	1679528.59	1679528.59	1679528.59	14284594.68	39°20'12.480"N	80°51'42.021"W	13539.46	338.130	1.50	0.20	-1.48	1.82
20318.00	90.740	338.120	6596.02	13608.99	12654.13	-5076.43	1679495.54	1679495.54	1679495.54	14284683.69	39°20'13.361"N	80°51'42.440"W	13634.41	338.141	3.18	0.03	-3.18	1.82
20412.00	90.340	336.480	6595.13	13702.72	12740.84	-5112.70	1679459.28	1679459.28	1679459.28	14284770.37	39°20'14.218"N	80°51'42.900"W	13728.39	338.135	1.80	-0.43	-1.74	1.82
20509.00	90.310	339.110	6594.15	13889.32	12914.19	-5182.79	1679389.22	1679389.22	1679389.22	14284943.65	39°20'15.933"N	80°51'43.789"W	13915.37	338.133	1.00	0.03	1.00	1.82
20603.00	90.400	340.160	6593.56	13983.26	13002.31	-5215.50	1679356.52	1679356.52	1679356.52	14285031.73	39°20'17.804"N	80°51'44.203"W	14009.34	338.143	1.12	0.10	1.12	1.82
20707.00	90.460	341.900	6592.86	14077.24	13091.20	-5246.06	1679325.98	1679325.98	1679325.98	14285120.59	39°20'17.683"N	80°51'44.590"W	14103.21	338.162	1.85	0.06	1.85	1.82
20811.00	90.340	342.110	6592.20	14171.24	13180.60	-5275.09	1679296.95	1679296.95	1679296.95	14285209.95	39°20'18.567"N	80°51'44.958"W	14197.00	338.188	0.26	-0.13	0.22	1.82

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Actual Wellpath Report

California Unit 1H AWP Proj: 21348'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Doddridge Co., WV	Well	California Unit 1H
Field	Doddridge	Wellbore	California Unit 1H AWB
Facility	Balli Pad		

WELLPATH DATA (276 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
20975.00	90.400	341.550	6591.59	14265.24	13269.91	-5304.41	1679267.65	14285299.22	39°20'19.450"N	80°51'45.330"W	14290.81	338.212	0.60	0.06	-0.60	
21068.00	90.460	342.240	6590.90	14358.23	13358.30	-5333.31	1679238.77	14285387.58	39°20'20.324"N	80°51'45.696"W	14383.62	338.236	0.74	0.06	0.74	
21162.00	90.490	343.310	6590.12	14452.21	13448.08	-5361.14	1679210.94	14285477.33	39°20'21.212"N	80°51'46.048"W	14477.32	338.265	1.14	0.03	1.14	
21256.00	90.490	344.810	6589.31	14546.12	13538.46	-5386.95	1679185.14	14285567.67	39°20'22.106"N	80°51'46.375"W	14570.83	338.302	1.60	0.00	1.60	
21324.00	90.370	344.830	6588.80	14614.01	13604.09	-5404.76	1679167.34	14285633.27	39°20'22.755"N	80°51'46.600"W	14638.39	338.333	0.18	-0.18	0.03	
21348.00	90.370	344.830	6588.65	14637.98	13627.25	-5411.04	1679161.06	14285656.42	39°20'22.984"N	80°51'46.680"W	14662.24	338.343	0.00	0.00	0.00	Projected MD at TD: 21348'

HOLE & CASING SECTIONS - Ref Wellbore: California Unit 1H AWB Ref Wellpath: California Unit 1H AWP Proj: 21348'										
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]	
20in Conductor	32.00	72.00	40.00	32.00	72.00	0.00	0.00	-0.04	0.06	
17.5in Open Hole	72.00	368.70	296.70	72.00	368.69	-0.04	0.06	-1.37	2.39	
13.375in Casing Surface	32.00	368.70	336.70	32.00	368.69	0.00	0.00	-1.37	2.39	
12.25in Open Hole	368.70	2586.20	2217.50	368.69	2586.04	-1.37	2.39	1.76	-2.28	
9.625in Casing Intermediate	32.00	2586.20	2554.20	32.00	2586.04	0.00	0.00	1.76	-2.28	
8.75in Open Hole	2586.20	5826.00	3239.80	2586.04	5731.61	1.76	-2.28	-463.44	-555.02	
8.5in Open Hole	5826.00	21348.00	15522.00	5731.61	6588.65	-463.44	-555.02	13627.25	-5411.04	
5.5in Casing Production	32.00	21348.00	21316.00	32.00	6588.65	0.00	0.00	13627.25	-5411.04	



Actual Wellpath Report

California Unit 1H AWP Proj: 21348'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Doddridge Co., WV	Well	California Unit 1H
Field	Doddridge	Wellbore	California Unit 1H AWB
Facility	Balli Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
California Unit 1H POE - Rev-2	6591.00	-12.85	-883.76	1683686.53	14272021.78	39°18'08.098"N	80°50'49.352"W	point
California Unit 1H BHL - Rev-2	6615.00	13655.27	-5418.89	1679153.22	14285684.43	39°20'23.261"N	80°51'46.779"W	point
California Unit 1H LP - Rev-1	6615.00	161.65	-941.66	1683628.65	14272196.21	39°18'09.824"N	80°50'50.085"W	point

WELLPATH COMPOSITION - Ref Wellbore: California Unit 1H AWB Ref Wellpath: California Unit 1H AWP Proj: 21348'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
32.00	341.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-322')	California Unit 1H AWB	
341.00	1175.00	Gyrodata standard - Continuous gyro	02 Gyrodata Cont. Gyro <12-1/4">(322')(353'-1156')	California Unit 1H AWB	
1175.00	2515.00	ISCWSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <12-1/4">(1156')(1272'-2496')	California Unit 1H AWB	
2515.00	5745.00	ISCWSA MWD, Rev. 4 (Standard)	04 Directional ONE MWD <8-3/4">(2496')(2629'-5726')	California Unit 1H AWB	
5745.00	21324.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(5745')(5801'-21324')	California Unit 1H AWB	
21324.00	21348.00	Blind Drilling (std)	Projection to bit	California Unit 1H AWB	

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California Unit 1H AWP Proj: 21348'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Doddridge Co., WV	Well	California Unit 1H
Field	Doddridge	Wellbore	California Unit 1H AWB
Facility	Balli Pad		

COMMENTS

Wellpath general comments

API: 47-017-06796-0000

BHI Job #: 8588833

Rig: Frontier 32

Duration: 06/12/2017-06/17/2017

Gyrodatta MS Gyro <17-1/2"> (100'-322')

Gyrodatta Cont. Gyro <12-1/4"> (322')(353'-1156')

Directional ONE MWD <12-1/4"> (1156')(1272'-2496')

Directional ONE MWD <8-3/4"> (2496')(2629'-5726')

BHI AT Curve <8-1/2"> (5745')(5801'-21324')

Middlesex: 6578' MD

Burket: 6785' MD

Tully: 6856' MD

Marcellus POE: 6972' MD

Projected MD at TD: 21348'

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