



Scale 1 inch = 1500

Easting (ft)
-2250 -1500 -750 0 750 1500 2250 3000

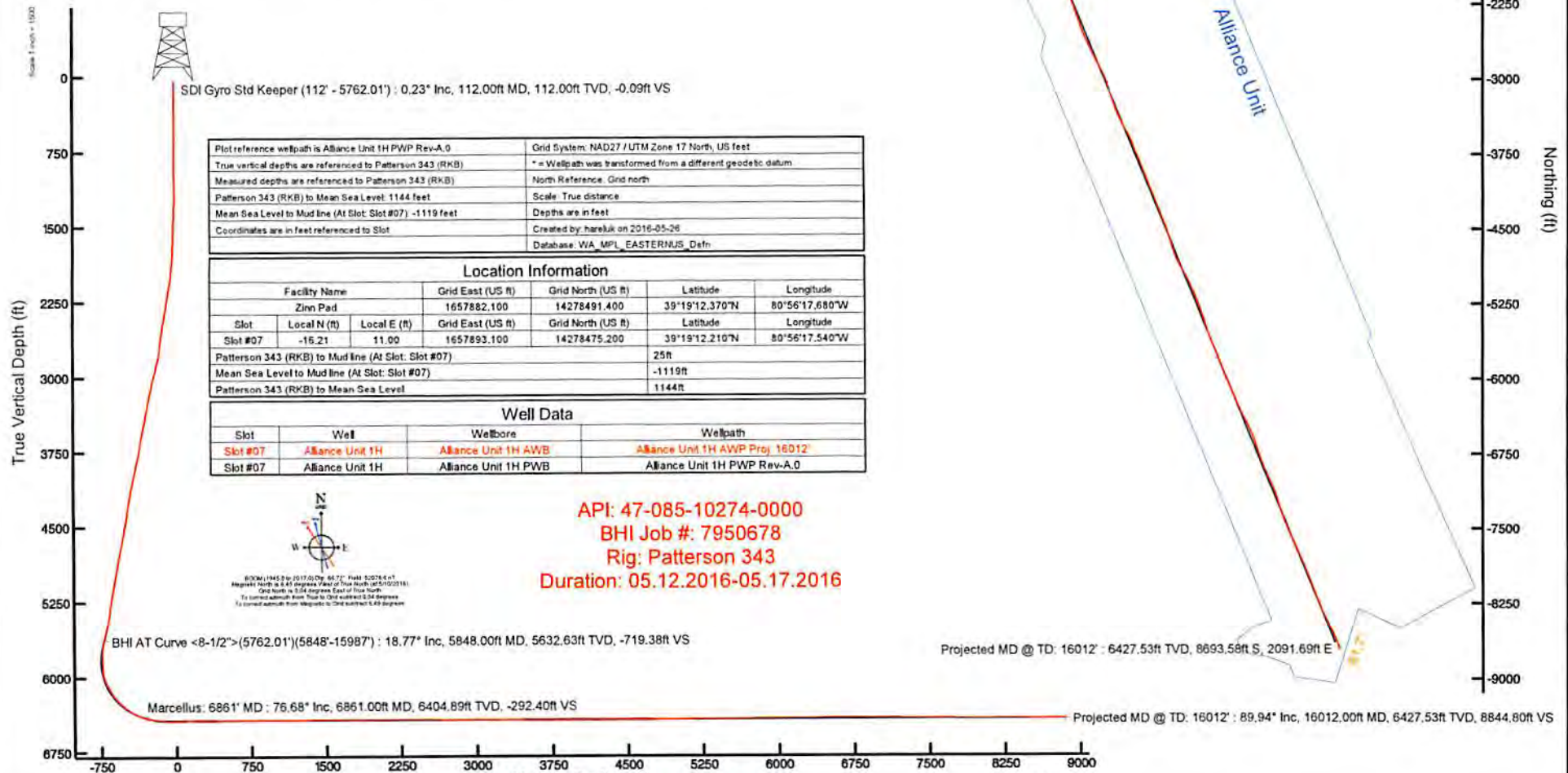
SDI Gyro Std Keeper (112' - 5762.01') : 112.00ft TVD, 0.03ft N, 0.17ft W
BHI AT Curve <8-1/2">(5762.01')(5848'-15987') : 5632.63ft TVD, 244.87ft N, 1315.86ft W

Marcellus: 6861' MD : 6404.89ft TVD, 227.91ft S, 1346.49ft W

ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV
Field: Ritchie
Facility: Zinn Pad

Slot: Slot #07
Well: Alliance Unit 1H
Wellbore: Alliance Unit 1H PWB



SDI Gyro Std Keeper (112' - 5762.01') : 0.23° Inc, 112.00ft MD, 112.00ft TVD, -0.09ft VS

Plot reference wellpath is Alliance Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 343 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Patterson 343 (RKB)	North Reference: Grid north
Patterson 343 (RKB) to Mean Sea Level: 1144 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot#07) : -1119 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: hareluk on 2016-05-26
	Database: WA_MPL_EASTERNUS_Defn

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Zinn Pad	1657882.100	14278491.400	39°19'12.370"N	80°56'17.680"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #07	-16.21	11.00	1657893.100	14278475.200	39°19'12.210"N	80°56'17.540"W
Patterson 343 (RKB) to Mud line (At Slot: Slot#07)						25ft
Mean Sea Level to Mud line (At Slot: Slot#07)						-1119ft
Patterson 343 (RKB) to Mean Sea Level						1144ft

Well Data

Slot	Well	Wellbore	Wellpath
Slot #07	Alliance Unit 1H	Alliance Unit 1H AWB	Alliance Unit 1H AWP Proj 16012'
Slot #07	Alliance Unit 1H	Alliance Unit 1H PWB	Alliance Unit 1H PWP Rev-A.0



800W, 1945 2017 05 26 06:17:11 PM 10/27/16
Magnetic North is 8.41 degrees West of True North (451020218)
Grid North is 3.54 degrees East of True North
To convert azimuth from True to Grid subtract 3.54 degrees
To convert azimuth from Magnetic to Grid subtract 5.86 degrees

API: 47-085-10274-0000
BHI Job #: 7950678
Rig: Patterson 343
Duration: 05.12.2016-05.17.2016

BHI AT Curve <8-1/2">(5762.01')(5848'-15987') : 18.77° Inc, 5848.00ft MD, 5632.63ft TVD, -719.38ft VS

Marcellus: 6861' MD : 76.68° Inc, 6861.00ft MD, 6404.89ft TVD, -292.40ft VS

Projected MD @ TD: 16012' : 6427.53ft TVD, 8693.58ft S, 2091.69ft E

Projected MD @ TD: 16012' : 89.94° Inc, 16012.00ft MD, 6427.53ft TVD, 8644.80ft VS

Vertical Section (ft)
Azimuth 158.03° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500



Actual Wellpath Report
 Alliance Unit 1H AWP Proj: 16012'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Alliance Unit 1H
Field	Ritchie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 5.0
North Reference	Grid	User	Hareluk
Scale	0.999600	Report Generated	5/26/2016 at 4:39:03 PM
Convergence at slot	0.04° East	Database/Source file	WA_MPL_EASTERNNUS_Defn/Alliance_Unit_1H_AWP_Proj_16012_.xml

WELLPATH LOCATION			
Local coordinates		Grid coordinates	
North [ft]	East [ft]	Northing [US ft]	Latitude
-16.21	11.00	1657893.10	39°19'12.210"N
		14278475.20	80°56'17.540"W
		14278491.40	80°56'17.680"W
		0.00	85°29'19.301"W
			0°00'00.000"
Field Reference Pt	Facility Reference Pt	Slot Location	Field Reference Pt

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 343 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 343 (RKB) to Mean Sea Level	1144.00ft
Vertical Reference Pt	Patterson 343 (RKB)	Patterson 343 (RKB) to Mud Line at Slot (Slot #07)	25.00ft
MD Reference Pt	Patterson 343 (RKB)	Section Origin	N 0.00', E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	158.03°



Actual Wellpath Report
 Alliance Unit 1H AWP Proj: 16012
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Alliance Unit 1H
Field	Ritchie		Alliance Unit 1H AWP
Facility	Zinn Pad		

WELLPATH DATA (356 stations) † = interpolated/extrapolated station														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(N)	(W)	(ft)	(°)	(ft/100ft)	
0.00†	0.00	0.00	0.00	0.00	0.00	0.00	1657893.10	14278475.20	39°19'12.210"N	80°56'17.540"W	0.00	0.00	0.00	
25.00	0.000	280.920	25.00	0.00	0.00	0.00	1657893.10	14278475.20	39°19'12.210"N	80°56'17.540"W	0.00	0.00	0.00	
112.00	0.230	280.920	112.00	-0.09	0.03	-0.17	1657892.93	14278475.23	39°19'12.210"N	80°56'17.543"W	0.17	280.920	0.26	SDI Gyro Sid Keeper (112 - 5762.01)
137.00	0.270	279.450	137.00	-0.15	0.05	-0.28	1657892.82	14278475.25	39°19'12.210"N	80°56'17.544"W	0.28	280.615	0.16	
162.00	0.100	273.210	162.00	-0.19	0.06	-0.36	1657892.74	14278475.26	39°19'12.211"N	80°56'17.545"W	0.36	279.984	0.68	
187.00	0.080	135.360	187.00	-0.19	0.05	-0.37	1657892.73	14278475.25	39°19'12.210"N	80°56'17.545"W	0.37	278.031	0.67	
212.00	0.060	115.290	212.00	-0.16	0.03	-0.34	1657892.76	14278475.23	39°19'12.210"N	80°56'17.545"W	0.35	275.633	0.13	
237.00	0.070	164.740	237.00	-0.14	0.01	-0.33	1657892.77	14278475.21	39°19'12.210"N	80°56'17.545"W	0.33	272.375	0.22	
262.00	0.070	138.030	262.00	-0.11	0.01	-0.31	1657892.79	14278475.19	39°19'12.210"N	80°56'17.544"W	0.31	267.726	0.13	
287.00	0.130	151.840	287.00	-0.06	-0.05	-0.29	1657892.81	14278475.15	39°19'12.209"N	80°56'17.544"W	0.29	260.457	0.26	
312.00	0.080	127.840	312.00	-0.02	0.08	-0.26	1657892.84	14278475.12	39°19'12.209"N	80°56'17.544"W	0.28	252.198	0.26	
337.00	0.060	145.260	337.00	0.01	-0.11	-0.24	1657892.86	14278475.09	39°19'12.209"N	80°56'17.543"W	0.26	246.349	0.12	
362.00	0.080	142.250	362.00	0.04	-0.13	-0.22	1657892.88	14278475.07	39°19'12.209"N	80°56'17.543"W	0.26	239.753	0.08	
387.00	0.110	164.830	387.00	0.08	-0.17	-0.21	1657892.89	14278475.03	39°19'12.208"N	80°56'17.543"W	0.27	231.008	0.19	
412.00	0.130	169.610	412.00	0.13	-0.22	-0.20	1657892.90	14278474.98	39°19'12.208"N	80°56'17.543"W	0.29	221.815	0.09	
437.00	0.110	166.830	437.00	0.18	-0.27	-0.18	1657892.92	14278474.93	39°19'12.207"N	80°56'17.543"W	0.32	213.978	0.13	
462.00	0.210	149.220	462.00	0.25	-0.33	-0.15	1657892.95	14278474.87	39°19'12.207"N	80°56'17.542"W	0.36	204.172	0.41	
487.00	0.240	156.300	487.00	0.35	-0.42	-0.10	1657893.00	14278474.78	39°19'12.206"N	80°56'17.542"W	0.43	193.944	0.16	
512.00	0.170	155.100	512.00	0.44	-0.50	-0.07	1657893.03	14278474.70	39°19'12.205"N	80°56'17.541"W	0.50	187.643	0.28	
537.00	0.240	134.320	537.00	0.52	-0.57	-0.01	1657893.09	14278474.63	39°19'12.204"N	80°56'17.541"W	0.57	181.396	0.40	
562.00	0.190	148.030	562.00	0.61	-0.64	0.05	1657893.15	14278474.56	39°19'12.204"N	80°56'17.540"W	0.64	175.935	0.29	
587.00	0.180	149.650	587.00	0.69	-0.71	0.09	1657893.19	14278474.49	39°19'12.203"N	80°56'17.539"W	0.72	172.986	0.05	
612.00	0.150	154.710	612.00	0.76	-0.77	0.12	1657893.22	14278474.43	39°19'12.202"N	80°56'17.539"W	0.78	171.096	0.13	
637.00	0.170	146.340	637.00	0.83	-0.83	0.16	1657893.26	14278474.37	39°19'12.202"N	80°56'17.538"W	0.85	169.423	0.12	
662.00	0.180	152.320	662.00	0.91	-0.90	0.19	1657893.29	14278474.30	39°19'12.201"N	80°56'17.538"W	0.92	167.799	0.08	
687.00	0.230	139.820	687.00	0.99	-0.97	0.25	1657893.35	14278474.23	39°19'12.200"N	80°56'17.537"W	1.00	165.855	0.27	
712.00	0.270	140.680	712.00	1.10	-1.06	0.31	1657893.41	14278474.14	39°19'12.199"N	80°56'17.536"W	1.10	163.407	0.16	
737.00	0.230	136.260	737.00	1.20	-1.14	0.39	1657893.49	14278474.06	39°19'12.199"N	80°56'17.535"W	1.20	161.231	0.18	
762.00	0.210	146.970	762.00	1.29	-1.21	0.45	1657893.55	14278473.99	39°19'12.198"N	80°56'17.535"W	1.29	159.791	0.18	
787.00	0.170	140.570	787.00	1.37	-1.28	0.50	1657893.59	14278473.92	39°19'12.197"N	80°56'17.534"W	1.37	158.857	0.18	



Actual Wellpath Report
Alliance Unit 1H AWP Proj: 16012



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Richlie County, WV	Well	Alliance Unit 1H
Field	Richlie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

WELLPATH DATA (356 stations)														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
812.00	0.200	131.160	812.00	1.45	-1.34	0.55	1657893.65	14278473.86	39°19'12.197"N	80°56'17.533"W	1.45	173.593	0.17	
837.00	0.250	124.190	837.00	1.53	-1.40	0.63	1657893.73	14278473.80	39°19'12.196"N	80°56'17.532"W	1.53	155.743	0.23	
862.00	0.180	127.810	862.00	1.61	-1.45	0.71	1657893.81	14278473.75	39°19'12.195"N	80°56'17.531"W	1.61	154.077	0.29	
887.00	0.280	115.960	887.00	1.69	-1.50	0.79	1657893.89	14278473.70	39°19'12.195"N	80°56'17.530"W	1.70	152.218	0.44	
912.00	0.240	114.100	912.00	1.77	-1.55	0.89	1657893.99	14278473.65	39°19'12.195"N	80°56'17.529"W	1.79	150.026	0.16	
937.00	0.080	124.790	937.00	1.82	-1.58	0.96	1657894.06	14278473.62	39°19'12.194"N	80°56'17.528"W	1.85	148.843	0.65	
962.00	0.190	293.790	962.00	1.81	-1.57	0.93	1657894.03	14278473.63	39°19'12.194"N	80°56'17.529"W	1.83	149.365	1.08	
987.00	0.250	287.020	987.00	1.75	-1.54	0.84	1657893.94	14278473.66	39°19'12.195"N	80°56'17.530"W	1.76	151.350	0.26	
1012.00	0.420	292.730	1012.00	1.65	-1.49	0.71	1657893.81	14278473.71	39°19'12.195"N	80°56'17.531"W	1.65	154.662	0.69	
1037.00	0.740	290.670	1036.99	1.47	-1.40	0.47	1657893.57	14278473.80	39°19'12.196"N	80°56'17.534"W	1.48	161.409	1.28	
1062.00	0.880	291.270	1061.99	1.23	-1.27	0.14	1657893.24	14278473.93	39°19'12.197"N	80°56'17.539"W	1.28	173.698	0.56	
1087.00	1.010	290.420	1086.99	0.95	-1.13	-0.24	1657892.86	14278474.08	39°19'12.199"N	80°56'17.544"W	1.15	192.278	0.52	
1112.00	1.010	289.640	1111.98	0.66	-0.97	-0.66	1657892.44	14278474.23	39°19'12.200"N	80°56'17.549"W	1.18	214.066	0.05	
1137.00	1.040	289.810	1136.98	0.36	-0.82	-1.08	1657892.02	14278474.38	39°19'12.202"N	80°56'17.554"W	1.36	232.671	0.12	
1187.00	1.000	288.060	1161.98	0.06	-0.57	-1.52	1657891.58	14278474.53	39°19'12.203"N	80°56'17.560"W	1.65	246.113	0.24	
1212.00	2.120	286.860	1211.96	-0.85	-0.23	-2.85	1657890.25	14278474.97	39°19'12.208"N	80°56'17.577"W	2.86	265.300	2.06	
1237.00	2.390	284.490	1236.94	-1.45	0.03	-3.80	1657889.30	14278475.23	39°19'12.210"N	80°56'17.589"W	3.80	270.454	1.14	
1262.00	2.890	282.040	1261.91	-2.11	0.29	-4.92	1657888.18	14278475.49	39°19'12.213"N	80°56'17.603"W	4.93	273.397	2.05	
1287.00	3.460	277.840	1286.87	-2.84	0.53	-6.28	1657886.82	14278475.73	39°19'12.215"N	80°56'17.620"W	6.31	274.789	2.46	
1312.00	4.260	274.510	1311.81	-3.63	0.70	-7.96	1657885.15	14278475.90	39°19'12.217"N	80°56'17.642"W	7.99	275.044	3.32	
1337.00	4.630	272.710	1336.74	-4.46	0.82	-9.89	1657883.21	14278476.02	39°19'12.218"N	80°56'17.666"W	9.92	274.757	1.58	
1362.00	4.750	272.380	1361.66	-5.31	0.91	-11.93	1657881.17	14278476.11	39°19'12.219"N	80°56'17.692"W	11.97	274.379	0.49	
1387.00	4.930	272.190	1386.57	-6.18	1.00	-14.04	1657879.07	14278476.20	39°19'12.220"N	80°56'17.719"W	14.08	274.065	0.72	
1412.00	5.110	270.940	1411.47	-7.05	1.06	-16.23	1657878.88	14278476.26	39°19'12.220"N	80°56'17.747"W	16.26	273.727	0.84	
1437.00	5.730	271.410	1436.36	-7.98	1.11	-18.59	1657874.52	14278476.31	39°19'12.221"N	80°56'17.777"W	18.62	273.405	2.49	
1462.00	6.000	271.620	1461.23	-9.00	1.17	-21.14	1657871.97	14278476.37	39°19'12.222"N	80°56'17.809"W	21.17	273.178	1.08	
1487.00	6.080	271.020	1486.09	-10.04	1.23	-23.77	1657869.34	14278476.43	39°19'12.222"N	80°56'17.843"W	23.80	272.972	0.41	
1512.00	6.280	270.630	1510.94	-11.08	1.27	-26.46	1657866.65	14278476.47	39°19'12.223"N	80°56'17.877"W	26.49	272.754	0.82	
1537.00	6.320	269.980	1535.79	-12.12	1.29	-29.21	1657863.91	14278476.49	39°19'12.223"N	80°56'17.912"W	29.23	272.524	0.33	



Actual Wellpath Report
 Alliance Unit 1H AWP Proj: 16012
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Richlie County, WV
Field	Richlie
Facility	Zinn Pad
Slot	Slot #07
Alliance Unit 1H	Alliance Unit 1H AWP

MD	Inclination	Azimuth	TVD	Vert Sact	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
1562.00	6.620	270.000	1560.63	-13.17	1.29	-32.02	1657861.09	14278476.49	39°19'12.223"N	80°56'17.948"W	32.05	272.301	1.20	
1587.00	6.660	268.800	1585.47	-14.23	1.26	-34.91	1657858.20	14278476.46	39°19'12.223"N	80°56'17.985"W	34.94	272.061	0.58	
1612.00	6.800	268.110	1610.29	-15.25	1.18	-37.84	1657855.27	14278476.38	39°19'12.222"N	80°56'18.022"W	37.86	271.782	0.65	
1637.00	6.860	267.610	1635.12	-16.26	1.07	-40.81	1657862.31	14278476.27	39°19'12.221"N	80°56'18.060"W	40.82	271.497	0.31	
1662.00	6.960	267.030	1659.93	-17.25	0.93	-43.81	1657849.31	14278476.13	39°19'12.219"N	80°56'18.098"W	43.82	271.210	0.52	
1687.00	7.050	266.990	1684.75	-18.24	0.77	-46.86	1657846.26	14278475.97	39°19'12.218"N	80°56'18.137"W	46.86	270.937	0.36	
1712.00	7.270	267.520	1709.55	-19.27	0.62	-49.97	1657843.15	14278475.82	39°19'12.216"N	80°56'18.176"W	49.97	270.708	0.92	
1737.00	7.520	267.590	1734.35	-20.34	0.48	-53.18	1657839.94	14278475.68	39°19'12.215"N	80°56'18.217"W	53.19	270.518	1.00	
1762.00	7.880	268.790	1759.12	-21.50	0.38	-56.53	1657836.59	14278475.58	39°19'12.214"N	80°56'18.260"W	56.53	270.380	1.58	
1787.00	8.070	268.530	1783.88	-22.72	0.29	-60.00	1657833.12	14278475.49	39°19'12.213"N	80°56'18.304"W	60.00	270.281	0.77	
1812.00	8.220	269.150	1808.63	-23.98	0.22	-63.54	1657829.58	14278475.42	39°19'12.213"N	80°56'18.349"W	63.54	270.201	0.70	
1837.00	8.440	269.940	1833.36	-25.31	0.19	-67.16	1657825.96	14278475.39	39°19'12.212"N	80°56'18.395"W	67.16	270.166	0.99	
1862.00	8.920	273.230	1858.07	-26.83	0.30	-70.95	1657822.17	14278475.50	39°19'12.213"N	80°56'18.443"W	70.95	270.244	3.06	
1887.00	9.470	276.290	1882.75	-28.63	0.64	-74.95	1657818.18	14278475.84	39°19'12.217"N	80°56'18.494"W	74.96	270.488	2.67	
1912.00	9.860	276.870	1907.39	-30.64	1.12	-79.12	1657814.01	14278476.32	39°19'12.222"N	80°56'18.547"W	79.13	270.811	1.61	
1937.00	10.310	276.840	1932.01	-32.75	1.64	-83.47	1657809.66	14278476.84	39°19'12.227"N	80°56'18.602"W	83.49	271.127	1.80	
1962.00	11.210	276.980	1956.57	-35.01	2.20	-88.10	1657805.03	14278477.40	39°19'12.232"N	80°56'18.661"W	88.13	271.433	3.60	
1987.00	12.010	277.510	1981.05	-37.46	2.84	-93.10	1657800.04	14278478.04	39°19'12.239"N	80°56'18.725"W	93.14	271.747	3.23	
2012.00	12.790	278.880	2005.47	-40.16	3.61	-98.41	1657794.73	14278478.81	39°19'12.246"N	80°56'18.792"W	98.47	272.099	3.33	
2037.00	13.710	280.580	2029.81	-43.17	4.58	-104.05	1657789.09	14278479.78	39°19'12.256"N	80°56'18.864"W	104.15	272.519	4.00	
2062.00	14.760	282.970	2054.04	-46.59	5.84	-110.07	1657783.07	14278481.03	39°19'12.268"N	80°56'18.941"W	110.22	273.035	4.81	
2087.00	15.720	284.500	2078.16	-50.43	7.40	-116.45	1657776.69	14278482.60	39°19'12.284"N	80°56'19.022"W	116.69	273.636	4.16	
2112.00	16.320	284.270	2102.19	-54.52	9.11	-123.14	1657770.01	14278484.31	39°19'12.301"N	80°56'19.107"W	123.47	274.233	2.41	
2137.00	16.960	284.140	2126.14	-58.74	10.87	-130.08	1657763.08	14278486.07	39°19'12.318"N	80°56'19.195"W	130.53	274.777	2.56	
2162.00	17.520	284.300	2150.02	-63.12	12.69	-137.26	1657755.90	14278487.88	39°19'12.336"N	80°56'19.287"W	137.84	275.282	2.25	
2187.00	17.440	283.780	2173.86	-67.63	14.51	-144.64	1657748.52	14278489.71	39°19'12.354"N	80°56'19.379"W	145.27	275.733	0.70	
2212.00	16.780	283.010	2197.76	-71.79	16.22	-151.70	1657741.46	14278491.41	39°19'12.371"N	80°56'19.470"W	152.56	276.102	2.79	
2237.00	15.870	281.870	2221.75	-75.76	17.73	-158.56	1657734.60	14278492.92	39°19'12.386"N	80°56'19.568"W	159.55	276.381	3.68	
2262.00	15.260	280.710	2245.83	-79.44	19.05	-165.13	1657728.03	14278494.24	39°19'12.399"N	80°56'19.641"W	166.23	276.579	2.77	
2287.00	15.410	280.470	2269.94	-83.00	20.26	-171.63	1657721.54	14278495.45	39°19'12.411"N	80°56'19.724"W	172.82	276.732	0.69	



Actual Wellpath Report

Alliance Unit 1H AWP Proj: 16012
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Alliance Unit 1H
Field	Ritchie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

WELLPATH DATA (356 stations)

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
2312.00	15.640	280.360	2294.03	-86.58	21.47	-178.21	1657714.96	14278496.66	39°19'12.423"N	80°56'19.808"W	179.50	276.870	0.93	
2337.00	16.120	280.440	2318.08	-90.25	22.71	-184.94	1657708.23	14278497.90	39°19'12.436"N	80°56'19.893"W	186.33	276.999	1.92	
2362.00	16.880	280.630	2342.05	-94.06	24.00	-191.92	1657701.26	14278499.19	39°19'12.448"N	80°56'19.982"W	193.42	277.129	3.05	
2387.00	17.610	280.850	2365.92	-98.07	25.39	-199.20	1657693.98	14278500.57	39°19'12.462"N	80°56'20.075"W	200.81	277.262	2.93	
2412.00	18.240	280.590	2389.71	-102.22	26.82	-206.76	1657686.42	14278502.01	39°19'12.476"N	80°56'20.171"W	208.49	277.390	2.54	
2437.00	18.500	280.540	2413.43	-106.46	28.26	-214.61	1657678.68	14278503.45	39°19'12.491"N	80°56'20.270"W	216.36	277.505	1.04	
2462.00	18.610	280.430	2437.14	-110.73	29.71	-222.33	1657670.86	14278504.90	39°19'12.505"N	80°56'20.369"W	224.31	277.611	0.46	
2487.00	18.530	280.430	2460.83	-115.00	31.15	-230.16	1657663.03	14278506.34	39°19'12.519"N	80°56'20.469"W	232.26	277.707	0.32	
2512.01	17.840	280.060	2484.59	-119.16	32.54	-237.84	1657655.35	14278507.73	39°19'12.533"N	80°56'20.566"W	240.06	277.790	2.80	
2537.01	16.830	279.620	2508.46	-123.08	33.81	-245.18	1657648.02	14278509.00	39°19'12.546"N	80°56'20.660"W	247.50	277.852	4.07	
2562.01	16.300	278.570	2532.42	-126.76	34.94	-252.22	1657640.98	14278510.13	39°19'12.557"N	80°56'20.749"W	254.63	277.887	2.43	
2587.01	15.680	277.370	2556.45	-130.20	35.90	-259.04	1657634.17	14278511.08	39°19'12.566"N	80°56'20.836"W	261.51	277.889	2.81	
2612.01	15.710	277.160	2580.52	-133.50	36.75	-265.75	1657627.46	14278511.94	39°19'12.575"N	80°56'20.921"W	268.28	277.874	0.26	
2637.01	16.040	276.270	2604.57	-136.79	37.55	-272.54	1657620.67	14278512.74	39°19'12.583"N	80°56'21.008"W	275.11	277.845	1.64	
2662.01	16.130	276.080	2628.69	-140.05	38.30	-279.42	1657613.79	14278513.48	39°19'12.590"N	80°56'21.095"W	282.04	277.804	0.42	
2687.01	16.390	275.530	2652.59	-143.31	39.00	-286.39	1657606.83	14278514.19	39°19'12.597"N	80°56'21.184"W	289.03	277.755	1.21	
2712.01	16.870	274.530	2676.54	-146.56	39.63	-293.52	1657599.70	14278514.81	39°19'12.604"N	80°56'21.275"W	296.18	277.689	2.24	
2737.01	17.020	274.310	2700.46	-149.80	40.19	-300.78	1657592.44	14278515.37	39°19'12.609"N	80°56'21.367"W	303.45	277.611	0.65	
2762.01	18.370	274.230	2724.27	-153.16	40.76	-308.36	1657584.87	14278515.94	39°19'12.615"N	80°56'21.464"W	311.04	277.529	5.40	
2787.01	19.830	275.920	2747.90	-156.88	41.48	-316.50	1657576.72	14278516.67	39°19'12.622"N	80°56'21.567"W	319.21	277.467	6.24	
2812.01	20.830	278.110	2771.34	-161.09	42.55	-325.12	1657568.11	14278517.73	39°19'12.633"N	80°56'21.677"W	327.90	277.456	5.03	
2837.01	21.080	280.520	2794.69	-165.74	44.00	-333.94	1657559.29	14278519.18	39°19'12.647"N	80°56'21.789"W	336.83	277.505	3.59	
2862.01	20.940	281.260	2818.03	-170.60	45.69	-342.75	1657550.49	14278520.87	39°19'12.664"N	80°56'21.901"W	345.78	277.593	1.20	
2887.01	20.670	282.000	2841.40	-175.51	47.48	-351.44	1657541.80	14278522.66	39°19'12.682"N	80°56'22.012"W	354.64	277.694	1.51	
2912.01	20.540	283.890	2864.80	-180.55	49.45	-360.02	1657533.23	14278524.63	39°19'12.701"N	80°56'22.121"W	363.40	277.821	2.71	
2937.01	20.670	285.190	2888.20	-185.78	51.66	-368.53	1657524.72	14278526.84	39°19'12.723"N	80°56'22.229"W	372.14	277.979	1.90	
2962.01	20.680	286.890	2911.59	-191.22	54.10	-377.01	1657516.24	14278529.28	39°19'12.747"N	80°56'22.337"W	380.88	278.166	2.40	
2987.01	20.630	287.500	2934.98	-196.79	56.70	-385.44	1657507.82	14278531.88	39°19'12.773"N	80°56'22.444"W	389.59	278.369	0.88	
3012.01	20.790	287.500	2958.37	-202.41	59.36	-393.87	1657499.39	14278534.54	39°19'12.799"N	80°56'22.551"W	398.32	278.571	0.64	
3037.01	21.000	287.680	2981.72	-208.09	62.06	-402.37	1657490.89	14278537.23	39°19'12.826"N	80°56'22.660"W	407.13	278.768	0.88	



Actual Wellpath Report

Alliance Unit 1H AWP Proj: 16012'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Alliance Unit 1H
Field	Ritchie	Wellbore	Alliance Unit 1H AWP
Facility	Zinn Pad		

WELLPATH DATA (356 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]	Comments
4562.01	18.230	276.330	4416.80	-491.94	164.75	-906.53	1656986.93	14278639.89	39°19'13.844"N	80°56'29.074"W	921.38	280.301	1.60	
4587.01	18.560	276.650	4440.52	-495.70	165.65	-914.37	1656979.10	14278640.78	39°19'13.853"N	80°56'29.173"W	929.25	280.268	1.38	
4612.01	19.270	277.660	4464.17	-499.65	166.66	-922.41	1656971.06	14278641.79	39°19'13.863"N	80°56'29.276"W	937.34	280.241	3.13	
4637.01	19.580	278.520	4487.75	-503.81	167.83	-930.64	1656962.83	14278642.96	39°19'13.875"N	80°56'29.380"W	945.65	280.223	1.69	
4662.01	19.120	279.720	4511.34	-508.09	169.14	-938.82	1656954.66	14278644.27	39°19'13.888"N	80°56'29.485"W	953.93	280.213	2.43	
4687.01	18.820	280.560	4534.98	-512.41	170.57	-946.82	1656946.66	14278645.70	39°19'13.902"N	80°56'29.586"W	962.06	280.212	1.62	
4712.01	19.040	280.690	4558.63	-516.78	172.06	-954.79	1656938.69	14278647.19	39°19'13.917"N	80°56'29.688"W	970.17	280.216	0.90	
4737.01	19.720	280.470	4582.21	-521.24	173.59	-962.94	1656930.54	14278648.72	39°19'13.932"N	80°56'29.791"W	978.47	280.219	2.74	
4762.01	20.630	280.240	4605.68	-525.85	175.14	-971.43	1656922.06	14278650.27	39°19'13.947"N	80°56'29.899"W	987.09	280.220	3.65	
4787.01	20.510	280.390	4629.08	-530.54	176.71	-980.07	1656913.43	14278651.84	39°19'13.963"N	80°56'30.009"W	995.87	280.221	0.52	
4812.01	20.990	280.350	4652.46	-535.28	178.30	-988.78	1656904.72	14278653.43	39°19'13.979"N	80°56'30.120"W	1004.73	280.222	1.92	
4837.01	20.990	280.380	4675.80	-540.07	179.91	-997.59	1656895.91	14278655.04	39°19'13.995"N	80°56'30.232"W	1013.68	280.223	0.04	
4862.01	21.160	280.760	4699.13	-544.90	181.56	-1006.43	1656887.08	14278656.69	39°19'14.011"N	80°56'30.345"W	1022.67	280.226	0.87	
4887.01	21.100	281.340	4722.45	-549.81	183.29	-1015.27	1656878.24	14278658.42	39°19'14.028"N	80°56'30.457"W	1031.68	280.234	0.87	
4912.01	20.510	282.150	4745.82	-554.74	185.10	-1023.97	1656869.55	14278660.22	39°19'14.046"N	80°56'30.568"W	1040.56	280.246	2.63	
4937.01	19.760	282.910	4769.29	-559.62	186.96	-1032.37	1656861.15	14278662.09	39°19'14.065"N	80°56'30.675"W	1049.16	280.265	3.18	
4962.01	19.110	282.830	4792.86	-564.37	188.82	-1040.48	1656853.04	14278663.94	39°19'14.083"N	80°56'30.778"W	1057.47	280.286	2.60	
4987.01	18.890	281.800	4816.50	-568.95	190.55	-1048.43	1656845.09	14278665.68	39°19'14.100"N	80°56'30.879"W	1065.60	280.301	1.60	
5012.01	19.060	279.700	4840.14	-573.35	192.07	-1056.41	1656837.11	14278667.19	39°19'14.115"N	80°56'30.981"W	1073.73	280.304	2.81	
5037.01	19.220	277.690	4863.76	-577.53	193.31	-1064.51	1656829.01	14278668.43	39°19'14.127"N	80°56'31.084"W	1081.92	280.292	2.71	
5062.01	19.610	277.190	4887.34	-581.61	194.38	-1072.75	1656820.78	14278669.50	39°19'14.138"N	80°56'31.189"W	1090.22	280.271	1.70	
5087.01	19.840	277.360	4910.87	-585.73	195.45	-1081.12	1656812.41	14278670.57	39°19'14.149"N	80°56'31.295"W	1098.65	280.248	0.95	
5112.01	19.770	277.780	4934.40	-589.90	196.57	-1089.52	1656804.02	14278671.69	39°19'14.160"N	80°56'31.402"W	1107.11	280.227	0.63	
5137.01	19.980	278.400	4957.91	-594.16	197.76	-1097.94	1656795.61	14278672.88	39°19'14.172"N	80°56'31.509"W	1115.60	280.211	1.19	
5162.01	20.350	278.570	4981.37	-598.53	199.03	-1106.46	1656787.09	14278674.15	39°19'14.184"N	80°56'31.617"W	1124.22	280.198	1.50	
5187.01	20.530	279.080	5004.80	-603.00	200.37	-1115.09	1656778.46	14278675.49	39°19'14.198"N	80°56'31.727"W	1132.95	280.187	1.01	
5212.01	20.230	279.610	5028.23	-607.52	201.79	-1123.68	1656769.87	14278676.91	39°19'14.212"N	80°56'31.836"W	1141.65	280.181	1.41	
5237.01	19.460	279.950	5051.75	-611.99	203.23	-1132.04	1656761.51	14278678.35	39°19'14.226"N	80°56'31.943"W	1150.14	280.178	3.11	
5262.01	18.790	280.330	5075.37	-616.34	204.67	-1140.10	1656753.45	14278679.79	39°19'14.240"N	80°56'32.045"W	1158.33	280.177	2.73	
5287.01	18.030	280.240	5099.09	-620.56	206.08	-1147.87	1656745.69	14278681.20	39°19'14.254"N	80°56'32.144"W	1166.22	280.178	3.04	



Actual Wellpath Report

Alliance Unit 1H AWP Proj: 16012
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Richlie County, WV	Well	Alliance Unit 1H
Field	Richlie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

WELLPATH DATA (356 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Comments
5312.01	17.310	280.126	5122.91	-624.60	207.42	-1155.34	1656738.22	14278682.54	39°19'14.26"N	80°56'32.23"W	1173.81	
5337.01	17.560	279.520	5146.76	-628.54	208.70	-1162.72	1656730.85	14278683.81	39°19'14.280"N	80°56'32.333"W	1181.30	
5362.01	17.910	279.220	5170.57	-632.50	209.94	-1170.23	1656723.34	14278685.05	39°19'14.293"N	80°56'32.429"W	1188.92	
5387.01	17.960	279.320	5194.36	-636.49	211.18	-1177.83	1656715.74	14278686.29	39°19'14.305"N	80°56'32.525"W	1196.61	
5412.01	17.960	279.040	5218.14	-640.48	212.41	-1185.44	1656708.13	14278687.52	39°19'14.317"N	80°56'32.622"W	1204.32	
5437.01	18.560	278.420	5241.88	-644.48	213.60	-1193.19	1656700.39	14278688.71	39°19'14.329"N	80°56'32.721"W	1212.15	
5462.01	18.820	278.390	5265.56	-648.53	214.77	-1201.11	1656692.47	14278689.88	39°19'14.340"N	80°56'32.822"W	1220.16	
5487.01	18.480	278.810	5289.25	-652.53	215.89	-1209.02	1656684.57	14278691.01	39°19'14.352"N	80°56'32.922"W	1228.14	
5512.01	17.660	277.800	5313.02	-656.38	218.95	-1216.69	1656676.90	14278692.06	39°19'14.362"N	80°56'33.020"W	1235.88	
5537.01	16.890	277.390	5338.90	-660.04	217.93	-1224.05	1656669.54	14278693.04	39°19'14.372"N	80°56'33.113"W	1243.30	
5562.01	16.310	277.540	5360.85	-663.55	218.85	-1231.13	1656662.46	14278693.97	39°19'14.381"N	80°56'33.204"W	1250.43	
5587.01	16.550	278.050	5384.83	-667.06	219.81	-1238.14	1656655.46	14278694.93	39°19'14.391"N	80°56'33.293"W	1257.50	
5612.01	17.130	279.590	5408.76	-670.77	220.93	-1245.29	1656648.31	14278696.04	39°19'14.402"N	80°56'33.384"W	1264.74	
5637.01	17.390	284.270	5432.64	-674.91	222.46	-1252.54	1656641.06	14278697.57	39°19'14.417"N	80°56'33.476"W	1272.15	
5662.01	17.880	288.190	5456.66	-679.59	224.68	-1259.81	1656633.79	14278699.69	39°19'14.438"N	80°56'33.568"W	1279.67	
5687.01	18.170	289.690	5480.23	-684.66	227.09	-1267.13	1656626.48	14278702.20	39°19'14.463"N	80°56'33.662"W	1287.32	
5712.01	18.460	290.660	5503.97	-689.93	229.80	-1274.51	1656619.11	14278704.91	39°19'14.489"N	80°56'33.755"W	1295.06	
5737.01	19.010	291.010	5527.64	-695.39	232.66	-1282.01	1656611.61	14278707.76	39°19'14.518"N	80°56'33.851"W	1302.95	
5762.01	19.030	291.050	5551.28	-700.95	235.58	-1289.61	1656604.00	14278710.68	39°19'14.547"N	80°56'33.948"W	1310.96	
5787.00	18.060	286.190	5569.20	-724.95	247.47	-1324.32	1656696.32	14278722.57	39°19'14.664"N	80°56'34.899"W	1347.24	BHI AT Curve <8-1/2">(5762.01)-(5848-15987)
5812.00	17.150	271.830	5722.14	-735.21	250.64	-1343.88	1656649.76	14278725.73	39°19'14.696"N	80°56'34.638"W	1367.05	
5837.00	20.570	241.230	5811.97	-737.90	241.76	-1373.06	1656620.59	14278716.87	39°19'14.608"N	80°56'35.009"W	1394.19	
6084.00	17.880	244.700	5856.94	-736.50	234.71	-1386.83	1656606.83	14278709.81	39°19'14.539"N	80°56'35.184"W	1406.55	
6131.00	18.830	227.480	5900.95	-735.22	228.00	-1400.01	1656493.65	14278703.11	39°19'14.472"N	80°56'35.352"W	1418.46	
6177.00	21.640	227.290	5944.14	-731.36	218.70	-1412.78	1656480.89	14278693.81	39°19'14.381"N	80°56'35.515"W	1429.61	
6226.00	24.580	212.260	5989.24	-722.20	203.93	-1424.87	1656468.80	14278679.05	39°19'14.235"N	80°56'35.669"W	1439.39	
6269.00	26.590	200.600	6028.05	-709.87	187.35	-1433.04	1656460.64	14278662.47	39°19'14.071"N	80°56'35.773"W	1445.23	
6320.00	29.160	190.640	6073.15	-690.99	164.44	-1439.35	1656454.33	14278639.57	39°19'13.844"N	80°56'35.853"W	1448.71	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Alliance Unit 1H
Field	Ritchie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

WELLPATH DATA (356 stations) † = interpolated/extrapolated station														
MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
6365.00	31.640	184.190	6111.97	-67.15	141.88	-1442.24	1656451.44	14278617.03	39°19'13.62"N	80°56'35.89"W	1449.20	275.618	9.10	
6414.00	34.700	178.880	6152.99	-646.57	115.11	-1442.91	1656450.77	14278590.26	39°19'13.35"N	80°56'35.89"W	1447.49	274.561	8.61	
6462.00	39.160	174.210	6191.36	-619.23	86.35	-1441.11	1656452.57	14278561.51	39°19'13.07"N	80°56'35.876"W	1443.69	273.429	10.97	
6509.00	43.720	170.200	6226.59	-589.08	55.56	-1436.84	1656456.83	14278530.74	39°19'12.768"N	80°56'35.822"W	1437.92	272.214	11.22	
6557.00	48.250	166.960	6259.94	-555.15	21.75	-1429.98	1656463.70	14278496.94	39°19'12.434"N	80°56'35.735"W	1430.14	270.871	10.61	Middlesex: 6546' MD
6603.00	51.070	166.280	6289.71	-520.49	-12.36	-1421.86	1656471.81	14278462.85	39°19'12.097"N	80°56'35.632"W	1421.91	269.502	6.23	
6647.00	55.310	164.070	6316.07	-485.54	-46.39	-1412.81	1656480.85	14278428.83	39°19'11.761"N	80°56'35.517"W	1413.57	268.119	10.48	
6697.00	59.800	161.070	6342.89	-443.49	-86.62	-1400.13	1656493.53	14278388.62	39°19'11.363"N	80°56'35.356"W	1402.81	266.460	10.26	
6726.00†	61.997	159.832	6357.00	-418.18	-110.48	-1391.65	1656502.01	14278364.75	39°19'11.127"N	80°56'35.249"W	1396.03	265.460	8.44	Burkett: 6726' MD
6743.00	63.290	159.130	6364.81	-403.08	-124.63	-1386.36	1656507.30	14278350.62	39°19'10.987"N	80°56'35.181"W	1391.95	264.863	8.44	
6792.00	69.090	158.860	6384.58	-358.28	-166.47	-1370.29	1656523.36	14278308.80	39°19'10.574"N	80°56'34.977"W	1380.37	263.074	11.85	
6793.00†	69.199	158.859	6384.94	-367.35	-167.34	-1369.96	1656523.69	14278307.93	39°19'10.565"N	80°56'34.973"W	1380.14	263.036	10.92	Fully: 6793' MD
6830.00	73.240	158.830	6396.85	-322.33	-200.00	-1357.32	1656536.33	14278276.28	39°19'10.242"N	80°56'34.812"W	1371.87	261.618	10.92	
6861.00†	76.678	158.774	6404.89	-292.40	-227.91	-1346.49	1656547.15	14278247.38	39°19'09.966"N	80°56'34.675"W	1365.65	260.393	11.09	Marcellus: 6861' MD
6868.00	79.450	158.730	6410.06	-267.94	-250.70	-1337.63	1656556.01	14278224.60	39°19'09.741"N	80°56'34.562"W	1360.92	259.385	11.09	
6933.00	81.630	158.520	6417.78	-221.58	-293.87	-1320.73	1656572.90	14278181.45	39°19'09.314"N	80°56'34.348"W	1353.03	257.456	4.66	
6980.00	83.150	158.710	6424.01	-175.00	-337.25	-1303.75	1656589.88	14278138.09	39°19'08.885"N	80°56'34.132"W	1346.66	255.497	3.26	
7024.00	85.100	158.470	6428.51	-131.24	-377.99	-1287.77	1656605.85	14278097.36	39°19'08.482"N	80°56'33.929"W	1342.10	253.642	4.46	
7075.00	90.220	158.340	6430.59	-80.30	-425.36	-1269.02	1656624.59	14278050.01	39°19'08.014"N	80°56'33.691"W	1338.41	251.470	10.04	
7169.00	90.120	157.090	6430.31	13.70	-512.34	-1233.38	1656660.22	14277963.07	39°19'07.154"N	80°56'33.238"W	1335.56	247.442	1.33	
7263.00	90.180	153.450	6430.07	107.57	-597.70	-1194.06	1656699.52	14277877.74	39°19'06.310"N	80°56'32.738"W	1335.30	243.409	3.87	
7358.00	89.600	154.330	6430.25	202.32	-683.00	-1152.25	1656741.31	14277792.47	39°19'05.467"N	80°56'32.207"W	1339.47	239.342	1.11	
7452.00	90.150	159.560	6430.46	296.27	-769.47	-1115.45	1656778.10	14277706.04	39°19'04.612"N	80°56'31.740"W	1355.11	235.401	5.59	
7546.00	90.250	159.120	6430.13	390.25	-857.42	-1082.29	1656811.25	14277618.12	39°19'03.743"N	80°56'31.318"W	1380.77	231.613	0.48	
7641.00	90.030	166.060	6429.89	485.23	-945.24	-1046.08	1656847.44	14277530.34	39°19'02.874"N	80°56'30.858"W	1409.87	227.899	3.23	
7735.00	90.250	155.530	6429.67	579.16	-1030.97	-1007.54	1656885.97	14277444.64	39°19'02.027"N	80°56'30.369"W	1441.54	224.341	0.61	
7830.00	90.000	155.590	6429.46	674.07	-1117.46	-968.23	1656925.26	14277358.19	39°19'01.172"N	80°56'29.869"W	1478.57	220.908	0.27	
7924.00	90.340	160.400	6429.18	768.04	-1204.58	-933.02	1656960.45	14277271.10	39°19'00.310"N	80°56'29.422"W	1523.66	217.760	5.13	
8019.00	90.430	160.770	6428.54	862.95	-1294.18	-901.44	1656992.02	14277181.54	39°18'59.425"N	80°56'29.021"W	1577.18	214.859	0.40	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Richlie County, WV	Well	Alliance Unit 1H
Field	Richlie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

WELLPATH DATA (356 stations)														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
813.00	90.490	158.620	6427.79	956.90	-1382.33	-868.83	1657024.62	14277093.42	39°18'58.553"N	80°56'28.607"W	1632.70	212.150	2.29	
8208.00	90.340	160.730	6427.10	1051.85	-1471.41	-835.83	1657057.61	14277004.38	39°18'57.673"N	80°56'28.188"W	1692.23	209.599	2.23	
8302.00	90.400	160.000	6426.49	1145.77	-1559.94	-804.24	1657089.18	14276915.89	39°18'56.797"N	80°56'27.787"W	1755.06	207.274	0.78	
8397.00	90.430	158.110	6425.80	1240.75	-1648.66	-770.29	1657123.12	14276827.21	39°18'55.920"N	80°56'27.355"W	1819.73	205.043	1.99	
8491.00	90.710	158.840	6424.87	1334.74	-1736.10	-735.80	1657157.60	14276739.80	39°18'55.056"N	80°56'26.917"W	1885.58	202.968	0.83	
8568.00	90.660	155.930	6423.71	1429.72	-1823.78	-699.28	1657194.11	14276652.16	39°18'54.189"N	80°56'26.453"W	1953.24	200.978	3.06	
8680.00	90.430	155.800	6422.80	1523.65	-1909.55	-660.84	1657232.52	14276566.41	39°18'53.341"N	80°56'25.965"W	2020.67	199.089	0.30	
8775.00	90.160	161.800	6422.30	1618.63	-1997.28	-624.42	1657268.93	14276478.72	39°18'52.474"N	80°56'25.502"W	2092.61	197.361	3.48	
8869.00	90.150	162.320	6422.03	1712.51	-2085.99	-593.37	1657299.97	14276390.05	39°18'51.597"N	80°56'25.108"W	2168.74	195.879	3.43	
8964.00	90.150	161.460	6421.78	1807.30	-2176.28	-563.84	1657329.49	14276299.79	39°18'50.704"N	80°56'24.733"W	2248.13	194.525	0.91	
9058.00	90.090	160.330	6421.58	1901.18	-2265.10	-533.07	1657360.24	14276211.01	39°18'49.826"N	80°56'24.342"W	2326.98	193.243	1.20	
9153.00	90.000	161.520	6421.51	1996.05	-2354.88	-502.03	1657391.28	14276121.26	39°18'48.938"N	80°56'23.948"W	2407.80	192.034	1.26	
9247.00	89.910	161.790	6421.58	2089.86	-2444.11	-472.44	1657420.85	14276032.08	39°18'48.056"N	80°56'23.572"W	2489.35	190.940	0.30	
9342.00	89.880	157.220	6421.76	2184.81	-2533.07	-439.19	1657454.09	14275943.15	39°18'47.177"N	80°56'23.150"W	2570.86	189.836	4.81	
9436.00	89.910	154.920	6421.93	2278.71	-2618.64	-400.32	1657492.84	14275857.61	39°18'46.331"N	80°56'22.656"W	2649.06	188.692	3.51	
9530.00	90.120	154.830	6421.90	2372.52	-2703.39	-359.66	1657533.58	14275772.89	39°18'45.493"N	80°56'22.140"W	2727.22	187.578	0.99	
9626.00	88.890	154.370	6422.72	2467.34	-2789.21	-318.92	1657574.31	14275687.11	39°18'44.644"N	80°56'21.622"W	2807.38	186.523	1.38	
9719.00	89.140	151.760	6424.34	2560.97	-2872.99	-276.35	1657616.86	14275603.36	39°18'43.816"N	80°56'21.081"W	2886.25	185.494	2.79	
9813.00	89.880	156.020	6425.14	2654.69	-2957.37	-234.99	1657658.20	14275519.01	39°18'42.982"N	80°56'20.566"W	2966.70	184.543	4.60	
9908.00	90.000	161.320	6425.24	2749.65	-3045.84	-200.45	1657692.73	14275430.69	39°18'42.107"N	80°56'20.117"W	3052.42	183.765	5.68	
10002.00	89.540	162.860	6425.62	2843.42	-3133.28	-171.54	1657721.63	14275341.18	39°18'41.223"N	80°56'19.750"W	3139.97	183.132	1.71	
10097.00	89.600	161.060	6426.33	2938.19	-3225.60	-142.12	1657751.03	14275250.90	39°18'40.330"N	80°56'19.377"W	3228.73	182.523	1.90	
10191.00	89.450	158.390	6427.11	3032.13	-3313.76	-109.55	1657783.59	14275162.77	39°18'39.458"N	80°56'18.963"W	3315.58	181.894	2.84	
10286.00	89.820	153.900	6427.72	3127.05	-3400.62	-71.14	1657821.98	14275075.94	39°18'38.600"N	80°56'18.475"W	3401.37	181.199	4.74	
10380.00	89.350	150.000	6428.40	3220.50	-3483.66	-26.95	1657866.16	14274993.03	39°18'37.780"N	80°56'17.914"W	3483.67	180.443	4.18	
10475.00	89.630	155.750	6429.25	3315.08	-3568.08	16.34	1657909.44	14274908.56	39°18'36.944"N	80°56'17.363"W	3568.11	179.738	6.06	
10569.00	89.660	159.230	6429.83	3409.06	-3654.90	62.32	1657945.40	14274821.77	39°18'36.086"N	80°56'16.906"W	3655.28	179.180	3.70	
10664.00	89.720	156.950	6430.34	3504.05	-3743.03	87.77	1657980.83	14274733.67	39°18'35.214"N	80°56'16.456"W	3744.06	178.657	2.40	
10758.00	89.510	157.950	6430.97	3598.04	-3829.84	123.82	1658016.87	14274646.90	39°18'34.356"N	80°56'15.998"W	3831.84	178.148	1.09	
10853.00	89.660	159.530	6431.66	3693.03	-3918.37	158.26	1658051.30	14274558.40	39°18'33.481"N	80°56'15.561"W	3921.57	177.687	1.67	



Actual Wellpath Report
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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Richie County, WV	Well	Alliance Unit 1H
Field	Richie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

WELLPATH DATA (356 stations)

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
10947.00	89.970	6431.97	3787.01	-4006.25	191.62	1658084.64	14274470.56	39°18'32.61"N	80°56'15.13"W	4010.83	177.262	177.262	0.75	
11041.00	89.940	157.830	6432.04	-4093.63	226.27	1658119.28	14274383.21	39°18'31.74"N	80°56'14.69"W	4099.88	176.836	176.836	1.14	
11136.00	89.910	159.080	6432.16	-4181.99	261.16	1658154.16	14274294.89	39°18'30.87"N	80°56'14.25"W	4190.14	176.427	176.427	1.32	
11230.00	89.940	158.270	6432.29	-4269.55	295.34	1658188.33	14274207.36	39°18'30.00"N	80°56'13.82"W	4279.76	176.043	176.043	0.86	
11324.00	89.910	158.540	6432.41	-4356.96	329.94	1658222.91	14274119.99	39°18'29.14"N	80°56'13.38"W	4369.43	175.669	175.669	0.29	
11420.00	89.970	159.610	6432.51	-4446.62	364.23	1658257.18	14274030.36	39°18'28.25"N	80°56'12.94"W	4461.51	175.317	175.317	1.12	
11513.00	89.940	162.720	6432.58	-4534.63	394.25	1658287.19	14273942.39	39°18'27.38"N	80°56'12.56"W	4551.74	175.031	175.031	3.34	
11608.00	90.620	163.180	6432.12	-4625.45	422.10	1658315.03	14273851.60	39°18'26.49"N	80°56'12.21"W	4644.67	174.786	174.786	0.86	
11702.00	90.180	160.710	6431.46	-4714.82	451.23	1658344.15	14273762.28	39°18'25.60"N	80°56'11.84"W	4736.36	174.533	174.533	2.67	
11797.00	90.370	153.640	6431.01	-4802.32	488.06	1658380.96	14273674.81	39°18'24.74"N	80°56'11.37"W	4827.06	174.197	174.197	7.44	
11891.00	90.340	150.100	6430.42	-4885.20	532.37	1658425.26	14273591.96	39°18'23.92"N	80°56'10.81"W	4914.13	173.781	173.781	3.77	
11986.00	90.800	151.840	6429.48	-4968.26	578.47	1658471.33	14273508.94	39°18'23.10"N	80°56'10.225"W	5001.82	173.359	173.359	1.89	
12080.00	90.890	156.570	6428.09	-5052.66	619.35	1658512.21	14273424.37	39°18'22.265"N	80°56'09.705"W	5090.68	173.012	173.012	5.03	
12174.00	90.990	156.660	6428.55	-5139.13	656.66	1658549.50	14273338.14	39°18'21.412"N	80°56'09.231"W	5180.91	172.718	172.718	0.14	
12269.00	90.580	158.120	6428.25	-5226.82	693.18	1658586.00	14273250.48	39°18'20.545"N	80°56'08.768"W	5272.58	172.446	172.446	1.60	
12363.00	90.770	161.410	6424.14	-5315.00	725.68	1658618.49	14273162.34	39°18'19.673"N	80°56'08.355"W	5364.31	172.225	172.225	3.51	
12458.00	90.890	162.770	6422.76	-5405.38	754.89	1658647.69	14273071.99	39°18'18.780"N	80°56'07.984"W	5457.84	172.050	172.050	1.44	
12552.00	90.220	161.970	6421.85	-5494.96	783.36	1658676.15	14272982.45	39°18'17.894"N	80°56'07.623"W	5550.52	171.887	171.887	1.11	
12647.00	90.060	158.390	6421.62	-5584.32	815.57	1658708.34	14272893.13	39°18'17.011"N	80°56'07.214"W	5643.56	171.691	171.691	3.77	
12741.00	90.060	156.710	6421.52	-5671.19	851.46	1658744.22	14272806.29	39°18'16.152"N	80°56'06.758"W	5734.75	171.461	171.461	1.79	
12836.00	90.800	157.040	6420.81	-5758.55	888.77	1658781.51	14272718.96	39°18'15.288"N	80°56'06.294"W	5826.74	171.226	171.226	0.85	
12930.00	90.680	161.860	6419.60	-5846.54	921.76	1658814.49	14272631.01	39°18'14.418"N	80°56'05.865"W	5918.75	171.041	171.041	5.13	
13025.00	90.150	158.800	6418.91	-5935.98	953.73	1658846.45	14272541.60	39°18'13.534"N	80°56'05.460"W	6012.11	170.872	170.872	3.27	
13119.00	90.030	154.750	6418.76	-6022.35	990.79	1658883.49	14272455.27	39°18'12.680"N	80°56'04.989"W	6103.30	170.657	170.657	4.31	
13213.00	90.030	156.850	6418.71	-6108.08	1029.32	1658922.01	14272369.57	39°18'11.832"N	80°56'04.500"W	6194.20	170.435	170.435	2.23	
13308.00	90.770	159.100	6418.05	-6196.14	1064.94	1658957.61	14272281.55	39°18'10.962"N	80°56'04.047"W	6286.99	170.248	170.248	2.49	
13402.00	90.680	155.950	6416.86	-6282.98	1100.87	1658993.53	14272194.74	39°18'10.103"N	80°56'03.591"W	6378.70	170.062	170.062	3.35	
13497.00	90.620	151.990	6415.78	-6368.32	1142.55	1659035.19	14272109.43	39°18'09.259"N	80°56'03.062"W	6470.00	169.829	169.829	4.17	
13591.00	91.200	151.800	6414.29	-6451.23	1186.82	1659079.45	14272026.56	39°18'08.440"N	80°56'02.499"W	6559.49	169.576	169.576	0.65	
13686.00	91.200	158.400	6412.30	-6531.56	1226.79	1659119.40	14271940.49	39°18'07.688"N	80°56'01.991"W	6651.44	169.372	169.372	6.95	



Actual Wellpath Report
 Alliance Unit 1H AWP Proj: 16012
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Richlie County, WV	Well	Alliance Unit 1H
Field	Richlie	Wellbore	Alliance Unit 1H AWP
Facility	Zinn Pad		

WELLPATH DATA (356 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dir	DLS
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/100ft)
13780.00	161.066	6410.93	6615.50	-6625.49	1259.35	1659151.95	14271852.37	39°18'06".17"N	80°56'01".57"W	6744.12	169.238	2.94
13875.00	89.880	162.510	6410.65	6710.29	-6715.73	1289.05	1659181.63	39°18'05".825"N	80°56'01".201"W	6838.32	169.135	1.64
13969.00	89.630	162.020	6411.05	6804.03	-6805.26	1317.68	1659210.25	39°18'04".940"N	80°56'00".838"W	6931.65	169.042	0.59
14064.00	89.350	155.460	6411.90	6898.97	-6893.74	1352.11	1659244.66	39°18'04".065"N	80°56'00".401"W	7025.09	168.903	6.91
14158.00	89.510	154.090	6412.83	6992.81	-6978.77	1392.16	1659284.70	39°18'03".224"N	80°55'59".892"W	7116.28	168.718	1.47
14253.00	89.380	157.470	6413.76	7087.72	-7065.39	1431.13	1659323.65	39°18'02".368"N	80°55'59".397"W	7208.88	168.549	3.56
14348.00	89.380	162.570	6414.78	7182.62	-7154.64	1463.58	1659356.09	39°18'01".485"N	80°55'58".985"W	7302.80	168.439	5.37
14442.00	89.420	163.390	6415.77	7276.27	-7244.52	1491.09	1659383.59	39°18'00".597"N	80°55'58".636"W	7396.38	168.370	0.87
14537.00	89.480	161.310	6416.68	7370.99	-7335.04	1519.89	1659412.38	39°17'59".702"N	80°55'58".271"W	7490.85	168.293	2.19
14631.00	89.480	159.050	6417.53	7464.91	-7423.46	1551.76	1659444.24	39°17'58".828"N	80°55'57".866"W	7583.91	168.193	2.40
14725.00	89.450	156.520	6418.41	7558.90	-7510.47	1587.29	1659479.76	39°17'57".968"N	80°55'57".415"W	7678.37	168.066	1.73
14820.00	89.510	154.880	6419.27	7653.81	-7597.05	1626.39	1659518.83	39°17'57".112"N	80°55'56".918"W	7769.19	167.916	1.73
14914.00	89.450	157.520	6420.13	7747.75	-7683.04	1664.31	1659556.75	39°17'56".261"N	80°55'56".437"W	7861.24	167.777	2.81
15009.00	89.450	156.190	6421.04	7842.73	-7770.39	1701.65	1659594.07	39°17'55".998"N	80°55'55".963"W	7954.53	167.648	1.40
15103.00	89.510	157.170	6421.89	7936.70	-7856.71	1738.86	1659631.26	39°17'54".544"N	80°55'55".490"W	8046.83	167.520	1.04
15197.00	89.450	158.250	6422.75	8030.69	-7943.68	1774.51	1659666.90	39°17'53".684"N	80°55'55".038"W	8139.47	167.408	1.15
15292.00	89.380	159.010	6423.72	8126.68	-8032.14	1809.13	1659701.50	39°17'52".810"N	80°55'54".598"W	8233.36	167.307	0.80
15387.00	89.660	160.040	6424.51	8220.64	-8121.14	1842.36	1659734.72	39°17'51".930"N	80°55'54".176"W	8327.49	167.218	1.12
15480.00	89.910	158.490	6424.86	8313.62	-8208.11	1875.28	1659767.63	39°17'51".070"N	80°55'53".758"W	8419.60	167.131	1.69
15575.00	89.940	157.580	6424.98	8408.62	-8296.21	1910.82	1659803.15	39°17'50".199"N	80°55'53".307"W	8513.42	167.030	0.96
15669.00	89.850	153.830	6425.16	8502.52	-8381.87	1949.48	1659841.80	39°17'49".352"N	80°55'52".816"W	8605.59	166.907	3.99
15764.00	89.200	152.130	6425.94	8597.15	-8466.50	1992.64	1659884.94	39°17'48".515"N	80°55'52".268"W	8697.82	166.756	1.92
15858.00	89.820	155.140	6426.75	8690.66	-8550.70	2034.38	1659926.66	39°17'47".683"N	80°55'51".738"W	8789.38	166.617	3.27
15952.00	89.480	159.190	6427.32	8784.82	-8637.32	2070.85	1659963.12	39°17'46".827"N	80°55'51".275"W	8882.10	166.517	4.32
15987.00	89.940	159.870	6427.50	8819.81	-8670.11	2083.09	1659975.95	39°17'46".502"N	80°55'51".120"W	8916.84	166.490	2.35
16012.00	89.940	159.870	6427.53	8844.80	-8693.58	2091.69	1659983.95	39°17'46".270"N	80°55'51".010"W	8941.87	166.472	0.00

Comments

Projected MD @ TD: 16012'



Actual Wellpath Report

Alliance Unit 1H AWP Proj: 16012'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Alliance Unit 1H
Field	Ritchie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Alliance Unit 1H POE Rev-2	6406.00	-234.13	-1343.61	1656550.03	14278241.16	39°19'09.905"N	80°56'34.638"W	point
Alliance Unit 1H BHL Rev-2	6430.00	-8631.97	2044.52	1659936.80	14269846.70	39°17'46.880"N	80°55'51.610"W	point
Alliance Unit 1H Landing Pt. Rev-2	6430.00	-382.56	-1283.73	1656609.89	14278092.79	39°19'08.437"N	80°56'33.878"W	point

WELLPATH COMPOSITION - Ref Wellbore: Alliance Unit 1H AWB Ref Wellpath: Alliance Unit 1H AWP Proj: 16012'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
25.00	5762.01	SDI Keeper v1.04	01 SDI Gyro Std Keeper (100' - 5750.01')	Alliance Unit 1H AWB	
5762.01	15987.00	BHI AutoTrak Curve (Short)	02 BHI AT Curve <8-1/2">(5762.01')(5848'-15987')	Alliance Unit 1H AWB	
15987.00	16012.00	Blind Drilling (std)	Projection to bit	Alliance Unit 1H AWB	



Actual Wellpath Report

Alliance Unit 1H AWP Proj: 16012'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Alliance Unit 1H
Field	Ritchie	Wellbore	Alliance Unit 1H AWB
Facility	Zinn Pad		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
112.00	0.230	280.920	112.00	SDI Gyro Std Keeper (112' - 5762.01')
5848.00	18.770	287.920	5632.63	BHI AT Curve <8-1/2">(5762.01')(5848'-15987')
6546.00	47.204	167.660	6252.54	Middlesex: 6546' MD
6726.00	61.997	159.832	6357.00	Burkett: 6726' MD
6793.00	69.199	158.859	6384.94	Tully: 6793' MD
6861.00	76.678	158.774	6404.89	Marcellus: 6861' MD
16012.00	89.940	159.870	6427.53	Projected MD @ TD: 16012'

COMMENTS

Wellpath general comments
 API: 47-085-10274-0000
 BHI Job #: 7950678
 Rig: Patterson 343
 Duration: 05.12.2016-05.17.2016
 SDI Gyro Std Keeper (112' - 5762.01')
 BHI AT Curve <8-1/2">(5762.01')(5848'-15987')
 Middlesex: 6546' MD
 Burkett: 6726' MD
 Tully: 6793' MD
 Marcellus: 6861' MD
 Projected MD @ TD: 16012'