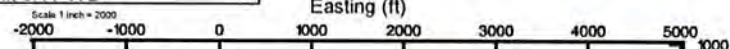




ANTERO RESOURCES CORPORATION

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

Slot: Slot #03
 Well: Raines Unit 3H
 Wellbore: Raines Unit 3H PWB



BHI AT Curve <8-1/2"> (6239')(6297'-16888') : 6208.73ft TVD, 127.40ft N, 14.22ft W
 Directional ONE MWD <8-3/4"> (2510')(2605'-6229') : 2601.50ft TVD, 197.71ft N, 44.40ft W
 Directional ONE MWD <12-1/4"> (956')(1098'-2510') : 1107.59ft TVD, 8.85ft N, 6.66ft E
 Gyrodata MS Gyro <12-1/4"> (580')(597'956') : 606.99ft TVD, 3.66ft S, 1.10ft E
 Gyrodata MS Gyro <17-1/2"> (100'-580') : 110.00ft TVD, 0.22ft S, 0.02ft W
 Marcellus POE: 6555' MD : 6351.93ft TVD, 69.48ft S, 61.79ft E

API: 47-085-10313-0000
 BHI Job #: 8775370
 Rig: Patterson 342
 Duration: 10/01/2017-10/05/2017

Plot reference wellpath is Raines Unit 3HPWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Measured depths are referenced to Patterson 342 (RKB)	Scale: True distance
Patterson 342 (RKB) to Mean Sea Level: 1218 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: Slot #03): -1193 feet	Created by: delaset on 2018-01-08
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Deft

Gyrodata MS Gyro <17-1/2"> (100'-580') : 0.30" Inc, 110.00ft MD, 110.00ft TVD, 0.20ft VS
 Gyrodata MS Gyro <12-1/4"> (580')(597'956') : 0.27" Inc, 607.00ft MD, 606.99ft TVD, 3.81ft VS
 Directional ONE MWD <12-1/4"> (956')(1098'-2510') : 4.48" Inc, 1108.00ft MD, 1107.59ft TVD, -5.84ft VS

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Bachelor Pad	1636101.623	14275345.503	39°18'41.320"N	81°00'54.920"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #03	0.00	0.00	1636101.623	14275345.503
Comment	Raines Unit 3H			
Patterson 342 (RKB) to Mud line (At Slot: Slot #03)				25ft
Mean Sea Level to Mud line (At Slot: Slot #03)				-1193ft
Patterson 342 (RKB) to Mean Sea Level				1218ft

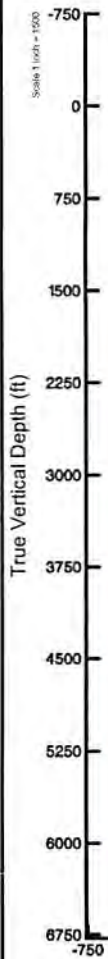
Directional ONE MWD <8-3/4"> (2510')(2605'-6229') : 7.91" Inc, 2615.00ft MD, 2601.50ft TVD, -200.37ft VS

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6239.00	36.760	164.600	6163.61	162.08	-25.32	2.41	-160.25
Proj. To Bottom	6322.00	47.310	162.000	6225.18	108.97	-9.25	12.88	-104.93
End of 3D Arc	6352.53	48.339	158.121	6245.68	87.71	-1.53	10.00	-82.31
POE	6581.17	72.341	158.765	6358.00	-95.77	70.81	10.50	114.91
Landing Pt.	6875.50	90.000	158.765	6403.00	-365.79	175.74	6.00	404.50
BHL	16825.37	90.000	158.765	6403.00	-9640.07	3779.58	0.00	10354.48

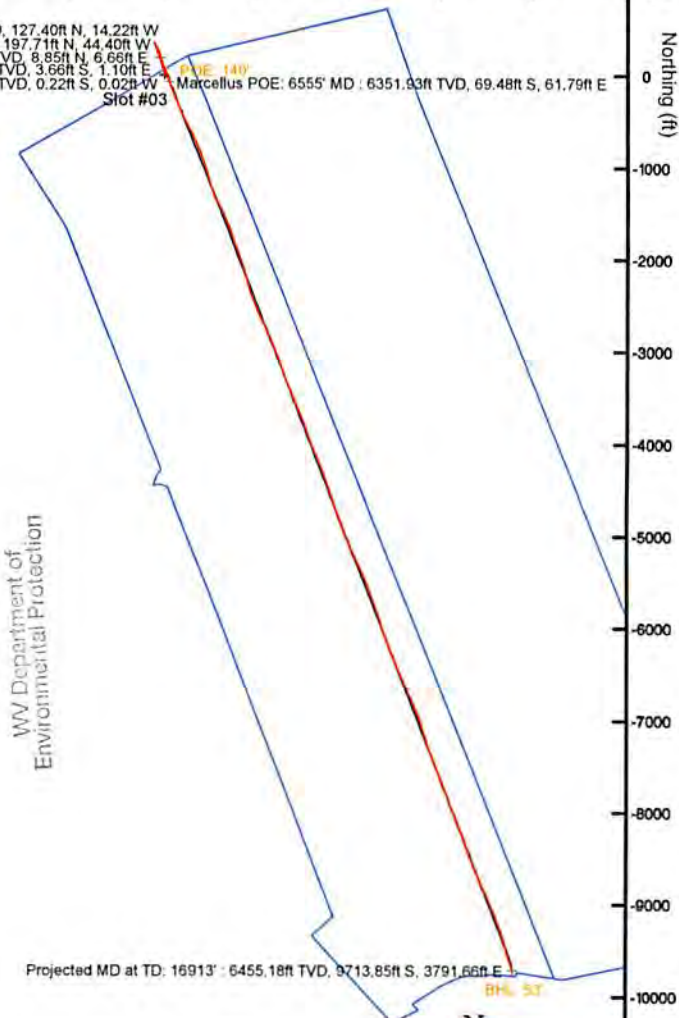
Well Data			
Slot	Well	Wellbore	Wellpath
Slot #03	Raines Unit 3H	Raines Unit 3H AWP	Raines Unit 3H AWP Proj. 16913'
Slot #03	Raines Unit 3H	Raines Unit 3H PWB	Raines Unit 3H PWP Rev-A.0

BHI AT Curve <8-1/2"> (6239')(6297'-16888') : 41.09" Inc, 6297.00ft MD, 6208.73ft TVD, -123.91ft VS
 Marcellus POE: 6555' MD : 70.66" Inc, 6555.00ft MD, 6351.93ft TVD, 87.14ft VS

Projected MD at TD: 16913' : 90.06" Inc, 16913.00ft MD, 6455.18ft TVD, 10427.62ft VS



Vertical Section (ft)
 Azimuth 158.77° with reference 0.00 N, 0.00 E



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User specified Dip: 68.51° Field: 51873 nT
 Magnetic North is 7.92 degrees West of True North (at 25/Sep/2017)
 Grid North is 0.01 degrees West of True North
 To correct azimuth from True to Grid add 0.01 degrees
 To correct azimuth from Magnetic to Grid subtract 7.91 degrees



Actual Wellpath Report

Raines Unit 3H AWP Proj: 16913'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Raines Unit 3H
Field	Ritchie	Wellbore	Raines Unit 3H AWB
Facility	Bachelor Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999600	Report Generated	08/Jan/2018 at 13:06
Convergence at slot	0.01° West	Database/Source file	WA_MPL_EasternUS_Defn/Raines_Unit_3H_AWP_Proj_16913_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1636101.62	14275345.50	39°18'41.320"N	81°00'54.920"W
Facility Reference Pt			1636101.62	14275345.50	39°18'41.320"N	81°00'54.920"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	1218.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Mud Line at Slot (Slot #03)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	158.77°

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Actual Wellpath Report

Raines Unit 3H AWP Proj: 16913

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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Richie County, WV	Richie	Bachelor Pad
	Well	Wellbore	
	Raines Unit 3H	Raines Unit 3H AWB	
	Slot	Slot #03	

WELLPATH DATA (202 stations) † = Interpolated/extrapolated station												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
0.00†	0.00	0.00	0.00	0.00	0.00	0.00	1636101.62	14275345.50	39°18'41.320"N	81°00'54.920"W	0.00	0.00
25.00	0.000	184.990	25.00	0.00	0.00	0.00	1636101.62	14275345.50	39°18'41.320"N	81°00'54.920"W	0.00	0.00
110.00	0.300	184.990	110.00	0.20	-0.22	-0.02	1636101.60	14275345.28	39°18'41.318"N	81°00'54.920"W	0.22	184.990
210.00	0.310	187.650	210.00	0.67	-0.75	-0.08	1636101.55	14275344.75	39°18'41.313"N	81°00'54.921"W	0.75	185.943
310.00	0.380	165.440	310.00	1.24	-1.32	0.02	1636101.65	14275344.18	39°18'41.307"N	81°00'54.920"W	1.32	178.973
310.00	0.610	151.600	409.99	2.10	-2.09	0.41	1636102.04	14275343.41	39°18'41.299"N	81°00'54.915"W	2.13	168.778
410.00	0.610	151.600	409.99	2.10	-2.09	0.41	1636102.04	14275343.41	39°18'41.299"N	81°00'54.915"W	2.13	168.778
510.00	0.500	156.590	509.99	3.06	-2.96	0.84	1636102.48	14275342.55	39°18'41.291"N	81°00'54.909"W	3.08	164.129
510.00	0.500	156.590	509.99	3.06	-2.96	0.84	1636102.48	14275342.55	39°18'41.291"N	81°00'54.909"W	3.08	164.129
590.00	0.430	161.920	589.99	3.71	-3.56	1.07	1636102.70	14275341.94	39°18'41.285"N	81°00'54.906"W	3.72	163.246
607.00	0.270	170.480	606.99	3.81	-3.66	1.10	1636102.72	14275341.84	39°18'41.284"N	81°00'54.906"W	3.83	163.299
697.00	0.350	144.000	696.98	4.29	-4.10	1.30	1636102.92	14275341.41	39°18'41.280"N	81°00'54.904"W	4.30	162.441
697.00	0.350	144.000	696.98	4.29	-4.10	1.30	1636102.92	14275341.41	39°18'41.280"N	81°00'54.904"W	4.30	162.441
788.00	0.810	77.790	787.98	4.66	-4.19	2.09	1636103.71	14275341.32	39°18'41.279"N	81°00'54.893"W	4.68	153.482
788.00	0.810	77.790	787.98	4.66	-4.19	2.09	1636103.71	14275341.32	39°18'41.279"N	81°00'54.893"W	4.68	153.482
878.00	1.790	47.710	877.96	4.25	-3.10	3.75	1636105.37	14275342.40	39°18'41.289"N	81°00'54.872"W	4.87	129.623
878.00	1.790	47.710	877.96	4.25	-3.10	3.75	1636105.37	14275342.40	39°18'41.289"N	81°00'54.872"W	4.87	129.623
1197.00	6.360	355.870	1196.19	-13.80	17.24	6.27	1636107.90	14275362.74	39°18'41.490"N	81°00'54.840"W	18.35	19.988
1197.00	6.360	355.870	1196.19	-13.80	17.24	6.27	1636107.90	14275362.74	39°18'41.490"N	81°00'54.840"W	18.35	19.988
1285.00	7.320	352.200	1283.56	-23.91	27.66	5.16	1636106.78	14275337.15	39°18'41.593"N	81°00'54.854"W	28.14	10.574
1285.00	7.320	352.200	1283.56	-23.91	27.66	5.16	1636106.78	14275337.15	39°18'41.593"N	81°00'54.854"W	28.14	10.574
1373.00	7.060	344.140	1370.87	-34.75	38.41	2.92	1636104.55	14275383.90	39°18'41.700"N	81°00'54.883"W	38.53	4.353
1373.00	7.060	344.140	1370.87	-34.75	38.41	2.92	1636104.55	14275383.90	39°18'41.700"N	81°00'54.883"W	38.53	4.353
1461.00	7.010	339.770	1458.21	-45.50	48.66	-0.41	1636101.21	14275394.14	39°18'41.801"N	81°00'54.925"W	48.66	359.516
1461.00	7.010	339.770	1458.21	-45.50	48.66	-0.41	1636101.21	14275394.14	39°18'41.801"N	81°00'54.925"W	48.66	359.516
1549.00	7.100	337.270	1545.54	-56.31	58.71	-4.37	1636097.26	14275404.19	39°18'41.900"N	81°00'54.976"W	58.87	358.744
1549.00	7.100	337.270	1545.54	-56.31	58.71	-4.37	1636097.26	14275404.19	39°18'41.900"N	81°00'54.976"W	58.87	358.744
1638.00	7.310	335.690	1633.84	-67.46	68.94	-8.83	1636092.80	14275414.42	39°18'42.001"N	81°00'55.032"W	69.51	352.706
1638.00	7.310	335.690	1633.84	-67.46	68.94	-8.83	1636092.80	14275414.42	39°18'42.001"N	81°00'55.032"W	69.51	352.706
1726.00	7.510	335.490	1721.11	-78.79	79.28	-13.52	1636088.11	14275424.75	39°18'42.104"N	81°00'55.092"W	80.42	350.325
1726.00	7.510	335.490	1721.11	-78.79	79.28	-13.52	1636088.11	14275424.75	39°18'42.104"N	81°00'55.092"W	80.42	350.325
1814.00	6.990	344.370	1808.41	-89.86	89.67	-17.34	1636084.29	14275435.13	39°18'42.206"N	81°00'55.141"W	91.33	349.053
1814.00	6.990	344.370	1808.41	-89.86	89.67	-17.34	1636084.29	14275435.13	39°18'42.206"N	81°00'55.141"W	91.33	349.053
1902.00	7.060	342.990	1895.75	-100.58	100.00	-20.37	1636081.26	14275445.46	39°18'42.308"N	81°00'55.179"W	102.05	348.487
1902.00	7.060	342.990	1895.75	-100.58	100.00	-20.37	1636081.26	14275445.46	39°18'42.308"N	81°00'55.179"W	102.05	348.487
1990.00	7.000	342.830	1983.08	-111.33	110.29	-23.53	1636078.10	14275455.75	39°18'42.410"N	81°00'55.220"W	112.77	347.955
1990.00	7.000	342.830	1983.08	-111.33	110.29	-23.53	1636078.10	14275455.75	39°18'42.410"N	81°00'55.220"W	112.77	347.955
2078.00	6.880	344.770	2070.44	-121.92	120.50	-26.50	1636075.13	14275465.95	39°18'42.511"N	81°00'55.257"W	123.38	347.596
2078.00	6.880	344.770	2070.44	-121.92	120.50	-26.50	1636075.13	14275465.95	39°18'42.511"N	81°00'55.257"W	123.38	347.596
2167.00	8.650	351.470	2158.62	-133.75	132.26	-28.89	1636072.74	14275477.71	39°18'42.627"N	81°00'55.288"W	135.38	347.677
2167.00	8.650	351.470	2158.62	-133.75	132.26	-28.89	1636072.74	14275477.71	39°18'42.627"N	81°00'55.288"W	135.38	347.677
2255.00	8.370	354.010	2245.65	-146.38	145.18	-30.54	1636071.09	14275490.62	39°18'42.755"N	81°00'55.309"W	148.36	348.119
2255.00	8.370	354.010	2245.65	-146.38	145.18	-30.54	1636071.09	14275490.62	39°18'42.755"N	81°00'55.309"W	148.36	348.119
2343.00	8.790	348.920	2332.67	-159.18	158.15	-32.51	1636069.13	14275503.58	39°18'42.883"N	81°00'55.334"W	161.45	348.385
2343.00	8.790	348.920	2332.67	-159.18	158.15	-32.51	1636069.13	14275503.58	39°18'42.883"N	81°00'55.334"W	161.45	348.385
2431.00	9.290	344.220	2419.58	-172.87	171.58	-35.73	1636065.91	14275517.01	39°18'43.016"N	81°00'55.375"W	175.26	348.237
2431.00	9.290	344.220	2419.58	-172.87	171.58	-35.73	1636065.91	14275517.01	39°18'43.016"N	81°00'55.375"W	175.26	348.237
2520.00	8.650	342.320	2507.49	-186.70	184.87	-39.72	1636061.92	14275530.30	39°18'43.147"N	81°00'55.426"W	189.09	347.875
2520.00	8.650	342.320	2507.49	-186.70	184.87	-39.72	1636061.92	14275530.30	39°18'43.147"N	81°00'55.426"W	189.09	347.875

MD Inclination Azimuth TVD Vert Sect North East Grid East Grid North Latitude Longitude Closure Dist Closure Dir DLS Build Rate Turn Rate Comments

Directional ONE MWD <12-1/4"> (956) (1098-2510)

Syrodata MS Gyro <12-1/4"> (580) (597-956)

Syrodata MS Gyro <17-1/2"> (100-580)

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Actual Wellpath Report

Raines Unit 3H AWP Proj: 16913'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #03
Area	Ritchie County, WV		Well	Raines Unit 3H
Field	Ritchie		Wellbore	Raines Unit 3H AWB
Facility	Bachelor Pad			

WELLPATH DATA (202 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Buld Rate (°/100ft)	Turn Rate (°/100ft)	Comments
2615.00	7.910	337.400	2601.50	-200.37	197.71	-44.40	1636057.24	14275543.13	39°18'43.274"N	81°00'55.485"W	202.63	347.344	1.08	-0.78	-5.18	Directional ONE MWD <-8-3/4"> (2510')(2605'-6229')
2659.00	7.610	334.850	2645.10	-206.30	203.14	-46.80	1636054.84	14275548.56	39°18'43.328"N	81°00'55.516"W	208.46	347.027	1.04	-0.68	-5.80	
2750.00	7.880	341.200	2735.27	-218.55	214.50	-51.37	1636050.27	14275559.92	39°18'43.440"N	81°00'55.574"W	220.57	346.532	0.99	0.30	6.98	
2838.00	8.980	340.740	2822.31	-231.44	226.70	-55.58	1636046.07	14275572.11	39°18'43.561"N	81°00'55.628"W	233.41	346.224	1.25	1.25	-0.52	
2926.00	8.810	332.430	2909.26	-245.00	239.16	-60.96	1636040.68	14275584.56	39°18'43.684"N	81°00'55.696"W	246.80	345.699	1.47	-0.19	-9.44	
3015.00	8.110	326.110	2997.29	-257.90	250.41	-67.62	1636034.03	14275595.81	39°18'43.795"N	81°00'55.781"W	259.38	344.888	1.31	-0.79	-7.10	
3103.00	6.970	340.760	3084.54	-269.29	260.60	-72.84	1636028.81	14275606.00	39°18'43.896"N	81°00'55.847"W	270.59	344.384	2.53	-1.30	16.65	
3191.00	6.620	339.130	3171.92	-279.70	270.38	-76.41	1636025.25	14275615.78	39°18'43.992"N	81°00'55.893"W	280.97	344.220	0.45	-0.40	-1.85	
3279.00	7.910	350.140	3259.22	-290.71	281.09	-79.25	1636022.40	14275626.48	39°18'44.098"N	81°00'55.929"W	292.05	344.255	2.15	1.47	12.51	
3368.00	7.660	354.480	3347.40	-302.43	293.03	-80.87	1636020.79	14275638.41	39°18'44.216"N	81°00'55.950"W	303.98	344.571	0.72	-0.28	4.88	
3456.00	7.160	345.140	3434.66	-313.52	304.17	-82.84	1636018.82	14275649.55	39°18'44.326"N	81°00'55.975"W	315.25	344.765	1.48	-0.57	-10.61	
3544.00	6.170	341.470	3522.07	-323.70	313.95	-85.75	1636015.91	14275659.33	39°18'44.423"N	81°00'56.012"W	325.45	344.723	1.22	-1.13	-4.17	
3632.00	5.150	336.470	3609.64	-332.37	322.06	-88.83	1636012.83	14275667.43	39°18'44.503"N	81°00'56.051"W	334.08	344.580	1.29	-1.16	-5.68	
3721.00	4.190	335.230	3698.34	-339.60	328.67	-91.79	1636009.87	14275674.04	39°18'44.568"N	81°00'56.088"W	341.25	344.397	1.08	-1.08	-1.39	
3809.00	3.480	331.300	3786.15	-345.46	333.93	-94.42	1636007.24	14275679.30	39°18'44.620"N	81°00'56.122"W	347.03	344.212	0.86	-0.81	-4.47	
3897.00	3.360	326.570	3873.99	-350.63	338.43	-97.12	1636004.54	14275683.80	39°18'44.665"N	81°00'56.156"W	352.09	343.988	0.35	-0.14	-5.37	
3986.00	3.300	325.360	3962.84	-355.67	342.71	-100.01	1636001.65	14275688.08	39°18'44.707"N	81°00'56.193"W	357.01	343.731	0.10	-0.07	-1.36	
4074.00	3.360	323.460	4050.69	-360.62	346.87	-102.99	1635998.68	14275692.23	39°18'44.748"N	81°00'56.231"W	361.84	343.463	0.14	0.07	-2.16	
4162.00	2.720	319.760	4138.57	-365.08	350.53	-105.87	1635995.79	14275695.90	39°18'44.784"N	81°00'56.268"W	366.17	343.194	0.76	-0.73	-4.20	
4251.00	1.160	281.420	4227.52	-367.28	352.01	-108.13	1635993.54	14275697.37	39°18'44.799"N	81°00'56.296"W	368.25	342.925	2.62	-1.75	-65.55	
4339.00	0.860	237.050	4315.51	-367.34	351.52	-109.56	1635992.10	14275696.88	39°18'44.794"N	81°00'56.315"W	368.20	342.689	0.59	-0.34	-27.69	
4428.00	0.800	227.240	4404.50	-366.97	350.74	-110.58	1635991.09	14275696.10	39°18'44.786"N	81°00'56.328"W	367.75	342.501	0.17	-0.07	-11.02	
4517.00	0.630	233.180	4493.49	-366.62	350.02	-111.43	1635990.24	14275695.38	39°18'44.779"N	81°00'56.338"W	367.33	342.341	0.21	-0.19	6.67	
4605.00	1.270	22.930	4581.48	-367.19	350.63	-111.43	1635990.23	14275695.99	39°18'44.785"N	81°00'56.338"W	367.91	342.369	2.09	0.73	170.17	
4694.00	1.300	14.150	4670.46	-368.72	352.52	-110.80	1635990.86	14275697.88	39°18'44.804"N	81°00'56.330"W	369.52	342.551	0.22	0.03	-9.87	
4782.00	1.200	8.180	4758.44	-370.33	354.40	-110.43	1635991.24	14275699.76	39°18'44.823"N	81°00'56.326"W	371.20	342.693	0.19	-0.11	-6.78	
4870.00	0.900	356.870	4846.43	-371.79	356.00	-110.34	1635991.33	14275701.36	39°18'44.838"N	81°00'56.325"W	372.70	342.780	0.41	-0.34	-12.85	
4959.00	0.980	359.940	4935.41	-373.17	357.46	-110.37	1635991.29	14275702.82	39°18'44.853"N	81°00'56.325"W	374.11	342.841	0.11	0.09	3.45	
5047.00	1.010	3.720	5023.40	-374.57	358.98	-110.32	1635991.34	14275704.34	39°18'44.868"N	81°00'56.324"W	375.55	342.917	0.08	0.03	4.30	
5135.00	0.860	8.670	5111.39	-375.85	360.41	-110.17	1635991.49	14275705.77	39°18'44.882"N	81°00'56.322"W	376.87	343.002	0.19	-0.17	5.62	

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Actual Wellpath Report

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Raines Unit 3H AWP Proj: 16913

REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Richie County, WV	Richie	Bachelor Pad
	Raines Unit 3H	Well	
	Raines Unit 3H	Wellbore	
			Raines Unit 3H AWP

WELLPATH DATA (202 stations) † = Interpolated/extrapolated station												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Lat	Long	Grd East	Grd North
ft	°	°	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
5224.00	0.540	154.260	5200.39	-376.01	360.69	-109.89	1635991.78	14275706.05	39°18'44.885"N	81°00'56.318"W	377.06	343.056
5312.00	0.410	110.010	5288.38	-375.39	360.21	-109.42	1635992.25	14275705.57	39°18'44.880"N	81°00'56.313"W	376.46	343.104
5400.00	0.290	106.580	5376.38	-375.04	360.04	-108.91	1635992.76	14275705.40	39°18'44.878"N	81°00'56.306"W	376.15	343.170
5488.00	0.080	190.730	5464.38	-374.85	359.92	-108.70	1635992.96	14275705.27	39°18'44.877"N	81°00'56.304"W	375.97	343.194
5577.00	0.030	166.760	5553.38	-374.78	359.83	-108.71	1635992.96	14275705.19	39°18'44.876"N	81°00'56.304"W	375.90	343.190
5665.00	1.430	151.190	5641.37	-373.67	358.85	-108.18	1635993.49	14275704.21	39°18'44.867"N	81°00'56.297"W	374.80	343.224
5709.00	5.210	139.760	5685.29	-371.23	356.84	-106.62	1635995.05	14275702.20	39°18'44.847"N	81°00'56.277"W	372.43	343.364
5753.00	9.250	140.580	5728.93	-365.98	352.58	-103.08	1635998.58	14275697.94	39°18'44.805"N	81°00'56.232"W	367.34	343.703
5788.00	13.460	142.810	5773.04	-357.51	345.61	-97.62	1636004.04	14275689.98	39°18'44.736"N	81°00'56.163"W	359.14	344.228
5824.00	17.430	146.200	5815.44	-346.15	336.05	-90.85	1636010.81	14275681.42	39°18'44.641"N	81°00'56.077"W	348.12	344.871
5886.00	20.930	148.580	5857.00	-331.98	323.87	-83.09	1636018.57	14275669.24	39°18'44.521"N	81°00'55.978"W	334.36	345.611
5930.00	23.510	151.180	5897.73	-315.54	309.47	-74.76	1636026.89	14275654.85	39°18'44.379"N	81°00'55.872"W	318.37	346.419
5974.00	26.240	153.010	5937.64	-297.16	293.11	-66.11	1636035.54	14275638.49	39°18'44.211"N	81°00'55.762"W	300.47	347.289
6019.00	27.180	159.170	5977.85	-276.98	274.63	-57.84	1636043.70	14275620.03	39°18'44.034"N	81°00'55.658"W	280.68	348.087
6063.00	28.730	163.430	6016.71	-256.39	255.10	-51.35	1636050.29	14275600.50	39°18'43.841"N	81°00'55.574"W	260.22	348.619
6107.00	30.490	164.530	6054.97	-234.74	234.21	-45.36	1636056.28	14275579.62	39°18'43.635"N	81°00'55.498"W	238.56	349.040
6151.00	34.310	163.570	6092.11	-211.27	211.55	-38.87	1636062.77	14275556.96	39°18'43.411"N	81°00'55.415"W	215.09	349.588
6195.00	35.770	165.250	6128.14	-186.13	187.21	-32.09	1636069.55	14275532.64	39°18'43.170"N	81°00'55.329"W	189.94	350.274
6239.00	36.760	164.600	6163.61	-160.25	162.08	-25.32	1636076.32	14275507.52	39°18'42.922"N	81°00'55.242"W	164.05	351.122
6297.00	41.080	160.130	6208.73	-123.91	127.40	-14.22	1636087.41	14275472.85	39°18'42.579"N	81°00'55.101"W	128.19	353.630
6342.00	44.803	158.394	6233.62	-100.75	105.75	-6.01	1636095.61	14275451.21	39°18'42.365"N	81°00'54.997"W	105.92	356.747
6390.00	46.010	157.880	6241.34	-92.92	98.48	-3.09	1636098.53	14275443.94	39°18'42.293"N	81°00'54.960"W	98.53	358.201
6438.00	48.000	159.580	6324.48	-77.78	28.81	25.06	1636126.68	14275374.30	39°18'41.605"N	81°00'54.601"W	38.18	41.025
6485.00	51.700	157.500	6272.91	-56.79	65.05	10.63	1636112.25	14275410.53	39°18'41.963"N	81°00'54.785"W	65.92	9.278
6498.00	57.120	159.020	6300.84	-17.78	28.81	25.06	1636126.68	14275374.30	39°18'41.605"N	81°00'54.601"W	38.18	41.025
6498.00	62.440	159.580	6324.48	-22.82	-9.17	39.41	1636141.02	14275336.33	39°18'41.229"N	81°00'54.419"W	40.46	103.103
6533.00	64.152	159.591	6330.32	-34.43	-20.06	43.46	1636145.05	14275325.45	39°18'41.122"N	81°00'54.367"W	47.86	114.774
6555.00	68.760	159.620	6344.30	-50.12	-50.12	54.64	1636156.24	14275295.40	39°18'40.825"N	81°00'54.225"W	74.15	132.533
6580.00	70.660	159.791	6351.93	-69.48	61.79	61.79	1636163.39	14275276.05	39°18'40.633"N	81°00'54.134"W	92.98	138.349
6633.00	72.820	159.980	6359.76	-91.77	69.96	69.96	1636171.55	14275253.77	39°18'40.413"N	81°00'54.030"W	115.39	142.681
6633.00	70.660	159.791	6351.93	-69.48	61.79	61.79	1636163.39	14275276.05	39°18'40.633"N	81°00'54.134"W	92.98	138.349
6633.00	68.760	159.620	6344.30	-50.12	-50.12	54.64	1636156.24	14275295.40	39°18'40.825"N	81°00'54.225"W	74.15	132.533
6633.00	64.152	159.591	6330.32	-34.43	-20.06	43.46	1636145.05	14275325.45	39°18'41.122"N	81°00'54.367"W	47.86	114.774
6633.00	62.440	159.580	6324.48	-22.82	-9.17	39.41	1636141.02	14275336.33	39°18'41.229"N	81°00'54.419"W	40.46	103.103
6633.00	57.120	159.020	6300.84	-17.78	28.81	25.06	1636126.68	14275374.30	39°18'41.605"N	81°00'54.601"W	38.18	41.025
6633.00	51.700	157.500	6272.91	-56.79	65.05	10.63	1636112.25	14275410.53	39°18'41.963"N	81°00'54.785"W	65.92	9.278
6633.00	46.010	157.880	6241.34	-92.92	98.48	-3.09	1636098.53	14275443.94	39°18'42.293"N	81°00'54.960"W	98.53	358.201
6633.00	44.803	158.394	6233.62	-100.75	105.75	-6.01	1636095.61	14275451.21	39°18'42.365"N	81°00'54.997"W	105.92	356.747
6633.00	41.080	160.130	6208.73	-123.91	127.40	-14.22	1636087.41	14275472.85	39°18'42.579"N	81°00'55.101"W	128.19	353.630
6633.00	36.760	164.600	6163.61	-160.25	162.08	-25.32	1636076.32	14275507.52	39°18'42.922"N	81°00'55.242"W	164.05	351.122
6633.00	35.770	165.250	6128.14	-186.13	187.21	-32.09	1636069.55	14275532.64	39°18'43.170"N	81°00'55.329"W	189.94	350.274
6633.00	34.310	163.570	6092.11	-211.27	211.55	-38.87	1636062.77	14275556.96	39°18'43.411"N	81°00'55.415"W	215.09	349.588
6633.00	30.490	164.530	6054.97	-234.74	234.21	-45.36	1636056.28	14275579.62	39°18'43.635"N	81°00'55.498"W	238.56	349.040
6633.00	28.730	163.430	6016.71	-256.39	255.10	-51.35	1636050.29	14275600.50	39°18'43.841"N	81°00'55.574"W	260.22	348.619
6633.00	27.180	159.170	5977.85	-276.98	274.63	-57.84	1636043.70	14275620.03	39°18'44.034"N	81°00'55.658"W	280.68	348.087
6633.00	26.240	153.010	5937.64	-297.16	293.11	-66.11	1636035.54	14275638.49	39°18'44.211"N	81°00'55.762"W	300.47	347.289
6633.00	23.510	151.180	5897.73	-315.54	309.47	-74.76	1636026.89	14275654.85	39°18'44.379"N	81°00'55.872"W	318.37	346.419
6633.00	20.930	148.580	5857.00	-331.98	323.87	-83.09	1636018.57	14275669.24	39°18'44.521"N	81°00'55.978"W	334.36	345.611
6633.00	17.430	146.200	5815.44	-346.15	336.05	-90.85	1636010.81	14275681.42	39°18'44.641"N	81°00'56.077"W	348.12	344.871
6633.00	13.460	142.810	5773.04	-357.51	345.61	-97.62	1636004.04	14275689.98	39°18'44.736"N	81°00'56.163"W	359.14	344.228
6633.00	9.250	140.580	5728.93	-365.98	352.58	-103.08	1635998.58	14275697.94	39°18'44.805"N	81°00'56.232"W	367.34	343.703
6633.00	5.210	139.760	5685.29	-371.23	356.84	-106.62	1635995.05	14275702.20	39°18'44.847"N	81°00'56.277"W	372.43	343.364
6633.00	1.430	151.190	5641.37	-373.67	358.85	-108.18	1635993.49	14275704.21	39°18'44.867"N	81°00'56.297"W	374.80	343.224
6633.00	0.080	190.730	5464.38	-374.85	359.92	-108.70	1635992.96	14275705.27	39°18'44.877"N	81°00'56.304"W	375.97	343.194
6633.00	0.030	166.760	5553.38	-374.78	359.83	-108.71	1635992.96	14275705.19	39°18'44.876"N	81°00'56.304"W	375.90	343.190
6633.00	-0.06	166.760	5553.38	-374.78	359.83	-108.71	1635992.96	14275705.19	39°18'44.876"N	81°00'56.304"W	375.90	343.190
6633.00	-0.24	190.730	5464.38	-374.85	359.92	-108.70	1635992.96	14275705.27	39°18'44.877"N	81°00'56.304"W	375.97	343.194
6633.00	-0.14	106.580	5376.38	-375.04	360.04	-108.91	1635992.76	14275705.40	39°18'44.878"N	81°00'56.306"W	376.15	343.170
6633.00	-0.15	110.010	5288.38	-375.39	360.21	-109.42	1635992.25	14275705.57	39°18'44.880"N	81°00'56.313"W	376.46	343.104
6633.00	-0.36	154.260	5200.39	-376.01	360.69	-109.89	1635991.78	14275706.05	39°18'44.885"N	81°00'56.318"W	377.06	343.056
6633.00	-0.15	159.910	6372.60	-156.07	-134.24	85.46	1636187.05	14275211.32	39°18'39.993"N	81°00'53.832"W	159.13	147.517
6633.00	5.66	159.910	6372.60	-156.07	-134.24	85.46	1636187.05	14275211.32	39°18'39.993"N	81°00'53.832"W	159.	



Actual Wellpath Report

Raines Unit 3H AWP Proj: 16913'
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REFERENCE WELLPATH IDENTIFICATION									
Operator	ANTERO RESOURCES CORPORATION								
Area	Ritchie County, WV								
Field	Ritchie								
Facility	Bachelor Pad								
Slot	Well								
Slot #03	Raines Unit 3H								
Wellbore	Raines Unit 3H AWP								

WELLPATH DATA (202 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Built Rate	Turn Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	(ft/100ft)	(%/100ft)	(%/100ft)	
6673.00	79.050	159.910	6382.74	200.92	-176.37	100.87	1636202.45	14275169.21	39°18'39.577"N	81°00'53.636"W	203.18	150.233	7.76	7.76	0.00	
6720.00	83.000	159.670	6390.07	247.33	-219.92	118.91	1636218.48	14275125.67	39°18'39.147"N	81°00'53.432"W	249.07	152.006	8.42	8.40	-0.51	
6765.00	86.000	160.070	6394.38	292.11	-261.98	132.32	1636233.89	14275083.63	39°18'38.731"N	81°00'53.236"W	293.50	153.203	6.73	6.67	0.89	
6814.00	89.140	159.860	6396.46	341.05	-307.96	149.09	1636250.65	14275037.66	39°18'38.276"N	81°00'53.023"W	342.15	154.168	6.42	6.41	-0.43	
6909.00	89.850	156.830	6397.30	436.01	-395.93	184.91	1636286.45	14274949.73	39°18'37.407"N	81°00'52.567"W	436.98	154.967	4.31	0.75	-4.24	
7003.00	89.850	152.940	6397.54	529.73	-480.68	225.54	1636327.07	14274865.02	39°18'36.569"N	81°00'52.050"W	530.96	154.864	3.07	0.00	-0.23	
7097.00	89.630	152.720	6397.97	623.22	-564.31	268.46	1636369.98	14274781.42	39°18'35.743"N	81°00'51.503"W	624.91	154.558	0.33	-0.23	-0.23	
7192.00	89.750	154.370	6398.48	717.82	-649.35	310.78	1636412.28	14274695.41	39°18'34.902"N	81°00'50.965"W	719.89	154.424	1.74	0.13	-0.16	
7286.00	89.690	155.640	6398.94	811.66	-734.89	349.75	1636451.24	14274610.11	39°18'34.057"N	81°00'50.469"W	813.87	154.549	2.42	-0.06	2.41	
7380.00	89.660	155.990	6399.48	906.64	-821.92	385.24	1636486.71	14274523.91	39°18'33.197"N	81°00'50.017"W	907.73	154.887	2.50	-0.03	2.50	
7474.00	89.750	161.950	6399.96	999.59	-910.50	416.66	1636518.12	14274435.37	39°18'32.322"N	81°00'49.617"W	1001.31	155.410	3.15	0.10	3.15	
7569.00	89.570	163.640	6400.52	1094.35	-1001.25	444.76	1636546.21	14274344.66	39°18'31.425"N	81°00'49.260"W	1095.59	156.049	1.79	-0.19	1.78	
7664.00	89.510	165.520	6401.29	1186.86	-1092.82	470.02	1636571.46	14274253.12	39°18'30.520"N	81°00'48.938"W	1189.61	156.727	1.98	-0.06	1.98	
7759.00	89.600	162.820	6402.02	1283.42	-1184.21	495.93	1636597.36	14274161.77	39°18'29.616"N	81°00'48.608"W	1283.86	157.277	2.84	0.09	-2.84	
7854.00	89.720	158.700	6402.58	1377.34	-1272.93	526.90	1636628.31	14274073.08	39°18'28.740"N	81°00'48.214"W	1377.67	157.514	4.38	0.13	-4.38	
7948.00	89.320	153.250	6403.38	1477.19	-1359.67	565.56	1636666.98	14273986.38	39°18'27.882"N	81°00'47.722"W	1472.60	157.415	5.75	-0.42	-5.74	
8040.00	89.380	153.170	6404.42	1563.75	-1441.79	607.03	1636708.41	14273804.29	39°18'27.071"N	81°00'47.194"W	1564.36	157.168	0.11	0.07	-0.09	
8134.00	89.350	155.510	6405.46	1657.46	-1526.51	647.73	1636749.09	14273619.61	39°18'26.233"N	81°00'46.677"W	1658.24	157.008	2.48	-0.03	2.48	
8229.00	89.420	156.790	6406.48	1752.35	-1613.39	688.14	1636787.48	14273432.76	39°18'25.375"N	81°00'46.188"W	1753.23	156.961	1.35	0.07	1.35	
8324.00	88.860	160.790	6407.91	1847.32	-1701.92	720.49	1636821.83	14273244.26	39°18'24.500"N	81°00'45.751"W	1848.15	157.055	4.25	-0.59	4.21	
8417.00	90.580	159.860	6408.36	1940.28	-1789.49	751.80	1636853.13	14273055.73	39°18'23.634"N	81°00'45.352"W	1941.00	157.212	2.10	1.85	-1.00	
8511.00	89.820	158.850	6408.04	2034.28	-1877.45	784.95	1636886.25	14273468.81	39°18'22.765"N	81°00'44.930"W	2034.94	157.311	1.34	-0.81	-1.07	
8605.00	89.910	161.590	6408.26	2128.24	-1965.90	816.75	1636918.05	14273380.40	39°18'21.891"N	81°00'44.525"W	2128.81	157.439	2.92	0.10	2.91	
8699.00	89.780	161.400	6408.51	2222.13	-2055.04	846.59	1636947.87	14273291.29	39°18'21.010"N	81°00'44.148"W	2222.58	157.610	0.24	-0.14	-0.20	
8794.00	89.780	164.390	6408.88	2316.87	-2145.82	874.53	1636975.80	14273200.54	39°18'20.133"N	81°00'43.790"W	2317.19	157.827	3.15	0.00	3.15	
8888.00	90.180	167.010	6408.91	2410.18	-2236.90	897.74	1636999.00	14273109.50	39°18'19.212"N	81°00'43.489"W	2410.33	158.133	2.82	0.43	2.79	
8983.00	90.120	161.030	6408.66	2504.73	-2328.19	923.88	1637025.14	14273018.25	39°18'18.310"N	81°00'43.162"W	2504.80	158.356	6.30	-0.06	-6.29	
9077.00	90.060	159.270	6408.51	2598.70	-2416.60	955.80	1637057.04	14272929.87	39°18'17.436"N	81°00'42.756"W	2598.75	158.420	1.87	-0.06	-1.87	
9171.00	89.820	157.990	6408.61	2692.92	-2504.14	990.05	1637091.28	14272842.37	39°18'16.571"N	81°00'42.320"W	2692.75	158.428	1.39	-0.26	-1.36	
9265.00	90.060	156.110	6408.71	2786.65	-2590.69	1026.70	1637127.91	14272755.85	39°18'15.716"N	81°00'41.854"W	2786.72	158.381	2.02	0.26	-2.00	

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Bachelor Pad
Well	Raines Unit 3H
Slot	Raines Unit 3H AWB
Slot #03	

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
9360.00	89.970	153.830	6408.69	2881.44	-2676.76	1066.89	1637168.09	14272669.82	39°18'14.865"N	81°00'41.342"W	2881.55	158.269	2.40	-0.09	-2.40	
9454.00	89.910	155.440	6408.78	2975.19	-2761.70	1107.16	1637208.34	14272584.91	39°18'14.026"N	81°00'40.830"W	2975.36	158.154	1.71	-0.06	-1.71	
9549.00	89.000	157.130	6408.86	3070.10	-2849.67	1145.37	1637246.53	14272497.97	39°18'13.166"N	81°00'40.344"W	3070.31	158.096	1.78	0.09	1.78	
9643.00	90.030	158.590	6408.83	3164.08	-2935.74	1180.79	1637281.94	14272410.94	39°18'12.306"N	81°00'39.893"W	3164.31	158.089	1.55	0.03	1.55	
9737.00	89.940	158.580	6408.86	3258.08	-3023.25	1215.11	1637316.25	14272323.47	39°18'11.441"N	81°00'39.456"W	3258.30	158.104	0.10	-0.01	-0.01	
9831.00	90.180	158.780	6408.76	3352.08	-3110.82	1249.29	1637350.41	14272235.94	39°18'10.575"N	81°00'39.021"W	3352.30	158.120	0.33	0.26	0.21	
9927.00	90.120	160.360	6408.51	3448.07	-3200.78	1282.80	1637383.91	14272146.01	39°18'09.686"N	81°00'38.595"W	3448.27	158.160	1.65	-0.06	1.65	
10020.00	90.090	160.390	6408.34	3541.03	-3288.37	1314.03	1637415.13	14272058.45	39°18'08.821"N	81°00'38.197"W	3541.20	158.218	0.05	-0.03	0.03	
10115.00	90.180	157.850	6408.11	3638.02	-3377.13	1347.89	1637448.97	14271969.73	39°18'07.943"N	81°00'37.767"W	3638.18	158.242	2.68	0.09	-2.67	
10209.00	90.050	157.250	6407.92	3730.00	-3464.00	1383.79	1637484.85	14271882.89	39°18'07.085"N	81°00'37.310"W	3730.17	158.224	0.65	-0.13	-0.64	
10302.00	89.720	156.970	6408.10	3822.96	-3549.68	1419.96	1637521.01	14271797.25	39°18'06.238"N	81°00'36.850"W	3823.15	158.197	0.47	-0.37	-0.30	
10398.00	89.570	156.590	6408.69	3918.90	-3637.90	1457.81	1637558.85	14271709.06	39°18'05.366"N	81°00'36.368"W	3919.12	158.163	0.43	-0.16	-0.40	
10493.00	89.720	157.680	6409.28	4013.86	-3725.43	1494.72	1637595.74	14271621.57	39°18'04.501"N	81°00'35.898"W	4014.11	158.138	1.16	0.16	1.15	
10587.00	89.850	161.520	6409.63	4107.83	-3813.52	1527.48	1637628.49	14271533.52	39°18'03.630"N	81°00'35.481"W	4108.06	158.172	4.09	0.14	4.09	
10682.00	89.750	160.220	6409.96	4202.77	-3903.27	1558.61	1637659.61	14271443.80	39°18'02.743"N	81°00'35.085"W	4202.95	158.233	1.37	-0.11	-1.37	
10775.00	89.750	157.700	6410.37	4295.76	-3990.06	1592.00	1637692.98	14271357.04	39°18'01.886"N	81°00'34.660"W	4295.94	158.248	2.71	0.00	-2.71	
10870.00	89.720	155.650	6410.81	4390.69	-4077.29	1629.61	1637730.58	14271269.85	39°18'01.023"N	81°00'34.182"W	4390.89	158.214	2.16	-0.03	-2.16	
10964.00	89.820	157.290	6411.19	4484.61	-4163.47	1667.14	1637768.09	14271183.70	39°18'00.172"N	81°00'33.704"W	4484.85	158.178	1.75	0.11	1.74	
11058.00	89.750	159.080	6411.54	4578.60	-4250.74	1702.07	1637803.00	14271096.47	39°17'59.309"N	81°00'33.260"W	4578.84	158.178	1.91	-0.07	1.90	
11151.00	89.720	159.400	6411.97	4671.59	-4337.70	1735.03	1637835.66	14271009.55	39°17'58.450"N	81°00'32.841"W	4671.83	158.199	0.35	-0.03	0.34	
11244.00	89.780	159.700	6412.38	4764.59	-4424.84	1767.52	1637868.44	14270922.44	39°17'57.589"N	81°00'32.427"W	4764.80	158.226	0.33	0.06	0.32	
11338.00	89.880	161.020	6412.65	4858.55	-4513.37	1799.12	1637900.02	14270833.95	39°17'56.714"N	81°00'32.025"W	4858.73	158.267	1.41	0.11	1.40	
11433.00	89.750	161.340	6412.96	4953.46	-4603.29	1829.76	1637930.65	14270744.07	39°17'55.825"N	81°00'31.635"W	4953.61	158.323	0.36	-0.14	0.34	
11527.00	89.720	160.700	6413.40	5047.39	-4692.17	1860.33	1637961.21	14270655.21	39°17'54.946"N	81°00'31.246"W	5047.51	158.373	0.68	-0.03	-0.68	
11622.00	89.750	160.820	6413.84	5142.33	-4781.89	1891.56	1637992.42	14270565.53	39°17'54.060"N	81°00'30.849"W	5142.42	158.418	0.23	0.03	0.23	
11715.00	89.750	160.610	6414.24	5235.27	-4869.70	1922.20	1638023.05	14270477.76	39°17'53.192"N	81°00'30.459"W	5235.35	158.460	0.33	0.00	-0.33	
11810.00	89.850	159.080	6414.57	5330.25	-4958.88	1954.93	1638055.77	14270388.61	39°17'52.310"N	81°00'30.043"W	5330.32	158.484	1.61	0.11	-1.61	
11904.00	89.660	157.010	6414.97	5424.24	-5046.06	1990.07	1638090.90	14270301.47	39°17'51.449"N	81°00'29.596"W	5424.31	158.477	2.21	-0.20	-2.20	
11988.00	89.660	155.120	6415.53	5518.12	-5131.97	2028.21	1638129.01	14270215.60	39°17'50.600"N	81°00'29.110"W	5518.22	158.436	2.01	0.00	-2.01	
12092.00	89.600	154.550	6416.14	5611.90	-5217.05	2068.18	1638168.97	14270130.55	39°17'49.759"N	81°00'28.602"W	5612.03	158.375	0.61	-0.06	-0.61	

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Actual Wellpath Report
Raines Unit 3H AWP Proj: 16913





Actual Wellpath Report

Raines Unit 3H AWP Proj: 16913'

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Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Bachelor Pad
Well	Raines Unit 3H
Slot	Slot #03

WELLPATH DATA (202 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
12186.00	89.690	154.780	6416.72	5705.66	-5302.00	2108.40	1638209.18	14270045.63	39°17'48.91"N	81°00'28.09"W	5705.84	158.314
12280.00	89.720	155.950	6417.21	5799.49	-5387.45	2147.58	1638248.34	14269660.22	39°17'48.07"N	81°00'27.59"W	5799.71	158.266
12374.00	89.660	157.350	6417.71	5893.42	-5473.74	2184.84	1638285.58	14269873.96	39°17'47.22"N	81°00'27.18"W	5893.67	158.241
12468.00	89.600	159.790	6418.32	5987.41	-5561.24	2219.18	1638319.91	14269786.50	39°17'46.35"N	81°00'26.68"W	5987.66	158.246
12563.00	89.630	160.070	6418.96	6082.39	-5650.47	2251.78	1638352.50	14269697.31	39°17'45.47"N	81°00'26.26"W	6082.62	158.272
12657.00	89.750	160.300	6419.47	6176.36	-5738.90	2283.64	1638384.35	14269608.91	39°17'44.60"N	81°00'25.86"W	6176.57	158.301
12751.00	89.690	161.270	6419.93	6270.30	-5827.66	2314.58	1638415.27	14269520.19	39°17'43.72"N	81°00'25.46"W	6270.48	158.338
12846.00	89.630	162.560	6420.49	6365.15	-5917.86	2344.07	1638444.75	14269429.92	39°17'42.83"N	81°00'25.09"W	6365.29	158.392
12940.00	89.820	162.630	6420.94	6458.94	-6007.10	2372.18	1638472.85	14269340.26	39°17'41.94"N	81°00'24.73"W	6459.04	158.453
13034.00	89.750	161.540	6421.30	6552.78	-6097.10	2401.10	1638501.76	14269250.86	39°17'41.06"N	81°00'24.36"W	6552.85	158.505
13128.00	89.690	159.770	6421.75	6646.73	-6185.79	2432.23	1638532.88	14269162.20	39°17'40.18"N	81°00'23.97"W	6646.78	158.535
13224.00	89.780	157.650	6422.20	6742.72	-6275.23	2467.09	1638567.72	14269072.80	39°17'39.30"N	81°00'23.52"W	6742.78	158.538
13318.00	89.690	155.570	6422.63	6836.65	-6361.50	2504.40	1638605.02	14268986.56	39°17'38.44"N	81°00'23.05"W	6836.72	158.511
13413.00	89.720	156.050	6423.12	6931.52	-6448.16	2543.33	1638643.93	14268899.94	39°17'37.59"N	81°00'22.57"W	6931.61	158.474
13506.00	89.570	157.020	6423.70	7024.45	-6533.46	2580.36	1638680.95	14268814.67	39°17'36.74"N	81°00'22.08"W	7024.56	158.449
13602.00	89.570	154.660	6424.42	7120.31	-6621.04	2619.65	1638720.22	14268727.12	39°17'35.88"N	81°00'21.58"W	7120.45	158.414
13697.00	89.570	154.870	6425.13	7215.08	-6706.98	2660.15	1638760.70	14268641.22	39°17'35.03"N	81°00'21.07"W	7215.26	158.366
13791.00	89.540	156.940	6425.86	7308.95	-6792.78	2698.52	1638799.06	14268555.46	39°17'34.18"N	81°00'20.58"W	7309.16	158.334
13885.00	89.320	157.660	6426.80	7402.91	-6879.49	2734.79	1638835.32	14268468.78	39°17'33.32"N	81°00'20.12"W	7403.14	158.321
13981.00	89.450	160.100	6427.83	7498.90	-6969.03	2769.38	1638869.89	14268379.27	39°17'32.44"N	81°00'19.68"W	7499.12	158.328
14074.00	89.450	163.140	6428.72	7591.77	-7057.27	2798.70	1638899.20	14268291.07	39°17'31.57"N	81°00'19.30"W	7591.96	158.368
14170.00	89.450	163.340	6429.64	7687.47	-7149.19	2826.38	1638926.87	14268199.19	39°17'30.66"N	81°00'18.95"W	7687.61	158.429
14263.00	89.380	161.670	6430.59	7780.27	-7237.88	2854.34	1638954.81	14268110.53	39°17'29.78"N	81°00'18.60"W	7780.37	158.478
14357.00	89.380	160.720	6431.61	7874.18	-7326.86	2884.64	1638985.10	14268021.59	39°17'28.90"N	81°00'18.215"W	7874.26	158.510
14451.00	89.420	159.640	6432.59	7968.14	-7415.28	2916.51	1639016.96	14267933.20	39°17'28.03"N	81°00'17.810"W	7968.21	158.530
14545.00	89.450	158.920	6433.52	8062.13	-7503.20	2949.76	1639050.20	14267845.32	39°17'27.164"N	81°00'17.387"W	8062.20	158.539
14637.00	89.450	158.790	6434.40	8154.13	-7589.00	2982.95	1639083.37	14267759.55	39°17'26.316"N	81°00'16.965"W	8154.19	158.542
14730.00	89.350	157.840	6435.38	8247.12	-7675.41	3017.31	1639117.72	14267673.18	39°17'25.462"N	81°00'16.527"W	8247.19	158.540
14824.00	89.480	157.700	6436.34	8341.10	-7762.42	3052.87	1639153.27	14267586.20	39°17'24.602"N	81°00'16.075"W	8341.17	158.531
14918.00	89.380	159.430	6437.27	8436.09	-7849.91	3087.22	1639187.60	14267498.75	39°17'23.737"N	81°00'15.638"W	8436.17	158.517

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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	ft/100ft	ft/100ft	ft/100ft	
12186.00	89.690	154.780	6416.72	5705.66	-5302.00	2108.40	1638209.18	14270045.63	39°17'48.91"N	81°00'28.09"W	5705.84	158.314	0.26	0.10	0.10	
12280.00	89.720	155.950	6417.21	5799.49	-5387.45	2147.58	1638248.34	14269660.22	39°17'48.07"N	81°00'27.59"W	5799.71	158.266	1.25	0.03	1.24	
12374.00	89.660	157.350	6417.71	5893.42	-5473.74	2184.84	1638285.58	14269873.96	39°17'47.22"N	81°00'27.18"W	5893.67	158.241	1.49	-0.06	1.49	
12468.00	89.600	159.790	6418.32	5987.41	-5561.24	2219.18	1638319.91	14269786.50	39°17'46.35"N	81°00'26.68"W	5987.66	158.246	2.60	-0.06	2.60	
12563.00	89.630	160.070	6418.96	6082.39	-5650.47	2251.78	1638352.50	14269697.31	39°17'45.47"N	81°00'26.26"W	6082.62	158.272	0.30	0.03	0.29	
12657.00	89.750	160.300	6419.47	6176.36	-5738.90	2283.64	1638384.35	14269608.91	39°17'44.60"N	81°00'25.86"W	6176.57	158.301	0.28	0.13	0.24	
12751.00	89.690	161.270	6419.93	6270.30	-5827.66	2314.58	1638415.27	14269520.19	39°17'43.72"N	81°00'25.46"W	6270.48	158.338	1.03	-0.06	1.03	
12846.00	89.630	162.560	6420.49	6365.15	-5917.86	2344.07	1638444.75	14269429.92	39°17'42.83"N	81°00'25.09"W	6365.29	158.392	1.36	-0.06	1.36	
12940.00	89.820	162.630	6420.94	6458.94	-6007.10	2372.18	1638472.85	14269340.26	39°17'41.94"N	81°00'24.73"W	6459.04	158.453	0.22	0.20	0.07	
13034.00	89.750	161.540	6421.30	6552.78	-6097.10	2401.10	1638501.76	14269250.86	39°17'41.06"N	81°00'24.36"W	6552.85	158.505	1.16	-0.07	-1.16	
13128.00	89.690	159.770	6421.75	6646.73	-6185.79	2432.23	1638532.88	14269162.20	39°17'40.18"N	81°00'23.97"W	6646.78	158.535	1.88	-0.06	-1.88	
13224.00	89.780	157.650	6422.20	6742.72	-6275.23	2467.09	1638567.72	14269072.80	39°17'39.30"N	81°00'23.52"W	6742.78	158.538	2.21	0.09	-2.21	
13318.00	89.690	155.570	6422.63	6836.65	-6361.50	2504.40	1638605.02	14268986.56	39°17'38.44"N	81°00'23.05"W	6836.72	158.511	2.21	-0.10	-2.21	
13413.00	89.720	156.050	6423.12	6931.52	-6448.16	2543.33	1638643.93	14268899.94	39°17'37.59"N	81°00'22.57"W	6931.61	158.474	0.51	0.03	0.51	
13506.00	89.570	157.020	6423.70	7024.45	-6533.46	2580.36	1638680.95	14268814.67	39°17'36.74"N	81°00'22.08"W	7024.56	158.449	1.06	-0.16	-1.04	
13602.00	89.570	154.660	6424.42	7120.31	-6621.04	2619.65	1638720.22	14268727.12	39°17'35.88"N	81°00'21.58"W	7120.45	158.414	2.46	0.00	-2.46	
13697.00	89.570	154.870	6425.13	7215.08	-6706.98	2660.15	1638760.70	14268641.22	39°17'35.03"N	81°00'21.07"W	7215.26	158.366	0.22	0.00	0.22	
13791.00	89.540	156.940	6425.86	7308.95	-6792.78	2698.52	1638799.06	14268555.46	39°17'34.18"N	81°00'20.58"W	7309.16	158.334	2.20	-0.03	2.20	
13885.00	89.320	157.660	6426.80	7402.91	-6879.49	2734.79	1638835.32	14268468.78	39°17'33.32"N	81°00'20.12"W	7403.14	158.321	0.80	-0.23	0.77	
13981.00	89.450	160.100	6427.83	7498.90	-6969.03	2769.38	1638869.89	14268379.27	39°17'32.44"N	81°00'19.68"W	7499.12	158.328	2.55	0.14	2.54	
14074.00	89.450	163.140	6428.72	7591.77	-7057.27	2798.70	1638899.20	14268291.07	39°17'31.57"N	81°00'19.30"W	7591.96	158.368	3.27	0.00	3.27	
14170.00	89.450	163.340	6429.64	7687.47	-7149.19	2826.38	1638926.87	14268199.19	39°17'30.66"N	81°00'18.95"W	7687.61	158.429	0.21	0.00	0.21	
14263.00	89.380	161.670	6430.59	7780.27	-7237.88	2854.34	1638954.81	14268110.53	39°17'29.78"N	81°00'18.60"W	7780.37	158.478	1.80	-0.08	-1.80	
14357.00	89.380	160.720	6431.61	7874.18	-7326.86	2884.64	1638985.10	14268021.59	39°17'28.90"N	81°00'18.215"W	7874.26	158.510	1.01	0.00	-1.01	
14451.00	89.420	159.640	6432.59	7968.14	-7415.28	2916.51	1639016.96	14267933.20	39°17'28.03"N	81°00'17.810"W	7968.21	158.530	1.15	0.04	-1.15	
14545.00	89.450	158.920	6433.52	8062.13	-7503.20	2949.76	1639050.20	14267845.32	39°17'27.164"N	81°00'17.387"W	8062.20	158.539	0.77	0.03	-0.77	
14637.00	89.450	158.790	6434.40	8154.13	-7589.00	2982.95	1639083.37	14267759.55	39°17'26.316"N	81°00'16.965"W	8154.19	158.542	0.14	0.00	-0.14	
14730.00	89.350	157.840	6435.38	8247.12	-7675.41	3017.31	1639117.72	14267673.18	39°17'25.462"N	81°00'16.527"W	8247.19	158.540	1.03	-0.11	-1.02	
14824.00	89.480	157.700	6436.34	8341.10												



Actual Wellpath Report

Raines Unit 3H AWP Proj: 16913'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Raines Unit 3H
Field	Ritchie	Wellbore	Raines Unit 3H AWP
Facility	Bachelor Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Raines Unit 3H AWP Ref Wellpath: Raines Unit 3H AWP Proj: 16913'											
String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	Start EW (ft)	End N/S (ft)	End EW (ft)	Shape	
20in Conductor	25.00	105.00	80.00	25.00	105.00	0.00	0.00	-0.20	-0.02	point	
17.5in Open Hole	105.00	629.00	524.00	105.00	628.98	-0.20	-0.02	-3.77	-1.12	point	
13.375in Casing Surface	25.00	629.00	604.00	25.00	628.98	0.00	0.00	-3.77	1.12	point	
12.25in Open Hole	629.00	2571.00	1942.00	628.98	2557.93	-3.77	1.12	191.95	-42.14	point	
9.625in Casing Intermediate	25.00	2571.00	2546.00	25.00	2557.93	0.00	0.00	191.95	-42.14	point	
8.75in Open Hole	2571.00	6322.00	3751.00	2557.93	6227.18	191.95	-42.14	111.60	-8.30	point	
8.5in Open Hole	6322.00	16913.00	10591.00	6227.18	6455.18	111.60	-8.30	-9713.85	3791.66	point	
5.5in Casing Production	25.00	16913.00	16888.00	25.00	6455.18	0.00	0.00	-9713.85	3791.66	point	

TARGETS											
Name	TVD (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Shape			
Raines Unit 3H POE Rev-2	6358.00	-95.77	70.81	1636172.41	14275249.77	39°18'40.374"N	81°00'54.019"W	point			
Raines Unit 3H BHL Rev-3	6403.00	-9640.07	3779.58	16399879.68	14265709.30	39°17'06.044"N	81°00'06.832"W	point			
Raines Unit 3H LP Rev-1	6403.00	-365.79	175.74	1636277.29	14274979.86	39°18'37.705"N	81°00'52.683"W	point			

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Raines Unit 3H AWP Proj: 16913'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Raines Unit 3H
Field	Ritchie	Wellbore	Raines Unit 3H AWB
Facility	Bachelor Pad		

WELLPATH COMPOSITION - Ref Wellbore: Raines Unit 3H AWB Ref Wellpath: Raines Unit 3H AWP Proj: 16913'				
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	590.00	Gyrodatab standard - Drop gyro or Multi-shot	01 Gyrodatab MS Gyro <17-1/2">(100'-580')	Raines Unit 3H AWB
590.00	966.00	Gyrodatab standard - Drop gyro or Multi-shot	02 Gyrodatab MS Gyro <12-1/4">(580')(597'-956')	Raines Unit 3H AWB
966.00	2520.00	ISCWSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <12-1/4">(956')(1098'-2510')	Raines Unit 3H AWB
2520.00	6239.00	ISCWSA MWD, Rev. 4 (Standard)	04 Directional ONE MWD <8-3/4">(2510')(2605'-6229')	Raines Unit 3H AWB
6239.00	16888.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(6239')(6297'-16888')	Raines Unit 3H AWB
16888.00	16913.00	Blind Drilling (std)	Projection to bit	Raines Unit 3H AWB

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Actual Wellpath Report

Raines Unit 3H AWP Proj: 16913'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Raines Unit 3H
Field	Ritchie	Wellbore	Raines Unit 3H AWB
Facility	Bachelor Pad		

COMMENTS
<p>Wellpath general comments API: 47-085-10313-0000 BHI Job #: 8775370 Rig: Patterson 342 Duration: 10/01/2017-10/05/2017 Gyrodatta MS Gyro <17-1/2"> (100'-580') Gyrodatta MS Gyro <12-1/4"> (580')(597'956') Directional ONE MWD <12-1/4"> (956')(1098'-2510') Directional ONE MWD <8-3/4"> (2510')(2605'-6229') BHI AT Curve <8-1/2"> (6239')(6297'-16888') Middlesex: 6331' MD Burkett: 6498' MD Marcellus POE: 6555' MD Projected MD at TD: 16913'</p>

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