



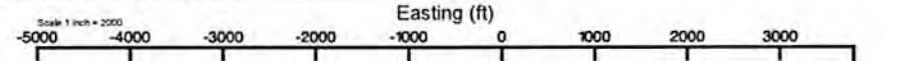
ANTERO RESOURCES CORPORATION

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

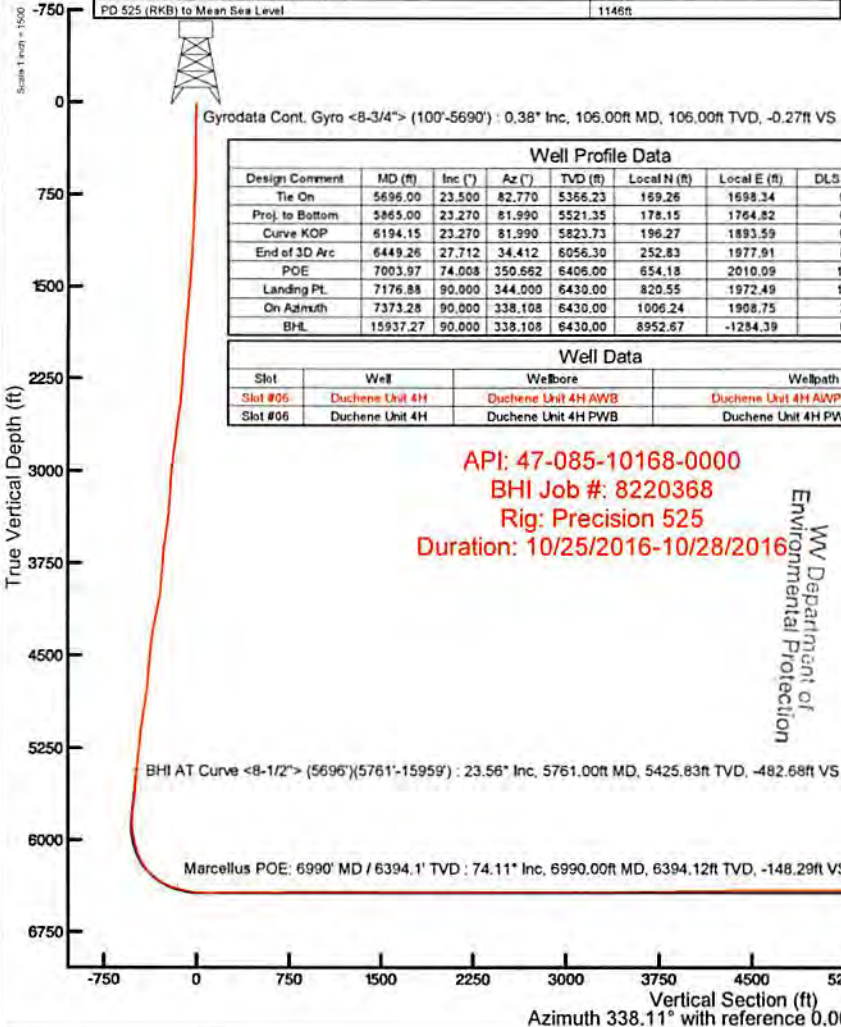
Slot: Slot #06
 Well: Duchene Unit 4H
 Wellbore: Duchene Unit 4H PWB



Flat reference wellbore is Duchene Unit 4H PWB Rev-A-0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to PD 525 (RKB)	* = Wellpath was transformed from a different geoidic datum
Measured depths are referenced to PD 525 (RKB)	North Reference: Grid north
PD 525 (RKB) to Mean Sea Level: 1146 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #06) : -1127 feet	Depth are in feet
Coordinates are in feet referenced to Slot	Created by: wibaryar on 2016-11-13
	Database: WA, MPL, EASTERNUS, Dath



Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Kelly Pad	1650927.295	14276358.600	39°18'51.320"N	80°57'46.220"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #06	18.23	46.36	1650973.640	14276376.880
			39°18'51.500"N	80°57'45.630"W
Comment: Duchene Unit 4H				
PD 525 (RKB) to Mud line (At Slot: Slot #06)			19ft	
Mean Sea Level to Mud line (At Slot: Slot #06)			-1127ft	
PD 525 (RKB) to Mean Sea Level			1146ft	

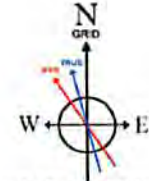
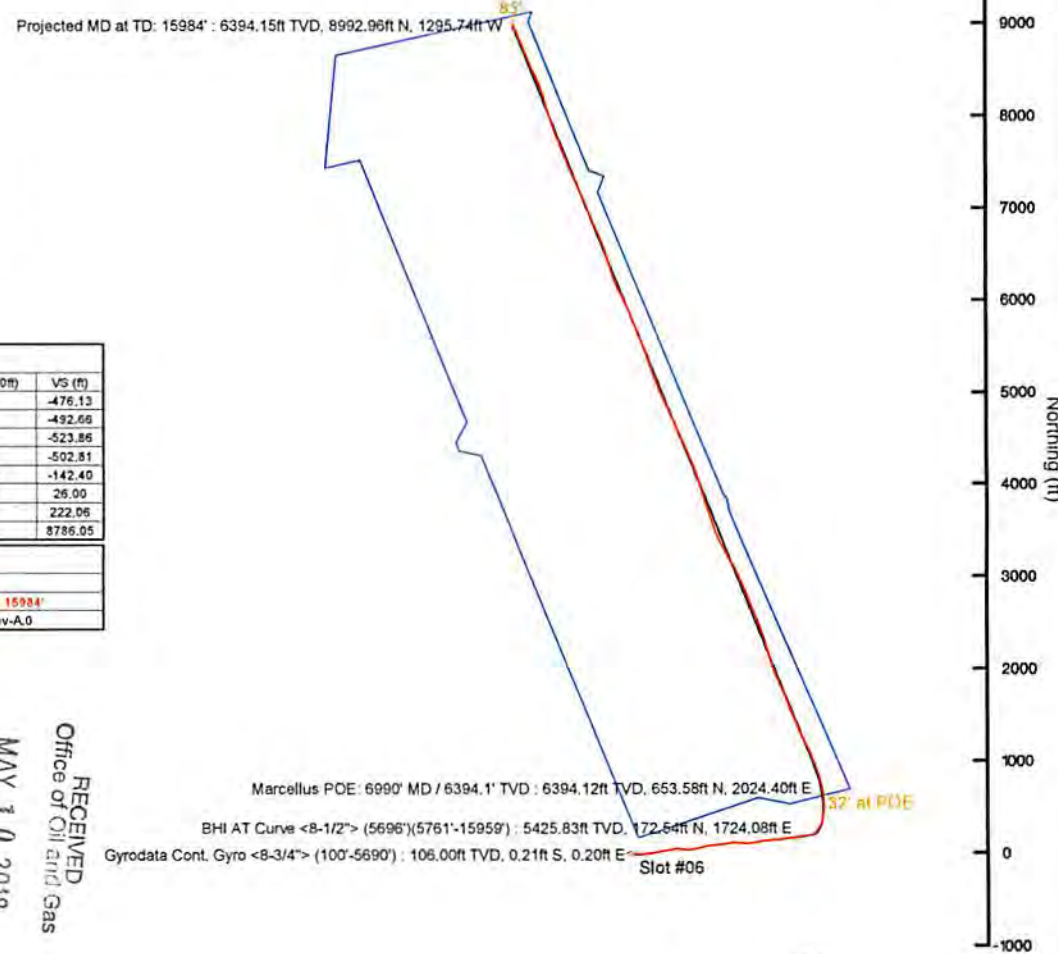


Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	5695.00	23.500	82.770	5366.23	169.26	1698.34	-476.13
Proj. to Bottom	5865.00	23.270	81.990	5521.35	178.15	1764.82	0.23
Curve KOP	6194.15	23.270	81.990	5823.73	196.27	1893.59	0.00
End of 3D Arc	6449.26	27.712	34.412	6056.30	252.83	1977.91	8.00
POE	7003.97	74.008	350.662	6406.00	654.18	2010.09	10.00
Landing Pt.	7176.88	90.000	344.000	6430.00	820.55	1972.49	10.00
On Azimuth	7373.28	90.000	338.108	6430.00	1006.24	1908.75	3.00
BHL	15937.27	90.000	338.108	6430.00	8952.67	-1284.39	0.00

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #06	Duchene Unit 4H	Duchene Unit 4H AWB	Duchene Unit 4H AWP Proj. 15984'
Slot #06	Duchene Unit 4H	Duchene Unit 4H PWB	Duchene Unit 4H PWP Rev-A-0

API: 47-085-10168-0000
 BHI Job #: 8220368
 Rig: Precision 525
 Duration: 10/25/2016-10/28/2016

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 Office of Oil and Gas
 MAY 10 2018
 WV Department of Environmental Protection



User specified Dip: 66.62° Field: 52023 nT
 Magnetic North is 7.78 degrees West of True North (at 10/20/2016)
 Grid North is 0.02 degrees East of True North
 To correct azimuth from True to Grid subtract 0.02 degrees
 To correct azimuth from Magnetic to Grid subtract 7.80 degrees

Azimuth 338.11° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Duchene Unit 4H AWP Proj: 15984'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Edsaryar
Scale	0.999600	Report Generated	11/13/2016 at 1:50:44 PM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Duchene_Unit_4H_AWP_Proj_15984_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	18.23	46.36	1650973.64	14276376.88	39°18'51.500"N	80°57'45.630"W
Facility Reference Pt			1650927.30	14276358.66	39°18'51.320"N	80°57'46.220"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	PD 525 (RKB) to Facility Vertical Datum	19.00ft
Horizontal Reference Pt	Slot	PD 525 (RKB) to Mean Sea Level	1146.00ft
Vertical Reference Pt	PD 525 (RKB)	PD 525 (RKB) to Mud Line at Slot (Slot #06)	19.00ft
MD Reference Pt	PD 525 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	338.11°



Actual Wellpath Report

Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH DATA (192 stations) † = Interpolated/extrapolated station																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00	0.00	137.240	0.00	0.00	0.00	0.00	1650973.64	14276376.88	39°18'51.500"N	80°57'45.630"W	0.00	0.000	0.00	0.00	0.00	
19.00	0.00	137.240	19.00	0.00	0.00	0.00	1650973.64	14276376.88	39°18'51.500"N	80°57'45.630"W	0.00	0.000	0.00	0.00	0.00	
106.00	0.380	137.240	106.00	-0.27	-0.21	0.20	1650973.84	14276376.67	39°18'51.498"N	80°57'45.628"W	0.29	137.240	0.44	0.44	157.75	Gyrodata Cont. Gyro <8-3/4"> (100'-5690')
206.00	0.630	130.240	206.00	-1.07	-0.81	0.84	1650974.48	14276376.07	39°18'51.492"N	80°57'45.619"W	1.17	133.951	0.26	0.25	-7.00	
306.00	0.280	144.450	305.99	-1.79	-1.36	1.40	1650975.04	14276375.52	39°18'51.486"N	80°57'45.612"W	1.96	134.213	0.37	-0.35	14.21	
406.00	0.280	147.460	405.99	-2.27	-1.77	1.68	1650975.32	14276375.11	39°18'51.482"N	80°57'45.609"W	2.44	136.551	0.01	0.00	3.01	
506.00	0.540	211.870	505.99	-2.79	-2.38	1.56	1650975.20	14276374.51	39°18'51.476"N	80°57'45.610"W	2.84	146.730	0.49	0.26	64.41	
606.00	0.660	168.690	605.98	-3.63	-3.34	1.42	1650975.06	14276373.54	39°18'51.467"N	80°57'45.612"W	3.63	156.930	0.46	0.12	-43.18	
706.00	2.130	123.200	705.95	-5.72	-4.92	3.09	1650976.73	14276371.96	39°18'51.451"N	80°57'45.591"W	5.81	147.877	1.73	1.47	-45.49	
806.00	4.040	108.900	805.81	-9.55	-7.08	7.98	1650981.62	14276369.80	39°18'51.430"N	80°57'45.529"W	10.67	131.590	2.04	1.91	-14.30	
906.00	4.890	95.090	905.50	-13.78	-8.60	15.56	1650989.19	14276368.28	39°18'51.415"N	80°57'45.432"W	17.78	118.936	1.36	0.85	-13.81	
1006.00	7.100	90.980	1004.95	-18.12	-9.08	25.98	1650999.61	14276367.80	39°18'51.410"N	80°57'45.299"W	27.53	109.272	2.25	2.21	-4.11	
1106.00	9.510	89.020	1103.90	-23.47	-9.05	40.42	1651014.05	14276367.83	39°18'51.410"N	80°57'45.116"W	41.42	102.618	2.43	2.41	-1.96	
1206.00	11.910	87.260	1202.15	-29.80	-8.41	58.99	1651032.61	14276368.47	39°18'51.417"N	80°57'44.879"W	59.59	98.118	2.42	2.40	-1.76	
1306.00	14.070	85.890	1299.58	-36.90	-7.05	81.43	1651055.03	14276369.83	39°18'51.430"N	80°57'44.594"W	81.73	94.948	2.18	2.16	-1.37	
1406.00	15.830	83.990	1396.19	-44.34	-4.75	107.12	1651080.72	14276372.13	39°18'51.453"N	80°57'44.267"W	107.22	92.539	1.83	1.76	-1.90	
1506.00	17.370	81.910	1492.02	-51.64	-1.22	135.46	1651109.05	14276375.66	39°18'51.487"N	80°57'43.907"W	135.47	90.517	1.65	1.54	-2.08	
1606.00	18.960	82.590	1587.04	-59.26	2.97	166.35	1651139.93	14276379.85	39°18'51.529"N	80°57'43.514"W	166.38	88.976	1.60	1.59	0.68	
1706.00	20.740	81.490	1681.09	-67.42	7.69	199.98	1651173.54	14276384.57	39°18'51.575"N	80°57'43.086"W	200.12	87.798	1.82	1.78	-1.10	
1806.00	21.110	78.290	1774.50	-74.70	13.97	235.12	1651208.67	14276390.84	39°18'51.637"N	80°57'42.638"W	235.54	86.601	1.20	0.37	-3.20	
1906.00	21.060	78.000	1867.80	-80.97	21.36	270.33	1651243.86	14276398.23	39°18'51.710"N	80°57'42.190"W	271.17	85.483	0.12	-0.05	-0.29	
2006.00	20.440	78.800	1961.32	-87.29	28.48	305.03	1651278.55	14276405.35	39°18'51.780"N	80°57'41.749"W	306.36	84.665	0.68	-0.62	0.80	
2106.00	21.010	80.300	2054.85	-94.32	34.90	339.83	1651313.34	14276411.76	39°18'51.843"N	80°57'41.306"W	341.62	84.137	0.78	0.57	1.50	
2206.00	20.580	79.820	2148.33	-101.67	41.02	374.80	1651348.29	14276417.89	39°18'51.904"N	80°57'40.861"W	377.04	83.754	0.46	-0.43	-0.48	
2306.00	17.340	76.390	2242.90	-107.39	47.64	406.60	1651380.07	14276424.50	39°18'51.969"N	80°57'40.457"W	409.38	83.318	3.42	-3.24	-3.43	
2406.00	15.830	85.410	2338.75	-113.59	52.24	434.68	1651408.15	14276429.10	39°18'52.014"N	80°57'40.099"W	437.81	83.148	2.98	-1.51	9.02	
2506.00	16.070	92.890	2434.91	-123.45	52.63	462.10	1651435.56	14276429.49	39°18'52.018"N	80°57'39.750"W	465.09	83.502	2.07	0.24	7.48	
2606.00	16.880	95.710	2530.81	-135.98	50.49	490.37	1651463.82	14276427.35	39°18'51.997"N	80°57'39.391"W	492.97	84.122	1.14	0.81	2.82	
2706.00	15.410	95.480	2626.86	-148.81	47.77	518.05	1651491.48	14276424.64	39°18'51.970"N	80°57'39.039"W	520.24	84.731	1.47	-1.47	-0.23	
2806.00	16.510	94.480	2723.00	-161.23	45.40	545.44	1651518.86	14276422.26	39°18'51.946"N	80°57'38.690"W	547.32	85.242	1.13	1.10	-1.00	



Actual Wellpath Report

Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH DATA (192 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
2906.00	20.410	90.720	2817.84	-174.25	44.07	577.05	1651550.46	14276420.93	39°18'51.933"N	80°57'38.288"W	578.73	85.633	4.08	3.90	-3.76	
3006.00	22.530	85.910	2910.91	-186.81	45.21	613.60	1651587.00	14276422.08	39°18'51.944"N	80°57'37.823"W	615.27	85.786	2.75	2.12	-4.81	
3106.00	24.490	77.950	3002.62	-196.22	50.91	653.00	1651626.38	14276427.77	39°18'52.000"N	80°57'37.322"W	654.98	85.542	3.73	1.96	-7.96	
3206.00	25.830	76.950	3093.14	-203.11	60.16	694.49	1651667.85	14276437.01	39°18'52.092"N	80°57'36.794"W	697.09	85.050	1.41	1.34	-1.00	
3306.00	25.500	74.790	3183.27	-208.96	70.72	736.49	1651709.83	14276447.57	39°18'52.196"N	80°57'36.259"W	739.88	84.515	0.99	-0.33	-2.16	
3406.00	23.420	76.860	3274.29	-214.49	80.89	776.62	1651749.95	14276457.74	39°18'52.296"N	80°57'35.749"W	780.82	84.054	2.25	-2.08	2.07	
3506.00	23.250	81.970	3366.12	-222.24	88.16	815.52	1651788.83	14276465.01	39°18'52.368"N	80°57'35.254"W	820.27	83.830	2.03	-0.17	5.11	
3606.00	23.600	87.530	3457.89	-233.62	91.78	855.07	1651828.36	14276468.63	39°18'52.404"N	80°57'34.751"W	859.98	83.873	2.24	0.35	5.56	
3706.00	23.470	86.790	3549.57	-246.66	93.76	894.95	1651868.23	14276470.61	39°18'52.423"N	80°57'34.243"W	899.85	84.019	0.32	-0.13	-0.74	
3806.00	23.940	82.000	3641.15	-257.91	97.70	934.93	1651908.19	14276474.54	39°18'52.462"N	80°57'33.734"W	940.02	84.034	1.98	0.47	-4.79	
3906.00	24.900	79.840	3732.20	-267.06	104.24	975.74	1651948.99	14276481.08	39°18'52.526"N	80°57'33.215"W	981.29	83.902	1.31	0.96	-2.16	
4006.00	22.470	76.880	3823.77	-274.25	112.29	1015.08	1651988.31	14276489.13	39°18'52.605"N	80°57'32.715"W	1021.27	83.687	2.70	-2.43	-2.96	
4106.00	19.560	83.370	3917.12	-281.57	118.56	1050.33	1652023.55	14276495.40	39°18'52.667"N	80°57'32.266"W	1057.00	83.560	3.72	-2.91	6.49	
4206.00	19.430	93.170	4011.42	-293.03	119.58	1083.58	1652056.78	14276496.41	39°18'52.677"N	80°57'31.843"W	1090.15	83.703	3.27	-0.13	9.80	
4306.00	22.150	96.830	4104.90	-309.14	116.42	1118.91	1652092.10	14276493.25	39°18'52.646"N	80°57'31.394"W	1124.95	84.060	3.01	2.72	3.66	
4406.00	24.870	96.110	4196.59	-328.07	111.93	1158.54	1652131.72	14276488.77	39°18'52.601"N	80°57'30.889"W	1163.94	84.481	2.74	2.72	-0.72	
4506.00	25.660	89.360	4287.04	-345.79	109.94	1201.11	1652174.27	14276486.77	39°18'52.581"N	80°57'30.348"W	1206.13	84.770	2.99	0.79	-6.75	
4606.00	24.430	83.910	4377.65	-359.27	112.37	1243.33	1652216.47	14276489.21	39°18'52.605"N	80°57'29.811"W	1248.40	84.836	2.61	-1.23	-5.45	
4706.00	24.390	81.230	4468.72	-369.59	117.72	1284.30	1652257.42	14276494.55	39°18'52.658"N	80°57'29.289"W	1289.68	84.763	1.11	-0.04	-2.68	
4806.00	24.360	77.440	4559.81	-377.62	125.35	1324.84	1652297.95	14276502.18	39°18'52.733"N	80°57'28.773"W	1330.76	84.595	1.56	-0.03	-3.79	
4906.00	25.060	80.580	4650.66	-385.54	133.30	1365.86	1652338.95	14276510.13	39°18'52.812"N	80°57'28.251"W	1372.35	84.426	1.49	0.70	3.14	
5006.00	25.370	83.610	4741.13	-395.84	139.15	1408.05	1652381.12	14276515.98	39°18'52.869"N	80°57'27.715"W	1414.91	84.356	1.33	0.31	3.03	
5106.00	24.680	85.580	4831.74	-407.83	143.15	1450.16	1652423.21	14276519.97	39°18'52.908"N	80°57'27.179"W	1457.20	84.363	1.08	-0.69	1.97	
5206.00	24.790	87.670	4922.57	-421.12	145.61	1491.92	1652464.96	14276522.43	39°18'52.933"N	80°57'26.648"W	1499.01	84.426	0.88	0.11	2.09	
5306.00	25.600	85.950	5013.06	-434.76	147.98	1534.42	1652507.44	14276524.81	39°18'52.956"N	80°57'26.107"W	1541.54	84.491	1.09	0.81	-1.72	
5406.00	26.450	81.240	5102.93	-446.43	152.90	1577.98	1652550.99	14276529.72	39°18'53.004"N	80°57'25.552"W	1585.38	84.465	2.23	0.85	-4.71	
5506.00	24.890	83.400	5193.06	-457.04	158.71	1620.90	1652593.89	14276535.53	39°18'53.062"N	80°57'25.006"W	1628.66	84.408	1.82	-1.56	2.16	
5606.00	24.350	81.380	5283.97	-467.33	164.22	1662.19	1652635.16	14276541.04	39°18'53.116"N	80°57'24.481"W	1670.28	84.358	1.00	-0.54	-2.02	
5696.00	23.500	82.770	5366.23	-476.13	169.26	1698.34	1652671.30	14276546.07	39°18'53.165"N	80°57'24.021"W	1706.75	84.309	1.13	-0.94	1.54	
5761.00	23.560	82.730	5425.83	-482.68	172.54	1724.08	1652697.03	14276549.35	39°18'53.198"N	80°57'23.694"W	1732.69	84.285	0.10	0.09	-0.06	BHI AT Curve <8-1/2"> (5696)-(5761)-15959)



Actual Wellpath Report

Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH DATA (192 stations) † = interpolated/extrapolated station																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Buidl Rate [°/100ft]	Turn Rate [°/100ft]	Comments
5850.00	22.780	77.340	5507.66	-489.94	178.56	1758.54	1652731.47	14276555.37	39°18'53.257"N	80°57'23.255"W	1767.58	84.202	2.54	-0.88	-6.06	
5940.00	23.330	79.250	5590.47	-496.18	185.71	1793.05	1652765.97	14276562.51	39°18'53.327"N	80°57'22.816"W	1802.64	84.087	1.03	0.61	2.12	
6030.00	23.180	82.510	5673.16	-504.03	191.34	1828.12	1652801.03	14276568.14	39°18'53.383"N	80°57'22.370"W	1838.11	84.025	1.44	-0.17	3.62	
6120.00	23.460	82.720	5755.81	-512.95	195.92	1863.45	1652836.34	14276572.72	39°18'53.428"N	80°57'21.920"W	1873.72	83.998	0.32	0.31	0.23	
6165.00	23.390	80.610	5797.10	-517.14	198.51	1881.15	1652854.04	14276575.31	39°18'53.454"N	80°57'21.695"W	1891.60	83.976	1.87	-0.16	-4.69	
6210.00	23.140	75.390	5838.45	-520.20	202.20	1898.52	1652871.40	14276579.00	39°18'53.490"N	80°57'21.474"W	1909.26	83.921	4.61	-0.56	-11.60	
6254.00	22.650	62.860	5879.01	-520.52	208.25	1914.44	1652887.31	14276585.05	39°18'53.550"N	80°57'21.271"W	1925.73	83.792	11.12	-1.11	-28.48	
6299.00	23.410	51.320	5920.44	-517.14	217.79	1929.13	1652902.00	14276594.59	39°18'53.644"N	80°57'21.084"W	1941.39	83.559	10.16	1.69	-25.64	
6344.00	24.280	42.530	5961.61	-510.56	230.20	1942.37	1652915.23	14276606.99	39°18'53.767"N	80°57'20.916"W	1955.97	83.241	8.12	1.93	-19.53	
6389.00	25.100	38.580	6002.50	-501.86	244.48	1954.58	1652927.43	14276621.27	39°18'53.908"N	80°57'20.760"W	1969.81	82.870	4.09	1.82	-8.78	
6434.00	26.710	37.450	6042.98	-492.00	259.97	1966.68	1652939.53	14276636.75	39°18'54.061"N	80°57'20.606"W	1983.79	82.470	3.74	3.58	-2.51	
6478.00	28.800	35.450	6081.91	-481.24	276.46	1978.84	1652951.69	14276653.23	39°18'54.224"N	80°57'20.452"W	1998.06	82.047	5.20	4.75	-4.55	
6523.00	31.790	29.630	6120.77	-468.00	295.60	1990.99	1652963.83	14276672.36	39°18'54.413"N	80°57'20.297"W	2012.82	81.555	9.31	6.64	-12.93	
6557.00†	34.265	25.040	6149.28	-455.89	312.06	1999.48	1652972.31	14276688.82	39°18'54.575"N	80°57'20.189"W	2023.68	81.129	10.35	7.28	-13.50	Sycamore: 6557' MD / 6149.3' TVD
6568.00	35.100	23.680	6158.33	-451.56	317.77	2002.06	1652974.89	14276694.52	39°18'54.632"N	80°57'20.156"W	2027.12	80.981	10.35	7.59	-12.36	
6613.00	38.840	16.860	6194.29	-431.49	343.14	2011.35	1652984.18	14276719.88	39°18'54.882"N	80°57'20.038"W	2040.41	80.318	12.32	8.31	-15.16	
6658.00	43.020	11.030	6228.29	-407.58	371.73	2018.39	1652991.22	14276748.46	39°18'55.165"N	80°57'19.948"W	2052.33	79.565	12.57	9.29	-12.96	
6685.00†	46.021	8.370	6247.54	-391.45	390.39	2021.57	1652994.39	14276767.11	39°18'55.349"N	80°57'19.907"W	2058.92	79.070	13.09	11.12	-9.85	Middlesex: 6685' MD / 6247.5' TVD
6702.00	47.940	6.830	6259.14	-380.63	402.71	2023.21	1652996.03	14276779.43	39°18'55.471"N	80°57'19.886"W	2062.90	78.743	13.09	11.29	-9.06	
6747.00	52.640	5.000	6287.88	-350.01	437.13	2026.75	1652999.58	14276813.84	39°18'55.811"N	80°57'19.841"W	2073.36	77.829	10.90	10.44	-4.07	
6792.00	57.330	3.750	6313.70	-316.97	473.87	2029.55	1653002.38	14276850.56	39°18'56.174"N	80°57'19.805"W	2084.14	76.858	10.67	10.42	-2.78	
6837.00	61.310	2.400	6336.66	-281.88	512.51	2031.62	1653004.44	14276889.18	39°18'56.556"N	80°57'19.779"W	2095.27	75.842	9.21	8.84	-3.00	
6865.00†	63.766	0.414	6349.57	-259.07	537.34	2032.22	1653005.05	14276914.01	39°18'56.802"N	80°57'19.771"W	2102.06	75.189	10.79	8.77	-7.09	Burkett: 6865' MD / 6349.6' TVD
6882.00	65.270	359.250	6356.88	-244.81	552.69	2032.18	1653005.00	14276929.34	39°18'56.953"N	80°57'19.771"W	2105.99	74.785	10.79	8.85	-6.85	
6925.00	68.870	356.320	6373.64	-207.53	592.25	2030.64	1653003.46	14276968.89	39°18'57.344"N	80°57'19.791"W	2115.24	73.740	10.46	8.37	-6.81	
6934.00†	69.645	355.717	6376.82	-199.52	600.64	2030.05	1653002.87	14276977.28	39°18'57.427"N	80°57'19.798"W	2117.04	73.518	10.64	8.61	-6.70	Tully: 6934' MD / 6376.8' TVD
6971.00	72.850	353.300	6388.72	-165.91	635.51	2026.69	1652999.52	14277012.13	39°18'57.772"N	80°57'19.841"W	2123.99	72.590	10.64	8.66	-6.53	
6990.00†	74.113	352.223	6394.12	-148.29	653.58	2024.40	1652997.22	14277030.20	39°18'57.951"N	80°57'19.870"W	2127.29	72.107	8.59	6.65	-5.67	Marcellus POE: 6990' MD / 6394.1' TVD
7016.00	75.850	350.770	6400.86	-123.86	678.41	2020.68	1652993.51	14277055.02	39°18'58.196"N	80°57'19.917"W	2131.53	71.441	8.59	6.68	-5.59	
7061.00	79.100	348.400	6410.62	-80.82	721.61	2012.74	1652985.57	14277098.20	39°18'58.623"N	80°57'20.018"W	2138.18	70.276	8.86	7.22	-5.27	



Actual Wellpath Report

Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH DATA (192 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)	Bulld Rate (°/100ft)	Turn Rate (°/100ft)	Comments
7106.00	81.470	346.420	6418.21	-37.05	764.89	2003.07	1652975.90	14277141.46	39°18'59.051"N	80°57'20.140"W	2144.14	69.100	6.82	5.27	-4.40	
7150.00	84.610	342.510	6423.54	6.34	806.96	1991.37	1652964.21	14277183.51	39°18'59.467"N	80°57'20.289"W	2148.66	67.941	11.35	7.14	-8.89	
7195.00	88.460	340.040	6426.26	51.18	849.48	1976.95	1652949.80	14277226.02	39°18'59.887"N	80°57'20.472"W	2151.73	66.747	10.16	8.56	-5.49	
7285.00	90.650	340.850	6426.96	141.10	934.28	1946.83	1652919.69	14277310.79	39°19'00.725"N	80°57'20.855"W	2159.41	64.364	2.59	2.43	0.90	
7375.00	90.920	339.240	6425.73	231.03	1018.87	1916.12	1652888.99	14277395.34	39°19'01.562"N	80°57'21.245"W	2170.16	61.999	1.81	0.30	-1.79	
7464.00	90.740	336.730	6424.44	320.02	1101.37	1882.76	1652855.65	14277477.80	39°19'02.377"N	80°57'21.669"W	2181.24	59.674	2.83	-0.20	-2.82	
7554.00	90.650	333.500	6423.35	409.87	1182.99	1844.90	1652817.80	14277559.40	39°19'03.184"N	80°57'22.150"W	2191.60	57.331	3.59	-0.10	-3.59	
7644.00	90.060	333.950	6422.79	499.61	1263.69	1805.06	1652777.97	14277640.06	39°19'03.982"N	80°57'22.657"W	2203.44	55.005	0.82	-0.66	0.50	
7733.00	90.280	336.140	6422.53	588.48	1344.38	1767.51	1652740.44	14277720.72	39°19'04.780"N	80°57'23.134"W	2220.69	52.743	2.47	0.25	2.46	
7823.00	90.400	336.970	6421.99	678.44	1426.94	1731.70	1652704.65	14277803.25	39°19'05.596"N	80°57'23.589"W	2243.87	50.511	0.93	0.13	0.92	
7913.00	90.120	337.480	6421.58	768.43	1509.93	1696.86	1652669.82	14277886.20	39°19'06.416"N	80°57'24.032"W	2271.39	48.336	0.65	-0.31	0.57	
8002.00	90.280	340.620	6421.27	857.40	1593.03	1665.05	1652638.02	14277969.27	39°19'07.238"N	80°57'24.436"W	2304.37	46.266	3.53	0.18	3.53	
8092.00	90.620	339.790	6420.57	947.34	1677.71	1634.57	1652607.55	14278053.92	39°19'08.075"N	80°57'24.823"W	2342.33	44.254	1.00	0.38	-0.92	
8182.00	90.520	335.710	6419.67	1037.32	1760.99	1600.50	1652573.50	14278137.16	39°19'08.898"N	80°57'25.256"W	2379.64	42.267	4.53	-0.11	-4.53	
8272.00	89.780	335.060	6419.43	1127.21	1842.81	1563.01	1652536.02	14278218.95	39°19'09.707"N	80°57'25.733"W	2416.39	40.304	1.09	-0.82	-0.72	
8361.00	89.720	338.330	6419.82	1216.17	1924.53	1527.81	1652500.83	14278300.64	39°19'10.515"N	80°57'26.180"W	2457.24	38.445	3.67	-0.07	3.67	
8451.00	89.850	342.500	6420.16	1306.08	2009.31	1497.65	1652470.68	14278385.38	39°19'11.353"N	80°57'26.563"W	2506.04	36.699	4.64	0.14	4.63	
8541.00	90.060	342.630	6420.23	1395.81	2095.17	1470.68	1652443.73	14278471.21	39°19'12.202"N	80°57'26.906"W	2559.81	35.066	0.27	0.23	0.14	
8630.00	90.000	341.100	6420.19	1484.61	2179.75	1442.98	1652416.04	14278555.75	39°19'13.038"N	80°57'27.258"W	2614.10	33.504	1.72	-0.07	-1.72	
8720.00	89.750	343.560	6420.38	1574.36	2265.50	1415.66	1652388.73	14278641.47	39°19'13.885"N	80°57'27.605"W	2671.44	32.000	2.75	-0.28	2.73	
8810.00	89.970	342.680	6420.60	1664.02	2351.62	1389.53	1652362.61	14278727.55	39°19'14.737"N	80°57'27.937"W	2731.46	30.578	1.01	0.24	-0.98	
8899.00	89.820	340.340	6420.76	1752.85	2436.02	1361.31	1652334.40	14278811.92	39°19'15.571"N	80°57'28.296"W	2790.58	29.198	2.63	-0.17	-2.63	
8989.00	90.030	337.320	6420.88	1842.84	2519.93	1328.81	1652301.91	14278895.80	39°19'16.400"N	80°57'28.709"W	2848.82	27.804	3.36	0.23	-3.36	
9078.00	89.910	337.130	6420.93	1931.83	2601.99	1294.36	1652267.47	14278977.83	39°19'17.212"N	80°57'29.147"W	2906.15	26.448	0.25	-0.13	-0.21	
9168.00	89.850	338.330	6421.12	2021.82	2685.28	1260.25	1652233.38	14279061.08	39°19'18.035"N	80°57'29.580"W	2966.30	25.141	1.33	-0.07	1.33	
9258.00	89.850	338.450	6421.35	2111.82	2768.95	1227.10	1652200.25	14279144.72	39°19'18.862"N	80°57'30.001"W	3028.68	23.901	0.13	0.00	0.13	
9347.00	89.820	337.670	6421.61	2200.82	2851.51	1193.85	1652167.01	14279227.24	39°19'19.678"N	80°57'30.424"W	3091.34	22.718	0.88	-0.03	-0.88	
9437.00	90.060	336.160	6421.70	2290.80	2934.30	1158.56	1652131.74	14279310.00	39°19'20.497"N	80°57'30.873"W	3154.74	21.546	1.70	0.27	-1.68	
9527.00	89.910	334.950	6421.73	2380.71	3016.23	1121.32	1652094.51	14279391.90	39°19'21.307"N	80°57'31.346"W	3217.92	20.393	1.35	-0.17	-1.34	
9617.00	90.060	329.830	6421.75	2470.23	3095.95	1079.62	1652052.83	14279471.59	39°19'22.095"N	80°57'31.876"W	3278.80	19.225	5.69	0.17	-5.69	



Actual Wellpath Report

Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH DATA (192 stations)																
MD (ft)	Inclination [°]	Azimuth [°]	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist (ft)	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
9706.00	90.060	329.370	6421.66	2558.25	3172.72	1034.59	1652007.81	14279548.32	39°19'22.854"N	80°57'32.449"W	3337.14	18.061	0.52	0.00	-0.52	
9796.00	90.030	331.370	6421.59	2647.42	3250.94	990.09	1651963.33	14279626.52	39°19'23.627"N	80°57'33.014"W	3398.37	16.938	2.22	-0.03	2.22	
9885.00	90.090	331.520	6421.49	2735.82	3329.12	947.55	1651920.81	14279704.66	39°19'24.400"N	80°57'33.555"W	3461.34	15.888	0.18	0.07	0.17	
9975.00	90.000	333.630	6421.42	2825.40	3409.00	906.10	1651879.38	14279784.51	39°19'25.190"N	80°57'34.082"W	3527.36	14.885	2.35	-0.10	2.34	
10065.00	90.030	338.700	6421.40	2915.32	3491.30	869.74	1651843.03	14279866.77	39°19'26.003"N	80°57'34.544"W	3598.00	13.989	5.63	0.03	5.63	
10154.00	90.060	341.900	6421.33	3004.24	3575.08	839.74	1651813.05	14279950.52	39°19'26.831"N	80°57'34.926"W	3672.37	13.218	3.60	0.03	3.60	
10244.00	89.970	341.370	6421.31	3094.07	3660.49	811.39	1651784.70	14280035.90	39°19'27.676"N	80°57'35.286"W	3749.34	12.498	0.60	-0.10	-0.59	
10333.00	90.490	341.080	6420.95	3182.94	3744.75	782.74	1651756.07	14280120.13	39°19'28.509"N	80°57'35.650"W	3825.69	11.806	0.67	0.58	-0.33	
10423.00	90.740	342.470	6419.98	3272.74	3830.23	754.60	1651727.94	14280205.57	39°19'29.354"N	80°57'36.008"W	3903.86	11.145	1.57	0.28	1.54	
10512.00	90.800	343.290	6418.79	3361.43	3915.28	728.40	1651701.75	14280290.59	39°19'30.194"N	80°57'36.341"W	3982.46	10.539	0.92	0.07	0.92	
10602.00	90.740	344.050	6417.58	3450.99	4001.64	703.10	1651676.46	14280376.91	39°19'31.048"N	80°57'36.662"W	4062.94	9.965	0.85	-0.07	0.84	
10691.00	90.740	342.010	6416.43	3539.65	4086.75	677.13	1651650.49	14280461.99	39°19'31.889"N	80°57'36.992"W	4142.47	9.408	2.29	0.00	-2.29	
10781.00	90.830	340.650	6415.19	3629.50	4172.01	648.32	1651621.70	14280547.21	39°19'32.732"N	80°57'37.358"W	4222.08	8.833	1.51	0.10	-1.51	
10870.00	90.710	336.700	6414.00	3718.47	4254.89	615.96	1651589.35	14280630.06	39°19'33.551"N	80°57'37.770"W	4299.24	8.237	4.44	-0.13	-4.44	
10960.00	90.740	336.220	6412.86	3808.43	4337.39	580.02	1651553.43	14280712.53	39°19'34.367"N	80°57'38.226"W	4376.00	7.617	0.53	0.03	-0.53	
11049.00	90.680	337.070	6411.76	3897.39	4419.10	544.74	1651518.16	14280794.20	39°19'35.175"N	80°57'38.675"W	4452.54	7.027	0.96	-0.07	0.96	
11139.00	90.740	336.510	6410.64	3987.36	4501.80	509.28	1651482.71	14280876.88	39°19'35.992"N	80°57'39.126"W	4530.52	6.454	0.63	0.07	-0.62	
11228.00	90.620	334.700	6409.58	4076.26	4582.85	472.52	1651445.97	14280957.89	39°19'36.793"N	80°57'39.593"W	4607.14	5.887	2.04	-0.13	-2.03	
11318.00	90.710	336.860	6408.54	4166.18	4664.92	435.60	1651409.07	14281039.92	39°19'37.605"N	80°57'40.062"W	4685.21	5.335	2.40	0.10	2.40	
11407.00	90.710	337.530	6407.44	4255.16	4746.95	401.11	1651374.59	14281121.93	39°19'38.416"N	80°57'40.501"W	4763.87	4.830	0.75	0.00	0.75	
11497.00	90.650	336.330	6406.37	4345.13	4829.75	365.85	1651339.34	14281204.69	39°19'39.234"N	80°57'40.949"W	4843.58	4.332	1.33	-0.07	-1.33	
11587.00	90.520	334.880	6405.45	4435.04	4911.71	328.68	1651302.18	14281286.61	39°19'40.044"N	80°57'41.422"W	4922.69	3.828	1.62	-0.14	-1.61	
11676.00	90.220	336.030	6404.88	4523.94	4992.66	291.71	1651265.23	14281367.53	39°19'40.845"N	80°57'41.892"W	5001.18	3.344	1.34	-0.34	1.29	
11766.00	90.030	338.180	6404.68	4613.92	5075.57	256.69	1651230.23	14281450.41	39°19'41.664"N	80°57'42.337"W	5082.05	2.895	2.40	-0.21	2.39	
11855.00	90.030	339.730	6404.63	4702.91	5158.63	224.74	1651198.29	14281533.43	39°19'42.485"N	80°57'42.743"W	5163.52	2.495	1.74	0.00	1.74	
11945.00	90.280	340.360	6404.39	4792.86	5243.22	194.02	1651167.58	14281617.99	39°19'43.321"N	80°57'43.133"W	5246.81	2.119	0.75	0.28	0.70	
12034.00	90.060	342.090	6404.12	4881.72	5327.48	165.38	1651138.95	14281702.22	39°19'44.154"N	80°57'43.498"W	5330.05	1.778	1.96	-0.25	1.94	
12124.00	90.120	339.330	6403.98	4971.62	5412.42	135.65	1651109.23	14281787.13	39°19'44.994"N	80°57'43.875"W	5414.12	1.436	3.07	0.07	-3.07	
12213.00	90.150	340.270	6403.77	5060.58	5495.95	104.92	1651078.52	14281870.62	39°19'45.820"N	80°57'44.266"W	5496.95	1.094	1.06	0.03	1.06	
12303.00	90.120	338.880	6403.56	5150.55	5580.29	73.51	1651047.12	14281954.92	39°19'46.653"N	80°57'44.665"W	5580.77	0.755	1.54	-0.03	-1.54	



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Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH DATA (192 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
12392.00	90.000	338.100	6403.47	5239.55	5663.09	40.88	1651014.50	14282037.69	39°19'47.472"N	80°57'45.080"W	5663.23	0.414	0.89	-0.13	-0.88	
12482.00	90.090	337.140	6403.40	5329.54	5746.31	6.61	1650980.25	14282120.88	39°19'48.295"N	80°57'45.516"W	5746.31	0.066	1.07	0.10	-1.07	
12572.00	90.280	337.200	6403.11	5419.53	5829.26	-28.31	1650945.34	14282203.79	39°19'49.114"N	80°57'45.960"W	5829.32	359.722	0.22	0.21	0.07	
12661.00	90.120	336.300	6402.80	5508.50	5911.03	-63.44	1650910.22	14282285.53	39°19'49.923"N	80°57'46.406"W	5911.37	359.385	1.03	-0.18	-1.01	
12750.00	90.030	334.790	6402.68	5597.41	5992.04	-100.28	1650873.40	14282366.51	39°19'50.724"N	80°57'46.875"W	5992.88	359.041	1.70	-0.10	-1.70	
12840.00	89.970	334.480	6402.68	5687.24	6073.36	-138.84	1650834.86	14282447.80	39°19'51.528"N	80°57'47.365"W	6074.95	358.690	0.35	-0.07	-0.34	
12930.00	90.000	336.090	6402.70	5777.13	6155.12	-176.47	1650797.24	14282529.52	39°19'52.336"N	80°57'47.843"W	6157.65	358.358	1.79	0.03	1.79	
13020.00	89.940	339.390	6402.75	5867.12	6238.40	-210.55	1650763.17	14282612.77	39°19'53.159"N	80°57'48.277"W	6241.95	358.067	3.67	-0.07	3.67	
13109.00	90.030	343.620	6402.77	5955.94	6322.78	-238.78	1650734.96	14282697.12	39°19'53.993"N	80°57'48.636"W	6327.29	357.837	4.75	0.10	4.75	
13199.00	90.000	342.300	6402.75	6045.62	6408.83	-265.15	1650708.59	14282783.13	39°19'54.844"N	80°57'48.971"W	6414.31	357.631	1.47	-0.03	-1.47	
13289.00	90.060	342.230	6402.70	6135.38	6494.55	-292.57	1650681.19	14282868.82	39°19'55.691"N	80°57'49.319"W	6501.14	357.421	0.10	0.07	-0.08	
13378.00	90.430	341.550	6402.32	6224.19	6579.14	-320.23	1650653.53	14282953.38	39°19'56.527"N	80°57'49.671"W	6586.93	357.213	0.87	0.42	-0.76	
13468.00	91.140	337.230	6401.09	6314.13	6663.35	-351.90	1650621.88	14283037.56	39°19'57.360"N	80°57'50.073"W	6672.64	356.977	4.86	0.79	-4.80	
13558.00	90.490	335.320	6399.81	6404.07	6745.73	-388.11	1650585.69	14283119.90	39°19'58.174"N	80°57'50.534"W	6756.89	356.707	2.24	-0.72	-2.12	
13647.00	90.520	336.340	6399.02	6493.00	6826.93	-424.55	1650549.26	14283201.06	39°19'58.977"N	80°57'50.997"W	6840.12	356.442	1.15	0.03	1.15	
13737.00	90.520	337.050	6398.21	6582.97	6909.58	-460.15	1650513.67	14283283.68	39°19'59.794"N	80°57'51.450"W	6924.89	356.190	0.79	0.00	0.79	
13827.00	90.620	338.280	6397.31	6672.96	6992.82	-494.35	1650479.49	14283366.89	39°20'00.617"N	80°57'51.885"W	7010.28	355.956	1.37	0.11	1.37	
13917.00	90.550	338.670	6396.39	6762.95	7076.54	-527.37	1650446.48	14283450.58	39°20'01.444"N	80°57'52.304"W	7096.17	355.738	0.44	-0.08	0.43	
14006.00	90.710	336.530	6395.41	6851.94	7158.82	-561.28	1650412.58	14283532.82	39°20'02.258"N	80°57'52.736"W	7180.79	355.517	2.41	0.18	-2.40	
14096.00	90.490	335.600	6394.47	6941.87	7241.07	-597.79	1650376.09	14283615.04	39°20'03.071"N	80°57'53.200"W	7265.71	355.281	1.06	-0.24	-1.03	
14186.00	90.580	335.140	6393.63	7031.77	7322.88	-635.30	1650338.60	14283696.82	39°20'03.879"N	80°57'53.677"W	7350.39	355.042	0.52	0.10	-0.51	
14276.00	90.590	335.320	6392.71	7121.65	7404.59	-673.01	1650300.90	14283778.50	39°20'04.687"N	80°57'54.156"W	7435.12	354.807	0.20	0.01	0.20	
14365.00	90.150	338.370	6392.14	7210.61	7486.41	-708.00	1650265.93	14283860.29	39°20'05.496"N	80°57'54.601"W	7519.82	354.598	3.46	-0.49	3.43	
14455.00	90.220	339.950	6391.85	7300.59	7570.52	-740.01	1650233.92	14283944.36	39°20'06.327"N	80°57'55.008"W	7606.60	354.417	1.76	0.08	1.76	
14544.00	90.120	338.820	6391.58	7389.57	7653.82	-771.35	1650202.60	14284027.63	39°20'07.151"N	80°57'55.407"W	7692.59	354.245	1.27	-0.11	-1.27	
14634.00	90.150	336.950	6391.37	7479.57	7737.20	-805.23	1650168.73	14284110.97	39°20'07.975"N	80°57'55.837"W	7778.99	354.058	2.08	0.03	-2.08	
14724.00	90.150	338.910	6391.14	7569.56	7820.60	-839.04	1650134.93	14284194.34	39°20'08.799"N	80°57'56.267"W	7865.48	353.876	2.18	0.00	2.18	
14813.00	90.090	340.560	6390.95	7658.52	7904.09	-869.87	1650104.12	14284277.79	39°20'09.625"N	80°57'56.659"W	7951.81	353.720	1.86	-0.07	1.85	
14903.00	90.090	342.320	6390.81	7748.37	7989.40	-898.52	1650075.49	14284363.07	39°20'10.468"N	80°57'57.023"W	8039.77	353.583	1.96	0.00	1.96	
14992.00	89.910	344.570	6390.81	7836.97	8074.71	-923.87	1650050.14	14284448.34	39°20'11.311"N	80°57'57.346"W	8127.39	353.473	2.54	-0.20	2.53	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH DATA (192 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Bulld Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
15082.00	89.970	343.110	6390.90	7926.52	8161.15	-948.92	1650025.10	14284534.75	39°20'12.166"N	80°57'57.664"W	8216.13	353.368	1.62	0.07	-1.62	
15172.00	89.940	341.970	6390.97	8016.25	8247.00	-975.92	1649998.11	14284620.57	39°20'13.014"N	80°57'58.007"W	8304.54	353.251	1.27	-0.03	-1.27	
15261.00	89.940	339.090	6391.07	8105.16	8330.90	-1005.59	1649968.46	14284704.43	39°20'13.844"N	80°57'58.384"W	8391.37	353.117	3.24	0.00	-3.24	
15351.00	89.940	334.870	6391.16	8195.13	8413.72	-1040.77	1649933.29	14284787.22	39°20'14.662"N	80°57'58.832"W	8477.84	352.948	4.69	0.00	-4.69	
15440.00	89.940	334.310	6391.25	8283.96	8494.11	-1078.96	1649895.11	14284867.57	39°20'15.457"N	80°57'59.318"W	8562.36	352.761	0.63	0.00	-0.63	
15530.00	89.720	335.960	6391.52	8373.83	8575.76	-1116.80	1649857.28	14284949.19	39°20'16.264"N	80°57'59.799"W	8648.17	352.580	1.85	-0.24	1.83	
15619.00	89.660	337.820	6392.00	8462.81	8657.61	-1151.73	1649822.37	14285031.01	39°20'17.073"N	80°58'00.243"W	8733.89	352.422	2.09	-0.07	2.09	
15709.00	89.660	337.760	6392.54	8552.80	8740.93	-1185.75	1649788.36	14285114.30	39°20'17.897"N	80°58'00.676"W	8820.99	352.275	0.07	0.00	-0.07	
15798.00	89.570	336.620	6393.13	8641.79	8822.97	-1220.26	1649753.87	14285196.31	39°20'18.708"N	80°58'01.114"W	8906.95	352.126	1.28	-0.10	-1.28	
15888.00	89.750	336.300	6393.67	8731.75	8905.48	-1256.20	1649717.94	14285278.78	39°20'19.524"N	80°58'01.571"W	8993.64	351.971	0.41	0.20	-0.36	
15959.00	89.690	335.310	6394.02	8802.69	8970.24	-1285.30	1649688.86	14285343.52	39°20'20.164"N	80°58'01.941"W	9061.85	351.846	1.40	-0.08	-1.39	
15984.00	89.690	335.310	6394.15	8827.66	8992.96	-1295.74	1649678.42	14285366.22	39°20'20.388"N	80°58'02.074"W	9085.82	351.801	0.00	0.00	0.00	Projected MD at TD: 15984'

TARGETS								
Name	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape
	[ft]	[ft]	[ft]	[US ft]	[US ft]			
Duchene Unit 4H POE Rev-1	6406.00	654.18	2010.09	1652982.92	14277030.79	39°18'57.957"N	80°57'20.052"W	point
Duchene Unit 4H BHL - Plat	6430.00	8952.67	-1284.39	1649689.76	14285325.95	39°20'19.990"N	80°58'01.930"W	point
Duchene Unit 4H LP Rev-1	6430.00	820.55	1972.49	1652945.34	14277197.10	39°18'59.601"N	80°57'20.529"W	point



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Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

WELLPATH COMPOSITION - Ref Wellbore: Duchene Unit 4H AWB Ref Wellpath: Duchene Unit 4H AWP Proj: 15984'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
19.00	5696.00	Gyrodatta standard - Continuous gyro	01 Gyrodatta Cont. Gyro <8-3/4"> (100'- 5690')	Duchene Unit 4H AWB
5696.00	15959.00	BHI AutoTrak Curve (Short)	02 BHI AT Curve <8-1/2">(5696')(5761'-15959')	Duchene Unit 4H AWB
15959.00	15984.00	Blind Drilling (std)	Projection to bit	Duchene Unit 4H AWB



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Duchene Unit 4H AWP Proj: 15984'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Ritchie County, WV	Well	Duchene Unit 4H
Field	Ritchie	Wellbore	Duchene Unit 4H AWB
Facility	Kelly Pad		

COMMENTS

Wellpath general comments

API: 47-085-10168-0000

BHI Job #: 8220368

Rig: Precision 525

Duration: 10/25/2016-10/28/2016

Gyrodata Cont. Gyro <8-3/4"> (100'-5690')

BHI AT Curve <8-1/2"> (5696')(5761'-15959')

Sycamore: 6557' MD

Middlesex: 6685' MD

Burkett: 6865' MD

Tully: 6934' MD

Marcellus POE: 6990' MD

Projected MD at TD: 15984'