

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

API 47 - 103 - 03408 County Wetzel District Green  
Quad Porter Falls Pad Name Gadd Field/Pool Name -----  
Farm name William & Delores Gadd Well Number Charlotte 2H  
Operator (as registered with the OOG) Antero Resources Corporation  
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4377839m Easting 521005m  
Landing Point of Curve Northing 4377659.03m Easting 520661.32m  
Bottom Hole Northing 4374462m Easting 521778m

Elevation (ft) 1223' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
Air - Foam & 4% KCL  
Mud - Polymer

Date permit issued 6/14/2021 Date drilling commenced 7/17/2021 Date drilling ceased 10/7/2021  
Date completion activities began 12/10/2021 Date completion activities ceased 1/16/2022  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 350' Open mine(s) (Y/N) depths No **08/12/2022**  
Salt water depth(s) ft 1917' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 971' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by: \_\_\_\_\_

WR-35  
Rev. 8/23/13

API 47- 103 - 03408 Farm name William & Delores Gadd Well number Charlotte 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	80'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	441'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2613'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18576'	New	20#, P-100	N/A	Y
Tubing		2-3/8"	7215'		4.7#, P-110		
Packer type and depth set		N/A					

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	252 sx	15.6	1.18	54	0'	8 Hrs.
Surface	Class A	570 sx	15.8	1.20	118	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1040 sx	15.8	1.17	214	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	792 sx (Lead) 3020 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.4 (Lead), 1.32 (Tail)	633	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18626' MD, 7021' TVD (BHL), 7021' (Deepest Point Drilled) Loggers TD (ft) 18626' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6284'

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_  
 Conductor - 0  
 Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface  
 Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface  
 Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS 08/12/2022

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED N/A



API 47- 103 - 03408 Farm name William & Delores Gadd Well number Charlotte 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6898' (TOP)	TVD	7283' (TOP) MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump  
 SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs  
 OPEN FLOW Gas   mcfpd Oil   bpd NGL --- bpd Water   bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

Drilling Contractor H & P Drilling  
 Address 912 N Eagle Valley Rd City Howard State PA Zip 16841

Logging Company Nine Energy Services  
 Address 6500 West Fwy City Fort Worth State TX Zip 76116

Cementing Company Halliburton Energy Services  
 Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

Stimulating Company Halliburton Energy Services  
 Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114 **08/12/2022**

Please insert additional pages as applicable.

Completed by Brandi Hankins Telephone 304-842-9759  
 Signature  Title Completions Technician Date 8/11/22

API 47-103-03408 Farm Name William & Delores Gadd Well Number Charlotte Unit 2H

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/10/2021	18513.5	18473.2	36	Marcellus
2	12/10/2021	18350.05691	18136.7398	36	Marcellus
3	12/11/2021	18098.85366	17885.5366	36	Marcellus
4	12/11/2021	17847.65041	17634.3333	36	Marcellus
5	12/12/2021	17596.44715	17383.1301	36	Marcellus
6	12/12/2021	17345.2439	17131.9268	36	Marcellus
7	12/13/2021	17094.04065	16880.7236	36	Marcellus
8	12/13/2021	16842.8374	16629.5203	36	Marcellus
9	12/13/2021	16591.63415	16378.3171	36	Marcellus
10	12/14/2021	16340.43089	16127.1138	36	Marcellus
11	12/14/2021	16089.22764	15875.9106	36	Marcellus
12	12/14/2021	15838.02439	15624.7073	36	Marcellus
13	12/15/2021	15586.82114	15373.5041	36	Marcellus
14	12/15/2021	15335.61789	15122.3008	36	Marcellus
15	12/16/2021	15084.41463	14871.0976	36	Marcellus
16	12/16/2021	14833.21138	14619.8943	36	Marcellus
17	12/16/2021	14582.00813	14368.6911	36	Marcellus
18	12/17/2021	14330.80488	14117.4878	36	Marcellus
19	12/18/2021	14079.60163	13866.2846	36	Marcellus
20	12/18/2021	13828.39837	13615.0813	36	Marcellus
21	12/18/2021	13577.19512	13363.878	36	Marcellus
22	12/19/2021	13325.99187	13112.6748	36	Marcellus
23	12/19/2021	13074.78862	12861.4715	36	Marcellus
24	12/19/2021	12823.58537	12610.2683	36	Marcellus
25	12/19/2021	12572.38211	12359.065	36	Marcellus
26	12/20/2021	12321.17886	12107.8618	36	Marcellus
27	12/20/2021	12069.97561	11856.6585	36	Marcellus
28	12/20/2021	11818.77236	11605.4553	36	Marcellus
29	12/21/2021	11567.56911	11354.252	36	Marcellus
30	12/21/2021	11316.36585	11103.0488	36	Marcellus
31	12/21/2021	11065.1626	10851.8455	36	Marcellus
32	12/22/2021	10813.95935	10600.6423	36	Marcellus
33	12/22/2021	10562.7561	10349.439	36	Marcellus
34	12/22/2021	10311.55285	10098.2358	36	Marcellus
35	12/22/2021	10060.34959	9847.03252	36	Marcellus
36	12/23/2021	9809.146341	9595.82927	36	Marcellus
37	12/23/2021	9557.943089	9344.62602	36	Marcellus
38	12/24/2021	9306.739837	9093.42276	36	Marcellus
39	12/24/2021	9055.536585	8842.21951	36	Marcellus
40	12/25/2021	8804.333333	8591.01626	36	Marcellus
41	12/25/2021	8553.130081	8339.81301	36	Marcellus
42	12/25/2021	8301.926829	8088.60976	36	Marcellus
43	12/26/2021	8050.723577	7837.4065	36	Marcellus
44	12/26/2021	7799.520325	7586.20325	36	Marcellus
45	12/27/2021	7548.317073	7335	36	Marcellus

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**EXHIBIT 2**

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	12/10/2021	74.18	8573	8738	3576	194000	225131	N/A
2	12/10/2021	85.43	8828	5748	4705	516380	391582	N/A
3	12/11/2021	83.84	8647	5676	4684	507850	380928	N/A
4	12/11/2021	87.11	8771	5962	4519	514450	393846	N/A
5	12/12/2021	87.67	8706	6684	4637	500610	400400	N/A
6	12/12/2021	87.62	8727	5785	4786	504980	385777	N/A
7	12/13/2021	91.13	8830	7666	4736	517140	377693	N/A
8	12/13/2021	85.24	8682	4642	4623	502740	366545	N/A
9	12/13/2021	90.78	8861	8370	5071	517700	371080	N/A
10	12/14/2021	73.57	8738	8471	4173	585710	371381	N/A
11	12/14/2021	87.55	8801	8797	4664	514030	373126	N/A
12	12/14/2021	88.36	8829	8781	4322	514780	379822	N/A
13	12/15/2021	88.28	8770	8403	4688	518480	371785	N/A
14	12/15/2021	92.06	8810	8785	4836	502240	364901	N/A
15	12/16/2021	94.35	8777	7828	4780	519320	370187	N/A
16	12/16/2021	94.44	8707	6919	4748	515200	370147	N/A
17	12/16/2021	58.21	7818	8504	4410	507080	417966	N/A
18	12/17/2021	90.53	8707	0	4483	502860	369765	N/A
19	12/18/2021	93.28	8775	8236	4573	503330	363287	N/A
20	12/18/2021	90.45	8743	4275	4608	502820	363198	N/A
21	12/18/2021	94.98	8716	6774	4446	505710	373258	N/A
22	12/19/2021	96.17	8779	8249	4564	501870	377149	N/A
23	12/19/2021	97.37	8598	8182	4285	516860	369136	N/A
24	12/19/2021	98.28	8712	7291	4288	501340	363695	N/A
25	12/19/2021	98.49	8690	8057	4408	501260	361496	N/A
26	12/20/2021	98.44	8657	8129	4047	496280	359913	N/A
27	12/20/2021	97.41	8769	8326	4020	502250	363248	N/A
28	12/20/2021	98.22	8759	8507	4129	503060	362767	N/A
29	12/21/2021	97.58	8767	8793	4465	505060	358902	N/A
30	12/21/2021	97.8	8730	7509	4110	504310	363701	N/A
31	12/21/2021	98.1	8683	6744	4005	507120	400938	N/A
32	12/22/2021	98.46	8663	6277	4329	503080	362247	N/A
33	12/22/2021	98.21	8452	6207	4470	500070	361679	N/A
34	12/22/2021	97.52	8606	6803	4311	499700	360335	N/A
35	12/22/2021	97.6	8668	6441	4390	500540	358370	N/A
36	12/23/2021	98.02	8543	6359	4220	520130	370977	N/A
37	12/23/2021	97.59	8479	2723	4412	496070	357447	N/A
38	12/24/2021	98.24	8020	5990	4047	495880	359712	N/A
39	12/24/2021	97.57	8593	6121	4098	502950	358558	N/A
40	12/25/2021	97.03	8251	3656	4734	507580	359429	N/A
41	12/25/2021	98.47	8336	7005	4165	503940	357208	N/A
42	12/25/2021	98.29	8196	5731	4208	511130	350107	N/A
43	12/26/2021	98.95	8150	7040	4300	501540	358251	N/A
44	12/26/2021	98.64	8134	6005	4137	504930	361498	N/A
45	12/27/2021	98.05	7601	6430	4463	526520	369851	N/A
	AVG=	93	8,592	6,836	4,415	22,580,880	16,508,419	TOTAL

08/12/2022

API 47-103-03408 Farm Name William & Delores Gadd Well Number Charlotte Unit 2H

**EXHIBIT 3**

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Sandstone	75	210	75	210
Silty Sandstone	210	240	210	240
Shaly sandstone	240	270	240	270
Silty Sandstone	270	420	270	420
Shaly sandstone	420	490	420	490
Silty Sandstone	490	600	490	600
Shale	600	810	600	810
Silty Sandstone	810	1,070	810	1,070
Shale w/coal interbeds	1,070	1,230	1,070	1,230
Sandy shale	1,230	1,320	1,230	1,320
Shale	1,320	1,410	1,320	1,410
Sandy shale	1,410	1,710	1,410	1,710
Shaly sandstone	1,710	2,124	1,710	2,184
Big Lime	2,154	2,593	2,154	2,634
Fifty Foot Sandstone	2,593	2,762	2,604	2,807
Gordon	2,762	3,010	2,777	3,063
Fifth Sandstone	3,010	3,060	3,033	3,115
Bayard	3,060	4,005	3,085	4,082
Speechley	4,005	4,121	4,052	4,202
Balltown	4,121	4,598	4,172	4,689
Bradford	4,598	5,153	4,659	5,261
Benson	5,153	5,574	5,231	5,694
Alexander	5,574	6,731	5,664	6,927
Sycamore	6,580	6,701	6,746	6,897
Middlesex	6,701	6,797	6,897	7,048
Burkett	6,797	6,824	7,048	7,097
Tully	6,824	6,898	7,097	7,283
Marcellus	6,898	NA	7,283	NA

\*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

08/12/2022

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/10/2021
Job End Date:	12/27/2021
State:	West Virginia
County:	Wetzel
API Number:	47-103-03408-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	CHARLOTTE UNIT 2H
Latitude:	39.54989700
Longitude:	-80.75569400
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,020
Total Base Water Volume (gal):	17,095,900
Total Base Non Water Volume:	0



### Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.43381	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.05978	



FLUID Enviro-Syn HCR-7000-WL	Fluid Energy Group	Acid Replacement					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			

WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	13.43117	
			Complex Amine Compound	Proprietary	60.00000	0.02959	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01479	
			Proprietary	Proprietary	20.00000	0.01036	
			Hydrochloric acid	7647-01-0	30.00000	0.00656	
			Proprietary	Proprietary	10.00000	0.00518	
			Guar gum	9000-30-0	100.00000	0.00355	
			Glutaraldehyde	111-30-8	30.00000	0.00250	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00247	
			Surfactant	Proprietary	5.00000	0.00247	
			Ethoxylated alcohols	Proprietary	5.00000	0.00050	
			Organic chloride compound	Proprietary	1.00000	0.00049	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00049	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042	
			Ammonium persulfate	7727-54-0	100.00000	0.00011	
			Ethanol	64-17-5	1.00000	0.00008	
			Methanol	67-56-1	100.00000	0.00004	
			Oxylated phenolic resin	Proprietary	30.00000	0.00003	
			Modified thiourea polymer	Proprietary	30.00000	0.00001	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00000	

			Nitrated acetate salt	Proprietary	0.01000	0.00000	
			Sodium glycolate	2836-32-0	0.01000	0.00000	
			Organic salt #1	Proprietary	0.01000	0.00000	
			Sodium hydroxide	1310-73-2	0.01000	0.00000	
			Formaldehyde	50-00-0	0.01000	0.00000	
			Organic salt #2	Proprietary	0.01000	0.00000	
			Hexadecene	629-73-2	5.00000	0.00000	
			Propargyl alcohol	107-19-7	5.00000	0.00000	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	

\* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

\*\*\* If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

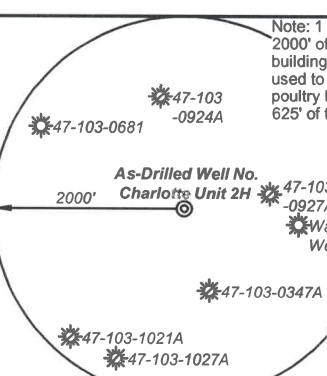
**Antero Resources**  
**Well No. Charlotte 2H**  
**As-Drilled**  
 Antero Resources Corporation



Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

*Bradley D. Miller*  
 Bradley D. Miller, P.S. 2167



**Legend**

- Proposed gas well
- Monument, as noted
- Existing Well, as noted
- Digitized Well, as noted
- Creek or Drain
- Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)
- Railroad

**Notes**  
 West Virginia Coordinate System of 1927, North Zone  
 based upon Differential GPS Measurements.  
 Well No. Charlotte Unit 2H Top Hole coordinates are  
 N: 384,869.12' Latitude: 39°32'59.63"  
 E: 1,645,924.80' Longitude: 80°45'20.50"  
 Bottom Hole coordinates are  
 N: 373,744.44' Latitude: 39°31'10.01"  
 E: 1,648,276.38' Longitude: 80°44'48.51"  
 UTM Zone 17, NAD 1983  
 Top Hole Coordinates Bottom Hole Coordinates  
 N: 4,377,839.507m N: 4,374,462.262m  
 E: 521,005.287m E: 521,778.154m  
 Plat orientation and corner and well references are based upon the grid north meridian.  
 Well location references are based upon the magnetic meridian.

**Charlotte Unit 2H As-Drilled POE Coordinates**  
 West Virginia Coordinate System of 1927, North Zone  
 N: 384,499.87'  
 E: 1,644,782.85'  
 Latitude: 39°32'55.82"  
 Longitude: 80°45'35.01"  
 UTM Zone 17, NAD 1983  
 N: 4,377,721.195m  
 E: 520,659.258m

	Bearing	Dist.
L1	S 39°49' E	2,543.3'
L2	S 46°35' W	1,569.9'
L3	N 66°44' W	1,046.8'
L4	N 42°03' W	871.5'

TOP HOLE LATITUDE 39 - 35 - 00  
 BTM HOLE LATITUDE 39 - 32 - 30  
 TOP HOLE LONGITUDE 80 - 45 - 00  
 BTM HOLE LONGITUDE 80 - 42 - 30

12,179' to Top Hole

8,093' to Bottom Hole

FILE NO: 323-34-G-17  
 DRAWING NO: Charlotte 2H As-Drilled  
 SCALE: 1" = 1500'  
 MINIMUM DEGREE OF ACCURACY: Submeter  
 PROVEN SOURCE OF ELEVATION: CORS, Monroe County, OH

**STATE OF WEST VIRGINIA**  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

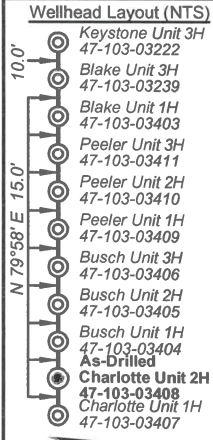
DATE: March 16 20 22  
 OPERATOR'S WELL NO. Charlotte Unit 2H  
 API WELL NO  
 47 - 103 - 03408  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: As-Built 1,223.8' WATERSHED: Fishing Creek QUADRANGLE: Top Hole: Porter Falls  
 DISTRICT: Green William L. & SURFACE OWNER: Delores J. Gadd COUNTY: Wetzel  
 ROYALTY OWNER: Susie T. Grimm; Suzann Marie Stoehr, et al; Howard M. Henderson; LEASE NO: ACREAGE: 60.5

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 18,626' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System  
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road  
 Denver, CO 80202 Charleston, WV 25313



10,854' to Bottom Hole

1,606' to Top Hole

47-103-1122A

Sheet 1 of 2

Proposed Well No. Charlotte Unit 2H

TOP HOLE LATITUDE 39 - 35 - 00  
 BTM HOLE LATITUDE 39 - 32 - 30

47-103-1021A

47-103-0540A

47-103-1131A

47-103-0714

47-103-0988A

47-103-1132A

47-103-1013A

47-103-1022A

47-103-0347A

47-103-1021A

47-103-1027A

GRID NORTH

See Detail Page 2

Top Hole 7.5' Spot

Charlotte Unit 2H Bottom Hole

500' Buffer

Approx. S 18°00' E

Wellhead Layout (NTS)

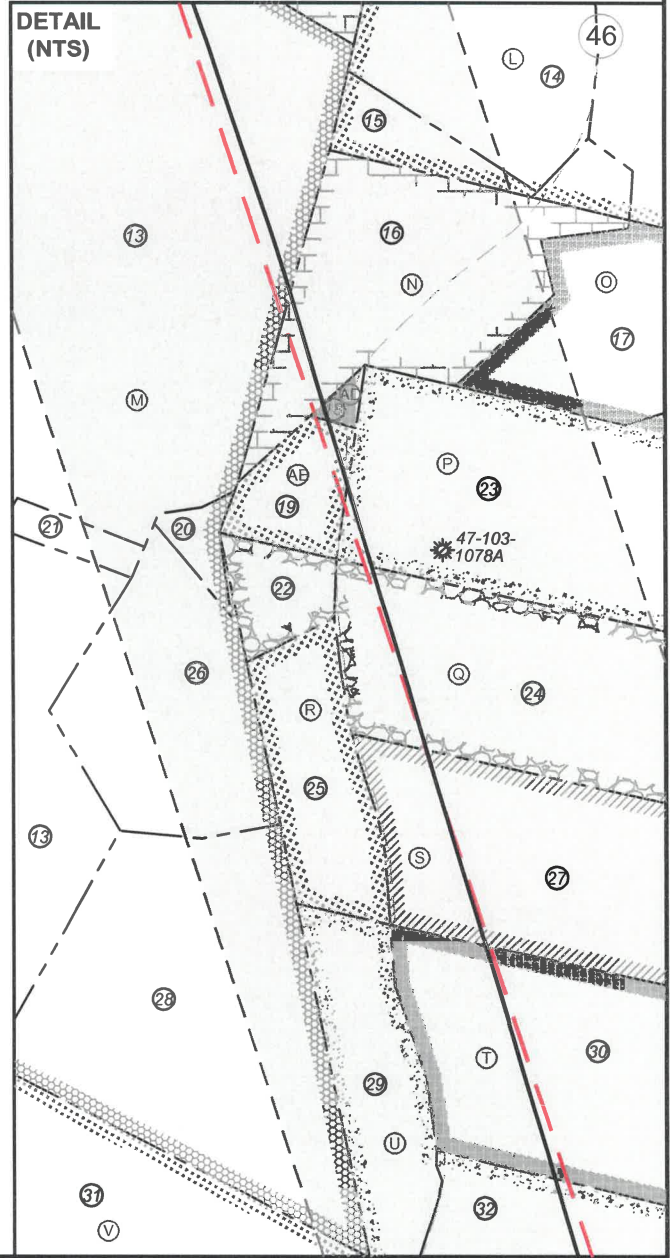
- Keystone Unit 3H 47-103-03222
- Blake Unit 3H 47-103-03239
- Blake Unit 1H 47-103-03403
- Peeler Unit 3H 47-103-03411
- Peeler Unit 2H 47-103-03410
- Peeler Unit 1H 47-103-03409
- Busch Unit 3H 47-103-03406
- Busch Unit 2H 47-103-03405
- Busch Unit 1H 47-103-03404
- Charlotte Unit 2H As-Drilled 47-103-03408
- Charlotte Unit 1H 47-103-03407

**Antero Resources**  
**Well No. Charlotte 2H**  
**As-Drilled**  
 Antero Resources Corporation



Leases		
A	Shiben Estates, Inc.	P BRC Appalachian Minerals I, LLC
B	Ellen W. & Mark L. VanDyne	Q David E. Bowyer
C	John W. Bertram	R Ronald Hall
D	BRC Appalachian Minerals I, LLC	S Stone Hill Minerals Holdings, LLC
E	Gladys E. Conley Trust	T Edwin D. & Jane C. Michael
F	Sandra Rose Conley	U H. Dorn Higginbotham
G	Richard Lee Tennant	V Chesapeake Appalachia, LLC
H	Michael Tennant	W Perry Dale Thorne, Jr., et ux
I	Shiben Estates, Inc.	X Sally Lou Anderson
J	Susie T. Grimm	Y Faye Ann Skinner, et al
K	Thomas M. Stackhouse	Z Jim R. McHenry
L	Acropolis, Inc	AA Christenson Family Trust
M	Chesapeake Appalachia, LLC	AB Howard M. Henderson
N	Richard L. Tennant	AC Suzann Marie Stoehr, et al
O	Emma Lee Rine	AD Harry K. Eastman, et ux
		AE Eight Mile Ridge Church of Christ

ID	TM/Par	Owner	Bk/Pg	Acres
1	16-22	William L. & Delores J. Gadd	348/169	60.50
2	16-23	Kenneth E. Butler	331/110	50.97
3	16-31	William L. & Delores J. Gadd	348/169	2.65
4	16-30	William L. & Delores J. Gadd	348/169	14.00
5	16-21	Mildred E. Caseman	WB45/396	40.00
6	16-47	William M. Greenwalt & Lee A. Niezgoda	387/1	12.00
7	16-38	Silas Tennant	137/85	15.50
8	16-45	James E. Newman	400/234	18.50
9	16-39	Silas & William A. Tennant	WB27/97	23.30
10	16-40	William M. Greenwalt & Lee A. Niezgoda	387/1	18.00
11	16-46	Joyce Ann Haught, et al	WB37/335	23.50
12	16-56	James L. & Martha Jo Stewart	288/330	23.33
13	16-61	Michael L. & Tina M. Adams	444/427	67.96
14	16-58.1	Harry K. & Shirley M. Eastham	438/3	7.21
15	16-62	Harry K. & Shirley M. Eastham	325/101	0.88
16	16-68	Harry K. & Shirley M. Eastham	325/101	4.70
17	16-64	Mark & Michael Difiore	406/241	6.60
18	16-69	Harry K. & Shirley M. Eastham	331/245	0.24
19	16-67	Church of Christ	208/201	0.64
20	16-61.2	Harry K. Eastham	299/450	0.38
21	16-61.1	Church of Christ	218/337	0.42
22	19-8	Church of Eight Mile Ridge	248/434	0.99
23	16-71	Michael L. & Tina M. Adams	437/722	30.50
24	19-8.1	Edwin D. & Jane C. Michael	275/42	36.84
25	19-8.4	Ronald Hall	385/65	2.17
26	19-61.3	Michael L. & Tina M. Adams	346/443	3.83
27	19-8.2	Edwin D. & Jane C. Michael	275/42	22.00
28	19-61.4	Michael L. & Tina M. Adams	377/309	7.91
29	19-17.2	Timothy J. Horner	444/381	2.76
30	19-8.3	Edwin D. & Jane C. Michael	275/42	24.50
31	19-16	Richard R. & Mary J. Scyoc	443/336	73.96
32	19-17	John R. & Mary Ann Horner	416/853	47.55
33	19-25	Perry Dale, Jr. & Martha Jo Thorne	348/298	5.34
34	19-26	Perry Dale, Jr. & Martha Jo Thorne	348/298	25.00
35	19-36	Perry Dale, Jr. & Martha Jo Thorne	348/298	20.00
36	19-27	Ronald L. & Sharon Christenson Family Trust	439/377	25.00
37	19-35	Sharon M. & Ronald L. Christenson	439/373	20.00
38	19-41	Sharon M. & Ronald L. Christenson	439/373	18.50
39	19-42	Sharon M. & Ronald L. Christenson	363/101	22.50
40	19-46	Sharon M. & Ronald L. Christenson	439/373	25.28
41	19-47	Suzann M. Stoehr, et al	WB48/422	80.00
42	19-50	Ronald H. Eastham, et al	424/70	40.00



FILE NO: 323-34-G-17  
 DRAWING NO: Charlotte 2H As-Drilled  
 SCALE: 1" = 1500'  
 MINIMUM DEGREE OF ACCURACY: Submeter  
 PROVEN SOURCE OF ELEVATION: CORS, Monroe County, OH

  
**STATE OF WEST VIRGINIA**  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

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 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: As-Built 1,223.8' WATERSHED: Fishing Creek QUADRANGLE: BTM Hole: Pine Grove 0.90625; 4.6875; 60.5; 119.03125; 12; 60.5; 22; 40; 24.58125; 30.5; 22; 40; 24.58125; 45.72; 50.35; 22.5; 0.23750; 25.2875; 80;  
 DISTRICT: Green William L. & SURFACE OWNER: Delores J. Gadd  
 ROYALTY OWNER: Susie T. Grimm; Suzann Marie Stoehr, et al; Howard M. Henderson; LEASE NO: ACREAGE: 60.5  
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 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 7,021' TVD  
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