



Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

April 3, 2020

West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street
Charleston, WV 25304

To Whom It May Concern:

Please find enclosed the Well Operator's Report of Well Work, Form WR-35 (including As-Drilled Survey Plat, Directional Survey and FracFocus report), Discharge Monitoring Report Form WR-34 and corresponding logs for the following wells off of the **Gorrell Pad**:

- Grounds Unit 1H-3H
- Wick Unit 1H-3H

If you have any questions, please feel free to contact me at (303)-357-7223.

Sincerely,

A handwritten signature in black ink, appearing to read "Megan Griffith", with a long horizontal flourish extending to the right.

Megan Griffith
Permitting Agent
Antero Resources Corporation

Enclosures

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

API 47 - 095 - 02594 County Tyler District Meade
Quad Middlebourne 7.5' Pad Name Gorrell Pad Field/Pool Name ----
Farm name Elizabeth Gorrell Well Number Wick Unit 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 4363228.318m Easting 500842.308m
Landing Point of Curve Northing 4363036.41m Easting 500715.28m
Bottom Hole Northing 4360134.122m Easting 501772.052m

Elevation (ft) 1045' 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 3/15/2019 Date drilling commenced 3/26/2019 Date drilling ceased 6/10/2019
Date completion activities began 10/5/2019 Date completion activities ceased 11/19/2019
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 108', 505' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1378', 1544' Void(s) encountered (Y/N) depths No
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

API 47- 095 - 02594 Farm name Elizabeth Gorrell Well number Wick Unit 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"	631'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2575'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16957'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6398'		4.7#, N-80		
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	214 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	520 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	890 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	675sx (Lead) 2448sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.40 (Lead), 1.26 (Tail)		-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16976' MD ,6316' TVD (BHL), 6316 (Deepest Point Drilled) Loggers TD (ft) 16976' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5612'

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 _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 095 - 02594 Farm name Elizabeth Gorrell Well number Wick Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6207' (TOP)</u> TVD	<u>6461' (TOP)</u> 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 1240 mcfpd Oil 2 bpd NGL --- bpd Water 788 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company KLX Energy Services
Address 3040 Post Oak Boulevard City Houston State TX Zip 77056

Cementing Company C&J Energy Services
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Baker Hughes
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223
Signature  Title Permitting Agent Date 4-3-20

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

API 47-095-02594 Farm Name Elizabeth Gorrell Well Number Wick Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	10/19/2019	16843.5	16893.3	60	Marcellus
2	10/19/2019	16644.804	16812.384	60	Marcellus
3	10/20/2019	16446.108	16613.688	60	Marcellus
4	10/20/2019	16247.412	16414.992	60	Marcellus
5	10/20/2019	16048.716	16216.296	60	Marcellus
6	10/21/2019	15850.02	16017.6	60	Marcellus
7	10/21/2019	15651.324	15818.904	60	Marcellus
8	10/21/2019	15452.628	15620.208	60	Marcellus
9	10/21/2019	15253.932	15421.512	60	Marcellus
10	10/22/2019	15055.236	15222.816	60	Marcellus
11	10/22/2019	14856.54	15024.12	60	Marcellus
12	10/22/2019	14657.844	14825.424	60	Marcellus
13	10/22/2019	14459.148	14626.728	60	Marcellus
14	10/22/2019	14260.452	14428.032	60	Marcellus
15	10/23/2019	14061.756	14229.336	60	Marcellus
16	10/23/2019	13863.06	14030.64	60	Marcellus
17	10/24/2019	13664.364	13831.944	60	Marcellus
18	10/24/2019	13465.668	13633.248	60	Marcellus
19	10/24/2019	13266.972	13434.552	60	Marcellus
20	10/24/2019	13068.276	13235.856	60	Marcellus
21	10/25/2019	12869.58	13037.16	60	Marcellus
22	10/25/2019	12670.884	12838.464	60	Marcellus
23	10/25/2019	12472.188	12639.768	60	Marcellus
24	10/25/2019	12273.492	12441.072	60	Marcellus
25	10/26/2019	12074.796	12242.376	60	Marcellus
26	10/26/2019	11876.1	12043.68	60	Marcellus
27	10/26/2019	11677.404	11844.984	60	Marcellus
28	10/26/2019	11478.708	11646.288	60	Marcellus
29	10/27/2019	11280.012	11447.592	60	Marcellus
30	10/27/2019	11081.316	11248.896	60	Marcellus
31	10/28/2019	10882.62	11050.2	60	Marcellus
32	10/28/2019	10683.924	10851.504	60	Marcellus
33	10/28/2019	10485.228	10652.808	60	Marcellus
34	10/28/2019	10286.532	10454.112	60	Marcellus
35	10/29/2019	10087.836	10255.416	60	Marcellus
36	10/29/2019	9889.14	10056.72	60	Marcellus
37	10/29/2019	9690.444	9858.024	60	Marcellus
38	10/29/2019	9491.748	9659.328	60	Marcellus
39	10/29/2019	9293.052	9460.632	60	Marcellus
40	10/30/2019	9094.356	9261.936	60	Marcellus
41	10/30/2019	8895.66	9063.24	60	Marcellus
42	10/30/2019	8696.964	8864.544	60	Marcellus
43	10/30/2019	8498.268	8665.848	60	Marcellus
44	10/31/2019	8299.572	8467.152	60	Marcellus
45	10/31/2019	8100.876	8268.456	60	Marcellus
46	10/31/2019	7902.18	8069.76	60	Marcellus
47	10/31/2019	7703.484	7871.064	60	Marcellus
48	11/1/2019	7504.788	7672.368	60	Marcellus
49	11/1/2019	7306.092	7473.672	60	Marcellus
50	11/1/2019	7107.396	7274.976	60	Marcellus
51	11/1/2019	6908.7	7076.28	60	Marcellus
52	11/2/2019	6710.004	6877.584	60	Marcellus
53	11/2/2019	6511.308	6678.888	60	Marcellus

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	10/19/2019	74.96	7923	7152	3377	162100	4578.2	N/A
2	10/19/2019	81.3	7880	6017	3724	285880	8724.8	N/A
3	10/20/2019	82.5	7931	6105	3170	284600	8630.1	N/A
4	10/20/2019	84.24	8063	5796	3199	285560	8768	N/A
5	10/20/2019	84.55	7977	5525	3455	284540	8890.7	N/A
6	10/21/2019	83.97	7942	6102	3702	283520	8723.1	N/A
7	10/21/2019	84.16	8008	5500	3728	283320	8707.2	N/A
8	10/21/2019	82.83	8012	5316	3959	283080	8655	N/A
9	10/21/2019	83.94	7893	5283	3984	282140	8614.6	N/A
10	10/22/2019	85.23	7833	5317	3792	282700	8638.8	N/A
11	10/22/2019	82.25	8169	5047	4040	283360	8757.5	N/A
12	10/22/2019	83.85	7867	4601	3599	284280	8755.7	N/A
13	10/22/2019	84.79	7792	4935	3495	286120	8449.4	N/A
14	10/22/2019	83.85	7816	5274	3891	281420	8582	N/A
15	10/23/2019	83.05	7708	5451	3597	284700	8540.4	N/A
16	10/23/2019	88.71	7966	5421	4306	285540	8817	N/A
17	10/24/2019	85.69	7620	5211	3848	289560	8715.7	N/A
18	10/24/2019	83.3	7219	4226	4163	284800	8858.7	N/A
19	10/24/2019	85.26	7594	5399	3942	287400	8839.2	N/A
20	10/24/2019	81.91	7495	5351	3815	286100	8624.8	N/A
21	10/25/2019	84.17	7462	5087	3844	280160	8566.4	N/A
22	10/25/2019	87.09	7871	4991	3822	285780	8755.6	N/A
23	10/25/2019	88.96	7697	5765	3598	242040	8702	N/A
24	10/25/2019	87.38	7689	6139	3610	280540	8527.1	N/A
25	10/26/2019	85.74	7659	5551	3628	277480	8504.4	N/A
26	10/26/2019	85.41	7421	5313	3664	279260	8600.4	N/A
27	10/26/2019	84.39	7460	5814	3862	276420	8512.2	N/A
28	10/26/2019	83.87	7476	5580	3476	277080	8472	N/A
29	10/27/2019	86.15	7377	4712	3816	277540	8430.5	N/A
30	10/27/2019	87.44	7649	5092	3651	279100	8513.6	N/A
31	10/28/2019	83.85	7054	5197	3610	282820	8515.1	N/A
32	10/28/2019	84.61	7329	5726	3399	295860	8649.5	N/A
33	10/28/2019	84.01	7329	4830	3513	281340	8510.1	N/A
34	10/28/2019	83.89	7328	4968	3613	290620	8816.1	N/A
35	10/29/2019	78.26	6937	4984	3770	286020	10671.5	N/A
36	10/29/2019	82.92	7406	5259	4118	286480	8556	N/A
37	10/29/2019	87.08	7190	5177	3757	284760	8537.7	N/A
38	10/29/2019	86.11	7168	4956	3713	289940	8544	N/A
39	10/29/2019	88.24	7404	4790	3851	279540	8393.2	N/A
40	10/30/2019	86.84	7144	5139	3612	284900	8457.2	N/A
41	10/30/2019	84.91	7335	5021	3691	294240	8613	N/A
42	10/30/2019	85.28	7105	5104	3660	280280	8439.2	N/A
43	10/30/2019	86.31	7027	4892	4037	288160	8508.2	N/A
44	10/31/2019	65.51	7286	4874	4897	284360	9101.2	N/A
45	10/31/2019	87.58	6575	4926	3818	289620	8454.3	N/A
46	10/31/2019	84.36	6909	5802	3641	277780	8456.2	N/A
47	10/31/2019	87.51	6882	4996	3555	288700	8507.5	N/A
48	11/1/2019	87.93	6727	5105	3752	281840	8370.4	N/A
49	11/1/2019	85.47	6501	5541	3384	278100	8340.8	N/A
50	11/1/2019	84.86	6859	6268	3288	278140	8237.2	N/A
51	11/1/2019	86.94	6502	5954	3243	285360	8508.9	N/A
52	11/2/2019	87.62	6296	4578	3451	277660	8355.8	N/A
53	11/2/2019	85.93	6047	5700	3322	280520	8271.5	N/A
	AVG	84.1	7,557	5,309	3,751	12,625,060	386,221	TOTAL

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Silty Sandstone	70	300	70	300
Sandy Siltstone	300	380	300	380
Sandstone	380	540	380	540
Sandy Siltstone	540	580	540	580
Silty Sandstone	580	630	580	630
Silty Shale	630	720	630	720
Shale	720	1,280	720	1,280
Sandstone	1,280	1,660	1,280	1,660
Sandy Siltstone	1,660	1,780	1,660	1,780
Silty Sandstone, tr Shale	1,780	1,820	1,780	1,820
Sandstone	1,820	1,870	1,820	1,870
Sandy siltstone	1,870	1,880	1,870	1,880
Sandstone	1,880	1,897	1,880	N/A
Big Lime	1,927	2,792	0	2,794
Fifty Foot Sandstone	2,792	2,869	0	2,870
Gordon	2,869	3,183	0	3,185
Fifth Sandstone	3,183	3,273	0	3,275
Bayard	3,273	3,802	0	3,805
Speechley	3,802	4,092	0	4,101
Balltown	4,092	4,475	0	4,501
Bradford	4,475	4,880	0	4,923
Benson	4,880	5,155	0	5,210
Alexander	5,155	6,105	0	6,269
Sycamore	5,981	6,075	6,103	6,239
Middlesex	6,075	6,159	6,239	6,403
Burkett	6,159	6,177	6,403	6,450
Tully	6,177	6,207	6,450	6,461
Marcellus	6,207	NA	6,461	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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/19/2019
Job End Date:	11/2/2019
State:	West Virginia
County:	Tyler
API Number:	47-095-02594-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Wick 2H
Latitude:	39.41850000
Longitude:	-80.99038000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,314
Total Base Water Volume (gal):	19,657,809
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
Fresh Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	57.13753	Density = 8.34
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	31.35660	Density = 8.50

Ingredients	Listed Above	Listed Above							
			Water			7732-18-5	100.00000	0.14393	
MC B-8614	Halliburton								
						Listed Below			
WG-36 GELLING AGENT	Halliburton								
						Listed Below			
Sand-Premium White-40/70	Halliburton								
						Listed Below			
CalFrac CalBreak 5501	Calfrac Well Services Corp.								
						Listed Below			
Sand-Premium White-30/50	Halliburton								
						Listed Below			
FORSA SCW4037W SCALE INHIBITOR	Baker Hughes								
						Listed Below			
FDP-S1296-17	Halliburton								
						Listed Below			
SAND-COMMON WHITE, 100M	Halliburton								
						Listed Below			

			2-Propenoic acid, methyl ester, polymer with 1,1-dichloroethene	25038-72-6	20.00000	0.00007
			Modified thiourea polymer	Proprietary	30.00000	0.00006
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00006
			Ethoxylated alcohols	Proprietary	5.00000	0.00001
			Hexadecene	629-73-2	5.00000	0.00001
			Propargyl alcohol	107-19-7	5.00000	0.00001
			Phosphoric acid	7664-38-2	0.10000	0.00001

* 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)

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Discharge Monitoring Report
Oil and Gas General Permit

Company Name: Antero Resources Corporation
API No: 47-095-02594 County: Tyler
District: Meade Well No: Wick Unit 2H
Farm Name: Elizabeth Gorrell
Discharge Date/s From:(MMDDYY) 11/29/19 To: (MMDDYY) 12/29/19
Discharge Times. From: 0:00 To: 24:00
Total Volume to be Disposed from this facility (gallons): 1,513,105
Disposal Option(s) Utilized (write volumes in gallons):

- (1) Land Application: _____ (Include a topographical map of the Area.)
(2) UIC: 98,122 Permit No. 3400923821, 3400923823, 3400923824, 3416729731, 3416729543, 3416729464, 3416729445
(3) Offsite Disposal: 140 Site Location: MudMasters
(4) Reuse: 1,414,843 Alternate Permit Number: _____
(5) Centralized Facility: _____ Permit No. _____
(6) Other method: _____ (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: n/a Cl- mg/l n/a DO mg/l


1. Do you have permission to use expedited treatment from the Director or his representative? (Y/N) n/a If yes, who? _____ and place a four (4) on line 7. If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) n/a If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) n/a If yes, go to line 4. If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) n/a If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) n/a If yes, go to line 6. If not, enter a three (3) in line 7.
6. Is the DO level greater than 2.5 mg/l?(Y/N) n/a If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. n/a is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: N/A No Pit on Site

Name of Principal Exec. Officer: Gretchen Kohler

Title of Officer: Senior Environmental Manager

Date Completed: 3/16/20

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.


Signature of a Principal Exec. Officer or Authorized agent.

Category 1
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl	5,000	_____	5,000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

*** Al is only reported if the pH is above 9.0

Category 2
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	10	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____

** Include a description of your aeration technique.

Aeration Code: _____

*** Al is only reported if the pH is above 9.0

Category 3
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____ Date: _____
 ** Include a description of your aeration technique. Aeration Code: _____
 *** Al is only reported if the pH is above 9.0.

Category 4
Sampling Results
API No: _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	1	_____	N/A	N/A	Days
Fe	Monitor	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	Monitor	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Activated Carbon (0.175)		_____	N/A	N/A	lb/B1
Date Site Reclaimed	N/A	N/A			10 days from dis.
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____ Date: _____

Antero Resources
Well No. Wick Unit 2H
As-Drilled
Antero Resources Corporation

	Bearing	Dist.
L1	N 80°57' E	547.1'
L2	S 31°03' E	2,194.5'
L3	N 43°55' W	2,526.1'
L4	N 00°26' E	2,282.1'

Wellhead Layout (NTS)



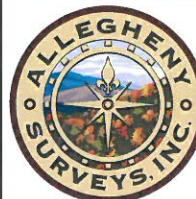
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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



Notes:
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Wick Unit 2H Top Hole coordinates are N: 338,029.07' Latitude: 39°25'06.60" E: 1,578,960.11' Longitude: 80°59'25.38"
 Bottom Hole coordinates are N: 327,824.41' Latitude: 39°23'26.22" E: 1,581,841.54' Longitude: 80°58'46.53"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,363,228.318m N: 4,360,134.122m
 E: 500,842.308m E: 501,772.052m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

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.



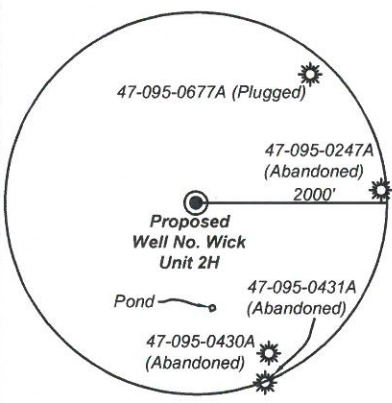
Legend

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

Lease

A	Vickie L. Gorrell, et al
B	Roy & Leona M. Ankrom
C	Gaston Family Investments, LLC
D	Patricia G. Mason
E	F & R Farms
F	Mark Layne & Lori Helmick
G	Ann W. Clutter
H	J. Bradford Wells
J	Kevin Andrew Yeater
K	Ross A. & Allana D. Paden
L	James Dean Ankrom

9,289' to Top Hole
 6,161' to Bottom Hole
 TOP HOLE LATITUDE 39 - 27 - 30
 BTM HOLE LATITUDE 39 - 25 - 00



Note: It appears 0 water wells and a pond were found within 2000' of proposed well. No occupied dwellings and no buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

ID	TM/Par	Owner	Bk/Pg	Acres
41	10/20	Jackson, et al	348/697	56.88
40	11/30	Shea, et ux	356/33	60.00
39	11/31	Shea Jr., et al	481/185	11.07
38	11/32.1	Shea Jr., et al	481/185	2.22
37	11/32	Hall, et ux	338/287	153.11
36	11/28	Kasper	309/500	8.21
35	11/28.1	Hendrickson Jr., et ux	261/272	1.00
34	11/29	Hendrickson Jr., et ux	261/272	10.00
33	10/14	Hendrickson Jr., et ux	261/272	38.50
32	10/15	F&R Farm, LLC	343/331	47.17
31	10/16	Jackson, et al	355/311	71.18
30	10/9	McGowan, et al	348/320	61.51
29	10/10	Helmick, et ux	262/135	42.81
28	11/2	Grim, et al	333/675	35.00
27	11/36	Mossor	230/255	0.94
26	11/38	Reed, et ux	343/196	1.063
25	11/37	Hendrickson Jr., et ux	255/100	0.343
24	10/13	Hendrickson Jr., et ux	234/71	2.13
23	11/1	Shields	493/423	1.76
22	11/1.1	Shields	324/287	0.23
21	11/3	Shields	324/287	1.84
20	11/4.1	Forrester, et al	275/76	1.82
19	11/4	Forrester	285/111	7.37
18	10/12	Serafine, et ux	352/624	32.00
17	8/46	Snider, et ux	376/614	49.03
16	8/42	Brisendine	353/369	49.03
15	10/11	Tartal, et al	342/109	80.32
14	7/25	Ankrom	380/447	0.43
13	7/20.1	Ankrom	303/61	0.75
12	7/26.1	Glover, et ux	347/492	4.36
11	7/26	Freeland, et ux	348/231	5.64
10	7/20	Ankrom	357/397	62.25
9	7/15.1	Paden, et al	369/11	7.76
8	7/24	Grimes, et ux	335/304	50.00
7	7/13	Smith, et ux	328/867	6.00
6	7/14	Smith	121/11	50.00
5	7/9	Smith	263/615	66.85
4	7/5	Coastal Forest Resources Co.	301/131	74.30
3	7/10	Fritsimmons, et al	336/764	161.63
2	7/16	Seven Spirits Farms, LLC	381/67	175.11
1	7/15	Gorrell	321/360	242.50

FILE NO: 53-54-M-17
 DRAWING NO: Wick 2H As-Drilled
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WV DOT, Harrisville, WV

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

DATE: February 28 2020
 OPERATOR'S WELL NO. Wick Unit 2H
 API WELL NO
 47 - 095 - 02594
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 1045' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
 DISTRICT: Meade COUNTY: Tyler
 SURFACE OWNER: Elizabeth Gorrell ACREAGE: 242.5 234.74; 74.3; 63; 50; 80; 47.16875;
 ROYALTY OWNER: Wilma Jane Benefield; Vickie L. Gorrell, et al; Janet Sue Baker; LEASE NO: ACREAGE:
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 6,316' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,976' 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