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

API 47-017-06808 County Doddridge District West Union
Quad West Union 7.5' Pad Name Addie Pad Field/Pool Name -----
Farm name Antero Resources Corporation Well Number Warrior 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 4353811m Easting 516760m
Landing Point of Curve Northing 4353768m Easting 517658m
Bottom Hole Northing 4350603m Easting 518991m

Elevation (ft) 891' 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 5/11/2017 Date drilling commenced 7/6/2017 Date drilling ceased 11/5/2017
Date completion activities began 2/8/2018 Date completion activities ceased 7/2/2017
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 370' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1495', 1535' 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

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CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	502'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2662'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19288'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7335'		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	204 sx	15.6	1.18	241	0'	8 Hrs.
Surface	Class A	418sx	15.6	1.19	497	0'	8 Hrs.
Coal							
Intermediate 1	Class A	914 sx	15.6	1.18	1079	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	771sx (Lead) 1865sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.45 (Lead), 1.83 (Tail)	4531	-500' into Intermediate casing	8 Hrs.
Tubing							

Drillers TD (ft) 19288' MD, 6587' TVD (BHL), 8605' (Deepest Point Drilled) Loggers TD (ft) 19288' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

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Kick off depth (ft) 6454'

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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

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PRODUCING FORMATION(S)	DEPTHS		
Marcellus	6471' (TOP)	TVD	7405' (TOP) MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3600 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 17577 mcfpd Oil 137 bpd NGL --- bpd Water 60 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ 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 Frontier Drilling LLC
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Allied Horizontal
Address 381 Colonial Manor Rd City North Huntington State CO Zip 15642

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

Stimulating Company Keane Group
Address 5825 North Sam Houston Parkway West, Suite 600 City Houston State TX Zip 77086

Please insert additional pages as applicable.

Completed by Karin Cox Telephone 303-357-6820
Signature  Title Permitting Agent Date 11/9/2018 RECEIVED Office of Oil and Gas

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry NOV 14 2018
WV Department of

API 47-017-06808 Farm Name Antero Resources Corp Well Number Warrior Unit 2H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/8/2018	19019	19188	48	Marcellus
2	4/16/2018	18819	18988	48	Marcellus
3	4/17/2018	18619	18788	48	Marcellus
4	4/20/2018	18419	18588	48	Marcellus
5	4/26/2018	18219	18388	48	Marcellus
6	4/26/2018	18020	18188	48	Marcellus
7	4/26/2018	17820	17988	48	Marcellus
8	4/27/2018	17620	17788	48	Marcellus
9	4/27/2018	17420	17588	48	Marcellus
10	4/27/2018	17220	17389	48	Marcellus
11	4/28/2018	17020	17189	48	Marcellus
12	4/28/2018	16820	16989	48	Marcellus
13	4/28/2018	16620	16789	48	Marcellus
14	4/29/2018	16420	16589	48	Marcellus
15	4/29/2018	16221	16389	48	Marcellus
16	4/30/2018	16021	16189	48	Marcellus
17	5/1/2018	15821	15989	48	Marcellus
18	5/1/2018	15621	15789	48	Marcellus
19	5/1/2018	15421	15590	48	Marcellus
20	5/2/2018	15221	15390	48	Marcellus
21	5/2/2018	15021	15190	48	Marcellus
22	5/2/2018	14821	14990	48	Marcellus
23	5/3/2018	14621	14790	48	Marcellus
24	5/3/2018	14422	14590	48	Marcellus
25	5/3/2018	14222	14390	48	Marcellus
26	5/4/2018	14022	14190	48	Marcellus
27	5/4/2018	13822	13990	48	Marcellus
28	5/4/2018	13622	13791	48	Marcellus
29	5/4/2018	13422	13591	48	Marcellus
30	5/4/2018	13222	13391	48	Marcellus
31	5/5/2018	13022	13191	48	Marcellus
32	5/5/2018	12822	12991	48	Marcellus
33	5/5/2018	12623	12791	48	Marcellus
34	5/5/2018	12423	12591	48	Marcellus
35	5/6/2018	12223	12391	48	Marcellus
36	5/6/2018	12023	12191	48	Marcellus
37	5/6/2018	11823	11992	48	Marcellus
38	5/6/2018	11623	11792	48	Marcellus
39	5/7/2018	11423	11592	48	Marcellus
40	5/7/2018	11223	11392	48	Marcellus
41	5/7/2018	11023	11192	48	Marcellus
42	5/7/2018	10824	10992	48	Marcellus
43	5/7/2018	10624	10792	48	Marcellus
44	5/8/2018	10424	10592	48	Marcellus
45	5/8/2018	10224	10392	48	Marcellus
46	5/8/2018	10024	10193	48	Marcellus
47	5/8/2018	9824	9993	48	Marcellus
48	5/8/2018	9624	9793	48	Marcellus
49	5/9/2018	9424	9593	48	Marcellus
50	5/9/2018	9224	9393	48	Marcellus
51	5/9/2018	9025	9193	48	Marcellus
52	5/9/2018	8825	8993	48	Marcellus
53	5/9/2018	8625	8793	48	Marcellus
54	5/10/2018	8425	8593	48	Marcellus
55	5/10/2018	8225	8394	48	Marcellus
56	5/10/2018	8025	8194	48	Marcellus
57	5/10/2018	7825	7994	48	Marcellus
58	5/10/2018	7625	7794	48	Marcellus
59	5/11/2018	7425	7594	48	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	2/8/2018	63.4	7591	4900	3750	404550	8944	N/A
2	4/16/2018	70.2	8355	5290	3801	404750	9192	N/A
3	4/17/2018	68.7	7237	5857	3890	404550	9042	N/A
4	4/20/2018	67.1	8023	5224	3956	404550	8338	N/A
5	4/26/2018	64.6	7588	5723	3813	404000	9276	N/A
6	4/26/2018	69.8	7929	5992	3694	403240	8477	N/A
7	4/26/2018	76.5	7924	6569	3569	405000	8300	N/A
8	4/27/2018	72.7	8082	5967	4048	405330	8381	N/A
9	4/27/2018	75.1	8003	6107	4010	404820	8487	N/A
10	4/27/2018	67.1	7471	5985	4293	407000	8212	N/A
11	4/28/2018	64.5	7930	5880	3990	404760	8356	N/A
12	4/28/2018	73.1	8063	5855	4307	405230	8431	N/A
13	4/28/2018	75.1	8097	5814	5581	405000	9178	N/A
14	4/29/2018	77.7	7878	5574	4046	406000	8160	N/A
15	4/29/2018	68.5	8318	6030	3969	404000	8398	N/A
16	4/30/2018	71.4	8035	6763	3744	404200	8435	N/A
17	5/1/2018	69.1	8305	5590	4049	404590	10645	N/A
18	5/1/2018	71.4	8252	5540	4093	404990	11474	N/A
19	5/1/2018	73.3	8223	5745	5052	404550	8733	N/A
20	5/2/2018	73	7949	5761	4948	409892	8226	N/A
21	5/2/2018	75.9	7902	5791	3651	405350	9407	N/A
22	5/2/2018	67.1	7763	5663	3806	414340	8337	N/A
23	5/3/2018	70.2	7924	5637	3674	405250	8596	N/A
24	5/3/2018	69.2	7761	5467	3736	404760	8543	N/A
25	5/3/2018	60.6	8137	5394	4498	410516	11117	N/A
26	5/4/2018	67.2	7799	5612	3737	412536	9464	N/A
27	5/4/2018	70.4	7458	6416	4037	404800	8653	N/A
28	5/4/2018	73.3	7286	5556	4039	404540	8615	N/A
29	5/4/2018	69.6	7414	6232	4671	404550	8590	N/A
30	5/4/2018	71.8	7428	5640	4382	412778	8046	N/A
31	5/5/2018	73.2	7332	5997	4093	405900	8065	N/A
32	5/5/2018	72.2	7450	6341	3949	405180	9107	N/A
33	5/5/2018	69.8	7417	6554	3895	404920	8497	N/A
34	5/5/2018	75.9	7101	4749	4120	404550	8009	N/A
35	5/6/2018	71	7451	5735	3970	410828	7857	N/A
36	5/6/2018	71.3	7234	5871	3978	406050	9140	N/A
37	5/6/2018	71	7486	6113	4031	404680	9665	N/A
38	5/6/2018	71.9	7437	6172	3970	404032	8879	N/A
39	5/7/2018	73.7	7350	6051	4120	415502	7875	N/A
40	5/7/2018	74.9	7317	5345	4009	405150	7867	N/A
41	5/7/2018	76.4	7278	5923	3834	404920	7967	N/A
42	5/7/2018	76	7251	5818	3855	404700	7907	N/A
43	5/7/2018	75.9	7072	5723	4120	404550	7896	N/A
44	5/8/2018	75	7142	5672	3858	404550	7824	N/A
45	5/8/2018	76.1	6985	5625	3893	405470	7856	N/A
46	5/8/2018	75.8	7235	6463	3960	406550	7887	N/A
47	5/8/2018	75.5	7205	6106	3891	404900	7787	N/A
48	5/8/2018	76.4	7516	5841	3970	408172	7757	N/A
49	5/9/2018	78.3	7253	5376	4007	404550	7816	N/A
50	5/9/2018	78.1	7037	5934	3960	404940	7804	N/A
51	5/9/2018	77.2	7105	5624	3936	404000	7709	N/A
52	5/9/2018	74.6	7041	6427	3883	403000	7802	N/A
53	5/9/2018	79.2	7160	6200	4232	404550	7767	N/A
54	5/10/2018	78.4	7114	5669	4045	407810	7696	N/A
55	5/10/2018	78	6810	5927	3760	403000	7718	N/A
56	5/10/2018	79.8	6811	5817	4810	408000	8711	N/A
57	5/10/2018	79.5	7059	6107	4644	407210	7672	N/A
58	5/10/2018	84	7198	6500	4532	408068	7690	N/A
59	5/11/2018	82.8	6881	6564	4185	406354	8392	N/A
	AVG=	73	7,540	5,861	4,074	23,952,508	500,672	TOTAL

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API 47-017-06808 Farm Name Antero Resources Corp Well Number Warrior Unit 2H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Shale	0	197	0	197
Sandy shale	197	357	197	357
Sandstone	357	417	357	417
Sandstone tr coal	417	437	417	437
Sandy shale	437	537	437	537
Shale	537	737	537	737
Silty sandstone	737	817	737	817
Silty shale	817	997	817	997
Sandstone	997	1,017	997	1,017
Silty shale	1,017	1,277	1,017	1,277
Sandstone	1,277	1,417	1,277	1,417
Sandy shale	1,417	1,677	1,417	1,677
Silty shale	1,677	1,739	1,677	1,770
Big Lime	1,739	2,305	1,770	2,364
Fifty Foot Sandstone	2,305	2,514	2,364	2,581
Gordon	2,514	2,724	2,581	2,799
Fifth Sandstone	2,724	2,786	2,799	2,863
Bayard	2,786	3,559	2,863	3,746
Speechley	3,559	3,744	3,746	3,971
Balltown	3,744	4,376	3,971	4,730
Bradford	4,376	4,804	4,730	5,237
Benson	4,804	5,097	5,237	5,585
Alexander	5,097	6,066	5,585	6,761
Sycamore	6,066	6,234	6,761	6,983
Middlesex	6,234	6,369	6,983	7,199
Burkett	6,369	6,397	7,199	7,256
Tully	6,397	6,446	7,256	7,380
Marcellus	6,446	NA	7,380	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.

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/16/2018
Job End Date:	5/11/2018
State:	West Virginia
County:	Doddridge
API Number:	47-017-06808-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Warrior 2H
Latitude:	39.33347800
Longitude:	-80.80570800
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,605
Total Base Water Volume (gal):	21,874,230
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
Water	Ascent	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.16931	None
Sand (Proppant)	Keane	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	11.56936	None
KFR-16FW	Keane	Friction Reducer					
			Water	7732-18-5	60.00000	0.04658	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01553	None
			oleic acid diethanolamide	93-83-4	1.50000	0.00116	None
			ammonium chloride	12125-02-9	1.50000	0.00116	None
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00078	None
Hydrochloric Acid (15%)	Keane	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.02281	None
MBC-516W	Keane	Biocide					
			Water	7732-18-5	56.70000	0.00504	None
			Glutaral	111-30-8	26.70000	0.00237	None
			didecyltrimethylammonium chloride	7173-51-5	8.00000	0.00071	None

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			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	58424-85-1	5.30000	0.00047	None
			ethonal	64-17-5	2.80000	0.00025	None
KWG-111LS	Keane	Gel					
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00424	None
			Guar gum	9000-30-0	55.00000	0.00424	None
KSI-19	Keane	Scale Inhibitor					
			Methanol	67-56-1	30.00000	0.00406	None
KAI-12	Keane	Acid Inhibitor					
			Ethylene glycol	107-21-1	40.00000	0.00013	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00007	None
			Cinnamaldehyde	104-55-2	10.00000	0.00003	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00003	None
			formic acid	64-18-6	10.00000	0.00003	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00003	None
			isoproyl alcohol	67-63-0	5.00000	0.00002	None
KFEAC-30	Keane	Iron Control					
			Citric acid	77-92-9	30.00000	0.00028	None
			Acetic acid	64-19-7	5.00000	0.00005	None
KWBO-2	Keane	Breaker					
			Sodium persulfate	7775-27-1	99.00000	0.00020	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01553	
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00424	
			Glutaral	111-30-8	26.70000	0.00237	
			ammonium chloride	12125-02-9	1.50000	0.00116	
			oleic acid diethanolamide	93-83-4	1.50000	0.00116	
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00078	
			didecyldimethylammonium chloride	7173-51-5	8.00000	0.00071	
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.30000	0.00047	
			Citric acid	77-92-9	30.00000	0.00028	
			ethonal	64-17-5	2.80000	0.00025	
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00007	
			Cinnamaldehyde	104-55-2	10.00000	0.00003	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00003	
			formic acid	64-18-6	10.00000	0.00003	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00003	

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

Company Name: Antero Resources Corporation
 API No: 47-017-06808 County: Doddridge
 District: West Union Well No: Warrior Unit 2H
 Farm Name: Antero Resources Corporation
 Discharge Date/s From:(MMDDYY) 08/01/18 To: (MMDDYY) 8/31/18
 Discharge Times. From: 0:00 To: 24:00
 Total Volume to be Disposed from this facility (gallons): 1,076,683
 Disposal Option(s) Utilized (write volumes in gallons):


- (1) Land Application: _____ (Include a topographical map of the Area.)
- (2) UIC: 451,839 Permit No. 3400923821, 3416729543, 3416729464, 3416729445, 4708509721, 3410523619, 3416729731, 3405320968
- (3) Offsite Disposal: 1,811 Site Location: Mud Masters
- (4) Reuse: 623,033 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 and Regulatory Manager
 Date Completed: 9/17/18

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.

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Environmental Protection

WR-34
Page 2 of 3

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

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WV Department of
Environmental Protection

WR-34
Page 3 of 3

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.

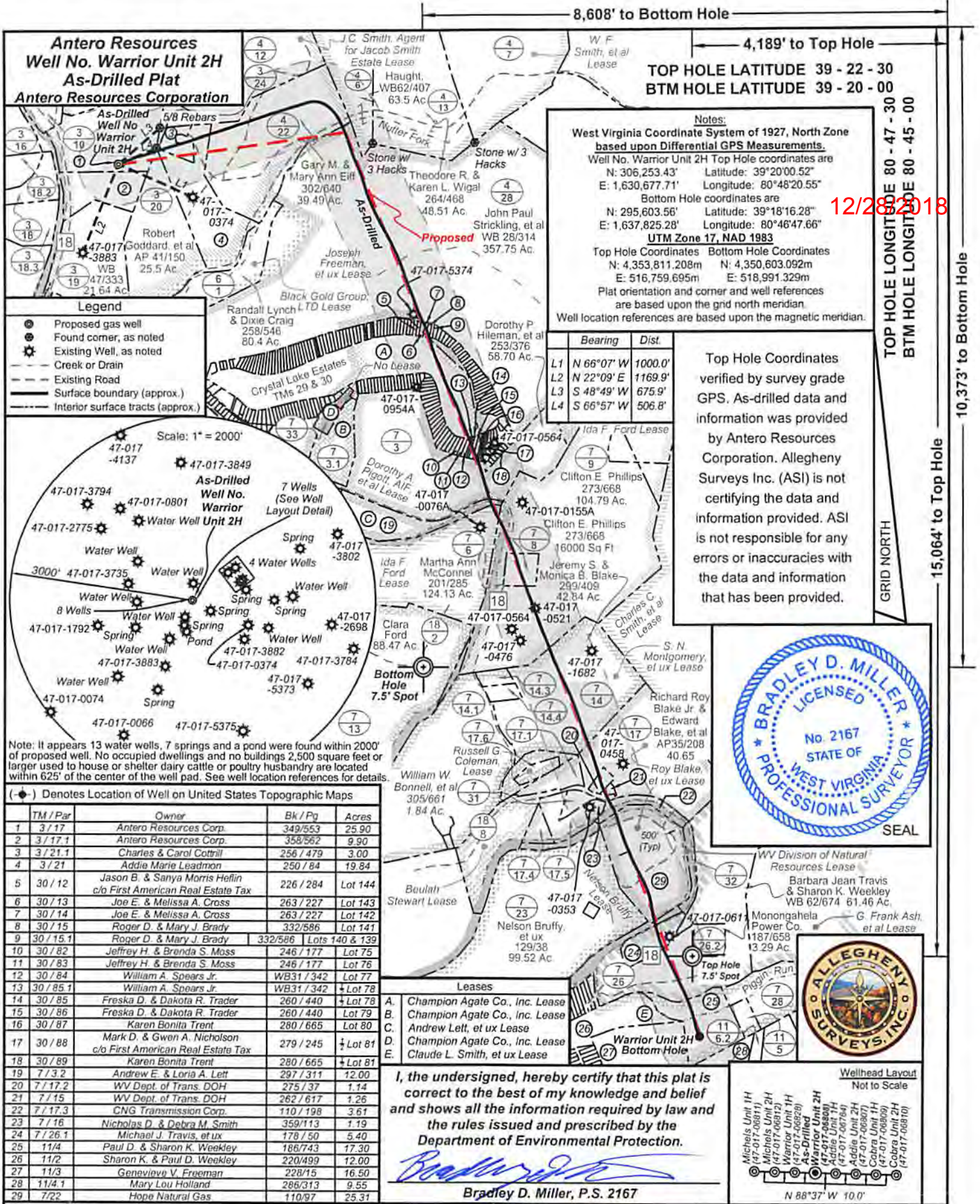
Category 4
Sampling Results
API No: _____

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/Bl
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: _____

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Environmental Protection



Notes:
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Warrior Unit 2H Top Hole coordinates are
 N: 306,253.43' Latitude: 39°20'00.52"
 E: 1,630,677.71' Longitude: 80°48'20.55"
 Bottom Hole coordinates are
 N: 295,603.56' Latitude: 39°18'16.28"
 E: 1,637,825.28' Longitude: 80°46'47.66"
UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,353,811.208m N: 4,350,603.092m
 E: 516,759.695m E: 518,991.329m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

Bearing	Dist.
L1 N 66°07' W	1000.0'
L2 N 22°09' E	1169.9'
L3 S 48°49' W	675.9'
L4 S 66°57' W	506.8'

Top Hole Coordinates verified by survey grade GPS. 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
 - Found corner, as noted
 - Existing Well, as noted
 - Creek or Drain
 - Existing Road
 - Surface boundary (approx.)
 - Interior surface tracts (approx.)



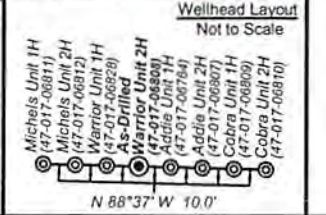
Note: It appears 13 water wells, 7 springs and a pond were found within 2000' of proposed well. No occupied dwellings and no buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad. See well location references for details.

(-●-) Denotes Location of Well on United States Topographic Maps

TM / Par	Owner	Bk / Pg	Acres
1 3 / 17	Antero Resources Corp.	349/553	25.90
2 3 / 17.1	Antero Resources Corp.	358/562	9.90
3 3 / 21.1	Charles & Carol Cottrill	256 / 479	3.00
4 3 / 21	Addie Marie Leadmon	250 / 84	19.84
5 30 / 12	Jason B. & Sanya Morris Heflin c/o First American Real Estate Tax	226 / 284	Lot 144
6 30 / 13	Joe E. & Melissa A. Cross	263 / 227	Lot 143
7 30 / 14	Joe E. & Melissa A. Cross	263 / 227	Lot 142
8 30 / 15	Roger D. & Mary J. Brady	332/586	Lot 141
9 30 / 15.1	Roger D. & Mary J. Brady	332/586	Lots 140 & 139
10 30 / 82	Jeffrey H. & Brenda S. Moss	246 / 177	Lot 75
11 30 / 83	Jeffrey H. & Brenda S. Moss	246 / 177	Lot 76
12 30 / 84	William A. Spears Jr.	WB31 / 342	Lot 77
13 30 / 85.1	William A. Spears Jr.	WB31 / 342	Lot 78
14 30 / 85	Freska D. & Dakota R. Trader	260 / 440	Lot 78
15 30 / 86	Freska D. & Dakota R. Trader	260 / 440	Lot 79
16 30 / 87	Karen Bonita Trent	280 / 665	Lot 80
17 30 / 88	Mark D. & Gwon A. Nicholson c/o First American Real Estate Tax	279 / 245	Lot 81
18 30 / 89	Karen Bonita Trent	280 / 665	Lot 81
19 7 / 3.2	Andrew E. & Loria A. Lett	297 / 311	12.00
20 7 / 17.2	WV Dept. of Trans. DOH	275 / 37	1.14
21 7 / 15	WV Dept. of Trans. DOH	262 / 617	1.26
22 7 / 17.3	CNG Transmission Corp.	110 / 198	3.61
23 7 / 16	Nicholas D. & Debra M. Smith	359/113	1.19
24 7 / 26.1	Michael J. Travis, et ux	178 / 50	5.40
25 11/4	Paul D. & Sharon K. Weekley	186/743	17.30
26 11/2	Sharon K. & Paul D. Weekley	220/499	12.00
27 11/3	Genevieve V. Freeman	228/15	16.50
28 11/4.1	Mary Lou Holland	286/313	9.55
29 7/22	Hope Natural Gas	110/97	25.31

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



FILE NO: 52-30-WU-14
 DRAWING NO: Warrior 2H As-Drilled Well Plat
 SCALE: 1" = 1500'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: October 5 20 18
 OPERATOR'S WELL NO. Warrior Unit 2H
 API WELL NO
 47 - 017 - 06808
 STATE COUNTY PERMIT

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

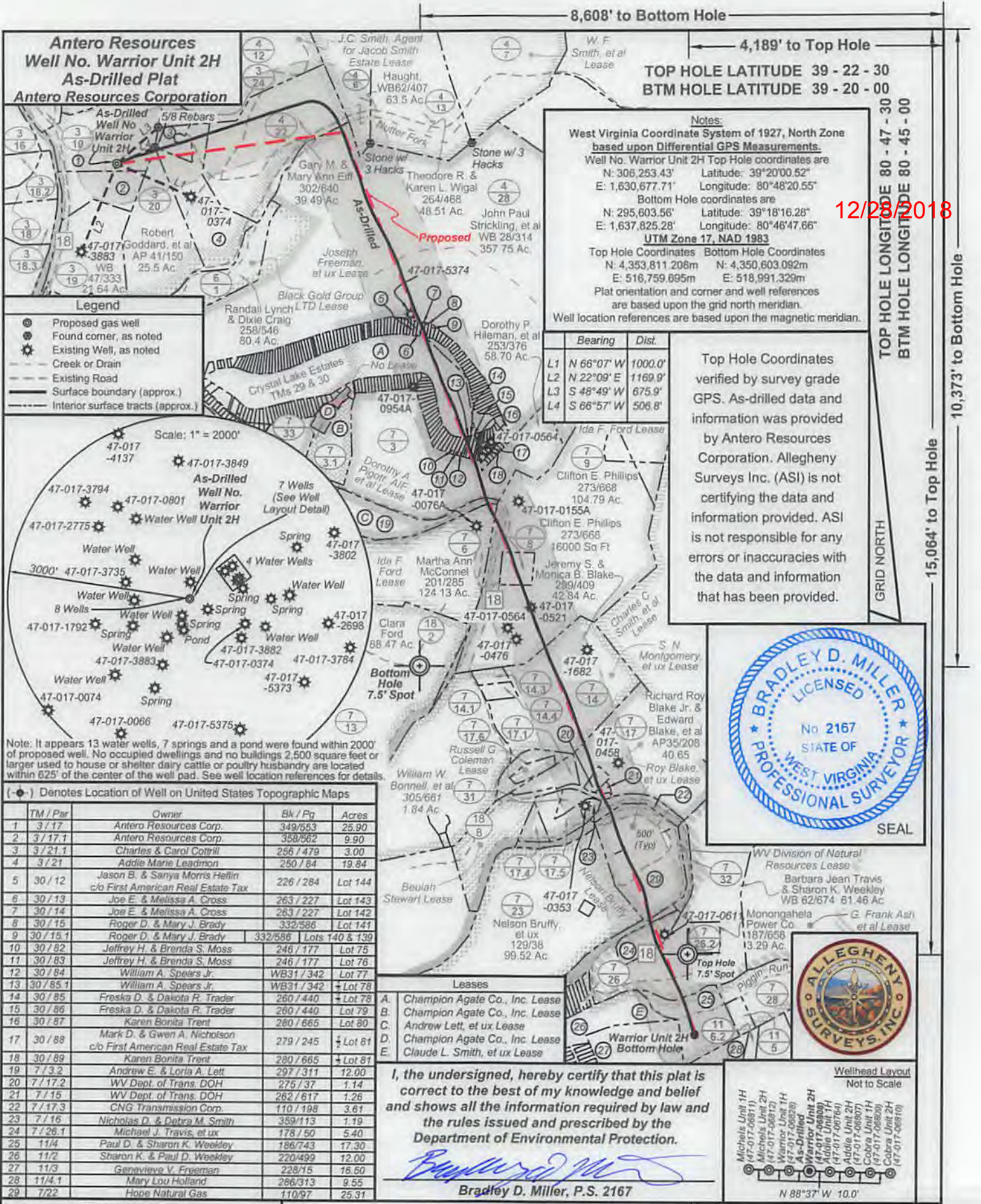
LOCATION: ELEVATION: 891' As-Drilled WATERSHED: Headwaters Middle Island Creek QUADRANGLE: West Union
 DISTRICT: West Union COUNTY: Doddridge
 SURFACE OWNER: Antero Resources Corp. ACREAGE: 25.9 32.07; 56.07; 290
 ROYALTY OWNER: J.C. Smith, Agent for Jacob Smith Estate; Dorothy A. Pigott, AIF, et al LEASE NO: ACREAGE: 124; 112; 51; 140
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 6.587' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,288' 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

12/28/2018



[Faint, illegible signature or text]



8,608' to Bottom Hole
4,189' to Top Hole
TOP HOLE LATITUDE 39 - 22 - 30
BTM HOLE LATITUDE 39 - 20 - 00

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Warrior Unit 2H Top Hole coordinates are
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Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

12/28/2018

Bearing	Dist.
L1 N 66°07' W	1000.0'
L2 N 22°09' E	1169.9'
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Top Hole Coordinates verified by survey grade GPS. 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.



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 - Found corner, as noted
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29 7/22	Hope Natural Gas	110/97	25.31

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

WV Division of Natural Resources Lease
Barbara Jean Travis & Sharon K. Weekley WB 62/674 61.46 Ac
Monongahela Power Co 1187/658 13.29 Ac
G. Frank Ash et al Lease

Wellhead Layout Not to Scale
N 88°37' W 10.0'

FILE NO: 52-30-WU-14
DRAWING NO: Warrior 2H As-Drilled Well Plat
SCALE: 1" = 1500'
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: October 5 2018
OPERATOR'S WELL NO: Warrior Unit 2H
API WELL NO: 47 - 017 - 06808
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 891' As-Drilled WATERSHED: Headwaters Middle Island Creek QUADRANGLE: West Union
DISTRICT: West Union COUNTY: Doddridge
SURFACE OWNER: Antero Resources Corp. ACREAGE: 25.9 90; 11.90
ROYALTY OWNER: J.C. Smith, Agent for Jacob Smith Estate; Dorothy A. Pigott, AIF, et al LEASE NO: 32.07; 56.07; 290 600; 114; 58.70
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled ESTIMATED DEPTH: 19,288' MD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale

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

ADDRESS: 1012 WALKER STREET
 DESIGNATED AGENT: MARY G. HARRIS
 OPERATOR: ANTERO RESOURCES CORPORATION
 COUNTY: BOYD COUNTY
 LOCATION: ELEVATION: 801, AS-DRIILLED
 WATERSHED: HEADWATERS MIDDLE ISLAND CREEK
 QUADRANGLE: WEST UNION
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

MDOT: HAMILTON, WV
 MINIMUM DEGREE OF ACCURACY: SURVEY
 SCALE: 1" = 1200'
 DRAWING NO: W-110-11-14
 FILE NO: 25-30-WV-14
 STATE: WV COUNTY: T-1 PERMIT: 08808
 OPERATOR WELL NO: W-110-11-14
 DATE: October 2, 2018

NO.	OWNER	ACRES	ADJACENT
55	HOPE WALKER	148.31	52.31
54	WVA Gas Holdings	380.343	8.22
53	SEBASTIAN A. BARNETT	358.112	49.20
52	SHARON K & BRAD D MERRILL	350.888	45.00
51	BRAD D & SHARON K MERRILL	188.343	13.30
50	MICHAEL T. DAVIS JR	158.120	2.40
49	MICHAEL D & DARREN W SMITH	388.113	1.18
48	CINC TRANSPORTATION CO	110.148	3.41
47	MA DAVIS OF THOMAS DON	383.181	1.58
46	MA DAVIS OF THOMAS DON	352.131	1.14
45	AUDREY E & COLIN A FAY	383.141	43.00
44	KAREN BOYLER TRUST	380.188	47.81
43	CO EAST AMERICAN BANK FEDERAL TAX	518.154	47.81
42	KAREN BOYLER TRUST	380.188	40.80
41	HEATHER D & DARREN H DAVIS	380.144	40.15
40	HEATHER D & DARREN H DAVIS	380.144	47.01
39	WILLIAM A STOKES JR	183.134	1.18
38	WILLIAM A STOKES JR	183.134	47.01
37	TERRELL H & BRENDA Z MOSE	548.133	40.10
36	TERRELL H & BRENDA Z MOSE	348.111	40.10
35	ROBERT D & MARY T BAKER	335.288	40.133
34	ROBERT D & MARY T BAKER	325.288	40.144
33	JOE E & MARGARET A CROSS	383.155	40.145
32	JOE E & MARGARET A CROSS	382.155	40.143
31	CO EAST AMERICAN BANK FEDERAL TAX	558.158	40.144
30	LABSON B & SHARON MARIE HARRIS	320.148	40.98
29	ADRIAN MARIE HARRIS	328.143	3.00
28	ANTERO RESOURCES CORP	328.023	8.80
27	ANTERO RESOURCES CORP	348.023	22.80
26	OWNER	81.67	20.00

