WR-35
Rev. 8/23/13

APPROVED
NAME:
DATE: 11/1/17

Page ___ of ___

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

API 47 - 017 - 06286 County Doddridge District New Milton
Quad New Milton 7.5' Pad Name Stewart Pad Field/Pool Name -----
Farm name Randall & Carolyn S. Stewart Well Number Randall Unit 1H
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 4337765.136m Easting 529243.427m
Landing Point of Curve Northing 4337393.702m Easting 529198.163m
Bottom Hole Northing 4334254.410m Easting 530171.494m

Elevation (ft) 1333' 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

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Date permit issued 08/16/2013 Date drilling commenced 09/23/2014 Date drilling ceased 12/20/2014
Date completion activities began 11/26/2016 Date completion activities ceased 05/03/2017
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 35', 372', 407' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 964', 1136', 1752' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 1907' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

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API 47- 017 - 06286 Farm name Randall & Carolyn S. Stewart Well number Randall Unit 1H

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"	40'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	478'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2557'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19152'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7437'		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	171 sx	15.6	1.18	202	0'	8 Hrs.
Surface	Class A	555 sx	15.6	1.18	655	0'	8 Hrs.
Coal							
Intermediate 1	Class A	936 sx	15.6	1.00	936	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1011 sx (Lead) 1884 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.8 (Tail)	4847	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19152' MD, 7341' TVD (BHL) & 7362' TVD (Deepest Point Drilled) Loggers TD (ft) 19106' MD

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

Plug back procedure N/A

Kick off depth (ft) 6672'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Cross Unit 1H API #47-017-06238). Please reference the wireline logs submitted with Form WR-35 for Cross Unit 1H. A Cement Bond Log has been included with this submittal.

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

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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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API 47- 017 - 06286 Farm name Randall & Carolyn S. Stewart Well number Randall Unit 1H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)

*PLEASE SEE ATTACHED EXHIBIT 1

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)

*PLEASE SEE ATTACHED EXHIBIT 2

Please insert additional pages as applicable.

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API 47- 017 - 06286 Farm name Randall & Carolyn S. Stewart Well number Randall Unit 1H

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7300' (TOP)	TVD	7637' (TOP)	MD

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ■ Open Flow OIL TEST ■ Flow ☐ Pump

SHUT-IN PRESSURE Surface 3950 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 10571 mcfpd Oil 37 bpd NGL --- bpd Water 739 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_2S, ETC)

*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 Nine Energy Service
Address 125 Museum Road City Washington State PA Zip 15301

Cementing Company Allied Oil & Gas Services, LLC
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company US Well Services
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Samantha Klaas Telephone 303-357-6759
Signature _____ Title Permitting Agent Date 10/27/2017

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

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API 47-017-06286 Farm Name Randall & Carolyn S. Stewart Well Number Randall Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	11/26/2016	18868	19036	40	Marcellus
2	1/22/2017	18668	18837	40	Marcellus
3	1/23/2017	18468	18637	40	Marcellus
4	1/23/2017	18269	18437	40	Marcellus
5	1/24/2017	18069	18237	40	Marcellus
6	1/24/2017	17869	18038	40	Marcellus
7	1/24/2017	17669	17838	40	Marcellus
8	1/25/2017	17470	17638	40	Marcellus
9	1/25/2017	17270	17438	40	Marcellus
10	1/25/2017	17070	17239	40	Marcellus
11	1/26/2017	16870	17039	40	Marcellus
12	1/26/2017	16671	16839	40	Marcellus
13	1/26/2017	16471	16639	40	Marcellus
14	1/26/2017	16271	16440	40	Marcellus
15	1/27/2017	16071	16240	40	Marcellus
16	1/27/2017	15872	16040	40	Marcellus
17	1/28/2017	15672	15840	40	Marcellus
18	1/28/2017	15472	15641	40	Marcellus
19	1/29/2017	15272	15441	40	Marcellus
20	1/29/2017	15073	15241	40	Marcellus
21	1/29/2017	14873	15041	40	Marcellus
22	1/29/2017	14673	14842	40	Marcellus
23	1/30/2017	14473	14642	40	Marcellus
24	1/30/2017	14274	14442	40	Marcellus
25	1/30/2017	14074	14242	40	Marcellus
26	1/31/2017	13874	14043	40	Marcellus
27	1/31/2017	13674	13843	40	Marcellus
28	1/31/2017	13475	13643	40	Marcellus
29	2/1/2017	13275	13443	40	Marcellus
30	2/3/2017	13075	13244	40	Marcellus
31	2/3/2017	12875	13044	40	Marcellus
32	2/4/2017	12676	12844	40	Marcellus
33	2/4/2017	12476	12644	40	Marcellus
34	2/5/2017	12276	12445	40	Marcellus
35	2/5/2017	12076	12245	40	Marcellus
36	2/5/2017	11877	12045	40	Marcellus
37	2/5/2017	11677	11845	40	Marcellus
38	2/6/2017	11477	11646	40	Marcellus
39	2/6/2017	11277	11446	40	Marcellus
40	2/6/2017	11078	11246	40	Marcellus
41	2/6/2017	10878	11046	40	Marcellus
42	2/7/2017	10678	10847	40	Marcellus
43	2/7/2017	10478	10647	40	Marcellus
44	2/7/2017	10279	10447	40	Marcellus
45	2/8/2017	10079	10247	40	Marcellus
46	2/8/2017	9879	10048	40	Marcellus
47	2/8/2017	9679	9848	40	Marcellus
48	2/8/2017	9480	9648	40	Marcellus
49	2/8/2017	9280	9448	40	Marcellus
50	2/9/2017	9080	9249	40	Marcellus
51	2/9/2017	8880	9049	40	Marcellus
52	2/9/2017	8681	8849	40	Marcellus
53	2/10/2017	8481	8649	40	Marcellus
54	2/10/2017	8281	8450	40	Marcellus
55	2/10/2017	8081	8250	40	Marcellus
56	2/10/2017	7882	8050	40	Marcellus
57	2/11/2017	7682	7850	40	Marcellus

API 47-017-06286 Farm Name Randall & Carolyn S. Stewart Well Number Randall Unit 1H

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	1/22/2017	73.1	8067	6004	4583	505890	10959	N/A
2	1/22/2017	72.5	7752	6091	5042	503540	10798	N/A
3	1/23/2017	76.5	8050	6819	5848	505050	11022	N/A
4	1/23/2017	73.2	7782	6108	5279	504620	14357	N/A
5	1/24/2017	72.9	7687	6564	4807	503790	10730	N/A
6	1/24/2017	72.4	7540	6128	4949	504380	10828	N/A
7	1/24/2017	75.1	7726	6244	5375	505050	10775	N/A
8	1/25/2017	75.4	7553	6068	5358	505000	10809	N/A
9	1/25/2017	76.2	7709	5989	5701	505270	10840	N/A
10	1/25/2017	76.5	7489	5367	4986	505370	10716	N/A
11	1/26/2017	76.1	7601	6107	5209	505220	10705	N/A
12	1/26/2017	74.7	7511	5786	5308	505350	10715	N/A
13	1/26/2017	76.2	7561	5780	5004	505630	10756	N/A
14	1/26/2017	76.3	7439	5267	4952	505240	10675	N/A
15	1/27/2017	76.1	7543	5881	5034	505600	10677	N/A
16	1/27/2017	74.6	7446	5631	4878	504940	10658	N/A
17	1/28/2017	74.2	7289	5848	5291	505350	10557	N/A
18	1/28/2017	73.9	7356	5814	5239	505150	10543	N/A
19	1/29/2017	74.8	7318	5851	5339	505300	10533	N/A
20	1/29/2017	76.3	7422	5975	5154	504800	12790	N/A
21	1/29/2017	73.7	7244	5519	5246	505090	10518	N/A
22	1/29/2017	75.0	7325	5784	5111	505190	10509	N/A
23	1/30/2017	76.4	7279	5623	5546	506680	10524	N/A
24	1/30/2017	76.4	7262	5665	5283	504950	10494	N/A
25	1/30/2017	77.4	7135	5626	5240	503500	10320	N/A
26	1/31/2017	76.2	7440	5905	5412	504380	10473	N/A
27	1/31/2017	76.1	7462	5645	5150	505020	10487	N/A
28	1/31/2017	76.4	7661	5630	5302	502800	10455	N/A
29	2/1/2017	67.4	6915	5643	5258	501770	21390	N/A
30	2/3/2017	61.5	6727	5863	5419	505150	10563	N/A
31	2/3/2017	68.4	6747	5756	5354	505450	10601	N/A
32	2/4/2017	69.1	6668	5698	5403	505060	10539	N/A
33	2/4/2017	66.1	6734	6129	5228	503800	10514	N/A
34	2/5/2017	68.3	6725	6053	5406	502210	10513	N/A
35	2/5/2017	65.4	6579	5714	5446	505100	10510	N/A
36	2/5/2017	64.3	6609	5772	5334	505030	10499	N/A
37	2/5/2017	67.4	6740	5657	5251	504600	10476	N/A
38	2/6/2017	67.2	6666	5862	5185	504900	10482	N/A
39	2/6/2017	64.0	6666	5801	5267	505270	11622	N/A
40	2/6/2017	67.7	6610	5645	4891	501700	10458	N/A
41	2/6/2017	69.0	6566	6170	4643	503200	10458	N/A
42	2/7/2017	68.9	6707	5631	5288	504720	10435	N/A
43	2/7/2017	69.3	6698	5639	5373	505350	10437	N/A
44	2/7/2017	69.3	6701	5976	5230	507370	10451	N/A
45	2/8/2017	69.0	6712	5980	5200	503720	10516	N/A
46	2/8/2017	69.8	6664	5785	5284	505800	10444	N/A
47	2/8/2017	68.1	6680	5727	5129	505900	10433	N/A
48	2/8/2017	70.0	6743	5890	5487	506310	10402	N/A
49	2/8/2017	71.0	6800	5925	5457	506120	10426	N/A
50	2/9/2017	72.4	6756	6084	5365	504830	10381	N/A
51	2/9/2017	69.6	6632	5754	5210	506220	10359	N/A
52	2/9/2017	70.0	6558	5665	5630	507760	10522	N/A
53	2/10/2017	71.3	6684	5661	5422	506373	10342	N/A
54	2/10/2017	69.0	6662	5062	5636	505970	10360	N/A
55	2/10/2017	69.2	6602	5758	5410	509600	10382	N/A
56	2/10/2017	69.8	6604	6465	5633	504620	10313	N/A
57	2/11/2017	68.0	6446	6535	5457	505460	10321	N/A
AVG=		71.7	7092	5,860	5,262	28,787,513	619,372	TOTAL

11/10/2017

API 47-017-06286 Farm Name Randall & Carolyn S. Stewart Well Number Randall Unit 1H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	**TOP DEPTH (TVD) From Surface**	**BOTTOM DEPTH (TVD) From Surface**	**TOP DEPTH (MD) From Surface**	**BOTTOM DEPTH (MD) From Surface**
Fresh Water	35'	N/A	35'	N/A
Fresh Water	372'	N/A	372'	N/A
Fresh Water	407'	N/A	407'	N/A
Shale/Siltstone	est. 0	447	est. 0	447
Sandstone	est. 447	467	est. 447	467
Shale/Siltstone	est. 467	687	est. 467	687
Sandstone	est. 687	727	est. 687	727
Shale	est. 727	827	est. 727	827
Sandstone	est. 827	887	est. 827	887
Shale	est. 887	1127	est. 887	1127
Sandstone	est. 1127	1207	est. 1127	1207
Shale	est. 1207	1787	est. 1207	1787
Sandstone/Siltstone	est. 1787	1907	est. 1787	1907
Sandstone/Siltstone with trace coal	est. 1907	1967	est. 1907	1967
Shale	est. 1967	2401	est. 1967	2403
Big Lime	2389	2475	2391	2477
Big Injun	2475	2688	2477	2677
Gantz Sand	2688	2834	2677	2836
Fifty Foot Sandstone	2834	3049	2836	3051
Gordon	3049	3403	3051	3405
Fifth Sandstone	3403	3469	3405	3469
Bayard	3469	3745	3469	3748
Warren	3745	4017	3748	4019
Speechley	4017	4220	4019	4222
Baltown	4220	4851	4222	4853
Bradford	4851	5312	4853	5314
Benson	5312	5558	5314	5560
Alexander	5558	5787	5560	5789
Elk	5787	6328	5789	6330
Rhinestreet	6328	6858	6330	6872
Sycamore	6858	7022	6872	7075
Middlesex	7022	7168	7075	7289
Burkett	7168	7199	7289	7345
Tully	7199	7300	7345	7637
Marcellus	7300	NA	7637	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:	1/22/2017
Job End Date:	2/11/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06286-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Randall 1H
Latitude:	39.18855000
Longitude:	-80.66156111
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,362
Total Base Water Volume (gal):	26,824,102
Total Base Non Water Volume:	0

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Oil & Gas

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	Antero Resources	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.40994	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	11.37664	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.40000	0.09209	
			Hydrogen Chloride	7647-01-0	17.50000	0.02141	
LGC-15	U.S. Well Services, LLC	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.02415	
			Petroleum Distillates	64742-47-8	60.00000	0.02288	
			Suspending agent (solid)	14808-60-7	3.00000	0.00369	
			Surfactant	68439-51-0	3.00000	0.00145	
WFRA-500	U.S. Well Services, LLC	Friction Reducer					
			2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.01683	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01355	

SI-1100	U.S. Well Services, LLC	Scale Inhibitor					
			Ethylene Glycol	107-21-1	40.00000	0.00713	
			Copolymer of Maleic and Acrylic acid	52255-49-9	10.00000	0.00147	
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	3.00000	0.00050	
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	3.00000	0.00049	
			Phosphino carboxylic acid polymer	71050-62-9	3.00000	0.00049	
Bioclear 2000	U.S. Well Services, LLC	Anti-Bacterial Agent					
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00417	
			Deionized Water	7732-18-5	28.00000	0.00238	
AP One	U.S. Well Services, LLC	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00066	
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Ethylene glycol	107-21-1	40.00000	0.00003	
			Formic acid	64-18-6	20.00000	0.00001	
			Butyl cellosolve	111-76-2	20.00000	0.00001	
			Polyether	Proprietary	10.00000	0.00001	
			Cinnamaldehyde	104-55-2	20.00000	0.00001	
			Acetophenone,thiourea,formaldehyde polymer	68527-49-1	5.00000	0.00000	

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.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

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. Randall Unit 1H
As-Drilled Plat
Antero Resources Corporation

	Bearing	Distance
L1	S 75°33' E	855.3'
L2	S 77°59' W	1610.7'
L3	N 55°34' W	2218.7'
L4	N 41°17' E	449.6'

11/10/2017

7,409' to Bottom Hole

10,453' to Top Hole

TOP LATITUDE 39 - 12 - 30
BOTTOM LATITUDE 39 - 10 - 00

LONGITUDE 80 - 37 - 30

7,072' to Top Hole

3,469' to Bottom Hole

Note: It appears 0 water wells were found within 2000' of proposed well. No occupied dwellings or 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.

Well No. Randall Unit 1H
3000'
(9) Gas Wells. See Wellhead Layout Detail
47-017-3134
47-017-5033
47-017-2716 (Plugged)
47-017-3130 (Abandoned)
47-017-3112 Plugged
Scale: 1" = 2000'

Well No. Randall Unit 1H Top Hole
Bottom Hole 7.5' Spot
Top Hole 7.5' Spot
Proposed
3 COs
Stone
Maple Tree
47-017-3134
47-017-2716 (Plugged)
47-017-3130 (Abandoned)
47-017-3112 (Plugged)
5/8" Rebar w/ cap
36" CO w/ 3 hacks
47-017-2826
47-017-2739 (Plugged)
Stump
Randall Unit 1H Bottom Hole
47-017-2687
500' Buffer
26" WO
As-Drilled
GRID NORTH

Tag	TM/Par	Owner	Bk / Pg	Ac.
1	16/17.1	Edward L. & Connie Lee Cumpston	281 / 355	29.41
2	16/17.3	John D. & Deborah Cumpston	232 / 127	32.00
3	16/17.4	Ronald E. & Trannis A. Smith	232 / 129	8.19
4	20/9.3	Mark E. & Tara A. Bee	253 / 146	19.77
5	20/8	James Devericks, et al	131 / 11	31.10
6	20/7	Mary Barile Merandi & Paul Lister (Mountain Link Associates)	288 / 131	13.00
7	20/6	Richard Dean Goldsmith	262 / 581	58.00
8	20/24.1	Darrell E. Reed, Jr.	261 / 662	2.00
9	20/11	Darrell E. Reed, Jr.	261 / 664	37.90
10	9.2	Mark E. & Tara A. Bee	253 / 149	4.44

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Randall Unit 1H Top Hole coordinates are
N: 252,913.43' Latitude: 39°11'18.79"
E: 1,670,765.06' Longitude: 80°39'41.62"
Bottom Hole coordinates are
N: 241,341.91' Latitude: 39°09'24.79"
E: 1,673,618.43' Longitude: 80°39'03.50"
UTM Zone 17, NAD 1983

Top Hole Coordinates	Bottom Hole Coordinates
N: 4,337,765.136 m	N: 4,334,254.410 m
E: 529,243.427 m	E: 530,171.494 m

Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

BRADLEY D. MILLER LICENSED No 2167 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR
SEAL

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.

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, P.S. 2167

ALLEGHENY SURVEYS, INC

Legend
- Proposed gas well
- Found Monument (as noted)
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)
- County Route

Wellhead Layout Detail (Not to Scale)
Tripel Unit 3H
Tripel Unit 1H (017-06284)
Tripel Unit 2H (017-06285)
Swiger Unit 1H (017-06273)
Swiger Unit 2H (017-06283)
Drilled Well No. Randall Unit 1H (017-06286)
Randall Unit 2H (017-06287)
Dorothy Unit 1H (017-06243)
Dorothy Unit 2H (017-06244)
Cross Unit 1H (017-06238)
Cross Unit 2H (017-06240)
N 90°00' W 10.0'

(⌖) Denotes Location of Well on United States Topographical Maps

FILE NO: 74-30-NM-13
DRAWING NO: As-Drilled Randall 1H Well
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

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

DATE: July 13 2017
OPERATOR'S WELL NO. Randall Unit 1H

API WELL NO
47 - 017 - 06286
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION : ☐ STORAGE ☐ DEEP ☒ SHALLOW
LOCATION: ELEVATION: Existing - 1333' Original - 1361' WATERSHED: Headwaters Middle Island Creek QUADRANGLE: New Milton
DISTRICT: New Milton COUNTY: Doddridge
SURFACE OWNER: Randall & Carolyn S. Stewart; Ruby Farr Maxwell, et al; Chad A. Swiger, et al; Everett Nicholson, et ux; ACREAGE: 105.1 108 121
ROYALTY OWNER: O.J. Herrod, et ux; Randall P. Stewart, et al; Joyce A. Shaw Nazelrod, et al LEASE NO: _____ ACREAGE: 69.54; 195; 384; 150
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 DEPTH: 7,341' TVD 19,152' MD

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

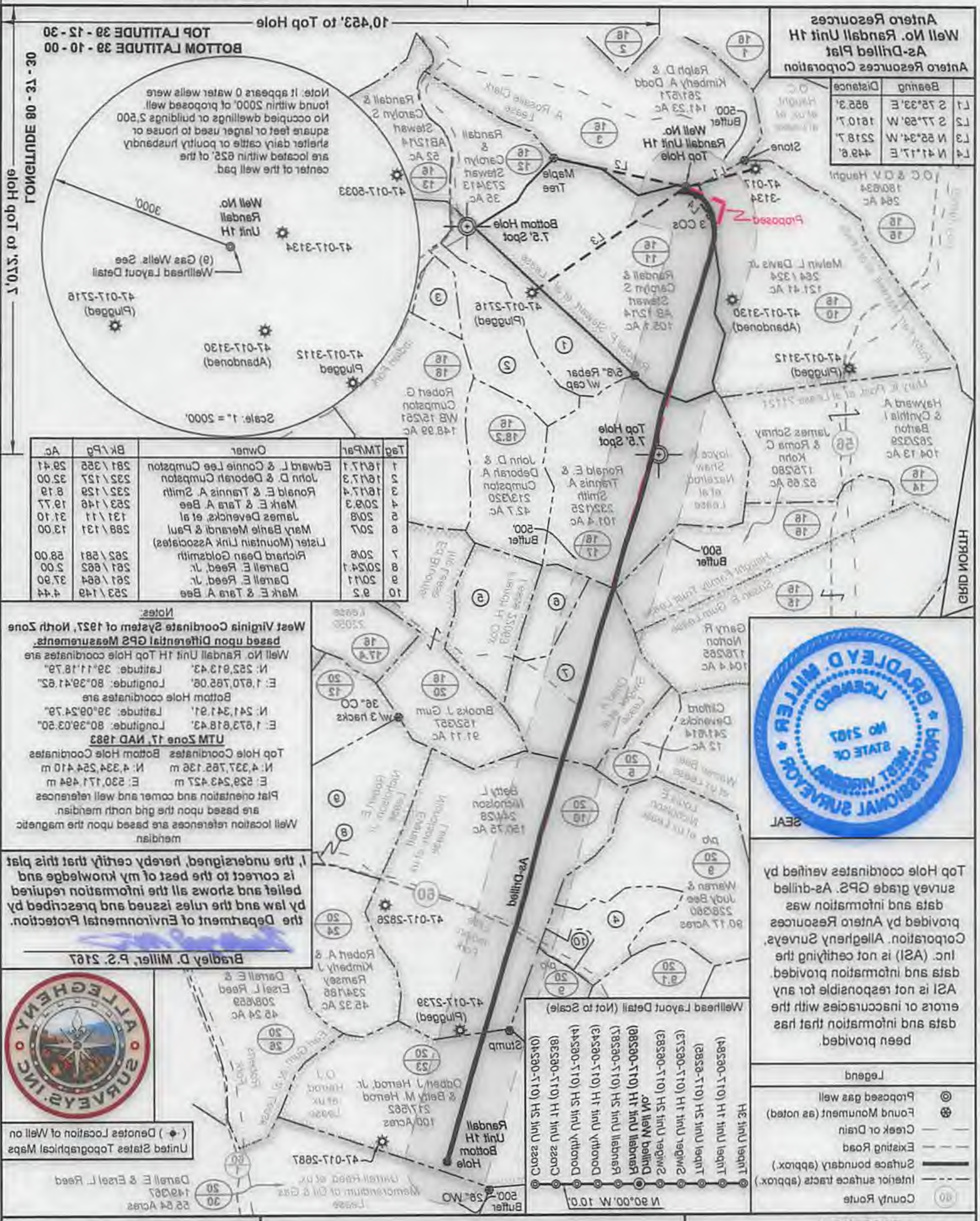
Antero Resources
Well No. Randall Unit 1H
As-Drilled Plat
Antero Resources Corporation

	Bearing	Distance
L1	S 76°33' E	655.3'
L2	S 77°59' W	1610.7'
L3	N 55°34' W	2218.7'
L4	N 41°17' E	449.6'

TOP LATITUDE 39 - 12 - 30
BOTTOM LATITUDE 39 - 10 - 00
LONGITUDE 80 - 37 - 30

10,453' to Top Hole
7,409' to Bottom Hole
2,710' to Top Hole
3,469' to Bottom Hole

Note: It appears 0 water wells were found within 2000' of proposed well. No occupied dwellings or 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.



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Bradley D. Miller, P.S. 2167

BRADLEY D. MILLER LICENSED No 2167 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR
SEAL

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ALLEGHENY SURVEYS, INC.

(◆) Denotes Location of Well on United States Topographical Maps

Wellhead Layout Detail (Not to Scale)
Tager Unit 1H (47-017-6284)
Tager Unit 2H (47-017-6282)
Swiger Unit 1H (47-017-6273)
Swiger Unit 2H (47-017-6283)
Well No. Randall Unit 1H (47-017-6286)
Randall Unit 2H (47-017-6287)
Dorothy Unit 1H (47-017-6285)
Dorothy Unit 2H (47-017-6284)
Cross Unit 1H (47-017-6283)
Cross Unit 2H (47-017-6210)
N 90°00' W 10.0'

Legend
◎ Proposed gas well
⊛ Found Monument (as noted)
Creek or Drain
Existing Road
Surface boundary (approx.)
Interior surface tracts (approx.)
(60) County Route

DATE: July 13 2017
OPERATOR'S WELL NO. Randall Unit 1H
API WELL NO
47 - 017 - 06286
STATE COUNTY PERMIT

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

FILE NO: 74-30-NM-13
DRAWING NO: As-Drilled Randall 1H Well
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
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DISTRICT: New Milton COUNTY: Doddridge
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