

# APPROVED

NAME: [Signature]

DATE: 11/8/17

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

API 47-017-06667 County Doddridge District Central  
Quad West Union 7.5' Pad Name Vogt Pad Field/Pool Name -----  
Farm name Gregory R. & Carolyn S. Vogt Well Number Duckbill 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 4347567m Easting 511878m  
Landing Point of Curve Northing 4347527.937m Easting 511534.128m  
Bottom Hole Northing 4350691m Easting 510504m

Elevation (ft) 1112' 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 01/26/2015 Date drilling commenced 04/07/2016 Date drilling ceased 07/01/2016  
Date completion activities began 02/01/2017 Date completion activities ceased 04/24/2017  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 18', 40', 136' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1628' 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: \_\_\_\_\_

01/05/2018

API 47-017 - 06667 Farm name Gregory R. & Carolyn S. Vogt Well number Duckbill 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"	34'	New	94#, K-55	N/A	Y
Surface	17-1/2"	13-3/8"	365'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2521'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18257'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6820'		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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	200 sx	16	1.18	236	0'	8 Hrs.
Surface	Class A	460 sx	15.6	1.18	543	0'	8 Hrs.
Coal							
Intermediate 1	Class A	992 sx	15.6	1.19	1180	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	833 sx (Lead) 1773 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.31 (Lead), 1.83 (Tail)	4336	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18257' MD, 6551' TVD (BHL), 6573' (Deepest Point Drilled) Loggers TD (ft) 18211' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6444'

\*\* This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Duckbill Unit 2H API #47-017-06668). Please reference the wireline logs submitted with Form WR-35 for Duckbill Unit 2H. 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

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

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WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

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

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



API 47- 017 - 06667 Farm name Gregory R. & Carolyn S. Vogt Well number Duckbill Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6531' (TOP)</u> TVD	<u>6940' (TOP)</u> 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 10572 mcfpd Oil 85 bpd NGL --- bpd Water 350 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 Precision Drilling Company, LP  
Address 2640 Reach Road City Williamsport State PA Zip 17701

Logging Company Clutch Energy Services LLC  
Address 2154 Greensburg Road City New Kensington State PA Zip 15068

Cementing Company Nabors Completion & Production Services, Co.  
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

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

Please insert additional pages as applicable.

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Completed by Samantha Klaas Telephone 303-357-6759  
Signature  Title Permitting Agent Date 11/01/2017 WV Department of Environmental Protection

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

01/05/2018

API 47-017-06667 Farm Name Gregory R. & Carolyn S. Vogt Well Number Duckbill Unit 1H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/1/2017	17989	18155	60	Marcellus
2	2/14/2017	17792	17958	60	Marcellus
3	2/15/2017	17596	17762	60	Marcellus
4	2/15/2017	17399	17565	60	Marcellus
5	2/15/2017	17203	17368	60	Marcellus
6	2/15/2017	17006	17172	60	Marcellus
7	2/16/2017	16809	16975	60	Marcellus
8	2/16/2017	16613	16779	60	Marcellus
9	2/16/2017	16416	16582	60	Marcellus
10	2/17/2017	16220	16385	60	Marcellus
11	2/17/2017	16023	16189	60	Marcellus
12	2/17/2017	15826	15992	60	Marcellus
13	2/17/2017	15630	15796	60	Marcellus
14	2/18/2017	15433	15599	60	Marcellus
15	2/18/2017	15237	15402	60	Marcellus
16	2/18/2017	15040	15206	60	Marcellus
17	2/18/2017	14843	15009	60	Marcellus
18	2/18/2017	14647	14813	60	Marcellus
19	2/19/2017	14450	14616	60	Marcellus
20	2/19/2017	14254	14419	60	Marcellus
21	2/19/2017	14057	14223	60	Marcellus
22	2/19/2017	13860	14026	60	Marcellus
23	2/20/2017	13664	13830	60	Marcellus
24	2/20/2017	13467	13633	60	Marcellus
25	2/20/2017	13270	13436	60	Marcellus
26	2/20/2017	13074	13240	60	Marcellus
27	2/20/2017	12877	13043	60	Marcellus
28	2/21/2017	12681	12846	60	Marcellus
29	2/21/2017	12484	12650	60	Marcellus
30	2/21/2017	12287	12453	60	Marcellus
31	2/21/2017	12091	12257	60	Marcellus
32	2/21/2017	11894	12060	60	Marcellus
33	2/21/2017	11698	11863	60	Marcellus
34	2/22/2017	11501	11667	60	Marcellus
35	2/22/2017	11304	11470	60	Marcellus
36	2/22/2017	11108	11274	60	Marcellus
37	2/22/2017	10911	11077	60	Marcellus
38	2/22/2017	10715	10880	60	Marcellus
39	2/23/2017	10518	10684	60	Marcellus
40	2/23/2017	10321	10487	60	Marcellus
41	2/23/2017	10125	10291	60	Marcellus
42	2/23/2017	9928	10094	60	Marcellus
43	2/23/2017	9732	9897	60	Marcellus
44	2/24/2017	9535	9701	60	Marcellus
45	2/24/2017	9338	9504	60	Marcellus
46	2/24/2017	9142	9308	60	Marcellus
47	2/24/2017	8945	9111	60	Marcellus
48	2/24/2017	8748	8914	60	Marcellus
49	2/25/2017	8552	8718	60	Marcellus
50	2/25/2017	8355	8521	60	Marcellus
51	2/25/2017	8159	8324	60	Marcellus
52	2/25/2017	7962	8128	60	Marcellus
53	2/25/2017	7765	7931	60	Marcellus
54	2/25/2017	7569	7735	60	Marcellus
55	2/26/2017	7372	7538	60	Marcellus
56	2/26/2017	7176	7341	60	Marcellus
57	2/26/2017	6979	7145	60	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	2/12/2017	63.4	8022	4929	3465	348000	14262	N/A
2	2/14/2017	72.7	7591	5536	4152	348700	7839	N/A
3	2/15/2017	72.1	7354	5533	4789	350200	7827	N/A
4	2/15/2017	74.7	7286	5268	3902	347640	7814	N/A
5	2/15/2017	78.5	7724	5740	5325	348000	7816	N/A
6	2/15/2017	80.7	7931	5379	4839	348900	7829	N/A
7	2/16/2017	80.4	7653	5382	5103	352000	7822	N/A
8	2/16/2017	79.8	7552	5186	5096	348990	7797	N/A
9	2/16/2017	80.1	7660	5211	4542	348550	7279	N/A
10	2/17/2017	78.8	7649	5482	4903	348450	8271	N/A
11	2/17/2017	80.3	7582	5114	4914	347500	7303	N/A
12	2/17/2017	79.9	7638	5947	4853	346900	7192	N/A
13	2/17/2017	79.8	7891	5397	5196	349550	7236	N/A
14	2/18/2017	80.2	7638	5279	5096	349000	7236	N/A
15	2/18/2017	80.4	7391	5193	5071	349880	7198	N/A
16	2/18/2017	80.1	7277	5182	4678	347800	7201	N/A
17	2/18/2017	80.1	7641	5336	4714	348300	8340	N/A
18	2/18/2017	80.4	7474	5661	5175	347800	7242	N/A
19	2/19/2017	80.6	7325	5264	5146	350600	7142	N/A
20	2/19/2017	80.3	7294	5078	4896	345620	7146	N/A
21	2/19/2017	80.2	7307	5243	5089	346750	7229	N/A
22	2/19/2017	80.1	7236	5284	4517	348350	7149	N/A
23	2/20/2017	80.4	7366	5525	5143	348250	7165	N/A
24	2/20/2017	80.4	7283	6158	5146	348840	7103	N/A
25	2/20/2017	81.0	7275	5518	5028	349020	7096	N/A
26	2/20/2017	80.1	7225	5386	4681	350200	7105	N/A
27	2/20/2017	79.8	7134	5257	5085	349120	7111	N/A
28	2/21/2017	79.8	7220	5232	5014	348420	7096	N/A
29	2/21/2017	80.1	7029	5178	5171	349160	7534	N/A
30	2/21/2017	80.4	6921	5229	5171	350110	7072	N/A
31	2/21/2017	80.5	7024	5232	4091	348410	7027	N/A
32	2/21/2017	80.2	6981	5264	5003	348320	6987	N/A
33	2/21/2017	85.4	7228	5447	4964	348800	7039	N/A
34	2/22/2017	85.3	7213	5354	5068	349500	7049	N/A
35	2/22/2017	83.6	6906	5368	4896	348880	7047	N/A
36	2/22/2017	80.3	6925	5856	4563	349250	7063	N/A
37	2/22/2017	80.8	7016	5414	5018	348090	7065	N/A
38	2/22/2017	84.8	7093	5447	5035	349800	6994	N/A
39	2/23/2017	84.8	6990	5211	5186	349550	7091	N/A
40	2/23/2017	85.2	6863	5450	5193	347750	7044	N/A
41	2/23/2017	85.4	6836	5457	4928	349760	7394	N/A
42	2/23/2017	84.8	6852	6008	5053	349000	6986	N/A
43	2/23/2017	85.2	6977	5862	5136	347820	6949	N/A
44	2/24/2017	85.5	6898	5769	4964	348540	6917	N/A
45	2/24/2017	85.1	6799	5397	5085	348870	6955	N/A
46	2/24/2017	85.3	6813	5250	5300	348610	6930	N/A
47	2/24/2017	85.9	7001	5751	5064	349300	6918	N/A
48	2/24/2017	82.8	7317	0	3666	348210	8318	N/A
49	2/25/2017	84.8	7179	5908	5075	322700	6664	N/A
50	2/25/2017	84.9	6889	5522	4950	347400	6939	N/A
51	2/25/2017	84.6	6778	5561	5332	348820	6910	N/A
52	2/25/2017	81.0	6742	5912	5268	348610	6899	N/A
53	2/25/2017	81.9	7107	5511	4070	347700	7846	N/A
54	2/25/2017	84.7	6864	6001	4821	348250	6863	N/A
55	2/26/2017	85.1	6950	5490	5125	348100	6779	N/A
56	2/26/2017	84.5	6790	5590	4617	348380	6890	N/A
57	2/26/2017	84.3	6957	5604	4864	348159	7662	N/A
	AVG=	81.3	7,220	5,364	4,881	19,847,179	420,677	TOTAL

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LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	18'	N/A	18'	N/A
Fresh Water	40'	N/A	40'	N/A
Fresh Water	136'	N/A	136'	N/A
Sandy Shale	est. 0	230	est. 0	230
Sandstone	est. 230	780	est. 230	780
Limestone	est. 780	910	est. 780	910
Sandstone/Limestone	est. 910	940	est. 910	940
Silty Dolostone	est. 940	1020	est. 940	1020
Silty Sandstone	est. 1020	1140	est. 1020	1140
Sandstone	est. 1140	1170	est. 1140	1170
Silty Sandstone	est. 1170	1200	est. 1170	1200
Silty Limestone	est. 1200	1230	est. 1200	1230
Siltstone	est. 1230	1380	est. 1230	1380
Silty Sandstone	est. 1380	1500	est. 1380	1500
Siltstone	est. 1500	1650	est. 1500	1650
Silty Dolostone	est. 1650	1950	est. 1650	1950
Silty Sandstone	est. 1950	2015	est. 1950	2015
Calcareous Sandstone	est. 2015	2056	est. 2015	2065
Big Lime	2056	2567	2065	2571
Gantz	2567	2691	2571	2695
Fifty Foot Sandstone	2691	2791	2695	2795
Gordon	2791	2967	2795	2971
Fifth Sandstone	2967	3122	2971	3126
Bayard	3122	3866	3126	3872
Speechley	3866	4164	3872	4177
Balltown	4164	4597	4177	4648
Bradford	4597	5005	4648	5103
Benson	5005	5279	5103	5406
Alexander	5279	5398	5406	5534
Elk	5398	5729	5534	5890
Rhinestreet	5729	6203	5890	6413
Sycamore	6203	6362	6413	6599
Middlesex	6362	6476	6599	6779
Burkett	6476	6503	6779	6843
Tully	6503	6531	6843	6940
Marcellus	6531	NA	6940	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:	2/12/2017
Job End Date:	2/26/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06667-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Duckbill 1H
Latitude:	39.27729167
Longitude:	-80.86245556
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,573
Total Base Water Volume (gal):	18,388,912
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	Antero Resources	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.20078	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	11.41429	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.24708	
			Hydrogen Chloride	7647-01-0	17.50000	0.05745	
WFRA-500	U.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.01858	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01495	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.01374	
			Petroleum Distillates	64742-47-8	60.00000	0.01301	
			Suspending agent (solid)	14808-60-7	3.00000	0.00210	
			Surfactant	68439-51-0	3.00000	0.00082	

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SI-1100	U.S. Well Services, LLC	Scale Inhibitor				
			Ethylene Glycol	107-21-1	40.00000	0.00711
			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	0.00407
			Deionized Water	7732-18-5	28.00000	0.00233
AP One	U.S. Well Services, LLC	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00057
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors				
			Ethylene glycol	107-21-1	40.00000	0.00008
			Cinnamaldehyde	104-55-2	20.00000	0.00003
			Formic acid	64-18-6	20.00000	0.00003
			Butyl cellosolve	111-76-2	20.00000	0.00003
			Polyether	60828-78-6	10.00000	0.00001
			Acetophenone,thiourea,formaldehyde polymer	68527-49-1	5.00000	0.00001

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)

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LATITUDE 39°17'30"

8,244'

944' TO BOTTOM HOLE  
LATITUDE 39°20'00"

LONGITUDE 80°52'30"

5,236'

LONGITUDE 80°50'00"

Antero Resources Corporation  
Well No. Duckbill Unit 1H  
API 47-017-06667

WELL 1H  
BOTTOM HOLE

VIRGINIA L. COTTRILL  
ET AL LEASE

WILLIAM COTTRILL JR.  
ET AL  
D.R. 293 PG. 477  
T.A. & PAR. 01  
6225 AC.±

MAXINE REED  
LEASE

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

THELMA E.  
JAMES ET AL  
W.R. 293 PG. 225  
T.A. & PAR. 05  
107 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

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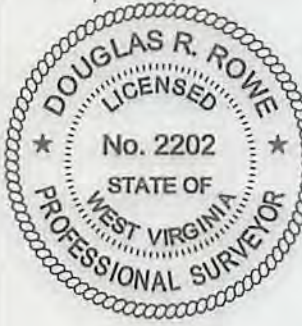
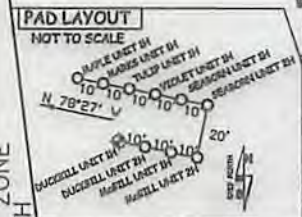
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D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

EDWARD V. REED  
D.R. 181 PG. 027  
T.A. & PAR. 02  
6933 AC.±

AS DRILLED:  
WELL 1H TOP HOLE INFORMATION:  
N: 286,030ft E: 1,614,318ft  
LAT: 39°16'38.25" LON: 80°51'44.84"  
BOTTOM HOLE INFORMATION:  
N: 296,358ft E: 1,609,980ft  
LAT: 39°18'19.67" LON: 80°52'42.01"  
WEST VIRGINIA COORDINATE  
SYSTEM OF 1927 NORTH ZONE.  
ZONE WAS DERIVED FROM  
MEASUREMENTS TAKEN WITH  
TRIMBLE GEOXT SUBMETER  
MAPPING GRADE GPS UNIT.  
PLAT ORIENTATION, CORNER,  
AND WELL REFERENCE TIE LINES  
ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:  
WELL 1H TOP HOLE INFORMATION:  
N: 4,347,567m E: 511,878m  
BOTTOM HOLE INFORMATION:  
N: 4,350,691m E: 510,504m

NOTE:  
1. NO OCCUPIED DWELLINGS OR BUILDINGS  
TWO THOUSAND FIVE HUNDRED (2,500)  
SQUARE FEET OR LARGER USED TO HOUSE OR  
SHELTER DAIRY CATTLE OR POULTRY  
REGARDLESS ARE LOCATED WITHIN SIX  
HUNDRED TWENTY-FIVE (625) FEET OF THE  
CENTER OF THE WELL PAD.  
2. TOP HOLE DATA SHOWN HEREON WAS  
PROVIDED BY ALLEGHENY SURVEYS, INC.  
3. AS DRILLED DATA WAS PROVIDED BY  
ANTERO RESOURCES CORPORATION.  
4. WAS IS NOT CERTIFYING THE DATA AND  
INFORMATION PROVIDED LISTED IN NOTES 2  
AND 3, ONLY THE RELATIONSHIP TO THE DATA  
AND INFORMATION PROVIDED TO THE LEASE  
BOUNDARIES.  
5. WAS IS BY NO MEANS RESPONSIBLE FOR  
ANY ERRORS OR DISCREPANCIES WITH THE  
DATA AND INFORMATION THAT HAS BEEN  
PROVIDED.



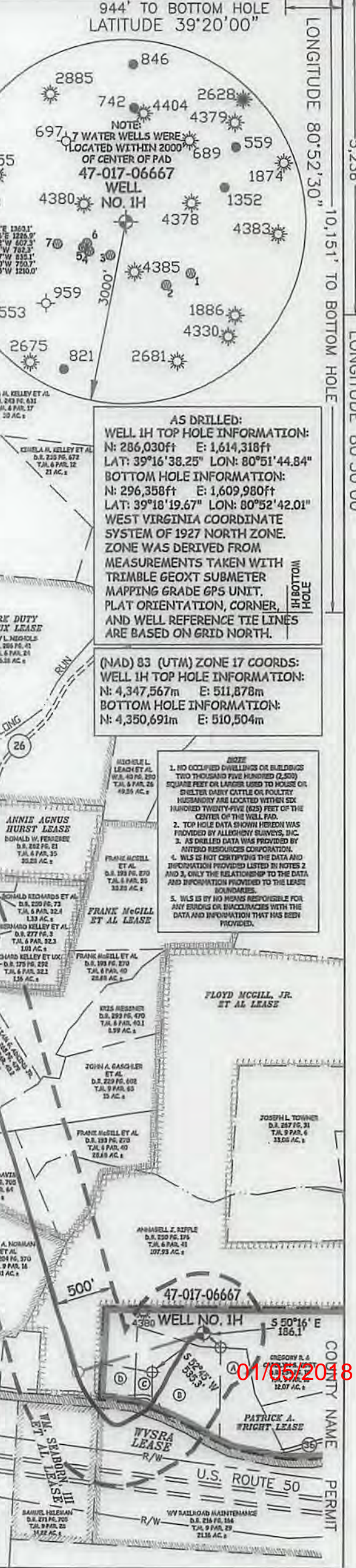
API WELL # 47 - 017 - 06667  
STATE COUNTY PERMIT  
JOB # 14-088WA  
DRAWING # DUCKBILL1HAD  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY SUBMETER  
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS  
LEGEND  
Surface Owner Boundary Lines +/-  
Interior Surface Tracts +/-  
Existing Fence  
Found monument, as noted  
Proposed Well Path  
As Drilled Well Path  
DOUGLAS R. ROWE P.S. 2202  
DATE 09/27/17  
OPERATOR'S WELL# DUCKBILL UNIT #1H

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 PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WILLOW LAND SURVEYING PLLC  
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS  
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
LOCATION: ELEVATION 1,112' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK  
QUADRANGLE WEST UNION 7.5 (TH) PENNSBORO 7.5 (BH) DISTRICT CENTRAL COUNTY DODDRIDGE  
SURFACE OWNER GREGORY R. & CAROLYN S. VOGT ACREAGE 12.07 ACRES +/-  
OIL & GAS ROYALTY OWNER PATRICK A. WRIGHT; WVSRA; WM. SEABORN, III ET AL; LEASE ACREAGE 222 AC.; 301.19 AC.; 22 AC.;  
FLOYD MCGILL, JR. ET AL; ANNA BARKER ET AL; FRANK MCGILL ET AL; KATE MASON ET AL; JAMES C. RIDDLE ET AL; 107 AC.; 127 AC.; 106 AC.; 06 AC.; 75 AC.;  
ANNIE AGNUS HURST; ARNOLD LYLE STUART ET UX; HARRY WILLIAMSON; MAXINE REED; VIRGINIA L. COTTRILL ET AL; 25 AC.; 71 AC.; 105 AC.; 73 AC.; 70 AC.;  
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE  
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL  
(SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG  
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,551' TVD 18,257' MD  
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER  
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313



COUNTY NAME PERMIT

017052018