

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

API 47-017-06916 County Doddridge District West Union  
Quad West Union Pad Name Gaspar Field/Pool Name -----  
Farm name Antero Midstream, LLC Well Number Mule 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 4351715m Easting 520452m  
Landing Point of Curve Northing 4350967.53m Easting 519688.21m  
Bottom Hole Northing 4348448m Easting 520512m

Elevation (ft) 1189' 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 1/18/2022 Date drilling commenced 3/5/2022 Date drilling ceased 7/9/2022  
Date completion activities began 9/19/2022 Date completion activities ceased 10/24/2022  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 140, 200, 171' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1345' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 814' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:

IMR 02/13/2023

03/17/2023

**APPROVED**

API 47- 017 - 06916 Farm name Antero Midstream, LLC Well number Mule 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	20"	16"	130'	New	62.64#, X-60	N/A	Y
Surface	13-1/2"	10-3/4"	355'	New	40.5#, J-55	N/A	Y
Coal							
Intermediate 1	9-7/8"	7-5/8"	2811'	New	26.4#, L-80	N/A	Y
Intermediate 2							
Intermediate 3							
Production	6-3/4"	5"	16654'	New	18#, P-110	N/A	Y
Tubing		2-3/8"	7701-1/5'		4.7#, P-110		
Packer type and depth set		N/A					

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

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	96 sx	15.6	1.18	22	0'	8 Hrs.
Surface	Class A	681 sx	15.8	1.16	790	0'	8 Hrs.
Coal							
Intermediate 1	Class A	657 sx	15.8	1.16	762	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	815 sx (Lead)	13 (Lead), 12.5 (Tail)	1.75 (Lead)	1426	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16654' MD, 6821' TVD (BHL), 6885' (Deepest Point Drilled) Loggers TD (ft) 16654' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6901'

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- 017 - 06916 Farm name Antero Midstream, LLC Well number Mule Unit 1H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
<b>*PLEASE SEE ATTACHED EXHIBIT 1</b>					

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)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

API 47- 017 - 06916 Farm name Antero Midstream, LLC Well number Mule Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6814' (TOP)</u>	<u>TVD</u>	<u>7915' (TOP)</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2867 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 7649 mcfpd Oil 100 bpd NGL --- bpd Water 1492 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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

**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

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

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

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

Stimulating Company Halliburton  
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

Please insert additional pages as applicable.

Completed by Carly Marvel Telephone 303-357-7373  
Signature Carly Marvel Title Permitting Agent Date 1/6/2023

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

03/17/2023

**API 47-017-06916 Farm Name Antero Midstream, LLC Well Number Mule Unit 1H**

**Exhibit 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	09/19/2022	15586.21319	15420.3451	60	Marcellus
2	09/22/2022	15384.77143	15218.9033	60	Marcellus
3	09/22/2022	15183.32967	15017.4615	60	Marcellus
4	09/22/2022	14981.88791	14816.0198	60	Marcellus
5	09/23/2022	14780.44615	14614.578	60	Marcellus
6	09/23/2022	14579.0044	14413.1363	60	Marcellus
7	09/23/2022	14377.56264	14211.6945	60	Marcellus
8	09/23/2022	14176.12088	14010.2527	60	Marcellus
9	09/23/2022	13974.67912	13808.811	60	Marcellus
10	09/23/2022	13773.23736	13607.3692	60	Marcellus
11	09/24/2022	13571.7956	13405.9275	60	Marcellus
12	09/24/2022	13370.35385	13204.4857	60	Marcellus
13	09/24/2022	13168.91209	13003.044	60	Marcellus
14	09/24/2022	12967.47033	12801.6022	60	Marcellus
15	09/24/2022	12766.02857	12600.1604	60	Marcellus
16	09/24/2022	12564.58681	12398.7187	60	Marcellus
17	09/24/2022	12363.14505	12197.2769	60	Marcellus
18	09/25/2022	12161.7033	11995.8352	60	Marcellus
19	09/25/2022	11960.26154	11794.3934	60	Marcellus
20	09/25/2022	11758.81978	11592.9516	60	Marcellus
21	09/25/2022	11557.37802	11391.5099	60	Marcellus
22	09/25/2022	11355.93626	11190.0681	60	Marcellus
23	09/25/2022	11154.49451	10988.6264	60	Marcellus
24	09/25/2022	10953.05275	10787.1846	60	Marcellus
25	09/25/2022	10751.61099	10585.7429	60	Marcellus
26	09/26/2022	10550.16923	10384.3011	60	Marcellus
27	09/26/2022	10348.72747	10182.8593	60	Marcellus
28	09/26/2022	10147.28571	9981.41758	60	Marcellus
29	09/26/2022	9945.843956	9779.97582	60	Marcellus
30	09/26/2022	9744.402198	9578.53407	60	Marcellus
31	09/27/2022	9542.96044	9377.09231	60	Marcellus
32	09/27/2022	9341.518681	9175.65055	60	Marcellus
33	09/27/2022	9140.076923	8974.20879	60	Marcellus
34	09/27/2022	8938.635165	8772.76703	60	Marcellus
35	09/27/2022	8737.193407	8571.32527	60	Marcellus
36	09/27/2022	8535.751648	8369.88352	60	Marcellus
37	09/27/2022	8334.30989	8168.44176	60	Marcellus
38	09/27/2022	8132.868132	7967	60	Marcellus

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**API 47-017-06916 Farm Name Antero Midstream, LLC Well Number Mule 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	09/19/2022	56.3	8566	4758	4196	400,240	478,167	N/A
2	09/22/2022	67.6	8525	5932	4636	395,860	512,480	N/A
3	09/22/2022	68.3	8546	6281	4651	400,420	299,303	N/A
4	09/22/2022	74.8	8329	5319	3868	401,920	323,212	N/A
5	09/23/2022	76.8	8342	3789	4416	396,880	295,055	N/A
6	09/23/2022	79.5	8320	4092	4425	397,440	291,072	N/A
7	09/23/2022	83.3	8529	5666	4665	403,420	308,181	N/A
8	09/23/2022	80.1	8548	5762	4270	414,800	290,541	N/A
9	09/23/2022	82.5	8565	5673	4218	395,070	288,960	N/A
10	09/23/2022	84.7	8487	5728	4095	406,490	305,995	N/A
11	09/24/2022	85.5	8411	4116	4090	398,540	296,311	N/A
12	09/24/2022	90.3	8569	4933	5099	397,560	290,574	N/A
13	09/24/2022	85.4	8616	3962	3923	400,430	289,553	N/A
14	09/24/2022	88.1	8562	4380	4694	407,400	299,363	N/A
15	09/24/2022	88.6	8509	4367	5153	400,940	287,106	N/A
16	09/24/2022	89.0	8535	3807	4659	395,180	291,721	N/A
17	09/24/2022	88.2	8480	5651	4010	413,770	304,105	N/A
18	09/25/2022	90.3	8543	5748	5042	398,660	293,890	N/A
19	09/25/2022	93.5	8408	4310	5025	393,360	287,892	N/A
20	09/25/2022	92.1	8483	5821	4307	393,530	283,988	N/A
21	09/25/2022	88.8	8515	5313	3689	404,210	296,494	N/A
22	09/25/2022	91.9	8554	4025	4360	395,370	288,522	N/A
23	09/25/2022	92.5	8489	4109	4379	396,900	301,317	N/A
24	09/25/2022	95.5	8475	5902	5170	393,930	286,329	N/A
25	09/25/2022	95.2	8500	4357	5120	398,010	292,423	N/A
26	09/26/2022	94.7	8364	6201	4132	414,985	304,537	N/A
27	09/26/2022	93.0	8401	4011	4106	409,495	306,602	N/A
28	09/26/2022	96.7	8315	4624	4723	400,740	289,433	N/A
29	09/26/2022	96.5	8391	6010	4559	405,580	287,002	N/A
30	09/26/2022	97.5	8269	4617	4761	411,870	294,235	N/A
31	09/27/2022	98.8	8284	6357	4013	395,560	291,267	N/A
32	09/27/2022	98.7	8351	3677	4803	412,470	307,739	N/A
33	09/27/2022	98.1	8259	3893	5016	394,700	286,713	N/A
34	09/27/2022	98.3	8236	5586	4994	411,580	296,759	N/A
35	09/27/2022	98.1	8386	5804	4825	395,100	285,036	N/A
36	09/27/2022	98.5	8309	6141	4037	401,420	293,047	N/A
37	09/27/2022	97.8	8186	5574	3978	395,800	292,180	N/A
38	09/27/2022	98.1	8103	6438	4153	391,030	295,109	N/A
	<b>AVG=</b>	<b>89</b>	<b>8,428</b>	<b>5,072</b>	<b>4,480</b>	<b>15,240,660</b>	<b>11,612,213</b>	<b>TOTAL</b>

03/17/2023

## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Shaley Siltstone	120	210	120	210
Shale	210	390	210	390
Silty Shale	390	480	390	480
Shale	480	810	480	810
Silty Shale	810	840	810	840
Shaley Sandstone	840	960	840	960
Shaley Sandstone	960	1,050	960	1,050
Shale	1,050	1,110	1,050	1,110
Sandy Shale	1,110	1,230	1,110	1,230
Shaley Sandstone	1,230	1,290	1,230	1,290
Sandstone, Tr Shale, Tr Silt	1,290	1,710	1,290	1,710
Shaley Sandstone, Occ Coal	1,710	1,890	1,710	1,890
Sandy Shale, Tr Coal, Tr Limestone	1,890	2,136	1,890	2,284
Big Lime	2,166	2,786	2,284	3,043
Fifty Foot Sandstone	2,786	2,860	3,013	3,129
Gordon	2,860	3,149	3,099	3,482
Fifth Sandstone	3,149	3,323	3,452	3,684
Bayard	3,323	4,015	3,654	4,487
Speechley	4,015	4,284	4,457	4,796
Balltown	4,284	4,688	4,766	5,257
Bradford	4,688	5,163	5,227	5,805
Benson	5,163	5,420	5,775	6,114
Alexander	5,420	6,642	6,084	7,557
Sycamore	6,413	6,612	7,269	7,527
Middlesex	6,612	6,741	7,527	7,736
Burkett	6,741	6,769	7,736	7,793
Tully	6,769	6,814	7,793	7,915
Marcellus	6,814	NA	7,915	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:	9/18/2022
Job End Date:	9/27/2022
State:	West Virginia
County:	Doddridge
API Number:	47-017-06916-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	MULE UNIT 1H
Latitude:	39.31451000
Longitude:	-80.76293000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,884
Total Base Water Volume (gal):	12,158,863
Total Base Non Water Volume:	0



### Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.96261	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.17572	



HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
Sand-Premium White-30/70	Halliburton	Proppant					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Crystalline silica, quartz	14808-60-7	100.00000	12.82407	
			Hydrochloric acid	7647-01-0	30.00000	0.04010	
			Complex Amine Compound	Proprietary	60.00000	0.03415	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01707	
			Guar gum	9000-30-0	100.00000	0.01424	
			Surfactant	Proprietary	5.00000	0.00285	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00285	
			Glutaraldehyde	111-30-8	30.00000	0.00237	
			Ethoxylated alcohols	Proprietary	5.00000	0.00058	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00057	
			Organic chloride compound	Proprietary	1.00000	0.00057	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00039	
			Ammonium persulfate	7727-54-0	100.00000	0.00039	
			Methanol	67-56-1	100.00000	0.00025	
			Oxylated phenolic resin	Proprietary	30.00000	0.00012	
			Ethanol	64-17-5	1.00000	0.00008	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	

			Nitrated acetate salt	Proprietary	0.01000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00001	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	

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

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

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

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

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

**Antero Resources**  
**Well No. Mule 1H**  
**As-Drilled**  
 Antero Resources Corporation

Sheet 1 of 2



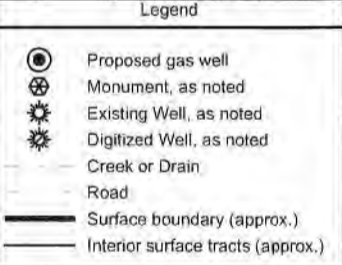
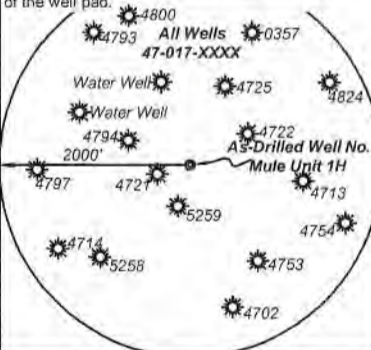
Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegany Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

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

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

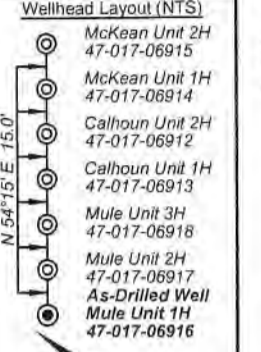


Note: 2 water well was found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



3,659' to Top Hole  
 3,493' to Bottom Hole  
 TOP HOLE LATITUDE 39 - 20 - 00  
 BTM HOLE LATITUDE 39 - 17 - 30

Mule Unit 1H As-Drilled  
 POE Coordinates  
 West Virginia  
 Coordinate System of 1927, North Zone  
 N: 296,761.25'  
 E: 1,640,132.07'  
 Latitude: 39°18'28.05"  
 Longitude: 80°46'18.52"  
 UTM Zone 17, NAD 1983  
 N: 4,350,967.526m  
 E: 519,688.208m



**Notes**  
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
 Well No. Mule Unit 1H Top Hole coordinates are  
 N: 299,173.65' Latitude: 39°18'52.25"  
 E: 1,642,678.99' Longitude: 80°45'46.56"  
 Bottom Hole coordinates are  
 N: 288,447.02' Latitude: 39°17'06.24"  
 E: 1,642,695.96' Longitude: 80°45'44.42"  
 UTM Zone 17, NAD 1983  
 Top Hole Coordinates Bottom Hole Coordinates  
 N: 4,351,715.432m N: 4,348,447.633m  
 E: 520,451.868m E: 520,511.544m  
 Plat orientation and corner and well references are based upon the grid north meridian.  
 Well location references are based upon the magnetic meridian.

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

FILE NO: 55-30-WU-14  
 DRAWING NO: Mule Unit 1H As-Drilled  
 SCALE: 1" = 1500'  
 MINIMUM DEGREE OF ACCURACY: Submeter  
 PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

DATE: December 20 20 22  
 OPERATOR'S WELL NO. Mule Unit 1H  
 API WELL NO  
 47 - 017 - 06916  
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built: 1,189' WATERSHED: Middle Island Creek QUADRANGLE: West Union  
 DISTRICT: West Union Antero  
 SURFACE OWNER: Midstream, LLC  
 ROYALTY OWNER: William A. Farr; James Lincoln Smith; William Ashburn Heirs; LEASE NO: 5148-227  
 COUNTY: Doddridge  
 ACREAGE: 45.8  
 ACREAGE: 301.19; 137; 53.5

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 6,821' TVD  
 16,654' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis  
 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oak Blvd.  
 Denver, CO 80202 Bridgeport, WV 26330

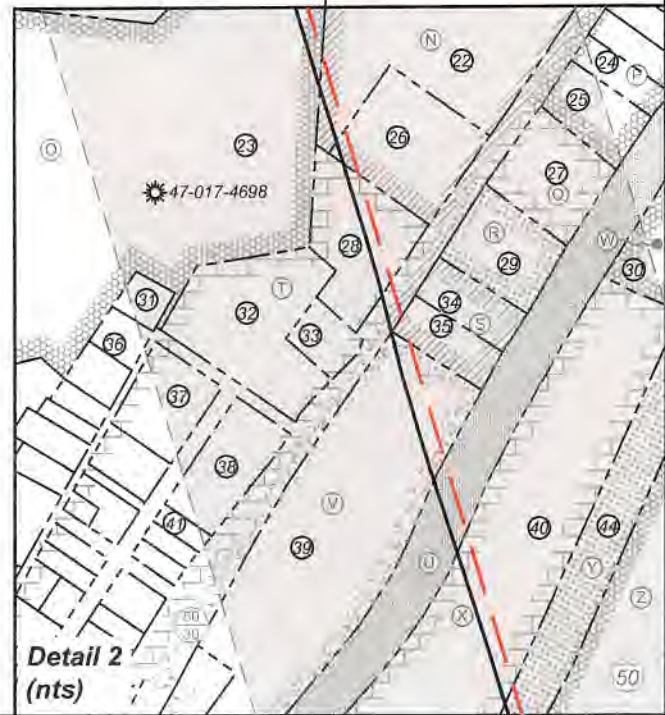
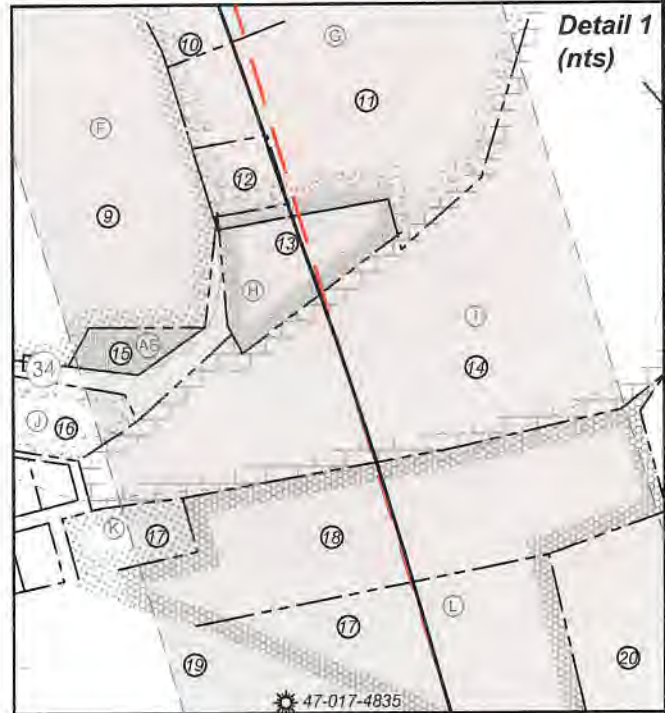
03/17/2023

**Antero Resources**  
**Well No. Mule 1H**  
**As-Drilled**  
 Antero Resources Corporation



Leases		
A	William A. Farr	O Frank Holtz Jr.
B	William Ashburn Heirs	P Winston Love Family Trust
C	James Lincoln Smith	Q Cheryl Lynn Hall
D	G. Frank Ash, et al	R James P. Pierce
E	Lila June Jackson	S Earl D. Daugherty
F	John F. Curran, II	T Franklin Maxwell Heirs
G	Roy E. Smith, et ux	U WVDNR
H	Trustees of West Union Christian Church	V Lesley Partite
I	Michael A. Swisher, et ux	W Key Oil Company & Franklin Butler
J	Elijah B. Ross	X AMP Fund III, LP
K	L. Donald Cinci, III	Y WV State Rail Authority
L	Ernest Spence Shannon, et al	Z R.S. Maxwell & Clarence E. Sigley Sr.
M	Ernest Spence Shannon, et al	AA Carolyn E. Farr Trust
N	Frank L. Butler	AB Michael T. Headley, et ux

ID	TM/Par	Owner	Bk/Pg	Acres
1	7-18.1	Antero Midstream, LLC	346/612	45.8
2	7-18	Antero Midstream, LLC	387/708	116.54
3	7-29	Sharon A. Gaspar	W113/242	182.67
4	7-27	Barbara J. Travis & Sharon K. Weekley	W62/674	69.69
5	7-18.3	Bryan & Ronda Ash	216/663	15.00
6	7-18.2	Brian D. and Patricia Sue Reed	392/472	1.34
7	7-30	Bryan & Ronda Ash	426/74	0.36
8	7-24	Iva Marie Partridge	W119/186	3.46
9	11-7	Paul David, II & Linda Nicole Weekley	250/445	41.16
10	11-87	Amy B. & Howard Spurlock II	244/522	8.94
11	11-87.1	Amy B. & Howard Spurlock II	243/113	5.94
12	11-87.2	Howard & Amy Spurlock II	425/632	0.47
13	11-86	Freeman Cemetery	---	1.00
14	11-7.1	Michael A. & Vivian L. Swisher	219/617	3.50
15	11-30	Michael T. & Susan M. Headley	277/138	0.45
16	1-157	Elijah B. Ross	361/225	1.45
17	11-15	Rhoda Rene Fitzsimmons, et al	272/89	4.65
18	11-14	Rhoda Rene Fitzsimmons, et al	272/89	5.12
19	11-22	Rhoda Rene Fitzsimmons, et al	272/660	23.27
20	11-16	Rhoda Rene Fitzsimmons, et al	272/89	19.72
21	11-23	Justin E. & Melissa Ann Holtz	342/354	23.77
22	11-24	Clarence Ray Bonnell, et al	105/317	15.76
23	11-42	Justin E. Holtz & Melissa Ann Megna	259/269	14.00
24	11-53	Shelly G. Bonnell	275/367	0.29
25	11-52	Daniel L. Friend	274/34	0.51
26	11-47	Marlin Purkey	320/722	1.15
27	11-51	Cheryl Lynn Hall	W89/488	1.00
28	11-46	Marlin Purkey	320/722	1.16
29	11-50	Earl R. Daugherty	304/415	1.00
30	11-69.1	Franklin L. Butler	255/666	1.00
31	11-24.1	Jo Ann B. Waters Revocable Trust	331/354	0.30
32	11-44	Lucinda R. Buchanan	294/461	0.44
33	11-45	David M. & Cinda L. Fleming	W51/603	0.28
34	11-49	Earl R. Daugherty & Naomi Jean Cupp	305/518	0.40
35	11-48	Earl R. Daugherty & Naomi Jean Cupp	305/518	0.32
36	2-1	Daniel L. & Leiva J. Webb	264/262	0.40
37	2-3	Town of West Union	264/678	0.62
38	2-4	James D. Owens	273/263	0.69
39	11-67.5	Earl R. Daugherty	368/30	5.78
40	11-68	Earl R. Daugherty	286/205	5.00
41	4-101	James D. Owens	273/263	0.10
42	11-95	WV Railroad Maintenance Authority	216/166	31.84
43	11-80	Karen M. Ireland Family L.P.	235/3	105.35
44	11-79.1	Daniel J. Welling	190/537	1.40
45	11-79	Randolph Cemetery	140/139	1.92
46	11-81	Carolyn E. Farr Irrevocable Trust	221/627	41.74
47	12-71.1	Franklin L. Butler & Key Oil Co.	256/324	81.91
48	15-8	Ruth M. Davies Pierce Heirs	26/160	1437.95



FILE NO: 55-30-WU-14  
 DRAWING NO: Mule Unit 1H As-Drilled  
 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: December 20 2022  
 OPERATOR'S WELL NO. Mule Unit 1H  
 API WELL NO  
47 - 017 - 06916  
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built: 1,189' WATERSHED: Middle Island Creek QUADRANGLE: West Union  
 DISTRICT: West Union Antero Headwaters: Carolyn E. Farr Trust; COUNTY: Doddridge  
 SURFACE OWNER: Midstream, LLC Frank Holtz, Jr.; Franklin Maxwell Heirs; Earl D. Daugherty; AMP Fund III, LP; ACREAGE: 45.8  
 ROYALTY OWNER: William A. Farr; James Lincoln Smith; William Ashburn Heirs; Michael A. Swisher, et ux; Ernest Spence Shannon, et al (2); Lesley Partite; ACREAGE: 301.19; 137; 53.5  
 LEASE NO: \_\_\_\_\_

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 16,854' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Kevin Ellis  
 ADDRESS: 1615 Wynkoop Street ADDRESS: 535 White Oak Blvd.  
Denver, CO 80202 Bridgeport, WV 26330

03/17/2023

**Antero Resources**  
**Well No. Mule 1H**  
**As-Drilled**  
 Antero Resources Corporation

Sheet 1 of 2

3,659' to Top Hole  
 3,493' to Bottom Hole  
 TOP HOLE LATITUDE 39 - 20 - 00  
 BTM HOLE LATITUDE 39 - 17 - 30

Mule Unit 1H As-Drilled  
 POE Coordinates  
 West Virginia  
 Coordinate System  
 of 1927, North Zone  
 N: 296,761.25'  
 E: 1,640,132.07'  
 Latitude: 39°18'28.05"  
 Longitude: 80°46'18.52"  
 UTM Zone 17, NAD 1983  
 N: 4,350,967.526m  
 E: 519,688,208m

Wellhead Layout (NTS)  
 McKean Unit 2H  
 47-017-06915  
 McKean Unit 1H  
 47-017-06914  
 Calhoun Unit 2H  
 47-017-06912  
 Calhoun Unit 1H  
 47-017-06913  
 Mule Unit 3H  
 47-017-06918  
 Mule Unit 2H  
 47-017-06917  
 As-Drilled Well  
 Mule Unit 1H  
 47-017-06916

LONGITUDE 80 - 45 - 00  
 2,405' to Bottom Hole  
 6,855' to Top Hole



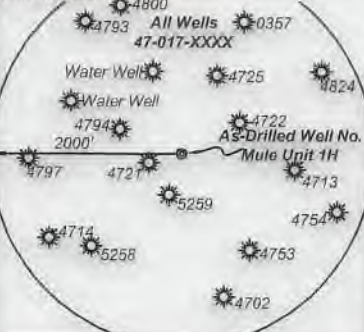
Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

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

Bradley D. Miller, P.S. 2167



Note: 2 water well was 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.



**Legend**

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

**Notes**  
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
 Well No. Mule Unit 1H Top Hole coordinates are  
 N: 299,173.65' Latitude: 39°18'52.25"  
 E: 1,642,678.99' Longitude: 80°45'46.56"  
 Bottom Hole coordinates are  
 N: 288,447.02' Latitude: 39°17'06.24"  
 E: 1,642,695.96' Longitude: 80°45'44.42"  
 UTM Zone 17, NAD 1983  
 Top Hole Coordinates Bottom Hole Coordinates  
 N: 4,351,715.432m N: 4,348,447.633m  
 E: 520,451.868m E: 520,511.544m  
 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 89°47' E	1,518.7'
L2 S 62°09' E	636.8'
L3 S 61°56' W	773.6'
L4 N 20°01' W	1,529.4'

FILE NO: 55-30-WU-14  
 DRAWING NO: Mule Unit 1H As-Drilled  
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**STATE OF WEST VIRGINIA**  
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 47 - 017 - 06916  
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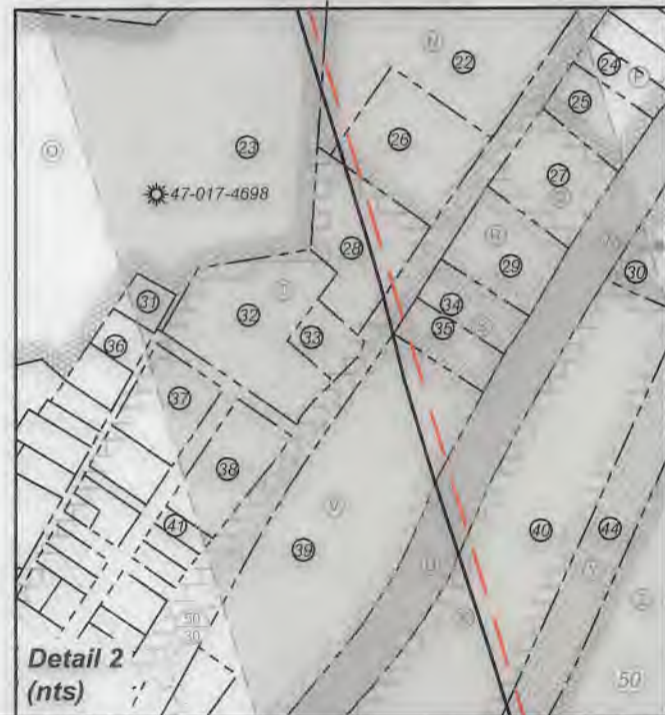
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03/17/2023



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