



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Monday, March 21, 2022
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for MULE UNIT 3H
47-017-06918-00-00

Lateral Extension

ANTERO RESOURCES CORPORATION

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: MULE UNIT 3H
Farm Name: ANTERO MIDSTREAM, LLC
U.S. WELL NUMBER: 47-017-06918-00-00
Horizontal 6A New Drill
Date Modification Issued: 3/21/2022

Promoting a healthy environment.

03/25/2022

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: Antero Resources Corporation 494507062 017-Doddridge West Union West Union 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Mule Unit 3H Well Pad Name: Gaspar

3) Farm Name/Surface Owner: Antero Midstream Public Road Access: US Route 5

4) Elevation, current ground: 1216' Elevation, proposed post-construction: 1189'

5) Well Type (a) Gas Oil Underground Storage

Other

(b) If Gas Shallow Deep

Horizontal

SDW
3/10/2022

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7600 TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 7600 TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19,000'

11) Proposed Horizontal Leg Length: 8836'

12) Approximate Fresh Water Strata Depths: 200'

13) Method to Determine Fresh Water Depths: Offset well records, 47017047970000

14) Approximate Saltwater Depths: 1345'

15) Approximate Coal Seam Depths: None Anticipated

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes No

(a) If Yes, provide Mine Info: Name: _____

Depth: _____

Seam: _____

Owner: _____

WW-6B
(04/15)

API NO. 47- 017 - 06918 MOD
 OPERATOR WELL NO. Mule Unit 3H
 Well Pad Name: Gaspar

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	16"	New	H-40	65#	100'	100'	CTS, 79 Cu. Ft.
Fresh Water	10-3/4"	New	J/K-55	40.4#	300	300'	CTS, 164 Cu. Ft.
Coal	7-5/8"	New	P-110CY	26.4#	2500'	2500'	CTS, 698 Cu. Ft.
Intermediate							
Production	5"	New	P-110 CY	18#	19000'	19000'	CTS, 2023Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

SPW
3/10/2022

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	16"	20"	0.375"	1530	50	Class A	~1.16
Fresh Water	10-3/4"	13-1/2"	0.35"	2730	1000	Class A	~1.16
Coal	7-5/8"	9-7/8"	0.328"	9410	1500	Class A	~1.16
Intermediate							
Production	5"	6-3/4"	0.362"	15,840	12,000	Class G/H	~1.16
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill a new horizontal shallow well into the Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs

Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 48.38 acres

22) Area to be disturbed for well pad only, less access road (acres): 8.32 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

24) Describe all cement additives associated with each cement type:

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

RECEIVED
Office of Oil and Gas

MAR 09 2022

WV Department of
Environmental Protection

25) Proposed borehole conditioning procedures:

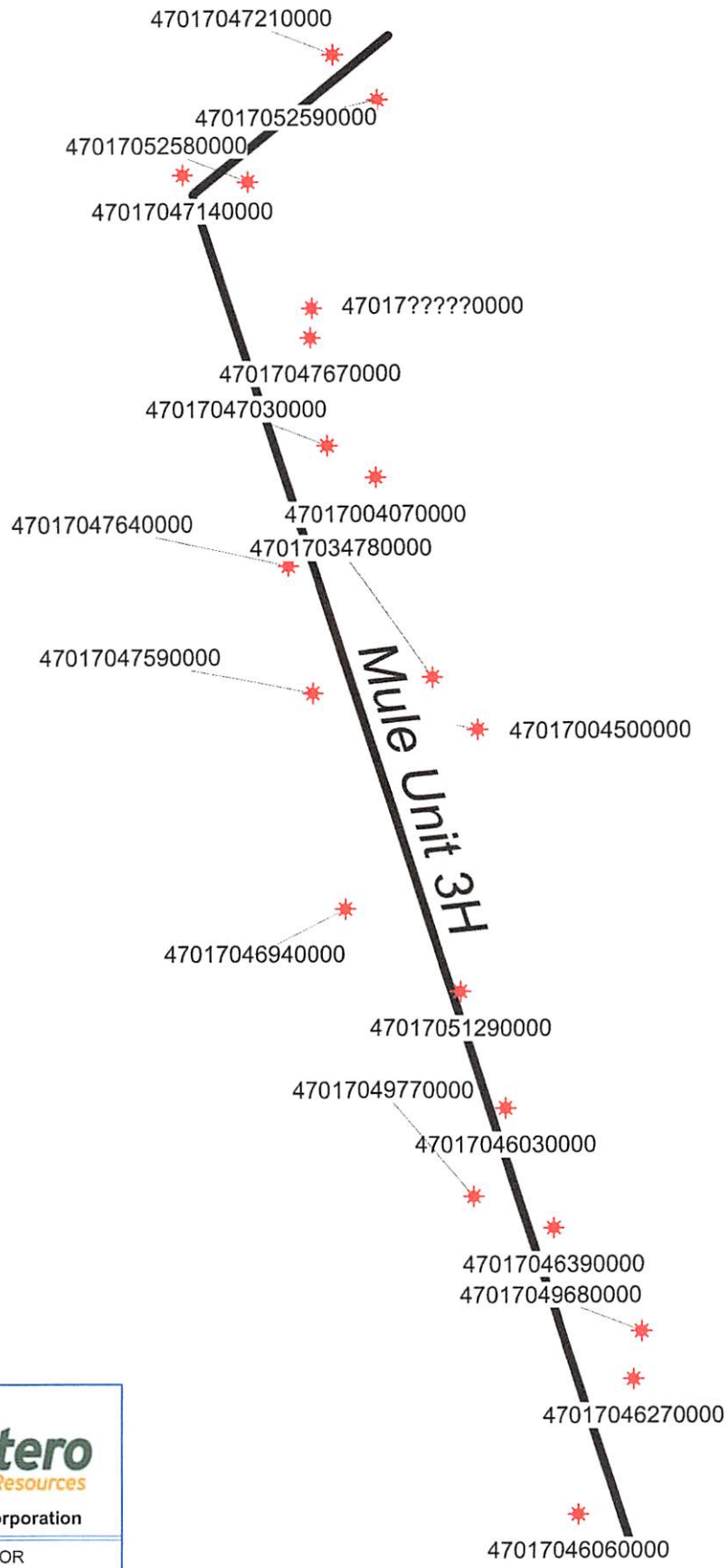
Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

*Note: Attach additional sheets as needed.



Antero Resources Corporation

Mule Unit 3H - AOR



WELL SYMBOLS
Gas Well

February 22, 2022

03/25/2022

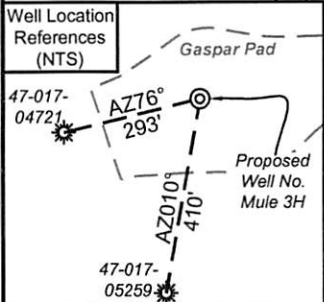
Mule 34 AOR

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47017052590000	J SMITH	5	ANTERO RESOURCES CORPORATION	SPENCER ENTERPRISES	2,966	2078 - 2766	Greenbrier, Big Injun, Gordon	Warren, Speechly, Balltown, Riley, Benson
47017047210000	FARR	2	KEY OIL CO	KEY OIL CO	5,630	3524 - 5481	Warren, Speechley, Balltown, Riley, Benson, Alexander	Gordon, Berea
47017052580000	J SMITH	4	ANTERO RESOURCES CORPORATION	SPENCER ENTERPRISES	2,818	1992 - 2712	Greenbrier, Big Injun, Gordon	Alexander, Berea
47017047140000	FARR	1	KEY OIL CO	KEY OIL CO	5,497	3439 - 5391	Warren, Speechley, Balltown, Riley, Benson, Alexander	Gordon, Berea
47017047670000	SMITH J	3	SPENCER ENTERPRISES	SPENCER ENTERPRISES	2,950	2120 - 2820	Big Injun, Gordon	Alexander, Berea
47017047030000	SMITH-SUMMERS	1	KEY OIL CO	KEY OIL CO	5,651	3487 - 5458	Warren, Speechley, Balltown, Riley, Benson, Alexander	Gordon, Berea
47017004070000	ROBERT POWELL	1	BIG SAND DRILLING	BAKER DEVELOP	2,094		Maxton, Big Injun	Gordon, Berea
47017047640000	BUCK	2	SPENCER ENTERPRISES	SPENCER ENTERPRISES	2,312	2138 - 2158	Gordon	Alexander, Berea
47017034780000	BUCK SHELIA ET AL	1	SPENCER ENTERPRISES	SPENCER ENTERPRISES	1,915	1702 - 1730	Big Lime	Gordon, Berea
47017047590000	BUCK	1	KEY OIL CO	KEY OIL CO	5,510	3358 - 5301	Warren, Speechley, Balltown, Riley, Benson, Alexander	Gordon, Berea
47017046940000	LONGACRE	2	KEY OIL CO	KEY OIL CO	5,336	3228 - 5199	Warren, Speechley, Balltown, Riley, Benson, Alexander	Gordon, Berea
47017051290000	CAROLL	6	BERRY ENERGY INC	ALPHA GAS CORP	2,620	1690 - 2458	Keener, Big Injun, Gordon	Gordon, Berea
47017046030000	CAROLL	2	KEY OIL CO	KEY OIL CO	5,362	3266 - 5231	Speechley, Riley, Benson, Alexander	Gordon, Berea
47017049770000	CAROLL	4	BERRY ENERGY INC	ALPHA GAS CORP	2,856	1911 - 2814	Keener, Big Injun, Gordon	Gordon, Berea
47017046390000	CAROLL	2	BERRY ENERGY INC	ALPHA GAS CORP	2,815	1910 - 2774	Big Injun, Gordon	Alexander, Berea
47017049680000	MAXWELL/FARR	8	BERRY ENERGY INC	ALPHA GAS CORP	3,050	2028 - 2756	Keener, Big Injun, Gordon	Alexander, Berea
47017046270000	CARROLL	3	BERRY ENERGY INC	ALPHA GAS CORP	2,810	1914 - 2688	Big Injun, Gordon	Alexander, Berea
47017046060000	MAXWELL/FARR	1	KEY OIL CO	KEY OIL CO	5,509	3396 - 5355	Warren, Speechley, Balltown, Riley, Benson, Alexander	Gordon, Berea
47017004500000	ROBERT POWELL	3	BIG SAND DRILLING	BAKER DEVELOP	2,081		Maxton, Big Lime, Big Injun	Gordon, Berea

Antero Resources
Well No. Mule 3H
BHL MOD
 Antero Resources Corporation

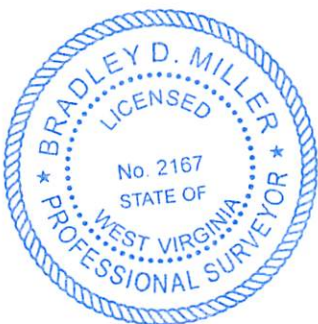
Sheet 1 of 2

3,635' to Top Hole
 2,071' to Bottom Hole
 TOP HOLE LATITUDE 39 - 20 - 00
 BTM HOLE LATITUDE 39 - 17 - 30
 LONGITUDE 80 - 45 - 00
 1,435' to Bottom Hole
 6,837' to Top Hole

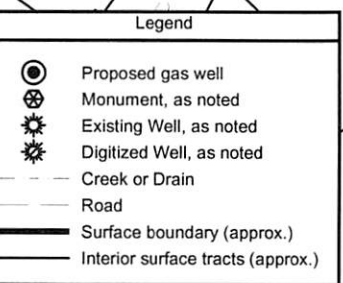
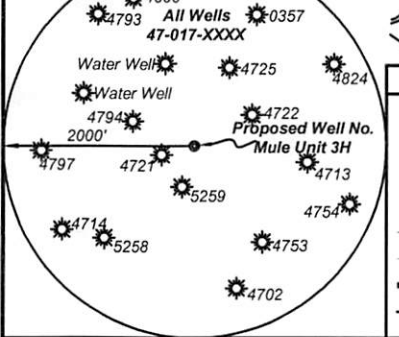


I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

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

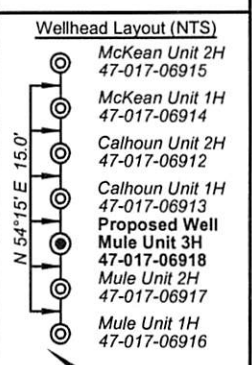


Note: 2 water well was found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Mule Unit 3H Top Hole coordinates are
 N: 299,191.55" Latitude: 39°18'52.43"
 E: 1,642,703.38" Longitude: 80°45'46.25"
 Bottom Hole coordinates are
 N: 289,396.36" Latitude: 39°17'15.82"
 E: 1,644,130.83" Longitude: 80°45'26.34"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,351,721.010m N: 4,348,744.154m
 E: 520,459.208m E: 520,958.007m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

Notes:
 Well No. Mule Unit 3H UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,276,556.37'
 E: 1,707,492.64'
 Point of Entry Coordinates
 N: 14,275,189.61'
 E: 1,706,352.26'
 Bottom Hole Coordinates
 N: 14,266,789.79'
 E: 1,709,082.69'



	Bearing	Dist.
L1	N 89°07' E	1,543.3'
L2	S 64°33' E	650.6'
L3	S 62°15' W	743.6'
L4	N 18°56' W	1,538.1'
L5	S 40°48' W	1,780.7'

FILE NO: 55-30-WU-14
 DRAWING NO: Mule Unit 3H 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: February 25 2022
 OPERATOR'S WELL NO. Mule Unit 3H
 API WELL NO MOD
 47 - 017 - 06918
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Existing: 1,216' Proposed: 1,189' WATERSHED: Middle Island Creek QUADRANGLE: West Union
 DISTRICT: West Union Antero COUNTY: Doddridge 03/25/2022
 SURFACE OWNER: Midstream, LLC R.S. Maxwell & Clarence E. Sigley, Sr.; WVDNR; WV State Rail Authority; WV DOT, Division of Highways; 54.48;
 ROYALTY OWNER: William A. Farr; James Lincoln Smith; Robert Powell, et ux; John G. Azar; LEASE NO: ACREAGE: 45.8 180; 44; 6.145;
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,000' MD 7,600' TVD

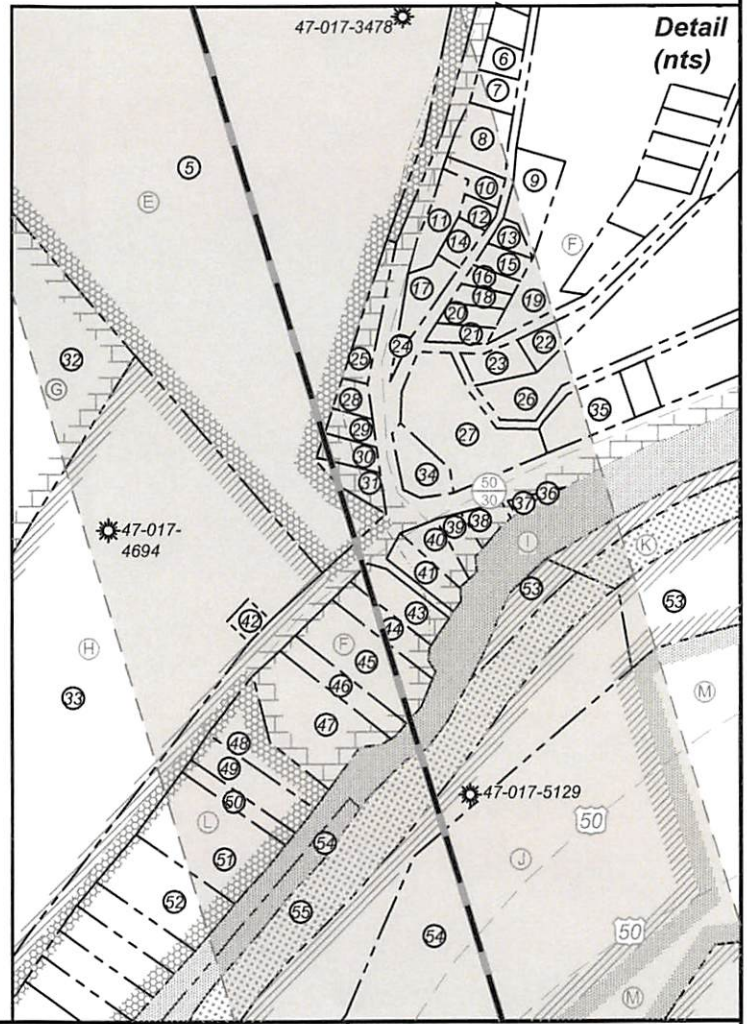
WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
 Denver, CO 80202 Charleston, WV 25313

Antero Resources
Well No. Mule 3H
BHL MOD
 Antero Resources Corporation



Leases	
A	William A. Farr
B	James Lincoln Smith
C	Robert Powell, et ux
D	John G. Azar
E	Richard Lowther, et ux
F	Carolyn E. Farr Trust
G	Ernest Spence Shannon, et al
H	Frank L. Butler
I	WVDNR
J	Mary Agnes Phillips, et al
K	WV State Rail Authority
L	Winston Love Family Trust
M	WV DOT, Division of Highways
N	R.S. Maxwell & Clarence E. Sigley Sr.

ID	TM/Par	Owner	Bk/Pg	Acres
1	7-18.1	Antero Midstream, LLC	346/612	45.8
2	7-29	Sharon A. Gaspar	W113/242	182.67
3	11-8	Granville Jr. & Rose Mae Criss	317/43	44.15
4	11-9.1	Leonard & Sheila Cash	387/31	6.14
5	11-9	Shelia Jane Lynch Buck, et al	W8/35	56.25
6	34-56	Terri Lynn Whitehill	AP44/659	0.10
7	34-55	Terri Lynn Whitehill	AP44/659	0.10
8	34-6	Webb & Son, LLC	423/335	0.25
9	34-63	Terri Lynn Whitehill	AP44/659	0.30
10	34-54	Terri Lynn Whitehill	AP44/659	0.12
11	34-53.1	Cheryl L. Brunner	AP38/201	0.24
12	34-5	Terri Lynn Whitehill	AP44/659	0.07
13	34-64	Terri Lynn Whitehill	AP44/659	0.08
14	34-53	Terri Lynn Whitehill	AP44/659	0.10
15	34-65	Terri Lynn Whitehill	AP44/659	0.10
16	34-66	Terri Lynn Whitehill	AP44/659	0.10
17	34-52	Terri Lynn Whitehill	AP44/659	0.20
18	34-67	Terri Lynn Whitehill	AP44/659	0.10
19	34-7	Terri Lynn Whitehill	AP44/659	3.00
20	34-68	Terri Lynn Whitehill	AP44/659	0.10
21	34-69	Terri Lynn Whitehill	AP44/659	0.10
22	34-83	Terri Lynn Whitehill	AP44/659	0.20
23	34-70	Terri Lynn Whitehill	AP44/659	0.16
24	34-5	Terri Lynn Whitehill	AP44/659	0.07
25	34-4	Terri Lynn Whitehill	AP44/659	0.22
26	34-98	Rossie & Eva Lowery	272/321	15.62
27	34-8	Terri Lynn Whitehill	AP44/659	1.40
28	34-50	Terri Lynn Whitehill	AP44/659	0.11
29	34-49	Terri Lynn Whitehill	AP44/659	0.14
30	34-48	Terri Lynn Whitehill	AP44/659	0.14
31	34-47	Terri Lynn Whitehill	AP44/659	0.14
32	11-16	Rhoda Rene Fitzsimmons, et al	272/89	19.72
33	11-24	Clarence Ray Bonnell, et al	105/317	15.76
34	11-46	Terri Lynn Whitehill	AP44/659	0.20
35	34-98	Rossie & Eva Lowery	272/321	15.62
36	34-24	Terri Lynn Whitehill	AP44/659	0.07
37	34-24	Terri Lynn Whitehill	AP44/659	0.07
38	34-23	Terri Lynn Whitehill	AP44/659	0.15
39	34-12	Terri Lynn Whitehill	AP44/659	0.14
40	34-22	Terri Lynn Whitehill	AP44/659	0.16
41	34-115	Rhonda Cunningham, et al	357/64	0.16
42	11-40	Webb & Son	438/195	0.08
43	34-20	Rhonda Cunningham, et al	357/64	0.20
44	34-21	Rhonda Cunningham, et al	357/64	0.18
45	34-11	Monkey Row Trailer Park LLC	288/26	0.40
46	34-19	Monkey Row Trailer Park LLC	288/26	0.21
47	34-10	Monkey Row Trailer Park LLC	288/26	0.65
48	11-66	Monkey Row Trailer Park LLC	288/26	0.25
49	11-65.1	Monkey Row Trailer Park LLC	288/26	0.40
50	11-65	Monkey Row Trailer Park LLC	288/26	0.15
51	11-64	Monkey Row Trailer Park LLC	288/26	0.96
52	11-63	Monkey Row Trailer Park LLC	288/26	0.73
53	11-26	Karen M. Ireland Family L.P.	235/3	11.80
54	11-25	J. Charles & George J. Buff III, et al	377/517	6.02
55	11-95	WV Railroad Maintenance Authority	216/166	31.84
56	11-70	Four Leaf Land Co.	270/147	0.24
57	11-25.1	J. Charles & George J. Buff III, et al	377/517	16.72
58	12-63	Karen M. Ireland Family L.P.	235/3	31.50
59	11-80	Karen M. Ireland Family L.P.	235/3	105.35
60	12-71.1	Franklin L. Butler & Key Oil Co.	256/324	81.91



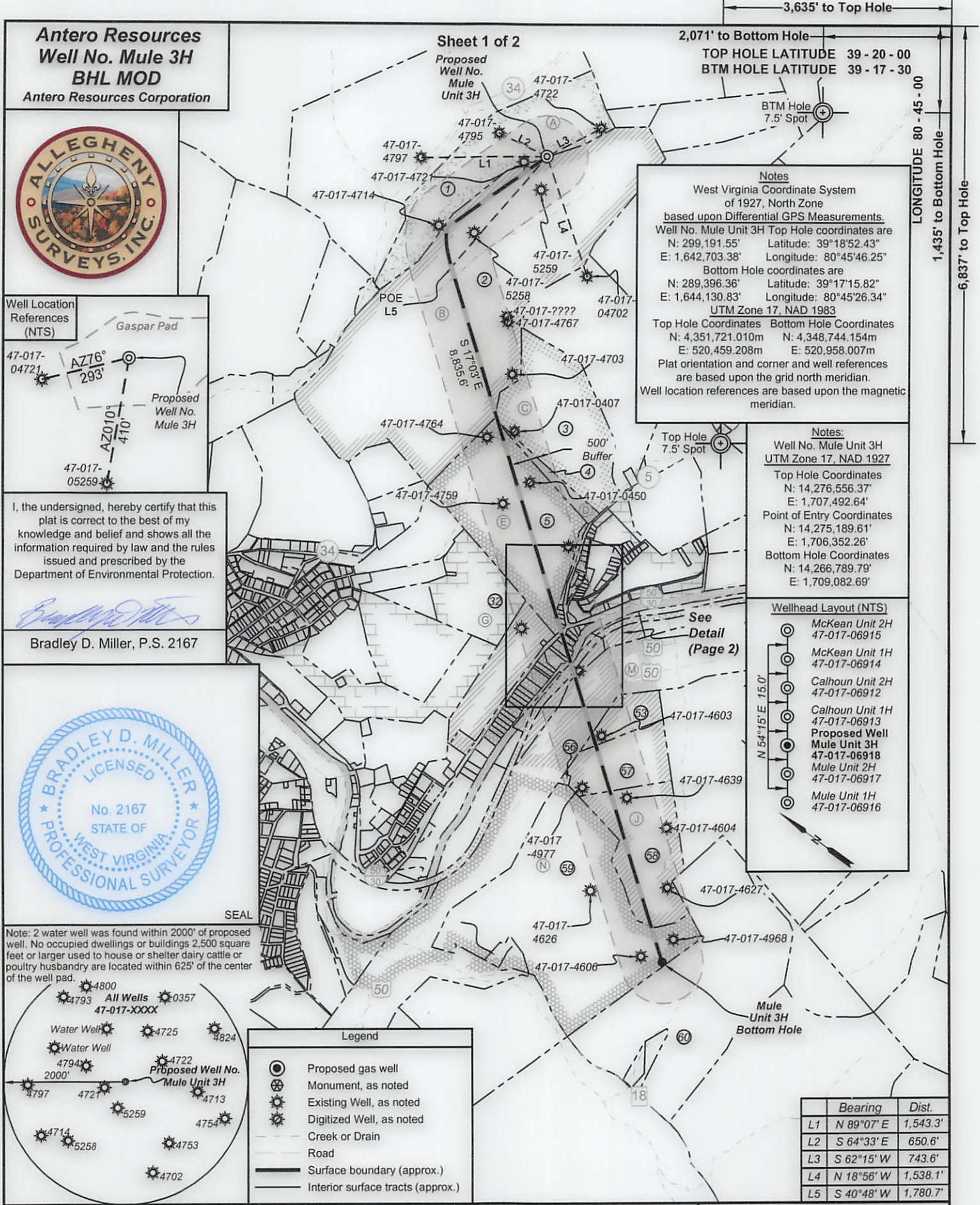
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 DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

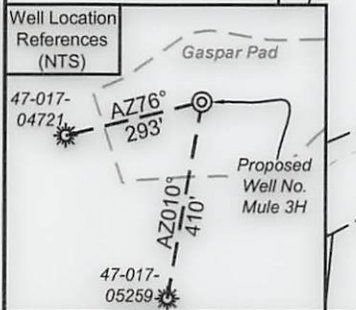
DATE: February 25 2022
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 API WELL NO **MUD**
 47 - 017 - 06918
 STATE COUNTY PERMIT

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 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
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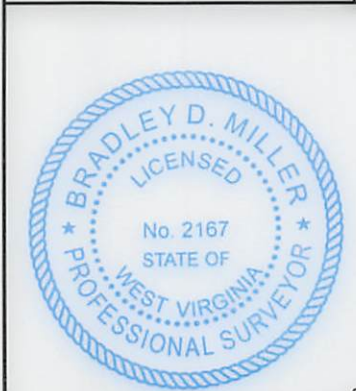
Antero Resources
Well No. Mule 3H
BHL MOD
 Antero Resources Corporation



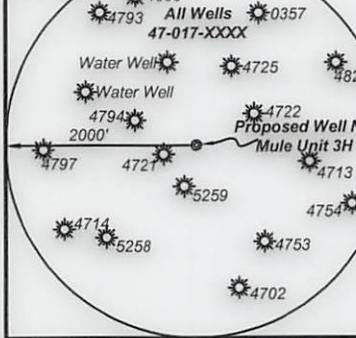
I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Bradley D. Miller

Bradley D. Miller, P.S. 2167



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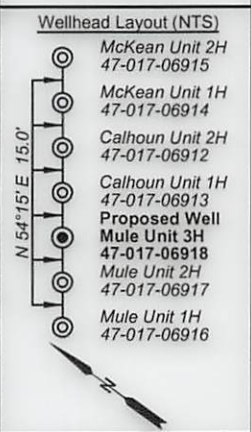


Legend

- 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
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 E: 1,707,492.64'
 Point of Entry Coordinates
 N: 14,275,189.61'
 E: 1,706,352.26'
 Bottom Hole Coordinates
 N: 14,266,789.79'
 E: 1,709,082.69'



Bearing	Dist.
L1 N 89°07' E	1,543.3'
L2 S 64°33' E	650.6'
L3 S 62°15' W	743.6'
L4 N 18°56' W	1,538.1'
L5 S 40°48' W	1,780.7'

FILE NO: 55-30-WU-14
 DRAWING NO: Mule Unit 3H 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: February 25 20 22
 OPERATOR'S WELL NO. Mule Unit 3H
 API WELL NO **MOD**
 47 - 017 - 06918
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: Existing: 1,216' Proposed: 1,189' WATERSHED: Middle Island Creek QUADRANGLE: West Union

DISTRICT: West Union Antero COUNTY: Doddridge 03/25/2022

SURFACE OWNER: Midstream, LLC R.S. Maxwell & Clarence E. Sigley, Sr.; WVDNR; WV State Rail Authority; WV DOT, Division of Highways; Richard Lowther, et ux; Carolyn E. Farr Trust; Mary Agnes Phillips, et al; ACREAGE: 45.8 180; 44; 6.145; 56.25; 38; 301.19;

ROYALTY OWNER: William A. Farr; James Lincoln Smith; Robert Powell, et ux; John G. Azar; LEASE NO: ACREAGE: 45.8; 92; 10.9; 137

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD 7,600' TVD

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,000' 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

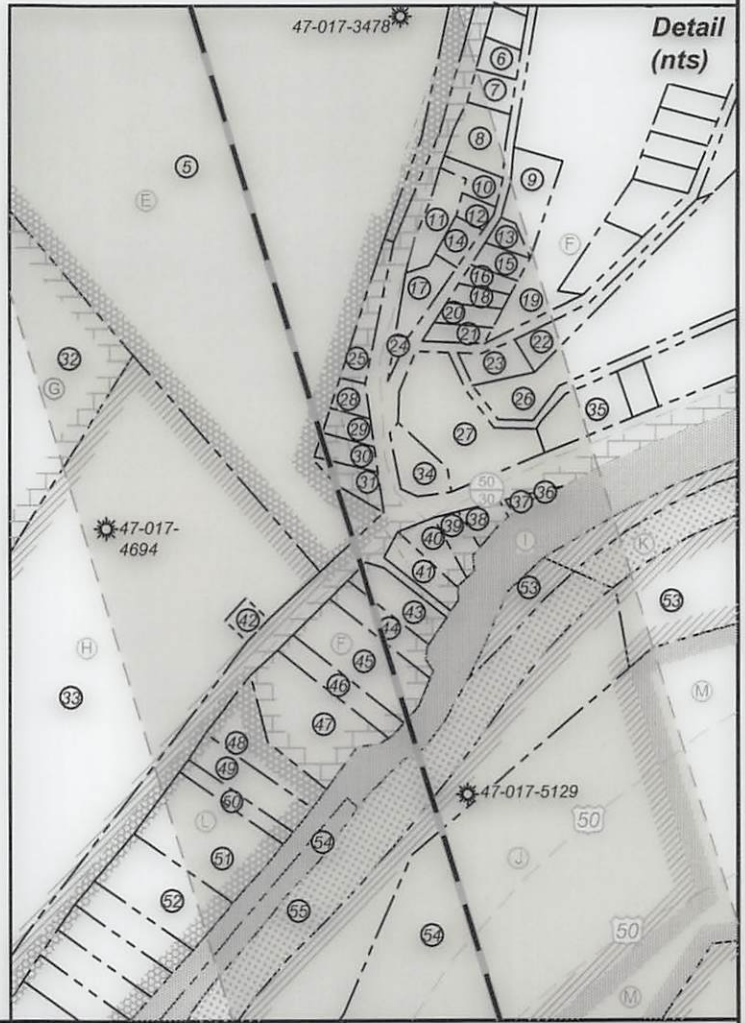
Antero Resources
Well No. Mule 3H
BHL MOD

Antero Resources Corporation



Leases	
A	William A. Farr
B	James Lincoln Smith
C	Robert Powell, et ux
D	John G. Azar
E	Richard Lowther, et ux
F	Carolyn E. Farr Trust
G	Ernest Spence Shannon, et al
H	Frank L. Butler
I	WVDNR
J	Mary Agnes Phillips, et al
K	WV State Rail Authority
L	Winston Love Family Trust
M	WV DOT, Division of Highways
N	R.S. Maxwell & Clarence E. Sigley Sr.

ID	TM/Par	Owner	Bk/Pg	Acres
1	7-18.1	Antero Midstream, LLC	346/612	45.8
2	7-29	Sharon A. Gaspar	W113/242	182.67
3	11-8	Granville Jr. & Rose Mae Criss	317/43	44.15
4	11-9.1	Leonard & Sheila Cash	387/31	6.14
5	11-9	Shelia Jane Lynch Buck, et al	W8/35	56.25
6	34-56	Terri Lynn Whitehill	AP44/659	0.10
7	34-55	Terri Lynn Whitehill	AP44/659	0.10
8	34-6	Webb & Son, LLC	423/335	0.25
9	34-63	Terri Lynn Whitehill	AP44/659	0.30
10	34-54	Terri Lynn Whitehill	AP44/659	0.12
11	34-53.1	Cheryl L. Brunner	AP38/201	0.24
12	34-5	Terri Lynn Whitehill	AP44/659	0.07
13	34-64	Terri Lynn Whitehill	AP44/659	0.08
14	34-53	Terri Lynn Whitehill	AP44/659	0.10
15	34-65	Terri Lynn Whitehill	AP44/659	0.10
16	34-66	Terri Lynn Whitehill	AP44/659	0.10
17	34-52	Terri Lynn Whitehill	AP44/659	0.20
18	34-67	Terri Lynn Whitehill	AP44/659	0.10
19	34-7	Terri Lynn Whitehill	AP44/659	3.00
20	34-68	Terri Lynn Whitehill	AP44/659	0.10
21	34-69	Terri Lynn Whitehill	AP44/659	0.10
22	34-83	Terri Lynn Whitehill	AP44/659	0.20
23	34-70	Terri Lynn Whitehill	AP44/659	0.16
24	34-5	Terri Lynn Whitehill	AP44/659	0.07
25	34-4	Terri Lynn Whitehill	AP44/659	0.22
26	34-98	Rossie & Eva Lowery	272/321	15.62
27	34-8	Terri Lynn Whitehill	AP44/659	1.40
28	34-50	Terri Lynn Whitehill	AP44/659	0.11
29	34-49	Terri Lynn Whitehill	AP44/659	0.14
30	34-48	Terri Lynn Whitehill	AP44/659	0.14
31	34-47	Terri Lynn Whitehill	AP44/659	0.14
32	11-16	Rhoda Rene Fitzsimmons, et al	272/89	19.72
33	11-24	Clarence Ray Bonnell, et al	105/317	15.76
34	11-46	Terri Lynn Whitehill	AP44/659	0.20
35	34-98	Rossie & Eva Lowery	272/321	15.62
36	34-24	Terri Lynn Whitehill	AP44/659	0.07
37	34-24	Terri Lynn Whitehill	AP44/659	0.07
38	34-23	Terri Lynn Whitehill	AP44/659	0.15
39	34-12	Terri Lynn Whitehill	AP44/659	0.14
40	34-22	Terri Lynn Whitehill	AP44/659	0.16
41	34-115	Rhonda Cunningham, et al	357/64	0.16
42	11-40	Webb & Son	438/195	0.08
43	34-20	Rhonda Cunningham, et al	357/64	0.20
44	34-21	Rhonda Cunningham, et al	357/64	0.18
45	34-11	Monkey Row Trailer Park LLC	288/26	0.40
46	34-19	Monkey Row Trailer Park LLC	288/26	0.21
47	34-10	Monkey Row Trailer Park LLC	288/26	0.65
48	11-66	Monkey Row Trailer Park LLC	288/26	0.25
49	11-65.1	Monkey Row Trailer Park LLC	288/26	0.40
50	11-65	Monkey Row Trailer Park LLC	288/26	0.15
51	11-64	Monkey Row Trailer Park LLC	288/26	0.96
52	11-63	Monkey Row Trailer Park LLC	288/26	0.73
53	11-26	Karen M. Ireland Family L.P.	235/3	11.80
54	11-25	J. Charles & George J. Buff III, et al	377/517	6.02
55	11-95	WV Railroad Maintenance Authority	216/166	31.84
56	11-70	Four Leaf Land Co.	270/147	0.24
57	11-25.1	J. Charles & George J. Buff III, et al	377/517	16.72
58	12-63	Karen M. Ireland Family L.P.	235/3	31.50
59	11-80	Karen M. Ireland Family L.P.	235/3	105.35
60	12-71.1	Franklin L. Butler & Key Oil Co.	256/324	81.91



FILE NO: 55-30-WU-14
 DRAWING NO: Mule Unit 3H 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: February 25 20 22
 OPERATOR'S WELL NO. Mule Unit 3H
 API WELL NO **M3D**
 47 - 017 - 06918
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Existing: 1,216' Proposed: 1,189' WATERSHED: Middle Island Creek QUADRANGLE: West Union
 DISTRICT: West Union Antero COUNTY: Doddridge 03/25/2022
 SURFACE OWNER: Midstream, LLC R.S. Maxwell & Clarence E. Sigley, Sr.; WVDNR; WV State Rail Authority; WV DOT, Division of Highways; ACREAGE: 45.8 54.48; 180; 44; 6.145;
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 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,000' 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

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>William A. Farr Lease</u>			
A William A. Farr	Carolyn E. Farr Trust	1/8	0277/0644
Carolyn E. Farr Trust	Antero Resources Appalachian Corporation	Assignment	0281/0310
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523
<u>James Lincoln Smith Lease</u>			
B James Lincoln Smith	Duncan Sartain	1/8	0071/0080
Duncan Sartain	L.E. Scherck	Assignment	0072/0377
L.E. Scherck	Roscoe B.G. Cowper & B.T. Cowper	Assignment	0071/0183
Roscoe B.G. Cowper & B.T. Cowper	Lawrence H. Aberegg	Assignment	0098/0233
Lawrence H. Aberegg	Hugh K. Spencer	Assignment	0098/0235
Hugh K. Spencer	Ronald B. Spencer and Rhonda S. Rossetti, as co-executors of the estate of Hugh K. Spencer	Will	0033/0068
Ronald B. Spencer and Rhonda S. Rossetti, as co-executors of the estate of Hugh K. Spencer	Ronald B. Spencer and Rhonda S. Rossetti, as co-trustees of the Hugh K. Spencer Martial Trust B	Assignment	0199/0282
Ronald B. Spencer and Rhonda S. Rossetti, as co-trustees of the Hugh K. Spencer Martial Trust B	Spencer Enterprises, LLC	Assignment	0199/0534
Spencer Enterprises, LLC	Antero Resources Appalachian Corporation	Assignment	0264/0099
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523
<u>William A. Farr Lease (NOT COVENANT)</u>			
A William A. Farr	Carolyn E. Farr Trust	1/8	0277/0644
Carolyn E. Farr Trust	Antero Resources Appalachian Corporation	Assignment	0281/0310
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523
<u>Robert Powell, et ux Lease</u>			
C Robert Powell, et ux	Baker Development	1/8	0064/0228
Baker Development	F.C. & F. Partnership, Limited	Assignment	0121/0305
F.C. & F. Partnership, Limited	Waco Oil & Gas Company, Inc.	Assignment	0204/0513
Waco Oil & Gas Company, Inc.	Antero Resources Corporation	Assignment	0385/0409
<u>Richard Lowther, et ux Lease</u>			
E Richard Lowther, et ux	Beckler Energy	1/8	0141/0533
Beckler Energy	Spencer Enterprises, LLC	Assignment	0141/0586
Spencer Enterprises, LLC	Antero Resources Appalachian Corporation	Assignment	0264/0099
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523
<u>Carolyn E. Farr Trust Lease</u>			
F Carolyn E. Farr Trust, Clarence Sigley, Trustee	Antero Resources Corporation	1/8	0432/0367
<u>Richard Lowther, et ux Lease</u>			
E Richard Lowther, et ux	Beckler Energy	1/8	0141/0533
Beckler Energy	Spencer Enterprises, LLC	Assignment	0141/0586
Spencer Enterprises, LLC	Antero Resources Appalachian Corporation	Assignment	0264/0099
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523

03/25/2022

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
f <u>Carolyn E. Farr Trust Lease</u> Carolyn E. Farr Trust, Clarence Sigley, Trustee	Antero Resources Corporation	1/8	0432/0367
l <u>WVDNR Lease</u> West Virginia Department of Transportation, Division of Highways	Antero Resources Corporation	1/8+	0473/0436
k <u>WV State Rail Authority Lease</u> West Virginia State Rail Authority Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0253/0409 0046/0523
j <u>Mary Agnes Phillips, et al Lease</u> Mary Agnes Phillips, et al Key Oil Company Antero Resources Appalachian Corporation	Key Oil Company Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Name Change	0188/0061 0276/0526 0046/0523
m <u>WV DOT Division of Highways Lease</u> WV DOT Division of Highways	Antero Resources Corporation	1/8+	473/436

*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

RECEIVED
Office of Oil and Gas
MAR 09 2022
WV Department of
Environmental Protection

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>R.S. Maxwell and Clarence E. Sigley Sr. Lease</u>				
	Maxwell, R.S. and Mildred Lee Maxwell; Clarence E. Sigley, Trustee for Carolyn E. Farr Trust	Key Oil Company	1/8	0193/0020
	Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0276/0526
	Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0046/0523

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Antero Resources Corporation
 By: Tim Rady
 Its: Senior VP of Operations

RECEIVED
Office of Oil and Gas

MAR 09 2022

WV Department of
Environmental Protection



Stansberry, Wade A <wade.a.stansberry@wv.gov>

Modifications Horizontal H6A Well Work Permit API: 47-017-06916 & 47-017-06918)

1 message

Stansberry, Wade A <wade.a.stansberry@wv.gov>

Tue, Mar 22, 2022 at 1:31 PM

To: Mallory Stanton <mstanton@anteroresources.com>, Diane Blair <dblair@anteroresources.com>, David Sponaugle <dsponaug@assessor.state.wv.us>, "Ward, Samuel D" <samuel.d.ward@wv.gov>



I have attached a copy of the newly issued well [permit](#) number. This will serve as your copy.

47-017-06916 - MULE UNIT 1H**47-017-06918 - MULE UNIT 3H**

If you have any questions, then [please](#) contact us here at the Office of Oil and Gas.

Thank you,

Wade A. Stansberry
Environmental Resource Specialist 3
West Virginia Department of Environmental Protection
Office of Oil & Gas
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 ext. 41115
(304) 926-0452 fax
Wade.A.Stansberry@wv.gov

4 attachments **47-017-06916 - mod.pdf**
4373K **47-017-06918 - mod.pdf**
4156K **IR-26 Blank.pdf**
169K **IR-26 Blank.pdf**
169K**03/25/2022**