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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Thursday, May 17, 2018  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for HOUSER UNIT 1H  
47-095-02480-00-00

modified to extend lateral

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: HOUSER UNIT 1H  
Farm Name: KIRK L. HADLEY  
U.S. WELL NUMBER: 47-095-02480-00-00  
Horizontal 6A New Drill  
Date Modification Issued: May 18, 2018

Promoting a healthy environment.

WW-6B  
(04/15)

API NO. 47- 095 - 02480  
 OPERATOR WELL NO. Houser Unit 1H  
 Well Pad Name: Hadley Pad

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

1) Well Operator: Antero Resources Corporation 494507062 095 - Tyler Meade Middlebourne 7.5'  
 Operator ID County District Quadrangle

2) Operator's Well Number: Houser Unit 1H Well Pad Name: Hadley Pad

3) Farm Name/Surface Owner: Kirk L. Hadley Public Road Access: CR 6/3

4) Elevation, current ground: 912' Elevation, proposed post-construction: 912'

5) Well Type (a) Gas  Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
 Other \_\_\_\_\_  
 (b) If Gas Shallow  Deep \_\_\_\_\_  
 Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus Shale: 6600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 6600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22000' MD

11) Proposed Horizontal Leg Length: 15040'

12) Approximate Fresh Water Strata Depths: 357'

13) Method to Determine Fresh Water Depths: Kirk Hadley 8H (API# 47-095-02031) on same pad.

14) Approximate Saltwater Depths: 1225', 1691', 2032'

15) Approximate Coal Seam Depths: 527', 627', 681'

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

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(a) If Yes, provide Mine Info: Name: \_\_\_\_\_  
 Depth: \_\_\_\_\_  
 Seam: \_\_\_\_\_  
 Owner: \_\_\_\_\_

WW-6B  
(04/15)

API NO. 47- 095 - 02480  
 OPERATOR WELL NO. Houser Unit 1H  
 Well Pad Name: Hadley Pad

18) **CASING AND TUBING PROGRAM**

| <b>TYPE</b>  | <u>Size (in)</u> | <u>New or Used</u> | <u>Grade</u> | <u>Weight per ft. (lb/ft)</u> | <u>FOOTAGE: For Drilling (ft)</u> | <u>INTERVALS: Left in Well (ft)</u> | <u>CEMENT: Fill-up (Cu. Ft.)/CTS</u> |
|--------------|------------------|--------------------|--------------|-------------------------------|-----------------------------------|-------------------------------------|--------------------------------------|
| Conductor    | 20"              | New                | H-40         | 94#                           | 80'                               | 80'                                 | CTS, 218 Cu. Ft.                     |
| Fresh Water  | 13-3/8"          | New                | J-55         | 54.5#                         | 410' *see #19                     | 410' *see #19                       | CTS, 370 Cu. Ft.                     |
| Coal         | 9-5/8"           | New                | J-55         | 36#                           | 2500'                             | 2500'                               | CTS, 1018 Cu. Ft.                    |
| Intermediate |                  |                    |              |                               |                                   |                                     |                                      |
| Production   | 5-1/2"           | New                | P-110        | 23#                           | 22000'                            | 22000'                              | 5642 Cu. Ft.                         |
| Tubing       | 2-3/8"           | New                | N-80         | 4.7#                          |                                   | 7100'                               |                                      |
| Liners       |                  |                    |              |                               |                                   |                                     |                                      |

| <b>TYPE</b>  | <u>Size (in)</u> | <u>Wellbore Diameter (in)</u> | <u>Wall Thickness (in)</u> | <u>Burst Pressure (psi)</u> | <u>Anticipated Max. Internal Pressure (psi)</u> | <u>Cement Type</u>    | <u>Cement Yield (cu. ft./k)</u> |
|--------------|------------------|-------------------------------|----------------------------|-----------------------------|---|-----------------------|---------------------------------|
| Conductor    | 20"              | 24"                           | 0.438"                     | 1530                        | 50  | Class A               | ~1.18                           |
| Fresh Water  | 13-3/8"          | 17-1/2"                       | 0.38"                      | 2730                        | 1000  | Class A               | ~1.18                           |
| Coal         | 9-5/8"           | 12-1/4"                       | 0.352"                     | 3520                        | 1500  | Class A               | ~1.18                           |
| Intermediate |                  |                               |                            |                             |   |                       |                                 |
| Production   | 5-1/2"           | 8-3/4" & 8-1/2"               | 0.415"                     | 12,630                      | 2500  | Lead-H/POZ & Tail - H | H/POZ-1.44 & H-1.8              |
| Tubing       | 2-3/8"           | 4.778"                        | 0.19"                      | 11,200                      |   |                       |                                 |
| Liners       |                  |                               |                            |                             |   |                       |                                 |

**PACKERS**

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

WV Department of  
Environmental Protection

WW-6B  
(10/14)

API NO. 47- 095 - 02480  
OPERATOR WELL NO. Houser Unit 1H  
Well Pad Name: Hadley Pad

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

Drill, perforate, fracture a new horizontal shallow well and complete 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): 14.78 acres

22) Area to be disturbed for well pad only, less access road (acres): 3.80 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

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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.

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 |
|--|--|-------------|-----------|
| <b><u>Kirk Hadley Lease</u></b>                        |  |             |           |
| Kirk Hadley  | Sancho Oil & Gas Company                 | 1/8         | 0358/0606 |
| Sancho Oil & Gas Company                               | Chesapeake Appalachia LLC                | Assignment  | 0370/0154 |
| Chesapeake Appalachia LLC                              | Statoil USA Onshore Properties, Inc.     | Assignment  | 0378/0764 |
| Statoil USA Onshore Properties, Inc.                   | Antero Resources Corporation             | Assignment  | 544/0291  |
| <b><u>Angela K. &amp; James A. Long, Jr. Lease</u></b> |  |             |           |
| James A. Long Jr., et ux Lease                         | Chesapeake Appalachia, LLC               | 1/8         | 0377/0001 |
| Chesapeake Appalachia, LLC                             | SWN Production Company                   | Assignment  | 0465/0463 |
| SWN Production Company                                 | Antero Resources Corporation             | Assignment  | 0544/0242 |
| <b><u>Alfred Lonzo Eddy Lease</u></b>                  |  |             |           |
| Alfred Lonzo Eddy                                      | Chesapeake Appalachia, LLC               | 1/8         | 0376/0838 |
| Chesapeake Appalachia, LLC                             | SWN Production Company                   | Assignment  | 0465/0463 |
| SWN Production Company                                 | Antero Resources Corporation             | Assignment  | 0544/0242 |
| <b><u>Roy D. Hadley Lease</u></b>                      |  |             |           |
| Roy D. Hadley  | Chesapeake Appalachia, LLC               | 1/8         | 0371/0373 |
| Chesapeake Appalachia, LLC                             | SWN Production Company                   | Assignment  | 0465/0463 |
| SWN Production Company                                 | Antero Resources Corporation             | Assignment  | 0544/0242 |
| <b><u>Ruth E. Moore, Widow Lease</u></b>               |  |             |           |
| Ruth E. Moore, Widow                                   | Chesapeake Appalachia, LLC               | 1/8         | 0370/0496 |
| Chesapeake Appalachia, LLC                             | SWN Production Company                   | Assignment  | 0465/0463 |
| SWN Production Company                                 | Antero Resources Corporation             | Assignment  | 0544/0242 |
| <b><u>Don L. Hissam Lease</u></b>                      |  |             |           |
| Don L. Hissam  | Antero Resources Corporation             | 1/8+        | 0561/0647 |
| <b><u>Carol J. Cox Lease (19-37)</u></b>               |  |             |           |
| Carol J. Cox   | Antero Resources Corporation             | 1/8+        | 0565/0754 |
| <b><u>Stanley M. LeMasters, et ux Lease "E"</u></b>    |  |             |           |
| Stanley M. LeMasters, et ux                            | Antero Resources Corporation             | 1/8+        | 0422/0304 |
| <b><u>Carol J. Cox Lease (19-42)</u></b>               |  |             |           |
| Carol J. Cox   | Antero Resources Corporation             | 1/8+        | 0559/0691 |
| <b><u>Chauncey Paul Archer, et ux Lease</u></b>        |  |             |           |
| Chauncey Paul Archer, et ux                            | Antero Resources Appalachian Corporation | 1/8+        | 0420/0465 |
| Antero Resources Appalachian Corporation               | Antero Resources Corporation             | Name Change | Exhibit 1 |

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0561/0647  
0565/0754  
WV Department of  
Environmental Protection

\*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.

WW-6A1  
(5/13)

Operator's Well No. Houser Unit 1H

**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:

| Lease Name or Number       | Grantor, Lessor, etc.                                     | Grantee, Lessee, etc.  | Royalty            | Book/Page            |
|----------------------------|---|--|--------------------|----------------------|
| <u>Ruth H. Wells Lease</u> | Ruth H. Wells<br>Antero Resources Appalachian Corporation | Antero Resources Appalachian Corporation<br>Antero Resources Corporation | 1/8+<br>Assignment | 417/706<br>Exhibit 1 |

\*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.

**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

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Environmental Protection

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: Kevin Kilstrom  
Its: Senior Vice President - Production

FORM WW-6A1  
EXHIBIT 1

FILED

JUN 10 2013

Natalie E. Tennant,  
Secretary of State  
1900 Kanawha Blvd E  
Bldg 1, Suite 157-K  
Charleston, WV 25305



Penney Barker, Manager  
Corporations Division  
IN THE OFFICE OF THE SECRETARY OF STATE  
Tel: (304)558-8000  
Fax: (304)558-8381  
Website: www.wvssos.com  
E-mail: business@wvssos.com

APPLICATION FOR  
AMENDED CERTIFICATE  
OF AUTHORITY

Office Hours: Monday - Friday  
8:30 a.m. - 5:00 p.m. ET

FILE ONE ORIGINAL  
(Two if you want a filed  
stamped copy returned to you)  
FEE: \$25.00

\*\*\*\* In accordance with the provisions of the West Virginia Code, the undersigned corporation hereby \*\*\*\*  
applies for an Amended Certificate of Authority and submits the following statement:

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- Date Certificate of Authority was issued in West Virginia: 6/25/2008
- Corporate name has been changed to: Antero Resources Corporation  
(Attach one Certified Copy of Name Change as filed in home State of Incorporation.)
- Name the corporation elects to use in WV: Antero Resources Corporation  
(due to home state name not being available)
- Other amendments:  
(attach additional pages if necessary)
- Name and phone number of contact person. (This is optional, however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)  
Alwyn A. Schopp (303) 367-7310  
Contact Name Phone Number
- Signature information (See below \*Important Legal Notice Regarding Signature\*):  
Print Name of Signer: Alwyn A. Schopp Title/Capacity: Authorized Person  
Signature: [Handwritten Signature] Date: June 10, 2013

**\*Important Legal Notice Regarding Signature:** Per West Virginia Code §31D-1-129, Penalty for signing false document. Any person who signs a document he or she knows is false in any material respect and knows that the document is to be delivered to the secretary of state for filing is guilty of a misdemeanor and, upon conviction thereof, shall be fined not more than one thousand dollars or confined in the county or regional jail not more than one year, or both.

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11,169' to Bottom Hole

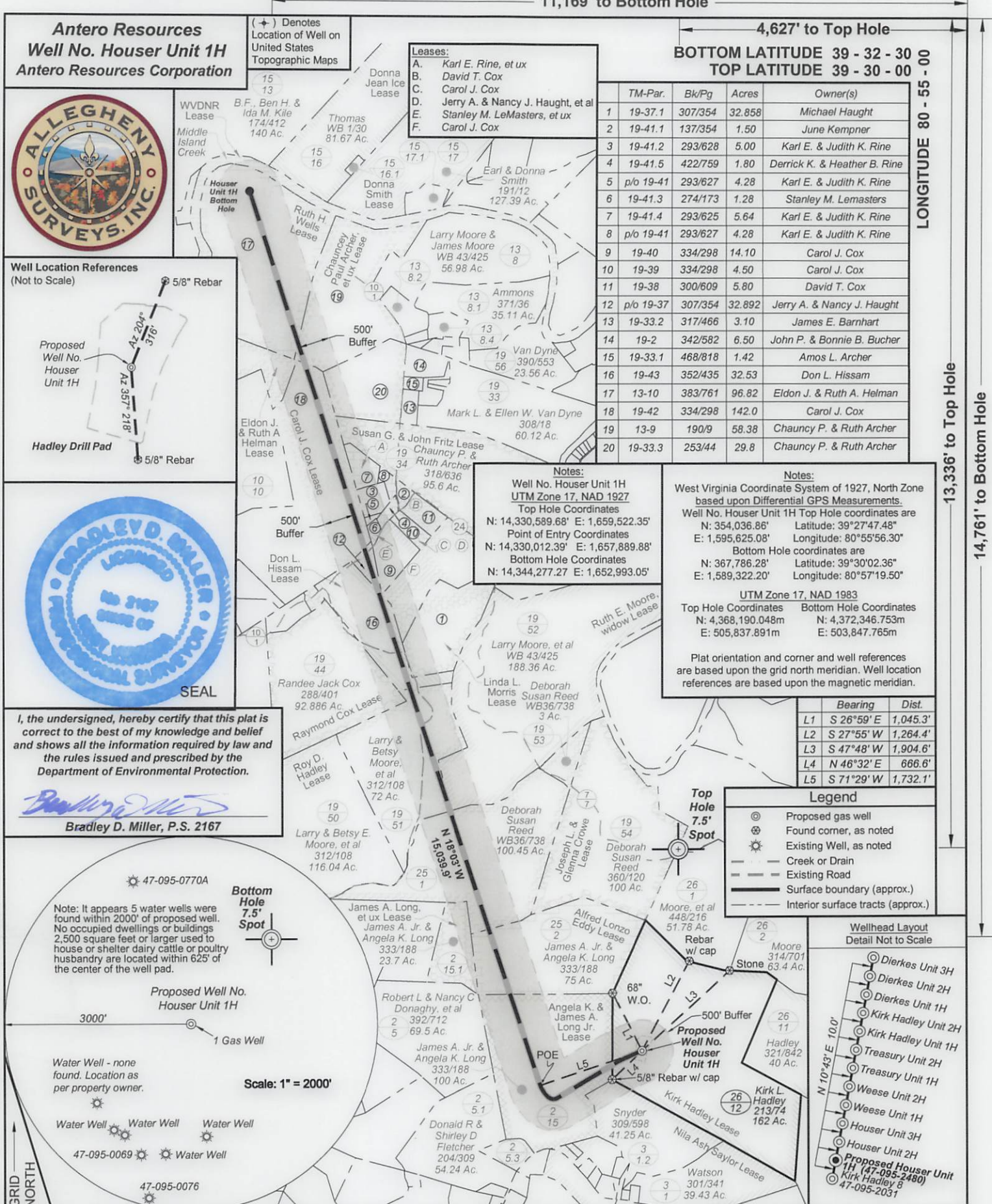
4,627' to Top Hole

BOTTOM LATITUDE 39 - 32 - 30  
TOP LATITUDE 39 - 30 - 00

LONGITUDE 80 - 55 - 00

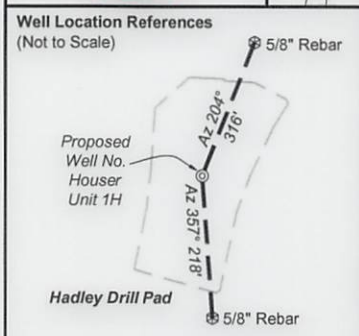
13,336' to Top Hole

14,761' to Bottom Hole



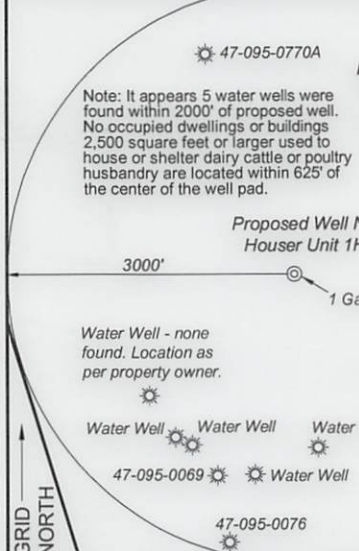
**Antero Resources**  
Well No. Houser Unit 1H  
Antero Resources Corporation

WVDNR Lease  
Middle Island Creek  
Houser Unit 1H Bottom 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



Notes:  
Well No. Houser Unit 1H  
UTM Zone 17, NAD 1927  
Top Hole Coordinates  
N: 14,330,589.68' E: 1,659,522.35'  
Point of Entry Coordinates  
N: 14,330,012.39' E: 1,657,889.88'  
Bottom Hole Coordinates  
N: 14,344,277.27' E: 1,652,993.05'

Notes:  
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
Well No. Houser Unit 1H Top Hole coordinates are  
N: 354,036.86' Latitude: 39°27'47.48"  
E: 1,595,625.08' Longitude: 80°55'56.30"  
Bottom Hole coordinates are  
N: 367,786.28' Latitude: 39°30'02.36"  
E: 1,589,322.20' Longitude: 80°57'19.50"

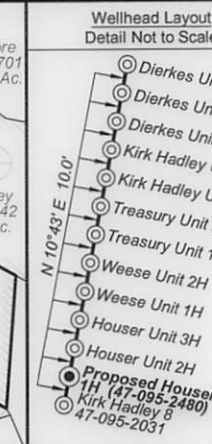
UTM Zone 17, NAD 1983  
Top Hole Coordinates N: 4,368,190.048m E: 505,837.891m  
Bottom Hole Coordinates N: 4,372,346.753m E: 503,847.765m

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 | S 26°59' E | 1,045.3' |
| L2 | S 27°55' W | 1,264.4' |
| L3 | S 47°48' W | 1,904.6' |
| L4 | N 46°32' E | 666.6'   |
| L5 | S 71°29' W | 1,732.1' |

Legend

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



FILE NO: 218-54-E-16  
DRAWING NO: Houser 1H Well Plat  
SCALE: 1" = 2000'  
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: March 2 2018  
OPERATOR'S WELL NO. Houser Unit 1H  
API WELL NO. M.O.D.  
47 - 095 - 02480  
STATE COUNTY PERMIT

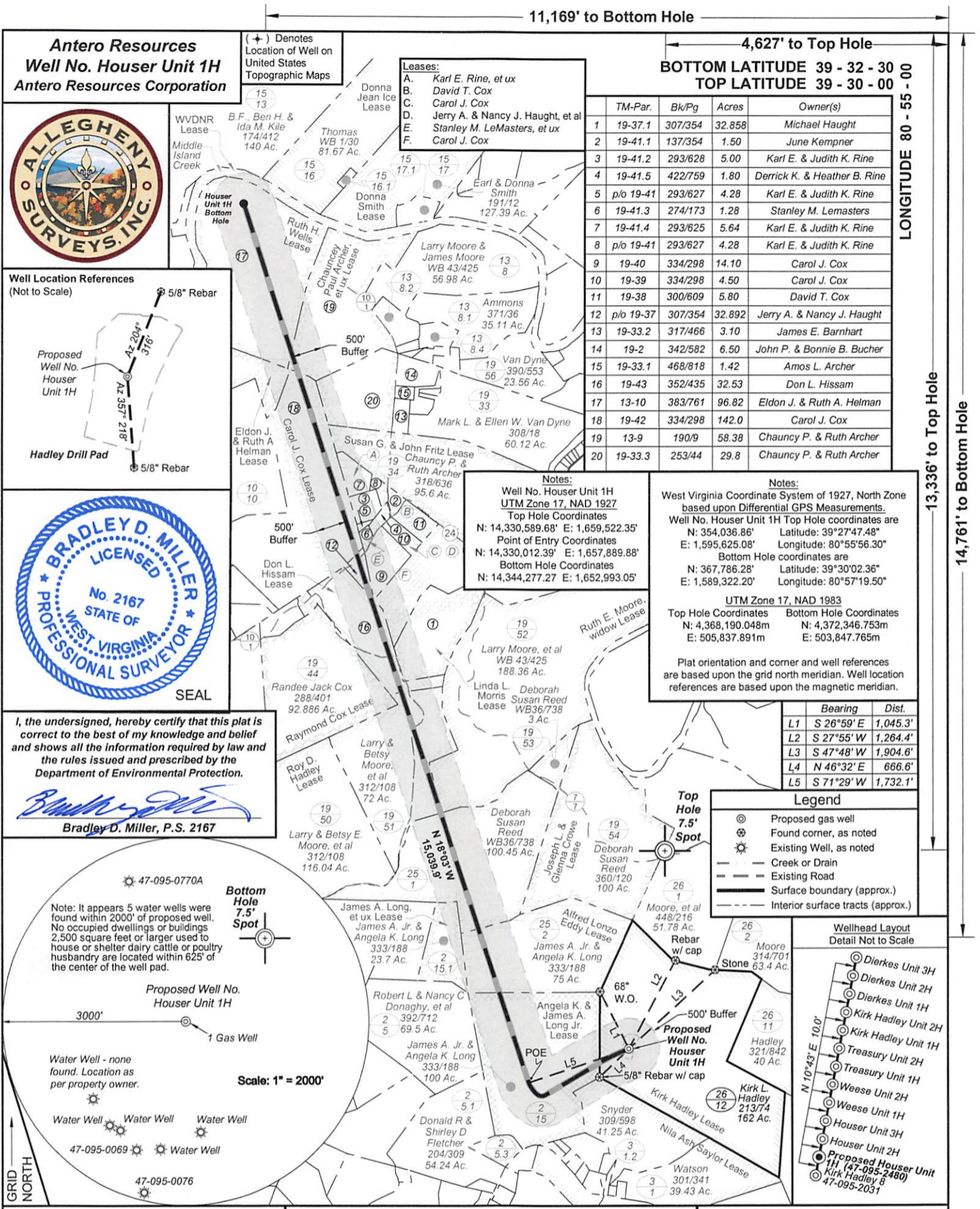
WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: As-Built 912' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne 189.3625;  
DISTRICT: Meade & Ellsworth Ruth E. Moore, widow; COUNTY: Tyler 97.5; 88.18;  
SURFACE OWNER: Kirk L. Hadley Roy D. Hadley; James A. Jr. & Angela K. Long; ACREAGE: 162 100; 32.53;  
ROYALTY OWNER: Kirk Hadley; Alfred Lonzo Eddy; Don L. Hissam; Carol J. Cox (2); LEASE NO: ACREAGE: 142; 21; 75;

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Modification - BHL 6,600' TVD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 22,000' 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





FILE NO: 218-54-E-16  
 DRAWING NO: Houser 1H Well Plat  
 SCALE: 1" = 2000'  
 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: March 2 2018  
 OPERATOR'S WELL NO. Houser Unit 1H  
 API WELL NO. MOB  
 47 - 095 - 02480  
 STATE COUNTY RECEIVED  
 Office of Oil and Gas

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

LOCATION: ELEVATION: As-Built 912' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne  
 DISTRICT: Meade & Ellsworth Ruth E. Moore, widow; COUNTY: Tyler ENVIRONMENTAL PRODUCTION  
 SURFACE OWNER: Kirk L. Hadley Roy D. Hadley; James A. Jr. & Angela K. Long; ACREAGE: 162 100; 32.53;  
 ROYALTY OWNER: Kirk Hadley; Alfred Lonzo Eddy; Don L. Hissam; Carol J. Cox (2); LEASE NO: ACREAGE: 142; 21; 75;  
 PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Modification - BHL 6,600' TVD  
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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

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 MAR 8 2018  
 Office of Oil and Gas

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

