



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

Wednesday, January 5, 2022
PERMIT MODIFICATION APPROVAL
New Drill / Modification

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

Re: Permit Modification Approval for TRADER UNIT 2H
47-103-03460

Extending 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.

A handwritten signature in blue ink, appearing to read 'James A. Martin', is positioned above the printed name and title.

James A. Martin
Chief

Operator's Well Number: TRADER UNIT 2H
Farm Name: ANTERO RESOURCES CORPORATION
U.S. WELL NUMBER: 47-103-03460
New Drill Modification
Date Modification Issued: 01/05/2022

Promoting a healthy environment.

01/07/2022

Ch#
4003489
\$50000
12/21/21

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

1) Well Operator: Antero Resources Corporation 494507062 103-Wetzel Green ✓ Pine Grove 7.5"
Operator ID County District Quadrangle

2) Operator's Well Number: Trader Unit 2H ✓ Well Pad Name: Journeyman Pad ✓

3) Farm Name/Surface Owner: Antero Resources Corporation Public Road Access: Eight Mile Road

4) Elevation, current ground: 1,175' Elevation, proposed post-construction: 1,154'

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

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7400' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2850#

8) Proposed Total Vertical Depth: 7,400'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25,500' ✓

11) Proposed Horizontal Leg Length: 16255' ✓

12) Approximate Fresh Water Strata Depths: 52' ✓

13) Method to Determine Fresh Water Depths: 103-00326, Depths have been adjusted according to surface elevations

14) Approximate Saltwater Depths: 1,642' (reference well 103-00326) ✓

15) Approximate Coal Seam Depths: 960' (reference well 103-30927) ✓

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 X

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

JCS
1/5/2022

WW-6B
(04/15)

CASING AND TUBING PROGRAM

18)

| 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 | 20" | New | H-40 | 94# | 80 | 80 | CTS, 77 Cu. Ft. |
| Fresh Water | 13-3/8 | New | J/K-55 | 54.5# | 300 | 300 ✓ | CTS, 313 Cu. Ft. |
| Coal | 9-5/8 | New | J/K-55 | 36# | 2500 | 2500 ✓ | CTS, 1018 Cu. Ft. |
| Intermediate | | | | | | | |
| Production | 5-1/2 | New | PY-110 | 23# | 25500 | 25500 ✓ | CTS, 5498 Cu. Ft. |
| Tubing | 2-3/8 | New | N-80 | 4.7# | | | |
| Liners | | | | | | | |

QEB
1/5/2022

| 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 | 20" | 24" | 0.438" | 1530 | 50 | Class A | ~1.18 |
| Fresh Water | 13-3/8 | 17-1/2" | 0.380" | 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 | 8-3/8" & 8-1/2" | 0.415" | 12,630 | 9300 | | |
| Tubing | 2-3/8 | 4.778" | 0.190" | 11,200 | | Lead-H/POZ & Tail-H | H/POZ-1.44 & H-1.8 |
| 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, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

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): 33.53

22) Area to be disturbed for well pad only, less access road (acres): 7.3

23) Describe centralizer placement for each casing string:

Conductor: No centralizers.
Surface Casing: One centralizer 10' above the float shoe and one every 4th joint spaced up the hole to surface.
Intermediate Casing: One centralizer above float joint, one centralizer 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.

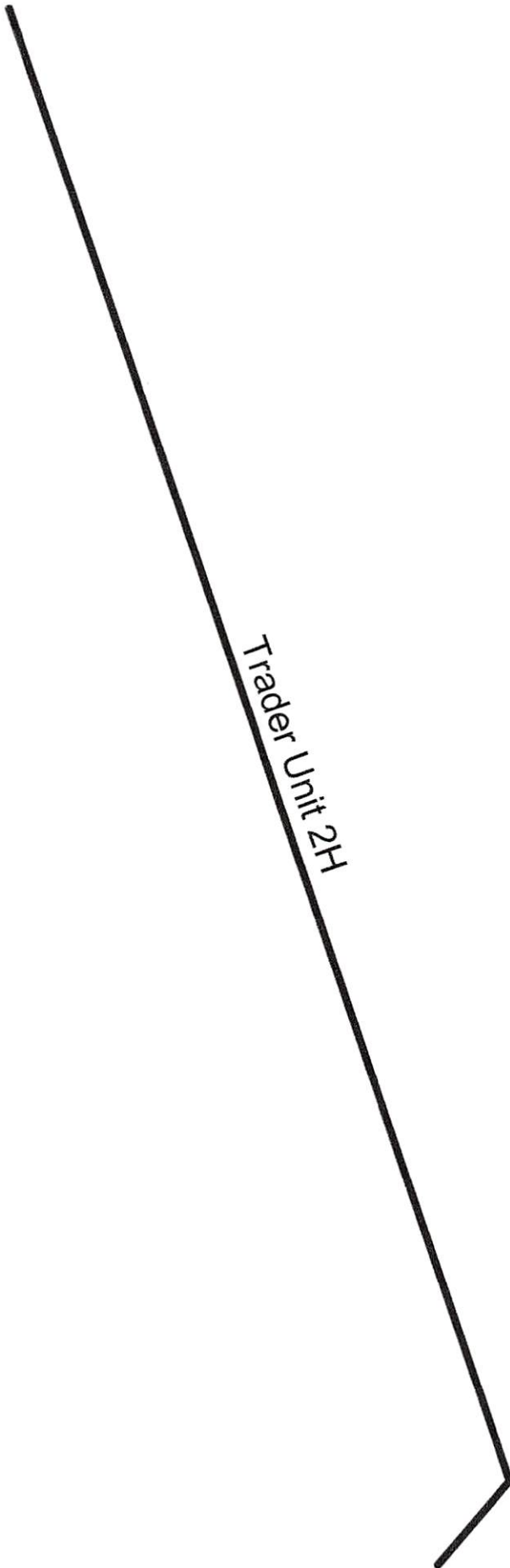
24) Describe all cement additives associated with each cement type:

Conductor: no additives, Class A cement.
Surface Casing: Class A cement with 2-3% calcium chloride and 1/4 lb of flake.
Intermediate Casing: Class A cement with 1/4 lb of flake, 5 gallons of clay treat.
Production Casing 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 Casing Tail Cement: Class H + 45 PPS Calcium Carbonate + 1.0% Flake + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20.

25) Proposed borehole conditioning procedures:

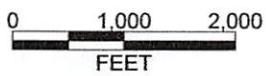
Conductor: blowhole clean with air, run casing, 10 bbls fresh water.
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.
Intermediate: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

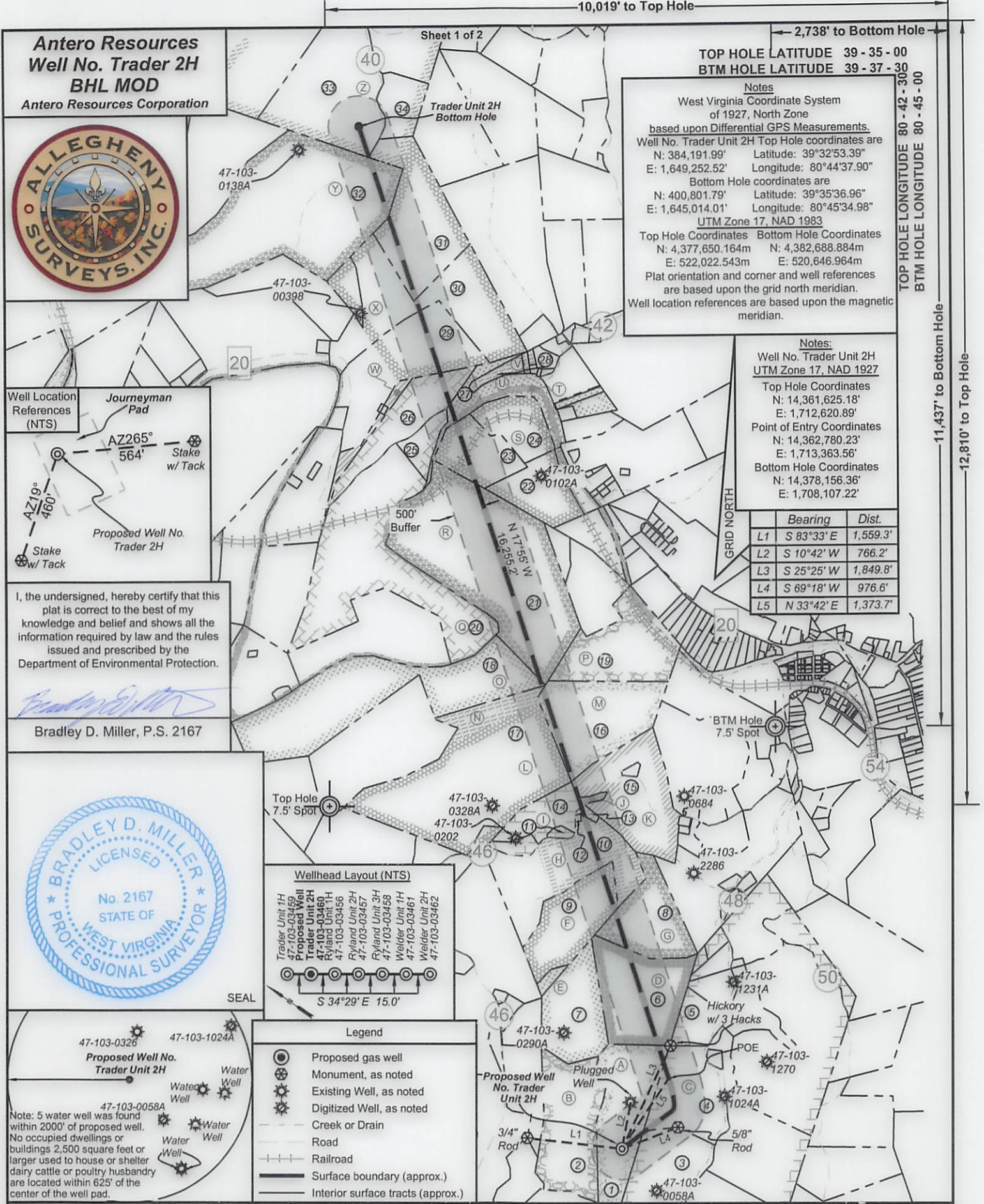
Trader Unit 2H - AOR



WELL SYMBOLS
Discontinued Pad Location

August 17, 2021

01/07/2022



Antero Resources
Well No. Trader 2H
BHL MOD
 Antero Resources Corporation

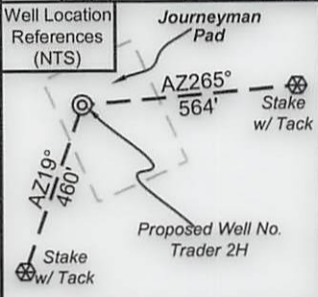


TOP HOLE LATITUDE 39 - 35 - 00
 BTM HOLE LATITUDE 39 - 37 - 30

Notes
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Trader Unit 2H Top Hole coordinates are
 N: 384,191.99' Latitude: 39°32'53.39"
 E: 1,649,252.52' Longitude: 80°44'37.90"
 Bottom Hole coordinates are
 N: 400,801.79' Latitude: 39°35'36.96"
 E: 1,645,014.01' Longitude: 80°45'34.98"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,377,650.164m N: 4,382,688.884m
 E: 522,022.543m E: 520,646.964m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

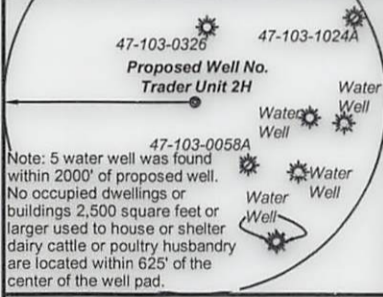
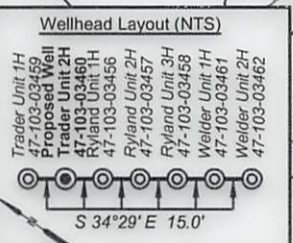
Notes:
 Well No. Trader Unit 2H UTM Zone 17, NAD 1927
 Top Hole Coordinates
 N: 14,361,625.18'
 E: 1,712,620.89'
 Point of Entry Coordinates
 N: 14,362,780.23'
 E: 1,713,363.56'
 Bottom Hole Coordinates
 N: 14,378,156.36'
 E: 1,708,107.22'

| | Bearing | Dist. |
|----|------------|----------|
| L1 | S 83°33' E | 1,559.3' |
| L2 | S 10°42' W | 766.2' |
| L3 | S 25°25' W | 1,849.8' |
| L4 | S 69°18' W | 976.6' |
| L5 | N 33°42' E | 1,373.7' |



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



- Legend**
- ⊙ Proposed gas well
 - ⊗ Monument, as noted
 - ⊛ Existing Well, as noted
 - ⊙ Digitized Well, as noted
 - Creek or Drain
 - Road
 - +— Railroad
 - Surface boundary (approx.)
 - Interior surface tracts (approx.)

FILE NO: 133-34-G-18
 DRAWING NO: Trader 2H BHL MOD
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: CORS, Monroe County, OH

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

DATE: December 22 2021
 OPERATOR'S WELL NO. Trader Unit 2H
 API WELL NO
 47 - 103 - 03460
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: Existing 1,175' Proposed 1,154' WATERSHED: Fishing Creek QUADRANGLE: Pine Grove TOP Hole: Pine Grove
 DISTRICT: Green Antero Resources BOUNTY MINERALS, LLC; H. DORN HIGGINBOTHAM, et ux; LINDA HEADLEE MALONE, et vir; PORTER FALLS 140; 167.65;
 SURFACE OWNER: Corporation MELODY REE POSEY; BLACK ROCK ENTERPRISES; SHIBEN ESTATES, INC. COUNTY: Wayne 2023; 11875;
 ROYALTY OWNER: Pamela Ann Palmer Emch; William R. Stalnaker; David E. Bowyer; Melinda Debner; LEASE NO: ACREAGE: 47.5 ACREAGE: 45.5; 22; 50; 13; 123.8;
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD ESTIMATED DEPTH: 7,400' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 25,500' 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. Trader 2H
BHL MOD
 Antero Resources Corporation



| Leases | |
|--------|---------------------------------|
| A | Pamela Ann Palmer Emch |
| B | BRC Appalachian Minerals I, LLC |
| C | William R. Stalnaker |
| D | David E. Bowyer |
| E | Dianne K. Howell |
| F | Melinda Debner |
| G | Acropolis, Inc. |
| H | Acropolis, Inc. |
| I | Acropolis, Inc. |
| J | Linda Carol Gadd Leatham |
| K | Dean H. Bucher |
| L | P & P Fujimo, LLC |
| M | Melody Ree Posey |
| N | Black Rock Enterprises |
| O | Shiben Estates, Inc. |
| P | Coastal Forest Resources Co. |
| Q | Bounty Minerals, LLC |
| R | BRC Appalachian Minerals I, LLC |
| S | Dwain Ray Brown |
| T | WVDNR |
| U | H. Dorn Higginbotham, et ux |
| V | David L. Anderson |
| W | Chaplik Family Trust |
| X | BRC Appalachian Minerals I, LLC |
| Y | Chesapeake Appalachia, LLC |
| Z | Linda Headlee Malone, et vir |

| ID | TM/Par | Owner | Bk/Pg | Acres |
|----|---------|--|---------|--------|
| 1 | 16-26 | Antero Resources Corporation | 474/713 | 47.50 |
| 2 | 16-25 | Antero Resources Corporation | 474/713 | 39.00 |
| 3 | 17-22 | Perry D. Bucher | 411/759 | 37.65 |
| 4 | 17-58 | Pennie Baker | 411/735 | 42.41 |
| 5 | 17-15.1 | Douglas Alan & Shirley Joann Bucher | 442/718 | 12.41 |
| 6 | 16-16 | Donald L. Smith II, et ux | 451/925 | 60.75 |
| 7 | 16-15 | Donald L. Smith II, et ux | 451/925 | 36.45 |
| 8 | 16-13 | Donald L. Smith II, et ux | 451/925 | 35.00 |
| 9 | 16-4 | Donald L. Smith II, et ux | 451/925 | 38.00 |
| 10 | 13-67 | Gerold F. & Debra D. Richard | 398/544 | 63.27 |
| 11 | 13-67.3 | Dana Stuart Straight | 368/19 | 1.42 |
| 12 | 13-67.4 | William Patterson | 331/588 | 0.24 |
| 13 | 13-67.1 | Debra Dee Richard | 342/502 | 1.13 |
| 14 | 13-67.5 | Julie A. & Aaron E. Hinderman | 398/322 | 16.44 |
| 15 | 13-55 | John P. Workman, Jr. | W53/535 | 48.97 |
| 16 | 13-36 | Coastal Forest Resources Co. | 444/105 | 50.00 |
| 17 | 13-41 | Shari D. Burgess | 432/665 | 95.08 |
| 18 | 13-27 | Donald P. Vandyke & Mark L. Vandyke | 410/241 | 123.80 |
| 19 | 13-28 | Coastal Forest Resources Co. | 444/105 | 46.25 |
| 20 | 12-33 | Kevin E. & Carol L. Cunningham | 397/533 | 84.68 |
| 21 | 13-18 | Coastal Forest Resources Co. | 444/105 | 119.00 |
| 22 | 13-12.6 | Dwain Ray Brown | 421/897 | 15.00 |
| 23 | 13-2 | Dwain Ray Brown | 421/897 | 19.75 |
| 24 | 8-42 | Dwain Ray Brown | 421/897 | 22.00 |
| 25 | 13-1 | Randy W. LeMasters | 406/16 | 4.25 |
| 26 | 12-33.2 | Kevin E. & Carol L. Cunningham | 411/185 | 28.61 |
| 27 | 8-38.9 | H. Dorn Higginbotham & Janet L. Workman Higginbotham | 363/197 | 5.00 |
| 28 | 8-38.1 | David L. Anderson | 340/578 | 2.25 |
| 29 | 8-47 | Larrison Brothers, LLC | 417/100 | 53.62 |
| 30 | 8-29 | James L. Scott, Sr., et al | 431/50 | 64.76 |
| 31 | 8-46 | John George | 367/478 | 52.21 |
| 32 | 8-25 | Jody Kay Rine, et al | 435/542 | 130.00 |
| 33 | 8-20.3 | Brent A. & Amy S. Boram | 427/802 | 62.60 |
| 34 | 8-20.2 | Loraine M. Williams | 383/463 | 15.00 |

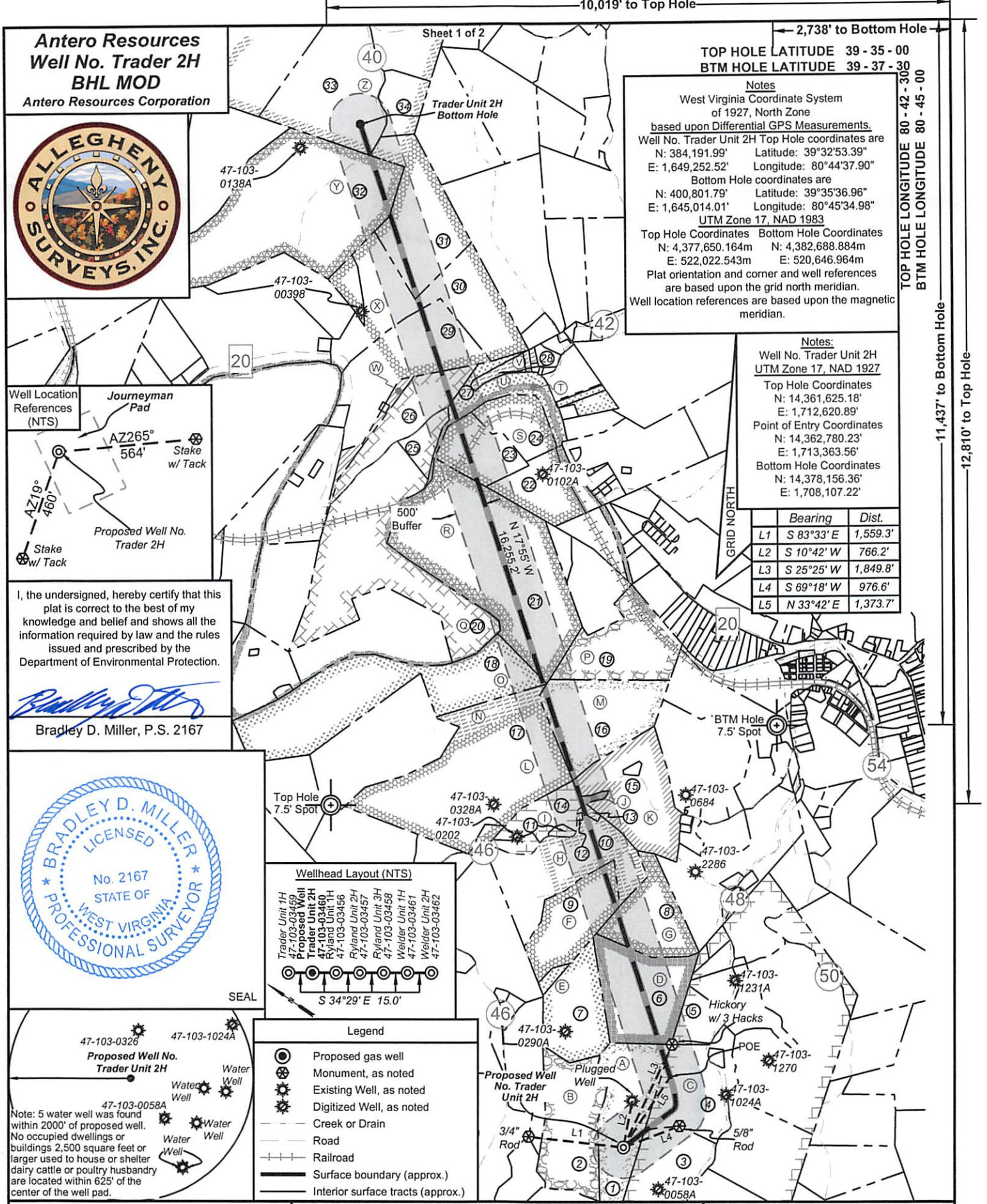
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BTM Hole: Porter Falls 140; 167.65;
 DISTRICT: Green Antero Resources County: West Virginia 60.75; 33; 1.6; 130; 35;
 SURFACE OWNER: Corporation Bounty Minerals, LLC; H. Dorn Higginbotham, et ux; Linda Headlee Malone, et vir; BRC Appalachian Minerals I, LLC (2); Dwain Ray Brown; WVDNR; Melody Ree Posey; Black Rock Enterprises; Shiben Estates, Inc. ACREAGE: 47.5 45.5; 22; 50; 13; 123.8;
 ROYALTY OWNER: Pamela Ann Palmer Emch; William R. Stalnaker; David E. Bowyer; Melinda Debner; LEASE NO: _____ ACREAGE: 57.38; 50.225; 182
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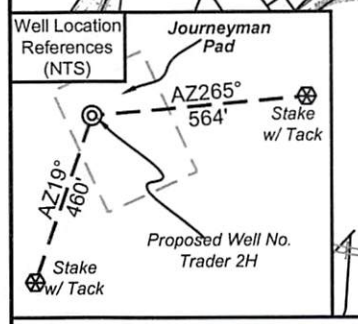


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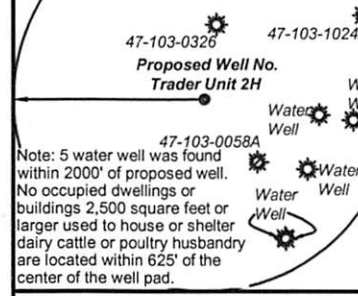
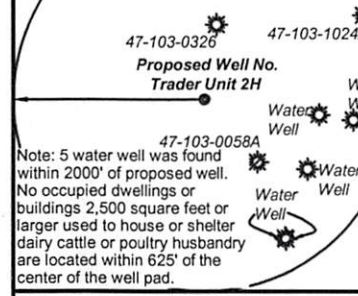
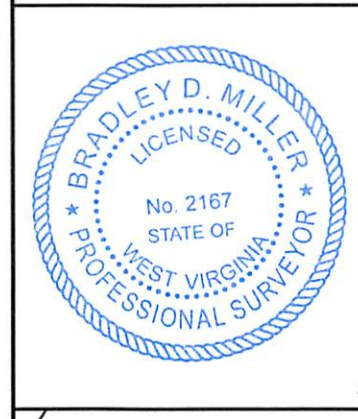
10,019' to Top Hole
 2,738' to Bottom Hole
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BTM HOLE LATITUDE 39 - 37 - 30
TOP HOLE LONGITUDE 80 - 42 - 30
BTM HOLE LONGITUDE 80 - 45 - 00

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 SURFACE OWNER: Corporation BRC Appalachian Minerals I, LLC (2); Dwain Ray Brown; WVDNR; Melody Ree Posey; Black Rock Enterprises; Shiben Estates, Inc. COUNTY: Boone 1875;
 ROYALTY OWNER: Pamela Ann Palmer Emch; William R. Stalnaker; David E. Bowyer; Melinda Debner; LEASE NO: ACREAGE: 47.5 45.5; 22; 50; 13; 123.8; 60.75; 33; 126; 230; 35;
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| ID | TM/Par | Owner | Bk/Pg | Acres |
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| 4 | 17-58 | Pennie Baker | 411/735 | 42.41 |
| 5 | 17-15.1 | Douglas Alan & Shirley Joann Bucher | 442/718 | 12.41 |
| 6 | 16-16 | Donald L. Smith II, et ux | 451/925 | 60.75 |
| 7 | 16-15 | Donald L. Smith II, et ux | 451/925 | 36.45 |
| 8 | 16-13 | Donald L. Smith II, et ux | 451/925 | 35.00 |
| 9 | 16-4 | Donald L. Smith II, et ux | 451/925 | 38.00 |
| 10 | 13-67 | Gerold F. & Debra D. Richard | 398/544 | 63.27 |
| 11 | 13-67.3 | Dana Stuart Straight | 368/19 | 1.42 |
| 12 | 13-67.4 | William Patterson | 331/588 | 0.24 |
| 13 | 13-67.1 | Debra Dee Richard | 342/502 | 1.13 |
| 14 | 13-67.5 | Julie A. & Aaron E. Hinderman | 398/322 | 16.44 |
| 15 | 13-55 | John P. Workman, Jr. | W53/535 | 48.97 |
| 16 | 13-36 | Coastal Forest Resources Co. | 444/105 | 50.00 |
| 17 | 13-41 | Shari D. Burgess | 432/665 | 95.08 |
| 18 | 13-27 | Donald P. Vandyke & Mark L. Vandyke | 410/241 | 123.80 |
| 19 | 13-28 | Coastal Forest Resources Co. | 444/105 | 46.25 |
| 20 | 12-33 | Kevin E. & Carol L. Cunningham | 397/533 | 84.68 |
| 21 | 13-18 | Coastal Forest Resources Co. | 444/105 | 119.00 |
| 23 | 13-12.6 | Dwain Ray Brown | 421/897 | 15.00 |
| 23 | 13-2 | Dwain Ray Brown | 421/897 | 19.75 |
| 24 | 8-42 | Dwain Ray Brown | 421/897 | 22.00 |
| 25 | 13-1 | Randy W. LeMasters | 406/16 | 4.25 |
| 26 | 12-33.2 | Kevin E. & Carol L. Cunningham | 411/185 | 28.61 |
| 27 | 8-38.9 | H. Dorn Higginbotham & Janet L. Workman Higginbotham | 363/197 | 5.00 |
| 28 | 8-38.1 | David L. Anderson | 340/578 | 2.25 |
| 29 | 8-47 | Larrison Brothers, LLC | 417/100 | 53.62 |
| 30 | 8-29 | James L. Scott, Sr., et al | 431/50 | 64.76 |
| 31 | 8-46 | John George | 367/478 | 52.21 |
| 32 | 8-25 | Jody Kay Rine, et al | 435/542 | 130.00 |
| 33 | 8-20.3 | Brent A. & Amy S. Boram | 427/802 | 62.60 |
| 34 | 8-20.2 | Loraine M. Williams | 383/463 | 15.00 |

FILE NO: 133-34-G-18
 DRAWING NO: Trader 2H BHL MOD
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY:
Submeter
 PROVEN SOURCE OF ELEVATION:
CORS, Monroe County, OH



DATE: December 22 2021
 OPERATOR'S WELL NO. Trader Unit 2H
 API WELL NO
47 — 103 — 03460
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Existing 1,175' Proposed 1,154' WATERSHED: Fishing Creek QUADRANGLE: BTM Hole: Porter Falls TOP Hole: Pine Grove
 DISTRICT: Green Antero Resources Bounty Minerals, LLC; H. Dorn Higginbotham, et ux; Linda Headlee Malone, et vir; COUNTY: Wetzel 140; 167.65;
 SURFACE OWNER: Corporation BRC Appalachian Minerals I, LLC (2); Dwain Ray Brown; WVDNR; 21.3; 28.2; 11875;
 ROYALTY OWNER: Pamela Ann Palmer Emch; William R. Stalnaker; David E. Bowyer; Melinda Debner; Melody Ree Posey; Black Rock Enterprises; Shiben Estates, Inc. 60.75; 33; 1.6; 130; 35;
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL MOD ACREAGE: 47.5 45.5; 22; 50; 13; 123.8;
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,400' TVD 119; 56.75; 113.53;
25,500' 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>Pamala Ann Palmer Emch Lease</u> | | | |
| A | Pamala Ann Palmer Emch | Chesapeake Appalachia LLC | 1/8+ | 129A/0350 |
| | Chesapeake Appalachia LLC | SWN Production Company | Assignment | 157A/0540 |
| | SWN Production Company | Antero Exchange Properties, Inc | Assignment | 177A/0533 |
| | Antero Exchange Properties, Inc | Antero Resources Corporation | Merger | 0013/0311 |
| | <u>William R. Stalnaker Lease</u> | | | |
| C | William R. Stalnaker | Antero Resources Corporation | 1/8+ | 179A/0069 |
| | <u>David E. Bowyer Lease</u> | | | |
| D | David E. Bowyer | Antero Resources Corporation | 1/8+ | 177A/0099 |
| | <u>Acropolis Inc. Lease</u> | | | |
| G | Acropolis Inc. | Drilling Appalachian Corporation | 1/8+ | 214A/0149 |
| | Drilling Appalachian Corporation | Antero Resources Corporation | Assignment | 215A/0930 |
| | <u>Melinda Debner Lease</u> | | | |
| F | Melinda Debner | Antero Resources Corporation | 1/8+ | 190A/0714 |
| | <u>Acropolis Inc. Lease</u> | | | |
| H | Acropolis Inc. | Antero Resources Corporation | 1/8+ | 179A/0358 |
| | <u>Acropolis Inc. Lease</u> | | | |
| I | Acropolis Inc. | Antero Resources Corporation | 1/8+ | 179A/0370 |
| | <u>Linda Carol Gadd Leatham Lease</u> | | | |
| J | Linda Carol Gadd Leatham | Antero Resources Corporation | 1/8+ | 239A/0394 |
| | <u>Dean H Bucher Lease</u> | | | |
| K | Dean H Bucher | Antero Resources Corporation | 1/8+ | 262A/198 |
| | <u>P & P Fujimo LLC Lease</u> | | | |
| L | P & P Fujimo LLC | Antero Resources Corporation | 1/8+ | 179A/606 |
| | <u>Melody Ree Posey Lease</u> | | | |
| M | Melody Ree Posey | Antero Resources Corporation | 1/8+ | 187A/395 |
| | <u>Black Rock Enterprises Lease</u> | | | |
| N | Black Rock Enterprises | Antero Resources Corporation | 1/8+ | 203A/933 |
| | <u>Shiben Estates Inc Lease</u> | | | |
| O | Shiben Estates Inc | Antero Resources Corporation | 1/8+ | 174A/62 |

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| Grantor, lessor, etc. | Grantee, lessee, etc. | Royalty | Book/Page |
|--|----------------------------------|------------|-----------|
| <u>BRC Appalachian Minerals I LLC Lease</u> | | | |
| R BRC Appalachian Minerals I LLC | BRC Working Interest Company LLC | 1/8 | 102A/505 |
| R BRC Working Interest Company LLC | Chesapeake Appalachian LLC | Assignment | 103A/470 |
| Chesapeake Appalachian LLC | SWN Production Company | Assignment | 157A/540 |
| SWN Production Company | Antero Exchange Properties LLC | Assignment | 177A/533 |
| Antero Exchange Properties LLC | Antero Resources Corporation | Merger | 13/311 |
| <u>Dwain Ray Brown Lease</u> | | | |
| S Dwain Ray Brown | Antero Resources Corporation | 1/8+ | 233A/321 |
| <u>H Dorn Higginbotham et ux Lease</u> | | | |
| J H Dorn Higginbotham et ux | Antero Resources Corporation | 1/8+ | 274A/792 |
| <u>Bounty Minerals LLC Lease</u> | | | |
| Q Bounty Minerals LLC | Antero Resources Corporation | 1/8+ | 188A/511 |
| <u>BRC Appalachian Minerals I LLC Lease</u> | | | |
| X BRC Appalachian Minerals I LLC | BRC Working Interest Company LLC | 1/8 | 102A/505 |
| X BRC Working Interest Company LLC | Chesapeake Appalachian LLC | Assignment | 103A/470 |
| Chesapeake Appalachian LLC | SWN Production Company | Assignment | 157A/540 |
| SWN Production Company | Antero Exchange Properties LLC | Assignment | 177A/533 |
| Antero Exchange Properties LLC | Antero Resources Corporation | Merger | 13/311 |
| <u>Chesapeake Appalachian LLC Lease</u> | | | |
| Y Chesapeake Appalachian LLC | SWN Production Company | 1/8 | 157A/540 |
| SWN Production Company | Antero Exchange Properties LLC | Assignment | 177A/533 |
| Antero Exchange Properties LLC | Antero Resources Corporation | Merger | 13/311 |

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2 Lease Name or
Linda Headlee Malone et vir Lease

| | | | |
|-----------------------------|------------------------------|------------|----------|
| Linda Headlee Malone et vir | Perkins Oil and Gas Inc | 1/8 | 88A/114 |
| Perkins Oil and Gas Inc | Stone Energy Corporation | Assignment | 126A/958 |
| Stone Energy Corporation | EQT Production Company | Assignment | 183A/305 |
| EQT Production Company | Antero Resources Corporation | Assignment | 273A/793 |

*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

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: Vice President - Land



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

Expedited Modification Horizontal H6A Well Work Permit (API: 47-103-03460)

1 message

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

Thu, Jan 6, 2022 at 10:21 AM

To: Mallory Stanton <mstanton@anteroresources.com>, mhamsher@anteroresources.com, Dani DeVito <ddevito@shalepro.com>, Scott Lemley <slemley@wvassessor.com>, "Harris, Bryan O" <bryan.o.harris@wv.gov>

I have attached a copy of the newly issued well [permit](#) numbers:


47-103-03460 - TRADER UNIT 2H

This will serve as your copy.

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**

2 attachments **47-103-03460 - mod.pdf**
3715K **IR-26 Blank.pdf**
164K**01/07/2022**