



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, August 29, 2022
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for REDWOOD 1H
47-017-06930-00-00

Lateral Extension, Drilling near other laterals

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

A blue ink signature of James A. Martin, Chief, is written over the printed name and title.

Operator's Well Number: REDWOOD 1H
Farm Name: MICHAEL R BRITTON & ANGELA D PRATT
U.S. WELL NUMBER: 47-017-06930-00-00
Horizontal 6A New Drill
Date Modification Issued: 8/29/2022

Promoting a healthy environment.

09/02/2022

WW-6B
(04/15)

*Chk #
4012207
\$5000#
Exp Mod*

API NO. 47-017 - 06930
OPERATOR WELL NO. Redwood Unit 1H MOD
Well Pad Name: Oxford 98 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 017 - Doddri West Uni West Union 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Redwood Unit 1H MOD Well Pad Name: Oxford 98 Pad

3) Farm Name/Surface Owner: Michael R. Britton & Angela D. Pratt Public Road Access: CR 11/4

4) Elevation, current ground: 1120' AS-BUILT Elevation, proposed post-construction: _____

5) Well Type (a) Gas Oil _____ Underground Storage _____
Other _____

(b) If Gas Shallow Deep _____
Horizontal _____

*SDW
8/25/2022*

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- 2850#

8) Proposed Total Vertical Depth: 6600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 16900'

11) Proposed Horizontal Leg Length: 7060.3'

12) Approximate Fresh Water Strata Depths: 123'

13) Method to Determine Fresh Water Depths: 47-017-02837, 47-017-06326 Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 1653'

15) Approximate Coal Seam Depths: 120'

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: _____

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 | 20" | New | H-40 | 79# | 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-/K55 | 36# | 2500' | 2500' | CTS, 1018 Cu. Ft. |
| Intermediate | | | | | | | |
| Production | 5-1/2" | New | P-110CY | 20# | 16900' | 16900' | CTS, 3341 Cu. Ft. |
| Tubing | 2-3/8" | New | N-80 | 4.7# | | | |
| Liners | | | | | | | |

*SDW
8/25/2022*

| 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" | 0.375" | 2250 | 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" | 14,360 | 2500 | Class G/H | ~1.8 |
| 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): 24.47 acres

22) Area to be disturbed for well pad only, less access road (acres): 5.73 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.

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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

AUG 18 2022
WV Department of
Environmental Protection

25) Proposed borehole conditioning procedures:

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

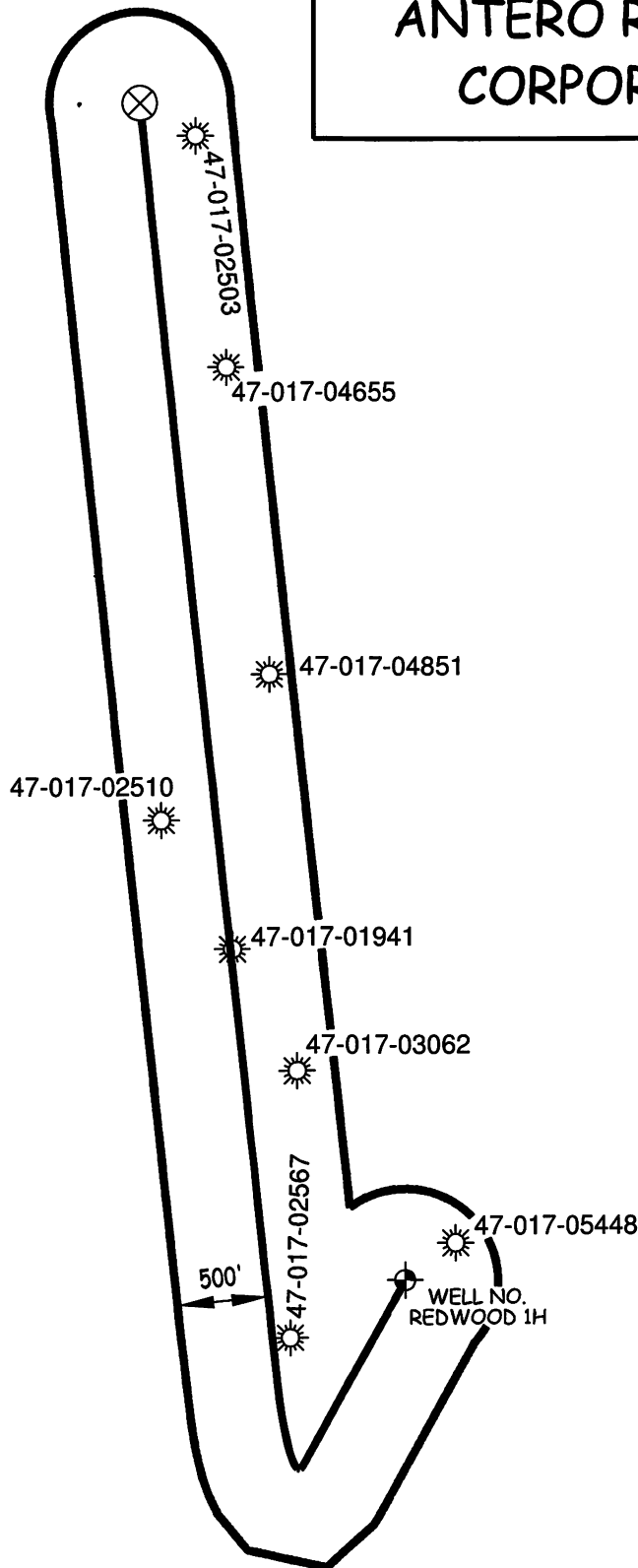
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

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.

OXFORD 98 PAD ANTERO RESOURCES CORPORATION



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Office of Oil and Gas

AUG 18 2022

WV Department of
Environmental Protection

WILLOW LAND SURVEYING, PLLC
P.O. BOX 17, PENNSBORO, WV 26415
(304) 659-1717

JOB #: 22-005WA

FILE: REDWOOD1HAOR.DWG

SCALE : 1-INCH = 1000-FEET



DATE: 08/04/22

DRAWN BY: D.L.P.

09/02/2022

| UWI (API Num) | Well Name | Well Number | Operator | Historical Operator | TD | Perforated Interval (shallowest, deepest) | Perforated Formation(s) | Producible Formation(s) not perf'd |
|----------------|--------------------|-------------|----------------------|---------------------|-------|---|--|------------------------------------|
| 47017025100000 | COONTZ IVY | K-19-2 | GREYLOCK CONVENT LLC | J & J ENTERPRISES | 5,295 | 5124 - 5170 | Alexander | Weir, Berea, Benson |
| 47017048510000 | FLEMING | 7 | KEY OIL CO | KEY OIL CO | 2,734 | | Gordon | |
| 47017019410000 | JAMES P GAINES | 3233 | DIVERSIFIED PROD LLC | HOPE NATURAL GAS | 2,109 | | Maxton, Big Lime, Big Injun | Weir, Berea |
| 47017030620000 | GAIN JAMES A ET AL | J-167 | GREYLOCK CONVENT LLC | J & J ENTERPRISES | 5,412 | 3275 - 5206 | Warren, Benson, Alexander | Weir, Berea |
| 47017054480000 | DEPI | 15129 | DIVERSIFIED PROD LLC | DOMINION EXPL&PROD | 5,310 | 2589 - 5174 | Gordon, Warren, Riley, Alexander | Weir, Berea, Benson |
| 47017025670000 | FRANCIS MICHAEL S | J-108 | GREYLOCK CONVENT LLC | J & J ENTERPRISES | 5,366 | 5156 - 5190 | Gordon, Balltown, Riley, Benson, Alexander | Weir, Berea |
| 47017046550000 | TATRO | 1 | KEY OIL CO | KEY OIL CO | 5,627 | 3407 - 5325 | Balltown, Riley, Alexander | Weir, Berea |
| 47017025030000 | MCDONNELL S F | K26-1 | GREYLOCK CONVENT LLC | J & J ENTERPRISES | 5,211 | 4958 - 4992 | Alexander | Weir, Berea |

LATITUDE 39°17'30"

2,250'

LATITUDE 39°17'30" 3,776' TO BOTTOM HOLE

Antero Resources Corporation Well No. Redwood 1H

NOTES: WELL 1H TOP HOLE INFORMATION: N: 276,978ft E: 1,631,979ft LAT: 39°15'11.38" LON: 80°47'58.60" BOTTOM HOLE INFORMATION: N: 283,475ft E: 1,630,546ft LAT: 39°16'15.38" LON: 80°48'18.01" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 4,344,899m E: 517,305m BOTTOM HOLE INFORMATION: N: 4,346,871m E: 516,835m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 14,254,175ft E: 1,697,144ft POINT OF ENTRY INFORMATION: N: 14,253,637ft E: 1,696,443ft BOTTOM HOLE INFORMATION: N: 14,260,645ft E: 1,695,603ft

NOTE NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.

Table listing West Union District parcels with owner names and parcel numbers (e.g., 14-02 Alfred Perine, 14-03 Gail DeBerry, etc.)

WV NORTH ZONE GRID NORTH

7,550' TO BOTTOM HOLE

LONGITUDE 80°47'30"

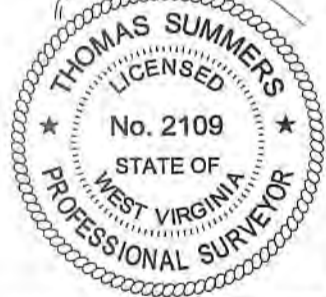
LONGITUDE 80°47'30"



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

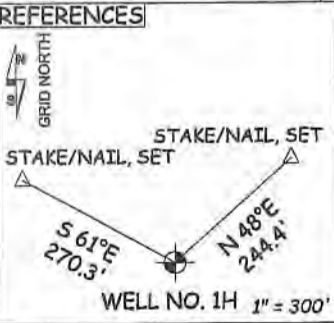
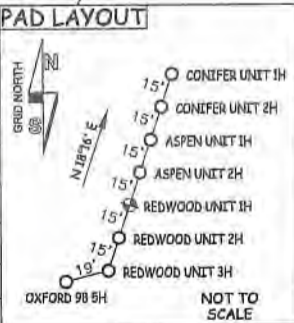


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 19-039WA DRAWING # REDWOOD1H SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND Surface Owner Boundary Lines +/- Adjoining Surface Tracts +/- Found monument, as noted THOMAS SUMMERS P.S. 2109 DATE 08/04/22 OPERATOR'S WELL# REDWOOD 1H



WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 017 - 06930 MOD (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,120' - AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5 DISTRICT WEST UNION COUNTY DODDRIDGE SURFACE OWNER MICHAEL R. BRITTON & ANGELA D. PRATT ACREAGE 136.56 ACRES +/- OIL & GAS ROYALTY OWNER MICHAEL S. FRANCIS ET AL; RICHARD W. MINNIS ET AL; WANDA HURST; LEASE ACREAGE 173 AC±; 69 AC±; 50 AC±; JAMES P. GAINES ET UX; RITCHIE BRITTON ET UX; FRANKLIN L. BUTLER; J.S.NETZER ET UX; WILMER ROLLINS ET UX; 200 AC±; 126 AC±; 109 AC±; 85 AC±; 75 AC±; EMORY ROLLINS ET UX 44 AC± PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER X REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD-BHL PLUG & ABANDON CLEAN OUT & REPLUG TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,600' TVD 16,900' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME

PERMIT

09/02/2022

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Table listing well numbers and names in the West Union District, including Alfred Perine, Gail DeBerry, Lisa Meyer, Dennis Hayes, Marvin Rollins, Glenn Whitehair, Mark Smith, Michael Mignone, Richard Leggett, Richard Leggett, Mary Nestler, Danny Harris, Roger Botton, Danny Harris, Coastal Forest Resources Co, Doddridge County Board of Education, Coastal Forest Resources Co, Coastal Forest Resources Co, Coastal Forest Resources Co, Drexelene Perrine, Michael Wilkinson, Michael Wilkinson, John Trent, Loren Smith, Kenneth Hughes, Glade Perine, Donald Perine, EQM Gathering OPCO LLC, Michael Britton, Russell Nelson, Arnolds Creek UB Church, Michael Wilkinson, Loren Smith, EQM Gathering OPCO LLC, Loren Smith, Loren Smith, Loren Smith, Jessie Vanscoy, Loren Smith, Diane Bennett, CNG Transmission Corp, Loren Smith, Mary Secrist.

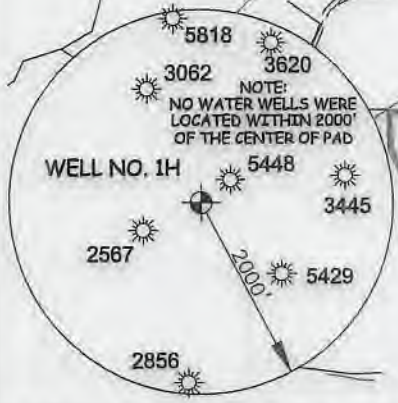
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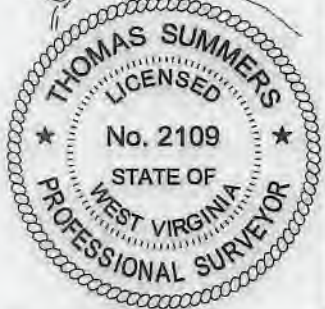
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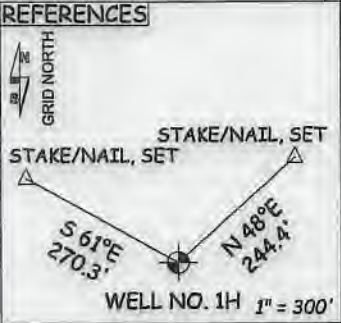
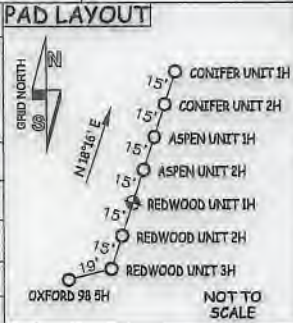


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STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS. DATE 08/04/22 OPERATOR'S WELL# REDWOOD 1H

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OIL & GAS ROYALTY OWNER MICHAEL S. FRANCIS ET AL; RICHARD W. MINNIS ET AL; WANDA HURST; LEASE ACREAGE 173 AC±; 69 AC±; 50 AC±; JAMES P. GAINES ET UX; RITCHIE BRITTON ET UX; FRANKLIN L. BUTLER; J.S. NETZER ET UX; WILMER ROLLINS ET UX; 200 AC±; 126 AC±; 109 AC±; 85 AC±; 75 AC±; EMORY ROLLINS ET UX 44 AC±

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09/02/2022

COUNTY NAME

PERMIT

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>Michael S. Francis, et al Lease</u> | | | |
| Michael S. Francis, et al | Key Oil Company | 1/8 | 0106/0273 |
| Key Oil Company | Columbia Gas Transmission Corporation | Assignment | 0115/0436 |
| Columbia Gas Transmission Corporation | Columbia Natural Resources Inc | Assignment | 0161/0068 |
| Columbia Natural Resources Inc | Columbia Natural Resources LLC | Name Change | 0256/0588 |
| Columbia Natural Resources LLC | Chesapeake Appalachia LLC | Merger | 0264/0447 |
| Chesapeake Appalachia LLC | CNX Gas Company | Assignment | 0372/0585 |
| CNX Gas Company | Antero Resources Corporation | Assignment | 0387/0216 |
| <u>Wanda Hurst Lease</u> | | | |
| Wanda Hurst | J&J Enterprises, Inc | 1/8 | 0119/0281 |
| J&J Enterprises, Inc. | Eastern American Energy Corporation | Merger | 0211/0137 |
| Eastern American Energy Corporation | Energy Corporation of America | Name Change | 0283/0431 |
| Energy Corporation of America | Antero Resources Appalachian Corporation | Assignment | 0307/0321 |
| Antero Resources Appalachian Corporation | Antero Resources Corporation | Name Change | 0046/0523 |
| <u>James P. Gaines, et ux Lease</u> | | | |
| James P. Gaines, et ux | Hope Natural Gas Company | 1/8 | 0022/0228 |
| Hope Natural Company | Consolidated Gas Supply Corporation | Assignment | 0143/0345 |
| Consolidated Gas Supply Corporation | Consolidated Gas Transmission Corporation | Assignment | 0135/0583 |
| Consolidated Gas Transmission Corporation | CNG Transmission Corporation | Assignment | 0332/0563 |
| CNG Transmission Corporation | Dominion Transmission Inc | Assignment | 0332/0570 |
| Dominion Transmission Inc | CNX Gas Company LLC | Assignment | 0325/0517 |
| CNX Gas Company LLC | Antero Resources Corporation | Assignment | 0628/0257 |
| <u>Ritchie Britton, et ux Lease</u> | | | |
| Ritchie Britton, et ux | Key Oil Company | 1/8 | 0104/0345 |
| Key Oil Company | Columbia Gas Transmission Corporation | Assignment | 0115/0436 |
| Columbia Gas Transmission Corporation | Columbia Natural Resources Inc | Assignment | 0161/0068 |
| Columbia Natural Resources Inc | Columbia Natural Resources LLC | Name Change | 0256/0588 |
| Columbia Natural Resources LLC | Chesapeake Appalachia LLC | Merger | 0264/0447 |
| Chesapeake Appalachia LLC | CNX Gas Company | Assignment | 0372/0585 |
| CNX Gas Company | Antero Resources Corporation | Assignment | 0387/0216 |

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 MINERAL PROTECTION

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
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IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

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| Grantor, lessor, etc. | Grantee, lessee, etc. | Royalty | Book/Page |
|---|---|--------------------|------------------|
| <u>Franklin L. Butler Lease</u> | | | |
| Franklin L. Butler | Key Oil Company | 1/8 | 0195/0445 |
| Key Oil Company | Antero Resources Appalachian Corporation | Assignment | 0256/0285 |
| Antero Resources Appalachian Corporation | Antero Resources Corporation | Name Change | 0046/0523 |
| <u>J.S. Netzer, et ux Lease</u> | | | |
| J.S. Netzer, et ux | Hope Natural Gas Company | 1/8 | 0035/0362 |
| Hope Natural Gas Company | Consolidated Gas Supply Corporation | Merger | 0143/0345 |
| Consolidated Gas Supply Corporation | Consolidated Gas Transmission Corporation | Assignment | 0135/0583 |
| Consolidated Gas Transmission Corporation | CNG Development Company | Assignment | 0139/0041 |
| CNG Development Company | Dominion Exploration & Production Inc. | Name Change | WV SOS |
| Dominion Exploration & Production Inc. | Dominion Transmission Inc | Assignment | 0244/0528 |
| Dominion Transmission Inc | CONSOL Gas Company | Name Change | 0292/0469 |
| CONSOL Gas Company | CNX Gas Company, LLC | Name Change | 0293/0252 |
| CNX Gas Company, LLC | Antero Resources Corporation | Assignment | 0628/0257 |
| <u>Wilmer Rollins, et ux Lease</u> | | | |
| Wilmer Rollins and Myrtle Rollins, h/w | C.H. Pigott | 1/8 | 0031/0431 |
| C.H. Pigott | Murphey Oil Company | Assignment | 0040/0443 |
| Murphey Oil Company | Dilmur Oil Company | Assignment | 0091/0742 |
| Dilmur Oil Company | Targa Development, Inc | Assignment | 0165/0428 |
| Targa Development, Inc | Antero Resources Corporation | Assignment | 0257/0362 |
| Antero Resources Corporation | CNX Gas Company | Assignment | 0411/0160 |
| CNX Gas Company | Antero Resources Corporation | Assignment | 0387/0180 |

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**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 |
|--------------------------------------|---------------------------------------|---------------------------------------|-------------|-----------|
| Emory K. Rollins, et ux Lease | | | | |
| | Emory Rollins, et ux | Key Oil Company | 1/8 | 0108/0768 |
| | Key Oil Company | Columbia Gas Transmission Corporation | Assignment | 0115/0436 |
| | Columbia Gas Transmission Corporation | Columbia Natural Resources Inc | Assignment | 0161/0068 |
| | Columbia Natural Resources Inc | Columbia Natural Resources LLC | Name Change | 0256/0588 |
| | Columbia Natural Resources LLC | Chesapeake Appalachia LLC | Merger | 0264/0447 |
| | Chesapeake Appalachia LLC | CNX Gas Company | Assignment | 0372/0585 |
| | CNX Gas Company | Antero Resources Corporation | Assignment | 0387/0216 |

*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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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: Max Green 

Its: VP of Land 



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

Expedited Modification Horizontal H6A Well Work Permits API: (47-017-06926, 06930, 06931, 06932)

1 message

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

Tue, Aug 30, 2022 at 10:51 AM

To: Mallory Stanton <mstanton@anteroresources.com>, Diane Blair <dblair@anteroresources.com>, Dani DeVito <ddevito@shalepro.com>, "Blevins, Cragin" <cragin.blevins@wv.gov>, 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](#) numbers:

47-017-06926 - ASPEN 1H
47-017-06930 - REDWOOD 1H
47-017-06931 - REDWOOD 2H
47-017-06932 - REDWOOD 3H

These will serve as your copy.

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

 **47-017-06926 - mod.pdf**
1635K

 **47-017-06930 - mod.pdf**
997K

 **47-017-06931 - mod.pdf**
989K

 **47-017-06932 - mod.pdf**
1058K

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