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west virginia department of environmental protection

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

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
www.dep.wv.gov

## PERMIT MODIFICATION APPROVAL

December 10, 2015

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET  
DENVER, CO 80202

Re: Permit Modification Approval for API Number 1706417, Well #: KNIGHT UNIT 2H

### Extending lateral

#### Oil and Gas Operator:

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.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

*for*  
Gene Smith  
Assistant Chief of Permitting  
Office of Oil and Gas

Promoting a healthy environment.

12/11/2015

**API# 47-017-06417 PERMIT MODIFICATION**

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

1) Well Operator: Antero Resources Corporation 494488557 017-Doddridge Grant Smithburg 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Knight Unit 2H Well Pad Name: Hamilton Pad

3) Farm Name/Surface Owner: Hamilton, Kenneth E., et al Public Road Access: CR 24

4) Elevation, current ground: 1157' Elevation, proposed post-construction: 1157'

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: 7400' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2950#

8) Proposed Total Vertical Depth: 7400' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 18100' MD

11) Proposed Horizontal Leg Length: 9619'

12) Approximate Fresh Water Strata Depths: 220'

13) Method to Determine Fresh Water Depths: Gaskins Unit 1H (API# 47-017-06260) on same pad.

14) Approximate Saltwater Depths: 611'

15) Approximate Coal Seam Depths: 821'

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: \_\_\_\_\_

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WW-6B  
(04/15)

API NO. 47- 017 - 06417 MOD  
 OPERATOR WELL NO. Knight Unit 2H  
 Well Pad Name: Hamilton Pad

**API# 47-017-06417 PERMIT MODIFICATION**

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	94#	40'	40'	CTS, 38 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	402'	402'	CTS, 558 Cu. Ft
Coal	9-5/8"	New	J-55	36#	2543'	2543'	CTS, 1035 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	18100'	18100'	4557 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

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	30"	24"	0.438"	1530	50	Class A	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	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"	0.361"	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**

Kind:	N/A			<b>Received</b> <b>Office of Oil &amp; Gas</b> <b>DEC 09 2015</b>
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): 27.12 Existing Acres

22) Area to be disturbed for well pad only, less access road (acres): 3.14 Existing 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  
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-9  
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.

WW-6A1

Operator's Well Number

Knight Unit 2H MOD.

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>Silas Ash Lease</b>			
Silas Ash	The South Penn Oil Co.	Flat Rate	0007/0494
South Penn Oil Company	The Pennzoil Company, et al	Name Change	0201/0510
The Pennzoil Company, et al	Devon Energy Production Company L. P.	Name Change	0244/0399
Devon Energy Production Company L. P.	East Resources, Inc.	Assignment	0247/0337
East Resources, Inc.	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0271/0155
<b>Antero Resources Appalachian Corp.</b>	<b>Antero Resources Corp.</b>	<b>Name Change</b>	<b>Exhibit 1</b>
<b>Angelina Duncan Lease</b>			
Angelina B. Duncan	Stonewall Gas Company	1/8	0154/0594
Stonewall Gas Company	Drilling Appalachian Corp.	Assignment	0158/0304
Drilling Appalachian Corp.	Dominion Appalachian Development	Assignment	0181/0667
Dominion Appalachian Development, LLC, DEPI, & DTI, Inc.	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0230/0113
<b>Antero Resources Appalachian Corp.</b>	<b>Antero Resources Corp.</b>	<b>Name Change</b>	<b>Exhibit 1</b>
<b>Beulah Cayton et al Lease</b>			
Beulah Cayton, et vir	C.E. Beck	1/8	0104/0488
C.E. Beck	Pennzoil Company	Assignment	0104/0573
Pennzoil Company	Pennzoil Products Company	Deed, Assignment & Conveyance	DB 0201/0510
Pennzoil Company	Pennzoil Products Company	Supplemental Deed, Assignment & Conveyance	DB 0203/0621
Pennzoil Products Company	Pennzoil Exploration & Production Company	Deed, Assignment & Conveyance	DB 0239/0355
Pennzoil Exploration & Production Company	Pennzenergy Exploration & Production, L.L.C.	Merger	DB 0240/0702
Pennzenergy Exploration & Production, L.L.C.	Devon Energy Production Company, L.P.	Merger	DB 0244/0399
Devon Energy Production Company, L.P.	East Resources, Inc.	Deed, Assignment & Bill of Sale	DB 0247/0337
East Resources, Inc.	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0271/0155
<b>Antero Resources Appalachian Corp.</b>	<b>Antero Resources Corp.</b>	<b>Name Change</b>	<b>Exhibit 1</b>
<b>Maude Shrader et al Lease</b>			
Maude Shrader, et al	C.E. Beck	1/8	0104/0504
C.E. Beck	Pennzoil Company	Assignment	0104/0573
Pennzoil Company	Chesterfield Energy Corporation	Assignment	0166/0121
Chesterfield Energy Corporation	Dominion Appalachian Development, Inc.	Merger	Unrecorded Document
Dominion Appalachian Development, Inc.	Dominion Appalachian Development, LLC	Certificate of Conversion	Exhibit 2
Dominion Appalachian Development, LLC, DEPI, & DTI, Inc.	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0230/0113
<b>Antero Resources Appalachian Corp.</b>	<b>Antero Resources Corp.</b>	<b>Name Change</b>	<b>Exhibit 1</b>

\*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.

\*\*CONTINUED ON NEXT PAGE\*\*  
12/11/2015





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Chapter 22, Article 6A, Section 5(a)(5)  
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- (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
Edgar Hartley Lease	Edgar B. Hartley	Antero Resources Corporation	1/8+	0498/0326

\*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: Kevin Kilstrom  
 Its: Vice President of Production

WW-60  
(7-01)

**API# 47-017-06417 PERMIT MODIFICATION**

DATE: Decemeber 8, 20 15

OPERATOR'S

WELL NO. Knight Unit 2H

API NO: 47- 017 06417  
State County Permit No.

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

A F F I D A V I T

State of Colorado

County of Denver

I, Brett Kuhn (the designated owner or operator, or authorized representative thereof), after being duly sworn, do declare that the undersigned is authorized by the owner of the working interest in the well permit application to which this affidavit is attached to state that (he, she, or it) shall tender to the owner of the oil and gas in place not less than one-eighth of the total amount paid to or received by or allowed to the owner of the working interest at the wellhead for the oil or gas so extracted, produced, or marketed before deducting the amount to be paid or set aside for the owner of the oil or gas in place, or all such oil or gas to be extracted, produced, or marketed from the well. West Virginia Code 22-6-8(e).

Signed: [Signature]

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DEC 09 2015

Taken, subscribed and sworn to before me this 8 day of December, 20 15.

[Signature]  
Notary Public

My Commission expires: July 21, 2018

KARA QUACKENBUSH  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20144028297  
MY COMMISSION EXPIRES JULY 21, 2018

12/11/2015



LATITUDE 39°22'30"

10,024'

2,328' TO BOTTOM HOLE  
LATITUDE 39°25'00"

LONGITUDE 80°45'00"  
LONGITUDE 80°42'30"

### Antero Resources Corporation Well No. Knight Unit 2H

WELL NO. 2H  
BOTTOM HOLE

EDGAR HARTLEY LEASE

2H TOP HOLE

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.

NOTE:  
NO WATER WELLS WERE LOCATED WITHIN 2000' OF PROPOSED WELL

NOTES:  
WELL 2H TOP HOLE INFORMATION:  
N: 318,445ft E: 1,648,363ft  
LAT: 39°22'03.49" LON: 80°44'37.63"  
BOTTOM HOLE INFORMATION:  
N: 327,752ft E: 1,644,408ft  
LAT: 39°23'34.93" LON: 80°45'29.65"  
WEST VIRGINIA COORDINATE  
2H BOTTOM HOLE

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 2H TOP HOLE INFORMATION:  
N: 4,357,615m E: 522,086m  
BOTTOM HOLE INFORMATION:  
N: 4,360,431m E: 520,833m

#### REFERENCES



JOB # 12-143WA  
DRAWING # KNIGHT2HR1  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY SUBMETER  
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

#### LEGEND

- Surface Owner Boundary Lines +/-
- Interior Surface Tracts +/-
- Existing Fence
- Found monument, as noted

DOUGLAS R. ROWE P.S. 2202

DATE 12/07/15

OPERATOR'S WELL # KNIGHT UNIT #2H

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

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS  
API WELL # 47 - 017 - 06417 H164  
STATE COUNTY PERMIT Mod.

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
LOCATION: ELEVATION ORIG 1,171' - PROPOSED 1,157' WATERSHED McELROY CREEK  
QUADRANGLE SMITHBURG 7.5 (TH) SHIRLEY 7.5 (BH) DISTRICT GRANT COUNTY DODDRIDGE  
SURFACE OWNER KENNETH E. HAMILTON ET AL ACREAGE 90.35 ACRES +/-

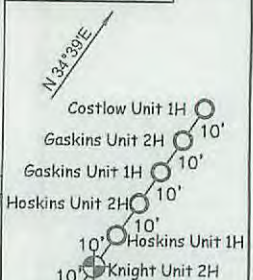
OIL & GAS ROYALTY OWNER SILAS ASH; ANGELINA DUNCAN; BEULAH CAYTON ET AL; MAUDE SHRADER ET AL; DAVID E. BOYER; ROBERT T. GILLE ET AL; EDGAR HARTLEY  
LEASE ACREAGE 120 ACRES±; 100 ACRES±; 123.5 ACRES±; 114.5 ACRES±; 102.48 ACRES±; 120.92 ACRES±; 30 ACRES±

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 7,400' TVD 18,100' MD

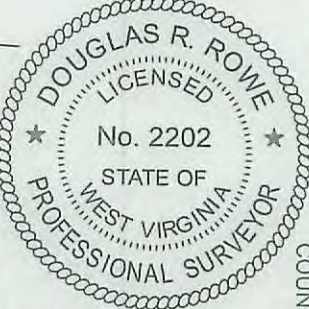
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER  
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

#### PAD LAYOUT



Office of Oil & Gas

DEC 09 2015



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2,328' TO BOTTOM HOLE  
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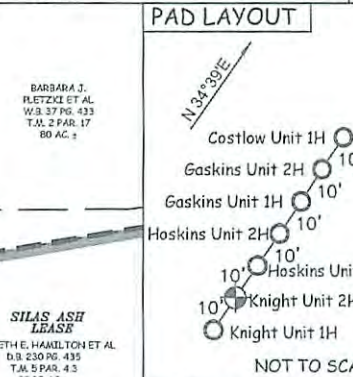
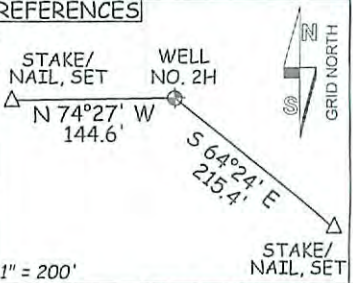
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No. 2202  
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PROFESSIONAL SURVEYOR  
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220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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API WELL # 47 - 017 - 06417  
STATE COUNTY PERMIT

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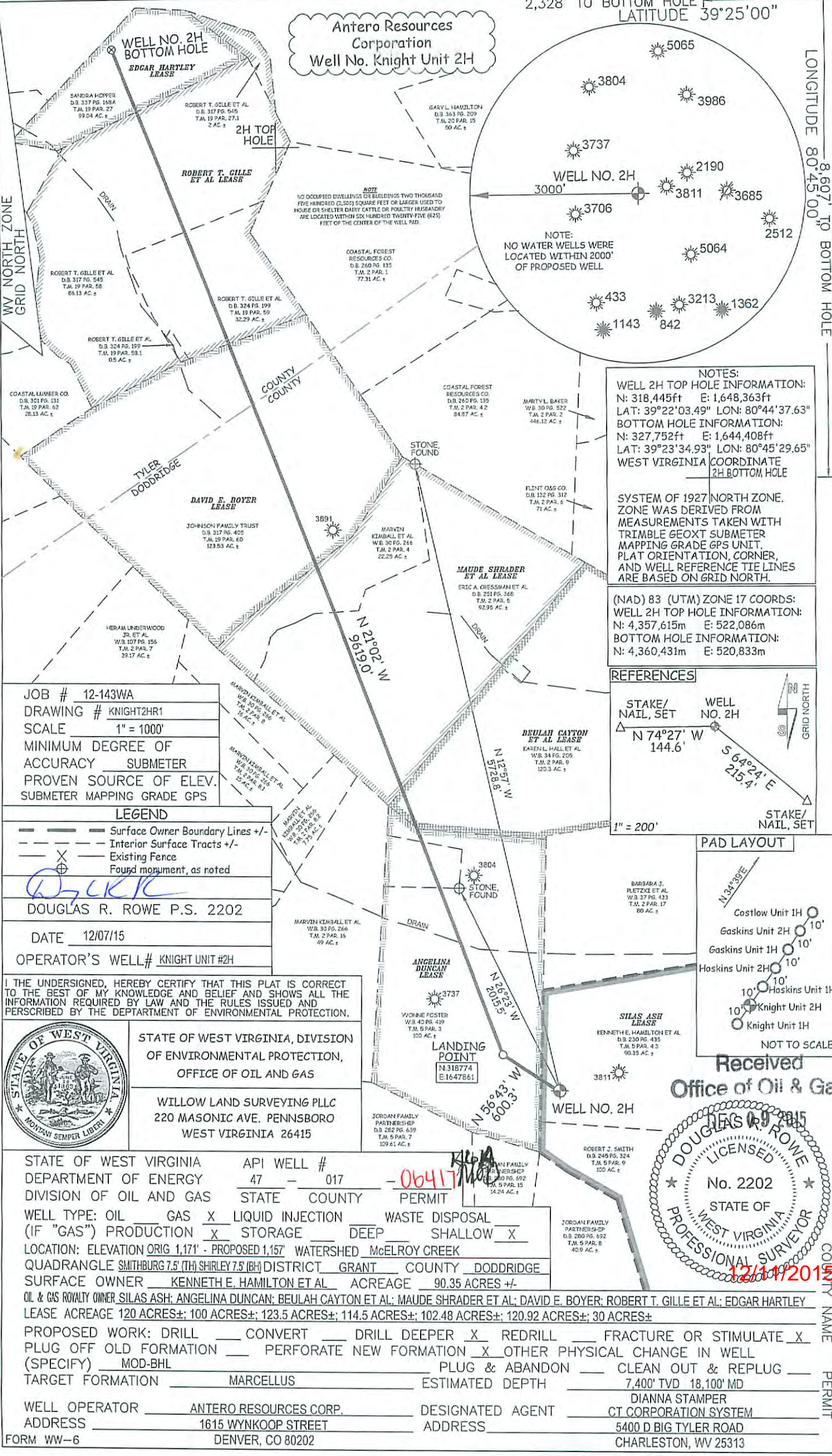
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ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD

FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313





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  
Tel: (304)558-8000  
Fax: (304)558-8381  
Website: [www.wvsos.com](http://www.wvsos.com)  
E-mail: [business@wvsos.com](mailto:business@wvsos.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: 6/26/2008
- Corporate name has been changed to:  
(Attach one Certified Copy of Name Change  
as filed in home State of incorporation.) Antero Resources Corporation
- Name the corporation elects to use in WV:  
(due to home state name not being available) Antero Resources Corporation
- 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.)  
Alvyn A. Schopp (303) 367-7310  
Contact Name Phone Number

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Office of Oil & Gas

DEC 09 2015

- Signature information (See below \*Important Legal Notice Regarding Signature\*):  
Print Name of Signer: Alvyn 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.



AC

# State of West Virginia



## Certificate

I, Betty Ireland, Secretary of State of the State of West Virginia, hereby certify that

**DOMINION APPALACHIAN DEVELOPMENT, INC.**  
(a Virginia corporation)

filed an application for Conversion in my office as required by the provisions of the West Virginia Code and was found to conform to law.

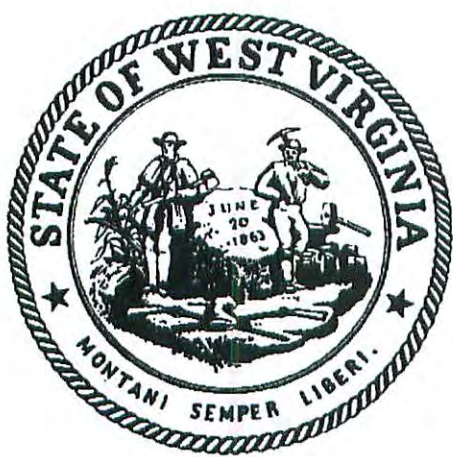
Therefore, I issue this

### CERTIFICATE OF CONVERSION

converting the corporation to

**DOMINION APPALACHIAN DEVELOPMENT, LLC**  
(a Virginia Limited Liability Company)

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Office of Oil & Gas  
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Given under my hand and the Great Seal of the State of West Virginia on

February 23, 2006

*Betty Ireland*

Secretary of State

12/11/2015



December 8, 2015

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
Attn: Ms. Melanie Hankins  
601 57<sup>th</sup> Street  
Charleston, WV 25304

Ms. Hankins:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for three approved wells on the existing Hamilton Pad. We are requesting to extend the lateral length and associated Estimated Measured Depth for the Hoskins Unit 1H (API# 47-017-06416), Knight Unit 1H (API #47-017-06401) and Knight Unit 2H (API #47-017-06417).

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the updated BHL and Measured Depth
- REVISED Mylar Plat, which shows the new Lateral Length and Estimated Measured Depth
- REVISED Form WW-6A1, which shows the new lease we will be drilling into

If you have any questions please feel free to contact me at (303) 357-7323.

Thank you in advance for your consideration.

Sincerely,



Ashlie Steele  
Permitting Supervisor  
Antero Resources Corporation

**Received**  
**Office of Oil & Gas**  
DEC 09 2015

Enclosures