

04/19/2019



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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, April 18, 2019  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET  
DENVER, CO 80202

Re: Permit Modification Approval for TELESTAR UNIT 2H  
47-017-06881-00-00

**Change Bottom Hole Location leading to a Horizontal Leg Length change from 9485' to 9502'.**

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.

James A. Martin  
Chief

Operator's Well Number: TELESTAR UNIT 2H  
Farm Name: MARY E. DEETS AND/OR PAUL A. SMITH  
U.S. WELL NUMBER: 47-017-06881-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 04/18/2019

Promoting a healthy environment.

WW-6B  
(04/15)

Permit Modification (API# 47-017-06881)  
 API NO. 47-017 - 06881  
 OPERATOR WELL NO. Telstar Unit 2H  
 Well Pad Name: Deets 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 Smithburg 7.5'  
 Operator ID County District Quadrangle
- 2) Operator's Well Number: Telstar Unit 2H Well Pad Name: Deets Pad
- 3) Farm Name/Surface Owner: Mary E. Deets and/or Paul A. Smith Public Road Access: Old US-50
- 4) Elevation, current ground: ~1422' Elevation, proposed post-construction: 1376'
- 5) Well Type (a) Gas  Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
 Other \_\_\_\_\_  
 (b) If Gas Shallow  Deep \_\_\_\_\_  
 Horizontal
- 6) Existing Pad: Yes or No No
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus Shale: 7600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2950#
- 8) Proposed Total Vertical Depth: 7600' TVD
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 17700' MD
- 11) Proposed Horizontal Leg Length: 9502'
- 12) Approximate Fresh Water Strata Depths: 196', 221'
- 13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.
- 14) Approximate Saltwater Depths: 1381', 1843', 1966'
- 15) Approximate Coal Seam Depths: 583', 755', 891
- 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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*DAF*  
*3/28/19*

WW-6B  
(04/15)

Permit Modification (API# 47-017-06881)  
 API NO. 47- 017 - 06881  
 OPERATOR WELL NO. Telstar Unit 2H  
 Well Pad Name: Deets Pad

18)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<b>Size (in)</b>	<b>New or Used</b>	<b>Grade</b>	<b>Weight per ft. (lb/ft)</b>	<b>FOOTAGE: For Drilling (ft)</b>	<b>INTERVALS: Left in Well (ft)</b>	<b>CEMENT: Fill-up (Cu. Ft.)/CTS</b>
Conductor	20"	New	H-40	94#	80'	80'	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	300'	300'	CTS, 417 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	17700'	17700'	4460 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

<b>TYPE</b>	<b>Size (in)</b>	<b>Wellbore Diameter (in)</b>	<b>Wall Thickness (in)</b>	<b>Burst Pressure (psi)</b>	<b>Anticipated Max. Internal Pressure (psi)</b>	<b>Cement Type</b>	<b>Cement Yield (cu. ft./k)</b>
Conductor	20"	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			
Sizes:	N/A			
Depths Set:	N/A			

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*3/28/19*

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(10/14)

Permit Modification (API# 47-017-06881)  
 API NO. 47- 017 - 06881  
 OPERATOR WELL NO. Telstar Unit 2H  
 Well Pad Name: Deets 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.

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): 41.13 acres

22) Area to be disturbed for well pad only, less access road (acres): 8.82 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.

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\*Note: Attach additional sheets as needed.

DAR  
 3/28/19



TELSTAR UNIT 2H (DEETS PAD) - AREA OF REVIEW 35-8-5.11 PAGE 1

47017043720000


Telstar Unit 2H



Antero Resources Corporation

Telstar Unit 2H - AOR



 WELL SYMBOLS  
Gas Well

September 19, 2018

*Joe can  
3/28/19*

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04/19/2019

TELSTAR UNIT 2H (DEETS PAD) - AREA OF REVIEW 35-8-5.11 PAGE 2

UWI (APINum)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Produclble Formation(s) not perf'd
47017043720000	SCRIPPS ETAL	6	ALLIANCE PETR CORP	DAC CORP	5,330'	3590 - 5174	Riley, Benson	Weir, Fifth, Warren, Alexander

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TELSTAR UNIT 2H (DEETS PAD) - AREA OF REVIEW 35-8-5.11 PAGE 2

UWI (APINum)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47017043720000	SCRIPPS ETAL	6	ALLIANCE PETR CORP	DAC CORP	5,330'	3590 - 5174	Riley, Benson	Weir, Fifth, Warren, Alexander

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*DAJ*  
*3/28/19*

WW-6A1  
(5/13)

Operator's Well No. Telstar Unit 2H

**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
<b>C. Howard Knight et al Lease</b>				
C. Howard Knight et al		Ferrell L. Prior d/b/a/ Prior Oil Company	1/8	0066/0235
Ferrell L. Prior d/b/a/ Prior Oil Company		David Bunting and Herbert R. Clark d.b.a.B&C Oil Company	Assignment	0090/0263
David Bunting and Herbert R. Clark d.b.a.B&C Oil Company		Associated Minerals, Inc	Assignment	0099/0328
Associated Minerals, Inc		John Underwood	Writ of Execution	0158/0350
John Underwood		Drilling Appalchian Corporation	Assignment	0173/0557
Drilling Appalchian Corporation		Knight Gas and Oil Well Enterprises, Inc	Assignment	0176/0477
Knight Gas and Oil Well Enterprises, Inc		Antero Resources Corporation	Assignment	0338/0018

\*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: Kevin Kilstrom  
 Its: Senior Vice President - Production

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Operator's Well Number

Telstar Unit 2H

Permit Modification (API# 47-017-06881)

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Johnson B. Smith et ux Lease</u></b>			
Johnson B. Smith, et ux	Eastern Oil Company	1/8	0022/0231
Eastern Oil Company	A.W. Stevens	Assignment	0042/0328
A.W. Stevens	Eastern Union Gas Company	Assignment	0042/0330
Eastern Union Gas Company	Pittsburgh & West Virginia Gas Company	Assignment	0085/0334
Pittsburgh & West Virginia Gas Company	Equitable Gas Company	Assignment	0121/0257
Equitable Gas Company	Equitrans, Inc.	Assignment	0154/0475
Equitrans, Inc.	EQT Capital Corporation	Name Change	Exhibit 2
<b>EQT Capital Corporation</b>	<b>Antero Resources Corporation</b>	<b>Assignment</b>	<b>0325/0523</b>
<b><u>T.G. Baker et al Lease</u></b>			
T.G. Baker, et al	J.D. Foley	1/8	0044/0483
J.D. Foley	Delta Petroleum Company	Assignment	Unrecorded
Delta Petroleum Company	Petroleum Development Corporation	Assignment	Unrecorded
Petroleum Development Corporation	PDC Mountaineer, LLC	Assignment	0240/0118
<b>PDC Mountaineer, LLC</b>	<b>Antero Resources Corporation</b>	<b>Assignment</b>	<b>0371/0253</b>
<b><u>P.B. McClain et ux Lease</u></b>			
P.B. McClain et ux	The West Union Gas Company	1/8	0014/0477
The West Union Gas Company	Eastern Oil Company	Assignment	0023/0479
Eastern Oil Company	A.W. Stevenson	Assignment	0042/0328
A.W. Stevenson	Eastern Union Gas Company	Assignment	0042/0328
Eastern Union Gas Company	Pittsburgh & West Virginia Gas Company	Assignment	0085/0334
Pittsburgh & West Virginia Gas Company	Equitable Gas Company	Assignment	0121/0303
Equitable Gas Company	Equitrans, Inc.	Assignment	0154/0475
Equitrans, Inc.	Equitrans, L.P.	Name Change	0302/0123
Equitrans, L.P.	Equitable Production-Eastern States, Inc.	Assignment	0192/0019
Equitable Production-Eastern States, Inc.	Equitable Production Company	Merged	Exhibit 3
Equitable Production Company	EQT Production Company	Name Change	0281/0346
<b>EQT Production Company</b>	<b>Antero Resources Corporation</b>	<b>Assignment</b>	<b>0325/0539</b>

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\*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**

Operator's Well Number

Telstar Unit 2H

Permit Modification (API# 47-017-06881)

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Johnson Williams Lease</u></b>			
Johnson Williams	West Union Gas Company	1/8	0023/0477
West Union Gas Company	Eastern Oil Company	Assignment	0023/0479
Eastern Oil Company	A.W. Stevenson	Assignment	0042/0328
A.W. Stevenson	Eastern Union Gas Company	Assignment	0042/0328
Eastern Union Gas Company	Pittsburgh & West Virginia Gas Company	Assignment	0085/0334
Pittsburgh & West Virginia Gas Company	Equitable Gas Company	Assignment	0121/0257
Equitable Gas Company	Equitrans, Inc.	Assignment	0154/0475
Equitrans, Inc.	Equitrans, L.P.	Name Change	0302/0123
Equitrans, L.P.	Equitable Production-Eastern States, Inc.	Assignment	0192/0019
Equitable Production-Eastern States, Inc.	Equitable Production Company	Merged	Exhibit 3
Equitable Production Company	EQT Production Company	Name Change	0281/0346
EQT Production Company	Antero Resources Corporation	Assignment	0325/0539
<b><u>Edgar Davisson et ux Lease</u></b>			
Edgar Davisson et ux	The Carter Oil Company	1/8	0020/0050
The Carter Oil Company	Hope Natural Gas Company	Assignment	0042/0041
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Merged	0143/0345
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	0135/0583
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Merged	Exhibit 4
CNG Transmission Corporation	Dominion Transmission, Incorporated	Merged	Exhibit 5
Dominion Transmission, Incorporated	Consol Energy Holdings, L.L.C.	Assignment	0245/0001
Consol Energy Holdings, L.L.C.	CNX Gas Company, LLC	Merged	0292/0469
CNX Gas Company, LLC	Noble Energy Inc	Assignment	0260/0039
Noble Energy Inc	Antero Resources Corporation	Assignment	0317/0379
<b><u>John McKinney et al Lease</u></b>			
John McKinney et al	W.D. Gribble	1/8	0056/0280
W.D. Gribble	Carolyn E. Farr	Conveyance	0003/0055
Carolyn E. Farr	Clarence E. Sigley, Sr., Trustee of the Carolyn Elizabeth Farr Trust	Conveyance	0285/0219
Clarence E. Sigley, Sr., Trustee of the Carolyn Elizabeth Farr Trust	Antero Resources Appalachian Corporation	Assignment	0271/0551
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>George Benton White Lease</u></b>			
George Benton White	Antero Resources Corporation	1/8	0343/0594

\*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.

FORM WV-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



Fenney Barker, Manager  
Corporations Division  
Tel: (304) 558-8000  
Fax: (304) 558-4361  
Website: www.wvmd.com  
E-mail: business@wvmd.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 states  
applies for an Amended Certificate of Authority and submits the following statements:

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachia Corporation
- Date Certificate of Authority was issued in West Virginia: 6/25/2008
- Corporation 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) 357-7310  
Contact Name Phone Number

7. Signature information (See below *\*Important Legal Notice Regarding Signatures\**):  
Print Name of Signer: Alwyn A. Schopp Title/Capacity: Authorized Person  
Signature: [Handwritten Signature] Date: June 10, 2013

*\*Important Legal Notice Regarding Signatures\** For West Virginia Code §31D-1-12b. 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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FORM WV-6A1  
EXHIBIT 2, Page 1

BOOK 512 PAGE 781

ARTICLES OF MERGER  
OF  
KENTUCKY WEST VIRGINIA GAS COMPANY

a West Virginia Company

Into

EQT CAPITAL CORPORATION

a Delaware Company

FILED  
NOVEMBER 1995  
IN THE OFFICE OF  
SECRETARY OF STATE  
WEST VIRGINIA

Pursuant to the provisions of Section 38, Article 1, Chapter 31 of the Code of West Virginia, 1931, as amended, the undersigned corporation adopts the following Articles of Merger for the purpose of merging a subsidiary corporation into the undersigned as the surviving corporation:

The undersigned foreign corporation is incorporated under the laws of Delaware and the laws of such jurisdiction permit such a merger.

The following Plan of Merger was adopted by the undersigned corporation in the manner prescribed by the laws of the jurisdiction under which it is organized.

This Plan of Merger dated as of November 20, 1995, is among EQT Capital Corporation ("EQT"), a Delaware corporation, Equitrans, Inc. ("Equitrans"), a Delaware corporation and Kentucky West Virginia Gas Company ("Kentucky West"), a West Virginia corporation. The terms of the merger shall be as follows:

1. Equitrans and Kentucky West shall merge into EQT. EQT shall be the surviving corporation with its corporate identity, existence, purposes, powers, franchises, rights and immunities unimpaired.
2. The issued and outstanding shares of common stock of Equitrans and Kentucky West, shall without further action on the part of Equitrans, Kentucky West or EQT, be cancelled and of no further effect as of the Effective Date of the merger (as defined below).
3. A Certificate of Merger shall be filed as required by law with the Secretary of State of the State of West Virginia and the Secretary of State of the State of Delaware. The Effective Date of the merger shall be the last date of filing with the respective secretaries of state (the "Effective Date"). On the Effective Date, Equitrans and Kentucky West will cease to exist as separate corporations and EQT will succeed to all of the assets, rights, privileges, immunities, powers, duties and liabilities of Equitrans and Kentucky West in accordance with the provisions of the West Virginia Corporation Act and of the Delaware General Corporation Law.
4. The current Certificate of Incorporation of EQT shall be its Certificate of Incorporation on and after the Effective Date of the merger.

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FORM WV-6A1  
EXHIBIT 2, Page 2

BOOK 512 PAGE 782

5. This Plan of Merger shall be executed by the corporate officers of Kentucky West, Equitrans and EQT.

The number of outstanding shares of each class of the subsidiary corporation and the number of such shares of each class owned by the surviving corporation are as follows:

Name of Subsidiary	Number of Shares Outstanding	Designation of Class	Number of Shares Owned by Surviving Corporation
Kentucky West Virginia Gas	331,754	Common	331,754

A copy of the Plan of Merger set forth above was mailed on September 1, 1995 to each Shareholder of the subsidiary corporation.

The undersigned corporation hereby: (a) agrees that it may be served with process in the State of West Virginia in any proceeding for the enforcement of the rights of a dissenting shareholder of the above-mentioned subsidiary corporation against the surviving corporation; (b) irrevocably appoints the Secretary of State of the State of West Virginia as its agent to accept service of process in any such proceeding; and (c) agrees that it will promptly pay to the dissenting shareholders of such domestic corporation the amount, if any, to which they shall be entitled under Section 123, Article 1, Chapter 31 of the Code of West Virginia with respect to the rights of dissenting shareholders.

Dated November 20, 1995.

EQT CAPITAL CORPORATION

By *A. Mark Chumov*  
Its President

and *James C. Sheller*  
Its Corporate Secretary

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# Certificate

*I, Joe Manchin III, Secretary of State of the  
State of West Virginia, hereby certify that*

by the provisions of Chapter 31 of the West Virginia Code, Articles of Merger were received and filed  
MERGING EQUITABLE PRODUCTION - EASTERN STATES, INC., A QUALIFIED DE ORGANIZATION, WITH AND INTO  
EQUITABLE PRODUCTION COMPANY, A QUALIFIED ORGANIZATION.

Therefore, I hereby issue this

## CERTIFICATE OF MERGER

*Given under my hand and the  
Great Seal of the State of  
West Virginia on this day of  
June 28, 2001*

A handwritten signature in black ink, appearing to read "Joe Manchin III".

*Secretary of State*



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FORM WW-6A1  
EXHIBIT 4



*I, Ken Hechler, Secretary of State of the State of West Virginia, hereby certify that originals of an application by*

**CONSOLIDATED GAS TRANSMISSION CORPORATION**

for an amended certificate of authority to transact business in West Virginia are filed in my office, as required by the provisions of Chapter 31, Article 1, Sections 57 and 59 of the West Virginia Code and conform to law. Therefore, I issue this

**AMENDED CERTIFICATE OF AUTHORITY**

to transact business in West Virginia under the name of

**CNG TRANSMISSION CORPORATION**

and I attach to this certificate a duplicate original of the application.

*Given under my hand and the Great Seal of the State of West Virginia, on this*

THIRTYRENTH day of  
JANUARY 19 88

*Ken Hechler*

*Secretary of State*



RECEIVED  
Office of Oil and Gas  
MAR 15 2019  
WV Department of Environmental Protection

FORM WW-6A1  
EXHIBIT 5



# Certificate

*I, Ken Hechler, Secretary of State of the  
State of West Virginia, hereby certify that*

originals of an application by

**CNG TRANSMISSION CORPORATION**

for an amended certificate of authority to transact business in West Virginia are filed in my office,  
as required by the provisions of Chapter 31, Article 1, Sections 57 and 59 of the West Virginia  
Code and conform to law. Therefore, I issue this

## AMENDED CERTIFICATE OF AUTHORITY

to transact business in West Virginia under the name of

**DOMINION TRANSMISSION, INC.**

and I attach to this certificate a duplicate original of the application.

*Given under my hand and the  
Great Seal of the State of  
West Virginia on*

May 10, 2000

*Secretary of State*

RECEIVED  
Office of Oil and Gas  
MAR 15 2019  
WV Department of  
Environmental Protection





LATITUDE 39°20'00"

4,824'

LONGITUDE 80°42'30"

12,857'

TO BOTTOM HOLE

LONGITUDE 80°42'30"

TO BOTTOM HOLE

LONGITUDE 80°42'30"

TO BOTTOM HOLE

LONGITUDE 80°42'30"

TO BOTTOM HOLE

LONGITUDE 80°42'30"

6,891'

TO BOTTOM HOLE

LONGITUDE 80°42'30"

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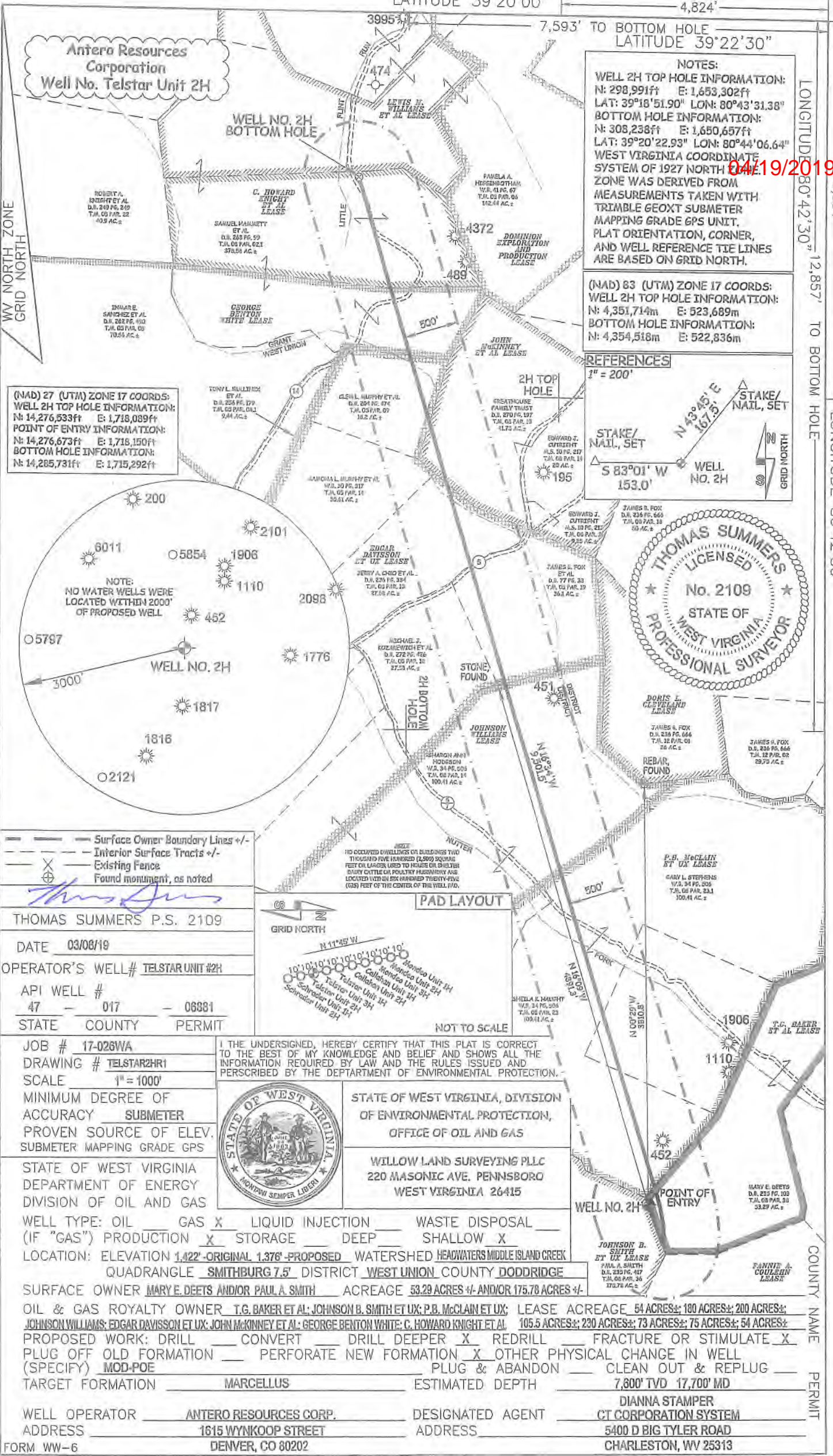
LONGITUDE 80°42'30"

TO BOTTOM HOLE

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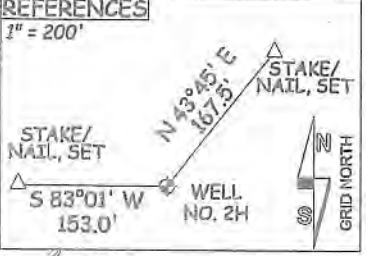
TO BOTTOM HOLE

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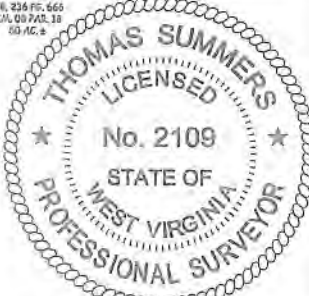


**NOTES:**  
 WELL 2H TOP HOLE INFORMATION:  
 N: 298,991ft E: 1,653,302ft  
 LAT: 39°18'51.90" LON: 80°43'31.38"  
 BOTTOM HOLE INFORMATION:  
 N: 308,238ft E: 1,650,657ft  
 LAT: 39°20'22.93" LON: 80°44'06.64"  
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE WAS DERIVED FROM MEASUREMENTS TAKEN 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: 4,351,714m E: 523,689m  
 BOTTOM HOLE INFORMATION:  
 N: 4,354,516m E: 522,836m



**(NAD) 27 (UTM) ZONE 17 COORDS:**  
 WELL 2H TOP HOLE INFORMATION:  
 N: 14,276,533ft E: 1,718,089ft  
 POINT OF ENTRY INFORMATION:  
 N: 14,276,673ft E: 1,718,150ft  
 BOTTOM HOLE INFORMATION:  
 N: 14,265,731ft E: 1,715,292ft



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

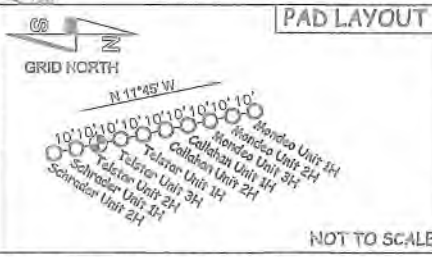
THOMAS SUMMERS P.S. 2109

DATE 03/08/19

OPERATOR'S WELL# TELSTAR UNIT #2H

API WELL # 47 - 017 - 06881

STATE COUNTY PERMIT



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 # 17-026WA  
 DRAWING # TELSTAR2HR1  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

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

LOCATION: ELEVATION 1,422' - ORIGINAL 1,376' - PROPOSED WATERSHED HEADWATERS MIDDLE ISLAND CREEK  
 QUADRANGLE SMITHBURG 7.5' DISTRICT WEST UNION COUNTY DODDRIDGE

SURFACE OWNER MARY E. DEETS AND/OR PAUL A. SMITH ACREAGE 53.29 ACRES +/- AND/OR 175.78 ACRES +/-

OIL & GAS ROYALTY OWNER T.G. BAKER ET AL; JOHNSON B. SMITH ET UX; P.B. McCLAIN ET UX; LEASE ACREAGE 54 ACRES±; 180 ACRES±; 200 ACRES±; JOHNSON WILLIAMS; EDGAR DAVISSON ET UX; JOHN McKINNEY ET AL; GEORGE BENTON WHITE; C. HOWARD KNIGHT ET AL 105.5 ACRES±; 230 ACRES±; 73 ACRES±; 75 ACRES±; 54 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-POE \_\_\_ PLUG & ABANDON \_\_\_ CLEAN OUT & REPLUG \_\_\_

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,800' TVD 17,700' MD

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

WELL NO. 2H

POINT OF ENTRY

JOHNSON B. SMITH ET UX LEASE  
 PAUL A. SMITH D.B. 236 PG. 417 T.M. 05 PAR. 36 179.78 AC.±

FANNIE A. COULBERT LEASE

MARY E. DEETS D.B. 233 PG. 103 T.M. 05 PAR. 31 53.29 AC.±

T.G. BAKER ET AL LEASE

1906

1110

452

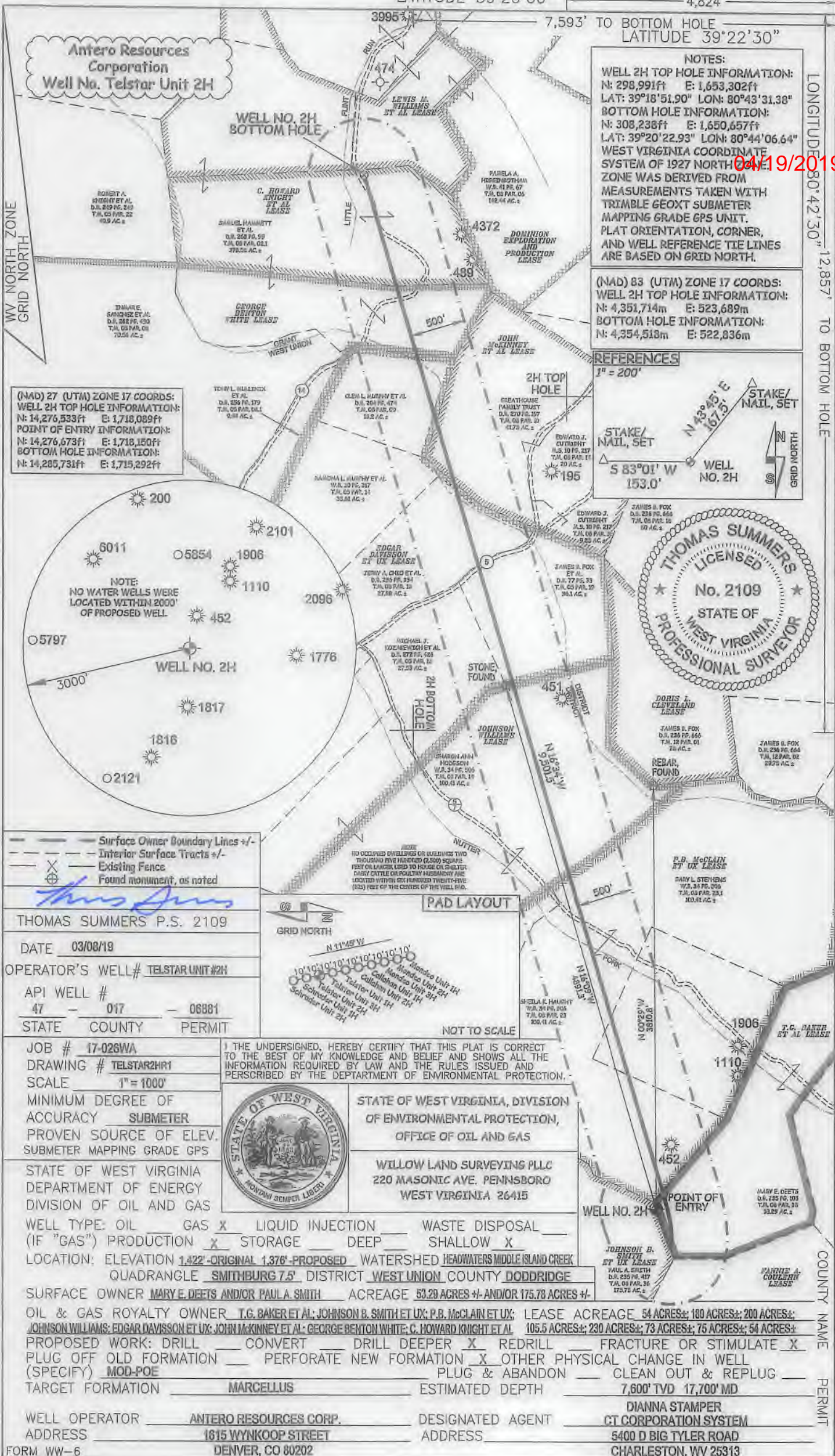
STATE COUNTY PERMIT

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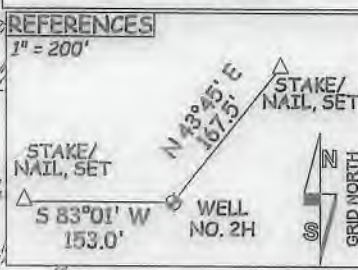
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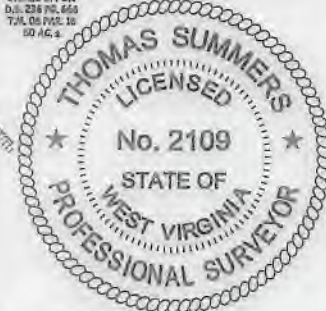
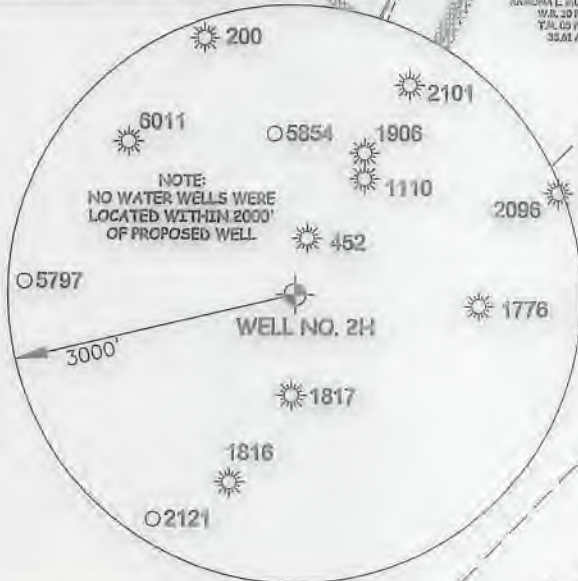


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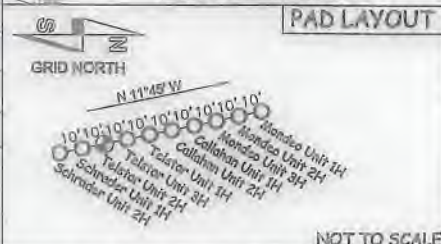


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 X Existing Fence  
 Found monument, as noted

THOMAS SUMMERS P.S. 2109  
 DATE 03/08/19  
 OPERATOR'S WELL# TELSTAR UNIT #2H  
 API WELL # 47 - 017 - 06881  
 STATE COUNTY PERMIT



JOB # 17-026WA  
 DRAWING # TELSTAR2HR1  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS  
 STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

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 WILLOW LAND SURVEYING PLLC  
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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 SURFACE OWNER MARY E. DEETS AND/OR PAULA A. SMITH ACREAGE 53.29 ACRES +/- AND/OR 175.78 ACRES +/-  
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 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-POE PLUG & ABANDON CLEAN OUT & REPLUG  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,600' TVD 17,700' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 DENVER, CO 80202 CHARLESTON, WV 25313

04/19/2019



March 14, 2019

Antero Resources  
1615 Wynkoop Street  
Denver, CO 80202  
Office 303.357.7310  
Fax 303.357.7315

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

Ms. Adkins:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for seven approved wells on the Deets Pad. We are requesting to change the bottom hole locations of the **Telstar Unit 2H (API# 47-017-06881)**, Telstar Unit 3H (API# 47-017-06831), Schrader Unit 1H (API# 47-017-06877), Schrader Unit 2H (API# 47-017-06879), Callahan Unit 1H (API# 47-017-06873), Callahan Unit 2H (API# 47-017-06874), Mondeo Unit 3H (API# 47-017-06878).

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the revised lateral length, measured depth, and Production Casing/Cement program
- REVISED Form WW-6A1, which shows the new leases we will be drilling into
- REVISED Mylar Plats, which shows the new bottom hole location

We would also like to request the following three wells be **cancelled**, Mondeo Unit 1H (API# 47-017-06875), Mondeo Unit 2H (API# 47-017-06876), Telstar Unit 1H (API# 47-017-06880).

If you have any questions please feel free to contact me at (303) 357-6820.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Karin Cox", is written over a light blue circular stamp.

Karin Cox  
Permitting Agent  
Antero Resources Corporation

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Office of Oil and Gas

MAR 29 2019

Enclosures

WV Department of  
Environmental Protection

# VOID

Section

WW-6B  
(04/15)

Permit Modification (API# 47-017-06881) 04/19/2019  
API NO. 47-017 - 06881  
OPERATOR WELL NO. Telstar Unit 2H  
Well Pad Name: Deets 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 Smithburg 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Telstar Unit 2H Well Pad Name: Deets Pad

3) Farm Name/Surface Owner: Mary E. Deets and/or Paul A. Smith Public Road Access: Old US-50

4) Elevation, current ground: ~1422' Elevation, proposed post-construction: 1376'

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

(b) If Gas Shallow  Deep   
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus Shale: 7600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2950#

8) Proposed Total Vertical Depth: 7600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17700' MD

11) Proposed Horizontal Leg Length: 9502'

12) Approximate Fresh Water Strata Depths: 196', 221'

13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: 1381', 1843', 1966'

15) Approximate Coal Seam Depths: 583', 755', 891'

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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Office of Oil and Gas  
MAR 15 2019  
M.V. Department of  
Environmental Protection

WW-6B  
(04/15)

Permit Modification (API# 47-017-06881)  
 API NO. 47- 017 - 06881 **04/19/2019**  
 OPERATOR WELL NO. Telstar Unit 2H  
 Well Pad Name: Deets 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, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	300'	300'	CTS, 417 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	17700'	17700'	4460 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"/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			
Sizes:	N/A			
Depths Set:	N/A			

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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): 41.13 acres

22) Area to be disturbed for well pad only, less access road (acres): 8.82 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

**VOID**

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.

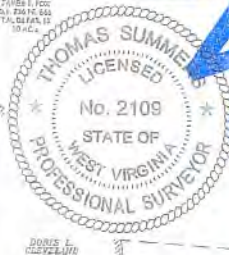


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 N: 4,354,518m E: 522,836m

REFERENCES  
 1" = 200'  
 STAKE/MAIL, SET  
 5 53°01' W 153.0'  
 STAKE/MAIL, SET  
 N 43°45' E 167.5'

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STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY  
 DIVISION OF OIL AND GAS

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 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW

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WILLOW LAND SURVEYING PLLC  
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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MAR 29 2019

WV Department of Environmental Protection





47017043720000 \*

Telstar Unit 2H

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MAR 15 2019  
WV Department of  
Environmental Protection



Antero Resources Corporation

Telstar Unit 2H - AOR



WELL SYMBOLS  
Gas Well \*

September 19, 2018

WW-6A1  
(5/13)

Permit Modification (API# 47-017-05881)  
Operator's Well No. Telstar Unit 2H

**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
<b>C. Howard Knight et al Lease</b>				
C. Howard Knight et al		Ferrell L. Prior d/b/a/ Prior Oil Company	1/8	0066/0235
Ferrell L. Prior d/b/a/ Prior Oil Company		David Bunting and Herbert R. Clark d.b.a.B&C Oil Company	Assignment	0090/0263
David Bunting and Herbert R. Clark d.b.a.B&C Oil Company		Associated Minerals, Inc	Assignment	0099/0328
Associated Minerals, Inc		John Underwood	Writ of Execution	0158/0350
John Underwood		Drilling Appalchian Corporation	Assignment	0173/0557
Drilling Appalchian Corporation		Knight Gas and Oil Well Enterprises, Inc	Assignment	0176/0477
Knight Gas and Oil Well Enterprises, Inc		Antero Resources Corporation	Assignment	0338/0018

\*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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MAR 29 2019

WV Department of  
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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: Senior Vice President - Production

DAF  
3/28/18

WW-6A1

Operator's Well Number      Telstar Unit 2H  
 Permit Modification (API# 47-017-06881)

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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Johnson B. Smith et ux Lease</u></b>			
Johnson B. Smith, et ux	Eastern Oil Company	1/8	0022/0231
Eastern Oil Company	A.W. Stevens	Assignment	0042/0328
A.W. Stevens	Eastern Union Gas Company	Assignment	0042/0330
Eastern Union Gas Company	Pittsburgh & West Virginia Gas Company	Assignment	0085/0334
Pittsburgh & West Virginia Gas Company	Equitable Gas Company	Assignment	0121/0257
Equitable Gas Company	Equitrans, Inc.	Assignment	0154/0475
Equitrans, Inc.	EQT Capital Corporation	Name Change	Exhibit 2
EQT Capital Corporation	Antero Resources Corporation	Assignment	0325/0523
<b><u>T.G. Baker et al Lease</u></b>			
T.G. Baker, et al	J.D. Foley	1/8	0044/0483
J.D. Foley	Delta Petroleum Company	Assignment	Unrecorded
Delta Petroleum Company	Petroleum Development Corporation	Assignment	Unrecorded
Petroleum Development Corporation	PDC Mountaineer, LLC	Assignment	0240/0118
PDC Mountaineer, LLC	Antero Resources Corporation	Assignment	0371/0253
<b><u>P.B. McClain et ux Lease</u></b>			
P.B. McClain et ux	The West Union Gas Company	1/8	0014/0477
The West Union Gas Company	Eastern Oil Company	Assignment	0023/0479
Eastern Oil Company	A.W. Stevenson	Assignment	0042/0328
A.W. Stevenson	Eastern Union Gas Company	Assignment	0042/0328
Eastern Union Gas Company	Pittsburgh & West Virginia Gas Company	Assignment	0085/0334
Pittsburgh & West Virginia Gas Company	Equitable Gas Company	Assignment	0121/0303
Equitable Gas Company	Equitrans, Inc.	Assignment	0154/0475
Equitrans, Inc.	Equitrans, L.P.	Name Change	0302/0123
Equitrans, L.P.	Equitable Production-Eastern States, Inc.	Assignment	0192/0019
Equitable Production-Eastern States, Inc.	Equitable Production Company	Merged	Exhibit 3
Equitable Production Company	EQT Production Company	Name Change	0281/0346
EQT Production Company	Antero Resources Corporation	Assignment	0325/0539

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\*\*CONTINUED ON NEXT PAGE

DAP  
3/28/19

WW-6A1

Operator's Well Number **Telstar Unit 2H**  
Permit Modification (API# 47-017-06881)

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
 Chapter 22, Article 6A, Section 5(a)(5)  
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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Johnson Williams Lease</u></b>			
Johnson Williams	West Union Gas Company	1/8	0023/0477
West Union Gas Company	Eastern Oil Company	Assignment	0023/0479
Eastern Oil Company	A.W. Stevenson	Assignment	0042/0328
A.W. Stevenson	Eastern Union Gas Company	Assignment	0042/0328
Eastern Union Gas Company	Pittsburgh & West Virginia Gas Company	Assignment	0085/0334
Pittsburgh & West Virginia Gas Company	Equitable Gas Company	Assignment	0121/0257
Equitable Gas Company	Equitrans, Inc.	Assignment	0154/0475
Equitrans, Inc.	Equitrans, L.P.	Name Change	0302/0123
Equitrans, L.P.	Equitable Production-Eastern States, Inc.	Assignment	0192/0019
Equitable Production-Eastern States, Inc.	Equitable Production Company	Merged	Exhibit 3
Equitable Production Company	EQT Production Company	Name Change	0281/0346
EQT Production Company	Antero Resources Corporation	Assignment	0325/0539
<b><u>Edgar Davisson et ux Lease</u></b>			
Edgar Davisson et ux	The Carter Oil Company	1/8	0020/0050
The Carter Oil Company	Hope Natural Gas Company	Assignment	0042/0041
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Merged	0143/0345
Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	0135/0583
Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Merged	Exhibit 4
CNG Transmission Corporation	Dominion Transmission, Incorporated	Merged	Exhibit 5
Dominion Transmission, Incorporated	Consol Energy Holdings, L.L.C.	Assignment	0245/0001
Consol Energy Holdings, L.L.C.	CNX Gas Company, LLC	Merged	0292/0469
CNX Gas Company, LLC	Noble Energy Inc	Assignment	0260/0039
Noble Energy Inc	Antero Resources Corporation	Assignment	0317/0379
<b><u>John McKinney et al Lease</u></b>			
John McKinney et al	W.D. Gribble	1/8	0056/0280
W.D. Gribble	Carolyn E. Farr	Conveyance	0003/0055
Carolyn E. Farr	Clarence E. Sigley, Sr., Trustee of the Carolyn Elizabeth Farr Trust	Conveyance	0285/0219
Clarence E. Sigley, Sr., Trustee of the Carolyn Elizabeth Farr Trust	Antero Resources Appalachian Corporation	Assignment	0271/0551
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>George Benton White Lease</u></b>			
George Benton White	Antero Resources Corporation	1/8	0343/0594

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FORM WV-6A1  
EXHIBIT 1

FILED

JUN 10 2013

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



Penney Baker, Manager  
Corporations Division  
IN THE OFFICE OF  
SECRETARY OF STATE  
Tel: (304)538-8800  
Fax: (304)539-4381  
Website: www.wv.gov  
E-mail: j.baker@wv.gov

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 third 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 Appalachia 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.)  
Alvyn A. Schopp (303) 357-7310  
Contact Name Phone Number
- Signature information (See below \*Important Legal Notice Regarding Signatures):  
Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person  
Signature: [Handwritten Signature] Date: June 10, 2013

**\*Important Legal Notice Regarding Signatures:** For West Virginia Code: §11D-1-12b. 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.

Form CP-4

Issued by the Office of the Secretary of State

Revised 4/07

WV01 - 00000017 Website: www.sos.wv.gov

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FORM WV-6A1  
EXHIBIT 2, Page 1

BOOK 512 PAGE 781

ARTICLES OF MERGER  
OF  
KENTUCKY WEST VIRGINIA GAS COMPANY  
a West Virginia Company  
Into  
EQT CAPITAL CORPORATION  
a Delaware Company

FILED  
NOVEMBER 1995  
IN THE OFFICE OF  
SECRETARY OF STATE  
WEST VIRGINIA

Pursuant to the provisions of Section 38, Article 1, Chapter 31 of the Code of West Virginia, 1931, as amended, the undersigned corporation adopts the following Articles of Merger for the purpose of merging a subsidiary corporation into the undersigned as the surviving corporation:

The undersigned foreign corporation is incorporated under the laws of Delaware and the laws of such jurisdiction permit such a merger.

The following Plan of Merger was adopted by the undersigned corporation in the manner prescribed by the laws of the jurisdiction under which it is organized.

This Plan of Merger dated as of November 20, 1995, is among EQT Capital Corporation ("EQT"), a Delaware corporation, Equitrans, Inc. ("Equitrans"), a Delaware corporation and Kentucky West Virginia Gas Company ("Kentucky West"), a West Virginia corporation. The terms of the merger shall be as follows:

1. Equitrans and Kentucky West shall merge into EQT. EQT shall be the surviving corporation with its corporate identity, existence, purpose, powers, franchises, rights and immunities unimpaired.
2. The issued and outstanding shares of common stock of Equitrans and Kentucky West, shall without further action on the part of Equitrans, Kentucky West or EQT, be cancelled and of no further effect as of the Effective Date of the merger (as defined below).
3. A Certificate of Merger shall be filed as required by law with the Secretary of State of the State of West Virginia and the Secretary of State of the State of Delaware. The Effective Date of the merger shall be the last date of filing with the respective secretaries of state (the "Effective Date"). On the Effective Date, Equitrans and Kentucky West will cease to exist as separate corporations and EQT will succeed to all of the assets, rights, privileges, immunities, powers, duties and liabilities of Equitrans and Kentucky West in accordance with the provisions of the West Virginia Corporation Act and of the Delaware General Corporation Law.
4. The current Certificate of Incorporation of EQT shall be its Certificate of Incorporation on and after the Effective Date of the merger.

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Environmental Protection

FORM WV-6A1  
EXHIBIT 2, Page 2

BOOK 512 PAGE 782

5. This Plan of Merger shall be executed by the corporate officers of Kentucky West, Equitrans and EQT.

The number of outstanding shares of each class of the subsidiary corporation and the number of such shares of each class owned by the surviving corporation are as follows:

Name of Subsidiary	Number of Shares Outstanding	Designation of Class	Number of Shares Owned by Surviving Corporation
Kentucky West Virginia Gas	331,754	Common	331,754

A copy of the Plan of Merger set forth above was mailed on September 1, 1995 to each shareholder of the subsidiary corporation.

The undersigned corporation hereby: (a) agrees that it may be served with process in the State of West Virginia in any proceeding for the enforcement of the rights of a dissenting shareholder of the above-mentioned subsidiary corporation against the surviving corporation; (b) irrevocably appoints the Secretary of State of the State of West Virginia as its agent to accept service of process in any such proceeding; and (c) agrees that it will promptly pay to the dissenting shareholders of such domestic corporation the amount, if any, to which they shall be entitled under Section 123, Article 1, Chapter 31 of the Code of West Virginia with respect to the rights of dissenting shareholders.

Dated November 20, 1995.

EQT CAPITAL CORPORATION

By [Signature]  
Its President

and [Signature]  
Its Corporate Secretary

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Environmental Protection

FORM WW-6A1  
EXHIBIT 3

# State of West Virginia



## Certificate

*I, Joe Manchin III, Secretary of State of the  
State of West Virginia, hereby certify that*

by the provisions of Chapter 31 of the West Virginia Code, Articles of Merger were received and filed  
MERGING EQUITABLE PRODUCTION - EASTERN STATES, INC., A QUALIFIED DE ORGANIZATION, WITH AND INTO  
EQUITABLE PRODUCTION COMPANY, A QUALIFIED ORGANIZATION.

Therefore, I hereby issue this

### CERTIFICATE OF MERGER



*Given under my hand and the  
Great Seal of the State of  
West Virginia on this day of  
June 28, 2001*

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Office of Oil and Gas

MAR 29 2019

WV Department of  
Environmental Protection  
Secretary of State



FORM WW-6A1  
EXHIBIT 4



*I, Ken Hechler, - Secretary of State of the State of West Virginia, hereby certify that originals of an application by*

**CONSOLIDATED GAS TRANSMISSION CORPORATION**

for an amended certificate of authority to transact business in West Virginia are filed in my office, as required by the provisions of Chapter 21, Article 1, Sections 57 and 59 of the West Virginia Code and conform to law. Therefore, I issue this

**AMENDED CERTIFICATE OF AUTHORITY**

to transact business in West Virginia under the name of

**CNG TRANSMISSION CORPORATION**

and I attach to this certificate a duplicate original of the application.

*Given under my hand and the Great Seal of the State of West Virginia, on this*

THIRTEENTH day of  
JANUARY 19 88



*Ken Hechler*

*Secretary of State*

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Office of Oil and Gas

MAR 29 2019

WV Department of  
Environmental Protection

FORM WV-6A1  
EXHIBIT 5

# State of West Virginia



## Certificate

*I, Ken Hechler, Secretary of State of the  
State of West Virginia, hereby certify that*

originals of an application by

**CNG TRANSMISSION CORPORATION**

for an amended certificate of authority to transact business in West Virginia are filed in my office, as required by the provisions of Chapter 31, Article 1, Sections 57 and 59 of the West Virginia Code and conform to law. Therefore, I issue this

### AMENDED CERTIFICATE OF AUTHORITY

to transact business in West Virginia under the name of

**DOMINION TRANSMISSION, INC.**

and I attach to this certificate a duplicate original of the application.



*Given under my hand and the  
Great Seal of the State of  
West Virginia on*

RECEIVED  
Office of Oil and Gas  
May 10, 2000

MAR 29 2019

WV Department of  
Environmental Protection

*Secretary of State*