



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

Jim Justice , Governor
Austin Caperton , Cabinet Secretary
www.dep.wv.gov

Wednesday, April 26, 2017
WELL WORK PERMIT
Horizontal 6A / Re-Work

ANTERO RESOURCES CORPORATION (A)
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit approval for BAKER UNIT 1H
47-017-06468-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.



James A. Martin
Chief

Operator's Well Number: BAKER UNIT 1H
Farm Name: TRENT, CLARENCE ,JR. , ET AL
U.S. WELL NUMBER: 47-017-06468-00-00
Horizontal 6A / Re-Work
Date Issued: 4/26/2017

Promoting a healthy environment.

04/28/2017

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
2. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
3. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
4. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
5. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
6. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

WW-6B
(04/15)

API NO. 47- 017 - 06468

OPERATOR WELL NO. Baker Unit 1H

Well Pad Name: Existing Trent Pad

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

1) Well Operator: Antero Resources Corpora 494507062 017 - Doddri Greenbrj New Milton
Operator ID County District Quadrangle

2) Operator's Well Number: Baker Unit 1H Well Pad Name: Existing Trent Pad

3) Farm Name/Surface Owner: Clarence Trent, Jr., et al Public Road Access: CR 46 (Standing Stone Rd.)

4) Elevation, current ground: 1409' Elevation, proposed post-construction: 1409'

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

Other _____

(b) If Gas Shallow X Deep _____

Horizontal X

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7432' TVD, Anticipated Thickness- 50 feet, Associated Pressure- 3200#

8) Proposed Total Vertical Depth: 7432' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17914' MD

11) Proposed Horizontal Leg Length: 10053'

12) Approximate Fresh Water Strata Depths: 77', 112'

13) Method to Determine Fresh Water Depths: Bowen Unit 2H (API# 47-017-06167) on same pad.

14) Approximate Saltwater Depths: None Identified

15) Approximate Coal Seam Depths: None Identified

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No X

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

Depth: _____

Seam: _____

Owner: _____

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WW-6B
(04/15)

47-017-06468 **IF**
 API NO. 47- 017 - 06468
 OPERATOR WELL NO. Baker Unit 1H
 Well Pad Name: Existing Trent Pad

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#	351' *See #19	351' *See #19	CTS, 488 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2522'	2522'	CTS, 1027 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	17914'	17914'	4512 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			
Sizes:	N/A			
Depths Set:	N/A			

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WW-6B
(10/14)

API NO. 47- 017 - 06468

OPERATOR WELL NO. Baker Unit 1H

Well Pad Name: Existing Trent Pad

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

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when freshwater 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): 12.37 Existing Acres

22) Area to be disturbed for well pad only, less access road (acres): 6.403 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 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

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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BAKER UNIT 1H (TRENT PAD) - AREA OF REVIEW 35-8-5.11 PAGE 1



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47017029940000



Baker Unit 1H

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BAKER UNIT 1H (TRENT PAD) - AREA OF REVIEW 35-8-5.11 PAGE 2

UWI (API#)	Well Name	Well Number	Operator	Hist Oper	ELEV KB	TD	TD(SSTVD)	Perforated Formations	Productible, Not Perforated
47017029940000	POOLE BERNEDETT	1	ALLIANCE PETR CORP	PETROLEUM DEV CORP	1218	5644	-4426	Berson, Leopold, Alexander	Riley

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WW-9
(4/16)

API Number 47 - 017 - 06468
Operator's Well No. Baker Unit 1H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Antero Resources Corporation OP Code 494507062

Watershed (HUC 10) Headwaters Middle Island Creek Quadrangle New Milton

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used? Yes No

If so, please describe anticipated pit waste: No pit will be used at this site (Drilling and Flowback Fluids will be stored in tanks. Cuttings will be tanked and hauled off site.)

Will a synthetic liner be used in the pit? Yes No If so, what ml.? N/A

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number *UIC Permit # will be provided on Form WR-34)
- Reuse (at API Number Future permitted well locations when applicable. API# will be provided on Form WR-34)
- Off Site Disposal (Supply form WW-9 for disposal location) (Meadowfill Landfill Permit #SWF-1032-98)
- Other (Explain Northwestern Landfill Permit #SWF-1025/WV0109410)

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Surface - Air/Freshwater, Intermediate - Diesel/Mud Foam, Production - Water Based Mud

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used in drilling medium? Please See Attachment

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Stored in tanks, removed offsite and taken to landfill.

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A

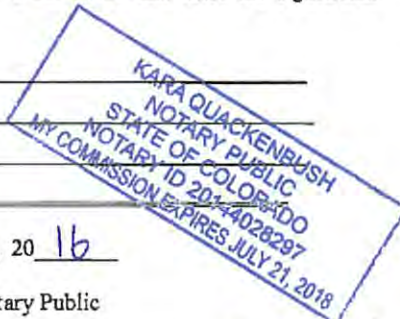
-Landfill or offsite name/permit number? Meadowfill Landfill (Permit #SWF-1032-98), Northwestern Landfill (Permit # SWF-1025/WV0109410)

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Cole Kilstrom*
Company Official (Typed Name) Cole Kilstrom
Company Official Title Environmental & Regulatory Manager



Subscribed and sworn before me this 18 day of November, 20 16

Kara Quackenbush Notary Public

My commission expires July 21, 2018

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Form WW-9

Operator's Well No. Baker Unit 1H

Antero Resources Corporation

Proposed Revegetation Treatment: Acres Disturbed 12.37 Existing Acres Prevegetation pH _____

Lime 2-4 Tons/acre or to correct to pH 6.5

Fertilizer type Hay or straw or Wood Fiber (will be used where needed)

Fertilizer amount 500 lbs/acre

Mulch 2-3 Tons/acre

Access Road (2.544) + Drill Pad (6.403) + Spoil Pile A (0.356) + Spoil Pile B (0.539) + Frac Pit (2.528) = 12.37 Existing Acres

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Oats	168	Tall Fescue	50
Rye	120		
*or type of grass seed requested by surface owner		*or type of grass seed requested by surface owner	

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Daniel Flack (Daniel Flack)

Comments: _____

Title: Oil & Gas Inspector

Date: 11/23/16

Field Reviewed? () Yes () No

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911 Address
4372 Snake Run Rd.
New Milton, WV 26411

Well Site Safety Plan

Antero Resources

Well Name: Baker Unit 1H, Baker Unit 2H, Bowen Unit 1H, Bowen Unit 2H, Cox Unit 1H, Cox Unit 2H, Demetrius Unit 1H, Life Unit 1H, Life Unit 2H, Nestor Unit 1H

Pad Location: TENT PAD
Doddridge County/Greenbrier District

GPS Coordinates:

Entrance - Lat 39°12'33.51"/Long -80°37'45.17" (NAD83)

Pad Center - Lat 39°12'38.88"/Long -80°37'38.87" (NAD83)

Driving Directions:

From the intersection of interstate 50 and WV 18 S, head south along the 18 for 6.3 miles. Turn left onto Co Route 25/Meathouse Fork for 7.3 miles. Take a left onto Co Route 25/11 for 1.75 miles. Take a left onto Co Route 25/7 for 0.65 miles. Lease road will be on the left.

Alternate Route:

From the volunteer fire department in Salem, head east on W Main St towards Water Street for 0.3 miles. Turn right onto south st for 0.5 miles. Continue onto Patterson Fork Rd for 0.2 miles. Continue onto Salem Country Club Rd/Patterson Fork Rd for 1.5 miles. Turn left onto Co Rte 15/Sherwood-Greenbrier Rd for 2.9 miles. Turn left onto Co Rte 46/2 for 0.5 miles. Turn right onto Standing Stone Rd for 1.2 miles. Turn left to stay on Standing Stone Rd for 0.7 miles. The access road will be on your left.

EMERGENCY (24 HOUR) CONTACT 1-800-878-1373

[Handwritten signature]
11/23/16

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- 10. VIII-Lime
Calcium Hydroxide – Lime
- 11. LD-9
Polyether Polyol – Drilling Fluid Defoamer
- 12. Mil Mica
Hydro-Biotite Mica – LCM

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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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Elizabeth Jones & Richard Jones Lease</u> Elizabeth Jones & Richard Jones, et al Clarence W. Mutschelknaus Antero Resources Appalachian Corporation	Clarence W. Mutschelknaus Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Name Change	0136/0110 0278/0262 Exhibit 1
<u>Ed Broome Inc. Lease</u> Ed Broome Inc. Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0274/0693 Exhibit 1
<u>Shayne West Lease</u> Shayne West, heir of Ethel Colinsworth and Fein Bartlett Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0287/0383 Exhibit 1
<u>Harry Meek Jr. Lease</u> Harry Meek, Jr. Clarence W. Mutschelknaus Bluestone Energy Partners Antero Resources Appalachian Corporation	Clarence W. Mutschelknaus Bluestone Energy Partners Antero Resources Bluestone LLC, a wholly owned subsidiary of Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Merger Name Change	0233/0492 0257/0323 DB 0288/0001 Exhibit 1
<u>Joan E. Prim et al Lease</u> Joan E. Prim Bluestone Energy Partners Antero Resources Appalachian Corporation	Bluestone Energy Partners Antero Resources Bluestone LLC, a wholly owned subsidiary of Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Merger Name Change	0248/0159 DB 0288/0001 Exhibit 1
<u>Mary K. Baker et vir Lease</u> Mary K. Baker, et vir Clarence W. Mutschelknaus Bluestone Energy Partners Antero Resources Appalachian Corporation	Clarence W. Mutschelknaus Bluestone Energy Partners Antero Resources Bluestone, LLC a wholly owned Subsidiary of Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Affidavit Regarding Merger Name Change	0248/0338 0249/0304 DB 0288/0001 Exhibit 1
<u>Margaret Jean Prickett et al Lease</u> Margaret Jean Prickett Tenmile Land, LLC Bluestone Energy Partners Antero Resources Appalachian Corporation	Tenmile Land, LLC Bluestone Energy Partners Antero Resources Bluestone LLC, a wholly owned subsidiary of Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Assignment Merger Name Change	0238/0578 0250/0691 DB 0288/0001 Exhibit 1
<u>Mike Ross Inc. Lease</u> Mike Ross, Inc. Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8 Name Change	0267/0495 Exhibit 1

*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

04/28/2017

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Bernadette Poole, et ux Lease</u> ✓	Bernadette Poole, et al Clarence W. Mutschelknaus	Clarence W. Mutschelknaus Antero Resources Corporation	1/8 Assignment	0119/0418 0334/0599

*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.

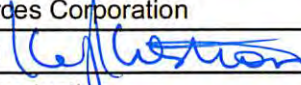
**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

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: Senior VP of Production

17-06468F

**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



Penny Barker, Manager
Corporations Division
Tel: (304)558-8000
Fax: (304)558-8381
Website: www.wvsos.com
E-mail: 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:

- 1. Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- 2. Date Certificate of Authority was issued in West Virginia: 6/25/2008
- 3. Corporate name has been changed to: Antero Resources Corporation
(Attach one **Certified Copy of Name Change** as filed in home State of Incorporation.)
- 4. Name the corporation elects to use in WV: Antero Resources Corporation
(due to home state name not being available)
- 5. Other amendments:
(attach additional pages if necessary)
- 6. 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

7. 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

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***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.

Form WW-9 Additives Attachment

SURFACE INTERVAL

1. Fresh Water
2. Soap –Foamer AC
3. Air

INTERMEDIATE INTERVAL

STIFF FOAM RECIPE:

- 1) 1 ppb Soda Ash / Sodium Carbonate-Alkalinity Control Agent
- 2) 1 ppb Conqor 404 (11.76 ppg) / Corrosion Inhibitor
- 3) 4 ppb KLA-Gard (9.17 ppg) / Amine Acid Complex-Shale Stabilizer
- 4) 1ppb Mil Pac R / Sodium Carboxymethylcellulose-Filtration Control Agent
- 5) 12 ppb KCL / Potassium Chloride-inorganic Salt
- 6) Fresh Water 80 bbls
- 7) Air

PRODUCTION INTERVAL

1. Alpha 1655
Salt Inhibitor
2. Mil-Carb
Calcium Carbonate
3. Cottonseed Hulls
Cellulose-Cottonseed Pellets – LCM
4. Mil-Seal
Vegetable, Cotton & Cellulose-Based Fiber Blend – LCM
5. Clay-Trol
Amine Acid Complex – Shale Stabilizer
6. Xan-Plex
Viscosifier For Water Based Muds
7. Mil-Pac (All Grades)
Sodium Carboxymethylcellulose – Filtration Control Agent
8. New Drill
Anionic Polyacrylamide Copolymer Emulsion – Shale Stabilizer
9. Caustic Soda
Sodium Hydroxide – Alkalinity Control
10. Mil-Lime
Calcium Hydroxide – Lime
11. LD-9
Polyether Polyol – Drilling Fluid Defoamer
12. Mil Mica
Hydro-Biotite Mica – LCM

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13. Escaid 110
Drilling Fluid Solvent – Aliphatic Hydrocarbon
14. Ligco
Highly Oxidized Leonardite – Filtration Control Agent
15. Super Sweep
Polypropylene – Hole Cleaning Agent
16. Sulfatrol K
Drilling Fluid Additive – Sulfonated Asphalt Residuum
17. Sodium Chloride, Anhydrous
Inorganic Salt
18. D-D
Drilling Detergent – Surfactant
19. Terra-Rate
Organic Surfactant Blend
20. W.O. Defoam
Alcohol-Based Defoamer
21. Perma-Lose HT
Fluid Loss Reducer For Water-Based Muds
22. Xan-Plex D
Polysaccharide Polymer – Drilling Fluid Viscosifier
23. Walnut Shells
Ground Cellulosic Material – Ground Walnut Shells – LCM
24. Mil-Graphite
Natural Graphite – LCM
25. Mil Bar
Barite – Weighting Agent
26. X-Cide 102
Biocide
27. Soda Ash
Sodium Carbonate – Alkalinity Control Agent
28. Clay Trol
Amine Acid complex – Shale Stabilizer
29. Sulfatrol
Sulfonated Asphalt – Shale Control Additive
30. Xanvis
Viscosifier For Water-Based Muds
31. Milstarch
Starch – Fluid Loss Reducer For Water Based Muds
32. Mil-Lube
Drilling Fluid Lubricant

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Office of Oil and Gas
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WV Department of
Environmental Protection
04/28/2017

17-06468F



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

November 18, 2016

Already drilled

West Virginia Department of Environmental Protection
Chief, Office of Oil and Gas
Attn: Mr. James Martin
601 57th Street SE
Charleston, WV 25304

RE: Baker Unit 1H (API# 47-017-06468)
Quadrangle: New Milton
Doddridge County/Greenbrier District, West Virginia

Mr. Martin:

Antero Resources Corporation (Antero) is submitting the following application for a new well work permit for the Baker Unit 1H horizontal shallow well. As an authorized representative, I certify that Antero has the right to extract, produce or market the oil or gas for all leases through which the Baker Unit 1H horizontal lateral will drill through including any and all roads crossed under as identified on the attached survey plat.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tim Rady", written over the word "Sincerely,".

Tim Rady
Director, Land Operations - Marcellus

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WV Department of
Environmental Protection

04/28/2017

LATITUDE 39°15'00" 1,217'

LATITUDE 39°15'00"

LONGITUDE 80°37'30"

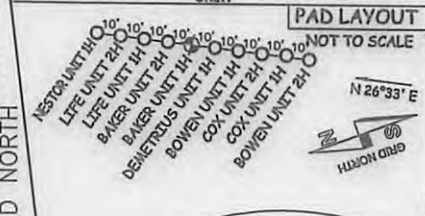
5,608' TO BOTTOM HOLE

14,826'

LONGITUDE 80°37'30"

COUNTY NAME PERMIT

- NOTE**
1. 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.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.
 6. THE INTERIOR BOUNDARY LINES OF THE DAVID E. GADDIS ET AL TRACTS (TM 6 PARCELS 13, 13.1 & 13.2) SHOWN HEREON IN BOLD ARE BASED ON CURRENT DEEDS OF RECORD ONLY. THE SURFACE OWNER REFUSED ACCESS ONTO HIS PROPERTY TO OBTAIN THE NECESSARY INFORMATION TO VERIFY THE LOCATION OF THE BOUNDARY. THESE LINES ARE SHOWN FOR MAPPING PURPOSES ONLY.



JOB # 13-123WA
DRAWING # BAKER1HFRAC
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

- LEGEND**
- Surface Owner Boundary Lines +/-
 - Interior Surface Tracts +/-
 - Existing Fence
 - Found monument, as noted
 - Proposed Well Path
 - As Drilled Well Path

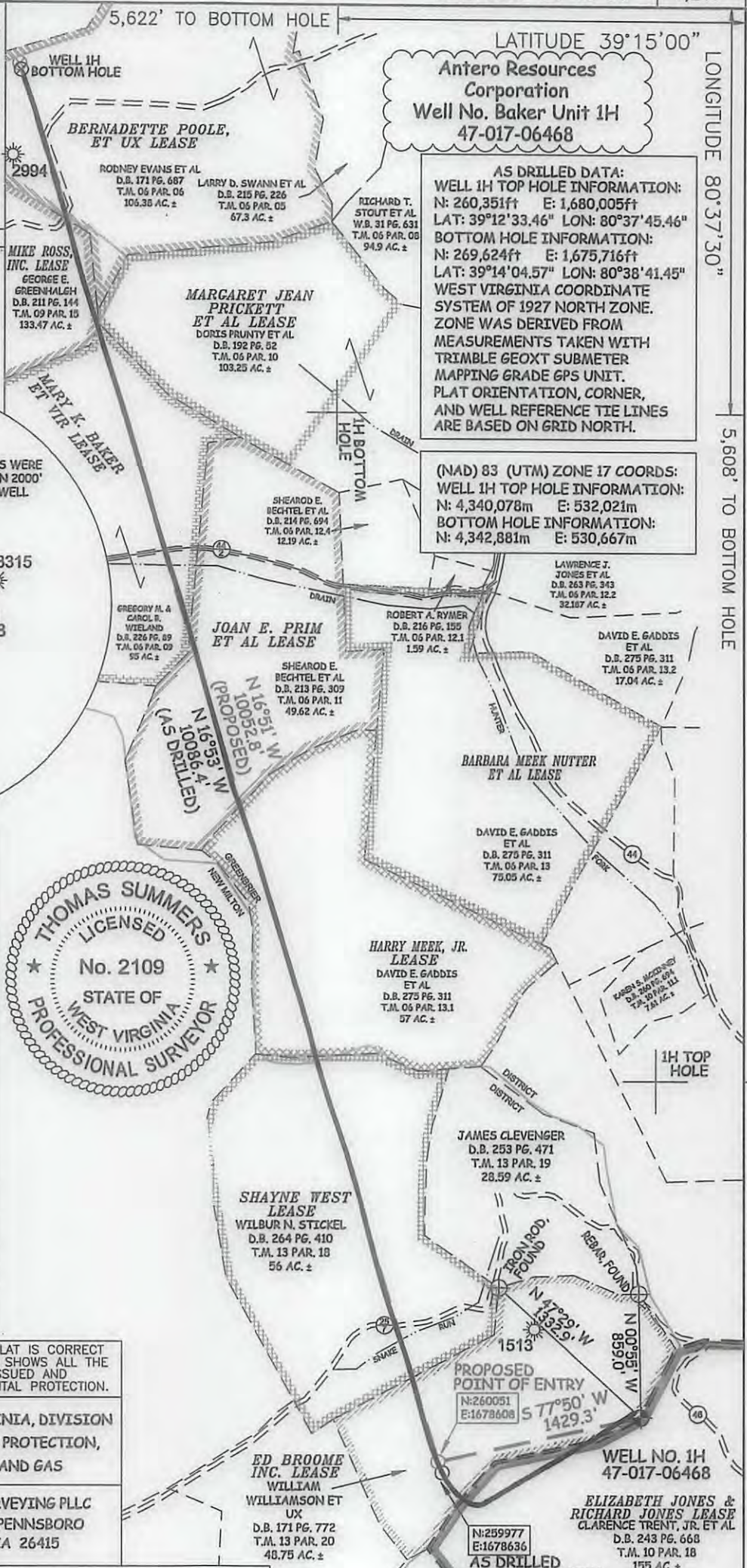
THOMAS SUMMERS P.S. 2109
DATE 03/02/17
OPERATOR'S WELL# BAKER UNIT #1H
API WELL # 47 - 017 - 06468 F
STATE COUNTY PERMIT

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

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1,420' ORIGINAL - 1,409' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE NEW MILTON 7.5' DISTRICT GREENBRIER COUNTY DODDRIDGE
SURFACE OWNER CLARENCE TRENT, JR. ET AL ACREAGE 155 ACRES +/-
OIL & GAS ROYALTY OWNER ELIZABETH JONES & RICHARD JONES; ED BROOME INC.; SHAYNE WEST; HARRY MEEK, JR.; JOAN E. PRIM ET AL; MARY K. BAKER ET VIR; MIKE ROSS, INC.; BERNADETTE POOLE ET UX
LEASE ACREAGE 155 AC±; 48.75 AC±; 56 AC±; 57 AC±; 64 AC±; 95 AC±; 100 AC±; 106 AC±
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,432' TVD 17,914' MD
WELL OPERATOR ANTERO RESOURCES CORPORATION DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313



Antero Resources Corporation
Well No. Baker Unit 1H
47-017-06468

AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
N: 260,351ft E: 1,680,005ft
LAT: 39°12'33.46" LON: 80°37'45.46"
BOTTOM HOLE INFORMATION:
N: 269,624ft E: 1,675,716ft
LAT: 39°14'04.57" LON: 80°38'41.45"
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: 4,340,078m E: 532,021m
BOTTOM HOLE INFORMATION:
N: 4,342,881m E: 530,667m

04/28/2017

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 11/17/2016

API No. 47- 017 - 06468
Operator's Well No. Baker Unit 1H
Well Pad Name: Existing Trent Pad

Notice has been given:

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>532021m</u>
County: <u>Doddridge</u>	Northing: <u>4340078m</u>
District: <u>Greenbrier</u>	Public Road Access: <u>CR 46 (Standing Stone Rd.)</u>
Quadrangle: <u>New Milton</u>	Generally used farm name: <u>Clarence Trent, Jr., et al</u>
Watershed: <u>Headwaters Middle Island Creek</u>	

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:

*PLEASE CHECK ALL THAT APPLY

- 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
- 2. NOTICE OF ENTRY FOR PLAT SURVEY or NO PLAT SURVEY WAS CONDUCTED
- 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
- 4. NOTICE OF PLANNED OPERATION
- 5. PUBLIC NOTICE
- 6. NOTICE OF APPLICATION

OOG OFFICE USE ONLY

- RECEIVED/ NOT REQUIRED
- RECEIVED
- RECEIVED/ NOT REQUIRED

RECEIVED
Office of Oil and Gas
NOV 21 2016

- RECEIVED
- RECEIVED

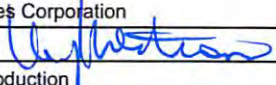
WV Department of
Environmental Protection

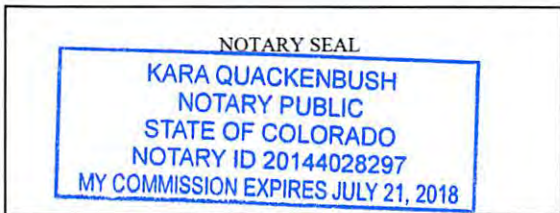
Required Attachments:

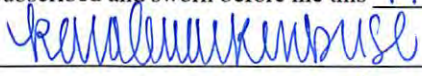
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

Certification of Notice is hereby given:

THEREFORE, I Kevin Kilstrom, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator:	<u>Antero Resources Corporation</u>	Address:	<u>1615 Wynkoop Street</u>
By:	<u>Kevin Kilstrom</u> 		<u>Denver, CO 80202</u>
Its:	<u>Senior VP of Production</u>	Facsimile:	<u>303-357-7315</u>
Telephone:	<u>303-357-7310</u>	Email:	<u>kquackenbush@anteroresources.com</u>



Subscribed and sworn before me this 17 day of November 2016

 _____ Notary Public
 My Commission Expires July 21, 2018

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 11/18/2016 **Date Permit Application Filed:** 11/18/2016

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)
Name: PLEASE SEE ATTACHMENT
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: PLEASE SEE ATTACHMENT
Address: _____

COAL OPERATOR
Name: _____
Address: _____

WATER PURVEYOR(s)/OWNER(s) OF WELL OR SPRING OR OTHER WATER SUPPLY SOURCE

Name: NO WATER WELLS IDENTIFIED WITHIN 1500'
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

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NOV 21 2016
WV Department of
Environmental Protection

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section 22-6A-11(a) may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

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Office of Oil and Gas
NOV 21 2016
WV Department of
Environmental Protection

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WW-6A
(8-13)

API NO. 47- 017 - 06468 *F*
OPERATOR WELL NO. Baker Unit 1H
Well Pad Name: Existing Trent Pad

47-017-06468

Notice is hereby given by:

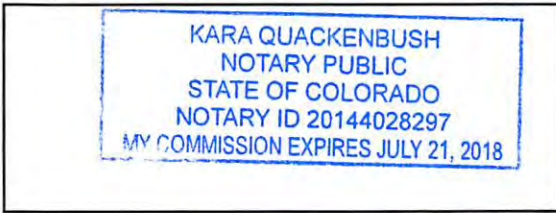
Well Operator: Antero Resources Corporation
Telephone: (303) 357-7310
Email: kquackenbush@anteroresources.com



Address: 1615 Wynkoop Street
Denver, CO 80202
Facsimile: 303-357-7315

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.



Subscribed and sworn before me this 18 day of November 2016

Kara Quackenbush Notary Public

My Commission Expires July 21, 2018

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04/28/2017

WW-6A Notice of Application Attachment (TRENT PAD):**List of Surface Owner(s) with Proposed Disturbance associated with Trent Well Pad:**

WELL PAD – All owners were notified of all well work permit applications, and have executed signed Surface Use Agreements with Antero Resources Corporation.


TM 10 PCL 18

Owner: Clarence Trent, Jr., et al
Address: 1054 Wolf Pen Rd.
New Milton, WV 26411


Owner: Clarence Trent, Jr., et al (2nd Address)
Address: 20186 HCL Jackson
Grosse Ile, MI 48138

TM 13 PCL 20

Owner: Kenneth P. Moran & Ronda J. Moran
Address: 1054 Wolf Pen Rd.
New Milton, WV 26411

**COAL OWNER OR LESSEE**

Owner: Consolidation Coal Company
CONSOL Energy, Inc. – CNX Center
Engineering & Operations Support – Coal, ATTN: Analyst
Address: 1000 CONSOL Energy Dr.
Canonsburg, PA 15317



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**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL**

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.

Date of Notice: 11/08/2016 **Date Permit Application Filed:** 11/18/2016

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

HAND DELIVERY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: PLEASE SEE ATTACHMENT
Address: _____

Name: _____
Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>532012.349m (approximate pad center)</u>
County:	<u>Doddridge</u>		Northing:	<u>4340069.733m (approximate pad center)</u>
District:	<u>Greenbrier and New Milton</u>	Public Road Access:	<u>CR 46 (Standing Stone Rd)</u>	
Quadrangle:	<u>New Milton</u>	Generally used farm name:	<u>Trent, Clarence Jr. et al</u>	
Watershed:	<u>Headwaters Middle Island Creek</u>			

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

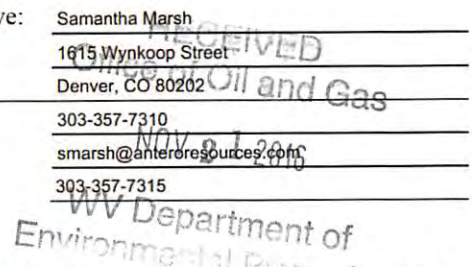
Notice is hereby given by:

Well Operator: Antero Resources Corporation
Address: 1615 Wynkoop Street
Denver, CO 80202
Telephone: 303-357-7310
Email: smarsh@anteroresources.com
Facsimile: 303-357-7315

Authorized Representative: Samantha Marsh
Address: 1615 Wynkoop Street
Denver, CO 80202
Telephone: 303-357-7310
Email: smarsh@anteroresources.com
Facsimile: 303-357-7315

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



WW-6A4 Notice of Intent to Drill Attachment:

Surface Owners:

Tax Parcel ID: 10-18

Owner: Clarence Trent, Jr., Deborah E.
Trent, Kenneth P. & Rhonda J.
Moran
Address: 1054 Wolf Pen Rd.
New Milton, WV 26411

Owner: Clarence Trent, Jr., Deborah E.
Trent, Kenneth P. & Rhonda J.
Moran (2nd Address)
Address: 20186 HCL Jackson
Grosse Ile, MI 48138



Surface Owners:

Tax Parcel ID: 13-20

Owner: Kenneth P. & Rhonda J. Moran
Address: 1054 Wolf Pen Rd.
New Milton, WV 26411

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Environmental Protection

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 11/18/2016 **Date Permit Application Filed:** 11/18/2016

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

- | | |
|--|-------------------------------|
| <input checked="" type="checkbox"/> CERTIFIED MAIL | <input type="checkbox"/> HAND |
| RETURN RECEIPT REQUESTED | DELIVERY |

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: <u>PLEASE SEE ATTACHMENT</u>	Name: _____
Address: _____	Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>532021m</u>
County: <u>Doddridge</u>		Northing: <u>4340078m</u>
District: <u>Greenbrier</u>	Public Road Access: <u>CR 46 (Standing Stone Rd.)</u>	
Quadrangle: <u>New Milton</u>	Generally used farm name: <u>Clarence Trent, Jr., et al</u>	
Watershed: <u>Headwaters Middle Island Creek</u>		

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: <u>Antero Resources Corporation</u>	Address: <u>1615 Wynkoop Street</u>
Telephone: <u>(303) 357-7310</u>	<u>Denver, CO 80202</u>
Email: <u>kquackenbush@anteroresources.com</u>	Facsimile: <u>303-357-7315</u>

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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WW-6A5 Notice of Planned Operations Attachment (TRENT PAD):**List of Surface Owner(s) with Proposed Disturbance associated with Trent Well Pad:**

WELL PAD – Owners were notified of all well work permit applications, and have executed a signed Surface Use Agreement with Antero Resources Corporation.

TM 10 PCL 18

Owner: Clarence Trent, Jr., et al
Address: 1054 Wolf Pen Rd.
New Milton, WV 26411

Owner: Clarence Trent, Jr., et al (2nd Address)
Address: 20186 HCL Jackson
Grosse Ile, MI 48138

TM 13 PCL 20

Owner: Kenneth P. Moran & Ronda J. Moran
Address: 1054 Wolf Pen Rd.
New Milton, WV 26411

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Environmental Protection



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
 Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin
 Governor

Paul A. Mattox, Jr., P. E.
 Secretary of Transportation/
 Commissioner of Highways

November 15, 2016

James A. Martin, Chief
 Office of Oil and Gas
 Department of Environmental Protection
 601 57th Street, SE
 Charleston, WV 25304

Subject: DOH Permit for the Trent Pad, Doddridge County
 Baker Unit 1H Well site ✓

Dear Mr. Martin,

This well site will be accessed from a DOH permit #04-2012-1069 which has been issued to Antero Resources Corporation for access to the State Road for a well site located off of Doddridge County Route 46 SLS. This road has been resurfaced and will be videoed again.

The operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton, P.E.
 Regional Maintenance Engineer
 Central Office O&G Coordinator
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Cc: Kara Quackenbush
 Antero Resources Corporation
 CH, OM, D-4
 File

NOV 21 2016

WV Department of
 Environmental Protection

List of Anticipated Additives Used for Fracturing or Stimulating Well

17-06468F

Additives	Chemical Abstract Service Number (CAS #)
Fresh Water	7732-18-5
2 Phosphobutane 1,2,4 tricarboxylic acid	37971-36-1
Ammonium Persulfate	7727-54-0
Anionic copolymer	Proprietary
Anionic polymer	Proprietary
BTEX Free Hydrotreated Heavy Naphtha	64742-48-9
Cellulase enzyme	Proprietary
Demulsifier Base	Proprietary
Ethoxylated alcohol blend	Mixture
Ethoxylated Nonylphenol	68412-54-4
Ethoxylated oleylamine	26635-93-8
Ethylene Glycol	107-21-1
Glycol Ethers	111-76-2
Guar gum	9000-30-0
Hydrogen Chloride	7647-01-0
Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8
Isopropyl alcohol	67-63-0
liquid, 2,2-dibromo-3-nitropropionamide	10222-01-2
Microparticle	Proprietary
Petroleum Distillates (BTEX Below Detect)	64742-47-8
Polyacrylamide	57-55-6
Propargyl Alcohol	107-19-7
Propylene Glycol	57-55-6
Quartz	14808-60-7
Silica, crystalline quartz	7631-86-9
Sodium Chloride	7647-14-5
Sodium Hydroxide	1310-73-2
Sugar	57-50-1
Surfactant	68439-51-0
Suspending agent (solid)	14808-60-7
Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7
Solvent Naphtha, petroleum, heavy aliph	64742-96-7
Soybean Oil, Me ester	67784-80-9
Copolymer of Maleic and Acrylic Acid	52255-49-9
DETA phosphonate	15827-60-8
Hexamethylene Triamine Penta	34690-00-1
Phosphino Carboxylic acid polymer	71050-62-9
Hexamethylene Diamine Tetra	23605-75-5
2-Propenoic acid, polymer with 2 propenamide	9003-06-9
Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5
Diethylene Glycol	111-46-6
Methenamine	100-97-0
Polyethylene polyamine	68603-67-8
Coco amine	61791-14-8
2-Propyn-1-ol compound with methyloxirane	38172-91-7

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04/28/2017

WEST VIRGINIA COUNTY MAP

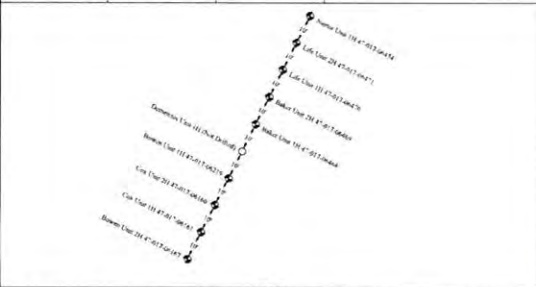


Trent Well Site
As-Built/Reclamation
Antero Resources Corporation
Doddridge County
New Milton & Greenbrier District
Latitude 39.20930905°
Longitude -80.62921280°
Meathouse Fork Watershed

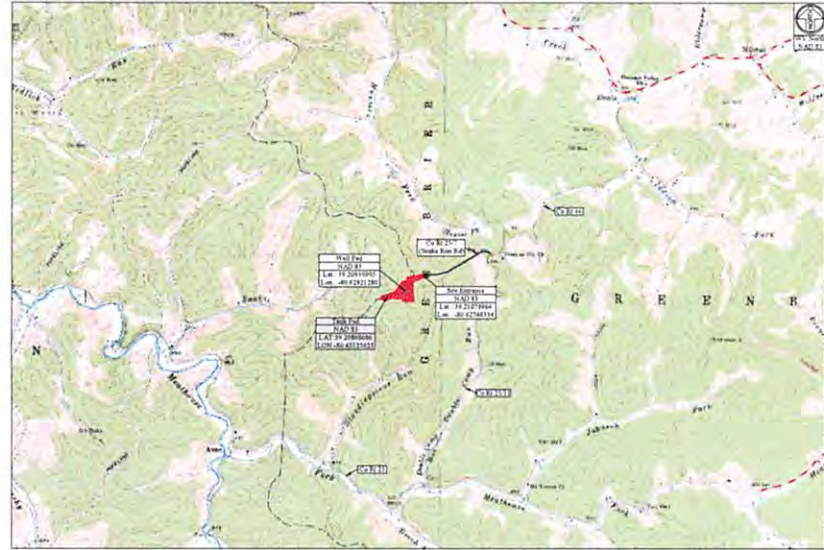
**WVDEP OOG
ACCEPTED AS-BUILT**
K/S 4-25-2017

Pertinent Site Information
Trent Well Site
Emergency Number: 304-281-7407
New Milton & Greenbrier District, Doddridge County, WV
Watershed: Meathouse Fork Watershed
Antero Resources Emergency Number: 800-878-1373

Site Location	Center of Well Pad	Center of Tank Pad
WV-ON NAD 83 E 264877.54 WV-ON NAD 83 E 144993.12 WV-ON NAD 83 E 264881.11 WV-ON NAD 83 E 144997.93 L.W. NAD 83 E 31217966 L.W. NAD 83 E 48427483 L.W. NAD 83 E 31217189 L.W. NAD 83 E 48427483 UTM 17 NAD 83 E 454421.77 UTM 17 NAD 83 E 512142.71	WV-ON NAD 83 E 264890.90 WV-ON NAD 83 E 144976.72 WV-ON NAD 83 E 264914.47 WV-ON NAD 83 E 144977.43 L.W. NAD 83 E 31218095 L.W. NAD 83 E 48427126 L.W. NAD 83 E 31218212 L.W. NAD 83 E 48427126 UTM 17 NAD 83 E 454566.77 UTM 17 NAD 83 E 512151.81	WV-ON NAD 83 E 312141.71 WV-ON NAD 83 E 144760.79 WV-ON NAD 83 E 312154.08 WV-ON NAD 83 E 144761.20 L.W. NAD 83 E 31216888 L.W. NAD 83 E 48431242 L.W. NAD 83 E 31216908 L.W. NAD 83 E 48431441 UTM 17 NAD 83 E 454599.49 UTM 17 NAD 83 E 512147.49



Well Pad	Well Tank	Well Tank	Well Tank	Well Tank
WV-ON NAD 83 E 264877.54 WV-ON NAD 83 E 144993.12 WV-ON NAD 83 E 264881.11 WV-ON NAD 83 E 144997.93 L.W. NAD 83 E 31217966 L.W. NAD 83 E 48427483 L.W. NAD 83 E 31217189 L.W. NAD 83 E 48427483 UTM 17 NAD 83 E 454421.77 UTM 17 NAD 83 E 512142.71	L.W. NAD 83 E 48427483 WV-ON NAD 83 E 264877.54 WV-ON NAD 83 E 144993.12 WV-ON NAD 83 E 264881.11 WV-ON NAD 83 E 144997.93 L.W. NAD 83 E 31217966 L.W. NAD 83 E 48427483 L.W. NAD 83 E 31217189 L.W. NAD 83 E 48427483 UTM 17 NAD 83 E 454421.77 UTM 17 NAD 83 E 512142.71	L.W. NAD 83 E 48427483 WV-ON NAD 83 E 264877.54 WV-ON NAD 83 E 144993.12 WV-ON NAD 83 E 264881.11 WV-ON NAD 83 E 144997.93 L.W. NAD 83 E 31217966 L.W. NAD 83 E 48427483 L.W. NAD 83 E 31217189 L.W. NAD 83 E 48427483 UTM 17 NAD 83 E 454421.77 UTM 17 NAD 83 E 512142.71	WV-ON NAD 83 E 264877.54 WV-ON NAD 83 E 144993.12 WV-ON NAD 83 E 264881.11 WV-ON NAD 83 E 144997.93 L.W. NAD 83 E 31217966 L.W. NAD 83 E 48427483 L.W. NAD 83 E 31217189 L.W. NAD 83 E 48427483 UTM 17 NAD 83 E 454421.77 UTM 17 NAD 83 E 512142.71	WV-ON NAD 83 E 264877.54 WV-ON NAD 83 E 144993.12 WV-ON NAD 83 E 264881.11 WV-ON NAD 83 E 144997.93 L.W. NAD 83 E 31217966 L.W. NAD 83 E 48427483 L.W. NAD 83 E 31217189 L.W. NAD 83 E 48427483 UTM 17 NAD 83 E 454421.77 UTM 17 NAD 83 E 512142.71



WV State Plane Coordinate System
North Zone, NAD 83
Elevation Based on NAVD83
Established by Survey Grade GPS
and UTM Point locations

Property Owner Information - Trent Well Site

Owner	WV Parcel	WV Parcel	WV Parcel	Acres Total (Gross Acres)	Yield Potential
Leslie B. & Deborah L. Smith at Kenneth P. & Sandy J. Moran	184.8	4.74	1.79	1.26	1.74
Kenneth P. & Sandy J. Moran	1.25	1.04	0.84	1.28	4.43
Site Total (Ac.)	8.41	2.53	1.51	1.96	12.37

Disturbed Area

WV Parcel Description	Acres
WV Parcel Description	1.20
WV Parcel Description	1.20
WV Parcel Description	1.20
WV Parcel Description	1.20
WV Parcel Description	1.20

USGS 7.5' Quadrangle - New Milton
Watershed: Meathouse Fork

Site Locations (NAD 83)			Site Locations (NAD 83)		
Station	Latitude (DD)	Longitude (DD)	Station	Latitude (DD)	Longitude (DD)
Center of Well Pad	39.20930905	-80.62921280	Center of Well Pad	39.20930905	-80.62921280
Center of Tank Pad	39.20930905	-80.62921280	Center of Tank Pad	39.20930905	-80.62921280

Project Contacts

Antero Resources
Robert Watts - Project Coordinator
304-421-7407 Cell
Aaren Kinzie - Construction Manager
304-441-8242 Cell
Ed Wagoner - Environmental
304-441-7407 Cell
Joe McElroy - Operations Superintendent
304-441-7407 Cell

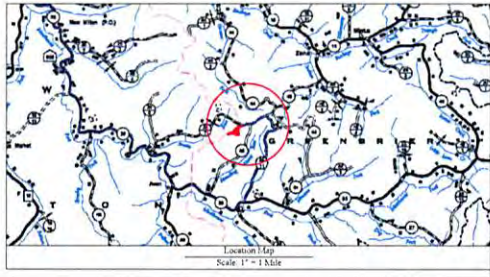
Survey and Engineer
Kenneth Kelly
304-421-7407 Cell
John F. See
304-441-8229 Cell
Zachary Sonnenfeldt
304-441-7407 Cell

Consent/Notice
A post-bid environmental was not provided for the purpose of this as-built survey.
Environmental:
Wetland Delineations were not provided for the purpose of this as-built survey.

MISS UTILITY OF WEST VIRGINIA
1-800-245-4848
Call before you dig.
Know what's below. Call before you dig.

811
Know what's below. Call before you dig.

Approach Routes:
From US Rt 50, Turn onto Co Rd 50-16 (Showerhead Rd, near Smithburg, WV). Follow Co Rd 50-16 for 1.9 mi. Turn Left onto WV Rt 19 South. Follow WV Rt 19 South for 1.1 mi. Turn Left onto Co Rd 25 (Meathouse Fork). Follow Co Rd 25 for 5.7 mi. Turn Left onto Co Rd 25-11 (Double Camp Rd). Follow Co Rd 25-11 for 1.8 mi. Turn Left onto Co Rd 25-7 (Snake Run Rd). Follow Co Rd 25-7 for 0.9 mi. The site entrance will be on the Left (South) side of the road.



Well Location Restrictions

All Pad and Frame for construction complies with the following restrictions:

- 1500' from existing well or developed spring used for human or domestic animals
- 425' from an existing dwelling or barn greater than 2,500 SF used for poultry or dairy measured from the corner of the pad
- 1500' from the edge of distance to a naturally reproducing natural or artificial lake pond or stream?
- 1000' from the edge of distance to a naturally reproducing water stream
- 7500' of surface or ground water intake to public water supply

Well Location Restrictions of WV Code 20-6-1.2



Sheet	Description
1	Cover Sheet
2	Site Overview
3	Access Road Profile
S1-S3	Site Reclamation

Antero Resources
THIS DOCUMENT PREPARED FOR ANTERO RESOURCES CORPORATION
K/S
Cover Sheet
Trent Well Site
New Milton & Greenbrier District
Doddridge County, WV
Date: 11/15/2016
Scale: As Shown
Designed by: B
File No:
Sheet 1 of 3

