



---

west virginia department of environmental protection

---

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

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

## PERMIT MODIFICATION APPROVAL

June 04, 2015

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET  
DENVER, CO 80202

Re: Permit Modification Approval for API Number 8510197, Well #: MCNABB UNIT 2H

### Extend Lateral

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

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

Sincerely,

A handwritten signature in blue ink that reads "Gene Smith".

Gene Smith  
Assistant Chief of Permitting  
Office of Oil and Gas

Promoting a healthy environment.

06/05/2015



May 29, 2015

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. Melanie Hankins  
601 57<sup>th</sup> Street  
Charleston, WV 25304

Ms. Hankins:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for four approved wells on the Mackay Pad. We are requesting to extend the horizontal lateral lengths which will change the bottom hole locations of the McNabb Unit 1H (API# 47-085-10196), McNabb Unit 2H (API# 47-085-10197), McNabb Unit 3H (API# 47-085-10198 ) and McNabb Unit 4H (API# 47-085-10199).

Attached you will find the following documents:

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

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

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Ashlie Steele".

Ashlie Steele  
Permitting Supervisor  
Antero Resources Corporation

Enclosures

RECEIVED  
Office of Oil and Gas

JUN 02 2015

WV Department of  
Environmental Protection

06/05/2015

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

1) Well Operator: Antero Resources Corporat 494488557 085-Ritchie Clay Pullman 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: McNabb Unit 2H Well Pad Name: Mackay Pad

3) Farm Name/Surface Owner: Mackay, Jack D. et al Public Road Access: CR 19/3

4) Elevation, current ground: ~ 1128' Elevation, proposed post-construction: 1099'

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: 6700' TVD, Anticipated Thickness- 50 feet, Associated Pressure- 3000#

8) Proposed Total Vertical Depth: 6700' TVD

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 19,600' MD

11) Proposed Horizontal Leg Length: 12,386'

12) Approximate Fresh Water Strata Depths: 177', 225', 437'

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

14) Approximate Saltwater Depths: 1991', 2053', 2057'

15) Approximate Coal Seam Depths: N/A

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: \_\_\_\_\_

RECEIVED  
Office of Oil and Gas  
JUN 02 2015

WV Department of  
Environmental Protection

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#	490'	490'* See #19	CTS, 681 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2400'	2400'	CTS, 977 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	20#	19,600'	19,600'	5012 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

*MJM 6/4/15*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	24"	0.438"	1530	50	Class A	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	1000	Class A	1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.361"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

**PACKERS**

Kind:	N/A			<b>RECEIVED</b> Office of Oil and Gas JUN 02 2015 WV Department of Environmental Protection
Sizes:	N/A			
Depths Set:	N/A			



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

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

\*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered, therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs

Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 35.10 acres

22) Area to be disturbed for well pad only, less access road (acres): 3.95 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

RECEIVED  
Office of Oil and Gas

JUN 02 2015

WV Department of  
Environmental Protection

25) Proposed borehole conditioning procedures:

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

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

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

\*Note: Attach additional sheets as needed.



LATITUDE 39°15'00"

6,267'

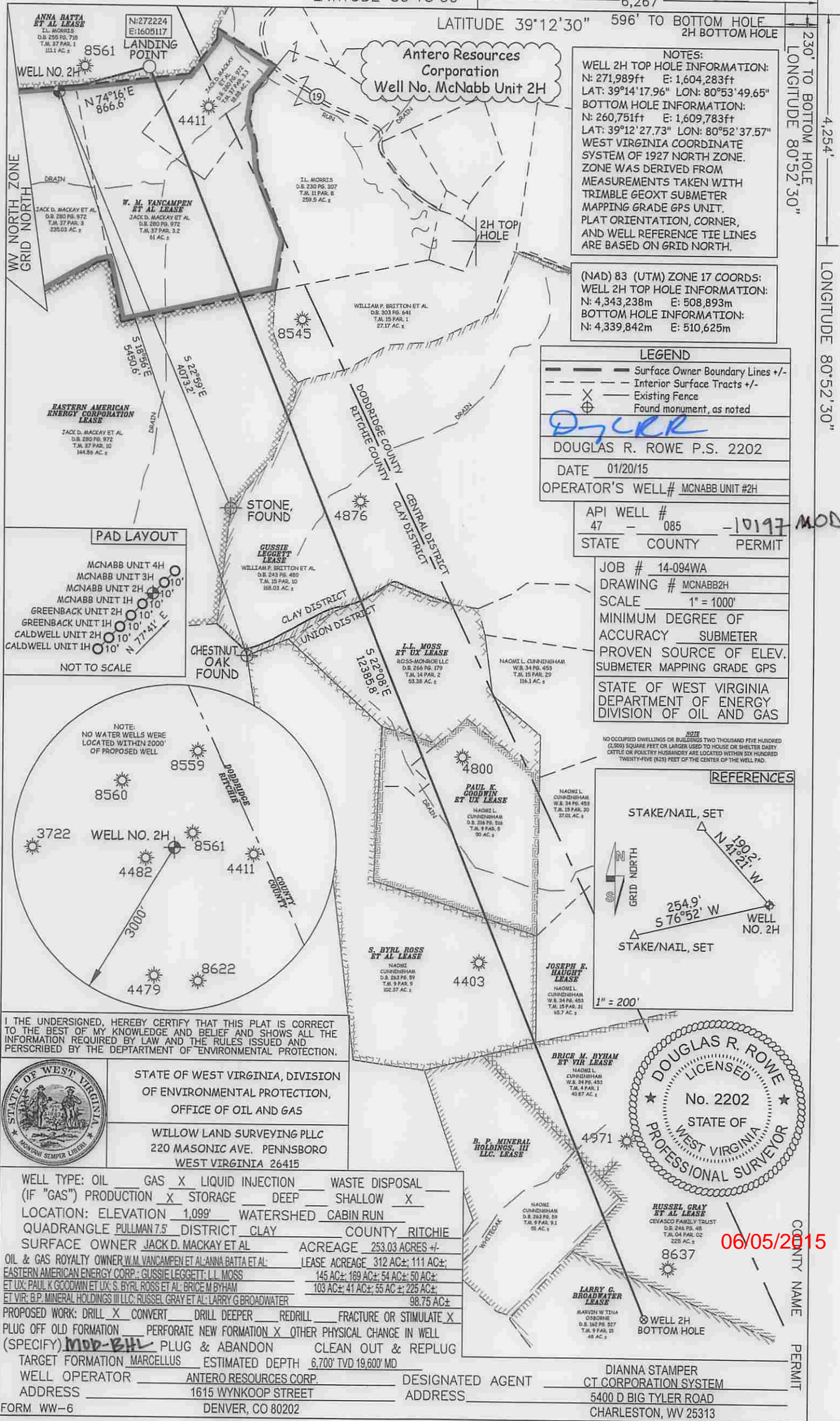
LATITUDE 39°12'30"

596' TO BOTTOM HOLE  
2H BOTTOM HOLE

230' TO BOTTOM HOLE  
LONGITUDE 80°52'30"

4,254'

LONGITUDE 80°52'30"



NOTES:  
 WELL 2H TOP HOLE INFORMATION:  
 N: 271,989ft E: 1,604,283ft  
 LAT: 39°14'17.96" LON: 80°53'49.65"  
 BOTTOM HOLE INFORMATION:  
 N: 260,751ft E: 1,609,783ft  
 LAT: 39°12'27.73" LON: 80°52'37.57"  
 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 2H TOP HOLE INFORMATION:  
 N: 4,343,238m E: 508,893m  
 BOTTOM HOLE INFORMATION:  
 N: 4,339,842m E: 510,625m

LEGEND

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

DOUGLAS R. ROWE P.S. 2202

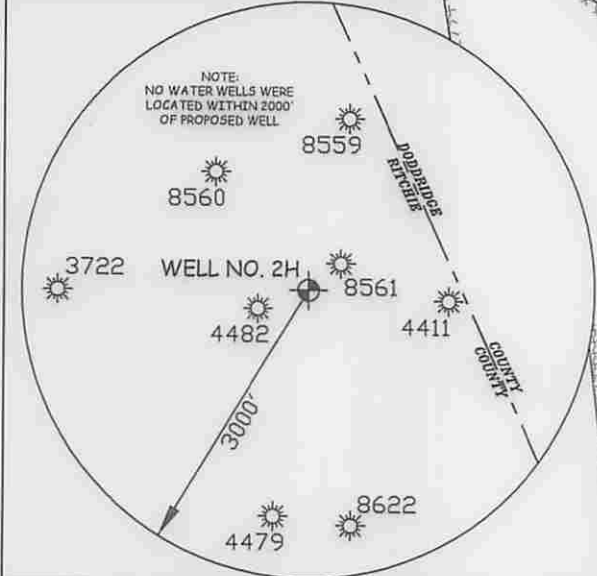
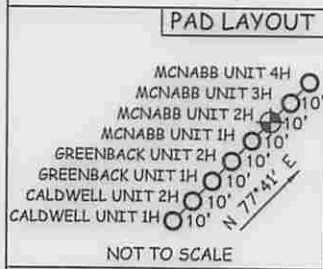
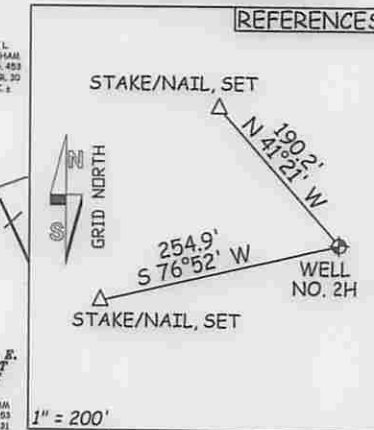
DATE 01/20/15

OPERATOR'S WELL# MCNABB UNIT #2H

API WELL #	47 - 085	- 10197 MOD
STATE	COUNTY	PERMIT

JOB # 14-094WA  
 DRAWING # MCNABB2H  
 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

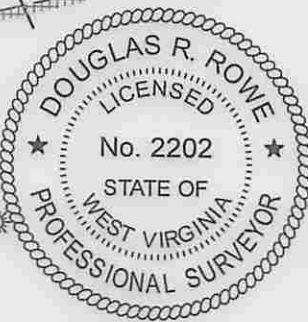
NOTE: NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.



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 X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 1,099' WATERSHED CABIN RUN  
 QUADRANGLE PULLMAN 7.5 DISTRICT CLAY COUNTY RITCHIE  
 SURFACE OWNER JACK D. MACKAY ET AL ACREAGE 253.03 ACRES +/-  
 OIL & GAS ROYALTY OWNER W.M. VANCAMPEN ET AL ANNA BATTIA ET AL LEASE ACREAGE 312 AC±; 111 AC±;  
 EASTERN AMERICAN ENERGY CORP.; GUSSIE LEGGETT; L.L. MOSS 145 AC±; 169 AC±; 54 AC±; 50 AC±;  
 ET UX; PAUL K. GOODWIN ET UX; S. BYRL ROSS ET AL; BRICE M BYHAM 103 AC±; 41 AC±; 55 AC±; 225 AC±;  
 ET VIR; B.P. MINERAL HOLDINGS III LLC; RUSSEL GRAY ET AL; LARRY G BROADWATER 98.75 AC±  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X  
 PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD-BHL PLUG & ABANDON CLEAN OUT & REPLUG  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 19,600' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER  
 ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM  
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

06/05/2015

COUNTY NAME PERMIT

WW-6A1

Operator's Well Number

McNabb 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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Anna Batta et al Lease</u></b>			
Anna S. Batta et vir	Northeastern Operating Company, Inc.	1/8	0225/0699
Northeastern Operating Company, Inc.	Key Oil Company	Assignment	0226/0163
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0253/0747
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>WM VanCampen, et al Lease</u></b>			
William Charles VanCampen	Warren R. Haught, et al	1/8	0122/0565
Warren R. Haught, et al	Haught, Inc.	Assignment	0124/0296
Haught, Inc.	Mountaineer 1979-A	Assignment	0129/0449
Mountaineer 1979-A	Mountain V Oil and Gas Co.	Assignment	0230/0253
Mountain V Oil and Gas Co.	Robert Matheny, Jr. & HMS Resources, Inc.	Assignment	0243/0911
Robert Matheny, Jr. & HMS Resources, Inc.	Genesis Exploration & Production	Assignment	0244/1079
Genesis Exploration & Production	Antero Resources Appalachian Corporation	Assignment	0260/1028
HMS Resources	Antero Resources Appalachian Corporation	Assignment	0260/1035
Robert Matheny, Jr. & HMS	Antero Resources Appalachian Corporation	Assignment	0260/1042
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Eastern American Energy Corporation Lease</u></b>			
Eastern American Energy Corporation	Key Oil Company	1/8	0227/0175
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0256/0175
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Gussie Leggett Lease</u></b>			
Gussie Leggett	Alton Skinner	1/8	0107/0480
Alton Skinner II, et al as Co-Administrator for the Estate of Alton Skinner	Desari S. Garrett, et al	Assignment	0169/0193
Desari S. Garrett, et al	DC Petroleum, Inc.	Assignment	0170/0583
DC Petroleum, Inc. & Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>L.L. Moss, et ux Lease</u></b>			
L.L. Moss, et ux	Alton Skinner	1/8	0112/0178
Alton Skinner II, et al as Co-Administrator for the Estate of Alton Skinner	Desari S. Garrett et al	Assignment	0169/0193
Desari S. Garrett, et al	DC Petroleum, Inc.	Assignment	0170/0583
DC Petroleum, Inc. & Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Paul K. Goodwin, et ux Lease</u></b>			
Paul K. Goodwin	Alton Skinner	1/8	0128/0384
Alton Skinner	Alton L. Skinner, II, Crystal G. Skinner & Desari S. Garrett	Intestate Conveyance	Recital in 0216/0391

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.



WW-6A1

Operator's Well Number

McNabb 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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
Alton L. Skinner, II, et al	Crystal G. Skinner & Desari S. Garrett	Deed of Conveyance	0216/0391
Crystal G. Skinner & Desari S. Garrett	DC Petroleum, Inc.	Deed of Conveyance	0247/0245
DC Petroleum, Inc., et al	Antero Resources Appalachian Corporation	*Partial Assignment of Oil and Gas Leases	0254/0133
<b>Antero Resources Appalachian Corporation</b>	<b>Antero Resources Corporation</b>	<b>Name Change</b>	<b>Exhibit 1</b>
<b><u>S. Byrl Ross, et al Lease</u></b>			
S. Byrl Skinner, et al	Alton Skinner	1/8	0128/0386
Alton Skinner II, et al as Co-Administrator for the Estate of Alton Skinner	Desari S. Garrett, et al	Assignment	0169/0193
Desari S. Garrett, et al	DC Petroleum, Inc.	Assignment	0170/0583
DC Petroleum, Inc. & Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
<b>Antero Resources Appalachian Corporation</b>	<b>Antero Resources Corporation</b>	<b>Name Change</b>	<b>Exhibit 1</b>
<b><u>Joseph E. Haught Lease</u></b>			
Joseph E. Haught and Carolyn B. Haught, his wife	Alton Skinner	1/8	0112/0154
Alton Skinner and Chase Petroleum, Inc., a WV corporation wholly owned by Alton L. Skinner	Desari Garrett, Alton L. Skinner, II and Crystal G. Skinner, Heirs at Law	Assignment	AP 0025/0684
Alton L. Skinner, II	Desari S. Garrett and Crystal G. Skinner	Assignment	DB 0222/0266
Crystal G. Skinner & Desari S. Garrett	DC Petroleum, Inc.	Assignment	DB 0224/0140
DC Petroleum, Inc and Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
<b>Antero Resources Appalachian Corporation</b>	<b>Antero Resources Corporation</b>	<b>Name Change</b>	<b>Exhibit 1</b>
<b><u>Brice M. Byham, et vir Lease</u></b>			
Brice M. Byham and Edgar W. Byham, her husband	Alton Skinner	1/8	0116/0437
Alton Skinner and Chase Petroleum, Inc., a WV corporation wholly owned by Alton L. Skinner	Desari Garrett, Alton L. Skinner, II and Crystal G. Skinner, Heirs at Law	Assignment	AP 0025/0684
Alton L. Skinner, II	Desari S. Garrett and Crystal G. Skinner	Assignment	DB 0222/0266
Crystal G. Skinner & Desari S. Garrett	DC Petroleum, Inc.	Assignment	DB 0224/0140
DC Petroleum, Inc and Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
<b>Antero Resources Appalachian Corporation</b>	<b>Antero Resources Corporation</b>	<b>Name Change</b>	<b>Exhibit 1</b>
<b><u>BP Mineral Holdings III, LLC. Lease</u></b>			
<b>BP Mineral Holdings III, LLC</b>	<b>Antero Resources Corporation</b>	<b>1/8+</b>	<b>0271/0930</b>
<b><u>Russel Gray, et al Lease</u></b>			
Russel H. Gray and Edith Gray, his wife, et ux	Alton Skinner	1/8	0121/0123
Alton Skinner and Chase Petroleum, Inc., a WV corporation wholly owned by Alton L. Skinner	Desari Garrett, Alton L. Skinner, II and Crystal G. Skinner, Heirs at Law	Assignment	AP 0025/0684
Alton L. Skinner, II	Desari S. Garrett and Crystal G. Skinner	Assignment	DB 0222/0266
Crystal G. Skinner & Desari S. Garrett	DC Petroleum, Inc.	Assignment	DB 0224/0140
DC Petroleum, Inc and Chase Petroleum, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0062
<b>Antero Resources Appalachian Corporation</b>	<b>Antero Resources Corporation</b>	<b>Name Change</b>	<b>Exhibit 1</b>

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

06/05/2015  
\*\*CONTINUED ON NEXT PAGE\*\*



WW-6A1  
(5/13)

Operator's Well No. McNabb 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
<u>Larry G. Broadwater Lease</u>				
	Larry Broadwater as POA for Roberta Hall	Clarence Mutschelknaus	1/8	0161/0755
	Clarence Mutschelknaus	Alton Skinner	Assignment	0162/0016
	Alton Skinner	Alton L. Skinner, II, Crystal G. Skinner & Desari S. Garrett	Intestate Conveyance	Recital in 0216/0391
	Alton L. Skinner, II, et al	Crystal G. Skinner & Desari S. Garrett	Deed of Conveyance	0216/0391
	Crystal G. Skinner & Desari S. Skinner	DC Petroleum, Inc.	Deed of Conveyance	0247/0245
	DC Petroleum, Inc., et al	Antero Resources Appalachian Corp.	*Partial Assignment of Oil and Gas Leases	0254/0133
	Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	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.

**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: VP of Production

FORM WW-6A1  
EXHIBIT 1

FILED

JUN 10 2013

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



Penney Barker, Manager  
Corporations Division  
Tel: (304)558-8000  
Fax: (304)558-8381  
Website: [www.wvsoa.com](http://www.wvsoa.com)  
E-mail: [business@wvsoa.com](mailto:business@wvsoa.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 ~~file~~  
stamped copy returned to you)  
FEE: \$25.00

\*\*\*\* In accordance with the provisions of the West Virginia Code, the undersigned corporation hereby \*\*\*\*  
applies for an Amended Certificate of Authority and submits the following statement:

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
  - Date Certificate of Authority was issued in West Virginia: 6/26/2008
  - Corporate name has been changed to: 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
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.)
- |                        |                       |
|------------------------|-----------------------|
| <u>Alvyn A. Schopp</u> | <u>(309) 367-7310</u> |
| Contact Name           | Phone Number          |
7. Signature Information (See below \*Important Legal Notice Regarding Signature\*):
- |  |  |
|--|--|
| Print Name of Signer: <u>Alvyn A. Schopp</u> | Title/Capacity: <u>Authorized Person</u> |
| Signature: <u><i>Alvyn A. Schopp</i></u>     | Date: <u>June 10, 2013</u>               |

**\*Important Legal Notice Regarding Signature:** For 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 CF-4

Issued by the Office of the Secretary of State

RECEIVED  
Office of Oil and Gas

JUN 02 2015

WV Department of  
Environmental Protection 06/05/2015