



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

PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for PIERSON UNIT 2H
47-095-02414-00-00

Extending horizontal lateral length

ANTERO RESOURCES CORPORATION

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

If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: PIERSON UNIT 2H
Farm Name: GARY D. DAWSON, ET UX
U.S. WELL NUMBER: 47-095-02414-00-00
Horizontal 6A / New Drill
Date Issued: 5/18/2017

Promoting a healthy environment.

05/19/2017

WW-6B
(04/15)

PERMIT MODIFICATION API# 47-095-02414
API NO. 47-095 - 02414
OPERATOR WELL NO. Pierson Unit 2H
Well Pad Name: Dawson Pad

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

1) Well Operator: Antero Resources Corporation 494507062 095 - Tyler Centerville Shirley 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Pierson Unit 2H Well Pad Name: Dawson Pad

3) Farm Name/Surface Owner: Gary D. Dawson, et ux Public Road Access: State Route 18

4) Elevation, current ground: 1010' Elevation, proposed post-construction: 1010'

5) Well Type (a) Gas Oil Underground Storage

Other

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 6700' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 6700' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 17200' MD

11) Proposed Horizontal Leg Length: 9740'

12) Approximate Fresh Water Strata Depths: 115', 320', 455'

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

14) Approximate Saltwater Depths: 652', 1583', 1830

15) Approximate Coal Seam Depths: 275', 424', 975

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

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

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

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WV Department of
Environmental Protection

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	94#	80'	80'	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	505' *see #19	505' *see #19	CTS, 702 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	17200'	17200'	4322 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	24"	0.438"	1530	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ~1.44 & H~1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

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

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.
*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): 28.65 acres

22) Area to be disturbed for well pad only, less access road (acres): 9.14 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

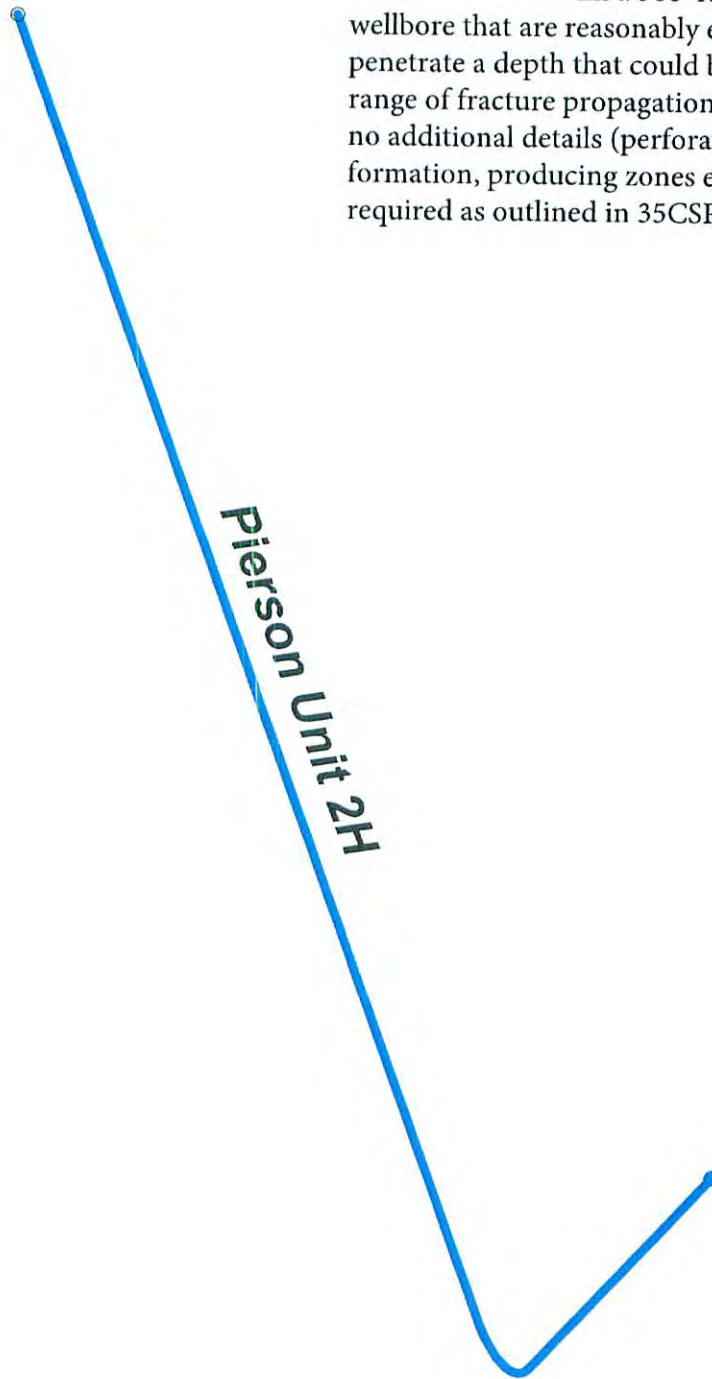
25) Proposed borehole conditioning procedures:

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.



No wells exist within a 500' radius of the wellbore that are reasonably expected to penetrate a depth that could be within the range of fracture propagation; therefore no additional details (perforated formation, producing zones etc.) are required as outlined in 35CSR8-5.11



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Environmental Protection



05/19/2017

WW-6A1
(5/13)

Operator's Well No. Pierson 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
Coastal Forest Resources Co. Lease	Coastal Forest Resources Co	Noble Energy Inc	1/8	543/250
	Noble Energy Inc	CNX Gas Co. LLC	Assignment	549/253
	CNX Gas Co. LLC	Antero Resources Corporation	Assignment	564/704

*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.

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Environmental Protection

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

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Antero Resources Corporation
By: Kevin Kilstrom
Its: Senior Vice President - Production

From Original Permit App
TW

WW-6A1
(5/13)

Operator's Well No. Pierson Unit 2H

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Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Carl W. Ash Lease</u>	Carl W. Ash & Judith A. Ash Chesapeake Appalachian, LLC SWN Production Co. LLC	Chesapeake Appalachian, LLC SWN Production Co., LLC Antero Resources Corporation	1/8 Assignment Assignment	0368/0631 0465/0463 0538/0578

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Well Operator: Antero Resources Corporation

By: Kevin Kilstrom *[Signature]*

Its: Senior VP of Production

Received
Office of Oil & Gas

FEB 02 2017
Page 1 of _____

05/19/2017

Operator's Well Number Pierson Unit 2H

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Chapter 22, Article 6A, Section 5(a)(5)
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- (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>Gary D. Dawson, et ux Lease</u> Gary D. Dawson, et ux	Antero Resources Corporation	1/8+	0459/0133
<u>Martha E. Gooden Lease</u> Martha E. Gooden Chesapeake Appalachia, LLC SWN Production Company, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC Antero Resources Corporation	1/8 Assignment Assignment	DB 0369/0622 DB 0456/0463 0544/0242
<u>Karla R. Spencer Lease (1-12-9.1, 1-12-9.4)</u> Karla R. Spencer Sancho Oil & Gas Corporation Chesapeake Appalachia, LLC SWN Production Company LLC	Sancho Oil & Gas Corporation Chesapeake Appalachia, LLC SWN Production Company, LLC Antero Resources Corporation	1/8 Assignment Assignment Assignment	0362/0259 0370/0154 0362/0259 0544/0242
<u>Linda D. Burg-Jett Lease</u> Linda D. Burg-Jett Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	DB 0400/0324 Exhibit 1
<u>Joseph E. Hess, et ux Lease</u> Joseph E. Hess & Judith C. Hess	Antero Resources Corporation	1/8+	DB 0447/0625
<u>Wilma J. Howard, et al Lease</u> Wilma J. Howard Coastal Corporation Pardee Exploration Company Paul E. Pierson William P. Pierson, Attorney in Fact for Adeline T. Pierson William P. Pierson Sancho Oil & Gas Company	Coastal Corporation Pardee Exploration Company Paul E. Pierson Adeline T. Pierson William P. Pierson Sancho Oil & Gas Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment Assignment Assignment Assignment	DB 0281/0317 DB 0282/0458 DB 0328/0052 WB 0031/0064 DB 0363/0452 DB 0375/0239 0377/0235
<u>Conrad E. Costilow Lease</u> Conrad E. Costilow	Antero Resources Corporation	1/8+	DB 0500/0645

4709502414

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Office of Oil & Gas
FEB 02 2017

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CONTINUED ON NEXT PAGE

From original Permit App
TW

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



**IN THE OFFICE OF
SECRETARY OF STATE**
Corporations Division
Tel: (304)558-8000
Fax: (304)558-8381
Website: www.wvsof.com
E-mail: business@wvsof.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: 6/26/2008
- 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: *Alvyn A. Schopp*

Date: June 10, 2013

Important Legal Notice Regarding Signature Per West Virginia Code §311D-1-122. 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.

Received
Office of Oil & Gas

FEB 02 2017

Form CP-4

Issued by the Office of the Secretary of State

LATITUDE 39°25'00"

11,481'

LATITUDE 39°25'00"

LONGITUDE 80°52'30"

4,966' TO BOTTOM HOLE

13,067'

LONGITUDE 80°50'00"

Antero Resources Corporation
Well No. Pierson Unit 2H
WELL 2H
BOTTOM HOLE

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

CARL W. ASH LEASE

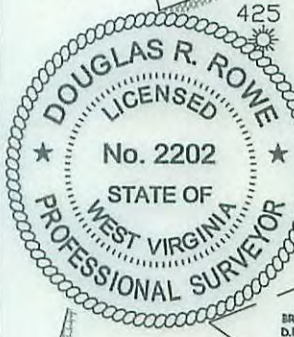
JOSEPH McCRAY
D.B. 352 PG. 440
T.M. 12 PAR. 31
240.81 AC. ±

JOSEPH McCRAY
D.B. 352 PG. 440
T.M. 11 PAR. 111
61.79 AC. ±

CONRAD E. COSTILOW LEASE
MOUNTAINEER LD & TIMBER CO.
D.B. 355 PG. 273
T.M. 11 PAR. 11
65 AC. ±

WILMA J. HOWARD ET AL LEASE

MOUNTAINEER LD & TIMBER CO.
D.B. 355 PG. 273
T.M. 12 PAR. 26
210.37 AC. ±



BRYAN KUNGLE
D.B. 308 PG. 438
T.M. 11 PAR. 17.2
18 AC. ±

BRYAN KUNGLE
D.B. 308 PG. 438
T.M. 11 PAR. 17.1
11.11 AC. ±

JOSEPH E. HESS ET UX LEASE

MOUNTAINEER LD & TIMBER CO.
D.B. 355 PG. 273
T.M. 12 PAR. 27
23 AC. ±

WELL NO. 2H

2H BOTTOM HOLE

3 WATER WELLS WERE LOCATED WITHIN 2000' OF CENTER OF PAD



1325

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 323,771ft E: 1,511,641ft
LAT: 39°22'50.84" LON: 80°52'26.21"
BOTTOM HOLE INFORMATION:
N: 331,947ft E: 1,606,864ft
LAT: 39°24'10.92" LON: 80°53'28.66"
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: 4,359,051m E: 510,871m
BOTTOM HOLE INFORMATION:
N: 4,361,518m E: 509,374m

(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,300,606ft E: 1,676,035ft
POINT OF ENTRY INFORMATION:
N: 14,299,546ft E: 1,674,446ft
BOTTOM HOLE INFORMATION:
N: 14,308,698ft E: 1,671,124ft

JOB # 16-043WA
DRAWING # PIERSON2HR
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
- - - Surface Owner Boundary Lines +/-
- - - Interior Surface Tracts +/-
X Existing Fence
Monument, Found As Specified

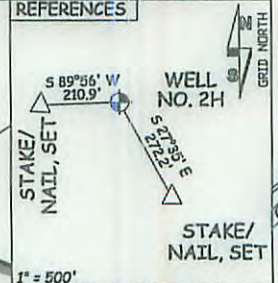
DOUGLAS R. ROWE P.S. 2202
DATE 05/01/17
OPERATOR'S WELL# PIERSON UNIT #2H
API WELL # 47 - 095 - 02414
STATE COUNTY PERMIT

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
LOCATION: ELEVATION 1,011' - ORIGINAL 1,010' - PROPOSED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE SHIRLEY 7.5' (TH) MIDDLEBOURNE 7.5' (BH) DISTRICT CENTERVILLE COUNTY TYLER
SURFACE OWNER GARY D. DAWSON ET UX ACREAGE 104.27 ACRES +/- 05/19/2017
OIL & GAS ROYALTY OWNER GARY D. DAWSON ET UX; COASTAL FOREST RESOURCES CO.; MARTHA E. GOODEN; LEASE ACREAGE 104.27 AC±; 108 AC±; 184.95 AC±; KARLA R. SPENCER; KARLA R. SPENCER; LINDA D. BURG-JETT; JOSEPH E. HESS ET UX; WILMA J. HOWARD ET AL; CARL W. ASH 8.88 AC±; 85.2 AC±; 178 AC±; 94.92 AC±; 239 AC±; 362.8 AC±
PROPOSED WORK: DRILL CONVERT DRILL DEEPER X REDRILL FRACTURE OR STIMULATE X
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD-POE PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 17,200' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313
FORM WW-6 DENVER, CO 80202



COUNTY NAME PERMIT

LATITUDE 39°25'00"

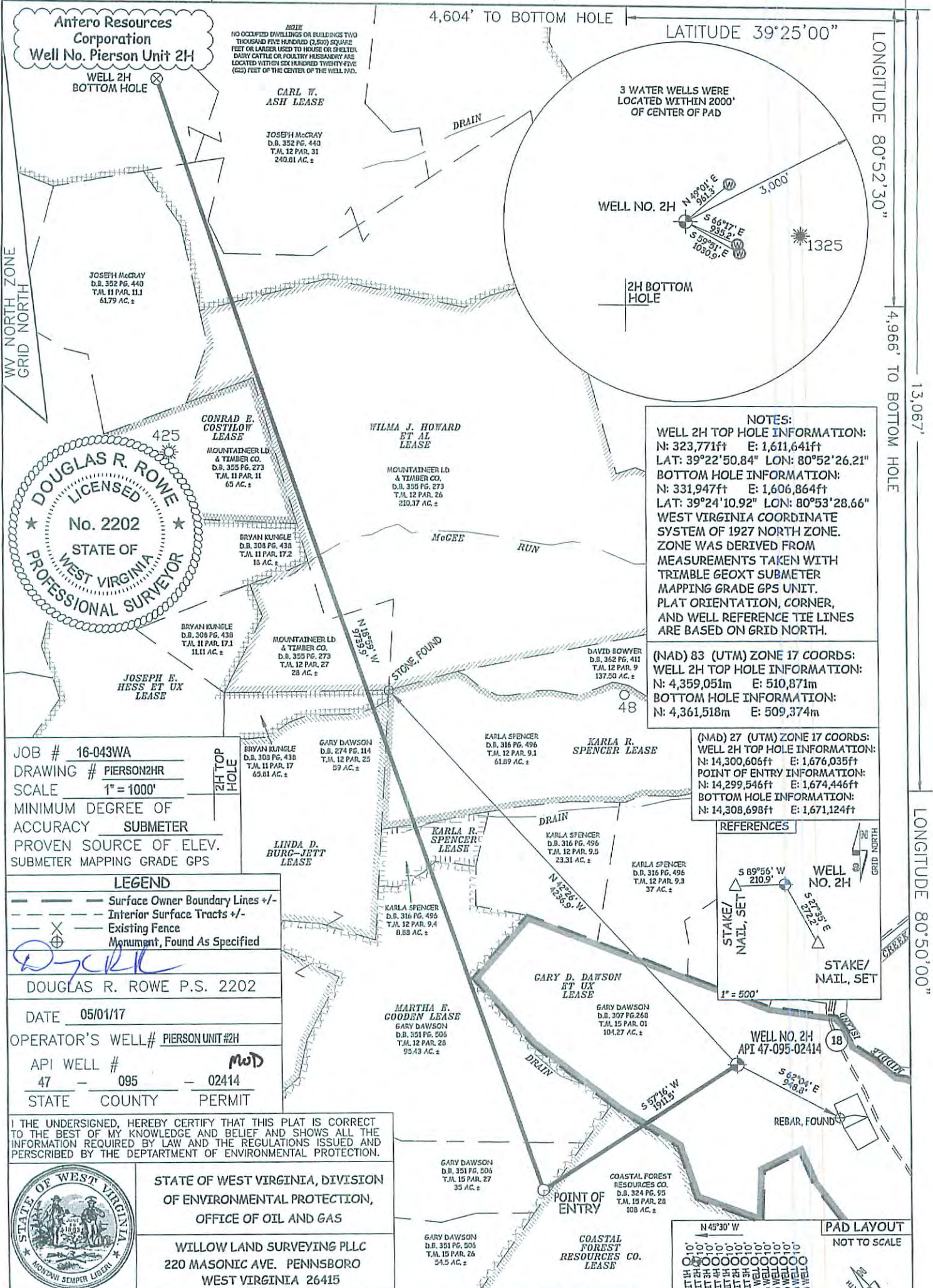
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LONGITUDE 80°50'00"

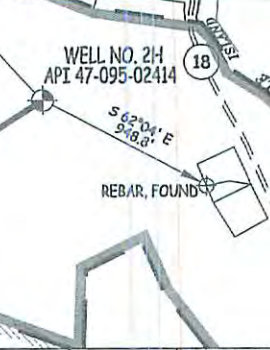


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REFERENCES



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 SCALE 1" = 1000'
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 API WELL # 47 - 095 - 02414
 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 REGULATIONS ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
 WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,011' - ORIGINAL 1,010' - PROPOSED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
 QUADRANGLE SHIRLEY 7.5' (TH) MIDDLEBOURNE 7.5' (BH) DISTRICT CENTERTVILLE COUNTY TYLER
 SURFACE OWNER GARY D. DAWSON ET UX ACREAGE 104.27 ACRES +/-
 OIL & GAS ROYALTY OWNER GARY D. DAWSON ET UX; COASTAL FOREST RESOURCES CO.; MARTHA E. GOODEN; LEASE ACREAGE 104.27 AC±; 108 AC±; 184.95 AC±; KARLA R. SPENCER; KARLA R. SPENCER; LINDA D. BURG-JETT; JOSEPH E. HESS ET UX; WILMA J. HOWARD ET AL; CARL W. ASH 8.88 AC±; 85.2 AC±; 178 AC±; 94.92 AC±; 239 AC±; 362.8 AC±
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD-POE
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 17,200' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

05/19/2017

COUNTY NAME PERMIT



May 9, 2017

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: Mr. Wade Stansberry
601 57th Street
Charleston, WV 25304

Mr. Stansberry:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for two approved wells on the Dawson Pad. We are requesting to extend the horizontal lateral lengths of the below listed wells

- Pierson Unit 1H (API #: 47-095-02413)
- Pierson Unit 2H (API #: 47-095-02414)

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the revised lateral length, Measured Depth and Production Casing/Cement program
- REVISED Form WW-6A1, which shows the new leases we will be drilling into
- REVISED Mylar Plats, which shows the new extended lateral length

If you have any questions please feel free to contact me at (303) 357-7223.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "SJohnson".

Shelby Johnson
Permitting Agent
Antero Resources Corporation

Enclosures

RECEIVED
Office of Oil and Gas
MAY 11 2017
WV Department of
Environmental Protection

05/19/2017