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 / Horizontal 6A Well - 1

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for BOUNTY UNIT 3H
47-095-02364-00-00

Extend Lateral Length of Well

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: BOUNTY UNIT 3H
Farm Name: GARY D. DAWSON ET UX
U.S. WELL NUMBER: 47-095-02364-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: 2/16/2017

Promoting a healthy environment.

02/17/2017

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

February 3, 2017

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 modification for one approved well on the Dawson Pad. We are requesting to extend the horizontal lateral length which will change the bottom hole location of the Bounty Unit 3H (API# 47-095-02364).

Attached you will find the following documents:

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

If you have any questions please feel free to contact me at (303) 357-7233.

Thank you in advance for your consideration.

Sincerely,

Kara Quackenbush
Permitting Agent
Antero Resources Corporation

Enclosures

WW-6B
(04/15)

PERMIT MODIFICATION API# 47-095-02364

API NO. 47- 095 - 02364
OPERATOR WELL NO. Bounty Unit 3H
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 Corporat | 494507062 | 095 - Tyler | Centervil | Shirley 7.5'
Operator ID | County | District | Quadrangle

2) Operator's Well Number: Bounty Unit 3H 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: 1011' Elevation, proposed post-construction: 1010'

5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow X Deep _____
Horizontal X

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- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 6700' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 18600' MD

11) Proposed Horizontal Leg Length: 11192'

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 X

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

02/17/2017

PERMIT MODIFICATION API# 47-095-02364

API NO. 47- 095 - 02364
OPERATOR WELL NO. Bounty Unit 3H
Well Pad Name: Dawson 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#	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	20#	18600'	18600'	4707 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			

02/17/2017

WW-6B
(10/14)

API NO. 47- 095 - 02364
OPERATOR WELL NO. Bounty Unit 3H
Well Pad Name: Dawson 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 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.

02/17/2017

WW-6A1

Operator's Well Number Bounty Unit 3H
PERMIT MODIFICATION API# 47-095-02364

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
Gary D. Dawson, et ux Lease (TM 15 P 1)			
Gary D. Dawson, et ux	**Antero Resources Corporation**	**1/8+**	**0459/0133**
Carl W. Ash Lease (TM 12 P 14.4)			
Carl W. Ash	**Antero Resources Corporation**	**1/8+**	**0499/0831**
Gary Dawson Lease (TM 12 P 14.1)			
Gary D. Dawson, et ux	**Antero Resources Corporation**	**1/8+**	**0497/0153**
Robert C. Dean Lease			
Robert C. Dean	**Antero Resources Corporation**	**1/8+**	**0481/0807**
Carl Ash Lease(TM 12 P 9.3)			
Carl W. Ash	**Antero Resources Corporation**	**1/8+**	**0483/0681**
Larry F. Hadley Lease			
Larry F. Hadley	**Antero Resources Corporation**	**1/8**	**0452/0567**
David E. Bowyer Lease			
David E. Bowyer	Antero Resources Appalachian Corporation	1/8	DB 0399/0369
Antero Resources Appalachian Corporation	**Antero Resources Corporation**	**Name Change**	**Exhibit 1**
Wilma J. Howard, et al Lease			
Wilma J. Howard	Coastal Corporation	1/8+	DB 0281/0317
Coastal Corporation	Pardee Exploration Company	Assignment	DB 0282/0458
Pardee Exploration Company	Paul E. Pierson	Assignment	DB 0328/0052
Paul E. Pierson	Adeline T. Pierson	Assignment	WB 0031/0064
William P. Pierson, Attorney in Fact for Adeline T. Pierson	William P. Pierson	Assignment	DB 0363/0452
William P. Pierson	Sancho Oil & Gas Company	Assignment	DB 0375/0239
Sancho Oil & Gas Company	**Antero Resources Corporation**	**Assignment**	**0377/0235**
Harry Ash & Jessie D. Ash, et al Lease			
Harry Ash, et al	J. A. Underwood	1/8+	DB 0171/0365
J.A. Underwood	Quaker State Oil Refining Co.	Assignment	DB 0171/0528
Quaker State Oil Refining Co.	Petro Mark, Inc.	Assignment	DB 0246/0324
Petro Mark, Inc.	Sancho Oil & Gas Corporation	Assignment	DB 0372/0293
Sancho Oil & Gas Corporation	**Antero Resources Corporation**	**Assignment**	**DB 0377/0235**
Peggy E. Wince Lease			
Peggy Ellen Wince	**Antero Resources Corporation**	**1/8+**	**DB 0413/0722**

***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.**

02/17/2017

****CONTINUED ON NEXT PAGE****

WW-6A1

Operator's Well Number Bounty Unit 3H
PERMIT MODIFICATION API# 47-095-02364

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
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
Carl W. Ash Lease			
Carl W. Ash	Chesapeake Appalachia LLC	1/8	DB 0368/0631
Chesapeake Appalachia LLC	SWN Production Company, LLC	Assignment	DB 0465/0463
SWN Production Company, LLC	**Antero Resources Corporation**	**Assignment**	**0538/0578**
E. Thomas Estlack, et ux Lease			
E. Thomas Estlack & Crystalee T. Estlack	Sancho Oil & Gas Corporation	1/8	DB 0330/0838
Sancho Oil & Gas Corporation	**Antero Resources Corporation**	**Assignment**	**DB 0377/0325**
John W. Mullett, et ux Lease			
John W. Mullett & Elizabeth Mullett	EOG Resources, Inc.	1/8	DB 0353/0293
EOG Resources Inc.	PC Exploration, Inc.	Assignment	DB 0355/0817
PC Exploration, Inc.	Phillips Exploration, Inc.	Merger	EXHIBIT 2
Phillips Exploration, Inc.	Chesapeake Appalachia, LLC	Assignment	DB 0375/0312
Chesapeake Appalachia, LLC	SWN Production Company, LLC	Assignment	DB 0465/0463
SWN Production Company, LLC	**Antero Resources Corporation**	**Assignment**	**0540/0767**
E. Thomas Estlack, et ux Lease			
E. Thomas Estlack & Crystalee T. Estlack	Sancho Oil & Gas Corporation	1/8	DB 0330/0834
Sancho Oil & Gas Corporation	**Antero Resources Corporation**	**Assignment**	**DB 0377/0325**

***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.**

02/17/2017

****CONTINUED ON NEXT PAGE****

WW-6A1
(5/13)

Operator's Well No. Bounty Unit 3H

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)

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(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Alfred Stracha Lease	Alfred Stracha	Antero Resources Corporation	1/8+	0483/0449

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

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

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

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

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

Well Operator: Antero Resources Corporation
By: Kevin Kilstrom
Its: Senior VP of Production

02/17/2017

FORM WW-6A1
EXHIBIT 1

FILED
JUN 10 2013
IN THE OFFICE OF SECRETARY OF STATE

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

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

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

APPLICATION FOR AMENDED CERTIFICATE OF AUTHORITY

**** 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 — Contact Name
   (303) 357-7310 — Phone Number

7. Signature information (See below *Important Legal Notice Regarding Signature):

   Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person

   Signature: [signature] Date: June 10, 2013

*Important Legal Notice Regarding Signature: Per West Virginia Code §31D-1-129, Penalty for signing false document. Any person who signs a document he or she knows is false in any material respect and knows that the document is to be delivered to the secretary of state for filing is guilty of a misdemeanor and, upon conviction thereof, shall be fined not more than one thousand dollars or confined in the county or regional jail not more than one year, or both.

02/17/2017

FORM WW-6A1
EXHIBIT 2, PAGE 1

Entity #: 744031
Date Filed: 06/24/2009
Pedro A. Cortés
Secretary of the Commonwealth

PENNSYLVANIA DEPARTMENT OF STATE
CORPORATION BUREAU

Articles of Amendment-Domestic Corporation

(15 Pa.C.S.)

☑ Business Corporation (§ 1915)
☐ Nonprofit Corporation (§ 5915)

Name
K&L Gates LLP
Address
17 N. 2nd Street, 18th Floor
City State Zip Code
Harrisburg, PA 17101 COUNTER PICKUP

Document will be returned to the name and address you enter to the left.
⇐

Commonwealth of Pennsylvania
ARTICLES OF AMENDMENT-BUSINESS 3 Page(s)

T0917611060

Fee: $70

In compliance with the requirements of the applicable provisions (relating to articles of amendment), the undersigned, desiring to amend its articles, hereby states that:

1. The name of the corporation is:
PC Exploration, Inc.

2. The (a) address of this corporation's current registered office in this Commonwealth or (b) name of its commercial registered office provider and the county of venue is (the Department is hereby authorized to correct the following information to conform to the records of the Department):

(a) Number and Street	City	State	Zip	County
502 Keystone Drive	Warrendale	PA	15086	Allegheny

(b) Name of Commercial Registered Office Provider — County
c/o

3. The statute by or under which it was incorporated: Business Corporation Law of 1933, as amended

4. The date of its incorporation: 11-18-1981

5. *Check, and if appropriate complete, one of the following:*

☑ The amendment shall be effective upon filing these Articles of Amendment in the Department of State.

☐ The amendment shall be effective on: _____ at _____
Date Hour

2009 JUN 24 PM 3:27

02/17/2017

FORM WW-6A1
EXHIBIT 2, PAGE 2

DSCB:15-1915/5915-2

6. *Check one of the following:*

☐ The amendment was adopted by the shareholders or members pursuant to 15 Pa.C.S. § 1914(a) and (b) or § 5914(a).

☑ The amendment was adopted by the board of directors pursuant to 15 Pa. C.S. § 1914(c) or § 5914(b).

7. *Check, and if appropriate, complete one of the following:*

☑ The amendment adopted by the corporation, set forth in full, is as follows

The name of the corporation is changed to "Phillips Exploration, Inc."

☐ The amendment adopted by the corporation is set forth in full in Exhibit A attached hereto and made a part hereof.

8. *Check if the amendment restates the Articles:*

☐ The restated Articles of Incorporation supersede the original articles and all amendments thereto.

IN TESTIMONY WHEREOF, the undersigned corporation has caused these Articles of Amendment to be signed by a duly authorized officer thereof this

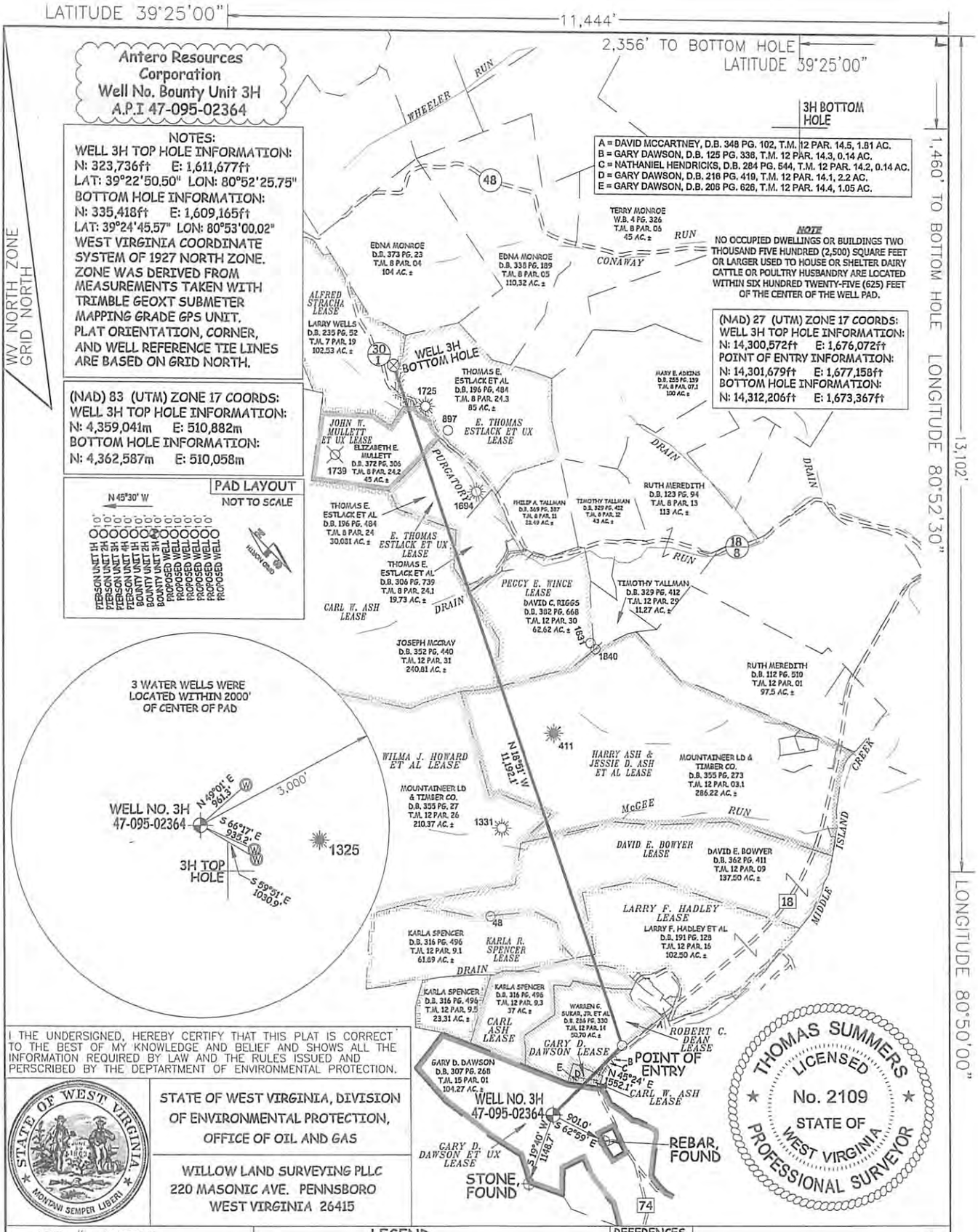
24th day of June, 2009.

PC Exploration, Inc.
Name of Corporation

David J. Grecco
Signature

Vice President - Legal
Title

02/17/2017



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 DEPTARTMENT OF ENVIRONMENTAL PROTECTION.

STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

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

JOB # 16-033WA
DRAWING # BOUNTY3HR2
SCALE 1" = 2000'
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

THOMAS SUMMERS P.S. 2109

DATE 08/10/16
OPERATOR'S WELL# BOUNTY UNIT #3H

REFERENCES
STAKE/ NAIL, SET — N 81°58' W 249.0' — WELL NO. 3H — S 23°40' E 225.2' — STAKE/ NAIL, SET
GRID NORTH
1" = 500'

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
47 — 095 — 02364
STATE COUNTY PERMIT
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
02/17/2017
SURFACE OWNER GARY D. DAWSON ET UX ACREAGE 104.27 ACRES +/-
OIL & GAS ROYALTY OWNER GARY D. DAWSON ET UX; CARL W. ASH; GARY D. DAWSON; ROBERT C. DEAN; CARL ASH; LARRY F. HADLEY; DAVID E. BOWYER; HARRY ASH & JESSIE D. ASH ET AL; WILMA J. HOWARD ET AL; PEGGY E. WINCE; CARL W. ASH; E. THOMAS ESTLACK ET UX; JOHN W. MULLETT ET UX; E. THOMAS ESTLACK ET UX; ALFRED STRACHA LEASE ACREAGE 104.27 AC.±; 0.53663 AC±; 2.8062 AC±; 50.7 AC±; 37 AC±; 102.5 AC.±; 138 AC±; 291 AC±; 239 AC±; 65 AC±; 362.8 AC.±; 50 AC±; 45 AC±; 85.5 AC±; 101.2 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 BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 18,600' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
DENVER, CO 80202 CHARLESTON, WV 25313
FORM WW-6
COUNTY NAME PERMIT

LATITUDE 39°25'00" — 11,444' — 2,356' TO BOTTOM HOLE LATITUDE 39°25'00"

1,460' TO BOTTOM HOLE LONGITUDE 80°52'30" — 13,102' — LONGITUDE 80°50'00"

WV NORTH ZONE GRID NORTH

Antero Resources Corporation
Well No. Bounty Unit 3H
A.P.I 47-095-02364

NOTES:
WELL 3H TOP HOLE INFORMATION:
N: 323,736ft E: 1,611,677ft
LAT: 39°22'50.50" LON: 80°52'25.75"
BOTTOM HOLE INFORMATION:
N: 335,418ft E: 1,609,165ft
LAT: 39°24'45.57" LON: 80°53'00.02"
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 3H TOP HOLE INFORMATION:
N: 4,359,041m E: 510,882m
BOTTOM HOLE INFORMATION:
N: 4,362,587m E: 510,058m

PAD LAYOUT
NOT TO SCALE

N 45°30' W

PIERSON UNIT 1H, PIERSON UNIT 2H, PIERSON UNIT 3H, PIERSON UNIT 4H, BOUNTY UNIT 1H, BOUNTY UNIT 2H, PROPOSED WELL, PROPOSED WELL, PROPOSED WELL, PROPOSED WELL, PROPOSED WELL, PROPOSED WELL, PROPOSED WELL, PROPOSED WELL

HUNTER ROAD

A = DAVID MCCARTNEY, D.B. 348 PG. 102, T.M. 12 PAR. 14.5, 1.81 AC.
B = GARY DAWSON, D.B. 125 PG. 336, T.M. 12 PAR. 14.3, 0.14 AC.
C = NATHANIEL HENDRICKS, D.B. 284 PG. 544, T.M. 12 PAR. 14.2, 0.14 AC.
D = GARY DAWSON, D.B. 216 PG. 419, T.M. 12 PAR. 14.1, 2.2 AC.
E = GARY DAWSON, D.B. 208 PG. 628, T.M. 12 PAR. 14.4, 1.05 AC.

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.

(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 3H TOP HOLE INFORMATION:
N: 14,300,572ft E: 1,676,072ft
POINT OF ENTRY INFORMATION:
N: 14,301,679ft E: 1,677,158ft
BOTTOM HOLE INFORMATION:
N: 14,312,206ft E: 1,673,367ft

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

3,000'

WELL NO. 3H 47-095-02364

N 69°01' E 961.3'
S 66°17' E 933.2'
S 59°31' E 1030.9'

3H TOP HOLE

1325

WELL 3H BOTTOM HOLE

N 16°51' W 11,192.1'

POINT OF ENTRY

N 45°24' E 1952.1'

WELL NO. 3H 47-095-02364

S 62°59' E 901.0'

S 19°40' W 1148.7'

REBAR, FOUND

STONE, FOUND

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 DEPTARTMENT 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

THOMAS SUMMERS LICENSED No. 2109 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

JOB # 16-033WA
DRAWING # BOUNTY3HR2
SCALE 1" = 2000'
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

THOMAS SUMMERS P.S. 2109

DATE 08/10/16
OPERATOR'S WELL# BOUNTY UNIT #3H

REFERENCES
STAKE/ NAIL, SET — N 81°58' W 249.0' — WELL NO. 3H — S 23°40' E 225.2' — STAKE/ NAIL, SET

GRID NORTH

1" = 500'

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

47 — 095 — 02364
STATE COUNTY PERMIT

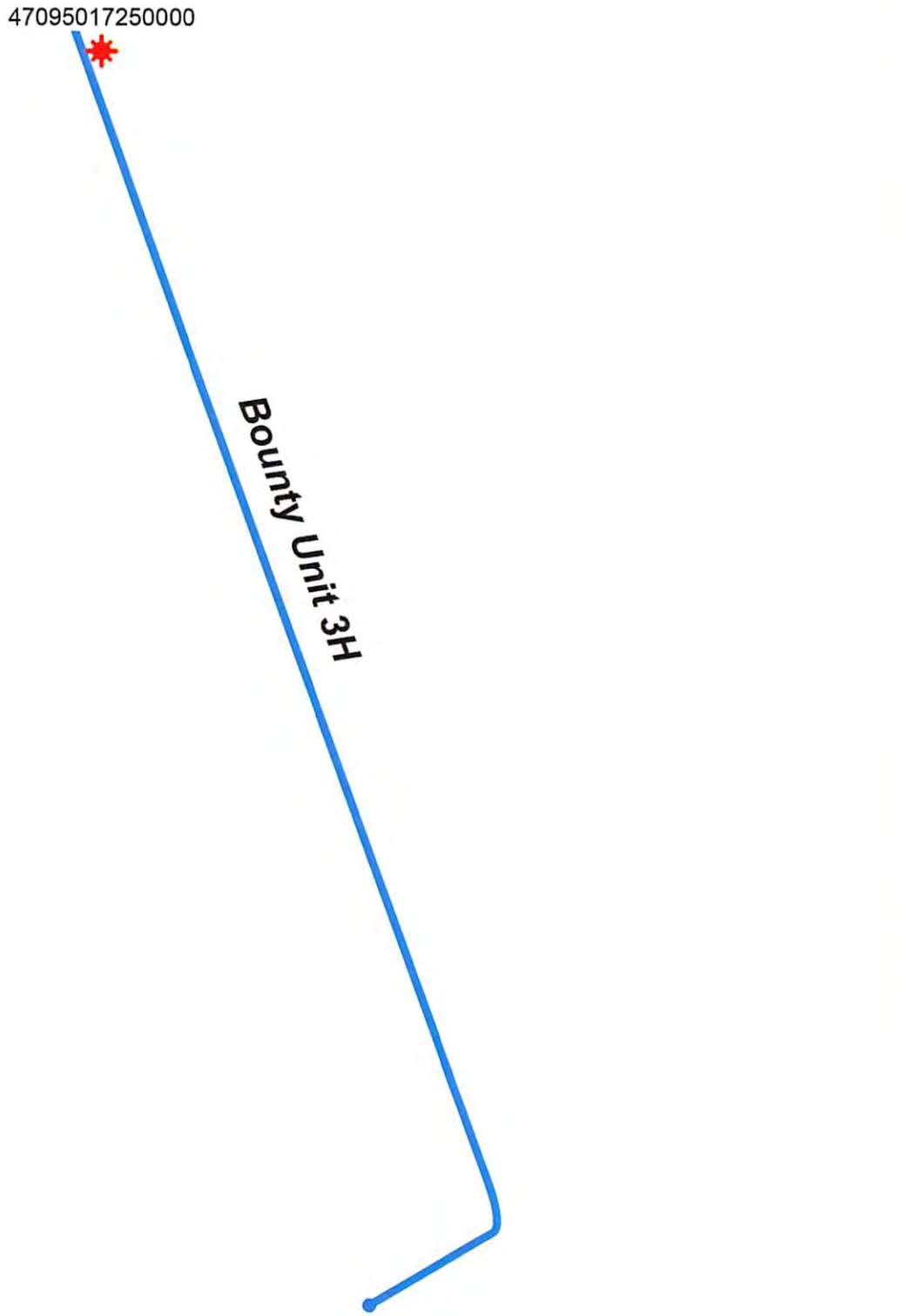
LOCATION: ELEVATION 1,011' - ORIGINAL 1,010' - PROPOSED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE SHIRLEY 7.5' (TH) MIDDLEBOURNE 7.5' (BH) DISTRICT CENTERVILLE COUNTY TYLER
SURFACE OWNER GARY D. DAWSON ET UX ACREAGE 104.27 ACRES +/-
OIL & GAS ROYALTY OWNER GARY D. DAWSON ET UX; CARL W. ASH; GARY D. DAWSON; ROBERT C. DEAN; CARL ASH; LARRY F. HADLEY; DAVID E. BOWYER; HARRY ASH & JESSIE D. ASH ET AL; WILMA J. HOWARD ET AL; PEGGY E. WINCE; CARL W. ASH; E. THOMAS ESTLACK ET UX; JOHN W. MULLETT ET UX; E. THOMAS ESTLACK ET UX; ALFRED STRACHA LEASE ACREAGE 104.27 AC.±; 0.53663 AC±; 2.8062 AC±; 50.7 AC±; 37 AC±; 102.5 AC.±; 138 AC±; 291 AC±; 239 AC±; 65 AC±; 362.8 AC.±; 50 AC±; 45 AC±; 85.5 AC±; 101.2 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 BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,700' TVD 18,600' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
DENVER, CO 80202 CHARLESTON, WV 25313

02/17/2017

COUNTY NAME PERMIT

FORM WW-6

BOUNTY UNIT 3H (DAWSON PAD) - AREA OF REVIEW 35-8-5.11 PAGE 1



02/17/2017

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BOUNTY UNIT 3H (DAWSON PAD) - AREA OF REVIEW 35-8-5.11 PAGE 2

PERMIT MODIFICATION (API# 47-095-02364)

UWI (APINum)	Well Name	Well Number	Operator	Hist Oper	ELEV_GR	TD	TD(SSTVD)	Perforated Interval	Producing Formations	Producing zones not perforated
47095017250000	ESTLACK E THOMAS	2	TEXAS KEYSTONE INC	SANCHO OIL & GAS	910	5000	-4090	4840' - 4843'	Riley, Benson	Keener, Big Injun, Bradford

02/17/2017