



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 WARRIOR UNIT 1H
47-017-06828-00-00

Extend the horizontal lateral length and change to bottom hole location

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: WARRIOR UNIT 1H
Farm Name: ANTERO RESOURCES CORPORATION
U.S. WELL NUMBER: 47-017-06828-00-00
Horizontal 6A / New Drill
Date Issued: 8/4/2017

Promoting a healthy environment.

08/04/2017



June 28, 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 modification for one approved well on the Middle Pad. We are requesting to extend the horizontal lateral length which will change the bottom hole location of the Warrior Unit 1H (API# 47-017-06828).

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 Plat, 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,

A handwritten signature in blue ink, appearing to read "Kara Quackenbush", is written over a light blue horizontal line.

Kara Quackenbush
Permitting Agent
Antero Resources Corporation

Enclosures

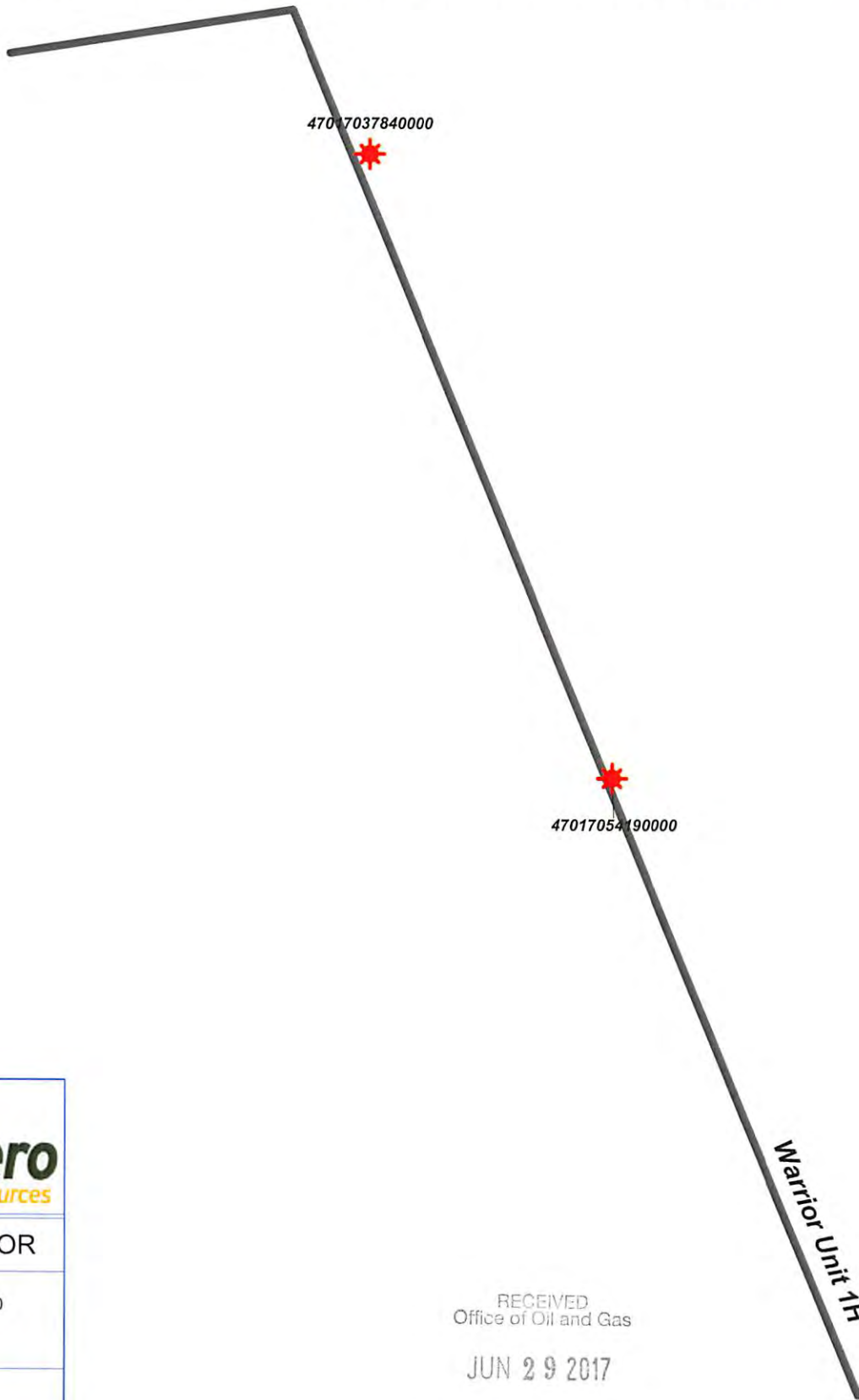
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08/04/2017

WARRIOR UNIT 1H (ADDIE PAD) - AREA OF REVIEW 35-8-5.11 PAGE 1



Warrior Unit 1H - AOR



 WELL SYMBOLS
Gas Well

February 7, 2017

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UWI (AP#Num)	Well Name	Well Number	Operator	Historical Operator	Approx distance to well (ft)	TD	ELEV. GR	TD (ESTVD)	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Produced Formation(s) (not perf'd)
47027054190000	FORD M	4	MURVIN&MEIER OIL CO	MURVIN&MEIER OIL CO	44	5206	762	-4444	4103-5043	Saltown, Bradford, Rhy, Alexander	Big Linton, Weh, Warren, Gordon, Beson
47027037940000	FREEMAN JOSEPH	1	ANTERO RESOURCES CORPORATION	QUAKER STATE INC	125	5100	1006	-4094	4515-4925	Rhy, Beson	Big Linton, Weh, Warren, Gordon, Saltown, Bradford

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WW-6B
(04/15)

PERMIT MODIFICATION API# 47-017-06828

API NO. 47-017 - 06828

OPERATOR WELL NO. Warrior Unit 1H

Well Pad Name: Addie Pad

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

1) Well Operator: Antero Resources Corporation 494507062 017- Doddridge West Union West Union 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Warrior Unit 1H Well Pad Name: Addie Pad

3) Farm Name/Surface Owner: Antero Resources Corporation Public Road Access: WV 18

4) Elevation, current ground: 890' Elevation, proposed post-construction: 890'

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: 6900' TVD, Anticipated Thickness- 60 feet, Associated Pressure- 3100#

8) Proposed Total Vertical Depth: 6900' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19800' MD

11) Proposed Horizontal Leg Length: 12039'

12) Approximate Fresh Water Strata Depths: 59', 175', 345'

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

14) Approximate Saltwater Depths: 650'

15) Approximate Coal Seam Depths: 516'

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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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#	40'	40'	CTS, 38 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	400' *See #19	400' *See #19	CTS, 556 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#	19800'	19800'	CTS, 5037 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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WW-6B
(10/14)

PERMIT MODIFICATION API# 47-017-06828

API NO. 47- 017 - 06828

OPERATOR WELL NO. Warrior Unit 1H

Well Pad Name: Addie 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): 17.35 acres

22) Area to be disturbed for well pad only, less access road (acres): 6.99 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.

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24) Describe all cement additives associated with each cement type:

JUN 29 2017

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

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25) Proposed borehole conditioning procedures:

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

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

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

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

*Note: Attach additional sheets as needed.

WW-6A1

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Operator's Well Number

Warrior Unit 1H

PERMIT MODIFICATION API# 47-017-06828

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>J.C. Smith, Agent for Jacob Smith Estate Lease</u>			
J.C. Smith, Agent for Jacob Smith Estate	W.H. Mossor	1/8	0063/0250
W.H. Mossor	Term Energy Corporation	Assignment and Bill of Sale	0116/0519
Term Energy Corporation	Antero Resources Appalachian Corporation	*Partial Assignment of Oil & Gas Leases	DB 0271/0199
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Joseph B. Hammond Lease</u>			
Joseph B. Hammond	Antero Resources Appalachian Corporation	1/8+	0257/0274
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Joseph Freeman, et ux Lease</u>			
Joseph Freeman, et ux	G.H. Trainer	1/8	0027/02433
G.H. Trainer & J.E. Trainer	W.W. Hepburn	Assignment	0034/0244
W.W. Hepburn	Eastern Petroleum Company	Assignment	0034/0256
Eastern Petroleum Company	Clifton Oil & Gas Company	Assignment	0041/0431
Clifton Oil & Gas Company	Quaker State Refining Corporation	Assignment	0056/0165
Quaker State Refining Corporation	QSE&P, Inc.	Assignment	0159/0474
QSE&P, Inc.	The Quaker State 1989 – 1 Drilling Fund LP	Assignment	0160/0200
The Quaker State 1989 – 1 Drilling Fund LP	Belden & Blake Corporation	Assignment	0175/0466
Belden & Blake Corporation	Peake Energy, Inc.	Assignment	0181/0567
Peake Energy, Inc.	North Coast Energy Eastern, Inc.	Name Change	0249/0343
North Coast Energy Eastern, Inc.	EXCO-North Coast Energy Eastern, Inc.	Name Change	0277/0068
EXCO North Coast Energy Eastern, Inc.	EXCO Resources WV, Inc.	Name Change	Exhibit 2
EXCO Resources WV, Inc.	EXCO Resources WV, LLC.	Name Change	Exhibit 3
EXCO Resources WV, LLC.	EXCO Production Company WV, LLC	Merger	Exhibit 4
EXCO Production Company WV, LLC	Antero Resources Appalachian Corporation	Assignment	0285/0084
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Champion Agate Co., Inc. Lease</u>			
Champion Agate Co., Inc.	Antero Resources Appalachian Corporation	1/8+	286/248
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Dorothy A. Pigott, AIF, et al Lease</u>			
Dorothy A. Pigott, AIF, et al	Antero Resources Appalachian Corporation	1/8	0267/0191
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Andrew Lett et ux Lease</u>			
Andrew Lett, et ux	Antero Resources Appalachian Corporation	1/8+	277/561
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.

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WW-6A1

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WV Department of
Environmental Protection

Operator's Well Number

Warrior Unit 1H

PERMIT MODIFICATION API# 47-017-06828

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
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Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Ida F. Ford Lease (8-7-6, 8-7-13, 8-7-9)</u>			
Ida F. Ford	Ford Development Company	1/8	0063/0459
Ford Development Company	Antero Resources Appalachian Corporation	Assignment	0277/0482
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>WV Division of Natural Resources Lease</u>			
WV Division of Natural Resources	Antero Resources Corporation	1/8+	416/455
<u>S.M. Montgomery, et ux Lease</u>			
S.M. Montgomery, et ux	Paul B. Davis, Charter D. Stinespring and G.W. Hill	1/8	0065/0015
Paul B. Davis, Charter D. Stinespring and G.W. Hill	Trio Oil & Gas Company, Inc.	Assignment	0065/0374
Trio Oil & Gas Company, Inc.	Antero Resources Appalachian Corporation	Assignment	0279/0630
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Russell G. Coleman, Lease</u>			
Russell G. Coleman et al	D. D. Roberts and C.A. Yeater	1/8	62/347
C. A. Yeater	D. D. Roberts	Assignment	67/127
D.D. Roberts	James Eliopulos	Assignment	168/128
James Eliopulos	Antero Resources Corporation	Assignment	442/584
<u>Roy Blake, et ux Lease</u>			
Roy Blake, et al	Paul McCutchan, et al	1/8	0063/0123
Paul McCutchan, et al	Justin L. Henderson	Assignment	0106/0123
Justin L. Henderson	Paul D. Farr, II	Assignment	0109/0385
Paul D. Farr, II	Antero Resources Corporation	Assignment	0271/0546
<u>Beulah Stewart Lease</u>			
Beulah Stewart	Key Oil Company	1/8	0219/0175
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0276/0526
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Nelson Bruffy, et ux Lease</u>			
Nelson Bruffy	Antero Resources Appalachian Corporation	1/8	0262/0180
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.

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08/04/2017

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)

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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>G. Frank Ash, et al Lease</u>			
G. Frank Ash, et al	Hugh K. Spencer	1/8	0062/0212
Ronald B. Spencer and Rhonda A. Rosetti as Co-Executors of the Estate of Hugh K. Spencer	Ronald B. Spencer and Rhonda A. Rosetti as Co-Trustees of the Hugh K. Spencer Marital Trust B.	Assignment	0199/0282
Ronald B. Spencer and Rhonda A. Rossetti as Co-Trustees of the Hugh K. Spencer Marital Trust B.	Spencer Enterprises, LLC	Assignment	0199/0534
Spencer Enterprises, LLC.	Antero Resources Appalachian Corporation	Partial Assignment	0266/0716
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

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

WW-6A1
(5/13)

Operator's Well No. Warrior Unit 1H

**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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- (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
Claude L. Smith, et ux Lease				
Claude Smith, et ux		Key Oil Company	1/8	0104/0704
Key Oil Company		XOIL Drilling Partners LP	Assignment	0105/0566
XOIL Drilling Partners LP		XPOLR Corp.	Assignment	0146/0649
XPOLR Corp.		Venus Exploration, Inc.	Merger	Exhibit 5
Venus Exploration, Inc.		Allegheny Interests, Inc.	Assignment	0184/0512
Allegheny Interest, Inc.		Rubin Resources, Inc.	Assignment	0187/0685
Rubin Resources, Inc.		Petro Edge Energy, LLC	Assignment	0230/0666
Petro Edge Energy, LLC		Statoil USA Onshore Properties	Assignment	0285/0071
Statoil USA Onshore Properties		EQT	Assignment	0428/0356
EQT		Antero Resources Corporation	Assignment	0385/0268

*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: Robert S. Tucker 
 Its: VP - Geology

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.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: 6/25/2008
- 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)

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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

**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-6A1
EXHIBIT 2

State of West Virginia



Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

an Amended Certificate of Authority of

EXCO - NORTH COAST ENERGY EASTERN, INC.

was filed in my office as required by the provisions of the West Virginia Code and was found to conform to law.

Therefore I issue this

CERTIFICATE OF AMENDMENT TO THE CERTIFICATE OF AUTHORITY

changing the name of the corporation to

EXCO RESOURCES (WV), INC.

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Office of Oil and Gas

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WV Department of
Environmental Protection



Given under my hand and the Great Seal of the State of West Virginia on this day of December 2, 2009

Secretary of State

08/04/2017

FORM WW-6A1
EXHIBIT 3

State of West Virginia



Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

EXCO RESOURCES (WV), INC.
(A Delaware Corporation)

filed Articles of Conversion in my office as required by the provisions of the West Virginia Code and was found to conform to law.

Therefore, I issue this

CERTIFICATE OF CONVERSION

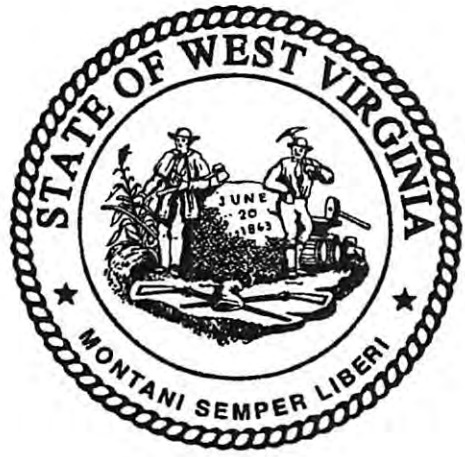
Converting the corporation to:

EXCO RESOURCES (WV), LLC
(A Delaware Limited Liability Company)

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Office of Oil and Gas

JUN 29 2017

WV Department of
Environmental Protection



Given under my hand and the Great Seal of the State of West Virginia on
July 7, 2010

Natalie E. Tennant

Secretary of State

08/04/2017

State of West Virginia



Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

by the provisions of the West Virginia Code, Articles of Merger were received and filed

MERGING EXCO RSOOURCES (PA), LLC, A QUALIFIED TX ORGANIZATION WITH EXCO RESOURCES (WV), LLC, A QUALIFIED TX ORGANIZATION, AS SURVIVORS AND CREATING THE FOLLOWING NON-QUALIFIED TX ORGANIZATIONS: BG NATURAL GAS PRODUCTION COMPANY (PA), LLC, APPALACHIA MIDSTREAM, LLC, EXCO RSOOURCES (XA), LLC, BG NATURAL GAS PRODUCTION COMPANY (WV), LLC AND EXCO PRODUCTION COMPANY (PA), LLC. IN THE MERGER EXCO RSOOURCES (WV), LLC CHANGED ITS NAME TO EXCO PRODUCTION COMPANY (WV), LLC.

Therefore, I hereby issue this

CERTIFICATE OF MERGER

RECEIVED
Office of Oil and Gas

JUN 29 2017

WV Department of
Environmental Protection



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

July 1, 2010

Natalie E. Tennant

Secretary of State

08/04/2017

FORM WW-6A1
EXHIBIT 5

State of West Virginia



Certificate

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

the following and attached is a true and exact copy of the articles of merger of VENUS EXPLORATION, INC. a non-qualified Delaware corporation and XPLOR CORPORATION a qualified Delaware corporation.

Therefore I hereby issue this CERTIFICATE OF MERGER, merging VENUS EXPLORATION, INC. with and into XPLOR CORPORATION, the survivor which then changed its name to VENUS EXPLORATION, INC.

RECEIVED
Office of Oil and Gas

JUN 29 2017

WV Department of
Environmental Protection



*Given under my hand and the
Great Seal of the State of
West Virginia on this
Eighteenth day of
July 19 97*

Ken Hechler
Secretary of State

9,268' to Bottom Hole

4,198' to Top Hole

TOP HOLE LATITUDE 39 - 22 - 30
BTM HOLE LATITUDE 39 - 20 - 00

TOP HOLE LONGITUDE 80 - 47 - 30
BTM HOLE LONGITUDE 80 - 45 - 00

15,064' to Top Hole

10,620' to Bottom Hole

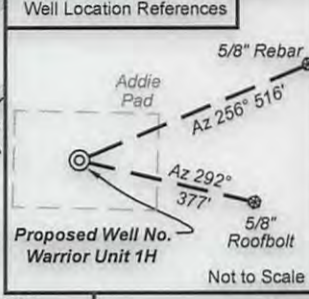
Antero Resources Well No. Warrior Unit 1H Antero Resources Corporation

Notes:
Well No. Warrior Unit 1H
UTM Zone 17, NAD 1927
Top Hole Coordinates
N: 14,283,414.53'
E: 1,695,345.40'
Point of Entry Coordinates
N: 14,283,756.28'
E: 1,697,431.34'
Bottom Hole Coordinates
N: 14,272,630.76'
E: 1,702,021.27'

Legend
 Proposed gas well
 Found corner, as noted
 Existing Well, as noted
 Creek or Drain
 Existing Road
 Surface boundary (approx.)
 Interior surface tracts (approx.)

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Warrior Unit 1H Top Hole coordinates are
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 B. Champion Agate Co., Inc. Lease
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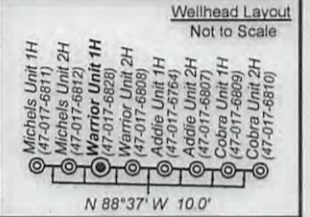
(-●-) Denotes Location of Well on United States Topographic Maps

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Kenneth J. Plum
Kenneth J. Plum, P.S. 2216



FILE NO: 52-30-WU-14
DRAWING NO: 52-14 Warrior 1H Well Plat
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: July 27 20 17
OPERATOR'S WELL NO. Warrior Unit 1H
API WELL NO. 47 - 017 - 06828
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: Proposed Grade 890' Existing Grade 895' WATERSHED: Headwaters Middle Island Creek QUADRANGLE: West Union
DISTRICT: West Union COUNTY: Doddridge
SURFACE OWNER: Antero Resources Corp. ACREAGE: 25.9 56.07, 11.90, 58.70
ROYALTY OWNER: J.C. Smith, Agent for Jacob Smith Estate; Dorothy A. Pigott, AIF, et al; Ida F. Ford (2) LEASE NO: ACREAGE: 112, 100, 140, 600
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Modify Bottom Hole Location 6,900' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,800' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

08/04/2017

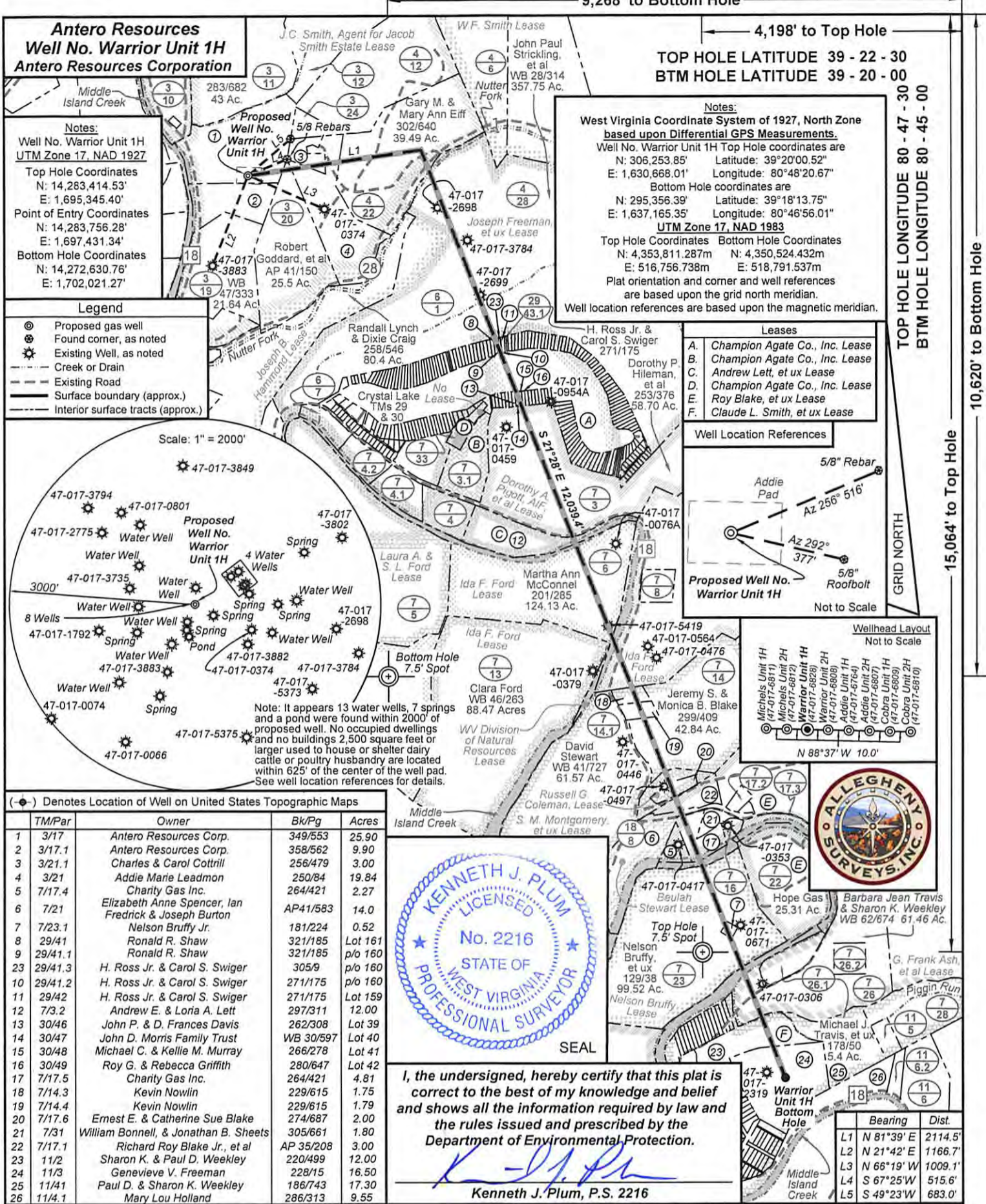
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Legend

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- Found corner, as noted
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- Creek or Drain
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- Surface boundary (approx.)
- Interior surface tracts (approx.)

Scale: 1" = 2000'

Note: It appears 13 water wells, 7 springs and a pond were found within 2000' of proposed well. No occupied dwellings and no buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad. See well location references for details.

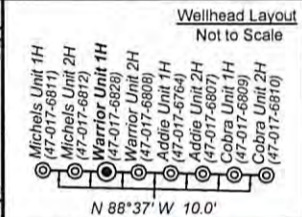
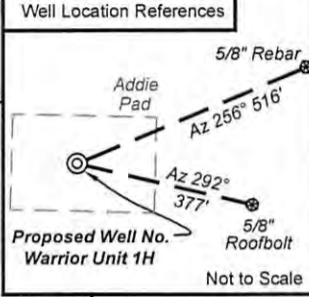
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OIL AND GAS DIVISION

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API WELL NO. 47 - 017 - 06828
STATE COUNTY PERMIT

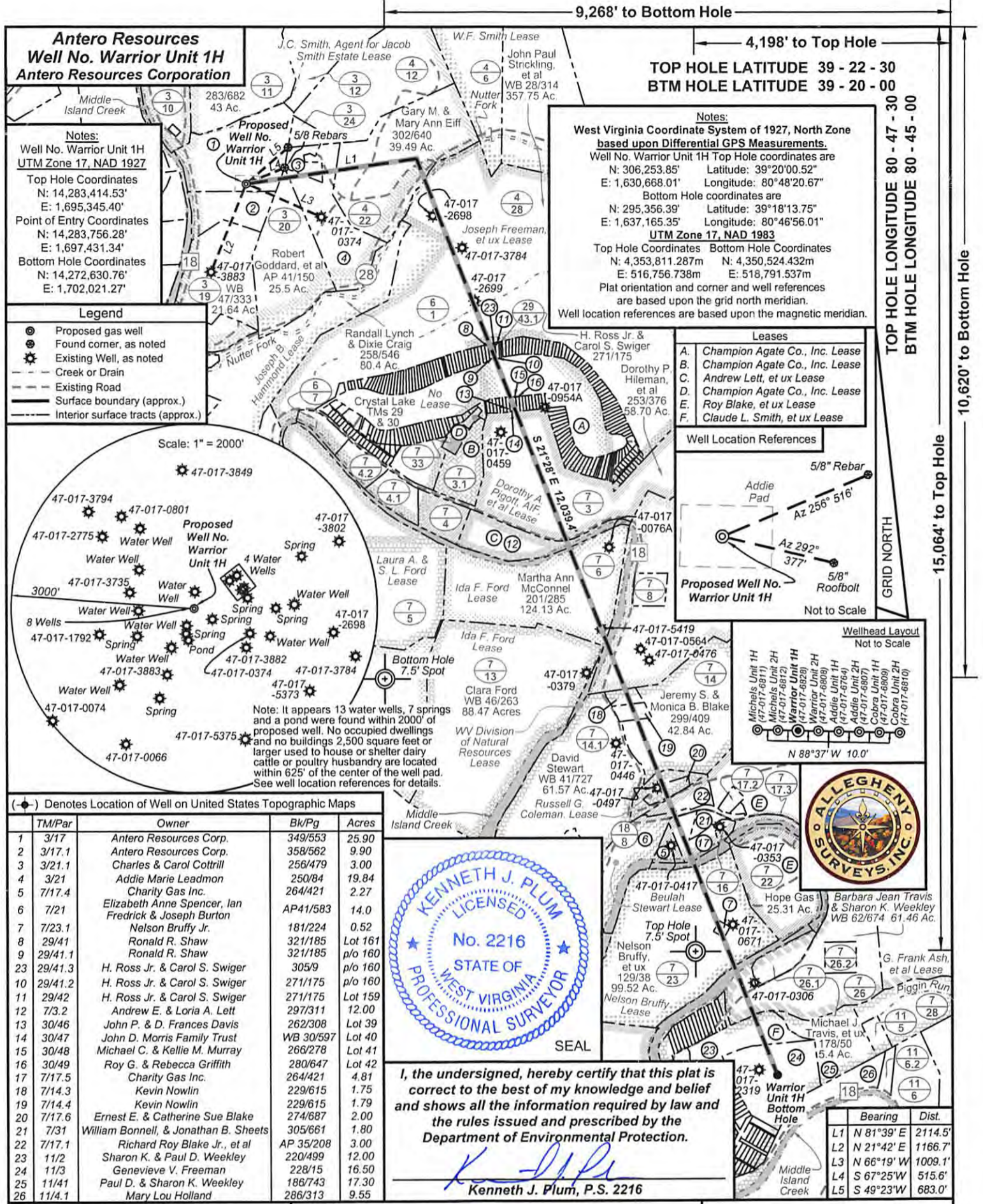
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08/04/2017

RECEIVED OFFICE OF OIL AND GAS

AUG 04 2017



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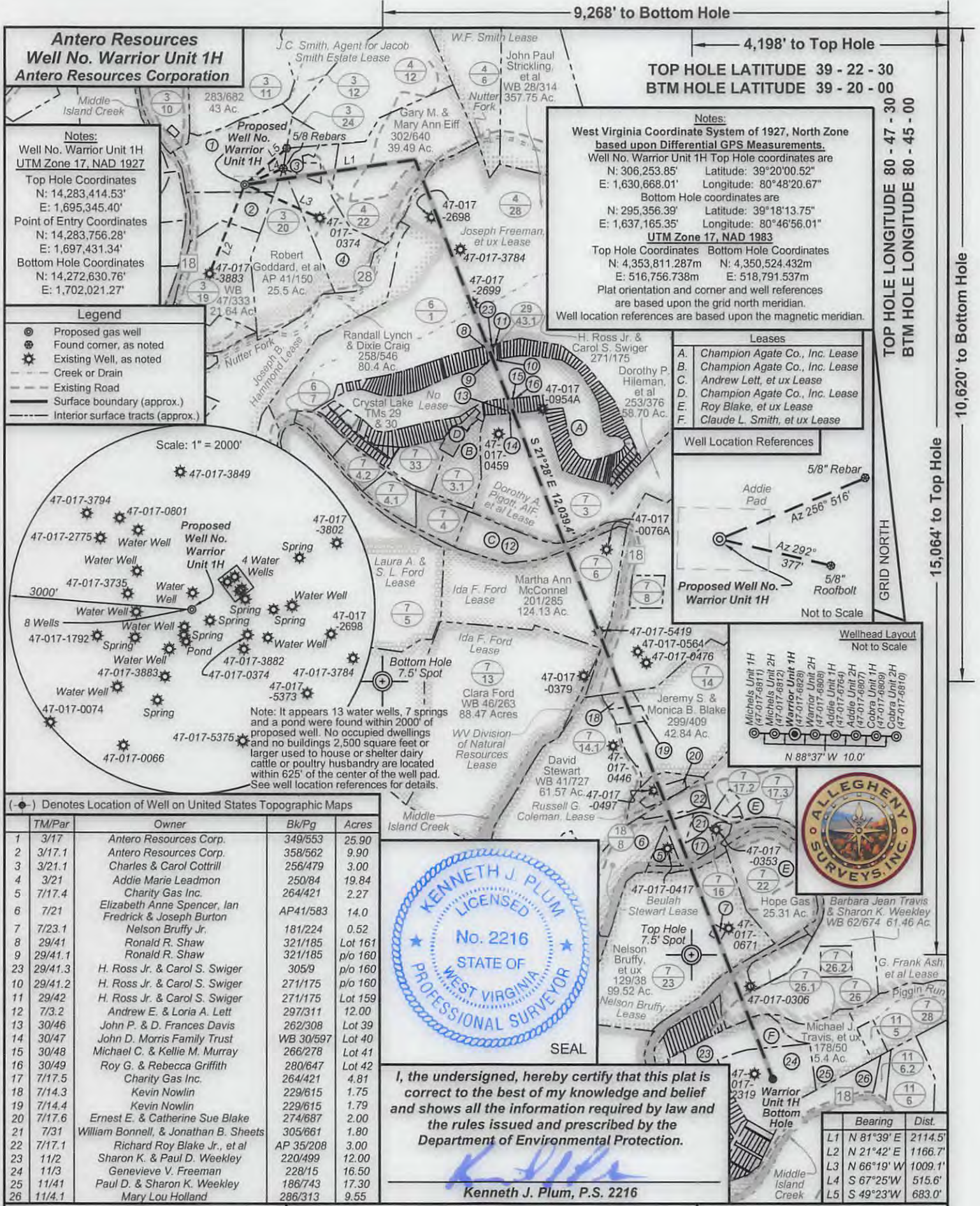
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Wellhead Layout Not to Scale

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L4	S 67°25' W	515.6'
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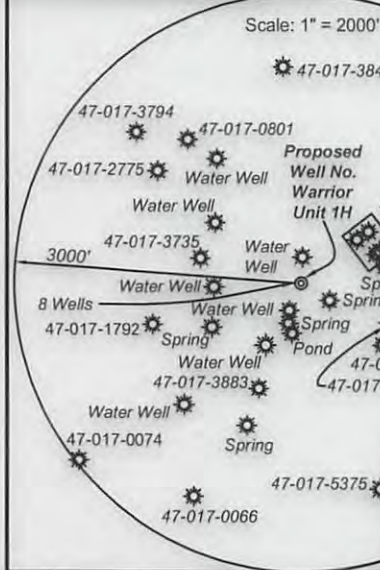
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