



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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Friday, June 22, 2018
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for HATTIE UNIT 3H
47-017-06837-00-00

lateral extension and alignment

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

A handwritten signature in blue ink, appearing to read "James A. Martin", is written over the typed name and title.

Operator's Well Number: HATTIE UNIT 3H
Farm Name: STANLEY WEBB ET AL
U.S. WELL NUMBER: 47-017-06837-00-00
Horizontal 6A New Drill
Date Modification Issued: June 22, 2018

Promoting a healthy environment.

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 - Doddri Central Pullman 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Hattie Unit 3H Well Pad Name: Stanley Pad

3) Farm Name/Surface Owner: Stanley Webb et al Public Road Access: Cabin Run Rd (CR 21/1)

4) Elevation, current ground: 1095' Elevation, proposed post-construction: 1095'

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: 7000' TVD, Anticipated Thickness- 50 feet, Associated Pressure- 3000#

8) Proposed Total Vertical Depth: 7000' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19600' MD

11) Proposed Horizontal Leg Length: 11407'

12) Approximate Fresh Water Strata Depths: 168', 322', 433'

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

14) Approximate Saltwater Depths: 660', 1083', 2090'

15) Approximate Coal Seam Depths: 170', 877'

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#	80'	80'	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	485' *see #19	485' *see #19	CTS, 674 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#	19600'	19600'	4982 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	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							

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PACKERS

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

WW-6B
(10/14)

Permit Modification API# 47-017-06837
API NO. 47- 017 - 06837
OPERATOR WELL NO. Hattie Unit 3H
Well Pad Name: Stanley 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): 43.30 Acres

22) Area to be disturbed for well pad only, less access road (acres): 9.00 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

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25) Proposed borehole conditioning procedures:

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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.

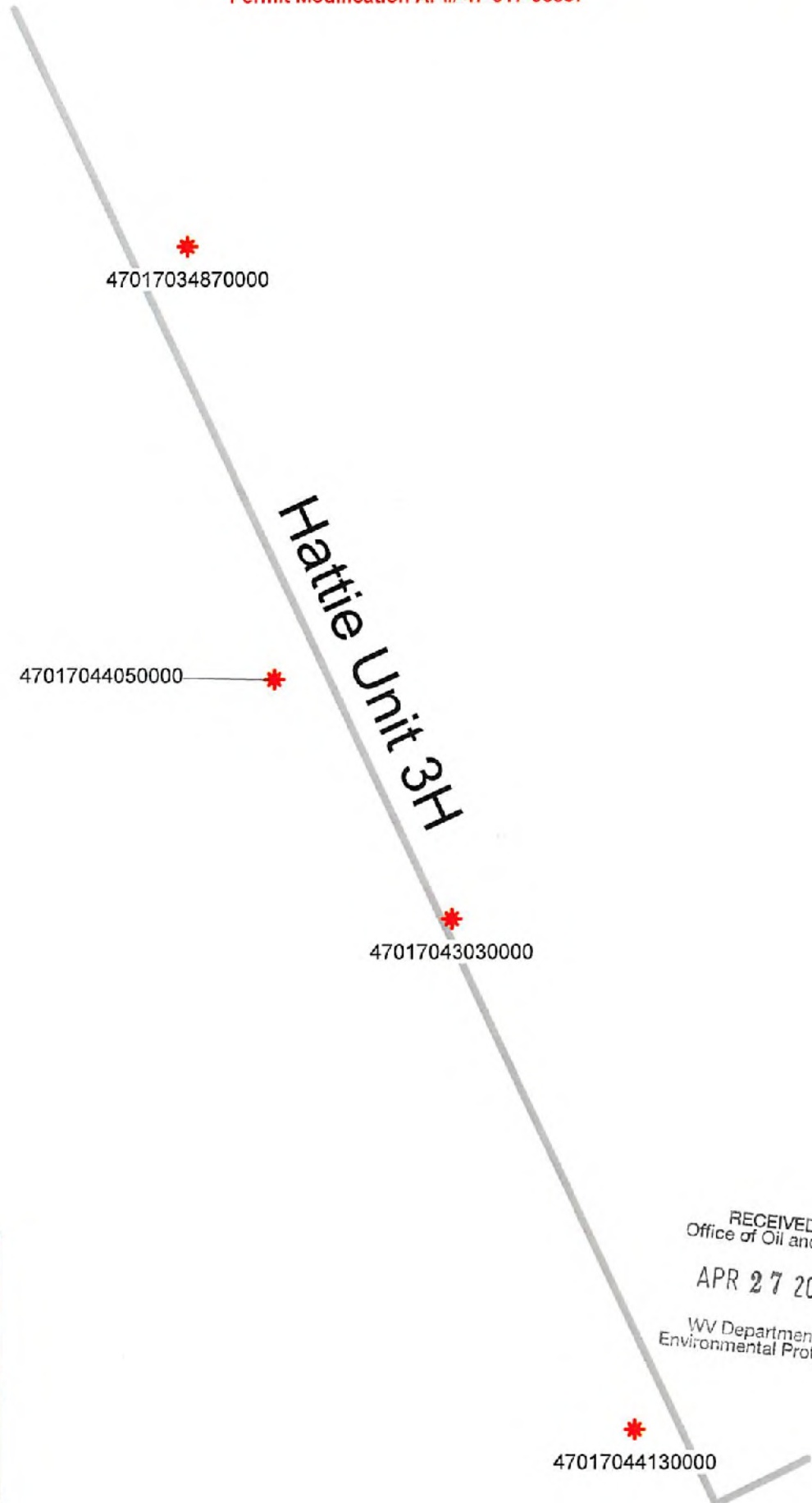
Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

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.



Permit Modification API# 47-017-06837



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Antero Resources Corporation

Hattie Unit 3H - AOR



WELL SYMBOLS
Gas Well

April 17, 2018

Permit Modification API# 47-017-06837

UWI (API#)	Well Name	Well Number	Operator	Historical Operator	TD (ELEV GR)	Approx distance to well	TD (STVD)	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Predictible Formation(s) and perf'd
4702704135000	BURGESS HAROLD F ETAL	2	KEY OIL COMPANY	KEY OIL INCORPORATED	5721	363	-4660	3458-5305	Warren, Baltown, Riley, Benson, Alexander	Big Injun, Speechley, Elk
4702704050000	DOTSON HATTIE O HEIRS	1	KEY OIL COMPANY	KEY OIL INCORPORATED	5685	176	-4545	3472-5394	Warren, Baltown, Riley, Benson, Alexander	Big Injun, Speechley, Elk
4701701607000	HUCK VIRGINIA W	JG-1350	ENERGY CORP OF AMER	UNION DRILLING CO	5565	424	-4514	4441-5151	Riley, Benson, Alexander	Big Injun, Warren, Speechley, Baltown, Elk
4701704605000	DOTSON HATTIE O HEIRS	2	KEY OIL COMPANY	KEY OIL INCORPORATED	5382	335	-4374	3312-5202	Warren, Baltown, Riley, Benson, Elk, Alexander	Big Injun, Speechley, Benson

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LATITUDE 39°15'00" -1,316'

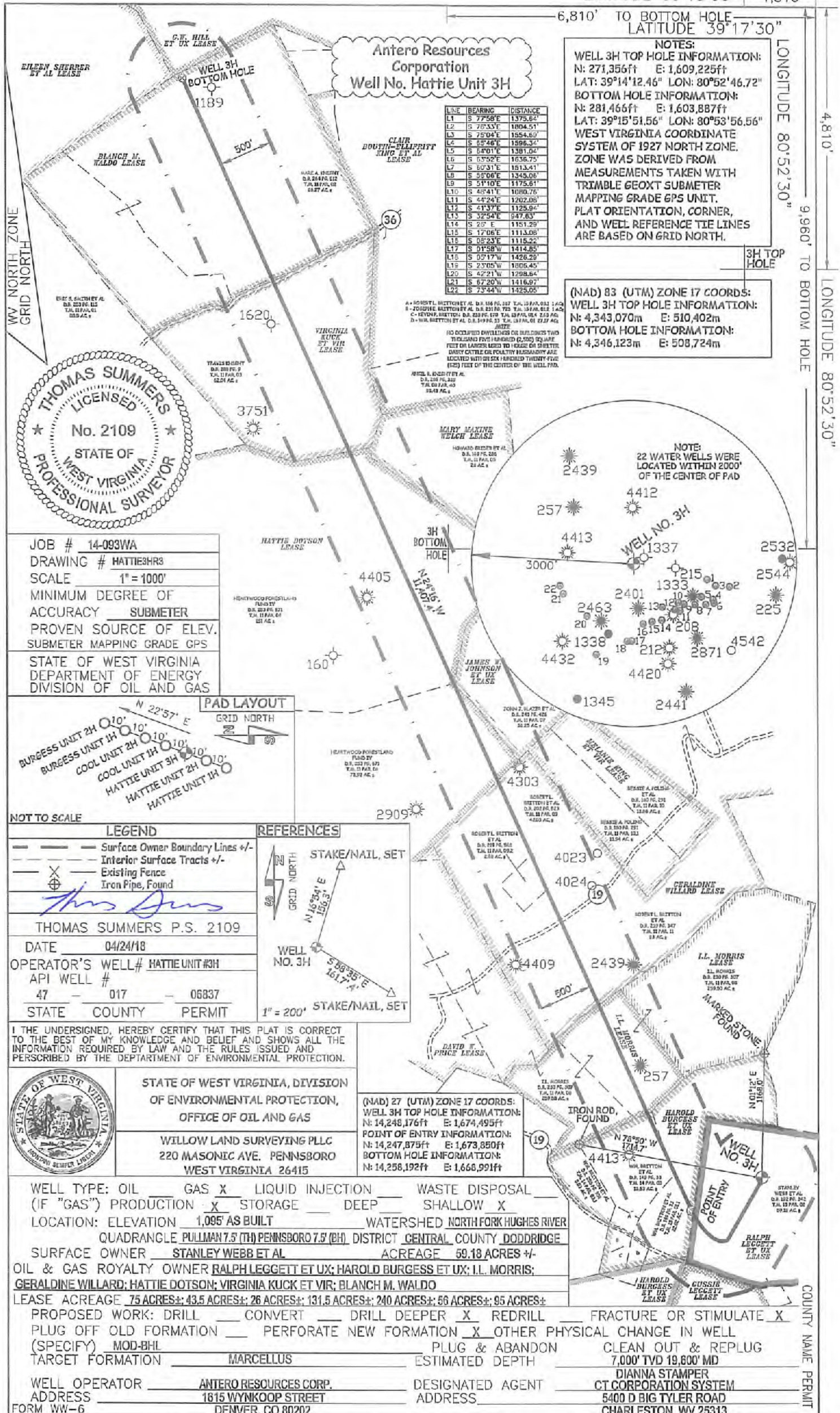
6,810' TO BOTTOM HOLE
LATITUDE 39°17'30"

LONGITUDE 80°52'30"

4,810'

9,960' TO BOTTOM HOLE

LONGITUDE 80°52'30"

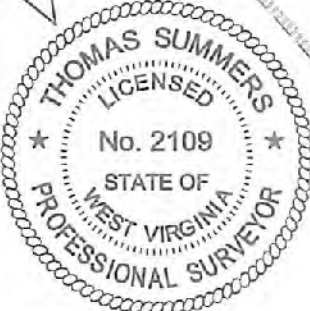


Antero Resources Corporation
Well No. Hattie Unit 3H

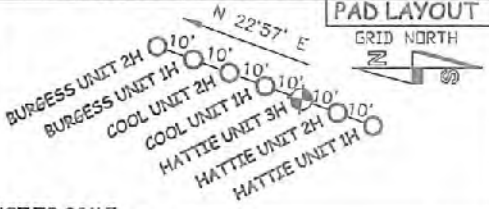
LINE	BEARING	DISTANCE
L1	S 77°58'	1375.84'
L2	S 75°33'	1004.51'
L3	S 75°04'	1554.60'
L4	S 55°46'	1596.34'
L5	S 54°01'	1381.04'
L6	S 63°52'	1636.75'
L7	S 80°31'	1513.41'
L8	S 55°06'	1345.06'
L9	S 51°10'	1175.81'
L10	S 45°41'	1080.75'
L11	S 44°24'	1202.06'
L12	S 41°37'	1125.94'
L13	S 32°54'	947.63'
L14	S 25° E	1151.29'
L15	S 17°06'	1113.08'
L16	S 05°23'	1115.22'
L17	S 01°58' W	1414.85'
L18	S 05°17' W	1426.29'
L19	S 23°05' W	1806.45'
L20	S 42°21' W	1298.84'
L21	S 57°20' W	1415.97'
L22	S 73°44' W	1425.05'

NOTES:
WELL 3H TOP HOLE INFORMATION:
N: 271,356ft E: 1,609,225ft
BOTTOM HOLE INFORMATION:
N: 281,466ft E: 1,603,887ft
LAT: 39°15'12.46" LON: 80°52'46.72"
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: 4,343,070m E: 510,402m
BOTTOM HOLE INFORMATION:
N: 4,346,123m E: 508,724m



JOB # 14-093WA
DRAWING # HATTIE3HR3
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS



LEGEND
- - - Surface Owner Boundary Lines +/-
- - - Interior Surface Tracts +/-
- - - Existing Fence
- - - Iron Pipe, Found

REFERENCES
STAKE/NAIL, SET
GRID NORTH
WELL NO. 3H
1" = 200' STAKE/NAIL, SET

THOMAS SUMMERS P.S. 2109
DATE 04/24/18
OPERATOR'S WELL# HATTIE UNIT #3H
API WELL # 47 - 017 - 06837
STATE COUNTY PERMIT

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 3H TOP HOLE INFORMATION:
N: 14,248,176ft E: 1,674,495ft
POINT OF ENTRY INFORMATION:
N: 14,247,875ft E: 1,673,850ft
BOTTOM HOLE INFORMATION:
N: 14,258,192ft E: 1,666,991ft

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 1,095' AS BUILT WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PULLMAN 7.5 (TH) PENNSBORO 7.5 (BH) DISTRICT CENTRAL COUNTY DODDRIDGE
SURFACE OWNER STANLEY WEBB ET AL ACREAGE 59.18 ACRES +/-
OIL & GAS ROYALTY OWNER RALPH LEGGETT ET UX; HAROLD BURGESS ET UX; I.L. MORRIS;
GERALDINE WILLARD; HATTIE DOTSON; VIRGINIA KUCK ET VIR; BLANCH M. WALDO
LEASE ACREAGE 75 ACRES±; 43.5 ACRES±; 26 ACRES±; 131.5 ACRES±; 240 ACRES±; 56 ACRES±; 95 ACRES±
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 7,000' TVD 19,800' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1815 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313



NOTE:
22 WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD

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6,810' TO BOTTOM HOLE
LATITUDE 39°17'30"

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9,960' TO BOTTOM HOLE

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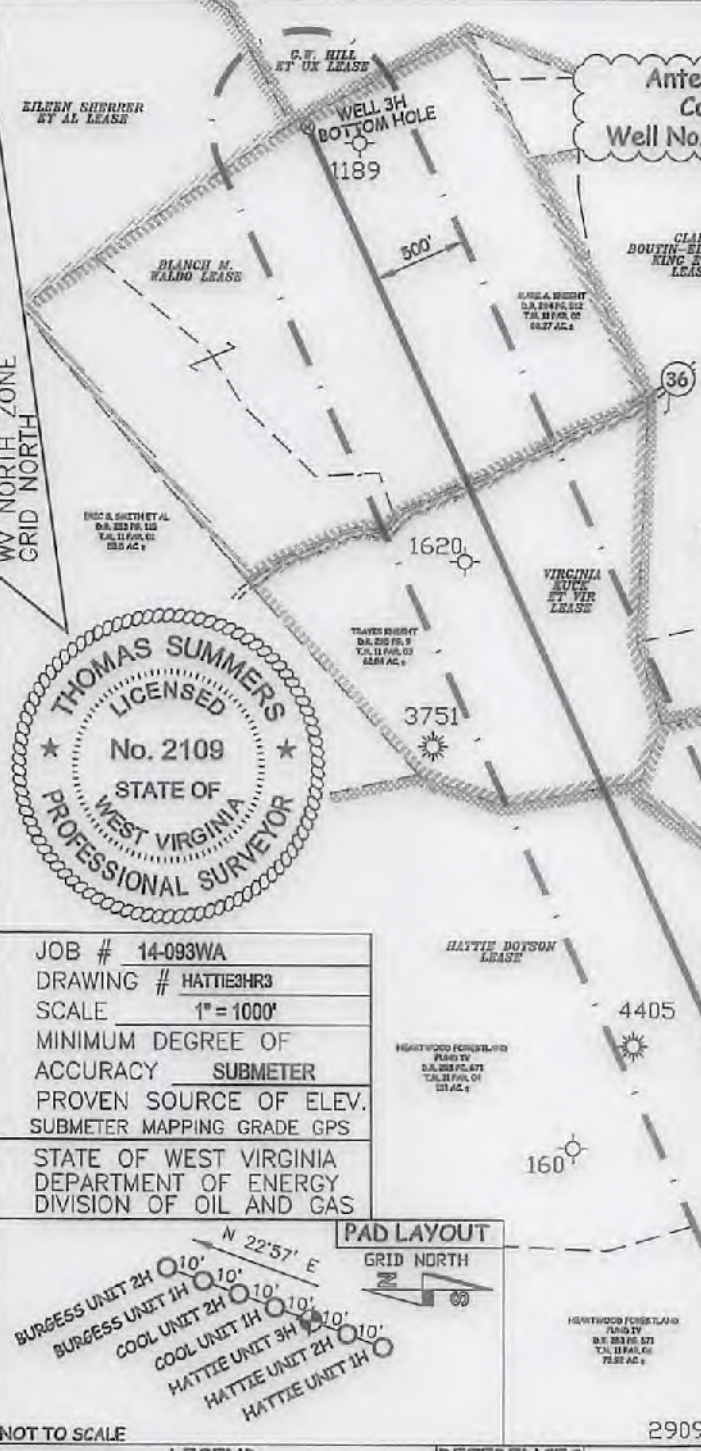
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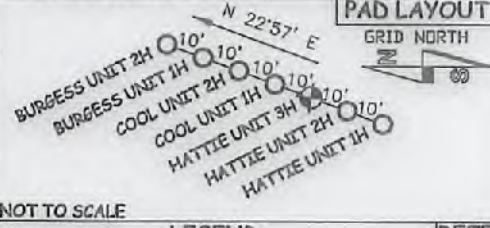
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NO COULDED DWELLINGS OR BUILDINGS TWO THOUSAND EIGHT HUNDRED (2000) SQUARE FEET OR LARGER ARE TO BE LOCATED OR PLACED WITHIN TWENTY-FIVE (25) FEET OF THE CENTER OF THE WELL PAD.

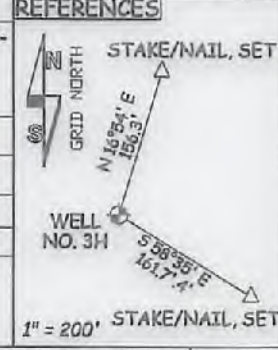


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 - - - Interior Surface Tracts +/-
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 LEASE ACREAGE 75 ACRES +/-; 43.5 ACRES +/-; 26 ACRES +/-; 131.5 ACRES +/-; 240 ACRES +/-; 68 ACRES +/-; 95 ACRES +/-

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 ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME PERMIT

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>Ralph Leggett et ux Lease</u>			
Ralph Leggett et ux	Harold B. Smith	1/8	0088/0228
Harold B. Smith	Reeves Lewenthal	Assignment	0088/0232
Reeves Lewenthal	Ray Resources Corporation	Assignment	0099/0332
Ray Resources Corporation	Bow Valley Petroleum, Inc.	Assignment	0115/0031
Bow Valley Petroleum, Inc.	G.W. Petroleum, Inc.	Name Change	0166/0312
G.W. Petroleum, Inc.	Great Western Onshore, Inc.	Name Change	0166/0312
Great Western Onshore, Inc.	Eastern American Energy Corporation	Assignment	0166/0312
Eastern American Energy Corporation	Targa Development, Inc.	Assignment	0219/0529
Targa Development, Inc.	Antero Resources Appalachian Corporation	Assignment	0257/0362
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Harold Burgess et ux Lease</u>			
Harold R. Burgess et ux	Key Oil Company	1/8	0181/0267
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>I.L. Morris Lease</u>			
I.L. Morris	Antero Resources Corporation	1/8+	0348/0552
<u>Geraldine Willard Lease</u>			
Geraldine Willard	Key Oil Company	1/8	0260/0346
Key Oil Company	Antero Resources Appalachian Corporation	*Partial Assignment of Oil & Gas Leases	0272/0350
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Hattie Dotson Lease</u>			
Hattie O. Dotson	Charles E. Young	1/8	0054/0143
Helen F. Young and James E. Young, Co-Trustees Under the Will of Charles E. Young, Deceased	Palmer Hill	Assignment	0096/0478
William H. Snider and Mabel L. Snider, William H. Snider as Executor of Palmer A. Hill Estate	Key Oil Company	Assignment	0176/0622
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>James W. Johnson et ux Lease</u>			
James W. Johnson, et ux	Antero Resources Appalachian Corporation	1/8+	0266/0224
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Virginia Kuck et vir Lease</u>			
Virginia W. Kuck and William H. Kuck	J & J Enterprises, Inc.	1/8	0140/0220
J & J Enterprises, Inc.	Eastern American Energy Corporation	Notice of Dissolution & Termination of General Partnership	0173/0424
Eastern American Energy Corporation	Energy Corporation of America (ECA)	Merger	0240/0298
Energy Corporation of America (ECA)	Antero Resources Appalachian Corporation	*Partial Assignment	0272/0307
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.

WW-6A1
(5/13)

Operator's Well No. Hattie 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)**

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
Blanch M. Waldo Lease				
	Blanch M. Waldo	Petroleum Services, Inc.	1/8	0113/0619
	Petroleum Services, Inc.	J & J Enterprises, Inc.	Assignment	0117/0226
	J & J Enterprises, Inc.	Eastern American Energy Corporation	Merger	0211/0137
	Eastern American Energy Corporation	Energy Corporation of America	Merger	0240/0498
	Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0288/0451
	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: Diana Hoff *Diana O Hoff*
 Its: Vice President - Operations

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.wvscos.com
E-mail: business@wvscos.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:

- 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: 6/25/2008
- 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.)

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

RECEIVED
Office of Oil and Gas

APR 27 2018

Important Legal Notice Regarding Signature: Per West Virginia Code §31D-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.

WV Department of
Environmental Protection



April 26th, 2018

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. Laura Adkins
601 57th Street
Charleston, WV 25304

Ms. Laura Adkins:

Antero Resources Corporation (Antero) would like to submit the following permit revisions for three wells on the Stanley Pad. We are requesting to extend the laterals which will change the bottom hole location of the Hattie Unit 3H (API# 47-017-06837), Cool Unit 1H (API# 47-017-06833) and Cool Unit 2H (API# 47-017-06834).

Attached you will find the following documents for each well revision:

- REVISED Mylar Plat, which shows the new bottom hole locations
- 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 lease(s) we will be drilling into

If you have any questions please feel free to contact me at (303) 357-7182.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "M Stanton", is written over a blue horizontal line.

Mallory Stanton
Permitting Supervisor
Antero Resources Corporation

Enclosures

RECEIVED
Office of Oil and Gas
APR 27 2018
WV Department of
Environmental Protection