



---

west virginia department of environmental protection

---

Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Thursday, December 17, 2020  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for PEGGY UNIT 1H  
47-017-06898-00-00

Extended Lateral

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.

A blue ink signature of James A. Martin is written over the text. The signature is stylized and cursive.

James A. Martin  
Chief

Operator's Well Number: PEGGY UNIT 1H  
Farm Name: SAMUEL AND PEGGY SMITH  
U.S. WELL NUMBER: 47-017-06898-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 12/17/2020

Promoting a healthy environment.

WW-6B  
(04/15)

PERMIT MODIFICATION API # 47-017-06898

API NO. 47-017 - 06898  
OPERATOR WELL NO. Peggy Unit 1H  
Well Pad Name: Peggy June 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 - Dodd West Union Smithburg 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Peggy Unit 1H Well Pad Name: Peggy June Pad

3) Farm Name/Surface Owner: Samuel and Peggy Smith Public Road Access: Smithton Rd (Old US-50)

4) Elevation, current ground: 1275' Elevation, proposed post-construction: \_\_\_\_\_

5) Well Type (a) Gas  Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
Other \_\_\_\_\_

(b) If Gas Shallow  Deep \_\_\_\_\_  
Horizontal  \_\_\_\_\_

*SDW  
11/24/2020*

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus Shale: 7400' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2950#

8) Proposed Total Vertical Depth: 7400' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23700' MD

11) Proposed Horizontal Leg Length: 14115'

12) Approximate Fresh Water Strata Depths: 145', 215', 320'

13) Method to Determine Fresh Water Depths: 47-017-04853

14) Approximate Saltwater Depths: 1603'

15) Approximate Coal Seam Depths: 1601'

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

RECEIVED  
Office of Oil and Gas

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

NOV 25 2020

WV Department of  
Environmental Protection

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

WW-6B  
(04/15)

API NO. 47- 017 - 06898  
 OPERATOR WELL NO. Peggy Unit 1H  
 Well Pad Name: Peggy June Pad

18)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<b>Size (in)</b>	<b>New or Used</b>	<b>Grade</b>	<b>Weight per ft. (lb/ft)</b>	<b>FOOTAGE: For Drilling (ft)</b>	<b>INTERVALS: Left in Well (ft)</b>	<b>CEMENT: Fill-up (Cu. Ft.)/CTS</b>
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#	370 *see #19	370 *see #19	CTS, 514 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#	23700	23700	6109 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

*SDW  
11/24/2020*

<b>TYPE</b>	<b>Size (in)</b>	<b>Wellbore Diameter (in)</b>	<b>Wall Thickness (in)</b>	<b>Burst Pressure (psi)</b>	<b>Anticipated Max. Internal Pressure (psi)</b>	<b>Cement Type</b>	<b>Cement Yield (cu. ft./k)</b>
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-HPOZ & 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			

RECEIVED  
 Office of Oil and Gas  
 NOV 25 2020  
 WV Department of  
 Environmental Protection

WW-6B  
(10/14)

API NO. 47- 017 - 06898  
OPERATOR WELL NO. Peggy Unit 1H  
Well Pad Name: Peggy June 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): Existing 40.52 Acres

22) Area to be disturbed for well pad only, less access road (acres): Existing 8.89 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.

RECEIVED  
Office of Oil and Gas

NOV 23 2020

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

WV Department of  
Environmental Protection

25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.  
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.  
Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.  
Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

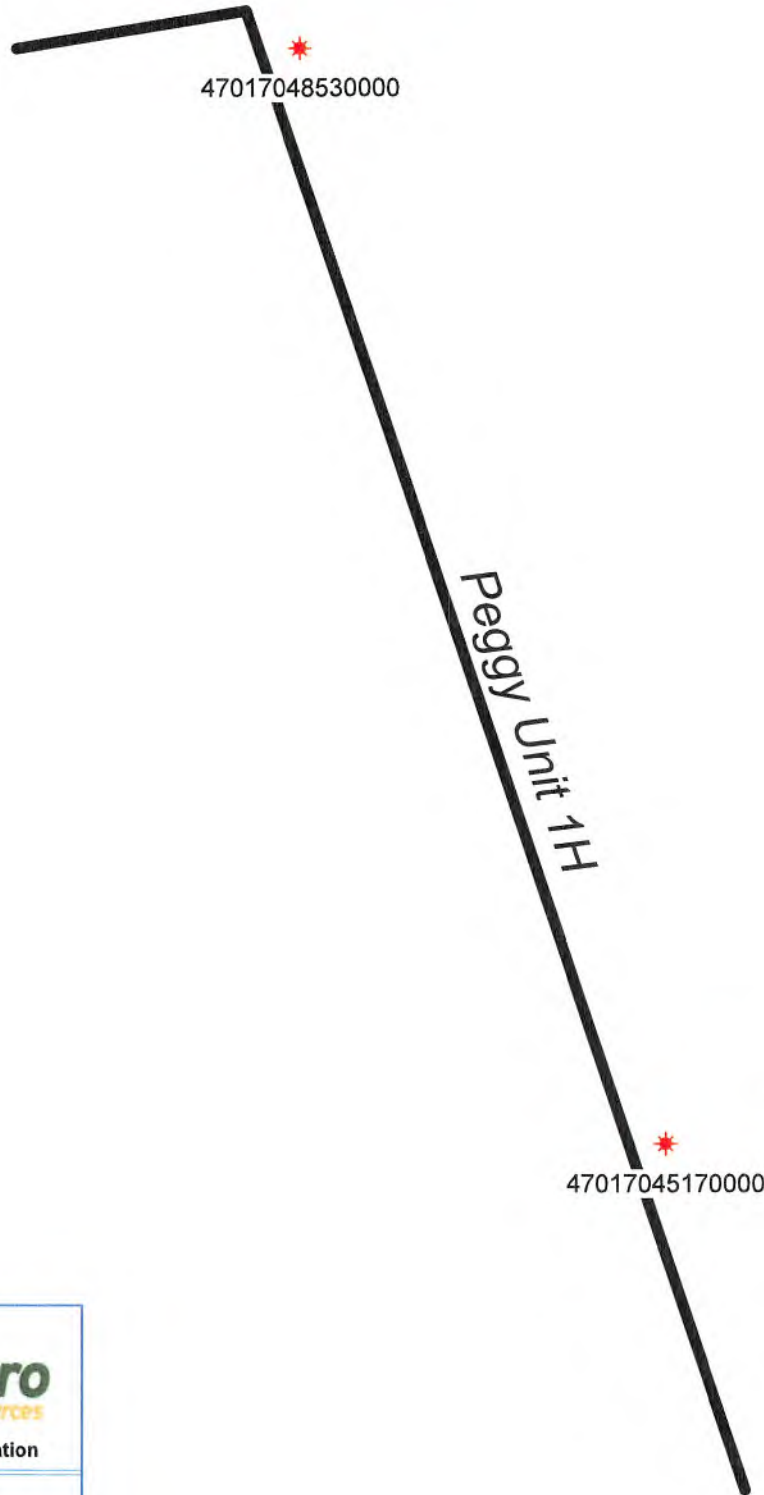
\*Note: Attach additional sheets as needed.



PEGGY UNIT 1H (PEGGY JUNE PAD)- AREA OF REVIEW 35-8-5.11



PERMIT MODIFICATION API # 47-017-06898



RECEIVED  
Office of Oil and Gas

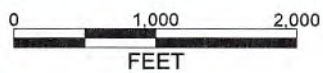
NOV 23 2020

WV Department of  
Environmental Protection



Antero Resources Corporation

Peggy Unit 1H - AOR



WELL SYMBOLS  
Gas Well

October 14, 2019

UWI (APINum)	Well Name	Well Number	Operator	Hist Oper	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Productible Formation(s) not perf'd
47017048530000	SMITH JOHN SAMUEL & PEGGY JUNE	6789	ALLIANCE PETR CORP	DOMINION EXPL&PROD	5523	1882 - 5390	Lo Maxton, Big Injun, Gordon, Benson, Alexander	Warren, Riley
47017045170000	HARSHBARGER	1	GREYLOCK OPCO LLC	EASTERN AMERICAN ENE	5103	2162 - 5045	Berea, Gordon, Riley, Alexander	Speechley

**RECEIVED**  
 Office of Oil and Gas  
**NOV 23 2020**  
 WV Department of  
 Environmental Protection

WW-6A1

Operator's Well Number

Peggy 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)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Elaine Debolt Lease</u></b>			
Elaine Debolt	Antero Resources Corporation	1/8+	0433/0306
<b><u>RL Barnes et ux Lease</u></b>			
RL Barnes et ux	South Penn Oil Company	1/8	0019/0071
South Penn Oil Company	Hope Natural Gas Company	Assignment	0023/0424
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	0143/0345
Consolidated Gas Supply Corporation	CNG Transmission Corporation	Name Change	0332/0563
CNG Transmission Corporation	Dominion Transmission Inc.	Name Change	0332/0570
Dominion Transmission Inc.	Consol Energy Holdings	Assignment	0245/0001
Consol Energy Holdings	Consol Gas Company	Merger	0292/0469
Consol Gas Company	CNX Gas Company	Merger	0293/0252
CNX Gas Company	Antero Resources Corporation	Assignment	0317/0379
<b><u>Joan M. Stutler et al Lease (TM 12 PCL 59)</u></b>			
Joan M. Stutler et al	Hugh Spencer	1/8	0092/0489
Hugh Spencer	Estate of Hugh K. Spencer	Will	0033/0068
Estate of Hugh K. Spencer	Ronald B. Spencer	Assignment	0251/0529
Ronald B. Spencer	Spencer Enterprises LLC	Assignment	0251/0529
Spencer Enterprises LLC	Antero Resources Corporation	1/8+	0392/0271
<b><u>EQT Production Company Lease</u></b>			
EQT Production Company	Antero Resources Corporation	1/8+	0371/0288
<b>RECEIVED</b> <b>Office of Oil and Gas</b>  <b>NOV 23 2020</b>  <b>WV Department of Environmental Protection</b>			
<b><u>Joan M. Stutler et al Lease (TM 12 PCL 59)</u></b>			
Joan M. Stutler et al	Hugh Spencer	1/8	0092/0489
Hugh Spencer	Estate of Hugh K. Spencer	Will	0033/0068
Estate of Hugh K. Spencer	Ronald B. Spencer	Assignment	0251/0529
Ronald B. Spencer	Spencer Enterprises LLC	Assignment	0251/0529
Spencer Enterprises LLC	Antero Resources Corporation	1/8+	0392/0271
<b><u>EC Jones et al Lease</u></b>			
EC Jones et al	NS Snyder	1/8	0018/0492
NS Snyder	Carnegie Natural Gas Company	Assignment	0092/0715
Carnegie Natural Gas Company	Carnegie Production Company	Assignment	0186/0061
Carnegie Production Company	EQT Production Company	Name Change	0448/0650
EQT Production Company	Antero Resources Corporation	Assignment	0325/0539
<b><u>Spencer Enterprises Lease</u></b>			
Spencer Enterprises	Antero Resources Corporation	1/8+	0448/0650

WW-6A1

Operator's Well Number

Peggy 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)

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>WVSRA Lease</u> WVSRA	Antero Resources Corporation	1/8+	0253/0409
<u>William Vanscoy Lease</u> William Vanscoy	Antero Resources Corporation Antero Resources Corporation	1/8+ 1/8+	0450/0347 0450/0347
<u>Smithburg United Methodist Church Lease</u> Smithburg United Methodist Church	Antero Resources Corporation	1/8+	0466/0166
<u>WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	0483/0188
<u>MBW Minerals LLC Lease</u> MBW Minerals LLC	Antero Resources Corporation	1/8+	0487/0426
<u>Jean M. Tennant Lease</u> Jean M. Tennant	Antero Resources Corporation	1/8+	0452/0056
<u>Valerie Lowther Evers Lease</u> Valerie Lowther Evers	Antero Resources Corporation	1/8+	0451/0252
<u>DCSC Company Lease</u> DCSC Company	Antero Resources Corporation	1/8+	0420/0445
<u>Doddridge County Senior Citizens Inc. Lease</u> Doddridge County Senior Citizens Inc.	Antero Resources Corporation	1/8+	0420/0438
<u>Woodford Development Company Lease</u> Woodford Development Company	Antero Resources Corporation	1/8+	0463/0453
<u>Edith A. Richards Lease</u> Edith A. Richards	Antero Resources Corporation	1/8+	0452/0304
<u>Paula Lafferty Lease</u> Paula Lafferty	Antero Resources Corporation	1/8+	0481/0668
<u>Nell Jones Harshbarger Lease</u> Nell Jones Harshbarger Eastern American Energy Corporation Energy Corporation of America	Eastern American Energy Corporation Energy Corporation of America Antero Resources Corporation	1/8 Conveyed Assignment	0184/0681 0240/0498 0328/0648

RECEIVED  
Office of Oil and Gas

NOV 23 2020

WV Department of  
Environmental Protection



WW-6A1

Operator's Well Number

Peggy 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)

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>GEM Holdings LLC Lease</u> GEM Holdings LLC	Antero Resources Corporation	1/8+	0455/0426
<u>Kenneth Koebel Lease</u> Kenneth Koebel	Antero Resources Corporation	1/8+	0453/0001

RECEIVED  
Office of Oil and Gas  
NOV 23 2020  
WV Department of  
Environmental Protection

WW-6A1  
(5/13)

Operator's Well No. Peggy 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)**

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  
AF Randolph et al Lease

AF Randolph et al	Blazer Energy Corporation	Assignment	0244/0149
Blazer Energy Corporation	Eastern States Oil & Gas Inc.	Name Change	0181/0421
Eastern States Oil & Gas Inc.	Appalachian Natural Gas Trust	Assignment	0187/0594
Appalachian Natural Gas Trust	Equitable Production Company	Merger	0016/0705
Equitable Production Company	EQT Production Company	Name Change	0160/0679
EQT Production Company	Antero Resources Corporation	Assignment	0486/0513

\*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.

RECEIVED  
Office of Oil and Gas

NOV 23 2020

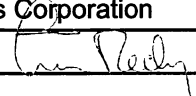
WV Department of  
Environmental Protection

**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: Tim Rady   
 Its: VP of Land



LATITUDE 39°20'00"

10,759'

LATITUDE 39°17'30"

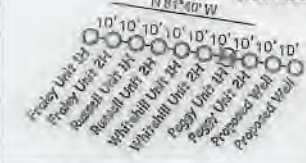
4,624' TO BOTTOM HOLE

Antero Resources Corporation Well No. Peggy Unit 1H

NOTES: WELL 1H TOP HOLE INFORMATION: N: 294,991ft E: 1,647,312ft LAT: 39°16'11.55" LON: 80°44'46.87" BOTTOM HOLE INFORMATION: N: 281,841ft E: 1,653,271ft LAT: 39°16'02.39" LON: 80°43'20.79" 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 1H TOP HOLE INFORMATION: N: 4,350,465m E: 521,885m BOTTOM HOLE INFORMATION: N: 4,346,489m E: 523,767m

PAD LAYOUT NOT TO SCALE



NO WATER WELL WERE LOCATED WITHIN 2000' OF CENTER OF PAD

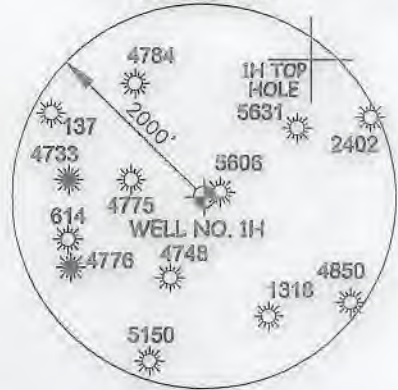
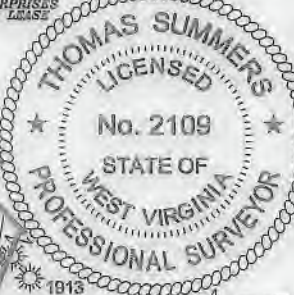


Table listing landowners and lease information for the West Union District - Doddridge County area.

Large table listing landowners and lease information for the West Union District - Doddridge County area, including names and lease numbers.



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

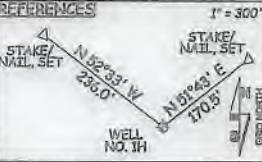
WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

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.

JOB # 19-029WA DRAWING # PEGGY1HMODR SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 14,272,435ft E: 1,712,169ft POINT OF ENTRY INFORMATION: N: 14,272,763ft E: 1,713,846ft BOTTOM HOLE INFORMATION: N: 14,259,391ft E: 1,713,345ft



STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 11/18/20 OPERATOR'S WELL# PEGGY UNIT #1H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 017 08898 M1D (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,275' AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE SMITHBURG 7.5 DISTRICT WEST UNION COUNTY DODDRIDGE

SURFACE OWNER SAMUEL AND PEGGY SMITH ACREAGE 28.956 ACRES +/- OIL & GAS ROYALTY OWNER ELAINE DEBOLT, R.L. BARNES ET UX; JOAN M. STUTLER ET AL; LEASE ACREAGE 84.8 AC +/-; 222 AC +/-; 100 AC +/-; EOT PRODUCTION COMPANY; E.C. JONES; WVSRA; WILLIAM VANSCOY; 75 AC +/-; 300 AC +/-; 301.19 AC +/-; 0.36 AC +/-; SMITHBURG UNITED METHODIST CHURCH; WVDNB; MBW MINERALS, LLC; JEAN M. TENNANT; 2.02 AC +/-; 54.48 AC +/-; 1 AC +/-; 0.75 AC +/-; VALERIE LOWTHER EVERS; DCSC COMPANY LLC; DODDRIDGE COUNTY SENIOR CITIZENS INC.; 1.27 AC +/-; 1.02 AC +/-; 3.55 AC +/-; EDITH ANN BIBBS RICHARDS; NEFF JONES HARSHBARGER; PAULA LAFFERTY; 0.36 AC +/-; 89 AC +/-; 44.9 AC +/-; GEM HOLDINGS LLC; KENNETH KOFBLE; A. F. RANDOLPH ET AL; 27.63 AC +/-; 27.94 AC +/-; 165 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 7,400' TVD 23,700' 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



# INSET

JOHN H. STUTTER  
27 12 1982

12-80.1

SHEET 27

W. C. JONES  
LEASE

12-77

12-77.1

12-70

SPENCER  
ENGINEERS  
L.L.C. LEASE

29-2.1

DONALD  
SULLARD  
LEASE

WILLIAM  
VINCEY  
LEASE

SAMUEL  
SMITH  
METHODIST  
CHURCH  
LEASE

MT  
MINNELL, L.L.C.  
LEASE

US ROUTE 50

MIDDLE ISLAND CREEK

- A = DONNA J. LOWTHER
- B = CLYDE WOLFE
- C = DODDRIDGE COUNTY  
SENIOR CITIZENS INC.
- D = WOODFORD  
DEVELOPMENT CO., LLC
- E = MICHAEL G. HAMMETT ET UX
- F = DECS COMPANY L.L.C.
- G = MICHAEL DRAGO
- H = DICKIE L. CHIPPS ET UX
- I = BRYAN E. HAGEDORN ET UX
- J = JOSEPH P. LOWTHER
- L = LOIS E. MURPHY
- M = WILLIAM B. EWING ET UX
- N = EDITH ANN BIBBS RICHARDS
- O = CASSANDRA DAWN EWING
- P = LINDA SUE MURPHY
- Q = JEAN M. TENNANT
- R = GARY GENE RUPERT
- S = VALERIE LOWTHER EVERS
- T = ELIZABETH C. MAITLAND

SCALE 1-INCH = 300-FEET

0' 300' 600' 900'



NELL JONES  
HARSHBARGER  
L.L.C.

17-06898-M00

17-06898 supp

Supplemental  
Forms



November 20, 2020

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 57<sup>th</sup> Street  
Charleston, WV 25304

Ms. Laura Adkins:

Antero Resources Corporation (Antero) would like to submit the following permit modification for the following expedited approved well on the existing Peggy June Pad: Peggy Unit 1H (API # 47-017-06898).

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the updated POE & Measured Depth
- REVISED Form WW-6A1, which shows the new leases we will be drilling into
- REVISED Mylar Plat, which shows the new Lateral Length & Estimated Measured Depth
- AOR & As-Built Design

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 "Megan Griffith", with a long horizontal flourish extending to the right.

Megan Griffith  
Permitting Agent  
Antero Resources Corporation

RECEIVED  
Office of Oil and Gas

NOV 23 2020

WV Department of  
Environmental Protection

Enclosures



November 20, 2020

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 57<sup>th</sup> Street  
Charleston, WV 25304

Ms. Laura Adkins:

Antero Resources Corporation (Antero) would like to submit the following permit modification for the following expedited approved well on the existing Peggy June Pad: Peggy Unit 1H (API # 47-017-06898).

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the updated POE & Measured Depth
- REVISED Form WW-6A1, which shows the new leases we will be drilling into
- REVISED Mylar Plat, which shows the new Lateral Length & Estimated Measured Depth
- AOR & As-Built Design

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

Thank you in advance for your consideration.

Sincerely,

Megan Griffith  
Permitting Agent  
Antero Resources Corporation

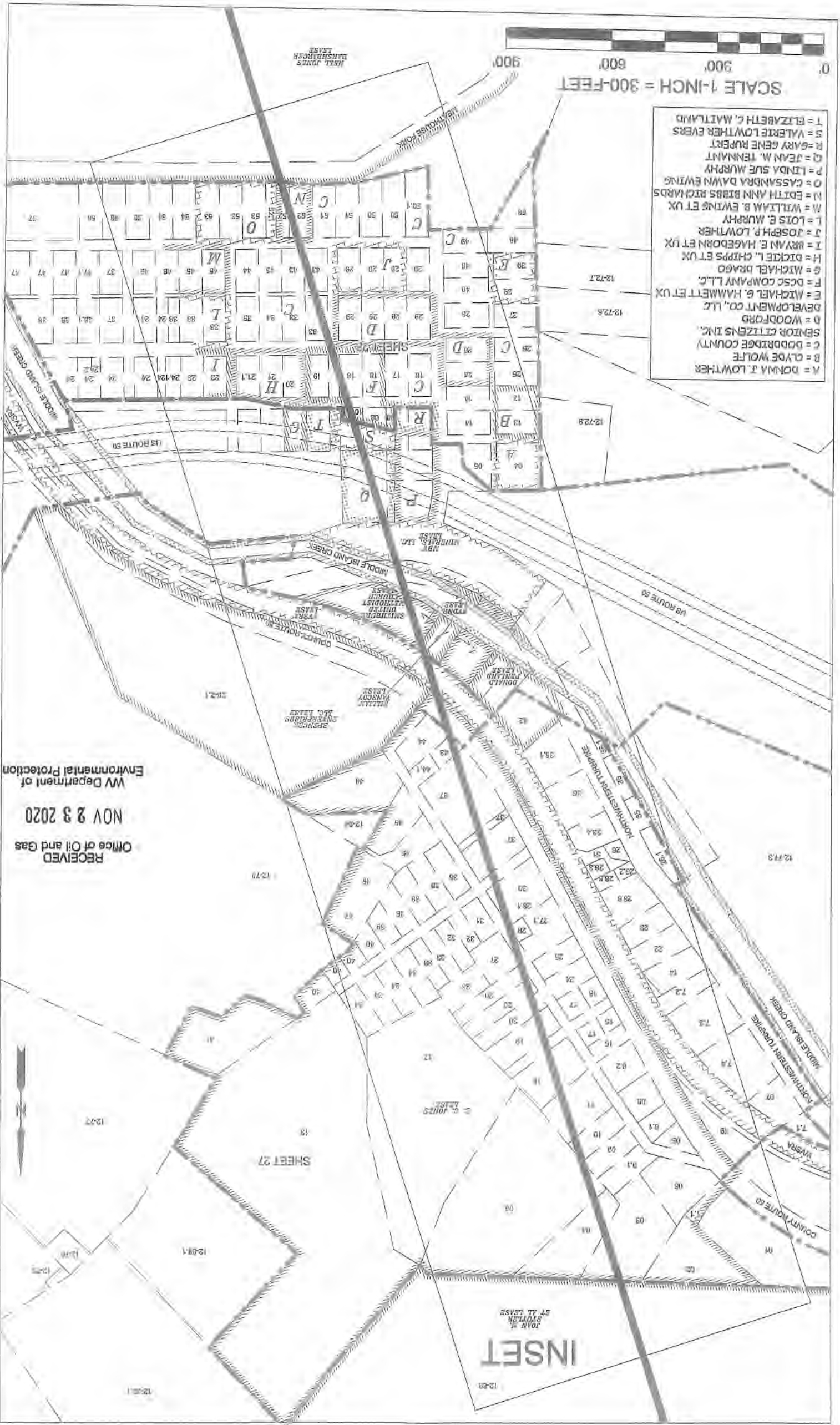
Enclosures

RECEIVED  
Office of Oil and Gas  
NOV 25 2020  
WV Department of  
Environmental Protection



SCALE 1-INCH = 300-FOET

- A = DONNA T. LOWTHER
- B = CLYDE WOLFE
- C = DODDGE COUNTY
- SEMION CITIZENS INC.
- D = WOODFORD
- DEVELOPMENT CO., LLC
- E = MICHAEL G. HAMMETT ET UX
- F = DCS COMPANY LLC
- G = MICHAEL DRAGO
- H = DICKIE L. CHIPPS ET UX
- I = RRYAN E. HAGEDORN ET UX
- J = JOSEPH P. LOWTHER
- L = LOIS E. MURPHY
- M = WILLIAM B. EWING ET UX
- N = EDITH ANN BIBBS RICHARDS
- O = CASSANDRA DAWN EWING
- P = LINDA SUE MURPHY
- Q = JEAN W. TENNANT
- R = GARY GENE RUPERT
- S = VALERIE LOWTHER EVERS
- T = ELIZABETH C. WAITLAND



RECEIVED  
Office of Oil and Gas  
NOV 23 2020  
WV Department of  
Environmental Protection

INSET

SHEET 27



LATITUDE 39°20'00"

10,759'

LATITUDE 39°17'30"

4,624' TO BOTTOM HOLE

Antero Resources Corporation Well No. Peggy Unit 1H

NOTES: WELL 1H TOP HOLE INFORMATION: N: 294,991ft E: 1,647,312ft ... WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 4,350,465m E: 521,885m ...

PAD LAYOUT NOT TO SCALE



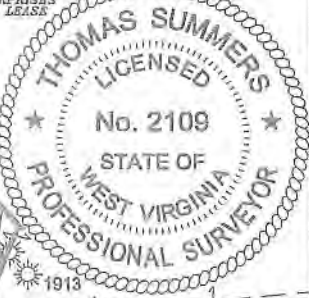
NO WATER WELL WERE LOCATED WITHIN 2000' OF CENTER OF PAD



Table listing landowners and lease information for the West Union District - Doddridge County.

Table listing landowners and lease information for the West Union District - Doddridge County, including names like Joseph Towner, Mark Richards, etc.

RECEIVED Office of Oil and Gas NOV 23 2020 WV Department of Environmental Protection



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

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



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

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

JOB # 19-02SWA DRAWING # PEGGY1HMODR SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER ...

LEGEND: Surface Owner Boundary Lines +/- Interior Surface Tracts +/- Existing Fences Found monument, as noted ... DATE 11/18/20 OPERATOR'S WELL# PEGGY UNIT 1H

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 14,272,435ft E: 1,712,169ft ... POINT OF ENTRY INFORMATION: N: 14,272,763ft E: 1,713,846ft ...

Form containing well type (OIL), production (X), location (ELEVATION 1,275' - AS BUILT), surface owner (SAMUEL AND PEGGY SMITH), and proposed work (DRILL, CONVERT, DRILL DEEPER, REDRILL, etc.).

FORM WW-6

DENVER, CO 80202

CHARLESTON, WV 25313

8,864' TO BOTTOM HOLE LONGITUDE 80°42'30"

10,972'

LONGITUDE 80°42'30"

COUNTY NAME PERMIT



WW-6B  
(04/15)

API NO. 47-017 - 06898

OPERATOR WELL NO. Peggy Unit 1H

Well Pad Name: Peggy June Pad

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

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

2) Operator's Well Number: Peggy Unit 1H Well Pad Name: Peggy June Pad

3) Farm Name/Surface Owner: Samuel and Peggy Smith Public Road Access: Smithton Rd (Old US-50)

4) Elevation, current ground: 1275' Elevation, proposed post-construction: \_\_\_\_\_

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: 7400' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2950#

8) Proposed Total Vertical Depth: 7400' TVD

9) Formation at Total Vertical Depth: Marcellus

RECEIVED  
Office of Oil and Gas

10) Proposed Total Measured Depth: 23700' MD

NOV 23 2020

11) Proposed Horizontal Leg Length: 14115'

WV Department of  
Environmental Protection

12) Approximate Fresh Water Strata Depths: 145', 215', 320'

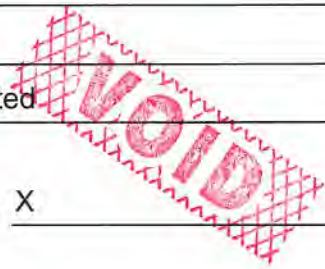
13) Method to Determine Fresh Water Depths: 47-017-04853

14) Approximate Saltwater Depths: 1603'

15) Approximate Coal Seam Depths: 1601'

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: \_\_\_\_\_

WW-6B  
(04/15)

API NO. 47- 017 - 06898  
 OPERATOR WELL NO. Peggy Unit 1H  
 Well Pad Name: Peggy June 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#	80	80	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55/H-40	54.5#/48#	370 *see #19	370 *see #19	CTS, 514 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#	23700	23700	6109 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
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-HIPOZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

RECEIVED  
 Office of Oil and Gas  
 NOV 23 2020  
 WV Department of  
 Environmental Protection

**PACKERS**

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



WW-6B  
(10/14)

API NO. 47- 017 - 06898  
OPERATOR WELL NO. Peggy Unit 1H  
Well Pad Name: Peggy June 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): Existing 40.52 Acres

22) Area to be disturbed for well pad only, less access road (acres): Existing 8.89 Acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers  
Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.  
Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.  
Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in Intermediate casing.

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

Conductor: no additives, Class A cement.  
Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake  
Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat  
Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51  
Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

RECEIVED  
Office of Oil and Gas

NOV 25 2020

25) Proposed borehole conditioning procedures:

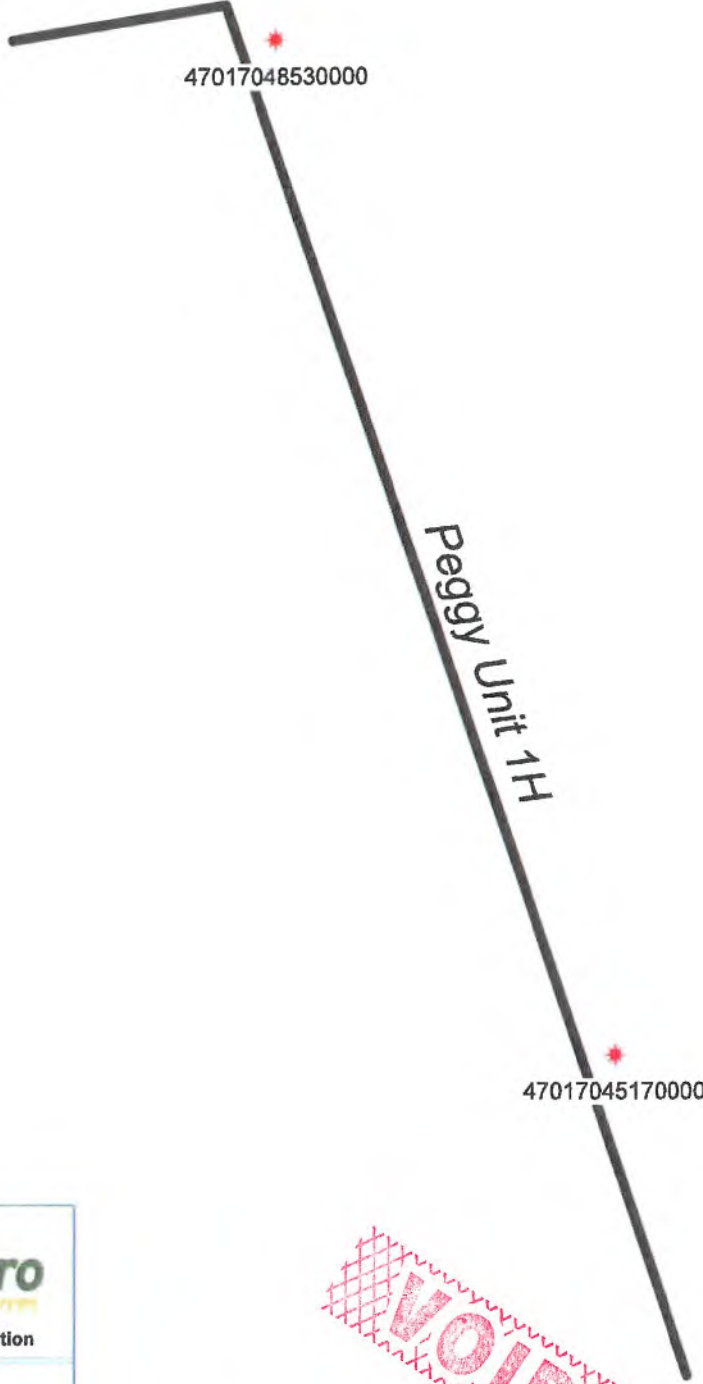
Conductor: blowhole clean with air, run casing, 10 bbls fresh water.  
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.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

WV Department of  
Environmental Protection

\*Note: Attach additional sheets as needed.

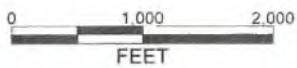
PEGGY UNIT 1H (PEGGY JUNE PAD)- AREA OF REVIEW 35-8-5.11

PERMIT MODIFICATION API # 47-017-06898



Antero Resources Corporation

Peggy Unit 1H - AOR



WELL SYMBOLS  
Gas Well

October 14, 2019

**VOID**

RECEIVED  
Office of Oil and Gas

NOV 25 2020

WV Department of  
Environmental Protection



UWI (APINum)	Well Name	Well Number	Operator	Hist Oper	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Productive Formation(s) not perf'd
47017048530000	SMITH JOHN SAMUEL & PEGGY JUNE	6789	ALLIANCE PETR CORP	DOMINION EXPL&PROD	5523	1682 - 5390	Lo Maxton, Big Inlet, Gordon, Benson, Alexander	Warren, Riley
47017045170000	HARSHBARGER	1	GREYDICK OPIQ LLC	EASTERN AMERICAN ENE	5103	2162 - 5045	Beres, Gordon, Riley, Alexander	Speechey

**VOID**

RECEIVED  
Office of Oil and Gas  
NOV 25 2020  
WV Department of  
Environmental Protection

WW-6A1

Operator's Well Number Peggy 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)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

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

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

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<b><u>Elaine Debolt Lease</u></b>			
Elaine Debolt	Antero Resources Corporation	1/8+	0433/0306
<b><u>RL Barnes et ux Lease</u></b>			
RL Barnes et ux	South Penn Oil Company	1/8	0019/0071
South Penn Oil Company	Hope Natural Gas Company	Assignment	0023/0424
Hope Natural Gas Company	Consolidated Gas Supply Corporation	Assignment	0143/0345
Consolidated Gas Supply Corporation	CNG Transmission Corporation	Name Change	0332/0563
CNG Transmission Corporation	Dominion Transmission Inc.	Name Change	0332/0570
Dominion Transmission Inc.	Consol Energy Holdings	Assignment	0245/0001
Consol Energy Holdings	Consol Gas Company	Merger	0292/0469
Consol Gas Company	CNX Gas Company	Merger	0293/0252
CNX Gas Company	Antero Resources Corporation	Assignment	0317/0379
<b><u>Joan M. Stutler et al Lease (TM 12 PCL 59)</u></b>			
Joan M. Stutler et al	Hugh Spencer	1/8	0092/0489
Hugh Spencer	Estate of Hugh K. Spencer	Will	0033/0068
Estate of Hugh K. Spencer	Ronald B. Spencer	Assignment	0251/0529
Ronald B. Spencer	Spencer Enterprises LLC	Assignment	0251/0529
Spencer Enterprises LLC	Antero Resources Corporation	1/8+	0392/0271
<b><u>EQT Production Company Lease</u></b>			
EQT Production Company	Antero Resources Corporation	1/8+	0371/0288
<b><u>Joan M. Stutler et al Lease (TM 12 PCL 59)</u></b>			
Joan M. Stutler et al	Hugh Spencer	1/8	0092/0489
Hugh Spencer	Estate of Hugh K. Spencer	Will	0033/0068
Estate of Hugh K. Spencer	Ronald B. Spencer	Assignment	0251/0529
Ronald B. Spencer	Spencer Enterprises LLC	Assignment	0251/0529
Spencer Enterprises LLC	Antero Resources Corporation	1/8+	0392/0271
<b><u>EC Jones et al Lease</u></b>			
EC Jones et al	NS Snyder	1/8	0018/0492
NS Snyder	Carnegie Natural Gas Company	Assignment	0092/0715
Carnegie Natural Gas Company	Carnegie Production Company	Assignment	0186/0061
Carnegie Production Company	EQT Production Company	Name Change	0448/0650
EQT Production Company	Antero Resources Corporation	Assignment	0325/0539
<b><u>Spencer Enterprises Lease</u></b>			
Spencer Enterprises	Antero Resources Corporation	1/8+	0448/0650

RECEIVED  
Office of Oil and Gas  
NOV 25 2020

WV Department of  
Environmental Protection



WW-6A1

Operator's Well Number Peggy 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)

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>WVSRA Lease</u> WVSRA	Antero Resources Corporation	1/8+	0253/0409
<u>William Vanscoy Lease</u> William Vanscoy	Antero Resources Corporation	1/8+	0450/0347
	Antero Resources Corporation	1/8+	0450/0347
<u>Smithburg United Methodist Church Lease</u> Smithburg United Methodist Church	Antero Resources Corporation	1/8+	0466/0166
<u>WVDNR Lease</u> WVDNR	Antero Resources Corporation	1/8+	0483/0188
<u>MBW Minerals LLC Lease</u> MBW Minerals LLC	Antero Resources Corporation	1/8+	0487/0426
<u>Jean M. Tennant Lease</u> Jean M. Tennant	Antero Resources Corporation	1/8+	0452/0056
<u>Valerie Lowther Evers Lease</u> Valerie Lowther Evers	Antero Resources Corporation	1/8+	0451/0252
<u>DCSC Company Lease</u> DCSC Company	Antero Resources Corporation	1/8+	0420/0445
<u>Doddridge County Senior Citizens Inc. Lease</u> Doddridge County Senior Citizens Inc.	Antero Resources Corporation	1/8+	0420/0438
<u>Woodford Development Company Lease</u> Woodford Development Company	Antero Resources Corporation	1/8+	0463/0453
<u>Edith A. Richards Lease</u> Edith A. Richards	Antero Resources Corporation	1/8+	0452/0304
<u>Paula Lafferty Lease</u> Paula Lafferty	Antero Resources Corporation	1/8+	0481/0668
<u>Nell Jones Harshbarger Lease</u> Nell Jones Harshbarger Eastern American Energy Corporation Energy Corporation of America	Eastern American Energy Corporation Energy Corporation of America Antero Resources Corporation	1/8 Conveyed Assignment	0184/0681 0240/0498 0328/0648

RECEIVED  
Office of Oil and Gas  
NOV 25 2020  
WV Department of  
Environmental Protection





WW-6A1

Operator's Well Number Peggy 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)

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>GEM Holdings LLC Lease</u> GEM Holdings LLC	Antero Resources Corporation	1/8+	0455/0426
<u>Kenneth Koebel Lease</u> Kenneth Koebel	Antero Resources Corporation	1/8+	0453/0001

RECEIVED  
Office of Oil and Gas  
NOV 25 2020  
WV Department of  
Environmental Protection



WW-6A1  
(5/13)

Operator's Well No. Peggy 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)**

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  
AF Randolph et al Lease

AF Randolph et al	Blazer Energy Corporation	Assignment	0244/0149
Blazer Energy Corporation	Eastern States Oil & Gas Inc.	Name Change	0181/0421
Eastern States Oil & Gas Inc.	Appalachian Natural Gas Trust	Assignment	0187/0594
Appalachian Natural Gas Trust	Equitable Production Company	Merger	0016/0705
Equitable Production Company	EQT Production Company	Name Change	0160/0679
EQT Production Company	Antero Resources Corporation	Assignment	0486/0513

\*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

RECEIVED  
Office of Oil and Gas  
NOV 25 2020  
WV Department of  
Environmental Protection

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: Tim Rady  
Its: VP of Land