

02/24/2023



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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, February 21, 2023
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for Gothic Unit 2H
47-095-02825-00-00

Lateral Extension

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: Gothic Unit 2H
Farm Name: Clara Suzanne Wallace & Rickie Wallace
U.S. WELL NUMBER: 47-095-02825-00-00
Horizontal 6A New Drill
Date Modification Issued: 2/21/2023

Promoting a healthy environment.

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

02/24/2023

1) Well Operator: Antero Resources Corporation 494507062 095-Tyler Ellsworth Porter Falls 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Gothic Unit 2H MOD Well Pad Name: Thin Air Pad

3) Farm Name/Surface Owner: Clara Suzanne Wallace & Rickie Wallace Public Road Access: CR 11

4) Elevation, current ground: 1200' as-built Elevation, proposed post-construction:

5) Well Type (a) Gas X Oil Underground Storage
Other

(b) If Gas Shallow X Deep
Horizontal X

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: 27300' MD

11) Proposed Horizontal Leg Length: 17441'

12) Approximate Fresh Water Strata Depths: 328'

13) Method to Determine Fresh Water Depths: 47-095-02266

14) Approximate Saltwater Depths: 1660'

15) Approximate Coal Seam Depths: None Identified

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

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

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

RECEIVED
Office of Oil and Gas
FEB 21 2023
WV Department of
Environmental Protection

Steve M...
2/16/23

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 (Cu. Ft.)/CTS
Conductor	20"	New	X-60	78.67#	100	100 ✓	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	380	380 ✓	CTS, 396 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	3100	3100 ✓	CTS, 1262 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110HP	23#	27300	27300 ✓	5951 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

02/24/2023

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/L	1.18
Fresh Water	13-3/8"	17-1/2"	0.38"/0.33"	2730/1730	1000	Class A/L	1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A/L	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
 FEB 21 2023
 WV Department of
 Environmental Protection

*Stevie
2/16/23*

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.

02/24/2023

*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): 45.05 acres

22) Area to be disturbed for well pad only, less access road (acres): 17.67 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/L cement.

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

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

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

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

25) Proposed borehole conditioning procedures:

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

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

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

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

*Note: Attach additional sheets as needed.

RECEIVED
Office of Oil and Gas

FEB 21 2023 Page 3 of 3

WV Department of
Environmental Protection

Steve Miller
2/16/23

February 9, 2023

02/24/2023

West Virginia Office of Oil and Gas
Attn: Taylor Brewer
601 57th St SE
Charleston, WV 25304

RE: Request for Variance – Class L Cement
Gothic Unit 2H
Tyler County, WV

Mr. Brewer:

Pursuant to 35CSR8 Section 9.2.h.8, Antero Resources Corporation (“Antero”) would like to implement the variance to allow Class L Cement in place of Class A cement relating to the construction of the following horizontal wells (Gothic Unit 2H) on the Thin Air pad.

Antero only plans to use this method if Class A cement is not available to be use due to supply issues. Please see Order No 2022-14 attached.

If you have any questions or need further information, please feel free to contact Mallory Turco, Permitting Manager, at (303) 357-7182 or email at mturco@anteroresources.com.

Sincerely,

Stefan Gaspar
Permitting Agent
Antero Resources Corporation

RECEIVED
Office of Oil and Gas

FEB 21 2023

WV Department of
Environmental Protection



02/24/2023

west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304
Phone (304) 928-0450

Harold D. Ward, Cabinet Secretary
dep.wv.gov

**BEFORE THE OFFICE OF OIL AND GAS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF WEST VIRGINIA**

**IN THE MATTER OF A VARIANCE FROM)
LEGISLATIVE RULE 35CSR4) ORDER NO. 2022-14
SECTION 11.5 AND LEGISLATIVE RULE)
35CSR8 SECTION 9.2.h.8.,)
RELATING TO THE CEMENTING)
OF OIL AND GAS WELLS)**

REPORT OF THE OFFICE

In response to industry requests, the West Virginia Department of Environmental Protection, Office of Oil and Gas has reviewed the proposed use of American Petroleum Institute (API) Class L cement to be used in place of API Class A cement for well construction.

FINDINGS OF FACT

1. On July 14, 2022, Northeast Natural Energy (NNE) submitted a variance request from Legislative Rule 35CSR8 Section 9.2.h.8., for the use of API Class L cement in place of API Class A cement, relating to the construction of horizontal wells.
2. Laboratory analysis submitted by NNE on July 14, 2022, indicates API Class L cement is comparable to API Class A cement and thereby satisfies the requirements of the West Virginia Code.
3. Contemporaneously, the Chief of the Office of Oil and Gas also chose to consider a variance to Legislative Rule 35CSR4 Section 11.5., for the use of API Class L cement in place of API Class A cement, relating to the construction of vertical wells.

Promoting a healthy environment.

RECEIVED
Office of Oil and Gas
FEB 21 2023
WV Department of
Environmental Protection

4. On August 18, 2022, the Office of Oil and Gas provided public notice of acceptance of public comments on the variance consideration. During the 20-day public comment period, no comments were received.

CONCLUSIONS OF LAW

02/24/2023

Pursuant to Article 6 and Article 6A, Chapter 22 of the Code of West Virginia, the Office of Oil and Gas has jurisdiction over the subject matter, and the persons interested therein, and jurisdiction to promulgate the hereinafter prescribed Order.

Pursuant to Legislative Rule 35CSR4, Section 18 and Legislative Rule 35CSR8, Section 14, the Chief of the Office of Oil and Gas may grant a variance from any requirement of these rules.


ORDER

It is ordered that the Class L cement product approved and monogrammed by API is approved for use in place of API Class A cement for well construction subject to the provisions of Legislative Rule 35CSR4 and Legislative Rule 35CSR8.

Dated this, the 13th day of September, 2022.

IN THE NAME OF THE STATE OF WEST VIRGINIA

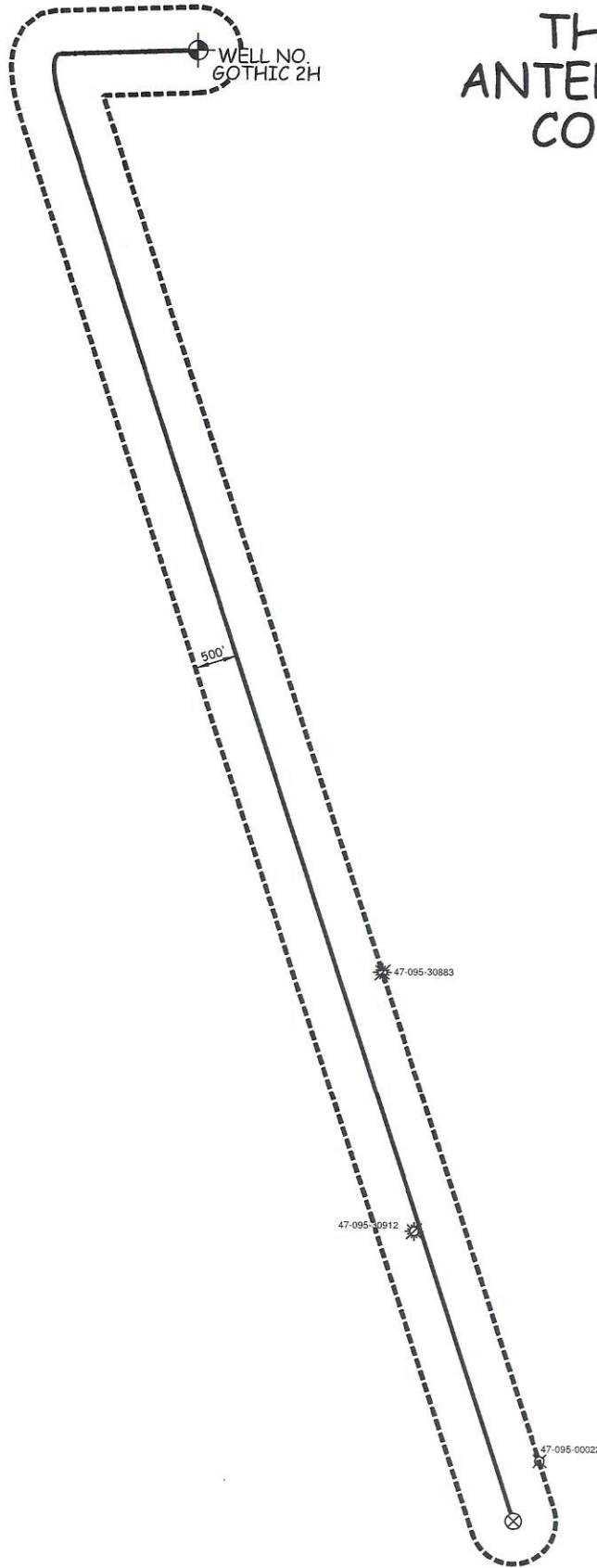
OFFICE OF OIL AND GAS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OF THE STATE OF WEST VIRGINIA


James Martin, Chief
Office of Oil and Gas

RECEIVED
Office of Oil and Gas
FEB 21 2023
WV Department of
Environmental Protection

THIN AIR PAD ANTERO RESOURCES CORPORATION

02/24/2023



RECEIVED
Office of Oil and Gas
FEB 10 2023
WV Department of
Environmental Protection

WILLOW LAND SURVEYING, PLLC P.O. BOX 17, PENNSBORO, WV 26415 (304) 659-1717		SCALE : 1-INCH = 2000-FEET 0' 2000' 4000' 6000' 	
DATE: 01/12/23	DRAWN BY: D.R.R.	JOB #: 22-011WA	FILE: GOthic2HAOR.DWG

4709502825

02/24/2023

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producing Formation(s) not perf'd
4709508830000	J M STEVENSON 1	2127	MANUFACT LIGHT & HEAT	MANUFACT LIGHT & HEAT	1,944		Big Injun	Beres, Weir, Alexander
47095309120000	W A & MARY BROWN 1	2410	MANUFACT LIGHT & HEAT	MANUFACT LIGHT & HEAT	2,861		Gordon	Beres, Weir, Alexander
47095000220000	WILLIAM WAY	1	GILCO OIL & GAS LTD	GILCO OIL & GAS LTD	1,996		Big Injun	Beres, Weir, Alexander

RECEIVED
Office of Oil and Gas
FEB 21 2023
WV Department of
Environmental Protection

WW-6A1

Operator's Well Number Gothic Unit 2H MOD

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 – **02/24/2023**

- (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>Phillip K. George Lease</u> Phillip K. George Statoil USA Onshore Properties Inc. EQT Production Company	Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment	0466/0193 0539/0239 0663/0001
<u>Samuel K. Stoneking, Jr. Lease</u> Samuel K. Stoneking, Jr. Statoil USA Onshore Properties Inc. EQT Production Company	Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment	0456/0688 0539/0239 0663/0001
<u>Richard Neff et ux Lease</u> Richard Neff et ux Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0392/0659 0436/0001 0539/0239 0663/0001
<u>Kerry L. Lemasters Lease</u> Kerry L. Lemasters Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0391/0734 0436/0001 0539/0239 0663/0001
<u>Edward B. Warf et ux Lease</u> Edward B. Warf et ux Statoil USA Onshore Properties Inc. EQT Production Company	Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment	0447/0393 0539/0239 0663/0001
<u>Richard Neff et ux Lease</u> Richard Neff et ux Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0392/0655 0436/0001 0539/0239 0663/0001
<u>Edward B. Warf et ux Lease</u> Edward B. Warf et ux Statoil USA Onshore Properties Inc. EQT Production Company	Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment	0447/0393 0539/0239 0663/0001
<u>Antero Minerals LLC Lease</u> Antero Minerals LLC	Antero Resources Corporation	1/8+	0185/0033
<u>Riverside Resources LLC Lease</u> Riverside Resources LLC	Antero Resources Corporation	1/8+	0182/0392
<u>William M. Baker et al Lease</u> William M. Baker et al Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment	0384/0722 0406/0147 0539/0239 0663/0001

RECEIVED
Office of Oil and Gas

FEB 10 2023

WV Department of
Environmental Protection

WW-6A1

Operator's Well Number Gothic Unit 2H MOD

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 – **02/24/2023**

- (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>Hammett Land & Minerals LLC Lease</u> Hammett Land & Minerals LLC	Antero Resources Corporation	1/8+	0182/0388
<u>Sheldon A. Ferrell Lease</u> Sheldon A. Ferrell Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0384/0728 0406/0147 0539/0239 0663/0001
<u>Shiben Estates Inc. Lease</u> Shiben Estates Inc. Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0387/0483 0406/0147 0539/0239 0663/0001
<u>H3 LLC Lease</u> H3 LLC Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0388/0044 0406/0147 0539/0239 0663/0001
<u>Wanda J. Parr Lease</u> Wanda J. Parr Antero Resources Appalachian Corporation	Antero Resources Appalachian Corporation Antero Resources Corporation	1/8+ Name Change	0420/0384 0577/0430
<u>Sharon Griffeth Lease</u> Sharon Griffeth Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0392/0449 0406/0147 0539/0239 0663/0001
<u>Lorraine B. Weekley Lease</u> Lorraine B. Weekley	Antero Resources Corporation	1/8+	0176/0660
<u>Walter R. Meyers Lease</u> Walter R. Meyers Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0411/0348 0406/0147 0539/0239 0663/0001
<u>Jay Bee Royalty LLC Lease</u> Jay Bee Royalty LLC	Antero Resources Corporation	1/8+	0186/0181

RECEIVED
Office of Oil and Gas

FEB 14 2023

WV Department of
Environmental Protection

**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 - 02/24/2023

- (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
<u>Larry Mark Adams Lease</u>	Larry Mark Adams Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company	Petroedge Energy LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8+ Assignment Assignment Assignment	0400/0026 0406/0147 0539/0239 0663/0001

*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
FEB 10 2023
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: Senior Vice President of Land

LATITUDE 39°32'30" 305' →

LATITUDE 39°30'00" ←

8,075' TO BOTTOM HOLE

6,823' TO BOTTOM HOLE

4,844' TO BOTTOM HOLE

LONGITUDE 80°47'30"

LONGITUDE 80°45'00"

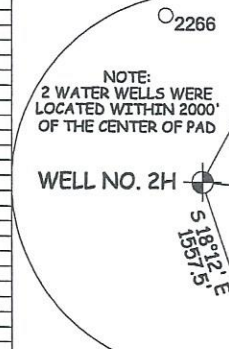
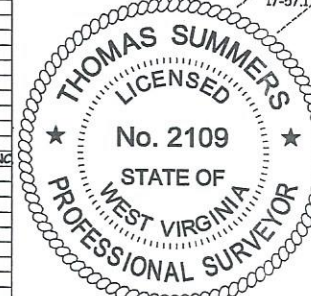
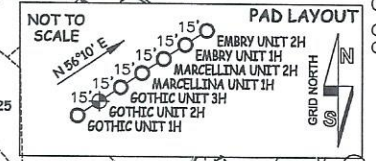
Antero Resources Corporation
Well No. Gothic Unit 2H

NOTES:
 WELL 2H TOP HOLE INFORMATION:
 N: 377,177ft E: 1,635,364ft
 LAT: 39°31'42.12" LON: 80°47'33.90"
 BOTTOM HOLE INFORMATION:
 N: 359,967ft E: 1,639,109ft
 LAT: 39°28'52.57" LON: 80°46'42.98"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE
 MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 4,375,442m E: 517,827m
 BOTTOM HOLE INFORMATION:
 N: 4,370,218m E: 519,055m

(NAD) 27 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 14,354,381ft E: 1,698,856ft
 POINT OF ENTRY INFORMATION:
 N: 14,353,744ft E: 1,697,258ft
 BOTTOM HOLE INFORMATION:
 N: 14,337,242ft E: 1,702,886ft

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.



ELLSWORTH DISTRICT - TYLER COUNTY	
11-20	EDWARD QUIRK
11-21	EDWARD QUIRK
11-22	NILE HARRIS
11-59	EDWARD QUIRK
11-60	MICHAEL MARTIN
12-5	ROSALIE HENRY
12-6	ANTERO MIDSTREAM LLC
12-7	COASTAL FOREST RESOURCES CO.
12-8	SHIRLEY CARROLL
12-9	COASTAL FOREST RESOURCES CO.
12-10	MICHAEL MARTIN
12-11	CLARA WALLACE
12-12	ROCKFORD ENERGY LLC
12-13	ERIC FISHER
12-14	ANTERO MIDSTREAM LLC
12-15	PATRICIA NYE
12-16	PATRICIA NYE
12-17	ANTERO MIDSTREAM LLC
12-18	ANTERO MIDSTREAM LLC
12-19	JON DUMARS
12-23	ROBERT BARD
12-32	CARL WILCOX
12-33	RICHARD NEFF
16-13	GAIL NEFF
16-31	CHRISTOPHER INVESTMENTS INC.
17-1	RICHARD NEFF
17-2	EDWARD WARE
17-3	FLOYD EDDY
17-3.1	FLORA ROBERTS
17-4	ERWAIN PECK
17-5	DOUG SMITH
17-6	ERWAIN PECK
17-7	GILBERT EDDY
17-8	RICHARD NAPIORKOWSKI
17-9	ERWAIN PECK
17-10	THOMAS JOBES
17-10.1	CHARLES EASTHAM
17-10.2	THOMAS JOBES
17-11	ELIZABETH RICHIE
17-23	MARJORIE STALEY
17-24.1	DAWN HADLEY
17-25	ELIZABETH MENGES
17-27	RICHARD NEFF
17-27	HAMMETT LAND & MINERALS LLC
17-28	ARTHUR PECK
17-29	HAMMETT LAND & MINERALS LLC
17-32	SHALYN MCGRAW
17-33	HAMMETT LAND & MINERALS LLC
17-34	SAMUEL HAMMETT
17-34.1	MANUFACTURERS LIGHT & HEAT CO.
17-34.2	HAMMETT LAND & MINERALS LLC
17-35	SAMUEL HAMMETT
17-36	SAMUEL HAMMETT
17-37	BONNIE HENTHORN
17-37.1	JOHN COOPER
17-49	MARTHA MENGES
17-50	MARTHA MENGES
17-51	JONATHAN COOPER
17-52	ANTERO RESOURCES CORP.
17-53	WILLIAM JAMES
17-54	WANDA PARR
17-57.1	RICHARD WILLIAMS
17-57.2	RICHARD WILLIAMS
17-58	CHRISTOPHER INVESTMENTS INC.
17-59	MICHAEL BEEGLE
17-60	JOHN RIAL
17-61	T. E. CUNNINGHAM
17-62	EDNA EDDY
17-63	EDNA ROBERTS
17-64	ANGELA SMITH
17-65	GILBERT EDDY
17-65.1	CHRISTIAN CHURCH
17-66	FLOYD EDDY
17-67	JEREMY NEFF
17-67.1	CYNTHIA EDDY
17-68	JEREMY NEFF
17-69	LARRY HENTHORN
17-70	DALE RICHMOND
17-71	LARRY HENTHORN
17-72	LARRY HENTHORN
23-6	DALE PARR
23-7	DALE PARR
23-9	DALE PARR
23-10	DALE PARR
23-11	JENNIFER WILLIAMS
23-12	TERRY JOY
MCELROY DISTRICT - TYLER COUNTY	
2-3	LLOYD WEEKLEY
2-4	LLOYD WEEKLEY
2-5	RONALD WEEKLEY
2-9	ELDEN NICHOLS
2-9.1	RICHARD BLANKENSHIP
2-9.2	WILLIAM LACY
2-9.3	SANDRA JOCHUM
2-10	WANDA PARR
2-18	MICHAEL SHERWOOD
2-20	ELDEN NICHOLS
2-21	CHARLES HAGAN
2-22	RICHARD THOMASELL

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 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

JOB # 20-011WA
 DRAWING # GOthic2H
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
 STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 DIVISION OF OIL AND GAS

LEGEND
 - - - - - Surface Owner Boundary Lines +/-
 - - - - - Adjoining Surface Tracts +/-
 ⊕ Found monument, as noted
 THOMAS SUMMERS P.S. 2109
 DATE 01/12/23
 OPERATOR'S WELL# GOthic UNIT #2H



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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 095 - 02825
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
 LOCATION: ELEVATION 1,200' - AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK
 QUADRANGLE PORTER FALLS 7.5' (TH) - SHIRLEY 7.5' (BH) DISTRICT ELLSWORTH COUNTY TYLER
 SURFACE OWNER CLARA SUZANNE WALLACE & RICKIE WALLACE ACREAGE 60 ACRES +/-
 OIL & GAS ROYALTY OWNER PHILLIP K. GEORGE; SAMUEL K. STONEKING JR.; RICHARD NEFF ET UX; LEASE ACREAGE 60 AC +/-; 76.88 AC +/-; 35.36 AC +/-;
 KERRY L LEMASTERS; EDWARD B. WARE ET UX; RICHARD NEFF ET UX; ANTERO MINERALS LLC; RIVERSIDE RESOURCES, LLC; 100 AC +/-; 43.87 AC +/-; 40 AC +/-; 118 AC +/-; 54.5 AC +/-;
 WILLIAM M. BAKER ET AL; HAMMETT LAND & MINERALS; SHELDON A. FERRELL; SHIBEN ESTATES INC.; H3 LLC; WANDA J. PARR; 58.5 AC +/-; 10.01 AC +/-; 61.66 AC +/-; 90.65 AC +/-; 60 AC +/-; 14.42 AC +/-;
 SHARON GRIFFETH; WALTER R. MYERS; LORRAINE B. WEEKLEY; JAY BEE ROYALTY, LLC; LARRY MARK ADAMS 50 AC +/-; 46.66 AC +/-; 68.5 AC +/-; 40 AC +/-; 50 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 27,300' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS
 ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAKS BLVD
 FORM WW-6 DENVER, CO 80202 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT



February 9, 2023

West Virginia Department of Environmental Protection
Office of Oil and Gas
Attn: Mr. Taylor Brewer
601 57th Street
Charleston, WV 25304

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

02/24/2023

Mr. Brewer:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for approved well on the existing Thin Air Pad: Gothic Unit 2H (47-095-02825) Expedited.

Attached you will find the following:

- Revised Form WW-6B
- Revised Form WW-6A1
- Revised Mylar Plat
- AOR

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

Thank you in advance for your consideration.

Sincerely,

Stefan Gaspar
Permitting Agent
Antero Resources Corporation

Enclosures

*OK # 4016100
5000*

RECEIVED
Office of Oil and Gas
FEB 10 2023
WV Department of
Environmental Protection

RECEIVED
Office of Oil and Gas
FEB 10 2023
WV Department of
Environmental Protection