

## 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

Wednesday, November 5, 2025 PERMIT MODIFICATION APPROVAL Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION 1615 WYNKOOP STREET

DENVER, CO 80202

Re:

Permit Modification Approval for ZAMPERINI UNIT 2H

47-095-02952-00-00

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.

H. Jason Harmon

Acting Chief

Operator's Well Number: ZAMPERINI UNIT 2H

Farm Name: ANTERO RESOURCES CORPORATION

U.S. WELL NUMBER: 47-095-02952-00-00

Horizontal 6A New Drill

Date Modification Issued: 11/5/2025

Promoting a healthy environment.

API NO. 47-095	02952	
OPERATOR WE	LL NO.	Zamperini Unit 2H MOD
Wall Pad Name		

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

1) Well Operator	r: Antero	Resources	Corpora	494507062	095 - Tyle	r Lincoln	Paden City
-				Operator ID	County	District	Quadrangle
2) Operator's We	ell Number	: Zamperini	Unit 2H	MOD Well	Pad Name: Sh	inn Pad	
3) Farm Name/S	urface Owi	ner: Antero Res	sources Corp	Public F	Road Access: E	Badger Run F	Road
4) Elevation, cur	rent ground	i: <u>1036'</u>	El	evation, propos	ed post-constru	action: 1036	
,	(a) Gas Other	X	Oil _	U	nderground Sto	огаде	
(	(b)If Gas	Shallow Horizontal	X	Deep			-
6) Existing Pad:	Yes or No	Yes					
7) Proposed Targ Marcellus Sha	_	` /		ipated Thicknes ss- 55 feet, Asse	-	` ,	
8) Proposed Tota	al Vertical	Depth: 670	O' TVD				
9) Formation at			Marcellus				
10) Proposed To	tal Measur	ed Depth:	21300' M	D			
11) Proposed Ho	rizontal Le	g Length:	2405.7				
12) Approximate	e Fresh Wa	ter Strata De	oths:	328			
13) Method to D	etermine F	resh Water D	epths:	17-095-02781			·
14) Approximate	e Saltwater	Depths: 14	40				
15) Approximate	e Coal Sear	n Depths: N	/A				
16) Approximate	e Depth to	Possible Voi	d (coal m	ine, karst, other	): None Antic	ipated	
17) Does Propos directly overlyin				37		No X	
(a) If Yes, prov	vide Mine I	nfo: Name					
_		Depth	:				
		Seam:					
RECEIVED	10	Owner	<u> </u>				

OCT 2 0 2025

WV Department of Environmental Protection

٩F	4	NO.	47-	095	_	02952

OPERATOR WELL NO. Zamperini Unit 2H MOD

Well Pad Name: Shinn Pad

## 18)

## **CASING AND TUBING PROGRAM**

ТҮРЕ	Size (in)	New or Used	<u>Grade</u>	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#	100	100	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	378	378	CTS, 394 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	21300	21300	4439 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	20"	24"	0.438"	1530	50	Class A/L	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	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"	0.415"	12,630	2500	Land-WPQZ & 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

OCT 20 2025

WV Department of Environmental Protection

WW-6E	)
(10/14)	

API NO. 47- 095 - 02952

OPERATOR WELL NO. Zemperini Unit 2H MOD

Well Pad Name: Shinn Pad

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill, perforate, fracture a new shallow well and complete Marcellus Shale.

RECEIVED
Office Of Oil and Gas

OCT 2 0 2025

wv Department of Environmental Protection

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): 38.32 acres
- 22) Area to be disturbed for well pad only, less access road (acres): 16.29 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:

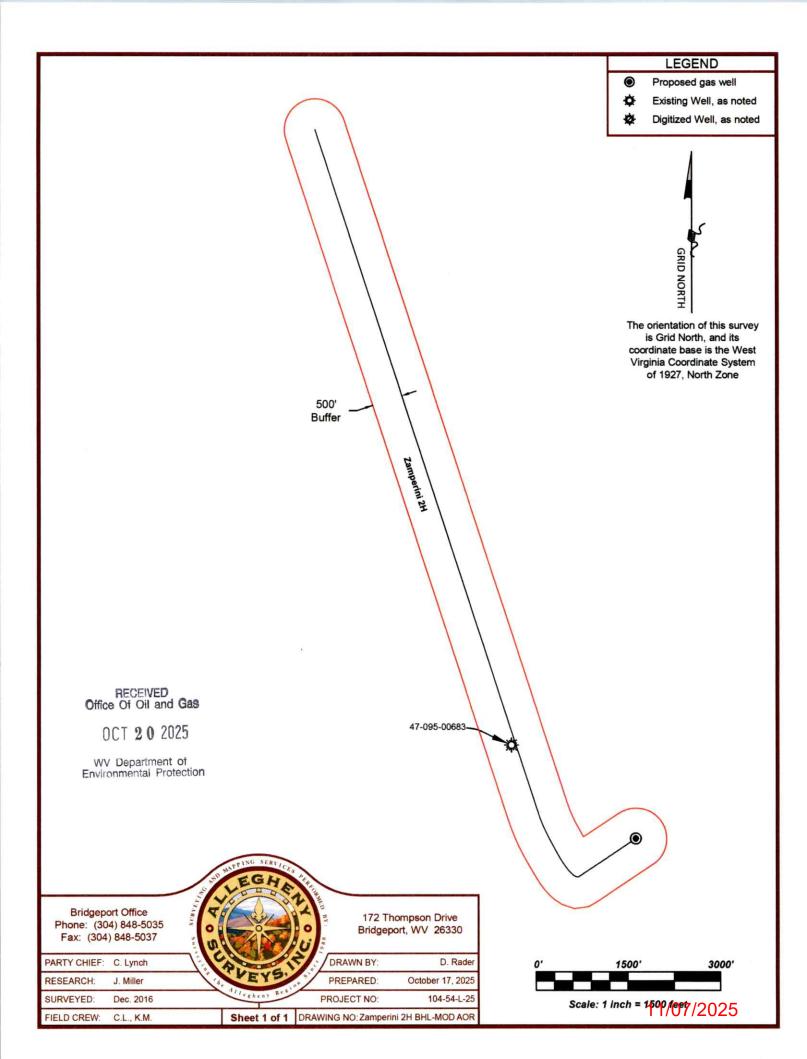
Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

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.

<sup>\*</sup>Note: Attach additional sheets as needed.



UWI (APINum)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
4709500683	STARKEY CLAIR	1	LIPPIZAN PETROLEUM INC	EMES JIM PET	3,059		Gordon, Fifth	Berea, Weir, Alexander

OCT 2 0 2025

WV Department of Environmental Protection

RECEIVED
Office Of Oil and Gas

## 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
R: Raymond B. & Eva J. Heintzman Lease			
Raymond B. & Eva J. Heintzman	McCombs Conrad & Barrett	1/8	207/136
McCombs Conrad & Barrett	Appalachian Exploration & Development, Inc	Assignment	207/487
Appalachian Exploration & Development, Inc	The Carter-Jones Lumber Company	Assignment	233/563
The Carter-Jones Lumber Company	Applied Mechanics Corporation	Assignment	258/132
Applied Mechanics Corporation	Triad Hunter, LLC	Assignment	385/566
Triad Hunter, LLC	Antero Resources Corporation	Assignment	496/776
Q: Virginia A. Nalley Lease			
Virginia A. Nalley	SEP Appalachia, LLC	1/8+	315/758
SEP Appalachia, LLC	Antero Resources Corporation	Agreement	328/598
	1. 1 STORE	rigi coment	320/338
O: Nevin Porter, et al Lease			
Nevin Porter, et al	Antero Resources Corporation	1/8+	464/467
	RECEIVED		10 7 10
L: Waco Oil & Gas Co., Inc. Lease	Office Of Oil and Gas		
Waco Oil & Gas Co., Inc.	Antero Resources Corporation	1/8+	317/312
	OCT <b>2 0</b> 2025		70 cm (
I: Jeffery A. & Karen Jo Gaiser Lease			
Jeffrey A. & Karen Jo Gaiser	Antero Resources Corporation VV Department of	1/8+	227/207
C. Harrary Fadirace 11 C.	Environmental Protection		
G: Happy Endings, LLC Lease			
Happy Endings, LLC	Antero Resources Corporation	1/8+	147/756
E: Greenbrier Royalty Fund II, LLC Lease			
Greenbrier Royalty Fund II, LLC	SEP Appalachia LLC	1/8+	225/40
SEP Appalachia LLC	SEP Mountaineer, LLC		326/40
SEP Mountaineer, LLC	Antero Resources Corporation	Merger	WVSOS
	Antero Resources corporation	Agreement	375/110
C: Sara Anetsberger Lease			
Sara Anetsberger	Antero Resources Corporation	1/8+	622/666
		2,0.	022/000

\*Cotenancy Utilization - Antero is utilizing the Co-tenancy Modernization and Majority Protection Act to proceed with development of certain royalty owners' interests in this tract.

\*\*Pooling/Unitization – Antero has filed a horizontal well unitization application with the West Virginia Oil and Gas Conservation Commission that seeks to pool certain owners in this tract

<sup>\*</sup>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.

#### 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:

	David E. Bowyer	Antero Resources Corporation	1/8+	622/327
A: David E. Bowyer Lease		""		
Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Lease Name or				

RECEIVED
Office Of Oil and Gas

OCT 20 2025

WV Department of Environmental Protection

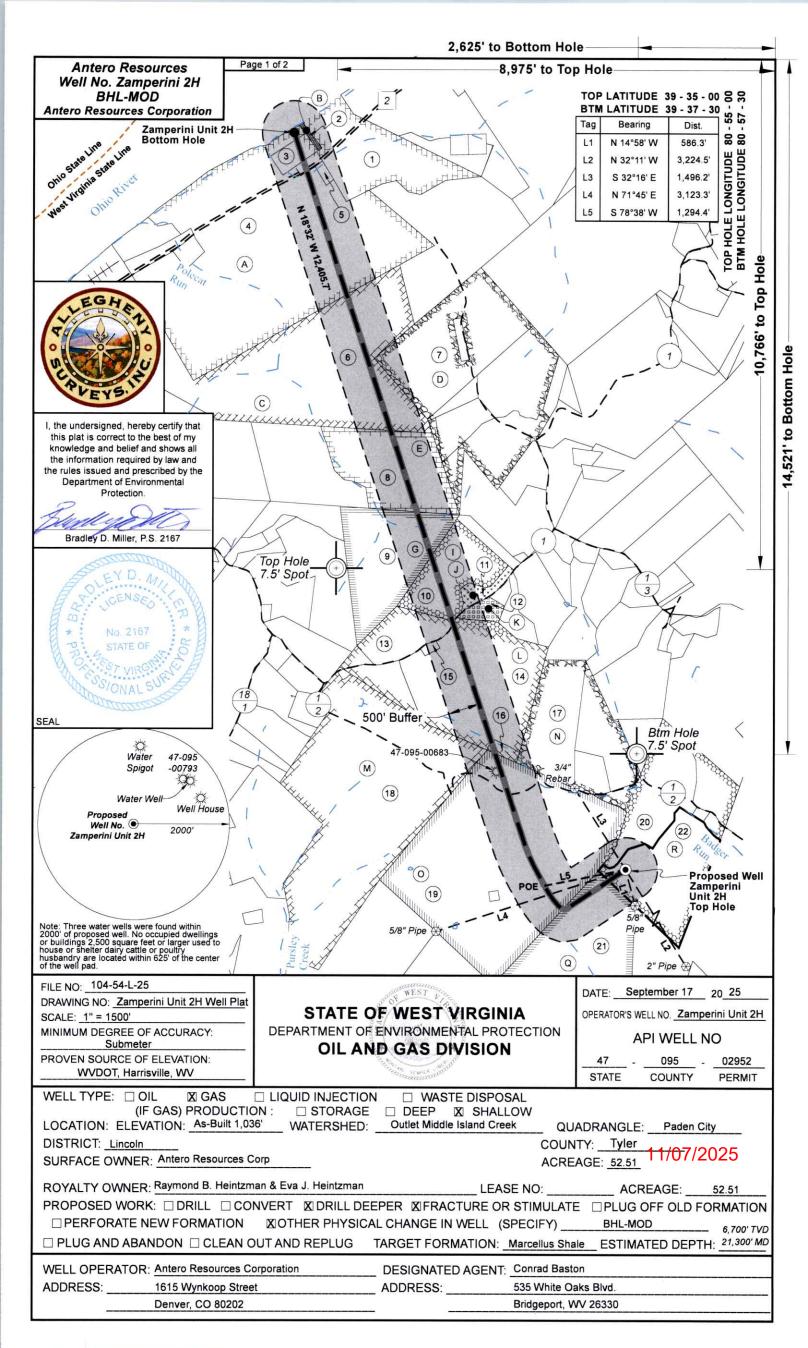
#### Acknowledgement of Possible Permitting/Approval In Addition to the Office of Oil and Gas

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	



Antero Resources Well No. Zamperini 2H BHL-MOD Page 2 of 2



-	
ID	Lease
Α	David E. Bowyer
В	Betty Jean Reed
С	Sara Anetsberger
D	William J. Patterson, et al
E	Greenbrier Royalty Fund II, LLC
G	Happy Endings, LLC
1	Jeffrey A. & Karen Jo Gaiser
J	Jeffrey A. & Karen Jo Gaiser
K	James F. Lucas
L	Waco Oil & Gas Co., Inc.
М	William K. Johnson & Janet N. Johnson, his wife
N	BRC Appalachian Minerals I, LLC
0	Nevin Porter, et al
Q	Virginia A. Nalley
R	Raymond B. & Eva J. Heintzman

		Tyler County		
No.	TM / Par	Owner	Bk/Pg	Ac.
1	4/52	Ronald A. & Betty J. Reed	W39 / 384	35.20
2	4 / 53.1	Ronald A. Reed	327 / 506	1.00
3	4/50	Betty J. Reed	W39 / 498	5.13
4	4/39	Matthew C. & Kelly Stewart	631 / 298	205.17
5	4/51	Jack Folger, et al	W37 / 622	1.25
6	4/44	William H. McCoy	OR 65 / 450	221.66
7	4/37	Dorothy Stewart	563 / 318	64.56
8	4/23	Karen A. Pachuta & Karl J. Varone	340 / 269	47.50
9	4/22	The Jack G. Gaiser Revocable Trust, dated December 30, 2015, et al	OR 312/451	49.70
10	4/93	Jeffrey A. Gaiser, et ux, et al	258 / 450	41.55
11	4/93.1	Jeffrey A. & Karen J. Gaiser	281 / 444	4.20
12	4/94	James F. Lucas	OR 120 / 463	4.09
13	8/7.2	The Jack G. Gaiser Revocable Trust, dated December 30, 2015, et al	295 / 545	18.23
14	8/7.3	Michael P. Wells	OR 291 / 170	63.00
15	8/8	Michael P. Wells	OR 291 / 170	0.88
16	8/7.1	Jeffrey S. Moore	230 / 764	2.00
17	8/10	Camille Mace	418/774	32.47
18	8/18	William K. & Janet N. Johnson	196 / 60	164.60
19	8/19	Olive Branch Animal Rescue & Refuge, Inc.	OR 312/564	173.48
20	8/21	Clay W. & Delphine E. Shinn	OR 61 / 786	35.51
21	8/39	Antero Midstream, LLC	OR 218 / 520	70.65
22	8/21.2	Antero Resources Corp.	OR 296 / 494	52.51

Tulor County

Notes:
Well No. Zamperini Unit 2H
UTM Zone 17, NAD 1927
Top Hole Coordinates
N: 14,363,570.09'
E: 1,654,934.38'
Point of Entry Coordinates
N: 14,363,293.78'
E: 1,653,670.32'
Bottom Hole Coordinates
N: 14,374,984.31'
E: 1,649,531.75'

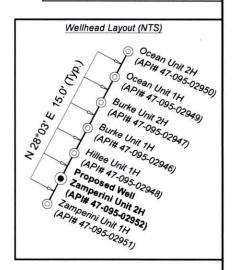
Well Location References

AZ86°
Shinn
Pad

Stake
& Tack

Proposed
Well No.
Zamperini 2H

Stake
& Tack



Legend			
$\odot$	Proposed gas well		
•	Well Reference, as noted		
$\otimes$	Monument, as noted		
*	Existing Well, as noted		
数	Digitized Well, as noted		
	Creek or Drain		
	- Existing road		
7-1	Surface boundary (approx.)		
	State line (approx.)		

Notes
West Virginia Coordinate System of 1927, North Zone
based upon Differential GPS Measurements.
Well No. Zamperini Unit 2H Top Hole coordinates are
N: 387,100.60' Latitude: 39°33'13.60"
E: 1,591,586.96' Longitude: 80°56'54.58"
Bottom Hole coordinates are
N: 398,607.35' Latitude: 39°35'06.48"
E: 1,586,373.87' Longitude: 80°58'03.53"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,378,242.529m N: 4,381,721.581m
E: 504,439.641m E: 502,793.002m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic

meridian.

DATE: September 17 20 25

FILE NO:	104-54-L-25
DRAWING	NO: Zamperini Unit 2H Well Pla
SCALE:	I" = 1500'
MINIMUM	DEGREE OF ACCURACY: Submeter
PROVEN	SOURCE OF ELEVATION:
V	VDOT, Harrisville, WV

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

 OPERATOR'S WELL NO. Zamperini Unit 2H

 API WELL NO

 47
 - 095
 - 02952

 STATE
 COUNTY
 PERMIT

WELL TYPE: ☐ OIL	N ☐ WASTE DISPOSAL					
(IF GAS) PRODUCTION : ☐ STORAGE	☐ DEEP ☒ SHALLOW					
LOCATION: ELEVATION: As-Built 1,036' WATERSHED:		ADRANGLE: Paden City				
DISTRICT: Lincoln	COUN	TY: Tyler 11/07/2025				
SURFACE OWNER: Antero Resources Corp	ACREAGE: <u>52.51</u> 11/07/2025					
ROYALTY OWNER: Raymond B. Heintzman & Eva J. Heintzman	LEASE NO:	ACREAGE:52.51				
PROPOSED WORK: □ DRILL □ CONVERT ☑ DRILL DEEPER ☑ FRACTURE OR STIMULATE □ PLUG OFF OLD FORMATION						
☐ PERFORATE NEW FORMATION XIOTHER PHYSIC.	AL CHANGE IN WELL (SPECIFY)	BHL-MOD 6,700' TVD				
$\square$ PLUG AND ABANDON $\square$ CLEAN OUT AND REPLUG	TARGET FORMATION: Marcellus Sha	e_ ESTIMATED DEPTH: 21,300' MD				
WELL OPERATOR: Antero Resources Corporation	DESIGNATED AGENT: Conrad Basto	n				
ADDRESS: 1615 Wynkoop Street	ADDRESS: 535 White Oa					
Denver, CO 80202	Bridgeport, W	V 26330				



October 17th, 2025

West Virginia Department of Environmental Protection Office of Oil and Gas Attn: Mr. Taylor Brewer 601 57<sup>th</sup> Street Charleston, WV 25304 Antero Resources 1615 Wynkoop Street Denver, CO 80202 Office 303.357.7310

Fax 303.357.7315

Mr. Brewer:

Antero Resources Corporation (Antero) would like to submit the following permit modifications for approved wells on the Shinn Pad. We are requesting to extend the horizontal lateral length which will change the bottom hole location of the Burke Unit 1H, Hillee Unit 1H & Zamperini Unit 2H wells.

Attached you will find the following documents:

REVISED Form WW-6B, which shows the revised MD and Production Casing/Cement program

# 40457/7 9/30/25 \$7,500.00

- > REVISED Form WW-6A1, which shows the leases we will be drilling into
- REVISED Mylar Plat, which shows the new bottom hole location

If you have any questions please feel free to contact me at (303) 357-7373.

Thank you in advance for your consideration.

Sincerely,

Carly Wren Permitting Agent

Antero Resources Corporation

Enclosures

RECEIVED
Office Of Oil and Gas

OCT 2 0 2025

WV Department of Environmental Protection