

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

Monday, April 24, 2023 WELL WORK PERMIT Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION 1615 WYNKOOP STREET

DENVER, CO 80202

Re:

Permit approval for RINGNUS UNIT 2H

47-095-02863-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0450.

James A. Marti

Chief

Operator's Well Number: RINGNUS UNIT 2H

Farm Name: DAVID E BOWYER

U.S. WELL NUMBER: 47-095-02863-00-00

Horizontal 6A New Drill

Date Issued: 4/24/2023

4709502863

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API	Number						
7 77 7	TAMITION						
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PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

- 1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
- 2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
- 3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
- 4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
- 5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled Water Well Regulations, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
- 6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
- 7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
- 8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
- 9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
- 10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
- 11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

WW-6B (04/15) API NO. 47- 095 OPERATOR WELL NO. Ringnus Unit 2H
Well Pad Name: Dry Run Pad

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

1) Well Operator: Antero Resou	urces Corporal	494507062	095 - Tyler	Lincoln	Paden City 7.5'
i) well Operator.	, ,	Operator ID	County	District	Quadrangle
2) Operator's Well Number: Ring	nus Unit 2H	Well Pac	Name: Dry F	Run Pad	
3) Farm Name/Surface Owner: D	avid E. Bowyer	Public Roa	d Access: Dry	Run Road	<u> </u>
4) Elevation, current ground: 1	026' Ele	evation, proposed	post-constructi	ion: 1007'	
5) Well Type (a) Gas X	Oil	Unde	erground Stora	ge	
Other					
(b)If Gas Shall	ow X	Deep			-
	zontal X				
6) Existing Pad: Yes or No No			- 155 - 155		
7) Proposed Target Formation(s),	Depth(s), Antic	ipated Thickness a	and Expected P	'ressure(s): 2850#	
Marcellus Shale: 6700' TVD, An		SS- 55 IEEL, ASSOCI	aleu Fiessure-	200011	
8) Proposed Total Vertical Depth		~			
9) Formation at Total Vertical De	epth: Marcellus	3			
10) Proposed Total Measured De	pth: 11900' M	D			
11) Proposed Horizontal Leg Ler	ngth: <u>3679'</u> *	Open to modifica	tion at a later	date	
12) Approximate Fresh Water Str	rata Depths:	375', 520'			
13) Method to Determine Fresh V	Water Depths:	47095002750000 Offset we	ell records. Depths hav	ve been adjusted	according to surface elevations.
14) Approximate Saltwater Depth					
15) Approximate Coal Seam Dep	oths: None Anti	cipated			
16) Approximate Depth to Possil	ole Void (coal m	ine, karst, other):	None Anticip	ated	
17) Does Proposed well location directly overlying or adjacent to	contain coal sea an active mine?	Yes	N	o X	
(a) If Yes, provide Mine Info:	Name:				RECEIVED Office of Oil and Gas
	Depth:				APR 10 2023
	Seam:				- 0 2023
	Owner:				WV Department of Environmental Protection

Page 1 of 3 04/28/2023/19 4/4/27

4709502863

OPERATOR WELL NO. Ringnus Unit 2H

Well Pad Name: Dry Run Pad

18)

CASING AND TUBING PROGRAM

ТҮРЕ	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	79#	100'	100'	CTS, 96 Cu. Ft.
Fresh Water	13-3/8"	New	J/K-55	54.5#	570'	570'	CTS, 594 Cu. Ft.
Coal	9-5/8"	New	J-/K55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110CY	20#	11900'	11900'	CTS, 2071 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

ТҮРЕ	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"	0.375"	2250	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"	14,360	2500	Class G/H	~1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

			i
Kind:	N/A	RECEIVED Office of Oil and	
Sizes:	N/A	APR 10 20	
Depths Set:	N/A	WV Department	

WW-6B (10/14)

API NO. 47- 095

OPERATOR WELL NO. Ringnus Unit 2H

Well Pad Name: Dry Run Pad

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

Drill a new horizontal shallow well into the 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): 22.85 acres

22) Area to be disturbed for well pad only, less access road (acres): 9.70 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

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 G/H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

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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.



WW-9 (4/16)

API Number	47 -	095		•	
Ope	rator's	Well	No.	Ringnus Unit 2H	

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN	
Operator Name Antero Resources Corporation OP Code 494507062	
Watershed (HTIC 10) Outlet Middle Island Creek Quadrangle Paden City 7.5'	
Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No No	
Will a nit be used? Yes No V	
If so, please describe anticipated pit waste: No plt will be used at this site (Drilling and Flowback Fluids will be stored in tanks. Cuttings will be tanked and hauled off site.)	
Will a synthetic liner be used in the pit? Yes No If so, what ml.? N/A	
Proposed Disposal Method For Treated Pit Wastes:	
Land Application Underground Injection (UIC Permit Number_*UIC Permit # will be provided on Form WR-34 Underground Injection (UIC Permit Number_*UIC Permit # will be provided on Form WR-34	
Peace (at A PI Number Future permitted well locations when applicable. API# will be provided on Point Vice-	
Off Site Disposal (Supply form WW-9 for disposal location) (Meadowfill Landfill Permit #SWF-1032-98)	
Other (Explain WV0109410	
Wetzel County Landfill (Permit #SWF-1021) Will closed loop system be used? If so, describe: Yes, fluids stored in tanks, cuttings removed offsite and taken to landfill. Surface Astronometric Marie Based Multi-	
Will closed loop system be used? It so, describe. Surface - All/Freshwater, intermediate- Dust/Stiff Foam, Production - Water Based Mud Local Control of the Control of t	
Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.	
-If oil based, what type? Synthetic, petroleum, etc. Synthetic	
Additives to be used in drilling medium? Please See Attachment Please See Attachment Drill cuttings stored in tanks, removed offsite and taken to landfill.	
Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Drill cuttings stored in tanks, removed offsite and taken to landfill.	
-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A	
-Landfill or offsite name/permit number? Meadowfill Landfill (Permit #SWF-1032-98), Northwestern Landfill (Permit #SWF-1025/WV0109410) Wetzel County Landfill (Permit #SWF-1021)	
Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any	
Permittee shall provide written notice to the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of drin outlings of the Office of Oli and Gas of any load of the Office of Oli and Gas of any load of the Office of Oli and Gas of any load of the Office of Oli and Gas of any load of the Office of Oli and Gas of any load of the Office of Oli and Gas o	
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the	
provisions of the permit are enforceable by law. Violations of any term of condition of the general provisions of the permit are enforceable by law.	
law or regulation can lead to enforcement action.	
I certify under penalty of law that I have personally examined and all inflamments therefore and that, based on my inquiry of those individuals immediately responsible for application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant	
penalties for submitting false information, including the possibility of fine or imprisonment.	
Company Official Signature Gretchen Kohler Office of Oil and G	
Gretchen Konier	
Company Official (Typed Name) Clother Totals APR 10 202 Company Official Title Director Environmental & Regulatory Compliance	3
W Department of	f
Environmental Protection	tio
Subscribed and sworn before the this	
My commission expires November 15, 2026 Notary Public STEFAN GASPAR NOTARY PUBLIC STATE OF COLORADO	
My commission expires November 15, 2026 NOTARY ID 20224043669 NOTARY ID 20224043669	
MY COMMISSION EXPIRES NOVEMBER 15, 2026 N	

Form WW-9		Operator's W	/ell No. Ringnus Unit 2H	
Antero Resources Cor	poration			Americanian in the Control of the Co
Proposed Revegetation Treatmen	t: Acres Disturbed 22.85 acre	Prevegetation pl	Α	
T: 2-4	Tons/acre or to correct to pH	3.5		
Fertilizer type Hay or str	raw or Wood Fiber (will be used who	ere needed)		
Fertilizer amount 500	lbs/a			
Mulch 2-3 Access Road "A"	Tons/acr (9.44 acres) + Well Pad & Water Containment	Pad (9.70 acres) + Excess/Topsoil Material Sto Acres	ockpiles (3.71 acres) = 22.85	
	Seed I	Mixtures		
Temp	orary	Perm	anent	
Seed Type	lbs/acre	Seed Type	lbs/acre	
Annual Ryegrass	40	Crownvetch	10-15	
Field Bromegrass	40	Tall Fescue	30	e commence
See attached Table IV-3 for additional s	eed type (Dry Run Pad Design)	See attached Table IV-4A for additional seed type (Dry Run Pad Design)		
*or type of grass seed requ	ested by surface owner	*or type of grass seed requ	ested by surface owr	ner
provided). If water from the pit acreage, of the land application Photocopied section of involved	area.	ensions (L x W x D) of the pit, an		
Plan Approved by: Stul P	n, sudipmikh.			
		,		
				and the second
				RECEIVED Office of Oil and Gas
				APR 10 2023
Title: WV OI & GAS GA	-m trV	Date: 4 /6/	23	WV Department of invironmental Protection
Field Reviewed?	Yes () No		



911 Address 207 Dry Run Road Sisterville, WV 26175

Well Site Safety Plan Antero Resources

Well Name: Dry Run Unit 5H, Ringnus Unit 1H-2H, Ripple Unit 1H-2H & Tangerine Unit 1H-2H

Pad Location: DRY RUN PAD

Tyler County/Lincoln District

GPS Coordinates:

Entrance - Lat 39.548653/Long -80.907797 (NAD83)

Pad Center - Lat 39.551681/Long -80.911397 (NAD83)

Driving Directions:

From WV-18: Turn right onto CO 18/5 (Dry Run Road) and travel for 0.6 miles. Continue straight onto CO 18/12 for 0.3 miles. Lease road entrance is on the left.

Alternate Route:

From WV-18, turn right onto CO 18/5 (Dry Run Rd) and travel for 0.6 miles. Continue straight onto CO 18/12 and travel for 0.3 miles. The Dry Run Lease Road will be on the left.

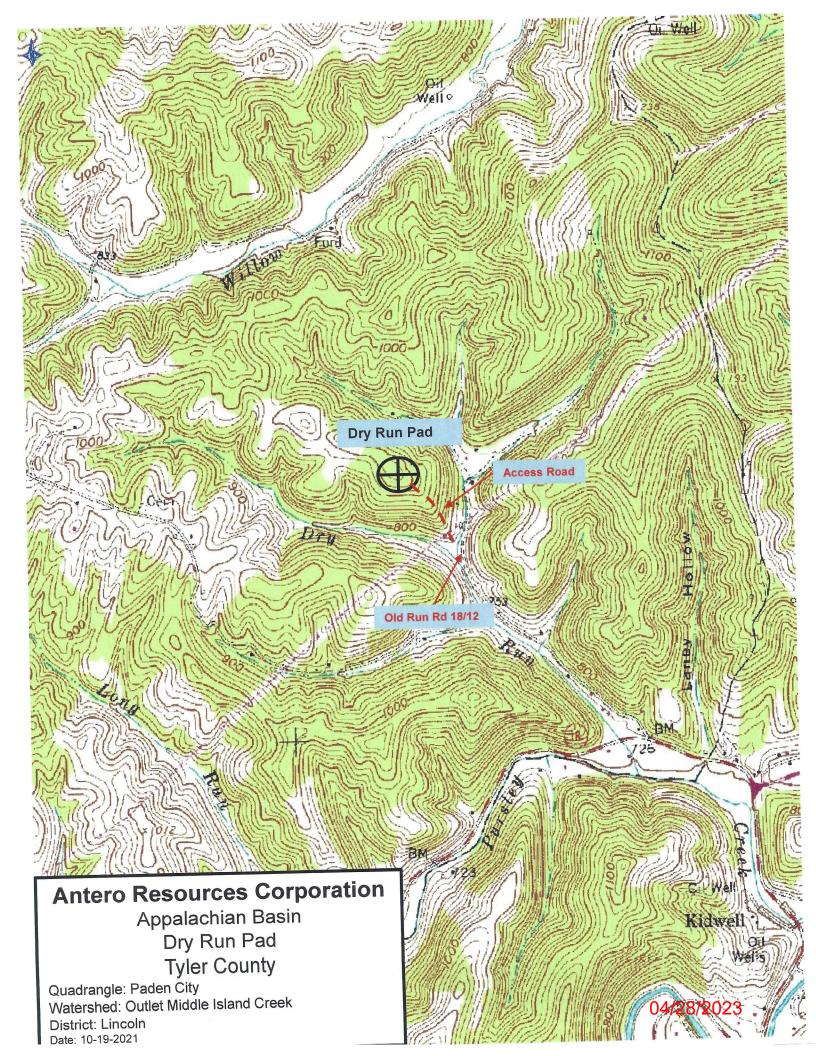
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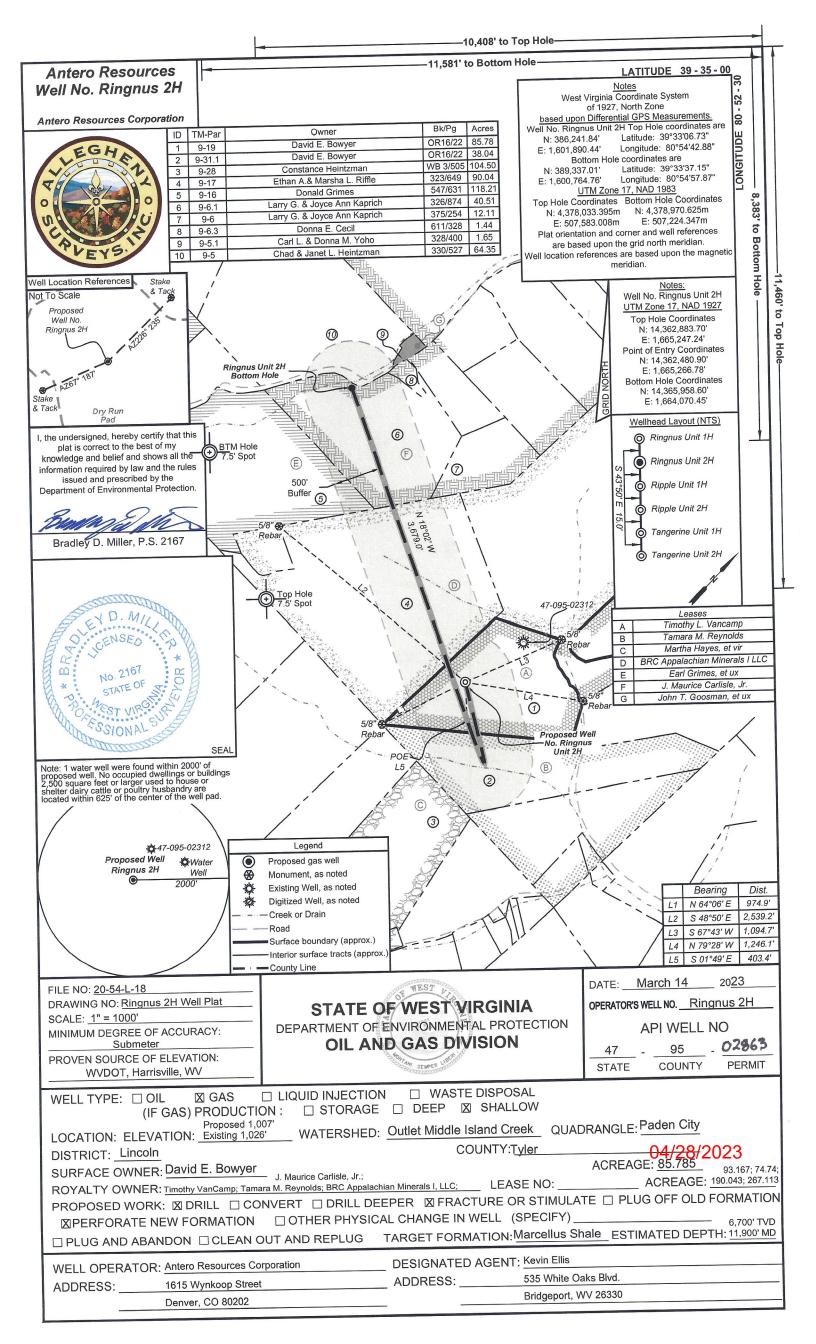
APR 10 2023

WV Department of Environmental Protection

EMERGENCY (24 HOUR) CONTACT 1-800-878-13731

04/28/2023/73





Operator's Well Number

Ringnus Unit 2H

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
A: Timothy L. VanCamp Lease Timothy L. VanCamp Chesapeake Appalachia LLC Statoil USA Onshore Properties Inc. EQT Production Company	Chesapeake Appalachia LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment	354/704 423/152 539/239 134/172
<u>B: Tamara M. Reynolds Lease</u> Tamara M. Reynolds	Antero Resources Corporation	1/8+	616/634
A: Timothy L. VanCamp Lease Timothy L. VanCamp Chesapeake Appalachia LLC Statoil USA Onshore Properties Inc. EQT Production Company	Chesapeake Appalachia LLC Statoil USA Onshore Properties Inc. EQT Production Company Antero Resources Corporation	1/8 Assignment Assignment Assignment	354/704 423/152 539/239 134/172
D: BRC Appalachian Minerals I LLC Lease BRC Appalachian Minerals I LLC BRC Working Interest Company LLC Chesapeake Appalachia LLC Statoil USA Onshore Properties Inc. SWN Exchange Titleholder LLC SWN Production Company LLC Antero Exchange Properties	BRC Working Interest Company LLC Chesapeake Appalachia LLC Statoil USA Onshore Properties Inc. SWN Exchange Titleholder LLC SWN Production Company LLC Antero Exchange Properties Antero Resources Corporation	1/8 Assignment Assignment Assignment Merger Assignment Merger	369/300 369/784 378/764 470/668 9/404 544/242 525/315

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

WW-6A1 (5/13)

Operator's Well No.	Ringnus Unit 2H

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE Chapter 22, Article 6A, Section 5(a)(5) IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

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- (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 1. Maurice Carlisle, Jr. Lease	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
	J. Maurice Carlisle, Jr.	Antero Resources Corporation	1/8+	0229/0723

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

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WV Department of Environmental Protect

- 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 (Ledy
Its:	Senior Vice President of Land

Page 1 of _____

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

March 20, 2023

West Virginia Department of Environmental Protection Chief, Office of Oil and Gas Attn: Mr. James Martin 601 57th Street SE Charleston, WV 25304

RE:

Ringnus Unit 2H

Quadrangle: Paden City 7.5'

Tyler County/Lincoln District, West Virginia

Mr. Martin:

Antero Resources Corporation (Antero) is submitting the following application for a new well work permit for the Ringnus Unit 2H horizontal shallow well. As an authorized representative, I certify that Antero has the right to extract, produce or market the oil or gas for all leases through which the Ringnus Unit 2H horizontal lateral will drill through including any and all roads crossed under as identified on the attached survey plat.

Sincerely,

Tyler Adams Landman

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Office of Oil and Gas

MAR 2 3 2023

WV Department of Environmental Protection WW-PN (11-18-2015)

Horizontal Natural Gas Well Work Permit **Application Notice By Publication**

Notice	is	hereby	given	
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Pursuant to West Virginia Code 22-6A-10(e) prior to filing an application for a permit for a horizontal well the applicant shall publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

Paper: _	Tyler Star N	lews			
Public N	otice Date:	02/01/2023 & 02/08/2023	3		
surface e	owing applicated applicated by the control of the c	pelines, gathering lines and	horizontal nat d roads or utili	ural well work izes more than	c permit which disturbs three acres or more of two hundred ten thousand gallons of water in
Applica	nt: Antero	Resources Corporation		Well Num	ber: Ringnus Unit 2H
Address	: 1615 Wyı	nkoop St. Denver, CO 802	02		
Business	s Conducte	d: Natural gas production	1.		
Location	n –				
	State:	West Virginia		County:	Tyler
	District:	Lincoln		Quadrangle:	Paden City 7.5'
	UTM Coo	rdinate NAD83 Northing:	4378033.395m		
	UTM coor Watershed	dinate NAD83 Easting: Outlet Middle Island Creek	507583.008m		
	District: UTM Coor UTM coor	Lincoln rdinate NAD83 Northing: dinate NAD83 Easting:		and the state of t	

Coordinate Conversion:

To convert the coordinates above into longitude and latitude, visit: http://tagis.dep.wv.gov/convert/llutm_conus.php

Electronic notification:

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To receive an email when applications have been received or issued by the Office of Oil and Gas, visit http://www.dep.wv.gov/insidedep/Pages/DEPMailingLists.aspx to sign up.

MAR 2 3 2023

Reviewing Applications:

WV Department of

Copies of the proposed permit application may be reviewed at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE Charleston, WV 25304 (304-926-0450). Full copies or scans of the proposed permit application will cost \$15, whether mailed or obtained at DEP headquarters. Copies may be requested by calling the office or by sending an email to DEP.comments@wv.gov.

Submitting Comments:

Comments may be submitted online at https://apps.dep.wv.gov/oog/comments/comments.cfm, or by letter to Permit Review, Office of Oil and Gas, 601 57th Street, SE Charleston, WV 25304. Please reference the county, well number, and operator when using this option.

Regardless of format for comment submissions, they must be received no later than thirty days after the permit application is received by the Office of Oil and Gas.

For information related to horizontal drilling visit: www.dep.wv.gov/oil-and-gas/pages/default.aspx

4709502863 STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE CERTIFICATION

Date of Notice	e Certification: 03/21/2023	Operat	or's Well No. Ringnus ad Name: Dry Run P	s Unit 2H
Notice has be Pursuant to the	e provisions in West Virginia Code §			
	tract of land as follows:	Easting	507583.008m	
State:	West Virginia	UTM NAD 83 Northii	·	
County:	Tyler	Public Road Access:	Dry Run Road	
District:	Lincoln	Generally used farm nam		
Quadrangle:	Paden City 7.5'			
Watershed:	Outlet Middle Island Creek			
prescribed by it has provide information r of giving the requirements Virginia Cod	West Virginia Code § 22-6A-7(b), the secretary, shall be verified and set the owners of the surface described equired by subsections (b) and (c), set surface owner notice of entry to surface of subsection (b), section sixteen of \$22-6A-11(b), the applicant shall thave been completed by the applicant	and contain the following information and contain the following information and its article; (ii) that the right pursuant to subsection (a), seen a fit this article were waived in writing ander proof of and certify to the secretary.	subsection (b), sect ne requirement was continuous ten of this artic	tion ten of this article, the deemed satisfied as a result le six-a; or (iii) the notice ner; and Pursuant to West
that the Ope	West Virginia Code § 22-6A, the Operator has properly served the require	erator has attached proof to this Not d parties with the following:	ice Certification	OOG OFFICE USE ONLY
	TICE OF SEISMIC ACTIVITY or	■ NOTICE NOT REQUIRED BY SEISMIC ACTIVITY WAS CON	ECAUSE NO DUCTED	☐ RECEIVED/ NOT REQUIRED
☐ 2. NO	TICE OF ENTRY FOR PLAT SUR	/EY or 🔳 NO PLAT SURVEY WA	AS CONDUCTED	RECEIVED
■ 3. NC	OTICE OF INTENT TO DRILL or	☐ NOTICE NOT REQUIRED B NOTICE OF ENTRY FOR PLAT WAS CONDUCTED or	ECAUSE SURVEY	☐ RECEIVED/ NOT REQUIRED
		☐ WRITTEN WAIVER BY SU (PLEASE ATTACH)	RECEIVED Office of Oil and O	as
■ 4. NO	OTICE OF PLANNED OPERATION		MAR 2 3 2023	☐ RECEIVED
■ 5. PU	BLIC NOTICE		WV Department Environmental Prote	RECEIVED
■ 6. NO	OTICE OF APPLICATION		CHAILOURIGHTTE	RECEIVED

Required Attachments:

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

Certification of Notice is hereby given:

above, to the rec signature confirm in this Notice C	Jon McEvers , have t as required under West Virginia Cod quired parties through personal service nation. I certify under penalty of law the certification and all attachments, and formation, I believe that the information alse information, including the possibility	te § 22-6 e, by reg nat I have that bas n is true,	A, I have se distered mail e personally e sed on my in accurate and	examined and am familiar with the aquiry of those individuals immed complete. I am aware that there a	at requires a receipt or information submitted diately responsible for
Wall Operator	Antero Resources Corporation		Address:	1615 Wynkoop Street	
_		son 1		Denver, CO 80202	
By:	Jon McEvers #W/// >	70	Facsimile:	303-357-7315	
Its:	Senior VP of Operations			mturco@anteroresources.com	
Telephone:	303-357-6799		Email:	Titurco@anteroresearee	
	NOTARY SEAL STEFAN GASPAR NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20224043669 MISSION EXPIRES NOVEMBER 15, 2026		Stefan	orn before me this 12 day of 19 day	Notary Public

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

WV Department of Environmental Protection WW-6A (9-13)

API NO. 47-700 9 5 0 2 8 6 3 OPERATOR WELL NO. Ringnus Unit 2H Well Pad Name: Dry Run Pad

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS $\underline{\text{NOTICE OF APPLICATION}}$

Noti	ce Time Requirem	ent: notice shall be provided no late	than the filing date of permit application.	
	of Notice: 03/22/2023 ce of:	Date Permit Application Filed:	03/22/2023	
√	PERMIT FOR AN WELL WORK		APPROVAL FOR THE OF AN IMPOUNDMENT OR PIT	
Deli	very method pursu	ant to West Virginia Code § 22-6.	A-10(b)	
	PERSONAL SERVICE	MAIL RI	ETHOD OF DELIVERY THAT REQUIRES A ECEIPT OR SIGNATURE CONFIRMATION	
certi regis sedin the s sedin the s oil a desc oper mor well imphave proven proposubs recc proven a substruction of the sedin	ficate of approval for stered mail or by any ment control plan recourface of the tract or and gas leasehold being the first or lessee, in the e coal seams; (4) The work, if the surface oundment or pit as doe a water well, spring wide water for consumptions of the sheriff recovision of this article.	rethe construction of an impoundment method of delivery that requires a rec- quired by section seven of this article, in which the well is or is proposed to b- ing developed by the proposed well we and sediment control plan submitted p- event the tract of land on which the w- e owners of record of the surface tract tract is to be used for the placement, of escribed in section nine of this article; g or water supply source located within imption by humans or domestic animal vity is to take place. (c)(1) If more that ection hold interests in the lands, the ap- quired to be maintained pursuant to sec- to the contrary, notice to a lien holder requires in part, that the operator shall.	date of the application, the applicant for a permit for any was or pit as required by this article shall deliver, by personal selept or signature confirmation, copies of the application, the and the well plat to each of the following persons: (1) The or the located; (2) The owners of record of the surface tract or trook, if the surface tract is to be used for roads or other land oursuant to subsection (c), section seven of this article; (3) The rell proposed to be drilled is located [sic] is known to be understood to the surface overlying the oil and gas leasehold being developed construction, enlargement, alteration, repair, removal or abacton to the content of the well passed of the center of the well passed (6). The operator of any natural gas storage field within three tenants in common or other co-owners of interests of plicant may serve the documents required upon the person of the center of a landowner, unless the lien holder is the lands also provide the Well Site Safety Plan ("WSSP") to the surface string as provided in section 15 of this rule.	e erosion and owners of record of acts overlying the disturbance as the coal owner, derlain by one or ad by the proposed indonment of any the applicant to ad which is used to in which the escribed in described in the otwithstanding any indowner. W. Va. Face owner and any
1	Application Notice	☑ WSSP Notice ☑ E&S Plan N	otice Well Plat Notice is hereby provided to:	Office of Oil and Gas
☑ S	URFACE OWNER	L(s)	☐ COAL OWNER OR LESSEE Name: NO DECLARATIONS ON RECORD WITH COUNTY	MAR 2 3 2023
Na	me: David E. Bowyer dress: 12088 Middle Isla	and Road	Address:	- WV Do-
Au	Alma, WV 26320			WV Department of Environmental Protection
Na	me:		COAL OPERATOR	rotection
Ad	dress:		Name: NO DECLARATIONS ON RECORD WITH COUNTY Address:	-
	HIDEACE OWNER	R(s) (Road and/or Other Disturbance		_
			M SURFACE OWNER OF WATER WELL	
			AND/OR WATER PURVEYOR(s)	
Tu			Name: PLEASE SEE ATTACHMENT	_
Na			Address:	_
			TORERATOR OF ANNAMATIRAL CARRYO	RAGE FIELD
			OPERATOR OF ANY NATURAL GAS STO	
Towns Co.		R(s) (Impoundments or Pits)	Name:Address:	
Na	me:			_ _
Ac	idress:		*Please attach additional forms if necessary	
-				

API NO. 47-70950 9 5 0 2 8 6 3

OPERATOR WELL NO. RIngnus Unit 2H Well Pad Name: Dry Run Pad

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-Office of Oil and Gas and-gas/pages/default.aspx.

Well Location Restrictions

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well padamay not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet of larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items WW-6A (8-13) API NO.447 090 9 5 0 2 8 6 3
OPERATOR WELL NO. Ringnus Unit 2H

Well Pad Name: Dry Run Pad

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments that the secretary are construction of the applicant's proposed well work to the Secretary at:

MAR 2 3 2023

Chief, Office of Oil and Gas Department of Environmental Protection 601 57th St. SE Charleston, WV 25304 (304) 926-0450

WV Department of Environmental Protection

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WW-6A (8-13) 4709502863

OPERATOR WELL NO. RIngnus Unit 2H

Well Pad Name: Dry Run Pad

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have THIRTY (30) DAYS after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Office of Oil and Gas

MAR 2 3 2023

WV Department of Environmental Protection

WW-6A (8-13)

API NO. 47-095 OPERATOR WELL NO. RIngnus Unit 2H Well Pad Name: Dry Run Pad

Notice is hereby given by:

Well Operator: Antero Resources Corporation

Telephone: (303) 357-7310

mturco@anteroresources.com Email:

1615 Wynkoop Street

Facsimile: 303-357-7315

Denver, CO 80202

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

on M EverAdress:

STEFAN GASPAR NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20224043669 MY COMMISSION EXPIRES NOVEMBER 15, 2026 Subscribed and sworn before me this 22 day of March, 2023 Stefan Gaspar Notary Public My Commission Expires November 15, 2026

> RECEIVED Office of Oil and Gas

MAR 2 3 2023

WV Department of Environmental Protection **WW-6A4** (1/12)

4709502863 Operator Well No. Ringnus Unit 2H Multiple Wells on Dry Run Pad

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

6A-10(a) have No	OT been met or if the Notice of In	ntent to Drill requirement has NOT been wa	nived in writing by the surface owner.
Notice Time Red Date of Notice:	quirement: Notice shall be provided to 1/25/2023 Date	ded at least TEN (10) days prior to filing a e Permit Application Filed: 03/22/2023	permit application.
Delivery method	l pursuant to West Virginia Co	de § 22-6A-16(b)	
HAND DELIVERY			
receipt requested drilling a horizon of this subsection subsection may be and if available,	or hand delivery, give the surfacental well: <i>Provided</i> , That noticen as of the date the notice was proper waived in writing by the surface facsimile number and electronic in	en days prior to filing a permit application, e owner notice of its intent to enter upon the given pursuant to subsection (a), section to evided to the surface owner: <i>Provided</i> , how see owner. The notice, if required, shall inclinal address of the operator and the operator	n of this article satisfies the requirements vever, That the notice requirements of this ude the name, address, telephone number,
	y provided to the SURFACI	E OWNER(s):	
Name: David E. Address: 12088 Mi			
	V 26320-7211		
the surface owners. State:	t Virginia Code 8 22-6A-16(b), r	notice is hereby given that the undersigned g a horizontal well on the tract of land as for UTM NAD 83 Easting: Northing:	well operator has an intent to enter upon bllows: 507583.008m 4378033.395m
-	incoln	Public Road Access:	Dry Run Rd
	aden City 7.5'	Generally used farm name:	David E. Bowyer
	utlet Middle Island Creek		
facsimile number	st Virginia Code § 22-6A-16(b) er and electronic mail address o	this notice shall include the name, add the operator and the operator's authorized the Secretary, at the WV Department of the 304 (304-926-0450) or by visiting www.d	of Environmental Protection headquarters,
Notice is here	• •	Authorized Representative	: Mallory Turco
_	Antero Resources Corporation	Address:	1615 Wynkoop St.
Address:	1615 Wynkoop St.	Audi Coo.	Denver, CO 80202
	Denver, CO 80202	Telephone:	303-357-7223
Telephone:	303-357-7323	Email:	mturco@anteroresources.com
Email:	mturco@anteroresources.com	Facsimile:	303-357-7315
Facsimile:	303-357-7315	raesinine.	555 551.151.5

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

WW-6A5 (1/12)

Operator Well No. Ringnus Unit 2H
4 7 0 9 5 0 2 8 6 3

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF PLANNED OPERATION

Notice Time Req Date of Notice: <u>-</u>	puirement: notice shall be provided no late Date Permit Applic	r than the filing d ation Filed: 03/22/	ate of permit a	pplication.	
Delivery method	pursuant to West Virginia Code § 22-64	A-16(c)			
CERTIFIED RETURN D		ND LIVERY			
return receipt req the planned oper required to be pro drilling of a hori	Va. Code § 22-6A-16(c), no later than the uested or hand delivery, give the surface of ation. The notice required by this subsection (b), section ten of this zontal well; and (3) A proposed surface urface affected by oil and gas operations to equired by this section shall be given to the	wner whose land ction shall includ s article to a surfa use and compense the extent the day	will be used for e: (1) A copy of ce owner whose ation agreement mages are comp	of this code sect e land will be use containing an opensable under ar	ion; (2) The information and in conjunction with the offer of compensation for ticle six-b of this chapter.
Notice is hereby	provided to the SURFACE OWNER(s)	6 ()			
	sted in the records of the sheriff at the time	of notice):			
Name: David E. Bow Address: 12088 Mid					
Address: 12000 WW		71441005	•		
operation on the State: <u>W</u>	t Virginia Code § 22-6A-16(c), notice is he surface owner's land for the purpose of drest Virginia	illing a horizontal	well on the tra	ct of land as follo 507583.008m 4378033.395m	ows:
	ncoln	Public Road A	_	Dry Run Road	
	aden City 7.5'	Generally use	d farm name:	David E. Bowyer	
	utlet Middle Island Creek				
to be provided horizontal well; surface affected information role	t Virginia Code § 22-6A-16(c), this notice by W. Va. Code § 22-6A-10(b) to a surfa and (3) A proposed surface use and compe by oil and gas operations to the extent the ted to horizontal drilling may be obtained cated at 601 57th Street, SE, Charlesto	ace owner whose ensation agreement the damages are con- the from the Secret	e land will be unt containing an ompensable und parv. at the WV	offer of compender article six-b of Department of	isation for damages to the of this chapter. Additional Environmental Protection www.dep.wv.gov/oil-and-
gas/pages/defau	lt.aspx.				Office of Oil and Gas
Well Operator:	Antero Resources Corporation	Address:	1615 Wynkoop Stre	et	and Gas
Telephone:	(303) 357-7310		Denver, CO 80202		MAR 2 3 2022
Email:	mturco@anteroresources.com	Facsimile:	303-357-7315		5 WV 00
Oil and Gas Pr The Office of O	ivacy Notice: il and Gas processes your personal informations	ation, such as nam	ne, address and	telephone numbe	Environmental Protection or, as part of our regulatory

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.

WW-6AW (1-12)

OPERATOR WELL NO.

Well Pad Name: Dry Run Pad

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS VOLUNTARY STATEMENT OF NO OBJECTION

Instructions to Persons Named on Page WW-6A

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

Comment and Waiver Provisions

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: Provided, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

VOLUNTARY STATEMENT OF NO OBJECTION

provisions list WW-6A and required, and t State: County:	, hereby state that I have read ed above, and that I have received copies of a attachments consisting of pages one (1) through well plat, all for proposed well work on the West Virginia	Notice of Apough tract of land a	plication, an App including to s follows: Easting: Northing:	the erosion and sedin	OIK FEITHIL OIL FOLLI	
District: Quadrangle:	Paden City 7.5'		sed farm name:	David E. Bowyer	MAR 2 3 2023	
Watershed:	Outlet Middle Island Creek				WIAN 2 0 ZUZJ	
issued on thos	that I have no objection to the planned work de materials.	escribed in the		I have no objection to ION BY A NATURA		
SURFACE	CE OWNER		Signature:	Marie		
☐ SURFACE OWNER (Road and/or Other Disturbance)		Print Name: Date:				
□ SURFAC	CE OWNER (Impoundments/Pits)		FOR EXECUT	ION BY A CORPOI	RATION, ETC.	
□ COAL C	WNER OR LESSEE		Company:			
□ COAL C	PERATOR					
■ WATER	PURVEYOR					
□ OPERA	TOR OF ANY NATURAL GAS STORAC	GE FIELD	Date:			

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110

Gregory L. Bailey, P.E. Interim State Highway Engineer Charleston, West Virginia 25305-0430 • (304) 558-3505

Jimmy Wriston, P. E. Secretary of Transportation Commissioner of Highways

March 16, 2023

James A. Martin, Chief Office of Oil and Gas Department of Environmental Protection 601 57th Street, SE Charleston, WV 25304

Subject: DOH Permit for the Dry Run Pad, Tyler County Ringnus Unit 2H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2021-0458 which has been issued to Antero Resources for access to the State Road for a well site located off Tyler County Route 18/12 SLS MP 1.68.

This operator is in compliance with §22-6A-20 of the WV Code. Operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated October 1, 2018. This letter is valid for permitting purposes for one year from the date of this letter.

Very Truly Yours,

Gary K. Clayton, P.E.

Regional Operations Engineer

Day K. Clayton

Central Office O&G Coordinator

RECEIVED Office of Oil and Gas

MAR 2 3 2023

WV Department of Environmental Protection

Cc:

Stefan Gaspar Antero Resources CH, OM, D-6 File

Subdivision 3.3.e A listing of the anticipated additives that may be used in the water used for fracturing or stimulating the well. (A listing of the additives that were actually used in the fracturing or stimulating of the well shall be submitted as part of the completion report required by W. Va. Code 22-6-22.)

FRACTURING/STIMULATING INTERVAL

FRACTORING/OTHEODATING INTE	
Additive	Chemical Abstract Service Number (CAS #)
1. Fresh Water	7732-18-5
2. 2 Phosphobutane 1,2,4 tricarboxylic acid	37971-36-1
3. Ammonium Persulfate	7727-54-0
4. Anionic copolymer	Proprietary
	Proprietary
	64742-48-9
	(Proprietary)
	(Proprietary)
and the state of the state of	Mixture
Ethoxylated alcohol blend Ethoxylated Nonylphenol	68412-54-4
11. Ethoxylated oleylamine	26635-93-8
12. Ethylene Glycol	107-21-1
13. Glycol Ethers	111-76-2
14. Guar gum	9000-30-0
15. Hydrogen Chloride	7647-01-0
16. Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8
17. Isopropyl alcohol	67-63-0
18. Liquid, 2,2-dibromo-3- nitrilopropionamide	10222-01-2
	Proprietary
 Microparticle Petroleum Distillates (BTEX Below Detect) 	64742-47-8
	57-55-6
21. Polyacrylamide	107-19-7
22. Propargyl Alcohol	57-55-6
23. Propylene Glycol	14808-60-7
24. Quartz	7631-86-9
25. Sillica crystalline quartz	7647-14-5
26. Sodium Chloride	1310-73-2
27. Sodium Hydroxide	57-50-1
28. Sugar	68439-51-0
29. Surfactant	14808-60-7
30. Suspending agent (solid)	
31. Tar bases, quinolone derivs, benzyl chloride-quarterniz	64742-96-7
32. Solvent Naptha, petroleum, heavy allph	67784-80-9
33. Soybean Oil, Me ester	52255-49-9
34. Copolymer of Maleic and Acrylic Acid	15827-60-8
35. DETA Phosphonate	34690-00-1
36. Hexamythylene Triamine Penta	71050-62-9
37. Phosphino Carboxylic acid polymer	
38. Hexamethylene diamine penta	23605-74-5
39. 2-Propenoic acid, polymer with 2 propenamide	9003-06-9
40. Hexamethylene diamine penta (methylene phosphon	ic acid) 23605-74-5
41. Diethylene Glycol	111-46-6
42. Methenamine	100-97-0
43. Polyethylene polyamine	68603-67-8
44. Coco amine	61791-14-8
45. 2-Propyn-1-olcompound with methyloxirane	38172-91-7

WW-6A7 (6-12)

OPERATOR: Antero Resources Corp.	WELL NO: Ringnus Unit 2H
PAD NAME: Dry Run Pad	
REVIEWED BY: Mallory Turco	SIGNATURE: MM TW

WELL RESTRICTIONS CHECKLIST

HORIZONTAL 6A WELL

Well	Restri	ctions
	\checkmark	At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR
		DEP Waiver and Permit Conditions
	\checkmark	At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR
		DEP Waiver and Permit Conditions
	\checkmark	At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR
		DEP Waiver and Permit Conditions
	\checkmark	At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR
		Surface Owner Waiver and Recorded with County Clerk, OR
		DEP Variance and Permit Conditions
	\checkmark	At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR RECEIVED of Oil and Gas
		Surface Owner Waiver and Recorded with County Clerk, OR MAR 2 3 2022
		DEP Variance and Permit Conditions WV Department of Protection Protection Protection
	\checkmark	At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR
		Surface Owner Waiver and Recorded with County Clerk, OR
		DEP Variance and Permit Conditions