



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, May 6, 2024
WELL WORK PLUGGING PERMIT
Horizontal 6A Plugging

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit approval for POSTLETHWAIT 1M
47-103-03157-00-00

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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, 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. Martin
Chief

Operator's Well Number: POSTLETHWAIT 1M
Farm Name: MASON, KENNETH & JENNIE
U.S. WELL NUMBER: 47-103-03157-00-00
Horizontal 6A Plugging
Date Issued: 5/6/2024

Promoting a healthy environment.

05/10/2024

PERMIT CONDITIONS

West Virginia Code §22-6-11 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. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.
4. 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.

1) Date March 25, 2024
2) Operator's
Well No. Postlethwait 1M
3) API Well No. 47-103 - 03157

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil ___ / Gas x / Liquid injection ___ / Waste disposal ___ /
(If "Gas, Production ___ or Underground storage ___) Deep ___ / Shallow x
- 5) Location: Elevation 1396' Watershed Fishing Creek
District Center County Wetzel Quadrangle Littleton 7.5'
- 6) Well Operator Antero Resources Corporation 7) Designated Agent Kevin Ellis
Address 1615 Wynkoop Street Address 535 White Oaks Blvd
Denver, CO 80202 Bridgeport, WV 26330
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Stephen McCoy Name N/A - Antero will plug well
Address 601 57th Street SE Address _____
Charleston, WV 25304

10) Work Order: The work order for the manner of plugging this well is as follows:

***Please See Attached Work Order**

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector



Date

4-17-24

Postlethwait 1M
Wetzel County, WV
API #47-103-03157



Antero Resources
1615 Wynkoop St.
Denver, CO 80202
Office: 303.357.7310
Fax: 303.357.7315

Objective: Plug and Abandon from 2,778' TD

Well Design:

- 26" 85# Conductor @ 40' - Cemented to Surface
- 18-5/8" Surface Casing @ 720' - Cemented to Surface - 17.75" ID
- 13-3/8" Surface Casing @ 1,697' - Cemented to Surface - 12.715" ID
- 9-5/8" Intermediate Casing @ 2,778' - Cemented to Surface - 8.921" ID

Freshwater 120,630 Coal 680,1235 Saltwater 2097 Elevation 1390'

Oil and Gas Zones:

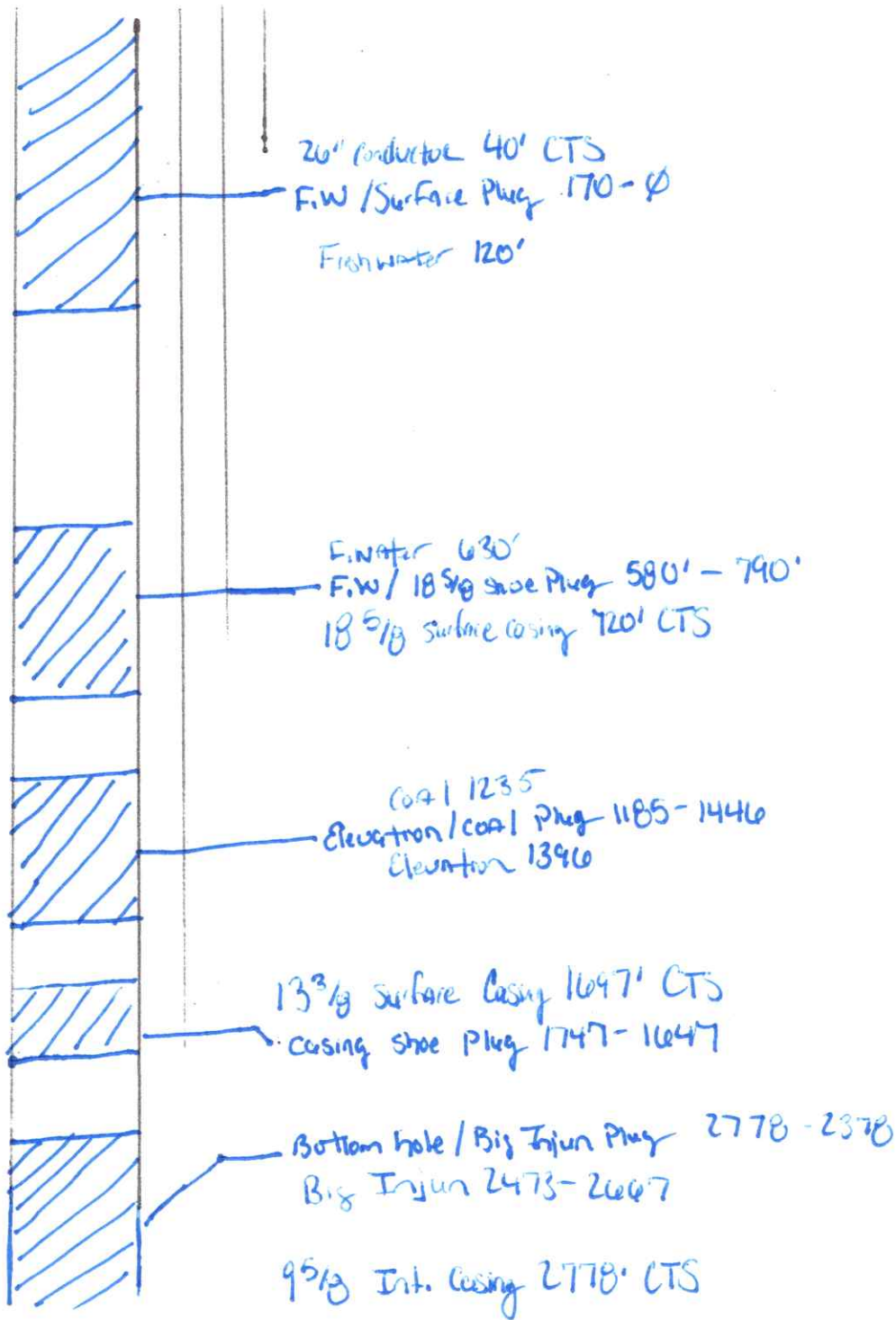
1. Big Injun- 2,473'-2,667'
2. Coal - 1,235'

Procedure:

1. Check and record casing surface pressures into Wellview. Verify no pressure behind 9 5/8". Bleed off pressure and monitor any build-up prior to performing any more work.
2. Notify WV DEP 24 hours prior to commencing work.
3. Move in and rig up flat tank and frac tank (No pits will be utilized).
4. MIRU Service rig with JU Head. Pressure test well control equipment.
5. RIH with 2 3/8" tubing to 2,778'
6. Pull up 10' off bottom, MIRU cement services. Mix and pump a 400' cement plug (2,778'-2,378') to cover the Big Injun (Class A cement + 2% CaCl₂, zero excess, yield = 1.15 ft³/sk, WR = 5.2 gal/sk, minimum 500 psi compressive strength)
 - a. 9 5/8" casing volume = 0.4341 ft³/ft
 - b. 400' plug = 174 ft³ cement.
 - c. Displace to balance plug with 8.33 ppg fluid
 - d. Slowly pull out of cement plug and lay down 400' of 2-3/8" tubing
 - e. Circulate tubing clear of cement with 8.33ppg fluid
7. TOOH laying down tubing to 1750'.
8. Mix and pump cement plug to fill up 9-5/8" casing from 1,747' to 1,647' over the 13 3/8 casing shoe. (Class A cement + 2% CaCl₂, zero excess, yield = 1.15 ft³/sk, WR = 5.2 gal/sk, minimum 500 psi compressive strength)
 - a. Volume inside of 9-5/8" = 0.4341 ft³/ft
 - b. 100' plug = 44 ft³ cement
 - c. Displace to balance plug with 8.33 ppg fluid
 - d. Slowly pull out of cement plug while laying down 100' of 2-3/8" tubing
 - e. Circulate tubing clear of cement with 8.33ppg fluid
9. TOOH laying down tubing to 300'.
ADD Plugs: Flomton/Coal 1185-1446 F.W./PB shoe plug 580-790'
10. Mix and pump final cement plug to fill up 9-5/8" casing from 170' to 0'.
 - a. Mix and pump 7 bbls 10ppg 35ppb weighted Eco spacer from 180'-300' prior to final plug to support cement column
a. TOOH to 180'
170
 - b. 66 ft³ Class A cement + 2% CaCl₂, zero excess, yield = 1.15 ft³/sk, WR = 5.2 gal/sk, minimum 500 psi compressive strength)
 - a. Volume inside of 9-5/8" = 0.4341 ft³/ft
 - b. 150' plug = 66 ft³ cement
 - c. Slowly pull out of cement plug while laying down 150' of 2-3/8" tubing
 - d. Clean up tubing if possible
 - e. Install Monument Marker with API No.: 47-103-03157

05/10/2024

SMG
4-17-24



05/10/2024

[Handwritten signature]
4-17-24

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 103 - 03157 County Wetzel District Center
Quad Wileyville 7.5' Pad Name Rock Camp Field/Pool Name ----
Farm name Kenneth R. & Jennifer L. Mason Well Number Postlethwait Unit 1H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4387377.10m Easting 532373.63m
Landing Point of Curve Northing m Easting m
Bottom Hole Northing m Easting m

Elevation (ft) 1396' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary


Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Air - Foam & 4% KCL
Mud - Polymer

Date permit issued 9/9/2016 Date drilling commenced _____ Date drilling ceased _____
Date completion activities began _____ Date completion activities ceased _____
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 120, 630' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 2057' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 680, 1235' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:


05/10/2024

API 47- 103 - 03157 Farm name Kenneth R. & Jennifer L. Mason Well number Postlethwait Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	26"	20"	40'	New	85#/J-55		Cemented to Surface
Surface	18-5/8"	17.75"	720'	New	48#/H-40		Cemented to Surface
Coal							
Intermediate 1	13 3/8"	12.715"	1697'	New	36#/J-55		Cemented to Surface
Intermediate 2	9 5/8"	8.921"	2778'	New	36#/J-55		Cemented to Surface
Intermediate 3							
Production							
Tubing							
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 15928' MD, 7438' TVD (BHL), (Deepest Point Drilled) Loggers TD (ft) 15928' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) _____

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

Conductor - 0
 Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
 Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface
 Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

WW-4A
Revised 6-07

1) Date: 3/25/2024
2) Operator's Well Number
Postlethwait 1M

3) API Well No.: 47 - 103 - 03157

**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL**

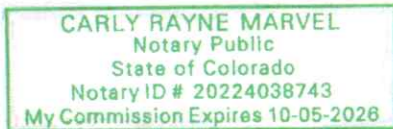
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Kenneth R. & Jennifer L. Mason</u>	Name _____
Address <u>PO Box 103</u>	Address _____
<u>Alma, WV 26320</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Isalah Richards</u>	(c) Coal Lessee with Declaration
Address <u>601 57th Street SE</u>	Name _____
<u>Charleston, WV 25304</u>	Address _____
Telephone <u>304 205 3032</u>	_____

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.



Well Operator Antero Resources Corporation
 By: Jon McEvers
 Its: Senior VP of Operations
 Address 1615 Wynkoop Street
Denver, CO 80202
 Telephone 303-357-7310

Subscribed and sworn before me this 9th day of April 2024
Carly Rayne Marvel Notary Public
My Commission Expires 10-5-2026

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a 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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

05/10/2024

**CERTIFIED MAIL RECEIPT TO SURFACE
OWNER
WW-4A
NOTICE OF APPLICATION TO PLUG AND
ABANDON WELL**

Cut on dotted line.

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. **DO NOT PHOTO COPY OR ALTER LABEL.**
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, **DO NOT TAPE OVER BARCODE.** Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0678 1060 58	
Trans. #: 601634414	Priority Mail® Postage: \$10.15
Print Date: 04/10/2024	Total: \$10.15
Ship Date: 04/10/2024	
Expected Delivery Date: 04/13/2024	
From: CARLY MARVEL 1616 WYNKOOP ST DENVER CO 80202-1106	
To: KENNETH R. & JENNIFER L. MASON PO BOX 103 ALMA WV 26320-0103	
<small>* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.</small>	



*Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com*

05/10/2024

WW-4B

API No. 47-103-03157
Farm Name Kenneth R. & Jennifer L. Mason
Well No. Postlethwait 1M

**INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE**

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less than five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator ____/ owner ____/ lessee ____/ of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: _____

By: _____

Its _____

05/10/2024

SURFACE OWNER WAIVER

Operator's Well
Number

Postlethwait 1M

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.
WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:**

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

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIVE (5) 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.

Comments must be in writing. Your comments must 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.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For A Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plat.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON
ETC.

FOR EXECUTION BY A CORPORATION,

Signature

Date

Name
By
Its

Date

Signature

Date

05/10/2024

Operator's Well No. Postlethwait 1M

Proposed Revegetation Treatment: Acres Disturbed 4.38 Prevegetation pH _____
Lime 2-3 Tons/acre or to correct to pH 6.5

Fertilizer type _____

Fertilizer amount 500 lbs/acre

Mulch 2-3 Tons/acre

Seed Mixtures

Temporary	
Seed Type	lbs/acre
Annual Ryegrass	40
Field Bromegrass	40

Permanent	
Seed Type	lbs/acre
Crownvetch	10-15
Tall Fescue	30

Please reference Table IV-3 on page 7 of the Well #1 Plugging Plan

Please reference Table IV-4A on page 7 of the Well #1 Plugging Plan

***or type of grass seed requested by surface owner**

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: Property reclamation, seed and mulch to Dept Standards.

Title: WW Oil & Gas Inspector Date: 4-17-23

Field Reviewed? Yes No

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-103-03157 WELL NO.: Postlethwait 1M

FARM NAME: Rock Camp

RESPONSIBLE PARTY NAME: Antero Resources Corporation

COUNTY: Wetzel DISTRICT: Center

QUADRANGLE: Littleton

SURFACE OWNER: Kenneth R. & Jennifer L. Mason

ROYALTY OWNER: _____

UTM GPS NORTHING: 4387377.10 m

UTM GPS EASTING: 532373.63 m GPS ELEVATION: 1,396 ft

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

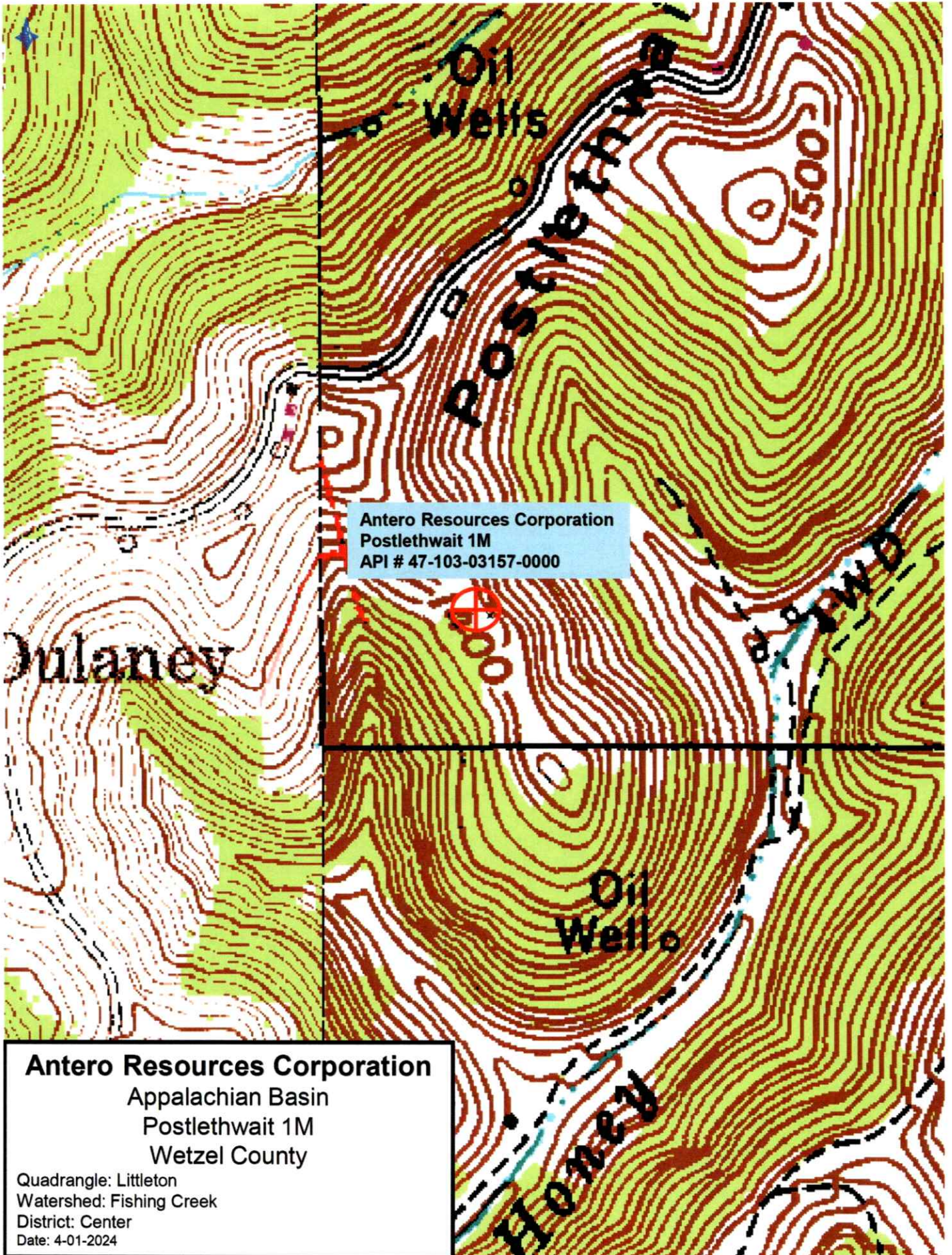
Survey grade GPS : Post Processed Differential _____
Real-Time Differential

Mapping Grade GPS : Post Processed Differential _____
Real-Time Differential

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

MJM Tim _____ Permitting Manager _____ 4/10/24
Signature Title Date



Antero Resources Corporation
Appalachian Basin
Postlethwait 1M
Wetzel County

Quadrangle: Littleton
Watershed: Fishing Creek
District: Center
Date: 4-01-2024



Kennedy, James P <james.p.kennedy@wv.gov>

plugging permits issued 4710303157 10303158 10302936

1 message

Kennedy, James P <james.p.kennedy@wv.gov>

Mon, May 6, 2024 at 12:52 PM


To: Mallory Turco <mturco@anteroresources.com>, Stephen E McCoy <stephen.e.mccoy@wv.gov>, Dani Devito <ddevito@shalepro.com>, slemley@wvassessor.com


To whom it may concern, plugging permits have been issued for 4710303157 10303158 10302936.


James Kennedy

WVDEP OOG

3 attachments

 **4710303157.pdf**
2768K

 **4710303158.pdf**
2798K

 **4710302936.pdf**
3112K

05/10/2024