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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Thursday, May 26, 2022

WELL WORK PLUGGING PERMIT  
Horizontal 6A Plugging

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET  
DENVER, CO 80202

Re: Permit approval for PLAUGHER UNIT 1H  
47-033-05794-00-00

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.

A blue ink signature of James A. Martin, Chief, is written over a white background. The signature is cursive and stylized.

James A. Martin  
Chief

Operator's Well Number: PLAUGHER UNIT 1H  
Farm Name: VARNER, JAMES A.  
U.S. WELL NUMBER: 47-033-05794-00-00  
Horizontal 6A Plugging  
Date Issued: 5/26/2022

Promoting a healthy environment.

05/27/2022

## 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

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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.

WW-4B  
Rev. 2/01

1) Date April 1, 2022  
2) Operator's Well No. Plougher Unit 1H  
3) API Well No. 47-033 - 05794

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 1455' Watershed Halls Run  
District Tenmile County Harrison Quadrangle Salem & Big Issac 7.5'
- 6) Well Operator Antero Resources Corporation 7) Designated Agent CT Corporation System - Dianna Stamper  
Address 1615 Wynkoop Street Address 5400 D Big Tyler Road  
Denver, CO 80202 Charleston, WV 25313
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Sam Ward 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

★ ALL SPACERS BETWEEN CEMENT PLUGS MUST BE FRESH WATER GEL w/ A MINIMUM OF 6% BENTONITE BY WEIGHT. THE ENTIRE WELL-BORE MUST BE FILLED WITH CLASS A CEMENT PLUGS & FRESH WATER GEL.

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

Work order approved by inspector

SJD Ward

Date

5/5/2022

05/27/2022





**Plaugher Unit 1H**  
 Harrison County, WV  
 API #47-033-05794

**Objective:** Plug and Abandon from 2551' TD

**Well Design:**

- 20" 94# Conductor @ 40' – Cemented to Surface
- 13-3/8" Surface Casing @ 402' – Cemented to Surface-12.715" ID
- 9-5/8" Intermediate Casing @ 2,551' – Cemented to Surface-8.921" ID

**Oil and Gas Zones:**

1. Big Injun- 2,280'-2,393'

**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. Current load fluid is 8.33# water
5. Trip in hole with 2 3/8" tubing to 2,450'.
6. MIRU cement services. Mix and pump a 300' cement plug (2,150'-2,450'). Covering the Big Injun formation with plug. (Class A cement + 2% CaCl<sub>2</sub>, zero excess, yield = 1.15 ft<sup>3</sup>/sk, WR = 5.2 gal/sk, minimum 500 psi compressive strength)
  - a. 9 5/8" casing volume = 0.4341 ft<sup>3</sup>/ft
  - b. 300' plug = 131 ft<sup>3</sup> cement.
  - c. Displace to balance plug with 8.33 ppg fluid
  - d. Slowly pull out of cement plug and lay down 500' of 2-3/8" tubing
  - e. Circulate tubing clear of cement with 8.33ppg fluid
  - f. Wait on cement 8 hrs
  - g. RIH and tag top of cement
7. TOOH laying down tubing to 300'.
  - 7.a
8. Mix and pump the final cement plug to fill up 9-5/8" casing from 150' to surface.
  - a. Mix and pump 7 bbls 10ppg 35ppb weighted Eco spacer from 150'-300' prior to final plug to support cement column
    - a. TOOH to 150'
  - b. 66 ft<sup>3</sup> Class A cement + 2% CaCl<sub>2</sub>, zero excess, yield = 1.15 ft<sup>3</sup>/sk, WR = 5.2 gal/sk, minimum 500 psi compressive strength)
    - a. Volume inside of 9-5/8" = 0.4341 ft<sup>3</sup>/ft
    - b. 150' plug = 66 ft<sup>3</sup> 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.: 47-033-05794
    - f. Wait on cement 8hrs.
    - g. Observe top of cement at surface.
    - h. Top out as necessary

SDW

5/5/2022

SET A 100' CLASS A CEMENT PLUG FROM 450' TO 350'  
 ACROSS 13 3/8" CASING SEAT.  
 (CONFERENCE W/ MATT PALMER FROM ANTERO)

9/10/2022

WR-35  
Rev. 8/23/13

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

API 47 - 033 - 05794 County Harrison District Tenmile  
Quad Salem Pad Name Varnier West Pad Field/Pool Name -----  
Farm name James A. Varnier Well Number Plaughter Unit 1H  
Operator (as registered with the OOG) Antero Resources Appalachian 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 4345136.292m Easting 539077.295m  
Landing Point of Curve Northing --- Easting ---  
Bottom Hole Northing ----- Easting -----

Elevation (ft) 1456' 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 4/3/2013 Date drilling commenced 7/26/2014 Date drilling ceased 8/10/2014  
Date completion activities began N/A Date completion activities ceased N/A  
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 98', 295' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1279', 1775' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 142', 743', 1060' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

05/27/2022  
Reviewed by:

API 47-033 - 05794 Farm name James A. Varner Well number Plaughter 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	24"	20"	40'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	402'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2551'	New	36#, J-55	N/A	Y
Intermediate 2							
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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	196 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	484 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	938 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	---	---	---	---	---	---	---
Tubing							

Drillers TD (ft) 2551' (Deepest Point Drilled) Loggers TD (ft) N/A  
 Deepest formation penetrated N/A Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) N/A

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

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

05/27/2022

API 47- 033 - 05794 Farm name James A. Varner Well number Plaughter Unit 1H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
<b>*PLEASE SEE ATTACHED EXHIBIT 1</b>					

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

05/27/2022

WR-35  
Rev. 8/23/13

API 47- 033 - 05794 Farm name James A. Varner Well number Plaughter Unit 1H

PRODUCING FORMATION(S)	DEPTHS		
	N/A (TOP)	TVD	N/A (TOP) MD
Marcellus			

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface --- psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas --- mcfpd Oil --- bpd NGL --- bpd Water --- bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

Drilling Contractor Hall Drilling  
Address 1137 E. Washington Avenue City Ellenboro State WV Zip 26346

Logging Company N/A  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Cementing Company Rush Wellsite Services  
Address 1500 E. Dave Ward Drive City Conway State AR Zip 72032

Stimulating Company N/A  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please insert additional pages as applicable.

Completed by Mallory Stanton Telephone 303-357-7223  
Signature Mallory Stanton Title Permitting Manager Date 5/3/2022 **05/27/2022**



API 47-033-05795 Farm Name James A. Varner Well Number Plougher Unit 2H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Siltstone	46	166	46	166
Sandstone	166	286	166	286
Shale	286	466	286	466
Siltstone w/trace coal	466	646	466	646
Sandstone	646	766	646	766
Siltstone	766	846	766	846
Limestone	846	926	846	926
Siltstone	926	986	926	986
Limestone and Siltstone	986	1,146	986	1,146
Shale	1,146	1,266	1,146	1,266
Siltstone and Sandstone	1,266	1,426	1,266	1,426
Shale and Siltstone	1,426	1,496	1,426	1,496
Siltstone and Sandstone	1,496	2,206	1,496	2,206
Siltstone w/trace coal	2,206	2,246	2,206	2,246
Shale	2,246	2,286	2,246	2,286
Siltstone and Sandstone	2,286	2,321	2,286	2,321
Big Lime	2,335	2,913	2,321	2,913
Fifty Foot Sandstone	2,913	3,018	2,899	3,018
Gordon	3,018	3,346	3,004	3,346
Fifth Sandstone	3,346	3,375	3,332	3,375
Bayard	3,375	4,152	3,361	4,152
Speechley	4,152	4,460	4,138	4,460
Balltown	4,460	4,782	4,446	4,782
Bradford	4,782	5,311	4,768	5,312
Benson	5,311	5,603	5,298	5,611
Alexander	5,603	7,201	5,597	7,378
Sycamore	6,972	7,201	7,109	7,378
Middlesex	7,201	7,349	7,364	7,550
Burkett	7,349	7,378	7,536	7,588
Tully	7,378	7,531	7,574	7,878
Marcellus	7,531	NA	7,878	NA

\*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique depth. <sup>REMOVED</sup>  
Office of Oil and Gas

JUN 08 2020

WV Department of  
Environmental Protection

WW-4A  
Revised 6-07

1) Date: 4/12/2022  
2) Operator's Well Number  
Plaughter Unit 1H

3) API Well No.: 47 - 033 - 05794

**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>James A Varner</u>	Name _____
Address <u>2743 Halls Run</u>	Address _____
<u>Salem, WV 26426</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
	Address _____
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Doug Newlon</u>	(c) Coal Lessee with Declaration
Address <u>601 57th Street SE</u>	Name _____
<u>Charleston, WV 25304</u>	Address _____
Telephone <u>304 575-0109</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 reverse 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: Diana Hoff *Diana O. Hoff*  
 Its: Senior VP of Operations  
 Address 1615 Wynkoop Street  
Denver, CO 80202  
 Telephone 303 357-7310

RECEIVED  
Office of Oil and Gas

APR 26 2022

WV Department of  
Environmental Protection

Subscribed and sworn before me this 14 day of April 2022

Diane Blair Notary Public

My Commission Expires 27 Apr 2024

**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 [dep.privacy@dep.wv.gov](mailto:dep.privacy@dep.wv.gov).

05/27/2022

4703305794

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

<b>USPS TRACKING # :</b>		
<b>9405 5036 9930 0227 1460 30</b>		
Trans. #:	561663989	Priority Mail® Postage: <u>\$8.95</u>
Print Date:	04/19/2022	Total: <u>\$8.95</u>
Ship Date:	04/19/2022	
Expected Delivery Date:	04/23/2022	
<b>From:</b> JOHN GIANNAULA 1615 WYNKOOP ST DENVER CO 80202-1106		<b>RECEIVED</b> Office of Oil and Gas  <b>APR 26 2022</b>  WV Department of Environmental Protection
<b>To:</b> JAMES VARNER 2743 HALLS RUN RD BRISTOL WV 26426-7340		
<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>		



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05/27/2022

**SURFACE OWNER WAIVER**

Operator's Well  
Number

Plaugher Unit 1H

**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 57<sup>th</sup> 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,  
ETC.**

_____	Date _____	Name _____	_____
Signature		By _____	_____
		Its _____	Date _____
		Signature _____	Date _____

WW-4B

API No. 47-033-05794  
Farm Name Varner  
Well No. Plaughter Unit 1H

**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 \_\_\_\_\_



4703305794P

WW-9  
(5/16)

API Number 47 - 033 - 05794  
Operator's Well No.      Plaugher Unit 1H     

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 (HUC 10) Halls Run Quadrangle Salem & Big Isaac 7.5'

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: \_\_\_\_\_

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number \*UIC Permit # will be provided on Form WR-34 )
- Reuse (at API Number: Future permitted well locations when applicable. API# will be provided on Form WR-34 )
- Off Site Disposal (Supply form WW-9 for disposal location) (Meadowfill Landfill Permit #SWF-1032-98)
- Other (Explain Northwestern Landfill Permit #SWF-1025/WV0109410)

Will closed loop system be used? If so, describe: Yes, fluids stored in tanks, cuttings removed off site and taken to landfill.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.

-If oil based, what type? Synthetic, petroleum, etc.

Additives to be used in drilling medium? \_\_\_\_\_

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc.

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

-Landfill or offsite name/permit number? \_\_\_\_\_

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WV Department of  
Environmental Protection

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, 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 or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this 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

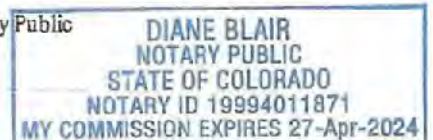
Company Official (Typed Name) Gretchen Kohler

Company Official Title Director of Environmental & Regulatory Compliance

Subscribed and sworn before me this 14 day of April, 2022

Diane Blair

Notary Public



My commission expires 27 Apr 2024

05/27/2022

Proposed Revegetation Treatment: Acres Disturbed 31.03 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

Permanent

Seed Type	lbs/acre
Annual Ryegrass	40
Field Bromegrass	40

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: S.W. Ward

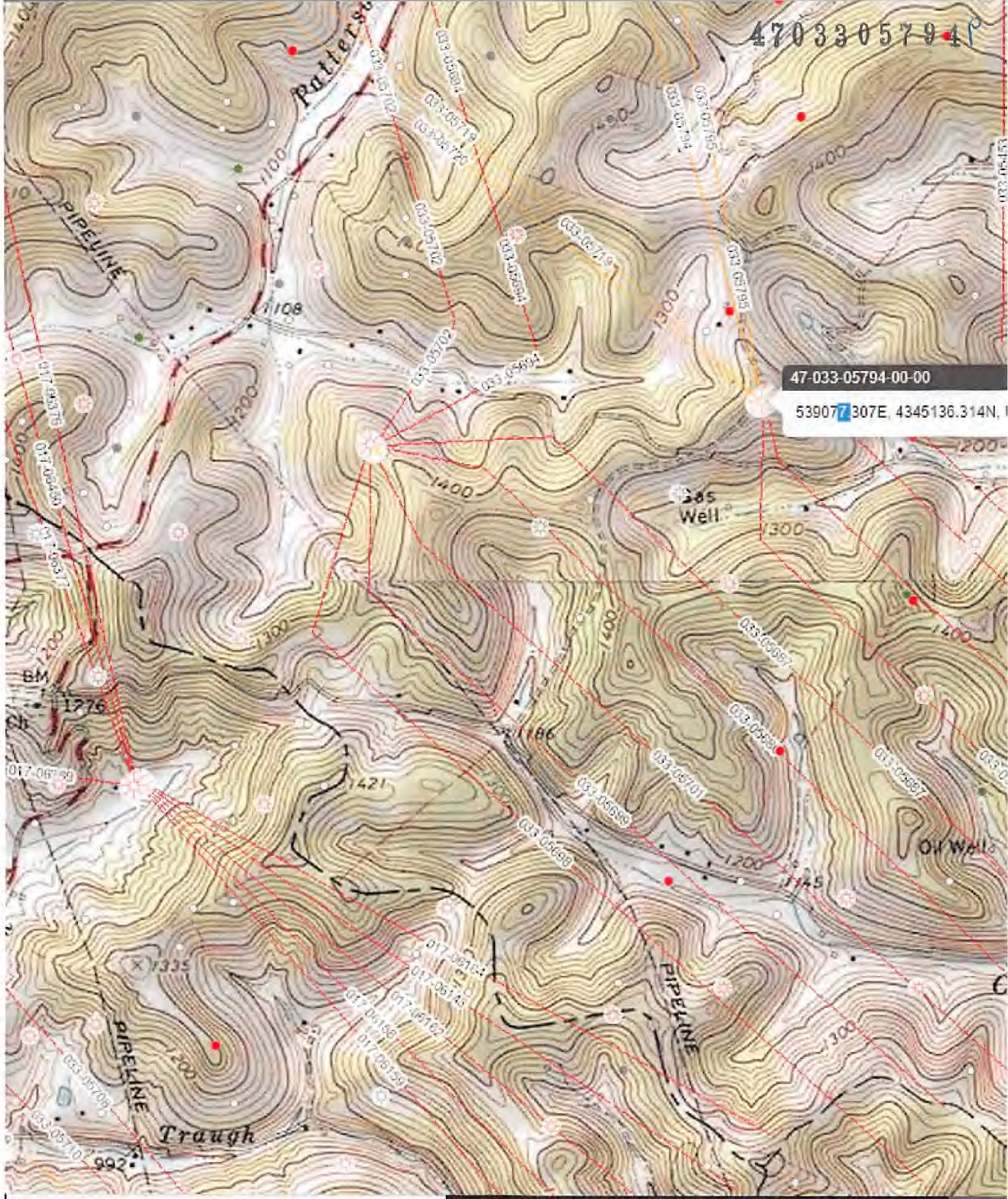
Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: OOB Inspector Date: 5/5/2022

Field Reviewed? ( ) Yes ( X ) No





🔍 Type here to search



05/27/2022



WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas

**WELL LOCATION FORM: GPS**

API: 47-033-05794 WELL NO.: Plaugher 1H

FARM NAME: Varner West

RESPONSIBLE PARTY NAME: Antero Resources Corporation

COUNTY: Harrison DISTRICT: Tenmile

QUADRANGLE: Salem & Big Isaac

SURFACE OWNER: James A. Varner

ROYALTY OWNER: James A. Varner Sr.

UTM GPS NORTHING: 4345136.35 m

UTM GPS EASTING: 539077.24 m GPS ELEVATION: 1455.7 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 X: Post Processed Differential \_\_\_\_\_

Real-Time Differential X

Mapping Grade GPS X: Post Processed Differential \_\_\_\_\_

Real-Time Differential X

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.

MMSA  
Signature

Permitting Manager

Title

4/14/22

Date

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Environmental Protection

05/27/2022

# LOWNDES UNIT 1H - API# 47-033-5720, LOW PLAUGHER UNIT 1H - API# 47-033-5794, PLA WELL PLUGGING

TENMILE DISTRICT, HARRISON  
TENMILE CREEK & SALEM FORK  
SALEM & BIG ISAAC USGS 7.5

## LOCATION COORDINATES:

ACCESS ROAD ENTRANCE  
LATITUDE: 39.254210 LONGITUDE: -80.548310 (NAD 83)  
LATITUDE: 39.254122 LONGITUDE: -80.548491 (NAD 27)  
N 4345084.36 E 538972.39 (UTM ZONE 17 METERS)

CENTROID OF PAD  
LATITUDE: 39.254747 LONGITUDE: -80.547101 (NAD 83)  
LATITUDE: 39.254659 LONGITUDE: -80.547282 (NAD 27)  
N 4345144.46 E 539076.42 (UTM ZONE 17 METERS)

## GENERAL DESCRIPTION:

THE EXISTING ACCESS ROAD AND WELL PAD ARE BEING UPGRADED TO AID IN THE PLUGGING OF EXISTING INDIVIDUAL GAS WELL.

## FLOODPLAIN NOTES:

THE PROPOSED SITE IS LOCATED WITHIN FEMA FLOOD ZONE "X" PER FEMA FLOOD MAP #54033CO120D.

## MISS UTILITY STATEMENT:

ANTERO RESOURCES CORPORATION WILL NOTIFY MISS UTILITY OF WEST VIRGINIA FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN. IN ADDITION MISS UTILITY WILL BE CONTACTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION FOR THIS PROJECT.

## ENTRANCE PERMIT:

ANTERO RESOURCES CORPORATION WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-100) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, IF REQUIRED.

## GEOTECHNICAL NOTES:

NO SOIL STUDIES OR SUBSURFACE INVESTIGATIONS WERE PERFORMED AND ANALYZED FOR THE DESIGN OF THIS SITE.

## ENVIRONMENTAL NOTES:

STREAM AND WETLAND DELINEATIONS WERE PERFORMED BY ALLSTAR ECOLOGY, LLC FROM DELINEATIONS OF THE PROJECT AREA PERFORMED 2012/2013.

## PROJECT CONTACTS:

### OPERATOR:

ANTERO RESOURCES CORPORATION  
535 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330  
PHONE: (304) 842-4100  
FAX: (304) 842-4102

ELI WAGONER - ENVIRONMENTAL ENGINEER & REGULATORY MANAGER

OFFICE: (304) 842-4088 CELL: (304) 476-9770

DIANA HOFF - SVP OPERATIONS  
OFFICE: (303) 367-5904

AARON KUNZLER - CONSTRUCTION MANAGER  
CELL: (304) 842-4191

ROBERT WIRKS - DESIGN MANAGER OFFICE:  
(304) 842-4100 CELL: (304) 627-7405

ROBERT EDDY - UTILITY COORDINATOR  
CELL: (304) 718-6199

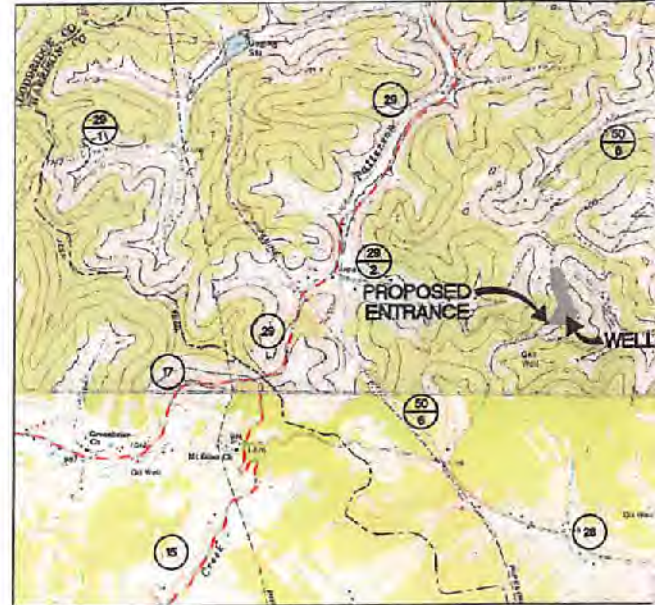
RANDALL RANDOLPH - LAND AGENT  
CELL: (405) 818-5956

### ENGINEER/SURVEYOR:

NAVITUS ENGINEERING, INC.  
CYRUS S. KUMP, PE - PROJECT MANAGER/ENGINEER  
OFFICE: (988) 662-4185 CELL: (540) 666-8747

### ENVIRONMENTAL:

ALLSTAR ECOLOGY, LLC  
RYAN L. WARD - ENVIRONMENTAL SCIENTIST  
(866) 213-2666 CELL: (304) 692-7477



2000 0 2000  
SCALE: 1" = 2000'

## WEST VIRGINIA COUNTY MAP



(NOT TO SCALE)

## REPRODUCTION NOTE

THESE PLANS WERE CREATED TO BE PLOTTED ON 22"x34" (ANSI D) PAPER. HALF SCALE DRAWINGS ARE ON 11"x17" (ANSI B) PAPER.

THESE PLANS WERE CREATED FOR COLOR PLOTTING AND ANY REPRODUCTIONS IN GRAY SCALE OR COLOR MAY RESULT IN A LOSS OF INFORMATION AND SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.

05/27/2022



**LOWNDES UNIT 2H - API# 47-033-5719,  
PLUGGER UNIT 2H - API# 47-033-5795  
ACCESS ROAD PLAN**

WV  
WATERSHEDS  
ROAD MAP(S)



WEST VIRGINIA STATE PLANE COORDINATE SYSTEM  
NORTH ZONE, NAD83  
ELEVATION BASED ON NAVD83  
ESTABLISHED BY SURVEY GRADE GPS & OPUS  
POST-PROCESSING

**SHEET INDEX:**

- 1 - COVER SHEET
- 2 - CONSTRUCTION AND E&S CONTROLS NOTES
- 3 - LEGEND
- 4 - ACCESS ROAD & WELL PAD PLAN
- 5 - CONSTRUCTION DETAILS

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REVISION  
DATE

WVDOH COUNTY ROAD MAP



VARNER WEST LIMITS OF DISTURBANCE AREA (AC)	
Total Site	
Access Road "A" (134')	0.22
Access Road "B" (250')	0.85
Well Pad	5.83
Water Containment Pad	3.03
<b>Total Affected Area</b>	<b>9.74</b>

Well Name	WV North NAD 27	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat. & Long	
				LAT	LONG
As-Drilled Coordinates					
Lowndes Unit 1H (Conductor)	N 276562.87	N 276589.84	N 4345132.91	LAT 39-15-18.7145	
API# 47-033-05720 (To Be Plugged & Monumented)	E 1703421.38	E 1671980.73	E 539072.24	LONG -80-32-49.7388	
Lowndes Unit 2H (Conductor)	N 276566.48	N 276595.45	N 4345134.68	LAT 39-15-18.7709	
API# 47-033-05719 (To Be Plugged & Monumented)	E 1703430.26	E 1671989.62	E 539074.92	LONG -80-32-49.6257	
Pluggger Unit 1H (Drilled)	N 276563.89	N 276500.80	N 4345136.35	LAT 39-15-18.8293	
API# 47-033-05784 (To Be Plugged & Monumented)	E 1703437.86	E 1671997.31	E 539077.24	LONG -80-32-49.5297	
Pluggger Unit 2H (Drilled)	N 276569.52	N 276505.48	N 4345138.10	LAT 39-15-18.8919	
API# 47-033-05795 (To Be Plugged & Monumented)	E 1703446.60	E 1672005.95	E 539079.84	LONG -80-32-49.4205	
Gideon Unit 1H (Drilled)	N 276574.61	N 276611.58	N 4345139.70	LAT 39-15-18.9333	
API# 47-033-05722	E 1703455.05	E 1672014.40	E 539082.99	LONG -80-32-49.3140	
Gideon Unit 2H (Drilled)	N 276579.47	N 276616.44	N 4345141.22	LAT 39-15-18.9822	
API# 47-033-05721	E 1703463.13	E 1672022.49	E 539084.83	LONG -80-32-49.2119	
Varner Unit 1H (Drilled)	N 276585.19	N 276622.16	N 4345143.01	LAT 39-15-17.0397	
API# 47-033-05723	E 1703471.94	E 1672030.99	E 539087.39	LONG -80-32-49.1048	
Varner Unit 2H (Drilled)	N 276590.69	N 276627.06	N 4345144.73	LAT 39-15-17.0850	
API# 47-033-05735	E 1703479.92	E 1672039.28	E 539089.89	LONG -80-32-49.0001	
Well Pad Elevation	1,455.7				

MISS Utility of West Virginia  
1-800-245-4848  
West Virginia State Law  
Section XIV: Chapter 24-C)  
Requires that you call two  
business days before you dig in  
the state of West Virginia.  
**IT'S THE LAW!!**

COVER SHEET  
**VARNER WEST**  
WELL PAD  
TENMILE DISTRICT  
HARRISON COUNTY, WEST VIRGINIA



DATE: 03/23/2022  
SCALE: AS SHOWN  
SHEET 1 OF 5



Stansberry, Wade A &lt;wade.a.stansberry@wv.gov&gt;

---

**Plugging Horizontal H6A Well Work Permit (API: 47-033-05794 & 47-033-05795)**

1 message

**Stansberry, Wade A** <wade.a.stansberry@wv.gov>

Thu, May 26, 2022 at 1:25 PM

To: Mallory Stanton <mstanton@anteroresources.com>, Diane Blair <dblair@anteroresources.com>, Dani DeVito <ddevito@shalepro.com>, dpalmer@harrisoncountywv.com, mcopeland@harrisoncountywv.com, Jeffrey McLaughlin <jeffrey.w.mclaughlin@wv.gov>, "Ward, Samuel D" <samuel.d.ward@wv.gov>

I have attached a copy of the newly issued well [permit](#) number. This will serve as your copy.

**47-033-05794 - PLAUGHER UNIT 1H**  
**47-033-05795 - PLAUGHER UNIT 2H**

If you have any questions, then [please](#) contact us here at the Office of Oil and Gas.

Thank you,

**Wade A. Stansberry**

**Environmental Resource Specialist 3**

**West Virginia Department of Environmental Protection**

**Office of Oil & Gas**

**601 57th St. SE**

**Charleston, WV 25304**


**(304) 926-0499 ext. 41115**


**(304) 926-0452 fax**

**[Wade.A.Stansberry@wv.gov](mailto:Wade.A.Stansberry@wv.gov)**

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**4 attachments**

 **47-033-05794 - Copy.pdf**  
1342K

 **47-033-05795 - Copy.pdf**  
3763K

 **IR-8 Blank.pdf**  
237K

 **IR-8 Blank.pdf**  
237K

**05/27/2022**