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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

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, November 29, 2017  
WELL WORK PERMIT  
Vertical / Plugging

CHESAPEAKE APPALACHIA, L.L.C.  
2321 ENERGY DRIVE

LOUISVILLE, OH 44641

Re: Permit approval for 2528  
47-023-00019-00-00

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. Martin  
Chief

Operator's Well Number: 2528  
Farm Name: ALLEGHENY MINING CORP.  
U.S. WELL NUMBER: 47-023-00019-00-00  
Vertical / Plugging  
Date Issued: 11/29/2017

Promoting a healthy environment.

12/01/2017

## 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.

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### 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.

2300019A

WW-4B  
Rev. 2/01

1) Date November 14, 2017  
2) Operator's  
Well No. 2528  
3) API Well No. 47-023 - 00019

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 3,147' Watershed \_\_\_  
District Union County Grant Quadrangle Mount Storm

6) Well Operator Chesapeake Appalachia, L.L.C. 7) Designated Agent Jody C. Jones  
Address P.O. Box 18496 Address 2321 Energy Drive  
Oklahoma City, OK 73154-0496 Louisville, OH 44641

8) Oil and Gas Inspector to be notified Name Bryan Harris  
Address P.O. Box 157  
Volga, WV 26238  
9) Plugging Contractor Name Chesapeake Appalachia, L.L.C.  
Address P.O. Box 18496  
Oklahoma City, OK 73154-0496

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

NOTIFY BRYAN HARRIS BEFORE MOVING ON LOCATION @ 304-553-6087.  
(STATE INSPECTOR)

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

Work order approved by inspector OK Bryan Harris by phone Date 11/20/2017

JWM

12/01/2017

★ NOTIFY STATE INSPECTOR BRYAN HARRIS BEFORE MOVING ON LOCATION.  
(304-553-6087)

Procedure:

1. MIRU Service rig
2. Check pressures and blow the well down to tank, recover rabbit and BSA and install strip head
3. Load hole with produced water to the highest pressure plus 25% safety factor
4. Check TD with tools or workstring. Pkr depth 9930'. State law requires to pull pkr and set bottomhole plug. Release and pull packer. Contact Inspector if cannot pull or any changes to the procedure required
5. Spot 6% bentonite gel. Set 250' bottomhole plug approximately 10,050'-9800', pull WS and WOC
6. Check top of plug with tools or tubing. If TOC is below 9800', then add cement to top off plug
7. Pull or run workstring to 9700', spot gel
8. Spot a 400' cement safety plug 9700'-9300', pull WS and WOC
9. Check top of plug with tools or tubing. If TOC is below 9300', then add cement to top off plug
10. Cut 5-1/2" casing at free point and pull – TOC at approximately 7650'
11. Run WS to casing cut at approximately 7650' and spot gel
12. Spot a 200' rim plug 7750'-7550' and \*at least\* 50' in csg and 50' in open hole. Pull WS and WOC
13. Check top of plug with tools or tubing. If TOC is less than 50' in the OH, then add cement to top off plug
14. Pull or run workstring to 3200', spot gel
15. Spot a 200' cement plug across 9-5/8" csg seat 3250'-3050'. (Elevation 3158' KB). Pull WS and WOC
16. Check top of plug with tools or tubing. If TOC is below 3050', then add cement to top off plug
17. Pull or run workstring to 500', spot gel
18. Spot a 100' cement plug across 13-3/8" csg seat 500'-400'. Pull WS and WOC
19. Check top of plug with tools or tubing. If TOC is below 400', then add cement to top off plug
20. Pull or run workstring to 200', spot gel
21. Spot a 200' cement plug 200'-Surface
22. Pull workstring and top off with cement
23. Erect monument and reclaim as prescribed by law

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23 00019 P

WR-35

28-Apr-88  
API # 47- 23-00019

TIGHT HOLE

State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: ALLEGHENY MINING CORP. Operator Well No.: 2528

LOCATION: Elevation: 3147.00 Quadrangle: MOUNT STORM

District: UNION County: GRANT  
Latitude: 11075 Feet South of 39 Deg. 17Min. 30 Sec.  
Longitude 1500 Feet West of 79 Deg. 10 Min. 0 Sec.

Company: EQUITABLE RESOURCES EXPLO  
P. O. DRAWER 40  
BUCKHANNON, WV

Agent: JOSEPH C. PETTEY

Inspector: PHILLIP TRACY  
Permit Issued: 05/27/87  
Well work Commenced: 06/17/87  
Well work Completed: 08/08/87  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary x Cable \_\_\_\_\_ Rig  
Total Depth (feet) 10,098  
Fresh water depths (ft) 118,340,490

Salt water depths (ft) 0

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): 90/92

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11"	9	9	To surface
13 5/8"	466.5	466.5	503 C.F.
9 5/8"	3151.7	3151.7	1419 C.F.
5 1/2"		10,098	774 C.F.
2 3/8"		9930	

OPEN FLOW DATA TIGHT HOLE

Producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

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For: EQUITABLE RESOURCES EXPLORATION, INC.

By: Douglas P. Jerry  
Date: August 29, 1988

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12/01/2017

9/2/87 - Nowsco Frac  
Perforations: 9998-10,020 Shriver Chert  
84 sxs 80/100 sand, 1000 sxs. 20/40 sand  
2000 gal. HCl Acid

11/19/87 - Halliburton Gel Frac  
Perforations: 9851-9902 Oriskany  
450,000 lbs. 20/40 sand, 12,600 lbs. 80/100 sand  
Production Packer set @ 9930'

Pottsville Group	surface
Top of Foreknobs Group	3854
Sycamore	7722 - 7820
Harrell Shale	8755 - 8966
Tully Horizon	8966 - 8973
Upper Marcellus	9469 - 9498
Purcell L.S.	9498 - 9557
Lower Marcellus	9557 - 9622
Tioga Metabentonite	9608 - 9619
Needmore Shale	9624 - 9753
Oriskany S.S.	9753 - 9925
Shriver Chert	9981 - 10,026

1/2" stream wtr. @ 118'  
2 1/2" stream wtr @ 340'  
1/2" stream wtr. @ 490'  
Damp @ 3790'

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WW-4A  
Revised 6-07

1) Date: 11-14-2017  
2) Operator's Well Number  
2528

3) API Well No.: 47 - 023 - 00019

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

<b>4) Surface Owner(s) to be served:</b>	<b>5) (a) Coal Operator</b>
(a) Name <u>Vindex Energy Corporation</u>	Name <u>None</u>
Address <u>One CityPlace Drive, Suite 300</u>	Address _____
<u>Saint Louis, MO 63146-7066</u>	_____
(b) Name _____	<b>(b) Coal Owner(s) with Declaration</b>
Address _____	Name <u>H3 LLC</u>
_____	Address <u>1483 Johns Creek Rd.</u>
_____	<u>Milton, WV 25541</u>
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
<b>6) Inspector</b> <u>Bryan Harris</u>	<b>(c) Coal Lessee with Declaration</b>
Address <u>P.O. Box 157</u>	Name <u>None</u>
<u>Volga, WV 26238</u>	Address _____
Telephone <u>304-553-6087</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 Chesapeake Appalachia, L.L.C.  
 By: Marlene Williams  
 Its: Regulatory Analyst II  
 Address P.O. Box 18496  
Oklahoma City, OK 73154-0496  
 Telephone 405-935-4158

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Subscribed and sworn before me this 13<sup>th</sup> day of November 2017  
 Jacquelyn Potvin Jacquelyn Potvin Notary Public  
 My Commission Expires October 21, 2021

NOV 14 2017

WV Department of Environmental Protection

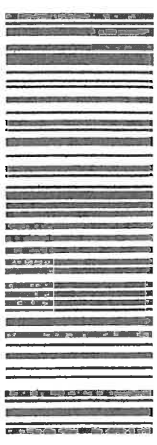
**Oil and Gas Privacy Notice**

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 [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).



23 00019A

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE  
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Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Sent To: *Windex Energy Corporation*  
 Street, Apt. No., or PO Box No.: *One City Place Drive Suite 300*  
 City, State, ZIP+4: *Saint Louis, MO 63146-7006*

PS Form 3800, August 2006 See Reverse for Instructions

<p><b>SENDER: COMPLETE THIS SECTION</b></p> <ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul> <p>1. Article Addressed to:</p> <p><i>Windex Energy Corporation</i>  <i>One City Place Drive</i>  <i>Suite 300</i>  <i>Saint Louis, MO 63146-7006</i></p> <p>2. Article Number (Transfer from service label)</p> <p>7008 1830 0002 5136 2538</p>	<p><b>COMPLETE THIS SECTION ON DELIVERY</b></p> <p>A. Signature <input type="checkbox"/> Agent  <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) C. Date of Delivery</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes      If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type  <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail  <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
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PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

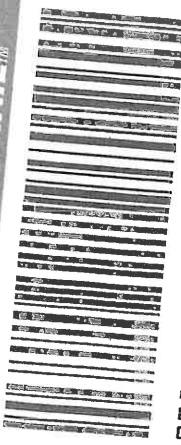
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Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark Here

Sent To  
 Street, Apt. No., or PO Box No. H3 LLC  
1483 Johns Creek Rd  
 City, State, ZIP+4 Milton, WV 25541  
 PS Form 3800, August 2006 See Reverse for Instructions

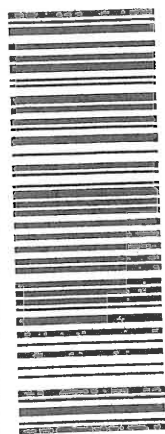
SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature <input checked="" type="checkbox"/> Agent  <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) C. Date of Delivery</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes          If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p><u>H3 LLC</u>  <u>1483 Johns Creek Rd.</u>  <u>Milton, WV 25541</u></p>	<p>3. Service Type  <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail  <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>
<p>2. Article Number          (Transfer from service label) <u>7008 1830 0002 5136 2545</u></p>	<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>

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Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Sent To Bryan Harris  
 Street, Apt. No.; or PO Box No. P.O. Box 157  
 City, State, ZIP+4 Volga, WV 26238

PS Form 3800, August 2006 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Bryan Harris  
P.O. Box 157  
Volga, WV 26238

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

B. Received by (Printed Name) \_\_\_\_\_ C. Date of Delivery \_\_\_\_\_

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)

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102595-02-M-1540

PS Form 3811, February 2004

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23 00019A

WW-9  
(5/16)

API Number 47 - 023 - 00019  
Operator's Well No. 2528

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Chesapeake Appalachia, L.L.C. OP Code \_\_\_\_\_

Watershed (HUC 10) \_\_\_\_\_ Quadrangle \_\_\_\_\_

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

ANY WELL EFFLUENT MUST BE CONTAINED  
IN TANKS BEFORE DISPOSING OF OFFSITE  
IN A PROPER MANNER.

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 \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Any fluid recovered will be hauled to one of Chesapeake's tank batteries)

Will closed loop system be used? If so, describe: No

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? \_\_\_\_\_

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.

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Company Official Signature Marlene Williams

NOV 14 2017

Company Official (Typed Name) Marlene Williams

Company Official Title Regulatory Analyst II

WV Department of Environmental Protection

Subscribed and sworn before me this 13<sup>th</sup> day of November, 20 17

Jacquelyn Potvin Notary Public

My commission expires October 21, 2021



12/01/2017

Proposed Revegetation Treatment: Acres Disturbed 1.15 Prevegetation pH 6.25

Lime 0.75 Tons/acre or to correct to pH 7

Fertilizer type 19-19-19

Fertilizer amount 350 lbs/acre

Mulch 1.5 (promatrix) Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

Oats / Annual Rye 50 lbs/acre

Advanced Landscape Blend 300 lbs/acre

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: \_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Title: \_\_\_\_\_

Date: \_\_\_\_\_

WV Department of  
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Field Reviewed? ( ) Yes ( ) No

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

Operator Name: N/A  
Watershed (HUC 10): \_\_\_\_\_ Quad: \_\_\_\_\_  
Farm Name: \_\_\_\_\_

- 1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

[Empty response box for question 1]

- 2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

[Empty response box for question 2]

- 3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

[Empty response box for question 3]

- 4. Summarize all activities at your facility that are already regulated for groundwater protection.

[Empty response box for question 4]

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- 5. Discuss any existing groundwater quality data for your facility or an adjacent property.

12/01/2017

N/A

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

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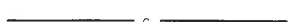



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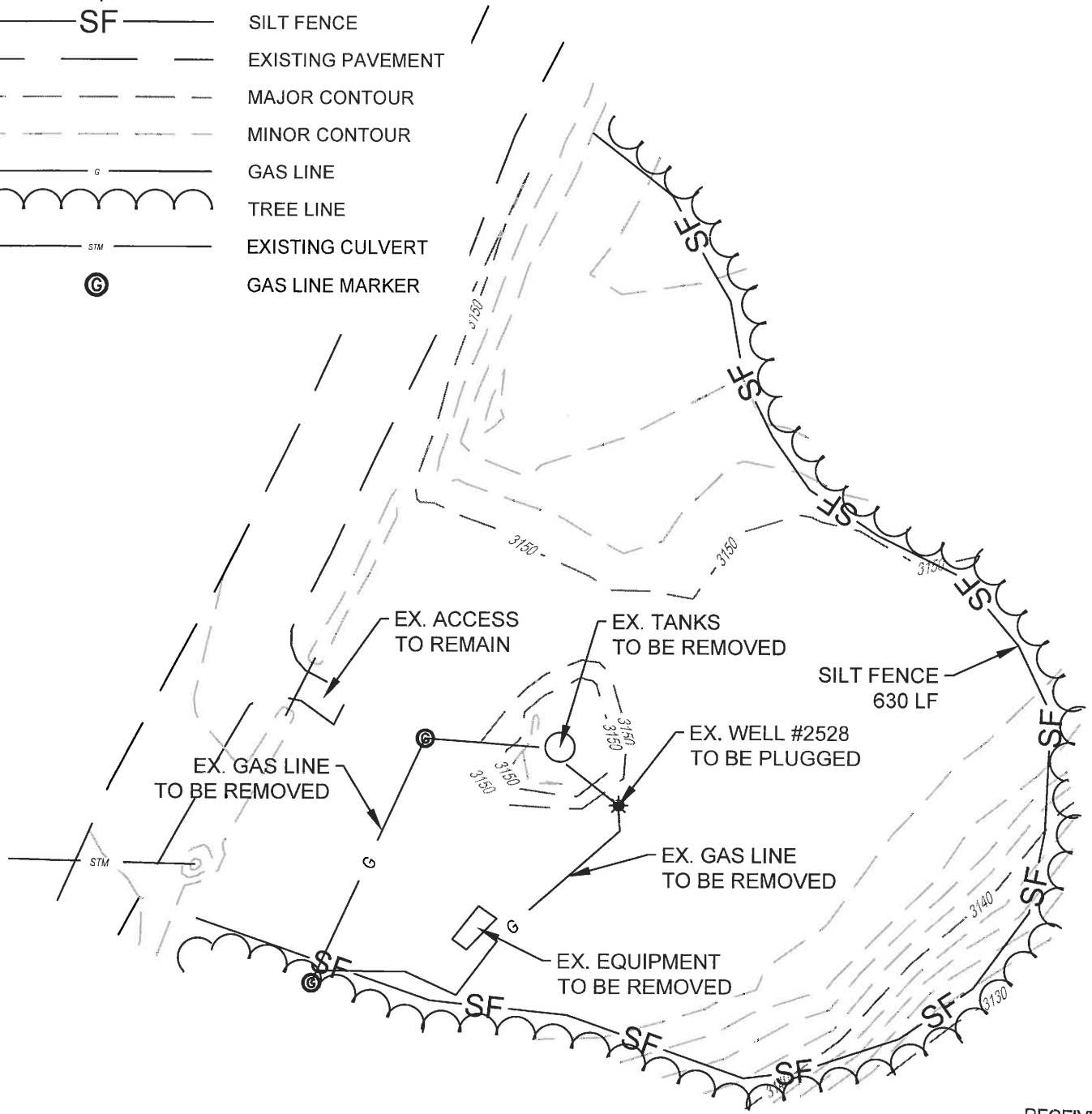
WV Department of  
Environmental Protection

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

LEGEND

-  EXISTING WELL
-  SILT FENCE
-  EXISTING PAVEMENT
-  MAJOR CONTOUR
-  MINOR CONTOUR
-  GAS LINE
-  TREE LINE
-  EXISTING CULVERT
-  GAS LINE MARKER



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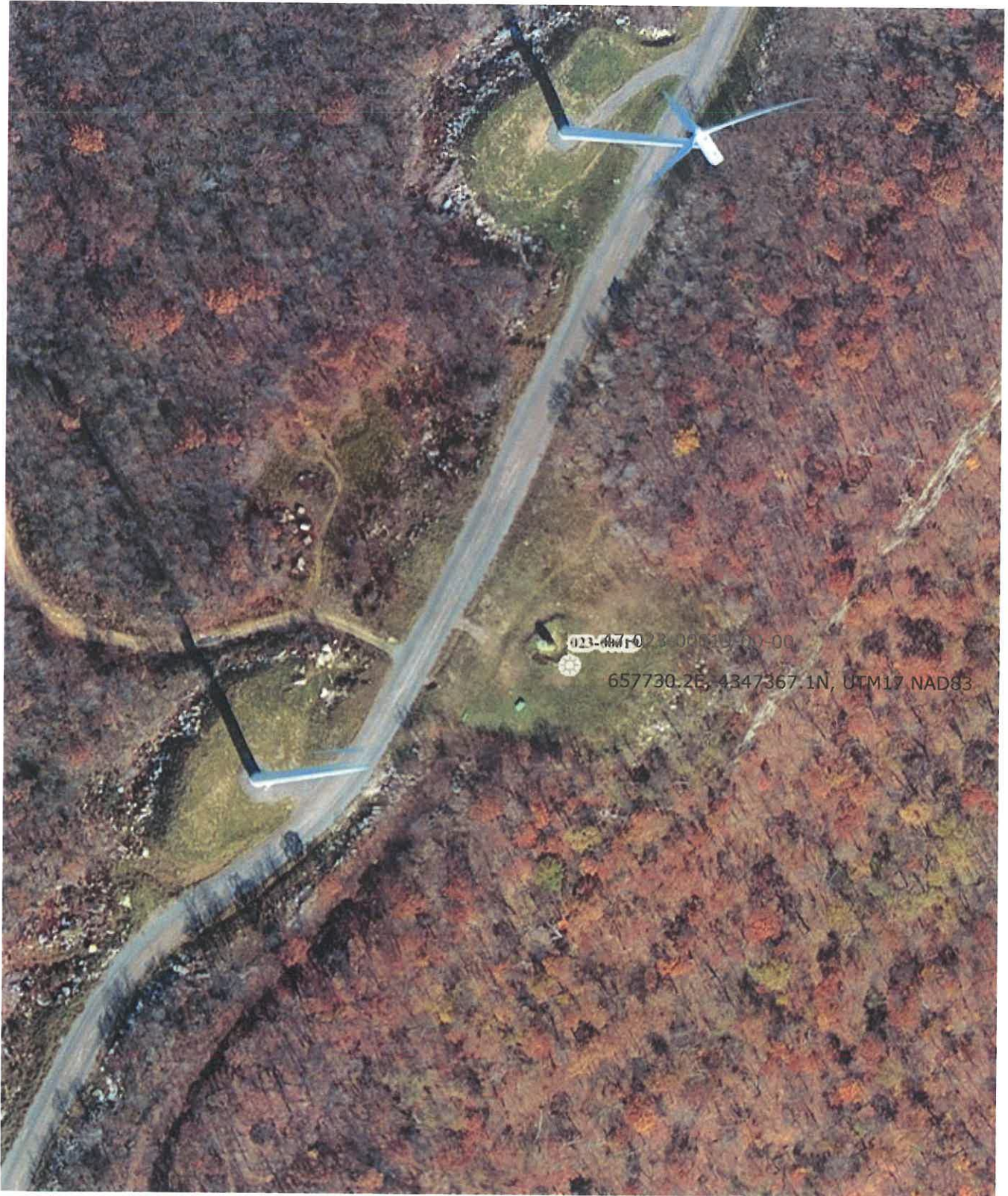


**CHESAPEAKE**  
ENERGY

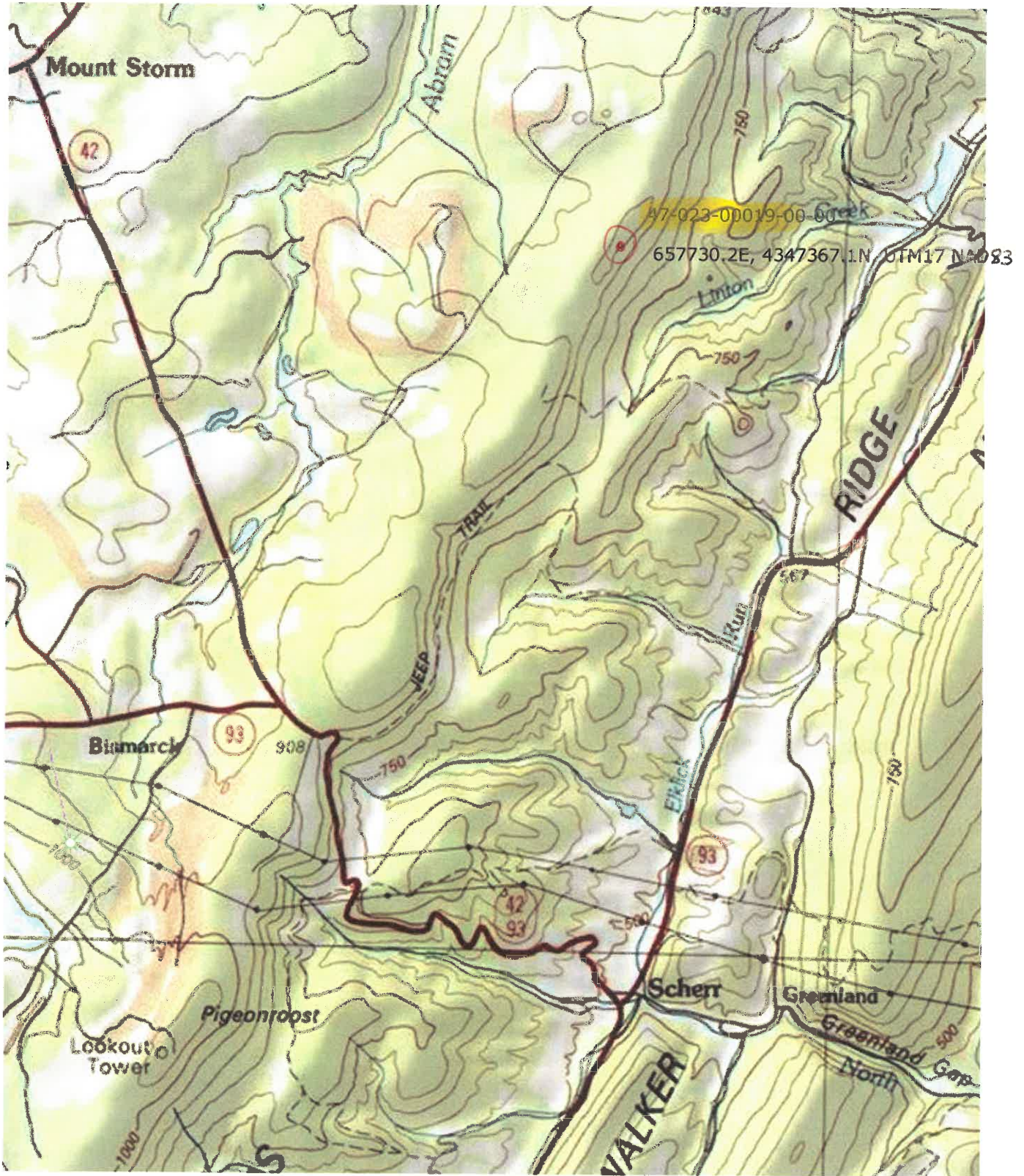
SITE PLAN  
ALLEGHENY SITE RECLAMATION  
API# 472300019  
GRANT COUNTY, WEST VIRGINIA

DATE: 11/09/2017

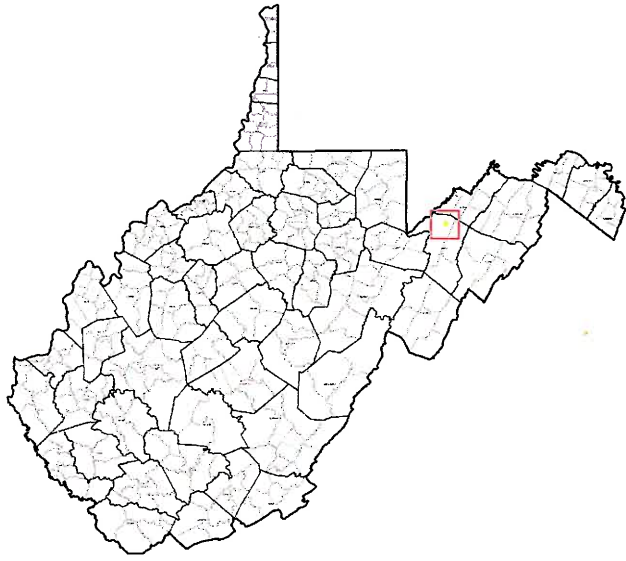




12/01/2017



12/01/2017



**CHESAPEAKE**  
ENERGY

**CHESAPEAKE**  
**OPERATING,**  
**INC.**

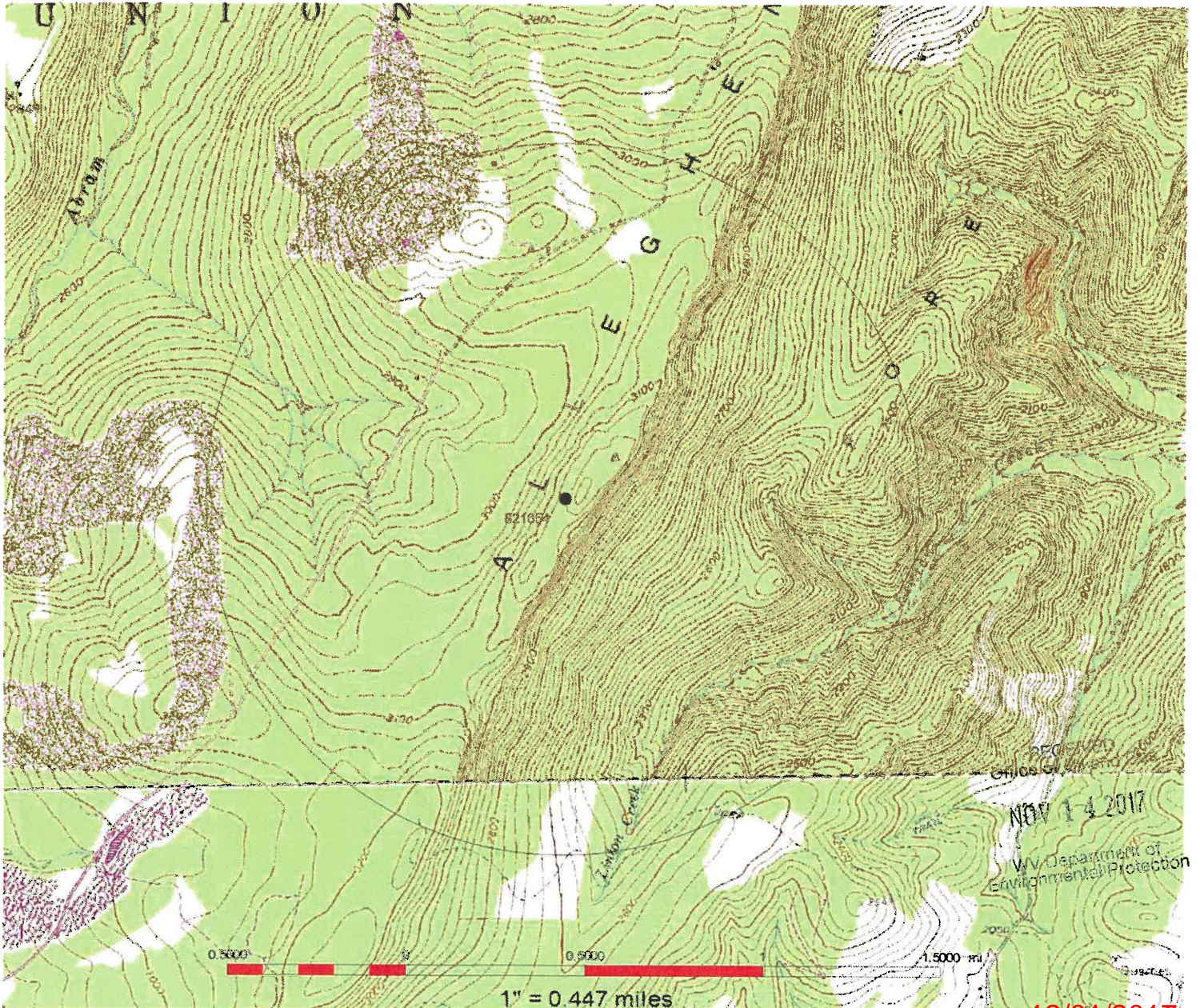
**TOPOGRAPHICAL MAP OF ACCESS  
AND WELL LOCATION 821654**

(1 MILE RADIUS CIRCLE)

API 47-023-00019

**Date:** 16 October, 2017

**Geologist:** APPALACHIA



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WV Department of  
Environmental Protection

WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-23-00019 WELL NO.: 2528  
FARM NAME: ALLEGHENY MINING CORP.  
RESPONSIBLE PARTY NAME: CHESAPEAKE APPALACHIA LLC  
COUNTY: GRANT DISTRICT: UNION  
QUADRANGLE: MOUNT STORM  
SURFACE OWNER: Vindex Energy Corporation  
ROYALTY OWNER: See Attachment  
UTM GPS NORTHING: 4347367.1  
UTM GPS EASTING: 657730.2 GPS ELEVATION: 3149.75

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.

Marlene Williams Regulatory Analyst II 11-14-17  
Signature Title Date

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WW-7 ATTACHMENT (ROYALTY OWNERS)

23 00019 P

George H. Shoemaker  
20916 Scotch Pine Road  
Rawlings, MD 21557

Sandra K. (Ebert) Arnold and John K. Arnold, wife and husband  
Star Route 2, Box 210  
New Creek, WV 26743

John K. Skidmore  
John R. Kortas  
Bobby F. Long – Leslie C. Amtower Disclaimer  
Trust

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