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**west virginia** department of environmental protection

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Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
www.dep.wv.gov

March 18, 2014

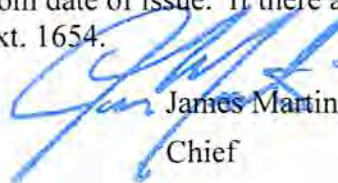
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-9902019, issued to CHESAPEAKE APPALACHIA, L.L.C., 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 all 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. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.



James Martin  
Chief

Operator's Well No: 24085  
Farm Name: PEN COAL CORP.  
**API Well Number: 47-9902019**  
**Permit Type: Plugging**  
Date Issued: 03/18/2014

Promoting a healthy environment.

03/21/2014

## 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.

FORM WW-4 (B)  
Observe  
File Copy  
(Rev. 2/01)

1) Date: 2/13/2014  
2) Operator's Well No. 824085 P&A  
3) API Well No. 47-099-02019

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       
(Is Gas, Production X or Underground storage     ) Deep      Shallow X
- 5) Location: Elevation 1050' Watershed Trough Fork of Kia Creek  
District Stonewall 5 County Wayne Quadrangle Ranger, WV 7.5 508
- 6) Well Operator Chesapeake Appalachia, L.L.C. 7) Designated Agent Eric B. Gillespie  
Address P.O. Box 18496 Address P.O. Box 6070  
Oklahoma City, OK 73154-0496 Charleston, WV 25362
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Jeremy James Name Chesapeake Appalachia, L.L.C.  
Address P.O. Box 147 Address P.O. Box 18496  
Ona, WV 25545 Oklahoma City, OK 73154-0496

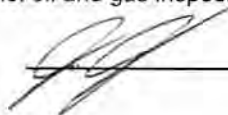
10) Work Order: The work order for the manner of plugging this well is as follows:

See Attached Sheet

OK # 5122673  
\$ 100.<sup>00</sup>

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

Work Order approved by Inspector



Date 2-21-14

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## 824085 P&amp;A PROCEDURE

- 1) Prepare road and location, MIRU Service Rig
- 2) Set cast iron bridge plug at 2850'
- 3) TIH with W.S. to 2850', load hole with gel
- 4) Spot 100' cement plug 2850'-2750', pull W.S. to 2450'
- 5) Spot 100' cement plug 2450'-2350', pull W.S. to 1925'
- 6) Spot 100' cement plug 1925'-1825', pull W.S. to 1675'
- 7) Spot 100' cement plug 1675'-1575', pull W.S.
- 8) Cut 4 ½" casing at free-point (approximately 1540') and pull
- 9) Run W.S. to 1540', load hole with gel
- 10) Spot 100' cement plug 1540'-1440', pull W.S. to 1250'
- 11) Spot 100' cement plug 1250'-1150', pull W.S. to 925'
- 12) Spot 100' cement plug 925'-825', pull W.S. to 550
- 13) Spot 100' cement plug 550'-450', pull W.S.
- 14) Bail water/gel to 350', check to be sure top of plug is near 450'
- 15) Erect vented monument and reclaim as prescribed by law





WR-35

DATE: 05/31/00

API #:47-99-02019

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work

*Branchland*

Farm name: Pen Coal Corp.  
Location Elevation: 1030'  
District: Stonewall

Operator Well No: 824085  
Quadrangle: Ranger, WV  
County: Wayne

COLUMBIA NATURAL RESOURCES	Casing & Tubing	Used in drilling	Left in Well	Cement fill up Cu.Ft.
Address: P. O. Box 6070 Charleston, WV 25362-0070	13 3/8"		15'	N/A
Agent: W. A. Watson, Jr.				
Inspector: Dave Belcher	9 5/8"		343'	159.3
Date Permit Issued: 03/20/00				
Date Well work commenced: 05/08/00	7"		1642.25'	206.55
Date Well Work completed: 06/06/00				
Verbal Plugging:	4 1/2"		3584'	242.55
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>	2 3/8"			N/A
Total Depth (feet):3630				
Fresh Water Depth (ft):290'				
Salt Water Depth (ft.):1265' & 1550'				
Is coal being mined in area (N <input type="checkbox"/> Y <input checked="" type="checkbox"/> )				
Coal Depths (ft): 140'-142' 195'-205' 225'-230' 265'-271' 290'-293'				

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WV Division of  
Environmental Protection

OPEN FLOW DATA

Producing formation: Devonian Shale Pay zone depth(ft) from 2888 to 3519 ; from to  
Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d  
Final open flow 223 MCF/d Final open flow Bbl/d  
Time of open flow between initial and final tests 72 Hours  
Static rock Pressure 242 psig (surface pressure) after 72 Hours

2nd producing formation: Pay zone depth (ft) from to ; from to  
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

3rd producing formation: Pay zone depth (ft) from to ; from to  
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.

Signed: \_\_\_\_\_  
COLUMBIA NATURAL RESOURCES, INC.  
By: *[Signature]*  
Date: 7/17/00

Received

03/21/2014

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Office of Oil and Gas  
WV Dept. of Environmental Protection

WV 2019

**WELL # 24085**

**PERFORATIONS:**

Stage 1, Perforations: 64 holes from 2888 to 3519  
 Stage 2, Perforations: holes from to  
 Stage 3 Perforations: holes from to  
 Stage 4, Perforations: holes from to

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**FRACTURING:**

**1<sup>ST</sup> STAGE: N2 Frac on Devonian Shale**

Perforations from 2888 - 3519, Acid -- gal. --- HCL,  
 Breakdown @ 1506 PSI, Avg. Rate 48,300 SCFM  OR BPM   
 ATP 1970 PSI, Total H<sub>2</sub>O Bbl., Total sand #  
 Total N<sub>2</sub> 1641,000 Scf. I.S.I.P. 750 psi 15 min. 670 psi

**2<sup>nd</sup> STAGE:**

Perforations from - , Acid gal. HCL,  
 Breakdown @ PSI, Avg. Rate SCFM  OR BPM   
 ATP PSI, Total H<sub>2</sub>O Bbl., Total sand #  
 Total N<sub>2</sub> Scf. I.S.I.P. 15 min.

**3<sup>rd</sup> STAGE:**

Perforations from - , Acid gal. HCL,  
 Breakdown @ PSI, Avg. Rate SCFM  OR BPM   
 ATP PSI, Total H<sub>2</sub>O Bbl., Total sand #  
 Total N<sub>2</sub> Scf. I.S.I.P. 15 min.

**4<sup>th</sup> STAGE:**

Perforations from - , Acid gal. HCL,  
 Breakdown @ PSI, Avg. Rate SCFM  OR BPM   
 ATP PSI, Total H<sub>2</sub>O Bbl., Total sand #  
 Total N<sub>2</sub> Scf. I.S.I.P. 15 min.

Additional Comments:

Received  
 FEB 18 2014 03/21/2014  
 Office of Oil and Gas  
 WV Dept. of Environmental Protection  
 MAY 2019

**Well Completion Data**

ATTN: John Adams

CNR Well #: 824085  
 Permit #: 47-99-02019  
 AFE #  
 County: Wayne  
 District: Stonewall  
 Prospect: Harts Creek Central  
 Field: Harts Creek Central  
 Lease: Fee Land

	Top	Base
Salt Sand	905	1195
Maxon Sand	1235	1575
Little Lime	1610	1635
Greenbrier Limestone	1655	1825
Keefer Sand	1825	1895
Big Injun	1895	1900
Weir Sand		
Berea Sand	2440	2500
Cleveland Shale	2500	2545
Upper Devonian	2545	3490
Lower Huron Shale	3490	3520
Orientanoy Shale		
Rhinestreet Shale		
Fifth Sand		
Elizabeth Sand		
Bradford Sand		
Riley Sand		

	Top	Base
Benson Sand		
Elk Sand		
Onondaga Limestone		
Huntersville Chert		
Oriskany Sand		
Heiderberg Limestone		
Salina Series		
Newburg Sand		
McKenzie Dolomite		
Rose Hill Shale		
Tuscarora Sand		
Junata Shale		
Martinsburg Shale		
Trenton Limestone		
Black River Dolomite		
Wells Creek Dolomite		
Beakmantown Dolomite		

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 Permitting  
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 WV Division of  
 Environmental Protection

	Depth	Mcf
Show Gas 1	3520	
Show Gas 2	3310	
Show Gas 3	3270	
Show Gas 4	1705	
Show Gas 5		

	Depth	Depth
Show Oil 1		
Show Oil 2		
Show Water		

Formation @ TD: Lower Huron Shale

	H	POR	Sw	Perf Interval
Pay 1	L. Huron Sh.			See log
Pay 2	U. Devonian Sh.			3270
Pay 3	Greenbrier Ls.	4	0.08	1704-08
Pay 4				
Pay 5				
Pay 6				

IOF	
IRP	
Formation	
Hole Fluid	Air

Logger TD: 3629      Logging Date: 05/13/2000  
 Logging Suite: GR, LDT, CNL, DI, T, A TD to intermediate casing point, GR to surface. Memory PL as need  
 Remarks: Discuss Greenbrier completion prior starting job

Received  
 03/21/2014  
 FEB 18 2004



9902019P

WW4-A  
Revised  
2/01

1) Date: 2/13/2014  
2) Operator's Well No. 824085 P&A  
3) API Well No. 47-099-02019

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT  
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:  
(a) Name Heartwood Forestland  
Address Attention: Craig Kaderavak  
19045 Stone Mountain Road  
Abingdon, VA 24210  
(b) Name James A. Vance EST. (Access Road)  
Address 5749 Bloss Branch Road  
Lavalette, WV 25325  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector Jeremy James  
Address P.O. Box 147  
Ona, WV 25545  
Telephone 304-951-2596

5) Coal Operator  
(a) Name Argus Energy WV, LLC  
Address 9104 Twelve Pole Creek Road  
Dunlow, WV 25511  
Coal Owner(s) with Declaration  
(b) Name Pocahontas Land Corp.  
Address 800 Princeton Avenue  
Bluefield, WV 24701  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Coal Lessee with Declaration  
(c) Name New Eagle Mining Corp.  
Address P.O. Box 1048  
Holden, WV 25625

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 the 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 the 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: [Signature]  
Its: Manager - Operations, Appalachia South  
Address: P.O. Box 18496  
Oklahoma City, OK 73154-0496  
Telephone: 405-935-4073

Subscribed and sworn before me this 13<sup>th</sup> day of February the year of 2014  
Phyllis A. Copley Notary Public

My Commission Expires September 16, 2018  
Form WW-9

Received

FEB 18 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection  
03/21/2014



Will 824085  
API 47-099-02019 P

7012 1640 0000 0167 9758

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HOLDEN WV 25625

Postage	\$ 12.03	0523	Postmark Here
Certified Fee	13.30	01	
Return Receipt Fee (Endorsement Required)	12.70		
Restricted Delivery Fee (Endorsement Required)	0.00		
<b>Total Postage &amp; Fees</b>	<b>\$ 28.03</b>	<b>02/14/2014</b>	

Sent To: **823442 P&A and 824085 P&A**  
New Eagle Mining Corp.  
P.O. Box 1048  
Holden, WV 25625 ✓

PS Form 3800, A

7012 1640 0000 0167 9765

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DUNLOW WV 25511

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Return Receipt Fee (Endorsement Required)	12.70		
Restricted Delivery Fee (Endorsement Required)	0.00		
<b>Total Postage &amp; Fees</b>	<b>\$ 28.03</b>	<b>02/14/2014</b>	

Sent To: **823442 P&A and 824085 P&A**  
Argus Energy-WV, LLC  
9104 Twelve Pole Creek Road  
Dunlow, WV 25511 ✓

PS Form 3800, A

7012 1640 0000 0167 9772

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For delivery information visit our website at [www.usps.com](http://www.usps.com)

BLUEFIELD WV 24701

Postage	\$ 12.03	0523	Postmark Here
Certified Fee	13.30	01	
Return Receipt Fee (Endorsement Required)	12.70		
Restricted Delivery Fee (Endorsement Required)	0.00		
<b>Total Postage &amp; Fees</b>	<b>\$ 28.03</b>	<b>02/14/2014</b>	

Sent To: **823442 P&A and 824085 P&A**  
Pocahontas Land Corp.  
800 Princeton Avenue  
Bluefield, WV 24701 ✓

PS Form 3800, A

7012 1640 0000 0167 9796

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ABINGDON VA 24210

Postage	\$ 12.03	0523	Postmark Here
Certified Fee	13.30	01	
Return Receipt Fee (Endorsement Required)	12.70		
Restricted Delivery Fee (Endorsement Required)	0.00		
<b>Total Postage &amp; Fees</b>	<b>\$ 28.03</b>	<b>02/14/2014</b>	

Sent To: **823442 P&A and 824085 P&A**  
Heartwood Forestland  
C/O Craig Kaderavak  
19045 Stone Mountain Road  
Abingdon, VA 24210 ✓

PS Form 3800, A

7012 1640 0000 0167 9789

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CHARLESTON WV 25325

Postage	\$ 11.40	0523	Postmark Here
Certified Fee	13.30	01	
Return Receipt Fee (Endorsement Required)	12.70		
Restricted Delivery Fee (Endorsement Required)	0.00		
<b>Total Postage &amp; Fees</b>	<b>\$ 27.40</b>	<b>02/14/2014</b>	

Sent To: **824085 P&A (Access Road)**  
James A. Vance EST.  
5749 Bloss Branch Road  
Lavalette, WV 25325 ✓

PS Form 3800, A

Received

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Office of Oil and Gas  
WV Dept. of Environmental Protection

03/21/2014



9902019P

Rev. 02/01

API Number 47-099-02019  
Operator's Well No. 824085 P&A

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Chesapeake Appalachia, L.L.C. OP Code 494477557

Watershed Trough Fork of Kiah Creek Quadrangle Ranger, WV 7.5'

Elevation 1050' County Wayne District Stonewall

Description of anticipated Pit Waste: Plugging Returns/Cement

Will a synthetic liner be used in the pit? Yes

- Proposed Disposal Method For Treated Pit Wastes:
- Land Application
  - Underground Injection ( UIC Permit Number \_\_\_\_\_ )
  - Reuse (at API Number \_\_\_\_\_ )
  - Off Site Disposal (Supply form WW-9 for disposal location)
  - Other (Explain \_\_\_\_\_ )

- Proposed Work For Which Pit Will Be Used:
- Drilling
  - Workover
  - Swabbing
  - Plugging
  - Other (Explain \_\_\_\_\_ )

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on December 31, 1999, 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 *David Gocke* **Received**

Company Official (Typed Name) David Gocke **FEB 18 2014**

Company Official Title Manager - Operations, Appalachia South

Office of Oil and Gas  
WV Dept. of Environmental Protection

Subscribed and sworn before me this 13<sup>th</sup> day of February, 2014

*Phyllis A. Copley* Notary Public.

My Commission Expires September 16, 2018


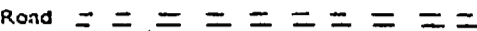

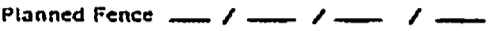


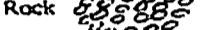
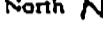








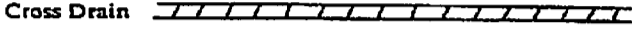

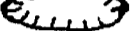

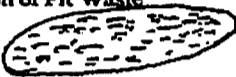


03/21/2014

Attachment #1

API #: 47-099-02019  
 Operator's Well No. 824085 P&A

LEGEND

- Property Boundary 
- Road 
- Existing Fence 
- Planned Fence 
- Stream 
- Open Ditch 
- Rock 
- North 
- Buildings 
- Water wells 
- Drill site 
- Diversion 
- Spring 
- Wet Spot 
- Drain Pipe with size in inches 
- Waterway 
- Cross Drain 
- Artificial Filter Strip 
- Pit: cut walls 
- Pit: compacted fill walls 
- Area for Land Application of Pit Waste 

Proposed Revegetation Treatment: Acres Disturbed 1.0 Prevegetation pH 6.1

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 1/3 TON lbs/acre (500 lbs minimum)

Mulch Hay 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	ORCHARD GRASS	15
ALSIKE CLOVER	5	ALSIKE CLOVER	5
ANNUAL RYE	15		

Attach:  
 Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: 

Title: Inspector BOG

Date: 2-21-14

Field Reviewed? (  ) Yes (  ) No



9902019P

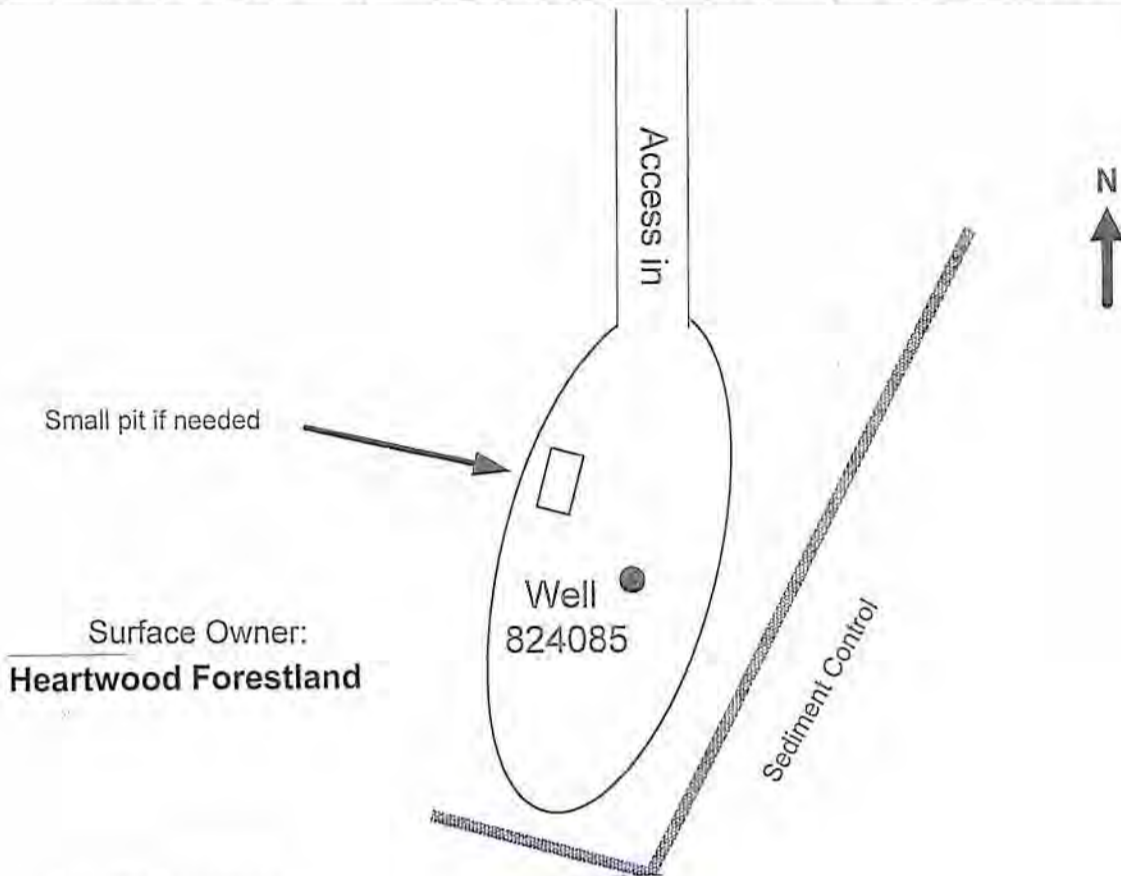
# CHESAPEAKE APPALACHIA, L.L.C.

Diagram of Well 824085

API 47-099-02022

Field Office - Branchland

County -Wayne



## GENERAL NOTES

This drawing is a schematic representation of the well site and access road. Proposed structures such as well site, drilling pit, roadways, culverts sediment barriers etc. are shown in approximate pre-planning configurations.

All culvert pipes will be a minimum of 15 inches in diameter. All culvert pipes installed will be accompanied by an entrance sump with dimensions no less than 3 feet (width) x 3 feet (length) x 4 feet (deep). Culverts will be installed at an angle to ensure proper flow. The out fall of culverts will be protected from erosion and sedimentation using large rocks or other sediment controls deemed necessary in the prevention of erosion and sedimentation. Storm water from the ditches to the culverts will be directed to stable natural vegetative areas. Where culverts are not practical, operator will have other sediment control in place to minimize erosion and sedimentation.

Cross drains, broad based dips, water bars, and diversion ditches will be employed during the construction phase. These erosion and sediment control structures will be used to control erosion and sedimentation during the construction phase, where applicable and areas that will allow. These structures will be considered permanent and used as such.

Permanent seeding: See Attachment #1

## Site Plan

Prepared by: Kris Aldridge  
Date: 2-3-2014

No Scale

# Received

FEB 18 2014

03/21/2014

Office of Oil and Gas  
WV Dept. of Environmental Protection



# CHESAPEAKE APPALACHIA, L.L.C.

99 02019 F

Topographical Map of Access and

Well Location 824085

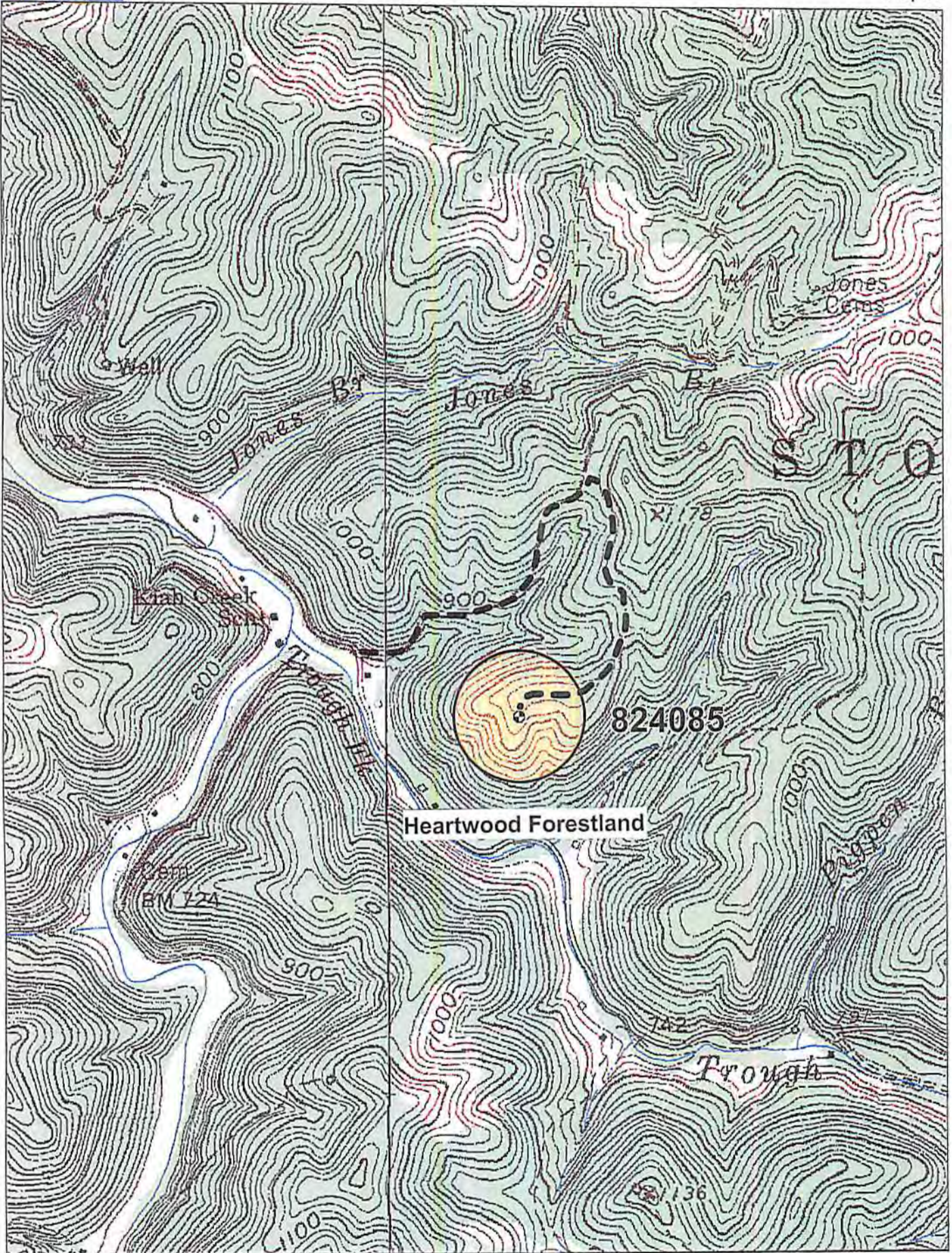
API 47-099-02019

Field Office - Branchland

County - Wayne

DELORME

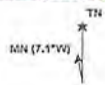
XMap® 7



Data use subject to license.

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www.delorme.com



Received

Scale 1 : 1000  
0 200 400 600 800 1000  
1" = 1,000.0 ft Data Zoom 14-1

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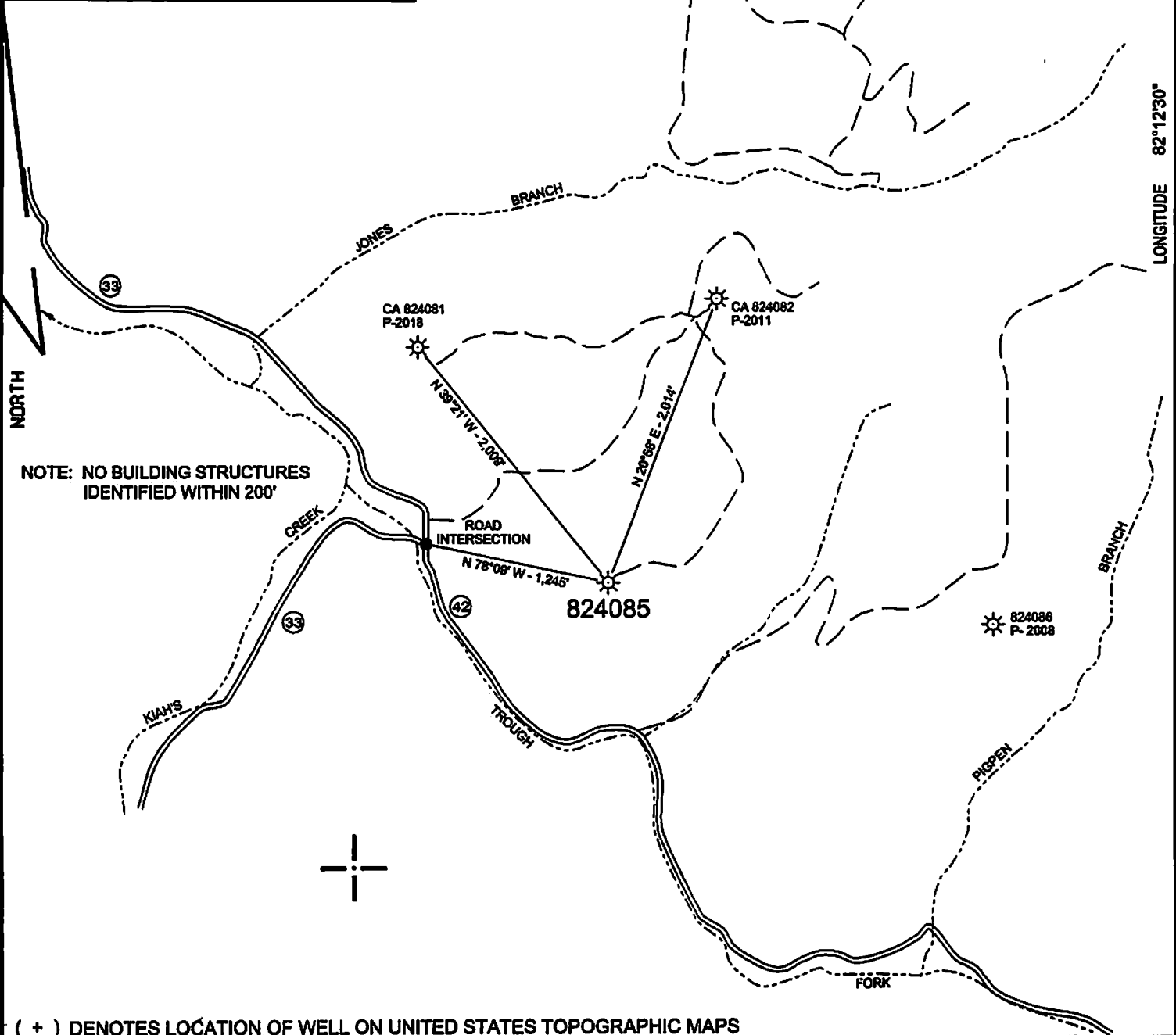
Chesapeake Energy Corporation, Dept. of Oil and Gas  
P.O. Box 579 • 8165 Court Avenue • Charleston, WV 25323  
304.824.5141 • fax 304.824.2247  
WV Dept. of Environmental Protection



**SURFACE HOLE**  
 STATE PLANE WV  
 SOUTH ZONE NAD 1927  
 N - 382,869.68 : E - 1,641,060.41  
 LATITUDE: (N) 38.0448492  
 LONGITUDE: (W) 82.2464649  
 UTM, NAD83  
 17 - 84W TO 78W, METERS  
 N - 4,211,534.672 : E - 390,640.380

NOTE: ALL WELLS IDENTIFIED  
 WITHIN 2400' ARE SHOWN

LATITUDE 38°05'00"

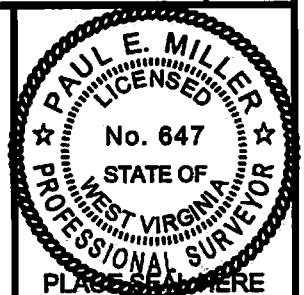


( + ) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. 824085 P&A.DGN  
 DRAWING NO. 24085 P&A  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1:200  
 PROVEN SOURCE OF ELEVATION MAPPING GRADE GPS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT 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 DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) Paul E. Miller  
 R.P.E. \_\_\_\_\_ L.L.S. 647



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



DATE DECEMBER 06, 20 13  
 OPERATOR'S WELL NO. 824085  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 1,050' WATER SHED TROUGH FORK OF KIAH CREEK  
 DISTRICT STONEWALL COUNTY WAYNE  
 QUADRANGLE RANGER, WV 7.5'

SURFACE OWNER HEARTWOOD FORESTLAND FUND III ACREAGE -  
 OIL & GAS ROYALTY OWNER CHESAPEAKE APPALACHIA, L.L.C. LEASE ACREAGE \_\_\_\_\_  
 LEASE NO. \_\_\_\_\_ FEE LAND \_\_\_\_\_

PROPOSED WORK: DRILL \_\_\_ CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR  
 STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW  
 FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON X CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION \_\_\_\_\_ ESTIMATED DEPTH \_\_\_\_\_  
 WELL OPERATOR CHESAPEAKE ENERGY DESIGNATED AGENT ERIC B. GILLISPIE  
 ADDRESS P. O. BOX 18498 OKLAHOMA CITY, OK 73154-0498 ADDRESS CHESAPEAKE APPALACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25382

FORM WW-6

COUNTY NAME  
 PERMIT

03/21/2014