



west virginia department of environmental protection

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, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3905866, 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: 825748
Farm Name: WARD, DAVID - ESTATE
API Well Number: 47-3905866
Permit Type: Plugging
Date Issued: 03/18/2016

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

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

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

1) Date: 3/9/2016
2) Operator's Well No. 825748 P&A
3) API Well No. 47-039-05866

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 1,116' Watershed Mill Hollow of Kellys Creek
 District Cabin Creek County Kanawha Quadrangle Cedar Grove, WV 7.5'

6) Well Operator Chesapeake Appalachia, L.L.C. 7) Designated Agent Jessica Greathouse
 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 Terry Urban Name Chesapeake Appalachia, L.L.C.
 Address P.O. Box 1207 Address P.O. Box 18496
 Clendenin, WV 25045 Oklahoma City, OK 73154-0496

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

See Attached Sheet

SEE procedure for Changes

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

Work Order approved by Inspector *Terry Urban* Date 3-14-16
(Initials)

Kelley Creek @ Mill Hollow to well

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PLUGGING PROCEDURE

- 1116 Elevation*
- 1) Prepare road and location, MIRU service rig
 - 2) Pump water down 2 3/8" to kill well
 - 3) Pull 2 3/8" tubing
 - 4) Attempt to pull 7" and packer
 - A) If successful:
 - a) Run W.S. to approximately 1900', spot gel, pull W.S. to 1840'
 - b) Spot 150' cement plug 1840'-1690', pull W.S. *1690' gamma*
 - c) RIH with tools to check TOC. If top of plug is below ~~1740'~~, then add cement to top of plug.
 - d) Proceed to step 5
 - B) If unsuccessful:
 - a) Run W.S. to 1880', spot gel, pull W.S. to 1840'
 - b) Spot 150' cement plug 1840'-1690', pull W.S. *1690' gamma*
 - c) RIH with tools to check TOC. If top of plug is below ~~1740'~~, then add cement to top of plug.
 - d) Cut 7" at free-point (approximately 1335') and pull.
NOTE: If at least 1325' of 7" cannot be pulled, then rip or shoot holes so plug can be spotted.
 - e) Proceed to step 5
 - 5) Run or pull W.S. to 1335', spot gel, then spot 150' cement plug 1335'-1185', pull W.S. - *Elevation*
 - 6) RIH with tools to check TOC. If top of plug is below 1235', then add cement to top of plug.
 - 7) If 7" is still in hole then cut at free-point and pull.
NOTE: A 100' cement plug will need to be set at cut.
 - 8) Run W.S. to 850', spot gel
 - 9) Spot 150' cement plug 850'-700', pull W.S.
 - 10) RIH with tools to check TOC. If top of plug is below 750', then add cement to top of plug.
 - 11) Run W.S. to 610', spot gel
 - 12) Spot 150', cement plug 610'-460', pull W.S. to 150'
 - 13) Spot 150' cement plug 150'-surface
 - 14) Pull W.S. and top off with cement.
 - 15) Erect monument and reclaim as prescribed by law

ONE plug

Henry J. Miller
3-14-16

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3905866P

WR-35

DATE: 825748

API: 47-3905866

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

Farm name: David Ward, Estate
Location Elevation: 1116'
District: Cabin Creek

Well No.: 825748
Quadrangle: Cedar Grove
County: Kanawha

CHESAPEAKE APPALACHIA, L.L.C.	Casing & Tubing	Used in drilling	Left in Well	Cement fill up Cu.Ft.
Address: P.O. Box 6070	13 3/8	60	60	Sanded In
Charleston, WV 25362	9 5/8	572	572	259.6
Agent: Michael A. John	7	1906.6	1906.6	*Set w/ Packer
Inspector: Carlos Hively	2 3/8		1880.2	
Date Permit Issued: 06/16/06				
Date Well work commenced: 07/15/06				
Date Well Work completed: 09/21/06				
Verbal Plugging:				
Date Permission granted on:	* Parmaco 7" x 8 3/4" Anchor packet set at 1675 ft.			
<input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable <input type="checkbox"/> Rig				
Total Depth (feet): 1922'				
Fresh Water Depth (ft): 80'				
Salt Water Depth (ft.): 1050'				
Is coal being mined in area <input checked="" type="checkbox"/> N <input type="checkbox"/> Y				
Coal Depths (ft): 116', 511'				

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Office of Chief
MAR 16 2007
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OPEN FLOW DATA (SEE ATTACHED)

Producing formation: Maxon Pay zone depth (ft) from 1730' to; 1740' Natural Flow
Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
Final open flow 1066 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 5 Hours
Static rock Pressure 400 psig (surface pressure) after 24 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
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.

WELL OPERATOR: CHESAPEAKE APPALACHIA, L.L.C.

[Signature] 2-14-07

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3905866P

Chesapeake Energy Corp.-Eastern Division
Chesapeake Energy 825748
Cabin Creek District, Kanawha County, WV
47-039-25866-0000
Ground elevation:1126'

Formation	Top	Bottom
Siltstone, Sand & Shale	0	861
Salt Sand	861	1334
Shale	1334	1355
Maxon U	1355	1721
Maxon L	1721	1779
Little Lime	1863	
LTD	1921	

Depths are electric log data.

*This one should
only have two pages
25. it was a natural well
in the Maxon there were
no fracs done.*

BaeAnn

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WW4-A
Revised
2/01

1) Date: 3/9/2016
2) Operator's Well No. 825748 P&A
3) API Well No. 47-039-05866

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 David Ward Heirs
Address C/O James F. Brown IV
Attorney-in-Fact D. Ward Heirs
P.O. Box 88
Charleston, WV 25321
(b) Name Blackhawk Land & Resources, LLC
Address 3228 Summit Square Place
Suite 180
Lexington, KY 40509
(c) Name _____
Address _____

5) Coal Operator
(a) Name None
Address _____
Coal Owner(s) with Declaration
(b) Name David Ward Heirs
Address C/O James F. Brown IV
Attorney-in-Fact D. Ward Heirs
P.O. Box 88
Charleston, WV 25321
Name Blackhawk Land & Resources, LLC
Address 3228 Summit Square Place, Suite 180
Lexington, KY 40509

6) Inspector Terry Urban
Address P.O. Box 1207
Clendenin, WV 25045
Telephone ~~304-389-7583~~ 549-5915

Coal Lessee with Declaration
(c) Name Caternary Coal Co.
Address C/O Blackhawk Energy
100 Technology Drive
South Charleston, WV 25309

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 9th day of March the year of 2016
Phyllis A. Copley Notary Public
My Commission Expires September 16, 2018
Form WW-9

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SURFACE OWNER WAIVER

Operator's Well Number 825748 P&A

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

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

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th Street
Charleston, WV 25304
(304) 926-0499

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.

[Handwritten Signature]
 Signature _____ Date 3/11/2016
for David Ward Heins

FOR EXECUTION BY A CORPORATION,

Name: _____
 By: _____
 Its: _____

 Signature Date

Received
 Office of Oil &
 MAR 17 2016

FORM WW-4 (B)
Reverse

Farm Name _____
API No. 47-039-05866
David Ward Estate
Well No. 825748 P&A

**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: 3/11/2016

By: [Signature] Agent
Its: David Ward Hems

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Office of Oil & Gas
MAR 17 2016

API Number 47-039-05866
Operator's Well No. 825748 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 Mill Hollow of Kellys Creek Quadrangle Cedar Grove, WV 7.5'
Elevation 1,116' County Kanawha District Cabin Creek

Description of anticipated Pit Waste: Plugging Returns/Cement
Will a synthetic liner be used in the pit? Yes (Fu) B-1416 20 MIL.

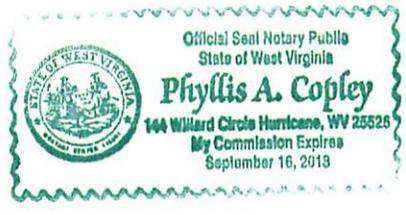
Proposed Disposal Method For Treated Pit Wastes:
 Land Application
 Underground Injection (UIC Permit Number _____)
 Reuse (at API Number _____)
 Off Site Disposal (Supply form WW-9 for disposal location)
 Other (Explain _____)

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 [Signature]
Company Official (Typed Name) David Gocke
Company Official Title Manager - Operations, Appalachia South

Subscribed and sworn before me this 9th day of March, 2016.
[Signature] Notary Public.
My Commission Expires September 16, 2018

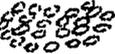
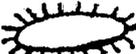
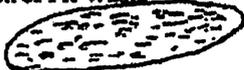


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Attachment #1

API #: 47-039-05866
 Operator's Well No. 825748 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 Tons/acre (500 lbs minimum)
 Mulch Weed Free Straw 2 Tons/acre

Seed Mixtures

October 1st to April 30th		May 1st to September 30th	
Creeping Red Fescue	68.60%	Creeping Red Fescue	68.60%
Wheat	14.76%	Wheat	17.18%
Annual Ryegrass	9.80%	Annual Ryegrass	9.80%
Ladino Clover	3.21%	Ladino Clover	4.97%

Total seeding will be 50 lbs/acre

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *[Signature]*
 Title: *Field Insp Report*
 Date: *3-14-16*
 Field Reviewed? Yes No

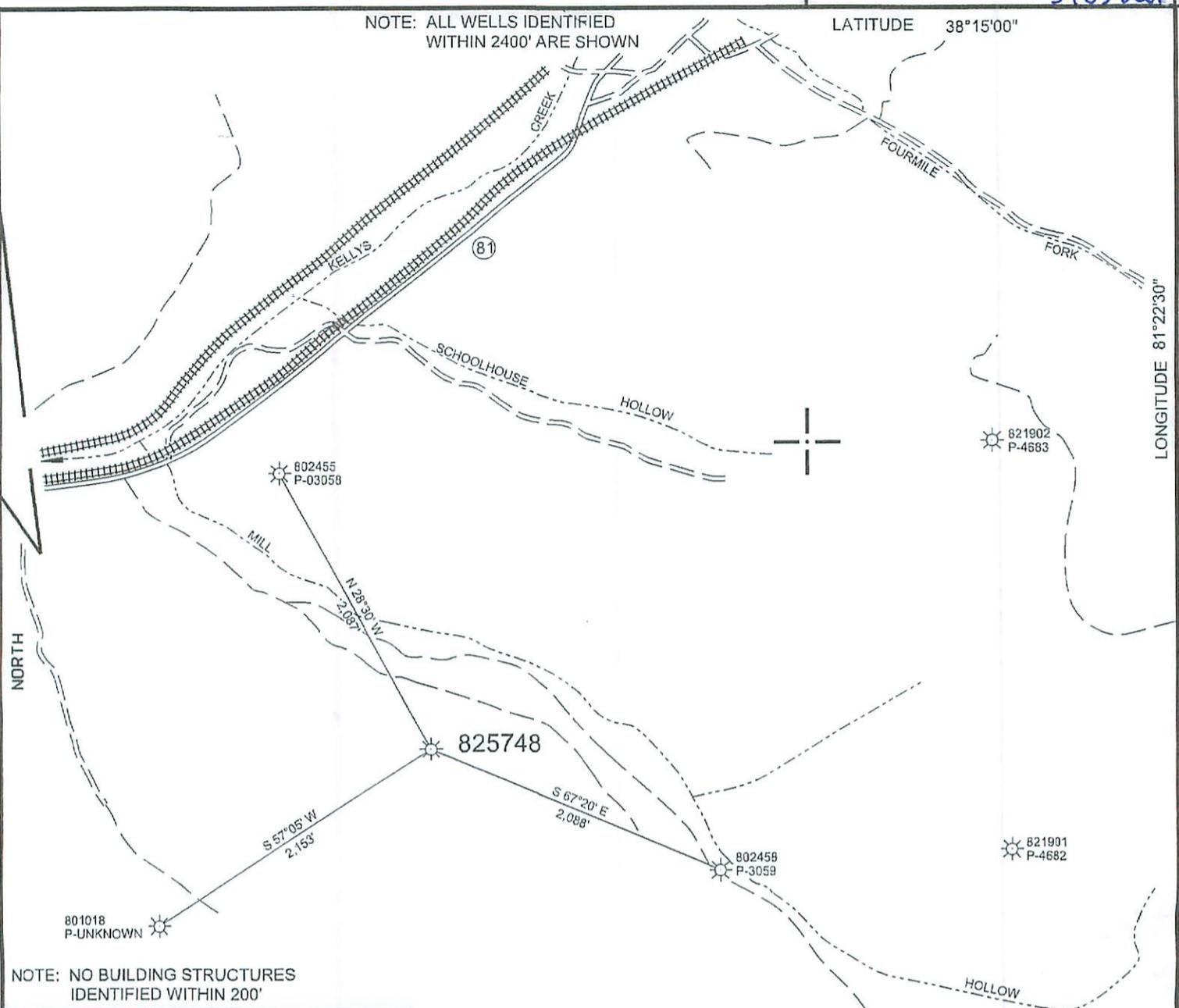
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 WV Department of
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NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 38°15'00"

5,755'

LONGITUDE 81°22'30"



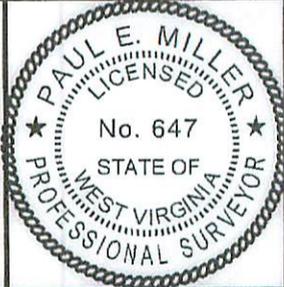
NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 449,636.889 : E - 1,887,338.993	
LATITUDE: (N) 38.2341815° LONGITUDE: (W) 81.3922327°	
UTM NAD83 17 - 84W TO 78W, METERS N - 4,231,882.617 : E - 465,687.073	

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

FILE NO. 825748 P&A.DGN
 DRAWING NO. 825748 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 MARCH 4, 2016
 OPERATOR'S WELL NO. 825748
 API WELL NO. _____

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1,116' WATER SHED MILL HOLLOW OF KELLYS CREEK
 DISTRICT CABIN CREEK COUNTY KANAWHA
 QUADRANGLE CEDAR GROVE, WV 7.5'

SURFACE OWNER DAVID WARD HEIRS ACREAGE 4871.41
 OIL & GAS ROYALTY OWNER DAVID WARD ESTATE, ET. AL. LEASE ACREAGE _____
 LEASE NO. 1-025660-000

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 CLEAN OUT AND REPLUG

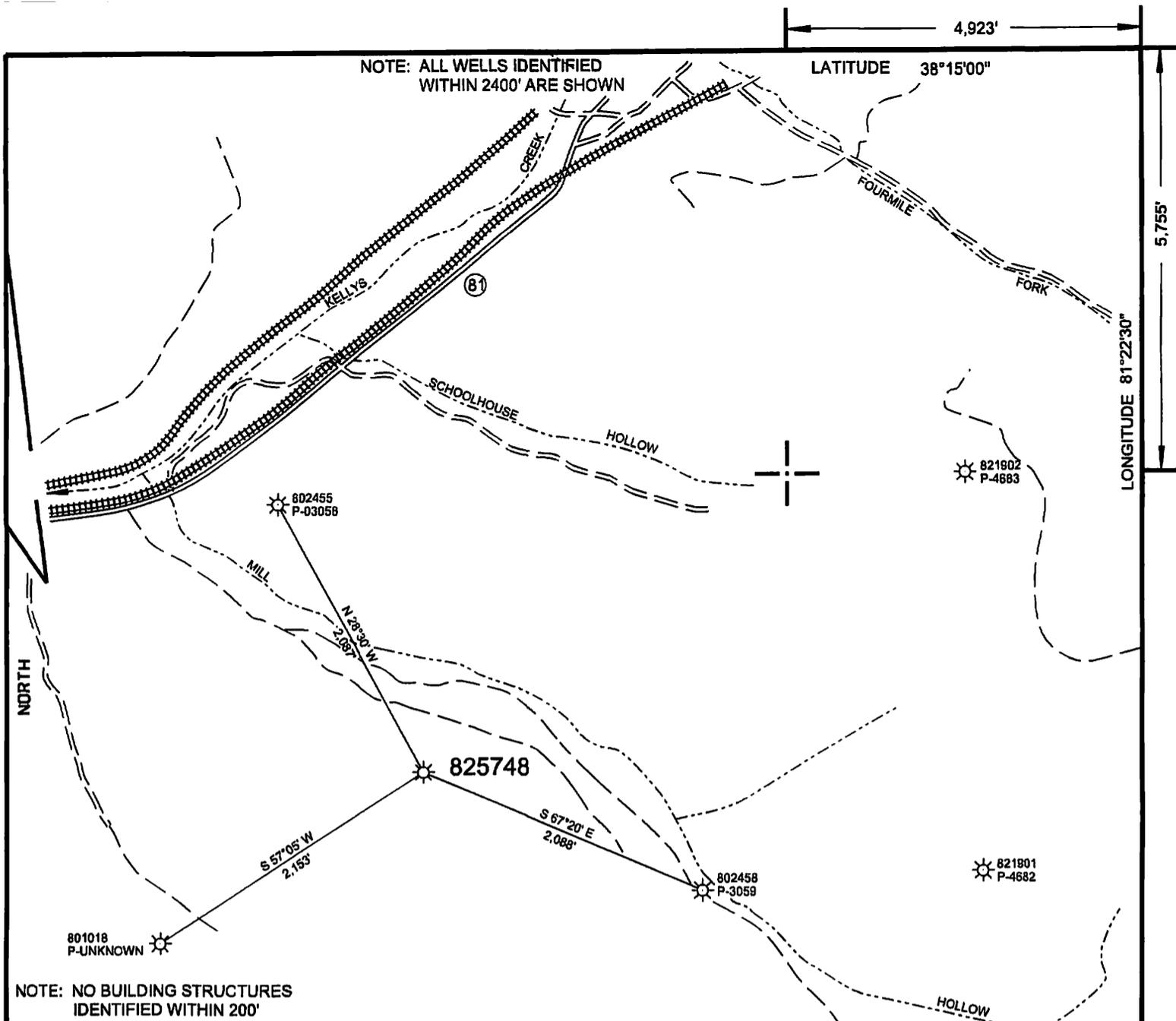
TARGET FORMATION _____ ESTIMATED DEPTH _____

WELL OPERATOR CHESAPEAKE APPALACHIA, L.L.C. DESIGNATED AGENT JESSICA GREATHOUSE
 ADDRESS P.O. BOX 18496, OKLAHOMA CITY, OK 73154-0496 ADDRESS CHESAPEAKE APPLACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

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 WV Department of Environmental Protection

COUNTY NAME _____ PERMIT _____

FORM WV-6



WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 449,636.889 : E - 1,887,338.993	
LATITUDE: (N) 38.2341815° LONGITUDE: (W) 81.3922327°	
UTM NAD83 17 - 84W TO 78W, METERS N - 4,231,882.617 : E - 465,687.073	

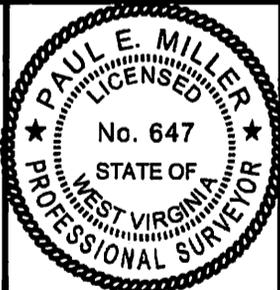
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO.	825748 P&A.DGN
DRAWING NO.	825748 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 MARCH 4, 2016
 OPERATOR'S WELL NO. 825748
 API WELL NO. 47

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1,116' WATER SHED MILL HOLLOW OF KELLYS CREEK
 DISTRICT CABIN CREEK COUNTY KANAWHA
 QUADRANGLE CEDAR GROVE, WV 7.5'

SURFACE OWNER DAVID WARD HEIRS
 OIL & GAS ROYALTY OWNER DAVID WARD ESTATE, ET. AL. LEASE ACREAGE 8.000
 LEASE NO. 1-025660-000

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 CLEAN OUT AND REPLUG

TARGET FORMATION _____ ESTIMATED DEPTH _____

WELL OPERATOR CHESAPEAKE APPALACHIA, L.L.C. DESIGNATED AGENT JESSICA GREATHOUSE
 ADDRESS P.O. BOX 18496, OKLAHOMA CITY, OK 73154-0496 ADDRESS CHESAPEAKE APPLACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

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