



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

April 04, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3903160, 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: 3723
Farm Name: TAYLOR, J. D.
API Well Number: 47-3903160
Permit Type: Plugging
Date Issued: 04/04/2016

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.

CK # 6001489
f10002

3903160P

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

1) Date: 2/23/2016
2) Operator's Well No. 803723 P&A
3) API Well No. 47-039-03160

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 1,052' Watershed Campbells Creek
District Malden County Kanawha Quadrangle Quick, 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 Change to
prog.

Accessing with Through point Lick of
Campbell's Creek

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

Work Order approved by Inspector



Date

2/29/16

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Environmental Protection

PLUGGING PROCEDURE

- 1) Prepare road and location, MIRU Service Rig
 - 2) RIH with tools to check TD at approximately 1660'
 - 3) Attempt to pull 2" and packer
 - A) If successful
 - a) Run W.S. to 1660', spot gel, pull W.S. to 1625'
 - b) Spot 100' cement plug 1625'-1525', pull W.S. to 1490'
 - c) Spot 125' cement plug 1490'-1365', pull W.S.
 - d) Proceed to step 4
 - B) If unsuccessful
 - a) Cut 2" at free-point (approximately 1425') and pull
 - b) Rip or shoot holes in 6 5/8" at approximately 1420' and 1400'
 - c) Run W.S. to approximately 1450', spot gel
 - d) Spot 150' cement plug 1450'-1300', pull W.S.
 - e) Proceed to step 4
 - 4) Run tools in hole to check TOC. If top of plug is below 1380', then add cement to top of plug.
 - 5) Rip or shoot holes in 6 5/8" at approximately 1060' and 1040'
 - 6) Run W.S. to 1065', spot gel
 - 7) Spot 100' cement plug 1065'-965', pull W.S.
 - 8) Cut 6 5/8" at free-point (approximately 780') and pull
 - 9) Run W.S. to 780', spot gel
 - 10) Spot 150' cement plug 780'-630', pull W.S.
- NOTE: If at least 750' of 6 5/8" cannot be pulled, then rip or shoot holes so this plug can be set. Then pull pipe from where free and spot 100' cement plug at cut.
- 11) Run in hole with tools to check TOC. If top of plug is below 680', then add cement to top of plug.
 - 12) Run W.S. to 440', spot gel
 - 13) Spot 100' cement plug from 440'-340', pull W.S. to 100'
 - 14) Spot 100' cement plug 100'-surface
 - 15) Pull W.S. and top off with cement
 - 16) Erect monument and reclaim as prescribed by law.

SET AS ONE plug if possible

Elevation

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Spot surface plug
350- to surface
SET monument

[Signature]
2-29-16

Well 803723
API 47-039-03160
Page 1 of 2

Lease No. 2569

Serial Well No. 1301-3723

FCBM-1565-2M-2-25-ACME

RECORD of Well No. 5 on the J. D. Taylor Farm of 1089 Acres

in Malden Precinct District Kanawha County, W. Va. Blue Creek Field

Located 19 Rig Commenced 19 and Completed 19

Drilling Commenced Jan. 4, 1924 and Completed March 14, 1924 Depth of Hole was 1692 Feet

Contractor was Pratt Drilling Co. Address Charleston, W. Va.

Drillers names G. H. Pagan and J. B. Elbr Drilling cost per foot

Drilled deeper to feet and completed 19 Drilling deeper cost per foot

Contractor was Address

CASING

TUBING

PACKER

Size	Used in Drilling	Left in Hole	Date Put in	Size	Feet Used	Date Pulled	Size	Kind	Feet from Bottom
8 1/4"	420			2"	1692		6 5/8"	B. H. Packer	
6 5/8"	1440	1440							

Well first produced in feet of wood conductor used

Production changed to in 19 Well shot 19

Well cleaned out 19 result: Size of Torpedo qts.

Well cleaned out 19 result: Started Pumping Oil 19

Well abandoned and plugged 19 By Kind of rods

OIL WELL

GAS WELL

REFERENCE DATA

Production Rock Press. Calculated Flow SUNDRY REPORT

Barrels per day Pounds Cu. Feet per day Dated Noted conditions that might effect calculated production

- Packer Set 1455'
- 4" Perforated Pipe
- 251' Anchor
- 1 - 6 5/8" X 2" Braden Head
- 1 Set 6 5/8" Casing Clamps
- 1 " 2" Tubing Clamps
- 1 " 7/8" X 40" Anchor Bolts
- 3 - 2" Gate Valves
- 3 - 2" X 6" Nipples (18")
- 1 - 2" Ex. Heavy Tee (Cast)
- 6 - 2" Plugs

140
201
168

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WV Department of Environmental Protection

Well 803723
 API 47-039-05160
 Page 2 of 2

DRILLERS RECORD

Formation	Top	Bottom	Thickness	REMARKS
Surface		10	10	Keener Gas 250,000 Cu. Ft.
Sand	10	30	20	Big Lime Gas 2,000,000 Cu. Ft.
Coal	30	33	3	Gas in Lime 1470' ---- 125,000
Slate	33	60	27	" " " 1490' ---- 1,875,000
Sand	60	70	10	" " Keener at 1625'
Lime	70	190	120	
Slate	190	200	10	
Lime	200	245	45	
Slate	245	250	5	
Lime	250	270	20	
Slate and Shells	270	350	80	
Sandy Lime	350	420	70	
Lime	420	500	80	
Sand	500	670	170	
Slate	670	690	20	
Lime	690	780	90	
Salt Sand	780	1100	320	
Maxon Sand	1100	1120	20	
Slate	1120	1190	70	
Lime	1190	1220	30	
Red Rock	1220	1280	60	
Slate and Shells	1280	1340	60	
Sandy Lime	1340	1390	50	
Slate	1390	1400	10	
Little Lime	1400	1420	20	
Slate	1420	1440	20	
Big Lime	1440	1590	150	
Pink Sand	1590	1625	35	
Keener Sand	1625	1644	19	
Injun Sand	1644	1690	46	
Slate	1690	1692	2	
Total Depth		1692		

WW4-A
Revised
2/01

1) Date: 2/23/2016
2) Operator's Well No. 803723 P&A
3) API Well No. 47-039-03160

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 Posler Limited Partnership ✓
Address Attention: Stan Backus
P.O. Box 311
Charleston, WV 25321

(b) Name _____
Address _____

(c) Name _____
Address _____

5) Coal Operator
(a) Name Blackhawk Mining, LLC ✓
Address 3228 Summit Square Place, Suite 180
Lexington, KY 40509

Coal Owner(s) with Declaration
(b) Name Posler Limited Partnership ✓
Address Attention: Stan Backus
P.O. Box 311
Charleston, WV 25321

Name _____
Address _____

6) Inspector Terry Urban
Address P.O. Box 1207
Clendenin, WV 25045

Telephone 304-549-5915

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

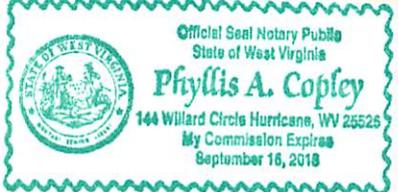
TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (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.

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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

WV Department of Environmental Protection

Subscribed and sworn before me this 23rd day of February the year of 2016
Phyllis A. Copley Notary Public

My Commission Expires September 16, 2018
Form WW-9

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 Campbells Creek Quadrangle Quick, WV 7.5'
Elevation 1,052' County Kanawha District Malden

Description of anticipated Pit Waste: Plugging Returns/Cement

Will a synthetic liner be used in the pit? Yes minimum of 20 mil thick synthetic liner

- 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*

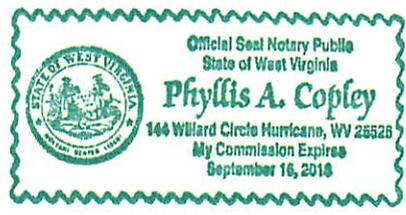
Company Official (Typed Name) David Gocke

Company Official Title Manager - Operations, Appalachia South

Subscribed and sworn before me this 23rd day of February, 2016.

Phyllis A. Copley Notary Public.

My Commission Expires September 16, 2018

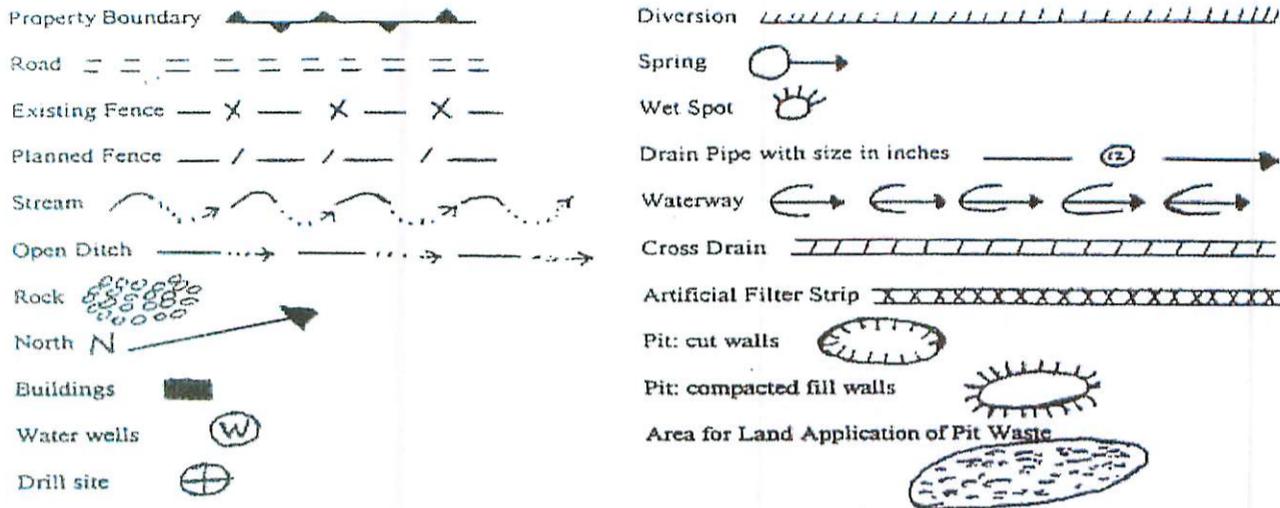


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Attachment #1

API #: 47-039-03160
Operator's Well No. 803723 P&A

LEGEND



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 Inspector

Date: 2-29-14

Field Reviewed? () Yes () No

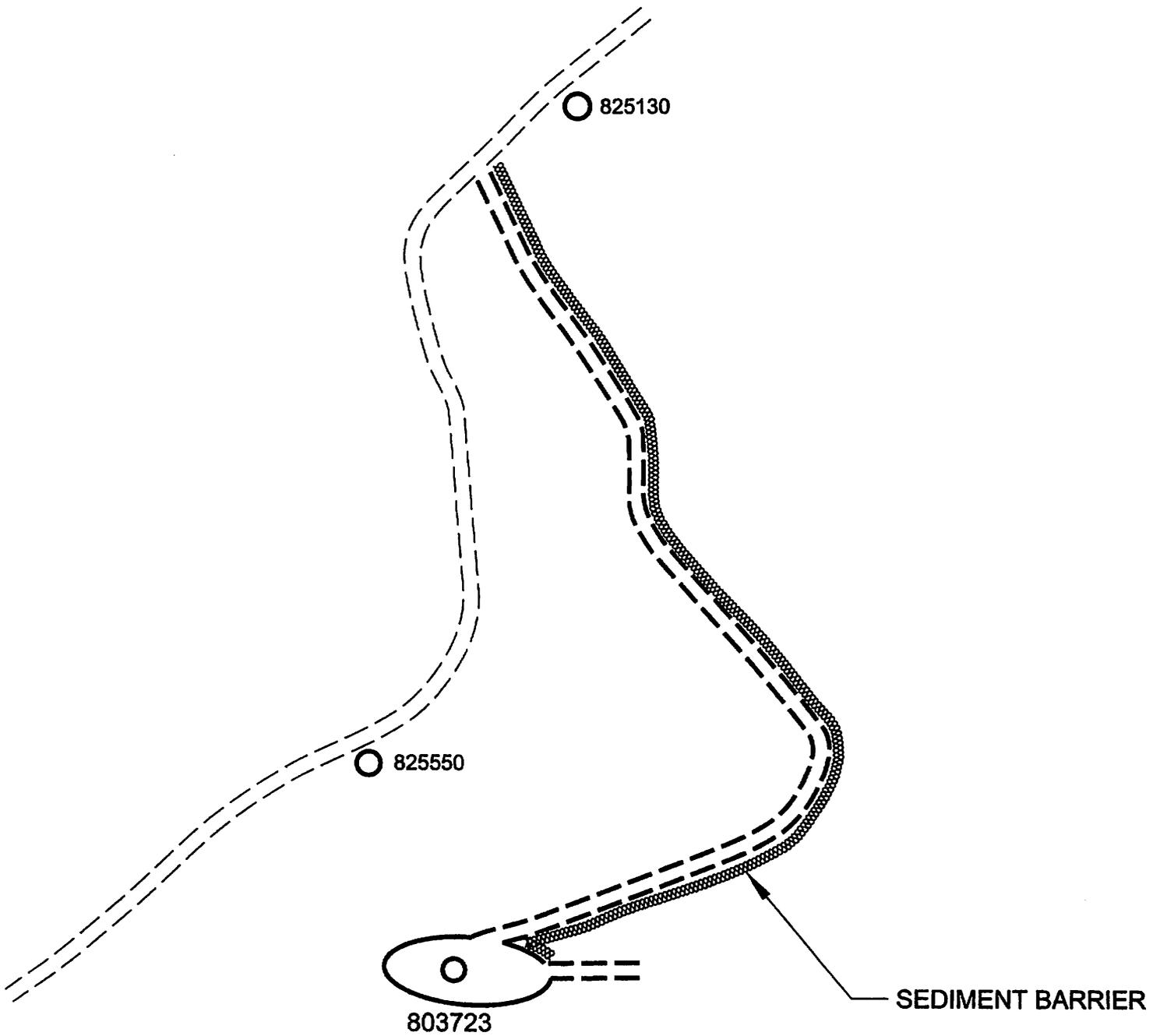
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 Environmental Protection

3908160P

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM WELL LOCATION 803723

API 47-039-03160



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 outfall 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, operators 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 in areas that will allow. These structures will be considered permanent and used as such.

Permanent seeding: See Attachment #1.

CHESAPEAKE ENERGY CORPORATION - EASTERN DIVISION
P.O. BOX 579 - 8165 COURT AVENUE - HAMLIN, WV 25523
304 824-5141 - FAX 304 824-2247

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WV Department of
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CHESAPEAKE APPALACHIA, L.L.C.

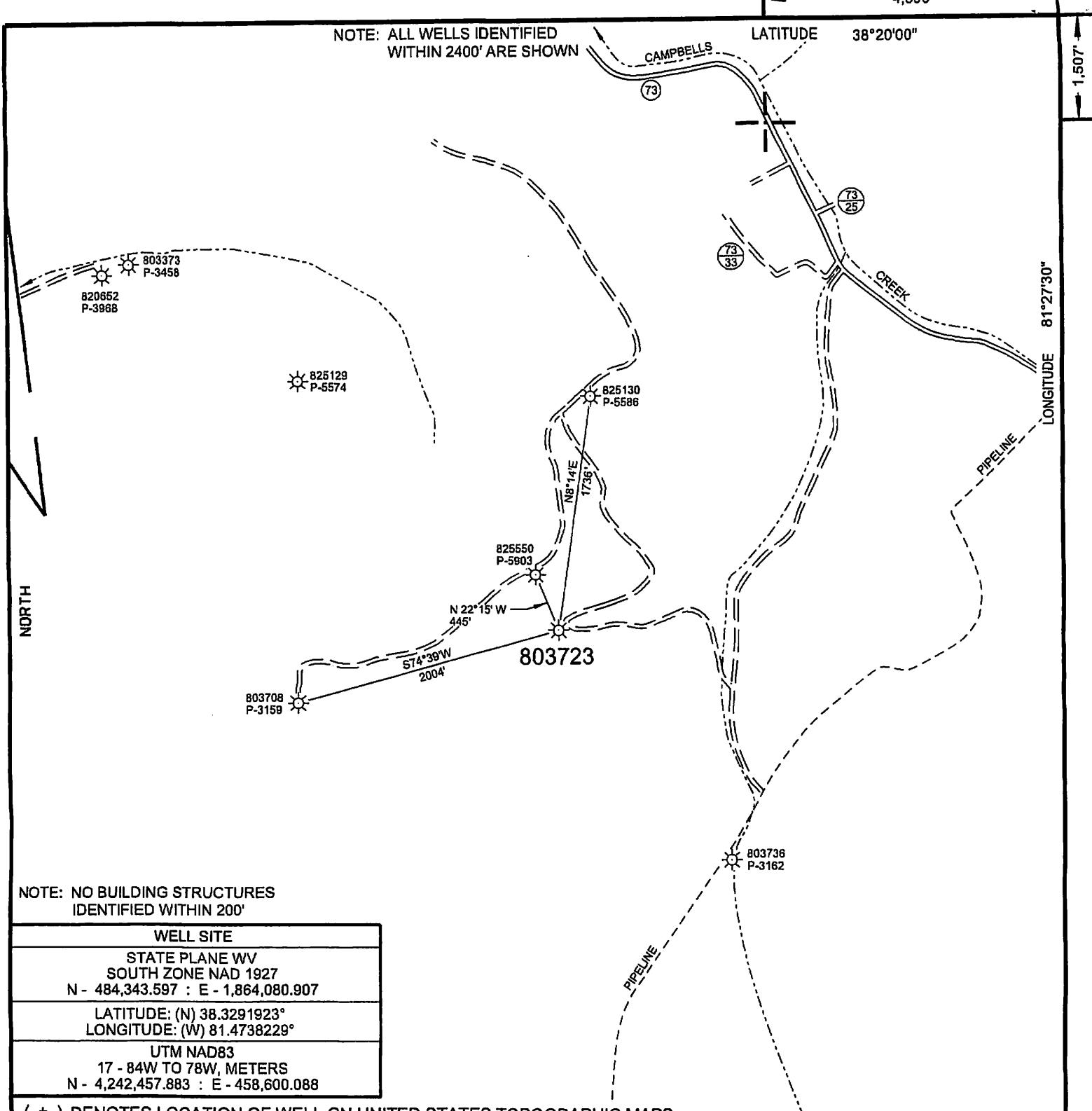
TOPOGRAPHICAL MAP OF ACCESS AND
WELL LOCATION 803723

API 47-039-03160



803723

WV Department of
Environmental Protection



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

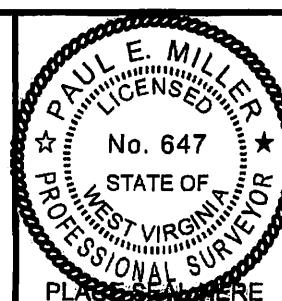
WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 484,343.597 : E - 1,864,080.907	
LATITUDE: (N) 38.3291923° LONGITUDE: (W) 81.4738229°	
UTM NAD83 17 - 84W TO 78W, METERS N - 4,242,457.883 : E - 458,600.088	

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

FILE NO. 803723P&A.DGN
 DRAWING NO. 803723P&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 FEBRUARY 22, 20 16
 OPERATOR'S WELL NO. 803723
 API WELL NO.

47 039 03160 P
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1,052' WATER SHED CAMPBELLS CREEK
 DISTRICT MALDEN COUNTY KANAWHA
 QUADRANGLE QUICK, WV 7.5'

SURFACE OWNER POSLER LIMITED PARTNERSHIP ACREAGE 1131
 OIL & GAS ROYALTY OWNER CHESAPEAKE ENERGY LEASE ACREAGE 1715
 LEASE NO. 1-017417

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

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 Office of Oil and Gas

FEB 29 2016

PLUG AND ABANDON X 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 APPALACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

WV Department of
 Environmental Protection

COUNTY NAME
 PERMIT

FORM WW-6

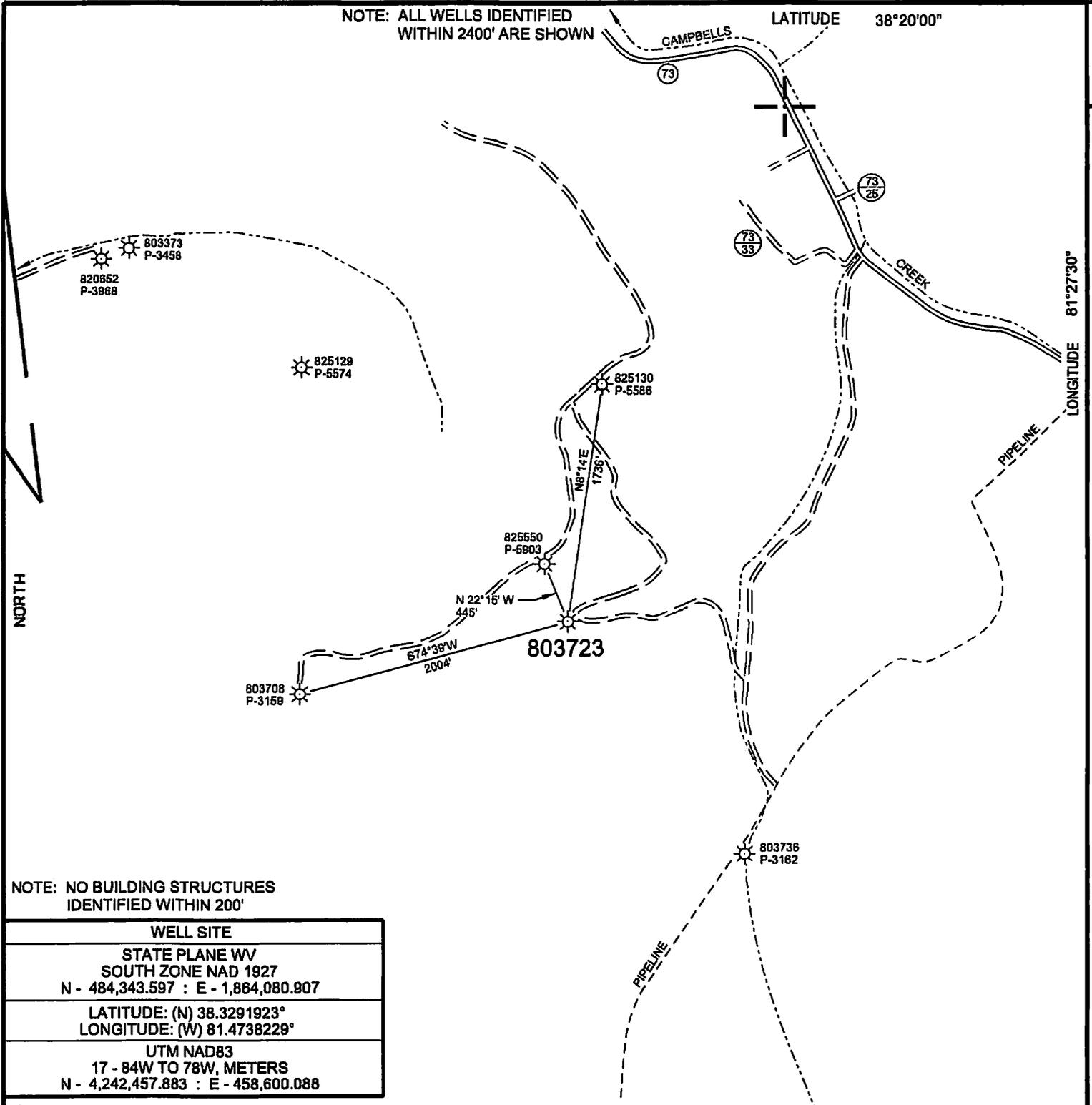
NOTE: ALL WELLS IDENTIFIED
WITHIN 2400' ARE SHOWN

LATITUDE 38°20'00"

4,390'

1,507'

LONGITUDE 81°27'30"



NOTE: NO BUILDING STRUCTURES
IDENTIFIED WITHIN 200'

WELL SITE
STATE PLANE WV SOUTH ZONE NAD 1927 N - 484,343.597 : E - 1,864,080.907
LATITUDE: (N) 38.3291923° LONGITUDE: (W) 81.4738229°
UTM NAD83 17 - 84W TO 78W, METERS N - 4,242,457.883 : E - 458,600.088

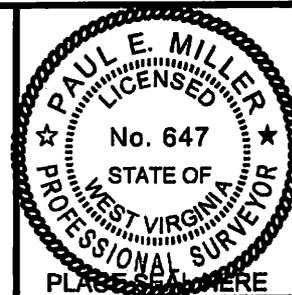
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. 803723P&A.DGN
DRAWING NO. 803723P&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
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MENT 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 FEBRUARY 22, 2016
OPERATOR'S WELL NO. 803723
API WELL NO. _____

47 039 03160 P
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1,052' WATER SHED CAMPBELLS CREEK

DISTRICT MALDEN COUNTY KANAWHA

QUADRANGLE QUICK, WV 7.5'

SURFACE OWNER POSLER LIMITED PARTNERSHIP ACREAGE 1131

OIL & GAS ROYALTY OWNER CHESAPEAKE ENERGY LEASE ACREAGE 171.5

LEASE NO. 1-017417

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 APPALACHIA, L.L.C. DESIGNATED AGENT JESSICA GREATHOUSE

ADDRESS P.O. BOX 18496, OKLAHOMA CITY, OK 73154-0496 ADDRESS CHESAPEAKE APPALACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

FORM WW-6

COUNTY NAME

PERMIT