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, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4301906, 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 penalities 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: 2431
Farm Name: LINCOLN LAND ASSOC
API Well Number: 47- 4301906
Permit Type: Plugging
Date Issued: 03/18/2015

Promoting a healthy environment.

4301906P

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.

4301906P

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

1) Date: 2/9/2015
2) Operator's Well No. 802431 P&A
3) API Well No. 47-043-01906

CK
5241365
$100.00

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 1098' Watershed Straight Fork of Mud River
District Carroll County Lincoln Quadrangle West Hamlin, WV 7.5'

6) Well Operator Address
Chesapeake Appalachia, L.L.C.
P.O. Box 18496
Oklahoma City, OK 73154-0496

7) Designated Agent Address
Jessica Greathouse
P.O. Box 6070
Charleston, WV 25362

8) Oil and Gas Inspector to be notified
Name Ralph Triplett
Address 5539 McClellan Highway
Branchland, WV 25506

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 Sheet

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

Work Order approved by Inspector _____ Date 2-23-15

Received
FEB 25 2015
Office of Oil and Gas
WV Dept. of Environmental Protection

API #: 47-043-01906 P

802431 P&A PROCEDURE

ELEV. 1098.00'

1) Prepare road and location, MIRU service rig
2) RIH with tools to check TD approximately at 2270' (If we are unable to get tools to 2265', then rip or shoot holes in 3" above top of fill)
3) TIH with W.S. to 2260', spot gel
4) Spot 100' cement plug 2260'-2160' or as deep as possible, pull W.S.
5) Cut 3" at free-point (approximately 1860') and pull
6) Run W.S. to 1860', spot gel
7) Spot 125' cement plug 1860'-1735', pull W.S.
8) RIH with tools to check top of plug (If TOC is below 1775', then re-set plug)
9) Rip or shoot holes in 6 5/8" approximately at 1680', 1640', 1500' and 1475' 1330 & 1355'
10) Run W.S. to 1700', spot gel
11) Spot 100' cement plug 1700'-1600', pull W.S. to 1500'
12) Spot 100' cement plug 1500'-1400', pull W.S.
13) Cut 6 5/8" at free-point (approximately 1070') and pull
14) Run W.S. to 1070', spot gel
15) Spot 150' cement plug 1070'-920', pull W.S.
16) RIH with tools to check TOC (If top of plug is below 970', then re-set plug)
17) Run W.S. to 480', spot gel
18) Spot 100' cement plug 480'-380', pull W.S. to 175'
19) Spot 175' cement plug 175'-surface
20) Pull W.S. and top off with cement
21) Set monument and reclaim as prescribed by law

COVER COAL 1334' - 1338'

Received

FEB 25 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

UNITED FUEL GAS COMPANY
(INCORPORATED)

Well 80 2431
API 47-043-01906P

SERIAL WELL NO. 2431 LEASE NO. _____ MAP SQUARE 34-35

RECORD OF WELL No. 2431 on the Lincoln Land Assn. Farm of 20000 Acres in Carrol District Lincoln County Branchland Field, State of W.Va.

Rig Commenced	Jan. 21, 1927.	192
Rig Completed	Jan. 26, 1927.	192
Drilling Commenced	Mar. 7, 1927.	192
Drilling Completed	Apr. 26, 1927.	192
Drilling to cost	per foot	

Contractor is:

Address:

Drillers' Names H.E.Smith
Walter Egner
R.L.Jaynes, Foreman.

CASING AND TUBING

SIZE	USED IN DRILLING	LEFT IN WELL
16		
13		
10	51'-8"	51'-8"
8 1-4	308'-	None
6 5-8	1809'-8"	1809'-8"
5 3-16		
4 7-8		
4		
3	2324'	2324'
2		

SHUT IN

Date May 2, 1927

3" in Tubing or Casing

Size of Packer 6-5/8"x3"

Kind of Packer OWS Anchor

1st Perf. Set 10' from On bottom

2nd Perf. Set Top 52 from Bottom

TEST BEFORE SHOT

6/10 of Water in 2 inch
10ths
of Merc. in inch
10ths
Volume Cu. ft.

TEST AFTER SHOT

18/10 of Water in 2 inch
10ths
of Merc. in inch
10ths
Volume Cu. ft.

Rock Pressure 438#

Date Shot Apr. 27, 1927.

Size of Torpedo 40 Qt.

Oil Flowed bbls. 1st 24 hrs.

Oil Pumped bbls. 1st 24 hrs.

Well abandoned and

Plugged 19

DRILLER'S RECORD

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Clay & Gravel		30	30	Producing Gas from Berea Sand from 2246'
Sand	30	35	5	to 2256. Shot with 40 quarts. Test before
Slate	65	85	20	shot 6/10 water thru 2"-115,968 Cu. Ft.
Sand	85	125	40	Test after shot-18/10 water thru 2"-
Slate & Sand	125	480	355	199,640 Cu. Ft.
Red Rock	480	520	40	Water at 150'
Slate & Sand	520	1010	490	
1st Salt Sand	1010	1135	125	Water, hole full at 1065'
Slate	1135	1170	35	48 hour rock pressure 438', thru 3" tubing.
2nd Salt Sand	1170	1384	214	Tubed with 3" tubing. 1-3"x6-5/8"x16" OWS
Coal & Cave	1384	1388	4	tubing anchor packer used.
Slate & Shells	1388	1464	76	
Little Lime	1464	1484	20	
Pencil Cave	1484	1492	8	Steel Line Measure
Big Lime	1492	1674	182	6-5/8" casing set at 1790', 1-6-5/8"x3½"
Big Injun Sand	1674	1694	20	Parmaco B.H. packer used
Slate & Shells	1694	2245	551	
Berea Sand	2245	2263	18	Tubing Packer Set at 2051'
Slate	2263	2313	50	
Total Depth		2313	2313	

Received
Office of Oil & Gas
FEB 10 2015

4301906P

WW4-A
Revised
2/01

1) Date: 2/9/2015
2) Operator's Well No. 802431 P&A
3) API Well No. 47-043-01906

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 Reese M. & Brenda K. Meadows
Address 3848 River Park Avenue
Ona, WV 25545

(b) Name Greg Stowers
Address 140 Island Way 293
Clearwater, FL 33767

(c) Name
Address

5) Coal Operator
(a) Name None
Address

Coal Owner(s) with Declaration
(b) Name J. A. Holley Estate
Address P.O. Box 659
Wichita Falls, TX 76307

Name
Address

Coal Lessee with Declaration
(c) Name None
Address

6) Inspector Ralph Triplett
Address 5539 McClellan Highway
Branchland, WV 25506

Telephone 304-389-0350

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.

Official Seal Notary Public
State of West Virginia
Phyllis A. Copley
144 Willard Circle Hurricane, WV 25526
My Commission Expires
September 16, 2018

Well Operator: Chesapeake Appalachia, L.L.C.
By:
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 February the year of 2015
Phyllis A. Copley Notary Public
My Commission Expires September 16, 2018
Form WW-9

Received
Office of Oil & Gas
FEB 10 2015

4301906P

Well 802431
API 47-043-01906

7014 2120 0001 1976 0399

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

WICHITA FALLS TX 76307

OFFICIAL USE

Postage	$ $1.40	0523
Certified Fee	$3.30	01
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $7.40	02/09/2015

Sent To
Street & Apt. No., or PO Box No.
City, State, ZIP+4

802431 P&A (coal)
J. A. Holley Estate
P.O. Box 659
Wichita Falls, TX 76307

PS Form 3800, July 2014 See Reverse for Instructions

7014 2120 0001 1976 0405

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

CLEARWATER BEACH FL 33767

OFFICIAL USE

Postage	$ $1.40	0523
Certified Fee	$3.30	01
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $7.40	02/09/2015

Sent To
Street & Apt. No., or PO Box No.
City, State, ZIP+4

802431 P&A (access surface)
Greg Stowers
140 Island Way 293
Clearwater, FL 33767

PS Form 3800, July 2014 See Reverse for Instructions

7014 2120 0001 1976 0412

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

ONA WV 25545

OFFICIAL USE

Postage	$ $1.40	0523
Certified Fee	$3.30	01
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$7.40	02/09/2015

Sent To
Street & Apt. No., or PO Box No.
City, State, ZIP+4

802431 P&A (surface)
Reese M. & Brenda K. Meadows
3848 River park Avenue
Ona, WV 25545

PS Form 3800, July 2014 See Reverse for Instructions

Received
Office of Oil & Gas
FEB 10 2015

4301906P

Rev. 02/01

API Number 47-043-01906
Operator's Well No. 802431 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 Straight Fork of Mud River Quadrangle West Hamlin, WV 7.5'

Elevation 1098' County Lincoln District Carroll

Description of anticipated Pit Waste: Plugging Returns/Cement

Will a synthetic liner be used in the pit? Yes 20 ML

Proposed Disposal Method For Treated Pit Wastes:

X 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
X 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) Dave Gocke

Company Official Title Manager - Operations, Appalachia South

Subscribed and sworn before me this 9th day of February, 2015.

Phyllis A. Copley Notary Public.

My Commission Expires September 16, 2018

Official Seal Notary Public
State of West Virginia
Phyllis A. Copley
144 Willard Circle Hurricane, WV 25525
My Commission Expires
September 16, 2018

4301906P

Attachment #1

API #: 47-043-01906
Operator's Well No. 802431 P&A

LEGEND

Property Boundary
Road
Existing Fence
Planned Fence
Stream
Open Ditch
Rock
North N
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 Seed Type	lbs/acre	Area II Seed Type	lbs/acre
CHESAPEAKE CONTRACTOR'S MIX	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 006

Date: 2-23-15

Field Reviewed? (✓) Yes ( ) No

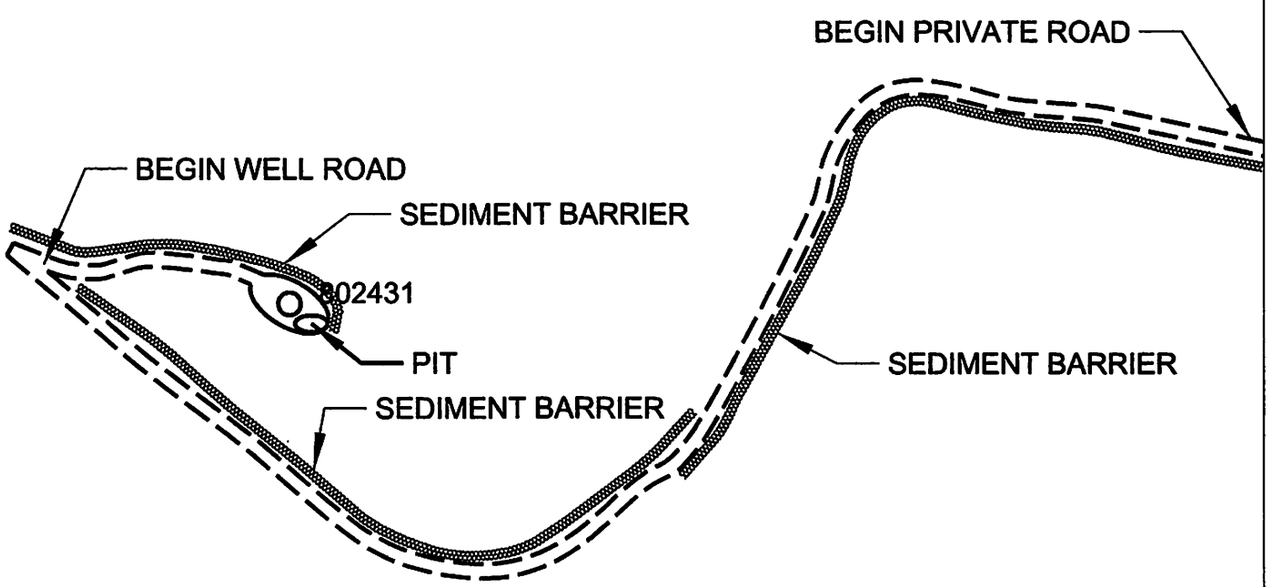
Received
FEB 25 2015
Office of Oil and Gas
WV Dept. of Environmental Protection

4301906P

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM
WELL LOCATION 802431

API 47-043-01906



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 show in approximate pre-planning configurations.

All culvert pipes will be a minimum of 15 inches in diameter. all culvert pipes installed will be accomanied 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 roacks of 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 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 contruction phase, where applicable, and in areas that will allow. These structures will be considered permanent and used as such.

Permanent seeding: See Attachment #1.

Received
Office of Oil & Gas
FEB 10 2015

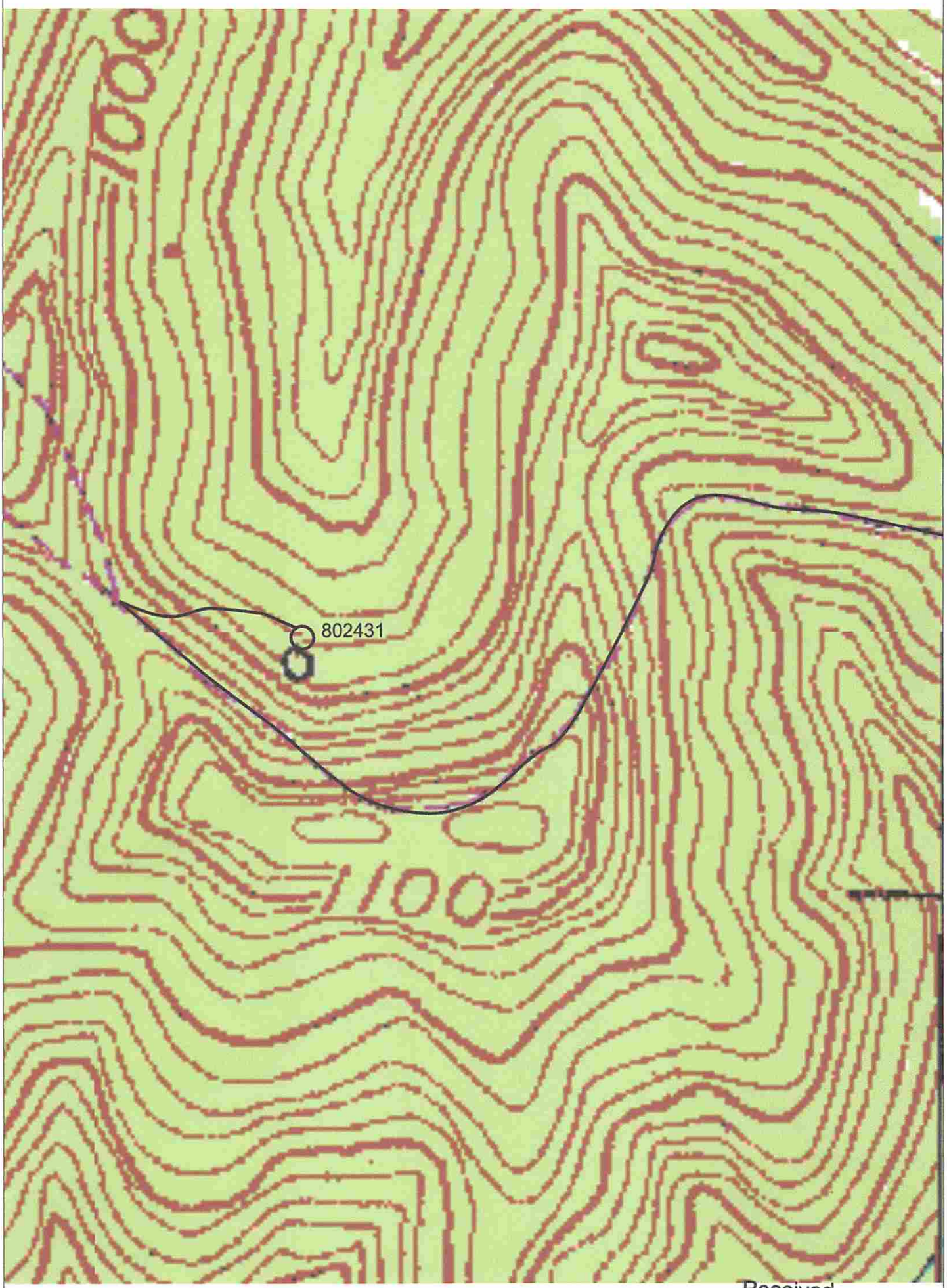
CHESAPEAKE ENERGY CORPORATION - EASTERN DIVISION
P.O. BOX 579 - 8165 COURT AVENUE - HAMLIN, WV 25523
304 824-5141 - FAX 304 824-2247

43019061

CHESAPEAKE APPALACHIA, L.L.C.

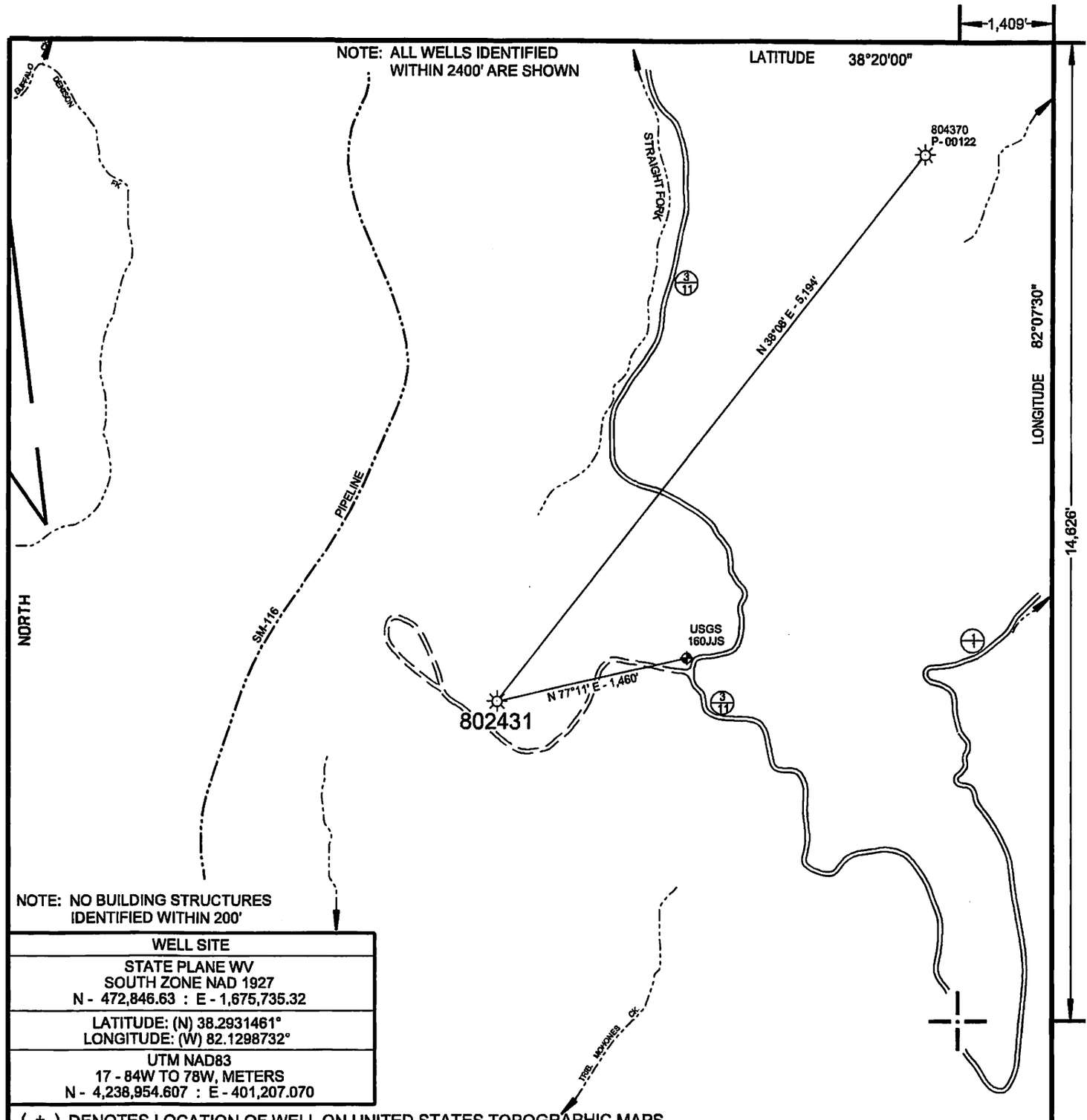
TOPOGRAPHICAL MAP OF ACCESS AND WELL LOCATION 802431

API 47-043-01906



Received
Office of Oil & Gas
FEB 10 2015

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



WELL SITE
STATE PLANE WV SOUTH ZONE NAD 1927 N - 472,846.63 : E - 1,675,735.32
LATITUDE: (N) 38.2931461° LONGITUDE: (W) 82.1298732°
UTM NAD83 17 - 84W TO 78W, METERS N - 4,238,954.607 : E - 401,207.070

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

FILE NO. 802431.DGN
DRAWING NO. 802431
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

PAUL E. MILLER LICENSED No. 647 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE JANUARY 21, 20 15
OPERATOR'S WELL NO. 802431
API WELL NO.

47	043	01906 P
STATE	COUNTY	PERMIT

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

LOCATION: ELEVATION 1,098' WATER SHED STRAIGHT FORK OF MUD RIVER
DISTRICT CARROLL COUNTY LINCOLN
QUADRANGLE WEST HAMLIN, WV 7.5'

SURFACE OWNER REESE M. & BRENDA K. MEADOWS (SURV.) ACREAGE
OIL & GAS ROYALTY OWNER CHESAPEAKE APPALACHIA, L.L.C. LEASE ACREAGE
LEASE NO. FEE OIL & GAS

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 APPLACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

COUNTY NAME

PERMIT