



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 02, 2014

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4301259, 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: 501533 (V-1533)
Farm Name: HEARTWOOD FORESTLAND FU
API Well Number: 47-4301259
Permit Type: Plugging
Date Issued: 04/02/2014

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.

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

1) Date: 3/5/2014
2) Operator's Well No. 501533 P&A
3) API Well No. 47-043-01259

OK 5124297
100⁰⁰

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 1133' Watershed East Fork of Twelvepole Creek
District Harts Creek County Lincoln Quadrangle Wilsondale, WV 7.5
- 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 Ralph Triplett Name Chesapeake Appalachia, L.L.C.
Address 5539 McClellan Highway Address P.O. Box 18496
Branchland, WV 25506 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 MAR 07 2014

RECEIVED
Office of Oil and Gas
MAR 07 2014
WV Department of
Environmental Protection

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

1) Date: 3/5/2014
2) Operator's Well No. 501533 P&A
3) API Well No. 47-043-01259

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

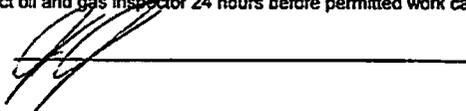
APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil Gas Liquid injection Waste disposal
(Is Gas. Production or Underground storage) Deep Shallow
- 5) Location: Elevation 1133' Watershed East Fork of Twelvepole Creek
District Harts Creek County Lincoln Quadrangle Wilsondale, WV 7.5
- 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 Ralph Triplett Name Chesapeake Appalachia, L.L.C.
Address 5539 McClellan Highway Address P.O. Box 18496
Branchland, WV 25506 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

3-17-14

501533 P&A PROCEDURE

- 1) Prepare road and location, MIRU Service Rig
- 2) Run in hole with tools to check TD at approximately 1350'
- 3) Run W.S. to approximately 1325', load hole with gel
- 4) Spot approximately 175' cement plug 1325'-1150', pull W.S.
- 5) Run in hole with tools to check top of plug. (If top of plug is not above 1175' then re-set plug.)
- 6) Cut 5 1/2" at free-point (approximately 1000') and pull
- 7) Run W.S. to 1000', load hole with gel
- 8) Spot 150' cement plug 1000'-850', pull W.S.
- 9) Attempt to pull 6 5/8" casing
 - A) If successful:
 - a) Run W.S. to 630', load hole with gel
 - b) Spot 150' cement plug 630'-480'
 - c) Proceed to step #10
 - B) If unsuccessful:
 - a) Rip holes at approximately 530' and 500'
 - b) Run W.S. to 630'
 - c) Spot 150' cement plug 630'-480', pull W.S.
 - d) Cut 6 5/8" at free-point (approximately 150') and pull
 - e) Proceed to step #10
- 10) Pull or run W.S. to 150', spot 150' cement plug 150' – surface
- 11) Pull W.S. and top off with cement
- 12) Erect monument and reclaim as prescribed by law



4301259P

WW4-A
Revised
2/01

1) Date: 3/5/2014
2) Operator's Well No. 501533 P&A
3) API Well No. 47-043-01259

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 C/O Craig Kaderavak
19045 Stone Mountain Road
Abingdon, VA 24210
(b) Name Ked & Gail Messer (Access Road) ✓
Address HC 73, Box 4105 ✓
Dingess, WV 25671
(c) Name _____
Address _____
6) Inspector Ralph Triplett
Address 5539 McClellan Highway
Branchland, WV 25506
Telephone 304-389-0350

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 Poahontas Land Corporation
Address 800 Princeton Avenue
Bluefield, WV 24701
Coal Lessee with Declaration ✓
(c) Name Rockspring Development, Inc. ✓
Address 400 Patterson Lane
Charleston, WV 25311

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

RECEIVED
Office of Oil and Gas
MAR 07 2014
WV Department of Environmental Protection

Subscribed and sworn before me this 5th day of March the year of 2014
Phyllis A. Copley Notary Public
My Commission Expires September 16, 2018

4301259P

7012 1640 0000 0167 9710

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com
CHARLESTON WV 25311

Postage	\$ 2.24	0523
Certified Fee	\$ 3.30	
Return Receipt Fee (Endorsement Required)	\$ 2.70	
Restricted Delivery Fee (Endorsement Required)	\$ 0.00	
Total Postage & Fees	\$ 8.24	03/06/2014

Sent To: **501533 P&A, 501403 P&A, 501522 P&A**
 Rockspring Development, Inc.
 400 Patterson Lane
 Charleston, WV 25311

PS Form 3800

7012 1640 0000 0167 9727

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com
DUNLOW WV 25511

Postage	\$ 2.24	0523
Certified Fee	\$ 3.30	
Return Receipt Fee (Endorsement Required)	\$ 2.70	
Restricted Delivery Fee (Endorsement Required)	\$ 0.00	
Total Postage & Fees	\$ 8.24	03/06/2014

Sent To: **501533 P&A, 501403 P&A, 501522 P&A**
 Argus Energy-WV, LLC
 9104 Twelve Pole Creek Road
 Dunlow, WV 25511

PS Form 3800

7012 1640 0000 0167 9734

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com
BLUEFIELD WV 24701

Postage	\$ 2.24	0523
Certified Fee	\$ 3.30	
Return Receipt Fee (Endorsement Required)	\$ 2.70	
Restricted Delivery Fee (Endorsement Required)	\$ 0.00	
Total Postage & Fees	\$ 8.24	03/06/2014

Sent To: **501533 P&A, 501403 P&A, 501522 P&A**
 Pocahontas Land Corp.
 800 Princeton Avenue
 Bluefield, WV 24701

PS Form 3800

7012 1640 0000 0167 9673

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com
DINGESS WV 25671

Postage	\$ 1.40	0523
Certified Fee	\$ 3.30	
Return Receipt Fee (Endorsement Required)	\$ 2.70	
Restricted Delivery Fee (Endorsement Required)	\$ 0.00	
Total Postage & Fees	\$ 7.40	03/06/2014

Sent To: **501533 P&A (Access Road)**
 Ked & Gail Messer
 HC 73, Box 4105
 Dingess, WV 25671

PS Form 3800

7012 1640 0000 0167 9741

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com
ABINGDON VA 24210

Postage	\$ 1.40	0523
Certified Fee	\$ 3.30	
Return Receipt Fee (Endorsement Required)	\$ 2.70	
Restricted Delivery Fee (Endorsement Required)	\$ 0.00	
Total Postage & Fees	\$ 7.40	03/06/2014

Sent To: **501533 P&A**
 Heartwood Forestland
 C/O Craig Kaderavak
 19045 Stone Mountain Road
 Abingdon, VA 24210

PS Form 3800

RECEIVED
 Office of Oil and Gas
 MAR 07 2014
 WV Department of
 Environmental Protection

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 East Fork of Twelvepole Creek Quadrangle Wilsondale, WV 7.5'
Elevation 1133' County Lincoln District Harts Creek

Description of anticipated Pit Waste: Plugging Returns/Cement

Will a synthetic liner be used in the pit? Yes 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 *David Gocke*

Company Official (Typed Name) David Gocke

Company Official Title Manager - Operations, Appalachia South

Subscribed and sworn before me this 5th day of March, 2014.

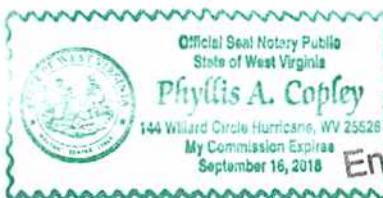
Phyllis A. Copley

My Commission Expires September 16, 2018

RECEIVED
Notary Public
Office of Oil and Gas

MAR 07 2014

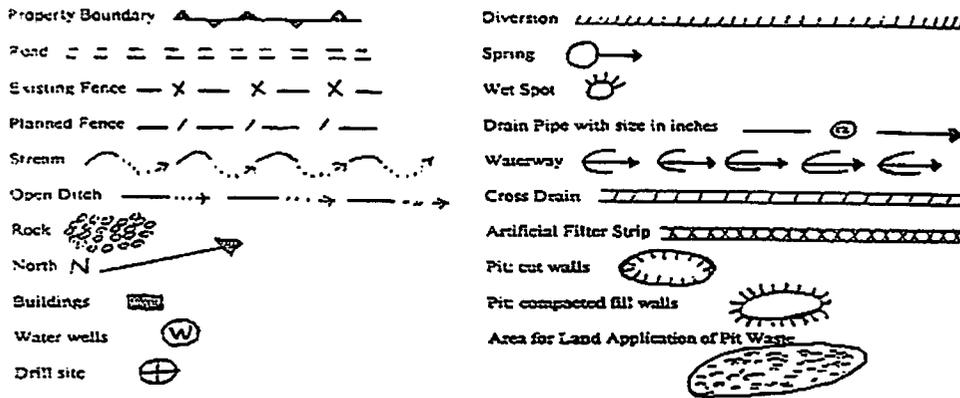
WV Department of
Environmental Protection



Attachment #1

API #: 47-043-01259
Operator's Well No. 501533 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 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: [Signature]

Title: inspector 006

Date: 3-24-14

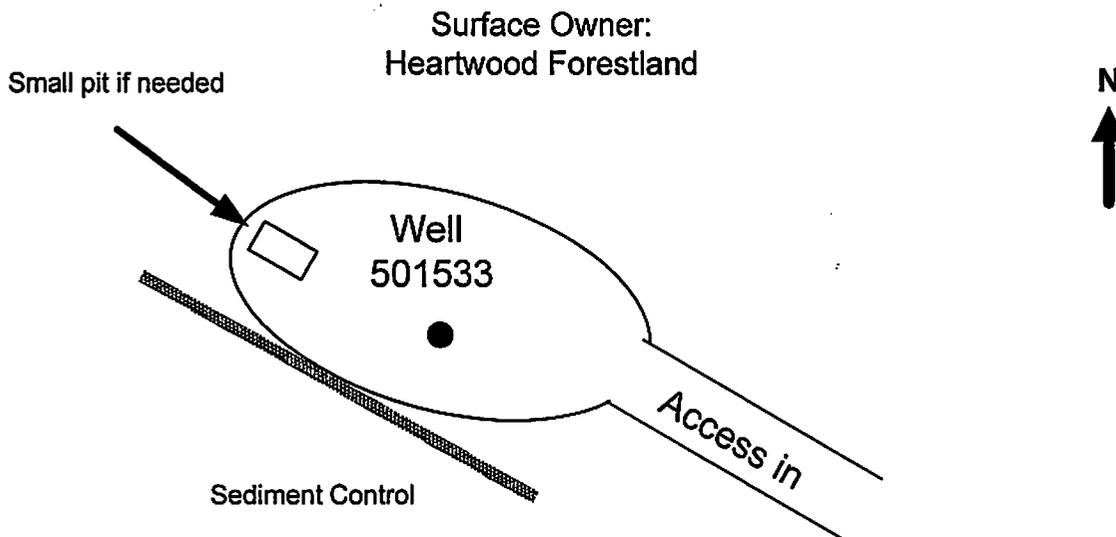
Field Reviewed? () Yes () No

Diagram of Well 501533

API 47-043-1259

Field Office - Branchland

County - Lincoln



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

RECEIVED
Office of Oil and Gas

MAR 07 2014

WV Department of
Environmental Protection
No Scale

Site Plan

Prepared by: Kris Aldridge
Date: 2-5-2014

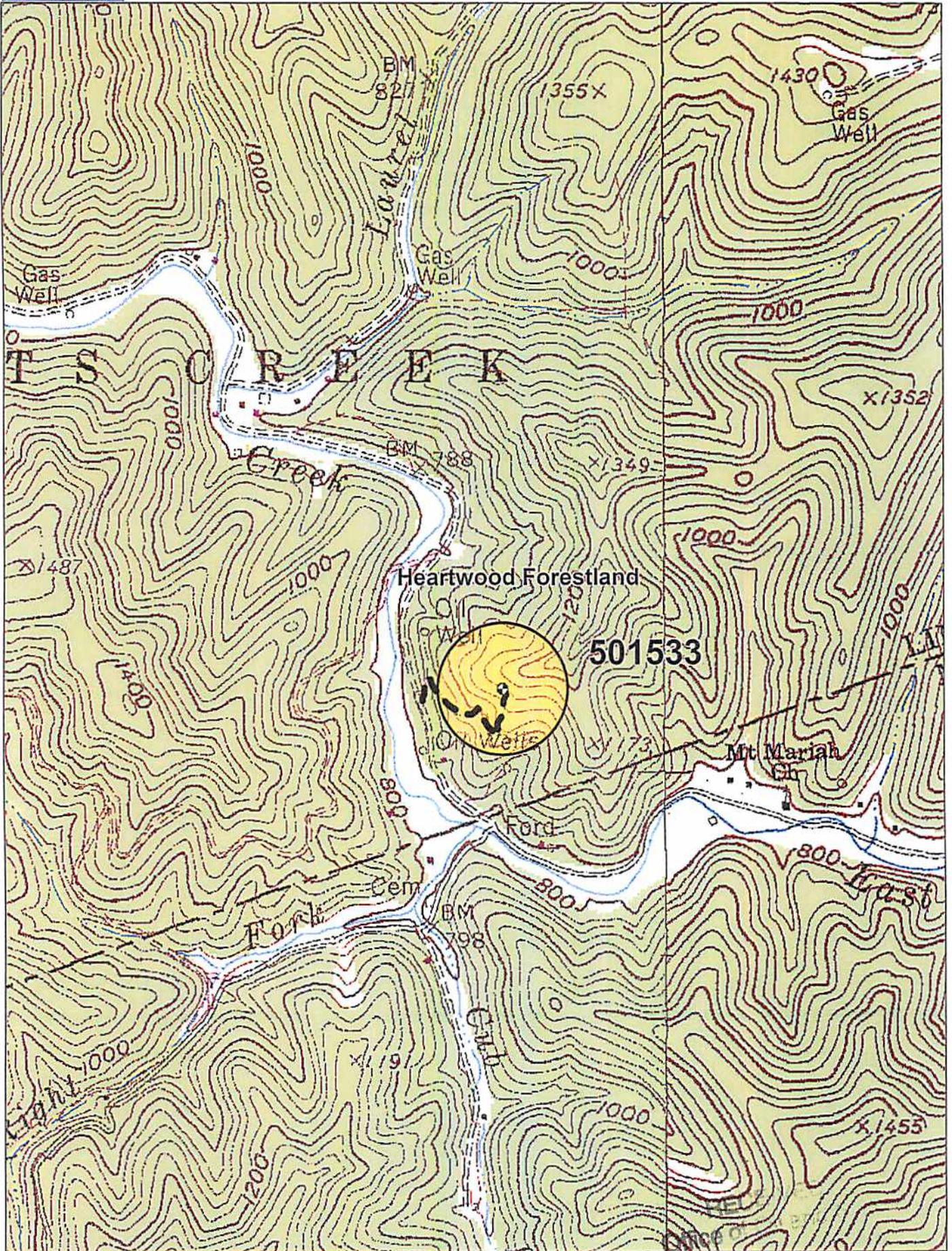
CHESAPEAKE APPALACHIA, L.L.C.

4301259 P

Topographical Map of Access and
Well Location 501533
API 47-043-1259
Field Office - Branchland
County - Lincoln

DE LORME

XMap® 7



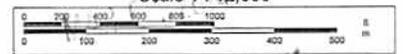
Data use subject to license.

© DeLorme, XMap® 7.

www.delorme.com



Scale 1 : 12,000



1" = 1,000.0 ft Data Zbom 14-1

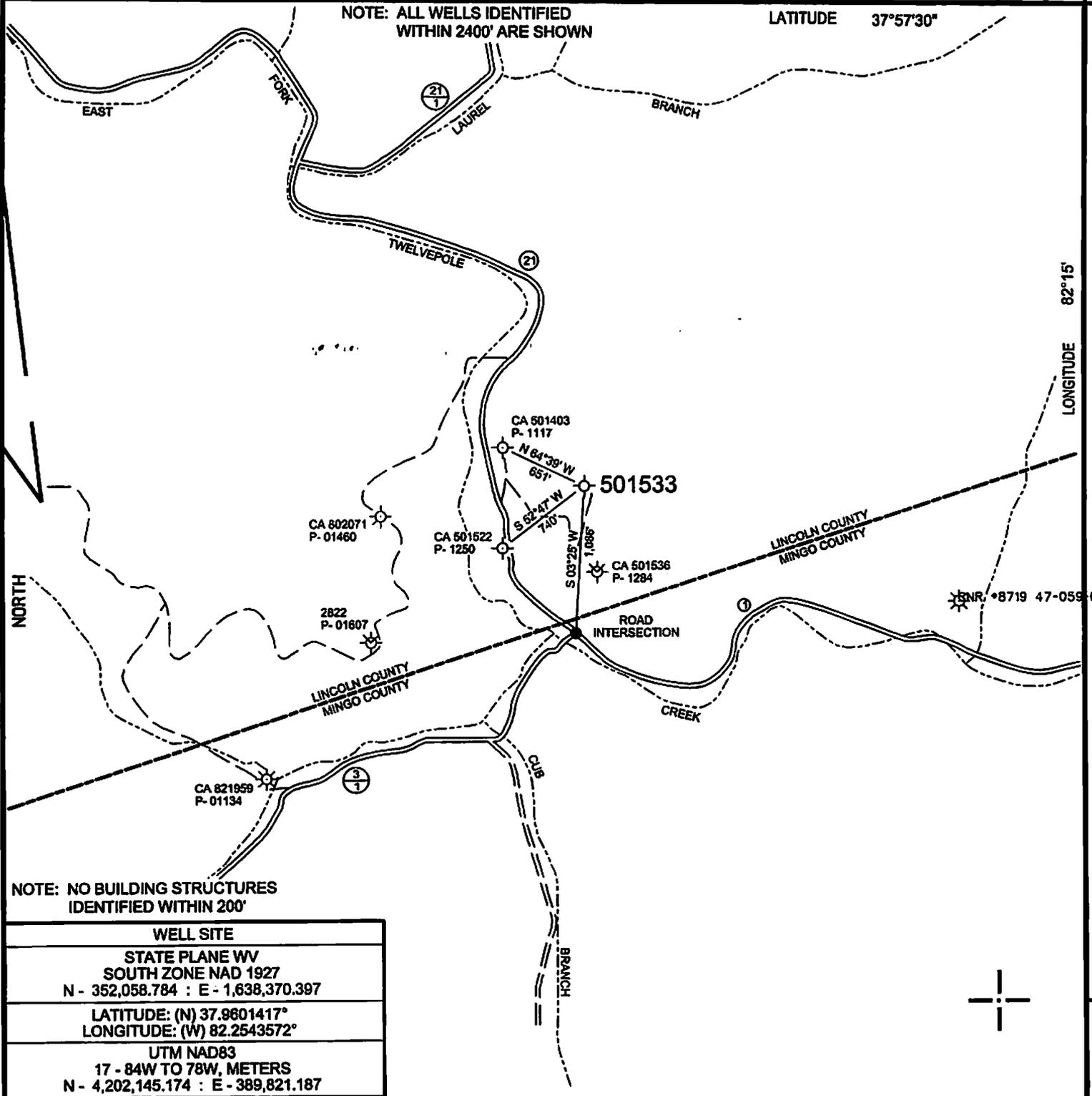
WV Department of Environmental Protection

Chesapeake Energy Corporation - Eastern Division
P.O. Box 579 • 8165 Court Avenue • Hamlin, WV 25523
304.824.5141 • fax 304.824.2247

1,261'

NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 37°57'30"



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927	
N - 352,058.784 : E - 1,638,370.397	
LATITUDE: (N) 37.9601417°	
LONGITUDE: (W) 82.2543572°	
UTM NAD83	
17 - 84W TO 78W, METERS	
N - 4,202,145.174 : E - 389,821.187	

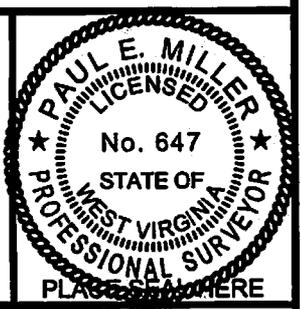
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO.	CA501533P&A.DGN
DRAWING NO.	CA501533P&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, 2014
OPERATOR'S WELL NO. 501533
API WELL NO. 47-043-01259 P

RECEIVED
Office of Oil and Gas
MAR 07 2014
WV Department of Environmental Protection
461.45

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 1,133' WATER SHED EAST FORK OF TWELVEPOLE CREEK
DISTRICT HART'S CREEK COUNTY LINCOLN
QUADRANGLE WILSONDALE, WV 7.5'
SURFACE OWNER HEARTWOOD FORESTLAND FUND
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 APPALACHIA, L.L.C. DESIGNATED AGENT ERIC B. GILLESPIE
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