



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, 2014

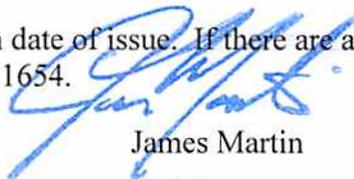
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4301117, 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: 501403 P&A (8110)
Farm Name: MESSES, KED AND GAIL
API Well Number: 47-4301117
Permit Type: Plugging
Date Issued: 03/18/2014

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.

4301117A

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

1) Date: 3/5/2014
2) Operator's Well No. 501403 P&A
3) API Well No. 47-043-01117

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 910' Watershed East Fork of Twelvepole Creek
District Harts Creek 03 County Lincoln 43 Quadrangle Wilsondale, WV 7.5 687
- 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

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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.
Work Order approved by Inspector _____ Date WV Department of Environmental Protection

501403 P&A Procedure

- 1) Prepare road and location, MIRU Service Rig
- 2) Attempt to pull 2 3/8" and packer
 - A) If successful:
 - a) Run W.S. to 1100', load hole with gel
 - b) Spot 200' cement plug 1100'-900'
 - c) Proceed to step #3
 - B) If unsuccessful:
 - a) Cut 2 3/8" at free-point (approximately 1000') and pull
 - b) Run W.S. to 1000', load hole with gel
 - c) Spot 150' cement plug 1000'-850', pull W.S.
 - d) Proceed to step #3
- 3) Cut 8 3/4" at free-point (approximately 775') and pull
- 4) Run W.S. to 775', load hole with gel
- 5) Spot 100' cement plug 775'-675', pull W.S. to 650'
- 6) Spot 100' cement plug 650'-550', pull W.S.
- 7) Attempt to pull 10"
 - A) If successful:
 - a) Run W.S. to 365', load hole with gel, pull W.S. to 310'
 - b) Spot ~~100'~~^{150'} cement plug 310'-~~210'~~^{160'}, pull W.S. to 100'
 - c) Spot 100' cement plug 100' – surface
 - d) Proceed to step #8
 - B) If unsuccessful:
 - a) Find free-point on 10". (If free-point is above 300', then rip holes in 10" at approximately 300' and 270'.) ~~210'~~^{210'}
 - b) Run W.S. to 410'
 - c) Spot ~~170'~~^{250'} cement plug 410'-~~240'~~^{160'}, pull W.S.
 - d) Cut 10" at free-point (approximately 150') and pull
 - e) Run W.S. to 10" casing cut
 - f) Spot 150' cement plug 150' – surface (NOTE: if 10" casing cut is deeper than 200', then spot a 100' cement plug at casing cut and a 100' cement plug at surface.)
 - g) Proceed to step #8
- 8) Pull W.S. and top off with cement
- 9) Erect monument and reclaim as prescribed by law

* FRESH WATER @ 180'

COVER FRESH WATER @ 180' w/ CEMENT

COVER FRESH WATER ZONE w/ CEMENT (CLASS A)

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MAR 07 2014

WV Department of Environmental Protection



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WV # 50403
API # 47-043-1117 A

Kangstuck

WELL RECORD

Oil or Gas Well Oil
(KIND)

Permit No. LIN-1117

Company UNITED FUEL GAS COMPANY
Address P.O. Box 1273, Charleston 25, W. Va.
Farm U. F. G. Co. Fee. Tr. #13 Acres 825.45
Location (waters) East Fk. of Twelve Pole
Well No. 8110 Elev. 897.26'
District Harts Creek County Lincoln
The surface of tract is owned in fee by United Fuel Gas Co.
Address Charleston, W.Va.
Mineral rights are owned by United Fuel Gas Co.
Address Charleston, W.Va.
Drilling commenced 8-12-53
Drilling completed 8-27-53
Date Shot 9-9-53 From 1141 To 1160
With 60 qts.
Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume _____ Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil 31 bbls. bbls., 1st 24 hrs.
Fresh water 180 feet 820' feet
Salt water _____ feet _____ feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
18		20'	
13		363'	Size of
10		946'	Depth set
8 3/4			Perf. top
8 3/8			Perf. bottom
5 3/16			Perf. top
3			Perf. bottom
2			
Liners Used			

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____

COAL WAS ENCOUNTERED AT 65 FEET 24 INCHES
272 FEET 24 INCHES FEET INCHES
FEET INCHES FEET INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Soil			0	6	Water 180'	2 B.P.H.	
Sand			6	40			
Slate			40	65	Show oil 618'		
Coal			65	67			
Sand			67	78	Water 820'	1 bailer per hour	
Slate			78	95			
Sand			95	118	Oil 1141-1157'	8 bbls.	
Slate			118	170			
Sand			170	210	Test before shot	7 1/2 bbls. oil for 24	
Slate			210	272	hours		
Coal			272	274	Shot 9-9-53 with 60 qts.	from 1141-1160'	
Slate & Shells			274	535	Test after shot	31 bbls. oil per day	
Sand			535	609			
Slate			609	611	Note: This well has been turned over	to Preston Oil Company.	
Sand			611	695			
Slate & Shells			695	769			
Hard Sand			769	980			
Broken Sand			980	1115			
Hard Sand			1115	1174'			
Total depth			1174'				

NOV 1953
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DEPARTMENT OF MINES
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MAR 07 2014

WV Department of
Environmental Protection

430117P

WW4-A
Revised
2/01

1) Date: 3/5/2014
2) Operator's Well No. 501403 P&A
3) API Well No. 47-043-01117

CK 5124295
10000

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 Ked and Gail Messer ✓
Address HC 73, Box 4105
Dingess, WV 25671

(b) Name _____
Address _____

(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

Name _____
Address _____

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

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

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Office of Oil and Gas

MAR 07 2014

WV Department of
Environmental Protection

Will 501403 API 47-043-01117F

7012 1640 0000 0167 9710

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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

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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

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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 9703

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DINGESS WV 25671

Postage	\$ 1.82	0523
Certified Fee	\$ 3.30	
Return Receipt Fee (Endorsement Required)	\$ 2.70	
Restricted Delivery Fee (Endorsement Required)	\$ 0.00	
Total Postage & Fees	\$ 7.82	03/06/2014

Sent To: ^{Surface} 501403 P&A, 501522 P&A
Ked & Gail Messer
HC 73, Box 4105
Dingess, WV 25671 ✓

PS Form 3800

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WV Department of
Environmental Protection

430117P

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 910' 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

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Notary Public

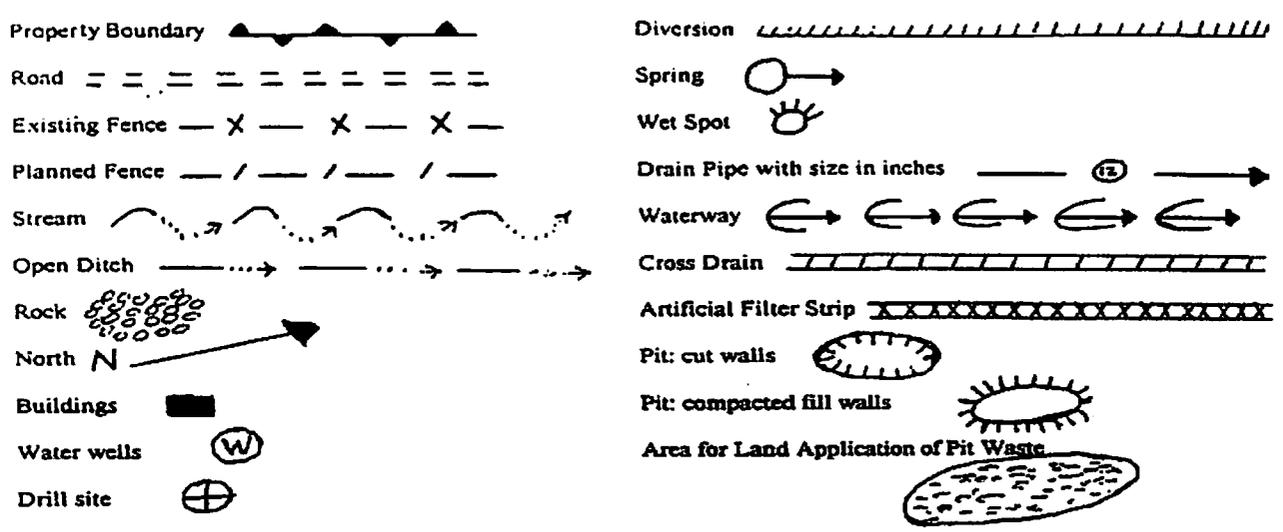
My Commission Expires September 16, 2018



Attachment #1

API #: 47-043-01117
 Operator's Well No. 501403 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: _____

Title: _____

Date: _____

Field Reviewed? () Yes () No

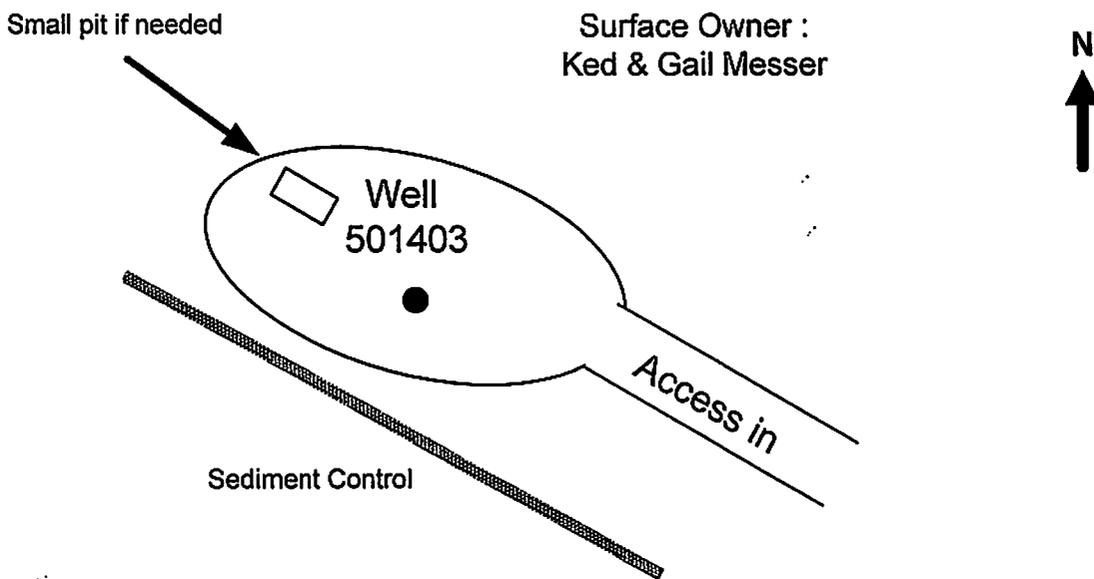
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Diagram of Well 501403

API 47-043-1117

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

Site Plan

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

No Scale

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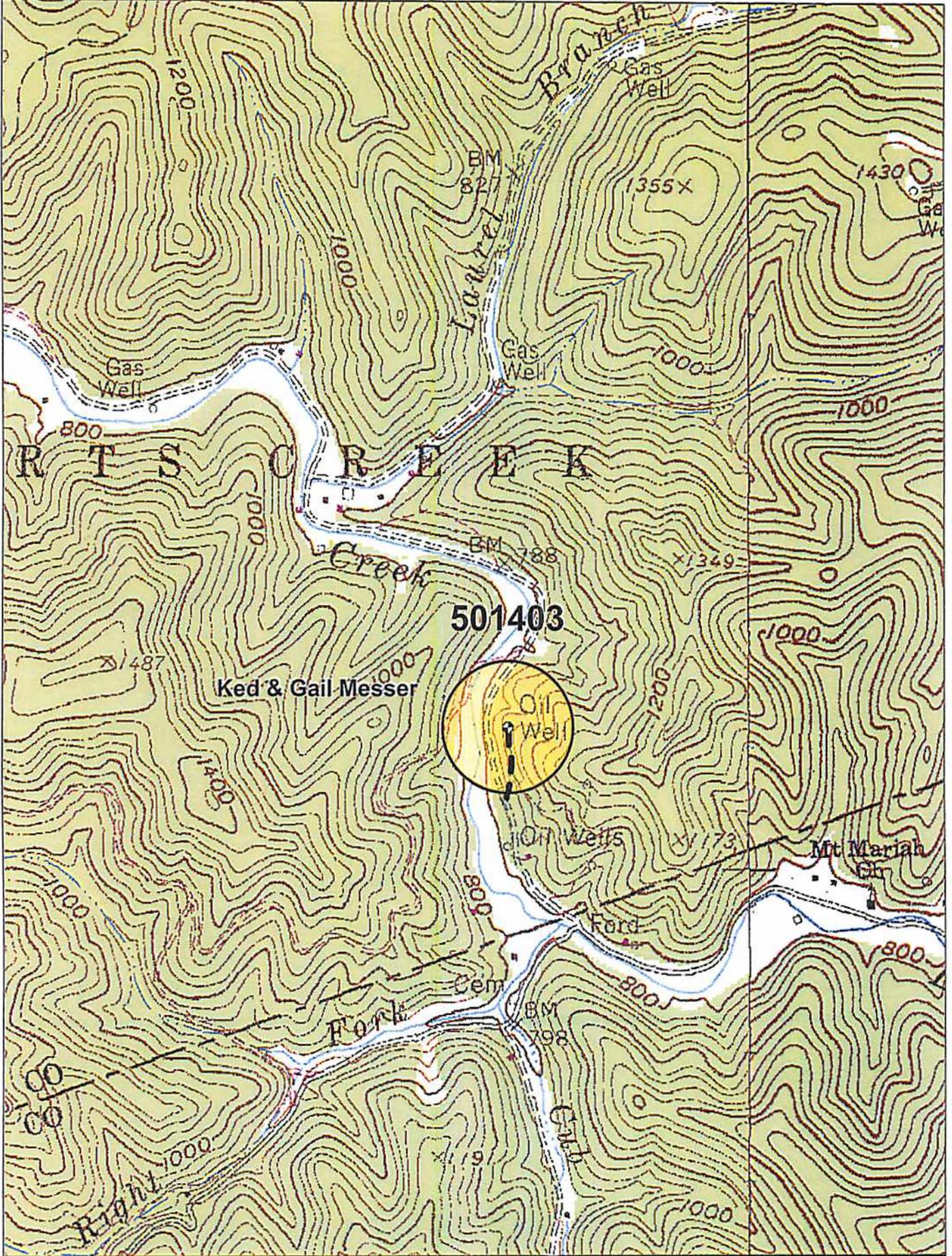
CHESAPEAKE APPALACHIA, L.L.C.

430117P

Topographical Map of Access and
Well Location 501403
API 47-043-1117
Field Office - Branchland
County - Lincoln



XMap® 7



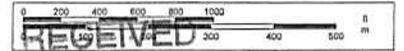
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Scale 1 : 12,000



Office of Oil and Gas

MAR 07 2014

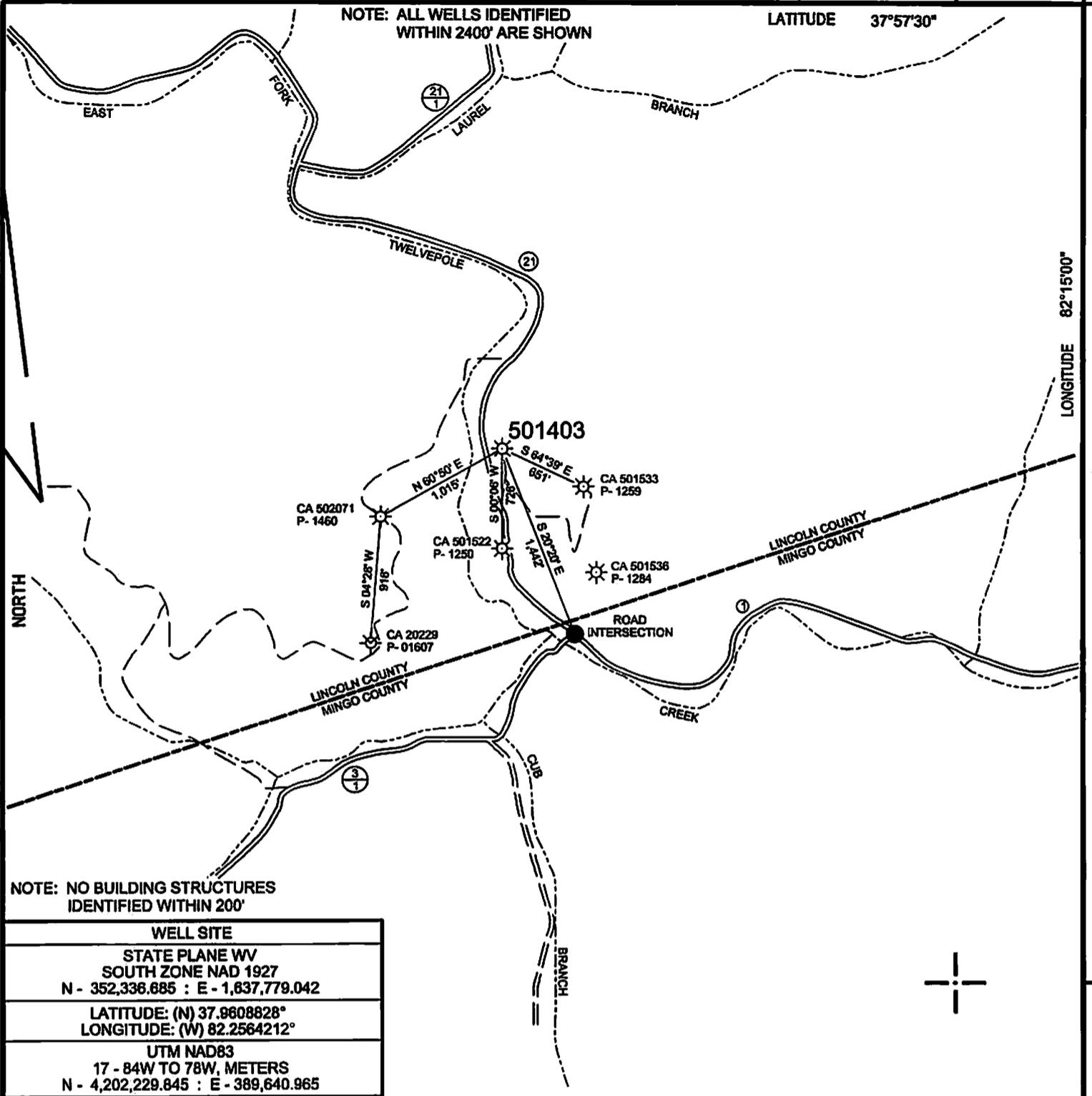
Chesapeake Energy Corporation - Eastern Division
P.O. Box 579 • 8165 Court Avenue • Hamlin, WV 25523
304.824.5141 • fax 304.824.2247

WV Department of
Environmental Protection

1,852'

NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 37°57'30"



LONGITUDE 82°15'00"

14,228'

NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 352,336.685 : E - 1,637,779.042	
LATITUDE: (N) 37.9608828° LONGITUDE: (W) 82.2564212°	
UTM NAD83 17 - 84W TO 78W, METERS N - 4,202,229.845 : E - 389,640.965	

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

FILE NO.	CA501403P&A.DGN
DRAWING NO.	CA501403P&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 REVISED MARCH 04, 20 14
OPERATOR'S WELL NO. 501403
API WELL NO.

47 043 0117 P
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 910' WATER SHED EAST FORK OF TWELVEPOLE CREEK
DISTRICT HART'S CREEK COUNTY LINCOLN
QUADRANGLE WILSONDALE, WV 7.5'

SURFACE OWNER KED AND GAIL MESSER 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 CLEAN OUT AND REPLUG _____
TARGET FORMATION _____ ESTIMATED DEPTH _____

WELL OPERATOR CHESAPEAKE APPALACHIA, L.L.C. DESIGNATED AGENT ERIC B. GILLESPIE
ADDRESS P.O. BOX 18486, OKLAHOMA CITY, OK 73154-0486 ADDRESS CHESAPEAKE APPLACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

FORM WW-6

COUNTY NAME

PERMIT