



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: 47-4301250, 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: 501522 (V-1522)
Farm Name: MESSER, KED & GAIL
API Well Number: 47-4301250
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.

4301250P
CK 5124296
100⁰⁰

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

1) Date: 3/5/2014
2) Operator's Well No. 501522 P&A
3) API Well No. 47-043-01250

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 830' Watershed East Fork of Twelvepole Creek
 District Harts Creek County Lincoln 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

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

501522 P&A Procedure

- 1) Prepare road and location, MIRU Service Rig
- 2) Pull rods and pump
- 3) Attempt to pull 2 3/8" tubing. If unable to pull, then cut at free-point (approximately 975') and pull.
- 4) Run W.S. as deep as possible, load hole with gel
- 5) Spot cement from end of tubing to 850' (approximately 150' plug from 1000'-850'), pull W.S.
- 6) RIH with tools to check top of plug. If TOC is not above 875' then re-set plug.
- 7) Cut 5 1/2" casing at free-point (approximately 700') and pull
- 8) Run W.S. to 700', load hole with gel
- 9) Spot 150' plug 700'-550', pull W.S.
- 10) Attempt to pull 6 5/8" casing
 - A) If successful:
 - a) Run W.S. to 300', load hole with gel
 - b) Spot 125' cement plug 300'-175'
 - c) Proceed to step 11
 - B) If unsuccessful
 - a) Run W.S. to 375'
 - b) Spot 100' cement plug 375'-275', pull W.S.
 - c) Cut 6 5/8" at free-point (approximately 240') and pull. If unable to pull at least 225' of 6 5/8" then rip holes at approximately 230' and 200'
 - d) Run W.S. to 240', load hole with gel
 - e) Spot 100' cement plug 240'-140'
 - f) Proceed to step 11
- 11) Pull or run W.S. to 140'
- 12) Spot 140' cement plug 140' – surface
- 13) Pull W.S. and top off with cement
- 14) Erect monument and reclaim as prescribed by law





STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Naugatuck

WELL RECORD

Permit No. Lin. 1250

Oil or Gas Well Oil
(KIND)

Company The Preston Oil Company
Address 1110 Wash. St., E. Charleston, W. Va.
Farm United Fuel Gas Co. Tr. #13 Acres 825.45
Location (waters) East Fork of Twelve Pole
Well No. V-1522 Elev. 806.19
District Harts Creek County Lincoln
The surface of tract is owned in fee by United Fuel Gas Company Address Charleston, W. Va.
Mineral rights are owned by The Preston Oil Co. Address Chas., W. Va.
Drilling commenced August 22, 1956
Drilling completed September 20, 1956
Date Shot 9/26/56 From 1026' To 1056'
With 65 Qts.

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer <u>Lead</u>
18			& Rubber Bottom
10			Hole Size of <u>5-1/2"</u>
8 3/4	<u>17'</u>	<u>17'</u>	<u>O.D.</u>
6 3/4	<u>316' 2"</u>	<u>316' 2"</u>	Depth set
5 8/16	<u>887' 3"</u>	<u>887' 3"</u>	
8			Perf. top
2	<u>1067' 4"</u>	<u>1067' 4"</u>	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume _____ Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil 25 bbls., 1st 24 hrs.
Fresh water _____ feet _____ feet
Salt water _____ feet _____ feet

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Soil			0'	15'			
Slate			15	47			
Coal			47	49			
Slate			49	63			
Sand			63	100			Water - Hole Full 65'
Slate			100	180			
Sand			180	205			
Coal			205	207			
Slate			207	275			
Sand			275	300			
Slate			300	345			6-5/8" Casing 316' 2"
Sand			345	408			
Slate			408	430			
Sand			430	575			Water - 2 Bailers per hr. 350'
Slate			575	595			Show of Gas 600'
Sand			595	615			Hole Full Water 718'
Slate			615	635			S.L.M. 879' 4"
Sandy Lime			635	700			
Salt Sand			700	848			
Slate			848	876			
Lime Shells			876	890			
Slate & Shells			890	936			
Sand		Hard	936	955			
Sand Broken			955	1016			
Sand Maxon			1016				S.L.M. 1035' Oil 1026' to 1056' Gas 1043' to 1047'
Total Depth				1063'			



RECEIVED
Office of Oil and Gas
MAR 7 2014
WV Department of Environmental Protection

4301250P

Well 501522
API 47-043-01250

WW4-A
Revised
2/01

1) Date: 3/5/2014
2) Operator's Well No. 501522 P&A
3) API Well No. 47-043-01250

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 _____

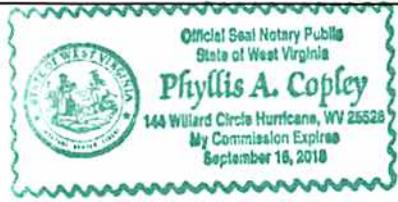
Coal Lessee with Declaration
(c) Name Rockspring Development, Inc.
Address 400 Patterson Lane
Charleston, WV 25311

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

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Office of Oil and Gas

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

MAR 07 2014
WV Department of Environmental Protection

4301250P

Well 801522
API 47-043-01250

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

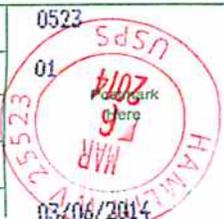
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BLUEFIELD WV 24701

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
501403 P&A, 501522 P&A
Ked & Gail Messer
HC 73, Box 4105
Dingess, WV 25671

PS Form 3800



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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 830' County Lincoln District Harts Creek

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:

- 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

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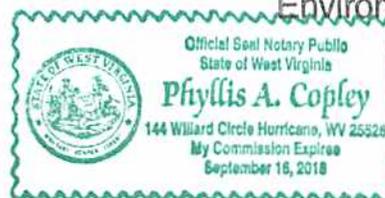
Subscribed and sworn before me this 5th day of March, 2014.

MAR 07 2014

Phyllis A. Copley

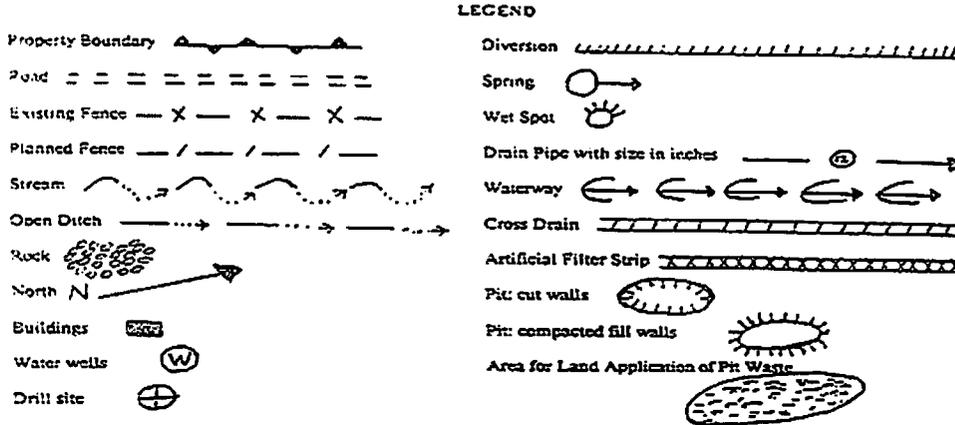
Notary Public.
WV Department of
Environmental Protection

My Commission Expires September 16, 2018



Attachment #1

API #: 47-043-01250
 Operator's Well No. 501522 P&A



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

Area I		Seed Mixtures		Area II	
Seed Type	lbs/acre	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: inspector OOG
 Date: 3-24-14
 Field Reviewed? Yes No

CHESAPEAKE APPALACHIA, L.L.C.

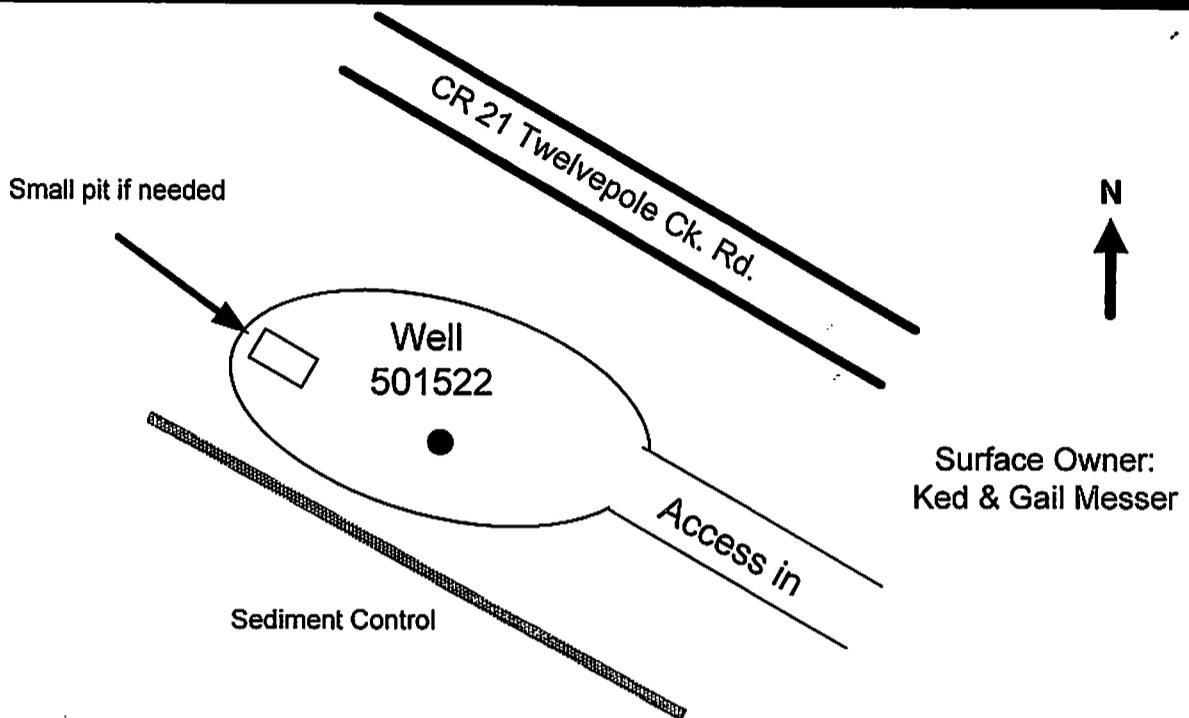
4301250P

Diagram of Well 501522

API 47-043-1250

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

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WV Department of
Environmental Protection
No Scale

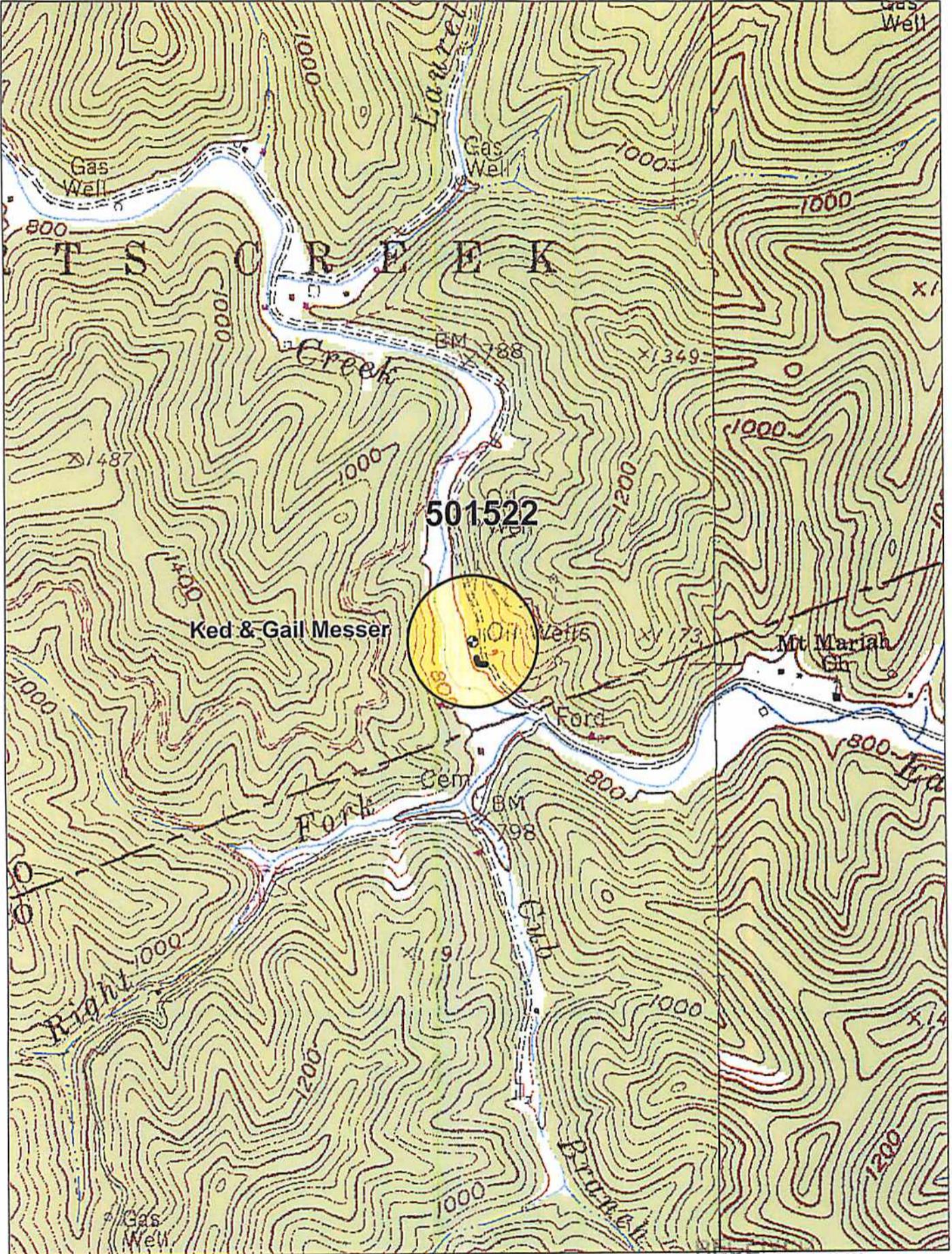
Site Plan

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

Topographical Map of Access and Well Location 501522
API 47-043-1250
Field Office - Branchland
County - Lincoln



XMap® 7



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www.delorme.com



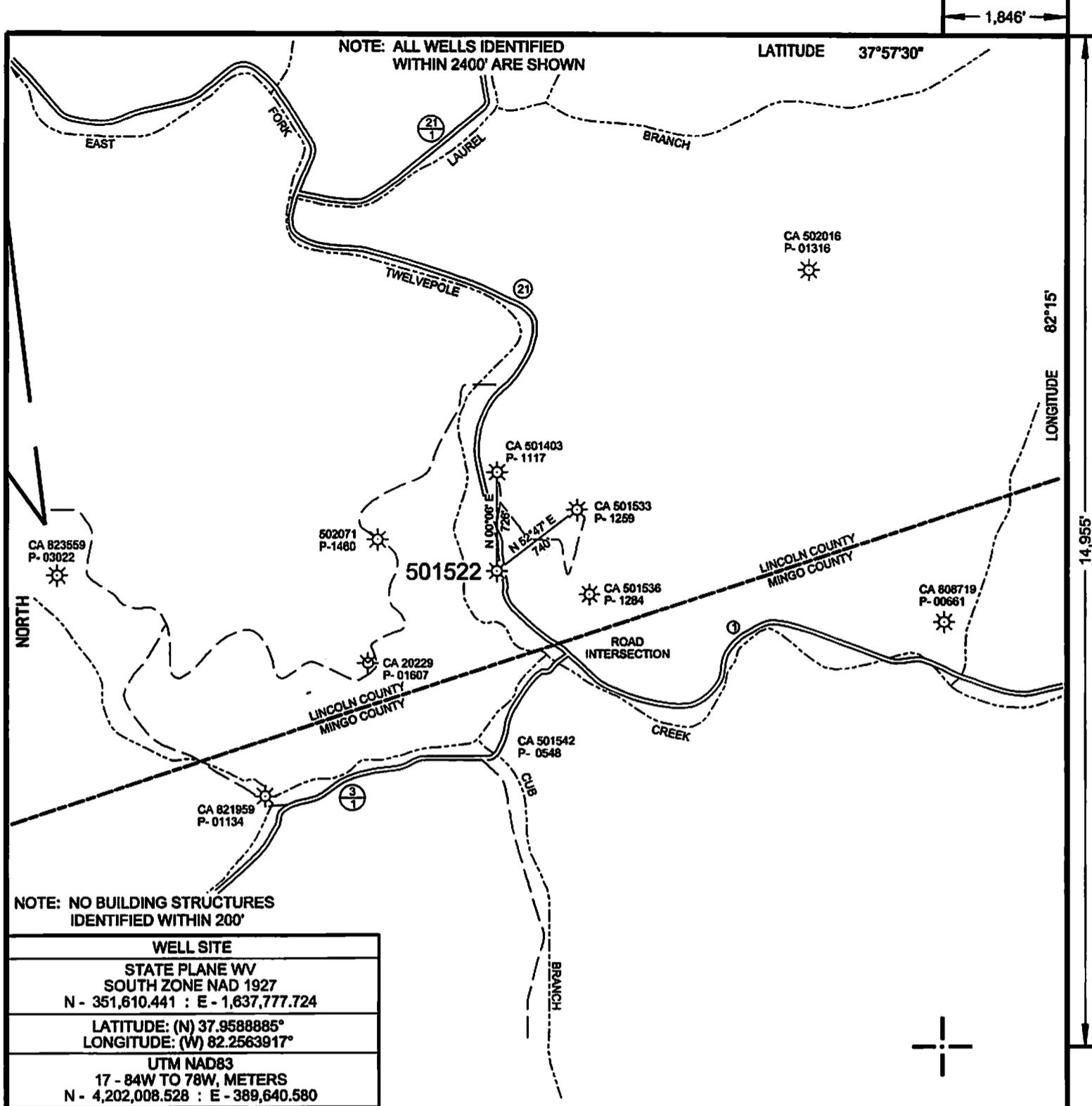
Office of Oil and Gas

Scale: 1:12,000
1" = 1,000.0 ft
Data Zoom 14-1

MAR 07 2014

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



WELL SITE
STATE PLANE WV SOUTH ZONE NAD 1927 N - 351,610.441 : E - 1,637,777.724
LATITUDE: (N) 37.9588885° LONGITUDE: (W) 82.2563917°
UTM NAD83 17 - 84W TO 78W, METERS N - 4,202,008.528 : E - 389,640.580

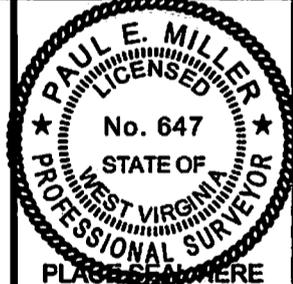
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO.	CA501522P&A.DGN
DRAWING NO.	CA501522P&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 04, 20 14
OPERATOR'S WELL NO. 501522
API WELL NO.

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

LOCATION: ELEVATION 830' 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 461.45
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 18486, OKLAHOMA CITY, OK 73154-0486 ADDRESS CHESAPEAKE APPLACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

FORM WW-6

COUNTY NAME

PERMIT