

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

December 08, 2014

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8702170, 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.

Chief

James Martin

Operator's Well No: 1112

Farm Name: DRENNEN, GEARY

API Well Number: 47-8702170

Permit Type: Plugging Date Issued: 12/08/2014

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.

870217010,

FORM WW-4 (B) 1) Date: 10/22/2014 2) Operator's Well No. Observe 801112 P&A File Copy 3) API Well No. 47-087-02170 (Rev. 2/01) STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS APPLICATION FOR A PERMIT TO PLUG AND ABANDON Well Type: Oil X Liquid injection Waste disposal Gas (Is Gas, Production X or Underground storage Shallow Little Left Hand Fork of Big Sandy Creek

Quadrangle Clio, WV 7.5 1,058 Watershed 5) Location: Elevation Geary Roane 7) Designated Agent Jessica Greathouse 6) Well Operator Chesapeake Appalachia, L.L.C. P.O. Box 18496 Address P.O. Box 6070 Address Oklahoma City, OK 73154-0496 Charleston, WV 25362 9) Plugging Contractor 8) Oil and Gas Inspector to be notified Chesapeake Appalachia, L.L.C. Ed Gainer Name Name P.O. Box 821 Address Address P.O. Box 18496 Spencer, WV 25276 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.

API Number: 47-087-02170 P

801112 P&A PROCEDURE

- 1) Prepare road and location, MIRU service rig
- 2) Run in hole with tools to check TD at approximately 1980'
- 3) Attempt to pull 3 1/2" and packer

PACKER SET INT 1914!

- A) If successful:
 - a) Run W.S. to 1985', load hole with gel
 - b) Spot 100' cement plug 1985'-1885', pull W.S. Cover GAS SHOW @ 1895!
 - c) Proceed to step #4
- B) If unsuccessful:
 - a) Run W.S. to 1985', load hole with gel
 - ★ b) Spot 70' cement plug 1985'-1915', pull W.S. MAKE THIS Plus 100' IF Positive
 - c) Cut 3 1/2" at free-point (approximately 1885') and pull
 - d) Proceed to step #4
- Attempt to pull 6 5/8" casing (whether successful or not) run W.S. to 1885', load hole with gel, spot 100' cement plug 1885'-1785'.
- 5) If attempt to pull 6 5/8" casing was unsuccessful, then cut casing at free-point (approximately 1400') and pull
- 6) Pull or run W.S. to 1400', load hole with gel
- 7) Spot 150' cement plug 1400'-1250', pull W.S. to 710'
- 8) Spot 100' cement plug 710'-610', pull W.S. to 450'
- 9) Spot 100' cement plug 450'-350', pull W.S. to 150'
- 10) Spot 150' cement plug 150'-surface
- 11) Pull W.S. and top off with cement
- 12) Erect monument and reclaim as prescribed by law

THIS PROCEDURE WAS OK BY EO GAINFA ON 11/16/14,

UNITED FUEL GAS COMPANY Incorporated

Serial Well No. 1112 Lease No. 8842 Map Square 80-75

1217	CORD OF WELL No. 7	on the	CASI	NG AND TU	BING	TEST BEFORE SHOT
Geary-Drennen		50 Acres	Size	Used in Drilling	Left in Well	of Water ininch
lin	Geary	District	16			10ths of Merc. in inch
	Roane	County	13			10thshot Cu. rt
Clendenin	Field, State of To	Va.	10 [1		TEST AFTER SHOT
			81/4	, 681	41'7	of Water inincl
Rig Commenced		192	6%	1856	1.8561	of Merc, inincl
Rig Completed	May 2,1921	192	5 8-16			VolumeCu. fe
Drilling Commenced	May 1 ,1911	192	41/8			Rock pressure 290
Drilling Completed	June 5,1921	192	4			Date Shot
Drilling to cost	per foot		3	2037	20371	Size of Torpedo
Contractor is: U.E.	G.Co.Drg.Dept.S	30.74	2			Oil Flowedbbls, 1st 24 hrs
Address: Charleston, Va.				SHUT IN		Oil Pumpedbbls, 1st 24 hrs
Drillers' Names R.	C.Williamson		Dute J	une 25,	1021 ubing or Casing	Well abandoned and
	e Hickman			icker 525		The state of the s
50	G ILL GRIEGI					
		91611	300000	Set 18 ' 7"		
		6711"		Set 41 10		A Committee of the Comm

Formation	Тор	Bottom	Thickness	Remarks
Blate		180	10	
ned Rock	1,70	290	170	
Slate	290	325	55	
Lime	225	345	20	
Red Rock	345	450	105	
Little Dunkard	450	480	30	
Slate	480	540	60	
Big Dunkard	540	670	130	
Slate & Lime	670	800	130	
Sand	800	875	75	
Slate	875	900	25	
sand	900	940	40	
Slate & Shells	940	1110	170	
Sand.	1110	1250	140	
Slate	1 50	1320	70	
Lime	1320	1390	70	
Salt Sand	1390	1690	300	6 5/8 Gasing- 1845 S.L.
Maxon Sand	1690	1740	50	Hole Reduced- 1895
Lime	1740	1765	25	
Cave	1765	1775	10	
Little lime	1775	1830	55	
Pencil Cave	1830	1835	5	
Big Lime	1835	1959	124	Show gas 1895- no test 12/12/14
Big Injun	1959	1986	27	Gas 1964-1978 41/10 Mer. 2"opg.
Slate & Shells	1986	2020	- 54	
TOTAL DE TH		2020		2010 S.L.

WW4-A Revised 2/01 1) Date: 10/22/2014
2) Operator's Well No. 801112 P&A
3) API Well No. 47-087-02170

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 Address Address Address Address Address (b) Name Address Address Address Address Address (c) Name Address Address (c) Name Address Address (c) Name Address Address (c) Name Address Address Address (c) Name Address Address (d) Name Address Address (e) Name Address Address (f) Name Address Address (g) Name Address (h) Name See Attached List of Address Address (h) Name Address Address (h) Name Address (h	
Address 493 Andy's Run Road Clendenin, WV 25045 (b) Name Address 1361 Clio Road Clendenin, WV 25045 (c) Name Address Clay, WV 25043 (c) Name Address Clay, WV 25043 (d) Inspector Address Ed Gainer Address P.O. Box 821 Spencer, WV 25276 Telephone 304-389-7582	
Clendenin, WV 25045 Coal Owner(s) with Declaration (b) Name Address I361 Clio Road Clendenin, WV 25045 (c) Name Address P.O. Box 146 Clay, WV 25043 Coal Lessee with Declaration (c) Name Address Coal Lessee With Declaration (c) Name Address Telephone Address Telephone Address Coal Lessee With Declaration (c) Name Address Address Address Telephone	
(b) Name Address Justeen Abbott (b) Name See Attached List of Address Clendenin, WV 25045 (c) Name Address Pierson Lumber Co., Inc. P.O. Box 146 Clay, WV 25043 (d) Inspector Address P.O. Box 821 Spencer, WV 25276 Telephone 304-389-7582	
(b) Name Address Address Address Address	
(b) Name Address Address Address Address	
Address 1361 Clio Road Address	
(c) Name Address Pierson Lumber Co., Inc. P.O. Box 146 Clay, WV 25043 Coal Lessee with Declaration (c) Name Address P.O. Box 821 Spencer, WV 25276 Telephone Address Telephone Address Pierson Lumber Co., Inc. Address Address Address Name Address Address Address None Address Telephone Address Address	
Address	
Address	
Clay, WV 25043 Coal Lessee with Declaration (c) Name None P.O. Box 821 Spencer, WV 25276 Telephone 304-389-7582	
Coal Lessee with Declaration (c) Name None P.O. Box 821 Spencer, WV 25276 Telephone 304-389-7582	
Inspector Ed Gainer (c) Name None	
6) Inspector Ed Gainer (c) Name None Address P.O. Box 821 Address Spencer, WV 25276 Telephone 304-389-7582	
Address P.O. Box 821 Address Spencer, WV 25276 Telephone 304-389-7582	
Spencer, WV 25276 Telephone 304-389-7582	
Telephone 304-389-7582	
TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents	
(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 fill Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office.	ed the
Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described o attached Application and depicted on the attached Form WW-6. Copies of the Notice, the Application, and the plat have	
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 Well Operator: Chesapeake Appalachia C.C.	
Otate of West Virginia By:	
Phyllis A. Copley \ Its: Manager - Operations, Appalachia South	
144 Willard Cirole Humicane, W 2628 Address: P.O. Box 18496	
Oklahoma City, OK 73154-0496	
Telephone: 405-935-4073	
Subscribed and sworn before me this 23rd day of October the year of 2014 Public A. (1) plus Notary Public	
My Commission Expires September 16, 2018	
orm WW-9	

COAL OWNERS

801112 P&A (surface and coal owner)

Robert O. Moore, Jr. etux 493 Andy's Run Road Clendenin, WV 25045 801112 P&A (coal owner) Stalnaker Energy Corp

P.O. Box 178 Glenville, WV 26351

801112 P&A (coal owner)

David Morrison 701 Ellette Drive Charleston, WV 263\$1

801112 P&A (coal owner)

Judy Hildreth 961 Egypt Ridge Spencer, WV 25276

801112 P&A (coal owner)

David E. Bassi (DNU) 41 Yankee Avenue Bangor, Maine 44010

801112 P&A (coal owner)

Michael S. Bassi 383 Lakeview Avenue Dedham, Maine 44294

801112 P&A (coal owner)

James Milton Geary, Jr. P.O. Box 453 Clendenin, WV 25045

801112 P&A (coal owner)

James Paul Geary P.O. Box 218 Petersburg, WV 26847

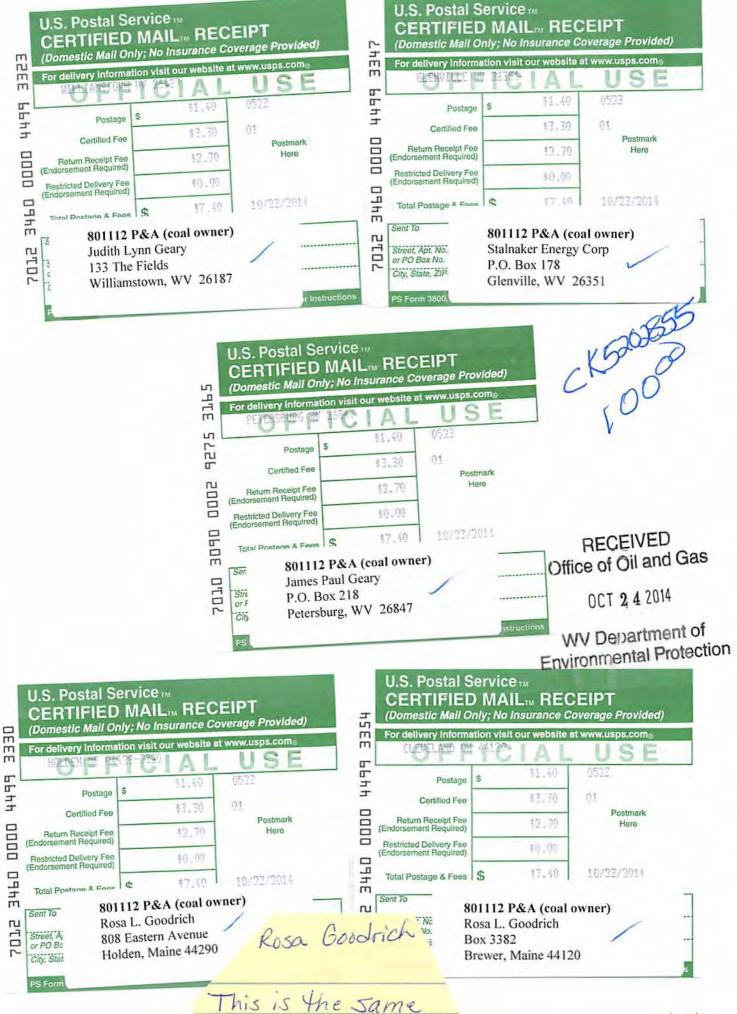
801112 P&A (coal owner)

Judith Lynn Geary 133 The Fields Williamstown, WV 26187

801112 P&A (coal owner)

Rosa L. Goodrich 808 Eastern Avenue Holden, Maine 44290 and

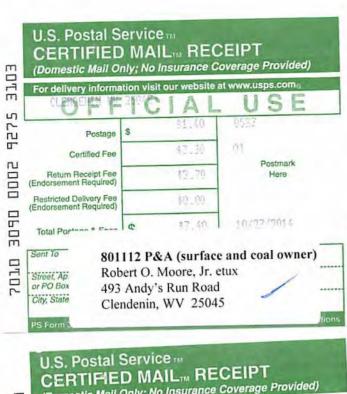
Rosa L. Goodrich Box 3382 Brewer, Maine 44120



to best reach

how her.

12/12/14





U.S. Postal Service ... CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) For delivery information visit our website at www.usps.com IAI 927 \$1.40 Postage 43,30 Certified Fee 5000 Return Receipt Fee (Endorsement Required) \$2,70 Here Restricted Delivery Fee (Endorsement Required) 40.00 10/23/2014 \$7.40 Total Postage & Fees | \$ Sent To 801112 P&A (coal owner) Judy Hildreth Street. 961 Egypt Ridge City, Sta Spencer, WV 25276 PS Form

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37

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U.S. Postal Service 114 CERTIFIED MAIL, RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) 927 5 Postage 117 Certified Fee 5000 Here Restricted Delivery Fee Endorsement Required) 40.00 3090 10/22/2011 17.48 Total Postage & Fe 801112 P&A (coal owner) Michael S. Bassi 383 Lakeview Avenue Street Apt. or PO Box I Dedham, Maine 44294 City, State, PS Form 38

12/12/14

Rev. 02/01

API Number 47-087-02170
Operator's Well No. 801112 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	Little Left hand	Fork of Big Sandy	Creek	Quadrangle	Clio, V	NV 7.5'
Elevation1,05	8'	County	Roane		District	Geary
Description of antici	pated Pit Waste:	Plugging Retu	ırns/Cement			
Will a synthetic liner	be used in the pi	? Yes	20	MIL.		
Proposed Disposal	X Land A Underg Reuse Off Site	ed Pit Wastes: pplication round Injection (! (at API Number_ Disposal (Supply Explain_) ation)	
Proposed Work For		Used: ver ng g			,	
issued on December understand that the permit and/or other I certify under p this application form for obtaining the inf	er 31, 1999, by the Off provisions of the per applicable law or regu- enally of law that I han and all attachments ormation, I believe that for submitting false in	to the terms and condition of Oil and Gas of Initiare enforceable by Italian can lead to enforce personally examine thereto and that, base to the information, including the David Gocke	the West Virginia D law. Violations of orcement action. ed and am familiar ed on my inquiry of he, accurate, and of	epartment of Env any term or cond with the information those individuals omplete. I am aw	rironmental Prote ition of the gener on submitted on immediately response that	ection. I rat
Company Official Tit		Manager - Ope	erations Anna	achia South		
Subscribed and swo	rn before me this		October		0	tary PEGEIVED ffice of Oil and Gas OCT 2 4 2014 OCT 2 4 2014 OCT 2 4 2014 OCT 2 4 2014
					E	Vironmental Protection and Circle Hurricano, W 25528) aby Commission Expires 8eptember 16, 2018

87012704

Attachment #1

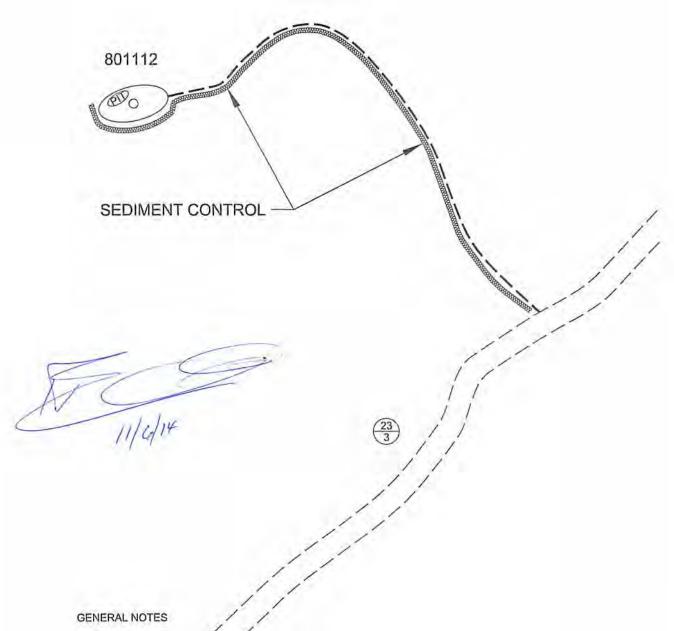
API #: 47-087-02170 Operator's Well No. 801112 P&A

	1,	LEGEND					
Property Boundary		Diversion Little 11111111111111111111111111111111111	11111111				
Road = = = = = = =	===	Spring -					
Existing Fence — X — X —	- × —	Wet Spot	Wet Spot 15				
Planned Fence//	/_	Drain Pipe with size in inches (2)					
Stream	7 . 7	Waterway C+ C+C+C	\leftarrow				
Open Ditch	>>	Cross Drain 7/1/1/1/1/	1111				
Rock #55888		Artificial Filter Strip	XXXXXX				
North N		Pit: cut walls					
Buildings III		Pit: compacted fill walls					
Water wells		Area for Land Application of Pit Waste					
Drill site)				
Proposed Revegetation Treatmen	t: Acres Disturbe	d 1.0 Prevegetation pH 6.1					
	Lime 3	Topo/goro or to correct to pU 6.5					
	Lame	Tons/acre or to correct to pH6.5					
Fertilizer (10-20-20 or eq	uivalent) 1/3 TO	N lbs/acre (500 lbs minimum)					
	Mulch Hay 2	Tons/acre					
	-						
Area I	5	Seed Mixtures Area II					
Seed Type	lbs/acre	Seed Type	Ibs/acre				
KY-31	40	ORCHARD GRASS	15				
ALSIKE CLOVER	5	ALSIKE CLOVER	5				
ANNUAL RYE	15						
Attach: Drawing(s) of road, location, pit and	d proposed area fo	or land application					
	a proposed area to	and application.					
Photocopied section of involved 7.5	5' topographic shee	et.					
Plan Approved by:		-)					
Title:	nspecto-						
Date: 11/6/14	V						
Field Reviewed? ()	Yes	(<u>X</u>) No					

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM WELL LOCATION 801112

API 47-043-02170



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.

12/12/14

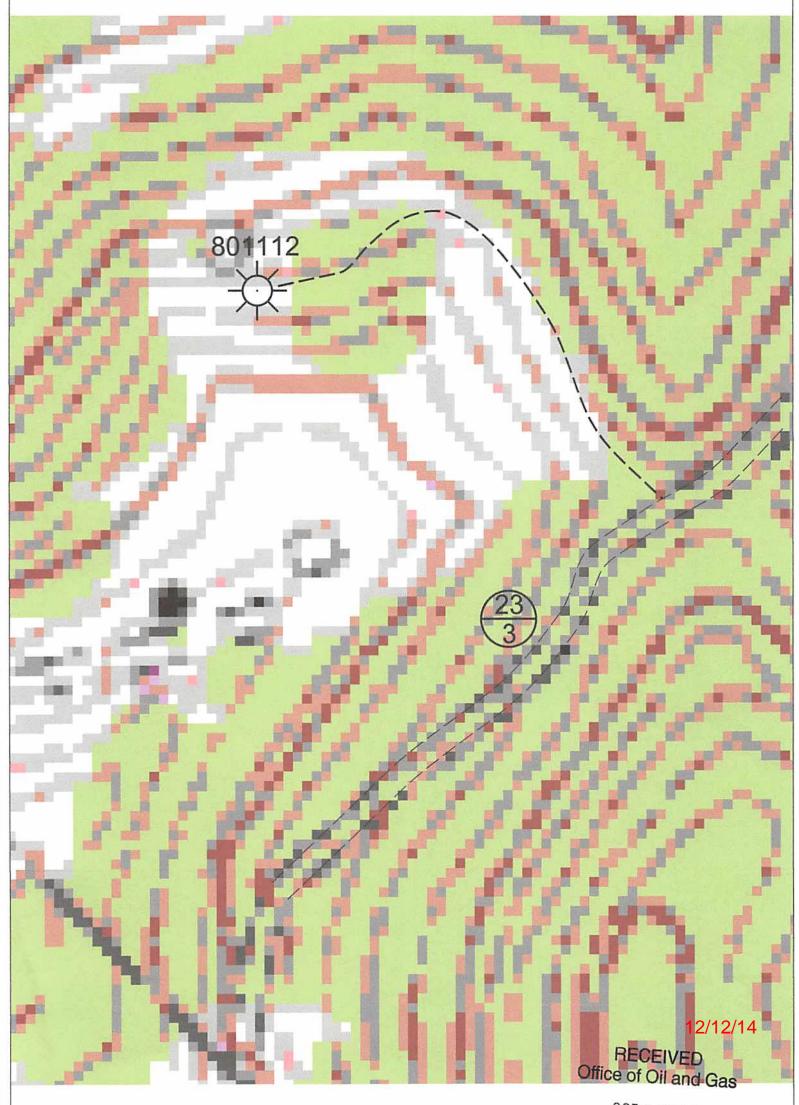


12/12/14

CHESAPEAKE APPALACHIA, L.L.C.

TOPOGRAPHICAL MAP OF ACCESS AND WELL LOCATION 801112

API 47-087-02170



OCT 2 4 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

