

#### 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 17, 2015

## WELL WORK PLUGGING PERMIT Plugging

This permit, API Well Number: 47-4301917, 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: 2402

Farm Name: ROBERTS, O. C.

API Well Number: 47-4301917

Permit Type: Plugging
Date Issued: 03/17/2015

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.
- 4. This well is under a consent order and must be plugged under the terms of that agreement.

Obs File	RM WW-4 (B) serve Copy v. 2/01)		1) Date: 2) Operator's Well No. 3) API Well No	2/6/2015 802402 P&A 47-043-01917			
	STATE OF W DEPARTMENT OF ENVIR	EST VIRGINIA DNMENTAL PROT DIL AND GAS	ECTION				
4)	Well Type: Oil Gas X L (Is Gas, Production X or Underground storage )	T TO PLUG AND A	ABANDON Waste disposal Shallow	<u>x</u>			
5)	Location: Elevation 763' Watershed District Carroll County		ddle Fork of Mud River adrangle Hamlin	, WV 7.5'			
6)	Well Operator Address  Chesapeake Appalachia, L.L.C.  P.O. Box 18496 Oklahoma City, OK 73154-0496	Designated Agent Address	Jessica Greathouse P.O. Box 6070 Charleston, WV 25362	<u></u>			
8)	Oil and Gas Inspector to be notified  Name Ralph Triplett  Address  State of the st	Address P.O. Box	eake Appalachia, L.L.C.	<u>_</u>			
10)	Work Order: The work order for the manner of plugging this	vell 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 <u>2-23-/5</u>

Received

FEB 2 5 2015

Office of Oil and Gas WV Dept. of Environmental Protection

### ELEU 763' TD. 2206'

#### 802402 P&A PROCEDURE

- 1) Prepare road and location, MIRU service rig
- 2) RIH with tools to check TD approximately at 2200'
- 3) Attempt to pull 3 1/2" and packer
  - A) If successful:
    - a) Run W.S. to 2175', spot gel
    - b) Spot 125' cement plug 2175'-2050'
    - c) Proceed to step 4
  - B) If unsuccessful:
    - a) Run W.S. to approximately 2175', spot gel
    - b) Spot 125' cement plug 2175'-2050', pull W.S.
    - c) Cut 3 1/2" at free-point approximately at 1810', and pull
    - d) Proceed to step 4
- 4) Pull or run W.S. to 1810', spot gel
- 5) Spot 150' cement plug 1810'-1660', pull W.S.
- 6) RIH with tools to check top of plug (If TOC is below 1690', then reset plug)
- 7) Rip or shoot holes approximately at 1640', 1620', 1440' and 1420'
- 8) Run W.S. to 1640', spot gel
- 9) Spot 100' cement plug 1640'-1540', pull W.S. to 1440'
- 10) Spot 100' cement plug 1440'-1340', pull W.S.
- 11) Cut 6 5/8" at free-point (approximately 900') and pull
- 12) Run W.S. to 900', spot gel
- 13) Spot 150' cement plug 900'-750', pull W.S. to 490'
- 14) Spot 100' cement plug 490'-390', pull W.S. to 130'
- 15) Spot 130' cement plug 130'-surface
- 16) Pull W.S. and top off with cement
- 17) Erect monument and reclaim as prescribed by law

Received

FEB 2 5 2015

Office of Oil and Gas WV Dept. of Environmental Protection

COLUMBIA GAS & ELECTRIC COMPANY

UNITED FUEL GAS GOMPANY -

Well 802402 API 41-043-01917

Serial Well No. 2402 Lease No. 1372 Map Square..... 38-53 Paragon Print 500 42047 drilling RECORD OF WELL No.2402 CASING AND TUBING on the Used in Drilling Size C. C. Roberts Farm of 864 Acres 10ths in Carroll District 16 None Lincoln County 13 None Branchland Field, State of W. Va. 291911 29 19 11 10 Waters of Mud River. "None 283'10 2 81/4 6 10ths 20# Rig Commenced 9-20-25 192 10ths 10- 1-25 Rig Completed 192 5 3-16 None Volume.... Drilling Commenced Sept. 30, 1925 192 41/8 None Drilling Completed Nov. 7, 1925 192 None 4 Drilling to cost per foot 3 2236 11" Contractor is: Columbia Gas & Elec. Co.. None 2 String #4 SHUT IN Nov. 8, 1925. Driller's Names Abe Brookover Tubing or Ben Pauley

Engineers' reference, Note book Page 48. Charleston.

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TEST BEFORE SHOT ...of Water in 2 ...of Merc. in... 10ths 126,240 TEST AFTER SHOT ....of Water in 3 ...of Merc. in. 151,632 Cu. ft. Rock pressure. Date Shot Nov. 5, 1925 (Berea) 30 qts. Oil Flowed 0 ......bbls. 1st 24 hrs. Oil Pumped 0 bbls. 1st 24 hrs. Well abandoned and Size of Packer Size of Packer OWS Co. anchor. Plugged. . 19\_\_\_\_ 1st Perf. Se 3 4 from ottom

	100				Perf. Set 42 10 -50 10 bottom.
			DR	LILLER'S RE	
	Formation	Тор	Bottom	Thickness	Remarks
	Surface	0	30	30	04. 8 7.
	Sand	30	70	40	Steel line measurement at 6-5/8"
	Slate	70	85	15	easing point, 1700 ft.
	Sand	85	95	10	
	Coal	95	99	4	3" tubing, 7.075 lb. 112 thread.
*	Sand	99	.135	36	6-5/8"x84"x16" bottom hole packer
	Slate	135	210	75	
	Sand	210	247	37	run on bottom of 6-5/8" casing.
	Slate	247	270	23	3"x6-5/8"x16" OWS Co. anchor packer
	Sand	270	350	80	
	Slate	350	400	50	run in 3" tubing, set 350' from botton
	Sand	400	440	40	Producing gas from Berea Sand
	Coal	440	443	3	
	Sand	443	492	49	between 2150 and 2158 in 2"
	Slate	492	555	63	Test 16/10 Water/at 8' in Berea
	Sand	555	615	60	
	Slate	615	765	150	Sand; blew down to 7/10 water in 2"
	Sand	765	820	55	before shot.
	Slate	820	883	63	Smoll shame of the same
	Gas Sand	883	898	15	Small show of oil in Bereaat 2167'
	Slate	898	905	7	
	Lime	905	920	15	Fresh water at 443
	Salt Sand	920	1379	459	<u>√</u>
	Maxton Sand	1379	1414	35	Hole full of water at 960:
	Little Lime	1414	1444	30	
	Pencil Cave	1444	1449	5	Shot in Berea Sand only.
	Big Lime	1449	1634		Test 1 hour after shot, 10/10 W -2"
	Slate	1634	1641	7	* •
	Big Injun Sand	1641	1676	35	
	MEKK No record	1676	1694	18	
	Shell	1694	1715	21	
	6-5/8" casingpoin	t	1700		
	Slate & shells	1715	1816	101	00/00/0045
	Big Shell	1816	1916	100	03/20/2015
	Slate & shells	1916	2130	214	
	Brown shale	2130	2150	20	
	Beres Sarid	2150	2171	21	
		2171	2206	35	
	Slate	PTIT	0033	00	
	Bottom of hole		2206		
	TO A NOW OT WOTH		2000		

WW4-A Revised 2/01

1) Date:	2/6/2015
2) Operator's Well No.	802402 P&A
3) API Well No.	47-043-01917

# STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT

		DEPARTMENT OF ENVIR		TECTION, OFFICE JG AND ABANDON	
4)	Surface Owi	ner(s) to be served:		5) Coal Operato	
7)	(a) Name	C&R Equipment Co. Inc.		(a) Name	None
	*		/	Address	None
	Address	168 Sug Drive	_	Address	**************************************
		Hamlin, WV 25523			
			<del></del>	Coal Owner(s	s) with Declaration
	(b) Name	See Attached List for Access		(b) Name	See Attached List for Coal Owners
	Address	Surface Owners		Address	Occ Attached Electron Cour Chinese
	Address	Surface Owners		Address	
		*			
			-		
	(c) Name			Name	· · · · · · · · · · · · · · · · · · ·
	Address			Address	4
			<del>=                                    </del>		
			<del></del>	Coallage	e with Declaration
21	The hard server	Dalah Talahat			
3)	Inspector	Ralph Triplett		(c) Name	None
	Address	5539 McClellan Highway		Address	Value III and the second secon
		Branchland, WV 25506			ALCOHOL TO THE RESERVE TO THE RESERV
	- 1 - 1		_		
	Telephone	304-389-0350			Y
ro	THE PERSO	ONS NAMED ABOVE: You st	nould have receiv	ed this Form and	the following documents:
		ation to Plug and Abandon a Well on the well its and the plugging work orde		sets out the parties in	volved in the work and
		urveyor's map) showing the well local			
				no the application whi	ch are summarized in the
		u received these documents is that you the reverses side. However, you are			cit are summanzed in the
					arenesses to file or has filed the
		at under Chapter 22-6 of the West Vir			
	Notice and App	olication and accompanying documen	its for a permit to plug	g and abandon a well v	Min the Chief of the Office of
		Vest Virginia Department of Environm			
		cation and depicted on the attached F			
	mailed by regis	stered or certified mail or delivered by	hand to the person(s	s) named above (or by	publication in certain
	circumstances	) on or before the day of mailing or de	elivery to the Chief.		
-	- Barre	Official Seal Notary Public	Well Operator:	Chesapeake Appala	achia, L.L.C.
	2 66	State of West Virginia	Ву:	RE, Schart	
	\$ 15% 360	Phyllis A. Copley ?	Its:	Completion Superin	
	( )	144 Willard Circle Huwlcane, WV 25525	Address:	P.O. Box 18496	101/2011
	5 6	My Commission Expires	Address.	Oklahoma City, OK	73154 0406
	3	September 16, 2018	The same of the same of		73134-0496
	S	······································	Telephone:	405-935-4073	
		11 th	. H. 100000	Mark Colors	2045
ub	scribed and swo	rn before me thisday	of February	the year of	2015
		Th	ytho a. Cop	ely N	lotary Public
ly (	Commission Exp	ires Sept	tember 16, 2018	· ·	

Well 802402 P&A API 47-043-01917

#### Access Surface Owners

C&R Equipment Co., Inc. 168 Sug Drive Hamlin, WV 25523

Barbara Carper Rt 1 Box 51 Hamlin, WV 25523

Gregory A. Roberts 1623 Ardoyne Avenue Cleveland, OH 44109 /



Well 802402 P&A API 47-043-01917

#### Coal Owners

Charles A. Roberts P.O. Box 285 Hamlin, WV 25523

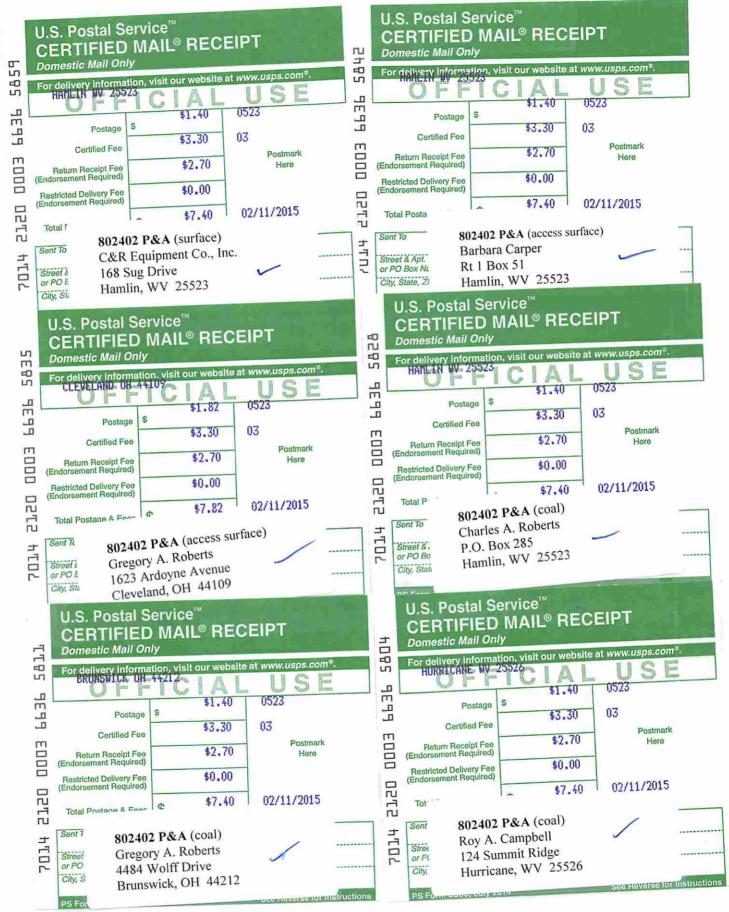
Gregory A. Roberts 4484 Wolff Drive Brunswick, OH 44212

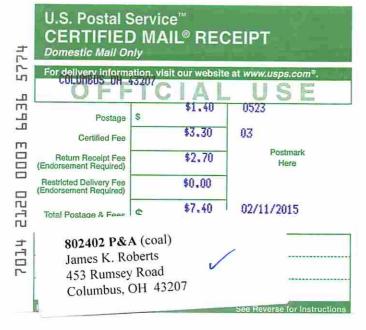
Roy A. Campbell 124 Summit Ridge Hurricane, WV 25523

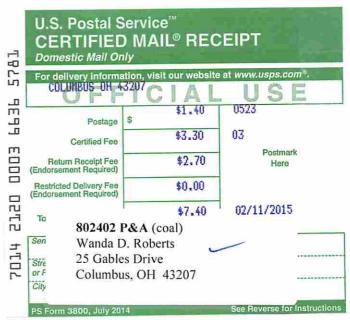
Helen E. Richardson 2821 Gulf City Road #74 Ruskin, FL 33570

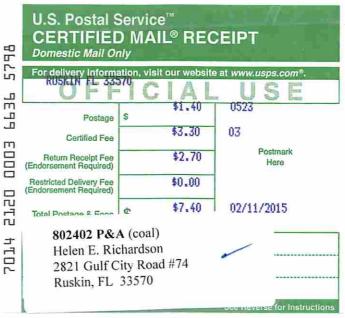
Wanda D. Roberts 25 Gables Drive Columbus, OH 43207

James K. Roberts 453 Rumsey Road Columbus, OH 43207











Form WW-9 Rev. 02/01

API Number	47-043-01917		
Operator's Well No.	802402 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 Middle Fork of Mud River Quadrangle Hamlin, WV 7.5'
Elevation
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:  X
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  Robert E. Schindler
Company Official Title Completion Superintendent
Subscribed and sworn before me this 11th day of February, 2015.  Puyllis a. Ciplly Notary Public.
My Commission Expires September 16, 2018  Official Seal Notary Public State of West Virginia

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

#### Attachment #1

API #: 47-043-01917 Operator's Well No. 802402 P&A

Property Boundary Road = = = = = = = = Spring Spring Wet Spot  Planned Fence	LEGEND					
Planned Fence X X X Wet Spot  Planned Fence / / / / Drain Pipe with size in inches  Stream  Open Dutch  Rock  Artificial Fitter Strip  Pit: cut walls  Pit: compacted fill walls  Pit: compacted fill walls  Area for Land Application of Pit Waste  Drill site  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   bbs/acre (500   bbs minimum)  Mulch Hay 2 Tons/acre  Seed Mixtures  Area I  Seed Type   Ibs/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:	Property Boundary		Diversion (ACCEPTAGE LANGE LAN	<b>y</b>		
Planned Fence  Stream  Open Ditch  Rock  North N  Buildings  Water wells  Drill site  Proposed Revegetation Treatment: Acres Disturbed  Lime  3 Tons/acre or to correct to pH  6.5  Fertilizer (10-20-20 or equivalent)  Mulch  Hay 2 Tons/acre  Seed Mixtures  Area I  Seed Type  Ibs/acre  CHESAPEAKE CONTRACTOR'S MIX  ALSIKE CLOVER  5 ALSIKE CLOVER  5 ALSIKE CLOVER  5 ANNUAL RYE  Drian Approved by:  Plan Approved by:  Plit: cut walls  Pit: compacted fill walls  Area for Land Application of Pit Waste  Area for Land Application of Pit Waste  Area (500 lbs minimum)  Mulch  Hay 2 Tons/acre  Seed Mixtures  Area II  Seed Type  Ibs/acre  CHESAPEAKE CONTRACTOR'S MIX  40 ORCHARD GRASS  15  ALSIKE CLOVER  5  ALSIKE CLOVER  5  Alsike CLOVER  5  Alsike Clover  Title: inspection of involved 7.5' topographic sheet.	Road = = = = = = = =	****	Spring			
Open Ditch  Rock  North N  Buildings  Water wells  Drill site  Proposed Revegetation Treatment: Acres Disturbed  Lime  3 Tons/acre or to correct to pH  6.5  Fertilizer (10-20-20 or equivalent)  Mulch  Hay 2 Tons/acre  Seed Mixtures  Area II  Seed Type  Ubs/acre  CHESAPEAKE CONTRACTOR'S MIX  40 ORCHARD GRASS  15  ALSIKE CLOVER  ANNUAL RYE  15  Attach:  Drawing(s) of road, location, pit and proposed area for land application.  Plan Approved by:  Pit: cut walls  Pit: cut walls  Pit: compacted fill walls  Area for Land Application of Pit Waste  Tons/acre or to correct to pH  6.5  Seed Mixtures  Area II  Seed Type  Ubs/acre  CHESAPEAKE CONTRACTOR'S MIX  40 ORCHARD GRASS  15  ALSIKE CLOVER  5 ALSIKE CLOVER  5 ALSIKE CLOVER  5 ALSIKE CLOVER  Title: ins period 606	Existing Fence — X — X — X		Wet Spot			
Open Dutch Rock North N Buildings Water wells Drill site  Proposed Revegetation Treatment: Acres Disturbed Lime 3 Tons/acre or to correct to pH 6.5  Fertilizer (10-20-20 or equivalent) Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type Ibs/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.  Plan Approved by:  Itie: In S Petrol OS 6	Planned Fence///		Drain Pipe with size in inches @	•		
Artificial Filter Strip *** North N	Stream		Waterway $\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$			
Pit: cut walls  Water wells Water wells Drill site  Proposed Revegetation Treatment: Acres Disturbed  Lime 3 Tons/acre or to correct to pH 6.5  Fertilizer (10-20-20 or equivalent)  Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type Ibs/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:	Open Ditch		Cross Drain ////////////////////////////////////			
Buildings Water wells Drill site  Proposed Revegetation Treatment: Acres Disturbed  Lime 3 Tons/acre or to correct to pH 6.5  Fertilizer (10-20-20 or equivalent)  Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type Ibs/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.  Plan Approved by:  Title: In Species 30 6	Rock file file		Artificial Filter Strip XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	<b>C</b>		
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 Ibs/acre (500 lbs minimum)  Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type Ibs/acre Seed Type Ibs/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.	North N		Pit: cut walls			
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   bs/acre (500   bs minimum)  Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type   Ibs/acre Seed Type   Ibs/acre   Ibs/acre   Seed Type   Ibs/acre   Ibs/acre	Buildings		Pit: compacted fill walls			
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 Ibs/acre (500 lbs minimum)  Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type Ibs/acre Seed Type Ibs/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 OS 6	Water wells		Area for Land Application of Pit Waste			
Lime 3 Tons/acre or to correct to pH 6.5  Fertilizer (10-20-20 or equivalent) 1/3 TON   Ibs/acre (500   Ibs minimum)  Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type   Ibs/acre Seed Type   Ibs/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.	Drill site					
Fertilizer (10-20-20 or equivalent) 1/3 TON   Ibs/acre (500 lbs minimum)    Mulch   Hay 2   Tons/acre	Proposed Revegetation Treatment: Acr	res Disturbe	d 1.0 Prevegetation pH 6.1			
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Mulch Hay 2 Tons/acre  Seed Mixtures  Area I Seed Type Ibs/acre Seed Type Ibs/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.	Fertilizer (10-20-20 or equivale	ent) 1/3 TON	N lbs/acre (500 lbs minimum)			
Seed Mixtures  Area I Seed Type   Ibs/acre   Seed Type   Ibs/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:		-				
Area I  Seed Type   Ibs/acre   Seed Type   Ibs/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 OOG	M	ulch Hay 2	_Tons/acre			
Seed Type Ibs/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 COG		S	eed Mixtures			
CHESAPEAKE CONTRACTOR'S MIX 40 ORCHARD GRASS 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 COO 6			Area II			
ALSIKE CLOVER ANNUAL RYE  5 ALSIKE CLOVER 5 Title: 5 Title: 5 Title: 5 Title: 5 Title: 666	<b>-</b> -		•••	lbs/acre		
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						
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			ALSIKE CLOVER	5		
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	ANNUAL RYE	15				
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Date: $2-23-15$						

(\_\_\_\_) No

Field Reviewed?

Received

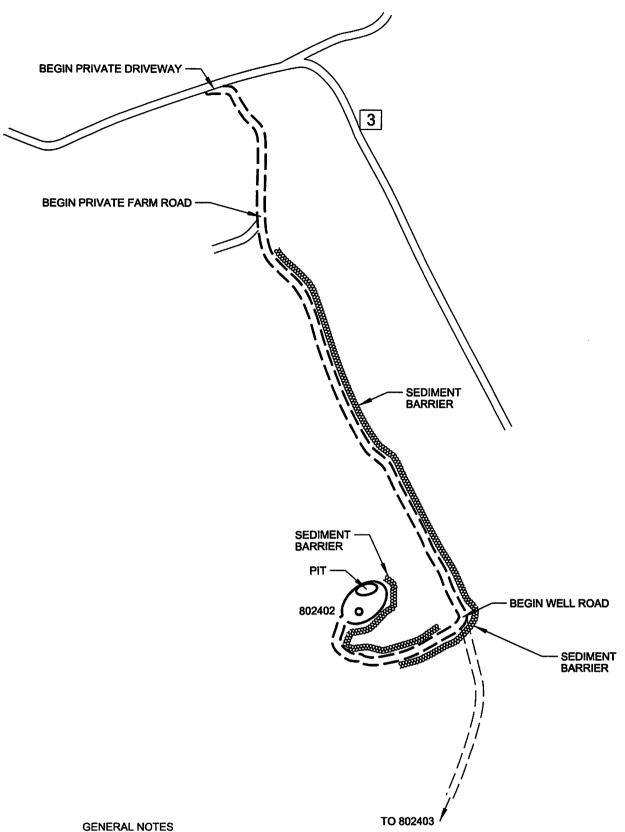
FEB 2 5 2015

Office of Oil and Gas WV Dept, of Environmental Protection

## CHESAPEAKE APPALACHIA, L.L.C.

#### **RECLAMATION DIAGRAM WELL LOCATION 802402**

API 47-043-01917



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

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.

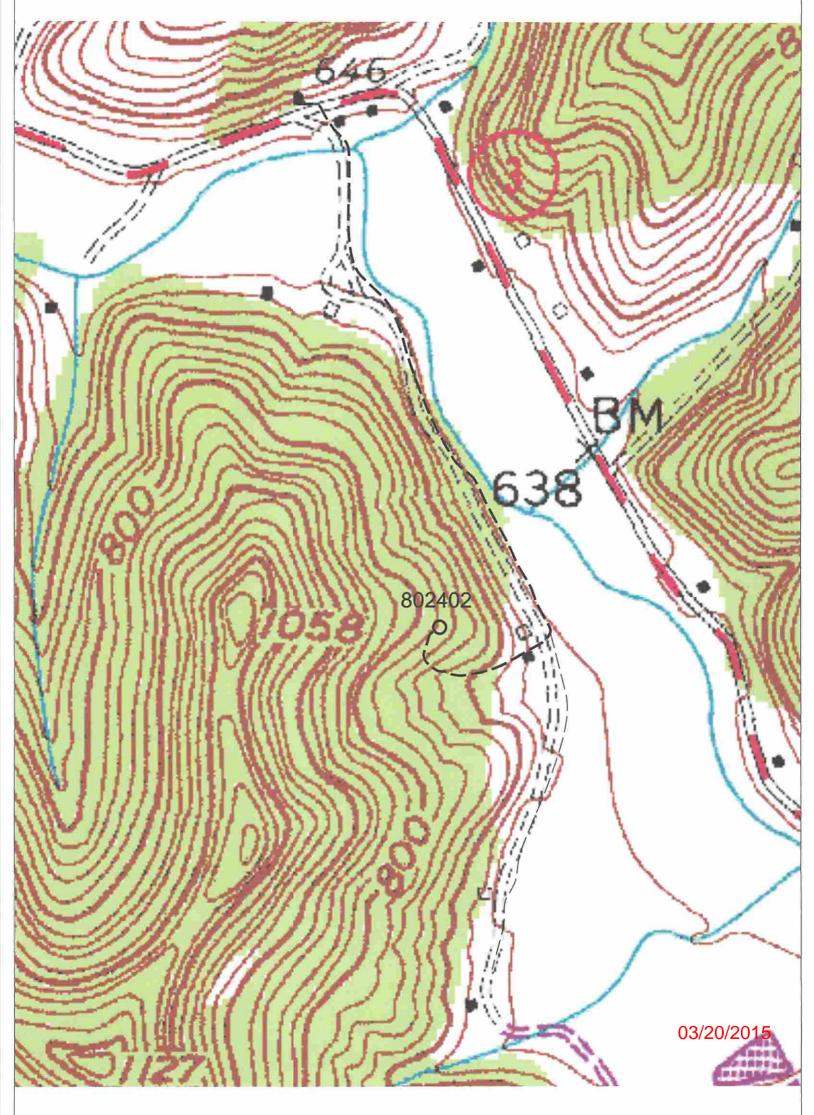
Permanent seeding: See Attachment #1.



## CHESAPEAKE APPALACHIA, L.L.C.

TOPOGRAPHICAL MAP OF ACCESS AND WELL LOCATION 802402

API 47-043-01917



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

