

### 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

February 23, 2016

#### WELL WORK PLUGGING PERMIT

### Plugging

This permit, API Well Number: 47-3901776, 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: 9092

Farm Name: TCO FEE

API Well Number: 47-3901776

Permit Type: Plugging
Date Issued: 02/23/2016

# **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.

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

1) Date:
2) Operator's Well No.
3) API Well No.
\_\_\_\_\_ 1/29/2016 809092 P&A 47-039-01776

		WEST VIRGINIA
		/IRONMENTAL PROTECTION OF OIL AND GAS
	APPLICATION FOR A PE	RMIT TO PLUG AND ABANDON
4)	Well Type: Oil Gas X (Is Gas, Production X or Underground storage	Liquid injection Waste disposal _) Deep Shallow X
5)	Location: Elevation 1,226' Watershed District Elk County	Right Fork of Slack Branch  Kanawha Quadrangle Quick, WV 7.5'
6)	Well Operator Address  Chesapeake Appalachia, L.L.C.  P.O. Box 18496 Oklahoma City, OK 73154-0496	7) Designated Agent Address  Jessica Greathouse P.O. Box 6070 Charleston, WV 25362
8)	Oil and Gas Inspector to be notified  Name Terry Urban  Address P.O. Box 1207  Clendenin, WV 25045	9) Plugging Contractor Name Chesapeake Appalachia, L.L.C. Address P.O. Box 18496 Oklahoma City, OK 73154-0496
	See Attached S	Sheet
Not	ification must be given to the district oil and gas inspector 2	24 hours before permitted work can commence.
Wo	rk Order approved by Inspector Yung W	Mulu Date 2.5-16
		RECEIVED Office of Oil and Gas
		FEB 0 5 2016
		WV Department of

02/26/2016

Environmental Protection

API Number: 47-039-01776

API Number: 47-039-01776

Operator's Well Number: 809092

# PLUGGING PROCEDURE

Note: 7" appears to be pulled.

- Prepare road and location, MIRU service rig 1)
- Attempt to pull 2 3/8" tubing and packer 2)
  - If successful:
    - RIH with tools to check TD at approximately 1980' a)

TD = 2172

- TIH with W.S. to 1950', spot gel b)
- Spot 250' cement plug 1950'-1700', pull W.S. c)
- RIH with tools to check TOC. If top of cement is below 1750', then add cement d) to top of plug.
- e) Proceed to step 3
- B) If unsuccessful:
  - Run tools with rod through seating collar at 1952' a)
  - Cement down tubing with 10 sacks and displace to 1850' b)
  - c) Cut 2" at free-point (approximately 1760') and pull
  - d) Run W.S. to 1760', spot gel
  - e) Spot 100' cement plug 1760'-1560', pull W.S.
  - f) Proceed to step 5
- Pull or run W.S. to 1700', spot gel 3)
- Spot 100' cement plug 1700'-1600', pull W.S. 4)
- 5) Cut 4 1/2" at free-point (approximately 1200') and pull
- Run W.S. to 1200', spot gel 6)
- 7) Spot 100' cement plug 1200'-1100', pull W.S. to 900'
- 8) Spot 150' cement plug 900'-750', pull W.S.
- 9) RIH with tools to check TOC. If top of cement is below 800', then add cement to top of plug
- 10) Attempt to pull 8 5/8"
  - A) If successful
    - Run W.S. to 615', spot gel
    - b) Spot 100' cement plug 615'-515'
    - c) Proceed to step 11
  - If unsuccessful B)
    - a) Run W.S. to 615', spot gel
    - b) Spot 100' cement plug 615'-515', pull W.S.
    - c) Cut 8 5/8" at free-point (approximately 420') and pull
    - d) Proceed to step 11

WV Department of 11) Run or pull W.S. to 420', spot gel Environmental Protection

Spot 150' cement plug 420'-270', pull W.S. to 175' 12)

> NOTE: If at least 400' of 8 5/8" cannot be pulled, then rip holes in casing so this plug can be set and pull pipe from where free. Then set 100' cement plug at cut.

- 13) Spot 175' cement plug 175'-surface
- 14) Pull W.S. and top off with cement
- 15) Erect monument and reclaim as prescribed by law

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304-549-5915

Quadrangle \_

Well No\_ District Elk

Date Shot With\_ Open Flow

Rock Pressure\_

Oil



# DEPARTMENT OF MINES

OIL AND GAS DIVISION 9



Well 809092 HPI 47-039-01776F

Gas

Quadrangle _	CTendentii		
	KAN-1776	WELL	RECORD

Right Fork of Slack Branch

Kangwha

Address Charleston, W.Va.

To.

315

Acres 2675

Elev. 1207.25

Inch

hrs.

\_Cu. Ft.

bbls., 1st 24 hrs.

CASING CEMENTED.\_\_\_

Casing and Tubing Used in Drilling Left in Well Packers Size Kind of Packer\_ 13\_ 10\_3/4 Size of\_ 8% 5/8 551 898 7" 1712 Depth set 5 3/16. ※ 4를 2172' Cemented Liners Used Perf. top\_

COAL WAS ENCOUN	TERED AT_	140	_FEET_	24	_INCHES
330 FEET 48					
FEET	INCHES_		_FEET_		_INCHES

SIZE

WELL FRACTURED.

WELL ACIDIZED\_

Drilling commenced\_

Drilling completed\_\_\_

RESULT AFTER TREATMENT\_

ROCK PRESSURE AFTER TREATMENT\_

/10ths Water in

48

/10ths Merc. in\_

1,924,000 Injun & Weir

Company United Fuel Gas Company

Farm United Fuel Gas Co.Fee

The surface of tract is owned in fee by-

9092

Address P.O. Box 1273; Charleston 25, W. Va.

Mineral rights are owned by United Fuel Gas Co.

6-12-61

7-14-61

\_County\_

Fresh Water	220	Feet	260	Salt Water_	1130	Feet	
Formation	Color	Hard or Soft	Тор	Bottom	Oil, Gas or Water	Depth	Remarks
Clay			0	29		,	
Sand			29	103	Water 220' 1	bailer per	hour
Slate			103	140			la real
Coal			140	142	Water 260' 3	bailers pe	r hour
Slate	1		142	153			
Sand			153	190	Show gas 950	'	
Broken Sand			190	220			14
Slate			220	226	Gas 1045' 6/	10 W 2" 103	M
Sand			226	321			
Slate			321	330	Gas 1054' 10	/10 W 2" 13	3 M
Coal			330	334			
Black Lime			334	370	Hole full wa	ter 1130'	
Slate	1		370	377		100	
Coal			377	381	Gas 1770' 12	10 W 7" 20	# 1,518 м.
Slate & She	lls		381	527	exhausted.		100000000000000000000000000000000000000
Sand			527	575		1	
Slate & She	118		575	735	Gas 1855-188	o', 90/10 W	2" 400 M
Sand			735	790			
Slate & She	lls		790	896	Gas 1950-207	B' 70/10 W	2" 353 M
Salt Sand			896	1500			
Red Rock			1500	1512	Weir perfora	ted at 2079	身', 2061身',
Slate & She	lls		1512	1.609	20533, 20	27章, 2019章	1. 19775 and
Maxon Sand			1609	1652	19703		
Little Lime			1652	1675			
Slate			1675	1680	1 8-way jet	shot at 194	91
Lime			1680	1690			
Pencil Cave			1690	1704	Test before	fracture 60	/LO W 2" 327 M
Big Lime			1704	1855			with 500 bbls.
Keener Sand			1855	1885		18,000# 20-	
Injun Sand			1885	1905	100000000000000000000000000000000000000		347.50

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Formation	Color	Hard or Soft	Top 9	Bottom	Oil, Gas or Water	Depth Found	Remarks
Squaw San Slate & S Broken Sa Weir Sand Slate & S	nells nd nells	Solt	1905 1,916 1960 2050 2130	1916 1960 2050 2130 2172	28-way jet	s at 1864' a	nd 1853' With 500 bbls.
Total Dep	in		2172'		Final open :	Clow - 1,924	M - Injun and
					Shut in 7-33	 L-61 in 4½"	asing.
				1			
				34	LOGS RUN: Gamma Ray G. G. Densit Temperature		
			÷	4 -	Temperature	10	
					i -		,
4.1 4.4		1					
			-				*
		j					
	5: 1	27. 4		_			
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		The state of					
						+	
4 <i>(</i>							

By Stevell (Title)
Supt., Civil Engineering Dept.

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FEB 3 5 2015

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	V4-A vised 1			1) Date: 2) Operator's Well No. 3) API Well No	1/29/2016 809092 P&A 47-039-01776
		STATE OF WEST VIRGINIA - DEPARTMENT OF ENVIRONMENTAL F	PROTECTION, OFFICE	OF OIL AND GAS	
1)	Surface Ow	NOTICE OF APPLICATION TO ner(s) to be served:	5) Coal Operate		
1	(a) Name	The Hamilton Corporation	(a) Name	None	
	Address		Address	None	
	71001000	26 Capital Street	Addiess		
		Charleston, WV 25301			
		The state of the s	Coal Owner(	s) with Declaration	
	(b) Name	John D. Smallridge	(b) Name	The Hamliton Corpor	ation V
	Address	P.O. Box 1508	Address	John D. Smallridge,	
		Parkersburg, WV 26102		26 Capital Street	
				Charleston, WV 2530	01
					/
	(c) Name Address		Name Address	John D. Smallri P.O. Box 1508	idge
				Parkersburg, W	7 26102
		-	Coal Lesse	with Declaration	N. Water
	Inspector	Terry Urban	(c) Name	None	
	Address	P.O. Box 1207	Address		
		Clendenin, WV 25045	,		
	Telephone	304-382-8402 304-549-5915			
	describes the control of the control	ation to Plug and Abandon a Well on Form WW-4B, whe well its and the plugging work order; and urveyor's map) showing the well location on Form WW-1 received these documents is that you have rights regard the reverses side. However, you are not required to take the under Chapter 22-6 of the West Virginia Code, the undication and accompanying documents for a permit to prest Virginia Department of Environmental Protection, we ation and depicted on the attached Form WW-6. Copilered or certified mail or delivered by hand to the person on or before the day of mailing or delivery to the Chief.	-6. arding the application whick ke any action at all. adersigned well operator polug and abandon a well well at the softhe Notice, the Applin(s) named above (or by pole).	th are summarized in the roposes to file or has filed ith the Chief of the Office on the location described on the cation, and the plat have be	of ne
	funn	Well Operator:	Chesapeake Appala	enial L.S.	
	A SELECTION	Official Seal Notary Public State of West Virginia  By:	alune)	lale	
	SELAR	Phyllis A. Coblev & Its:	Manager - Operation	s, Appalachia South	The state of the s
	1(1205)	144 Willard Circle Hurricano, WV 25528 Address:	P.O. Box 18496		
		My Commission Expires 5	Oklahoma City, OK	73154-0496	March 1970 AND SHIP SHIP S STORE SPINS
	·~~~	September 16, 2018 Telephone:	405-935-4073		RECEIVED
30	cribed and sworr	2014	y the year of	2016	se of Oil and O JAN 2 9 2016
2		Thylles a Coply	No	tary Public	JAN D J LUIU
	mmission Expir WW-9	September 16, 2018	100	1/1/	/ Department
1				There	nmental Prote
				ETIVITO	HILLSTINGS I TORG

Rev. 02/01

Operator Name Chesapeake Appalachia, L.L.C.

API Number \_ Operator's Well No. \_

OP Code 494477557

47-039-01776 809092 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

Watershed	Right Fork of Slack Branch		Quadrangle	Quick, WV	7.5'
Elevation1,226'	County	Kanawha	_ Dis	strict	Elk
Description of anticipated F	Pit Waste: Plugging Retu	urns/Cement			
Will a synthetic liner be use	ed in the pit? Yes		20 MK	.4	
Proposed Disposal Method X	Land Application Underground Injection ( Reuse (at API Number_ Off Site Disposal (Supply		r disposal locatio	) ) n)	
Proposed Work For Which	Pit Will Be Used:DrillingWorkoverSwabbingPlugging _Other (Explain			)	
issued on December 31, 199 understand that the provision permit and/or other applicabl I certify under penalty of this application form and all a for obtaining the information.	-	the West Virginia D law. Violations of forcement action, ed and am familiar ed on my inquiry of the accurate and co	epartment of Environ any term or condition with the information s those individuals imm	nmental Protection, I n of the general submitted on	
Company Official Title	Manager - Ope	erations, Appal	achia South		
lubscribed and sworn before	re me this 29th day of Pullis a. Co	January		 Notary P	ublic
ly Commission Expires	September 16, 2018	Lum	Official Seal Notary F	nana)	abilo.



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# Attachment #1

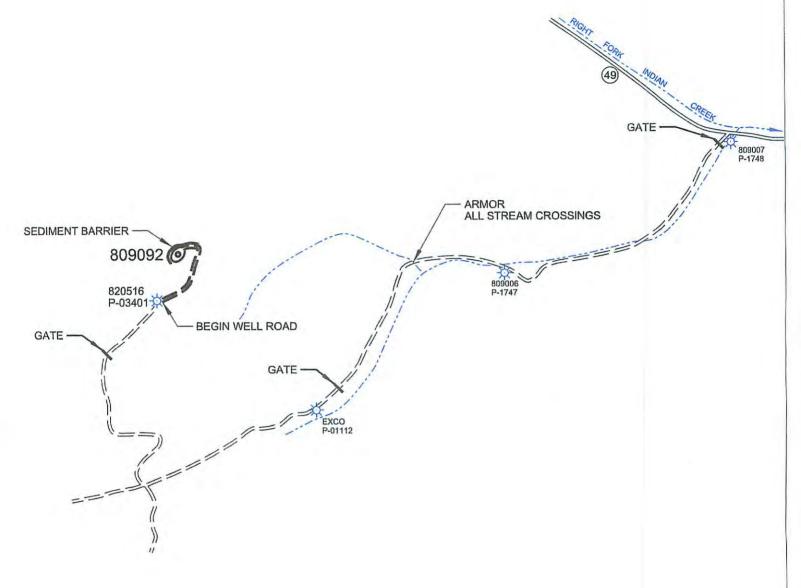
API #: 47-039-01776 Operator's Well No. 809092 P&A

·	LEGEND	
Property Boundary	Diversion (1991)	1111)
8ond = = = = = = = = = = = =	Spring	
Existing Fence — X — X — X —	Wet Spot	
Planned Fence///	Drain Pipe with size in inches (3	
Stream Change Control of the Stream	Waterway $\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$	
Open Ditch	Cross Drain	<b>Z</b> I.
Rock ESSE	Artificial Filter Strip XXXXXXXXXXXXXXXXXXX	XXX
North N	Pit: cut walls	
Buildings	Pit: compacted fill walls	
Water wells	Area for Land Application of Pit Waste	
Drill site		
Proposed Revegetation Treatment: Acres Disturb	ed 1.0 Prevegetation pH 6.1	
Lime3	Tons/acre or to correct to pH6.5	
Fertilizer (10-20-20 or equivalent)1/3	Tons/acre (500 lbs minimum)	
Mulch We	eed Free Straw 2 Tons/acre	
	Seed Mixtures	
October 1st to April 30th	May 1st to September 30t	h
Creeping Red Fescue 68.60%	Creeping Red Fescue	68.60%
Wheat 14.76% Annual Ryegrass 9.80%	Wheat Annual Ryegrass	17.18% 9.80%
Ladino Clover 3.21%	Ladino Clover	4.97%
Total seeding will be 50 lbs/acre		
Attach:	for land and inching	
Drawing(s) of road, location, pit and proposed area f	for land application.	
Photocopied section of involved 7.5' topographic she	eet.	
Plan Approved by:		
Title:		<del></del>
Date:	<del></del>	
Field Reviewed? () Yes	() No REC	EIVED Dil and Gas
	FEB 0	<b>5</b> 2016

WV Department of Environmental Protection CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM WELL LOCATION 809092

API 47-039-01776



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### **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 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.

02/26/2016

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WV Department of Environmental Protection

# CHESAPEAKE APPALACHIA, L.L.C.

TOPOGRAPHICAL MAP OF ACCESS AND WELL LOCATION 809092

API 47-039-01776

