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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Monday, April 8, 2019

WELL WORK PLUGGING PERMIT  
Vertical Plugging

CORE APPALACHIA OPERATING LLC  
414 SUMMERS STREET

CHARLESTON, WV 25301

Re: Permit approval for 806516  
47-099-00667-00-00

This well work permit 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 any additional specific 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. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: 806516  
Farm Name: ROGER FERGUSON  
U.S. WELL NUMBER: 47-099-00667-00-00  
Vertical Plugging  
Date Issued: 4/8/2019

## 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

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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.

1) Date February 21, 2019  
2) Operator's Well No. 806516  
3) API Well No. 47-009 - 00667

04/12/2019

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 \_\_\_ /  
(If "Gas, Production \_\_\_ or Underground storage \_\_\_) Deep \_\_\_ / Shallow X \_\_\_

5) Location: Elevation 1095.16' Watershed West Fork of Twelvepole Creek  
District Lincoln County Wayne Quadrangle Radnor

6) Well Operator Core Appalachia Operating, LLC 7) Designated Agent Jessica Greathouse  
Address P.O. Box 6070 Address P.O. Box 6070  
Charleston, WV 25362 Charleston, WV 25362

8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Allen Flowers Name Precision Drilling (BOSS)  
Address 165 Grassy Lick Lane Address 3978 N Elmdale Road  
Liberty, WV 25124 Olney, IL 62450

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 3-5-2019

PLUGGING PROCEDURE  
806516  
WAYNE COUNTY, WEST VIRGINIA  
API# 47-099-00667

BY: DMC  
DATE: 2/25/19

Current Status

10" 32.75# @ 21'  
8 1/4" @ 300'  
6 5/8" @ 1551' w/6 5/8 x 8 1/4" bottom hole pkr  
Shale: 2694'-3210' Shot  
TD @ 3210'  
Water @ 350'  
Gas Shows @ 1660', 2273', 3000'  
Elevation 1111.02'  
**3/3/2011 Echometer FL @ 1097'**

**Objective: Plug and abandon**

- 1) Prepare road and location.
- 2) MIRU service rig and support equipment
- 3) Blow well down. Check TD.
- 4) Spot 100' cement plug @ TD, ~ 2675 - 2575'.
- 5) TIH and tag cement plug.
- 6) Spot 6% gel from 2575 - 2325'.
- 7) Spot 100' cement plug from 2325 - 2225'.
- 8) Cut 6 5/8" at free point and pull.
- 9) Spot 6% gel from 2225 - 1710'.
- 10) Spot 210' cement plug from 1710 - 1500'.
- 11) Spot 6% gel from 1500 - 1160'.
- 12) Spot 100' cement plug from 1160 - 1060'.
- 13) Attempt to pull 8 1/4" csg. If unsuccessful, shoot or rip holes @ 100'
- 14) Spot 6% gel from 1060 - 400'.
- 15) Spot 150' cement plug from 400-250'.
- 16) Spot 6% gel from 250 - 150'.
- 17) Spot 150' cement plug from 150' - Surface.

GEL HOLE TO ABOVE SHOT & 2600',  
gum

SET 100' CEMENT PLUG ACROSS CUT.

47-099-00667P

04/12/2019

18) Pull work string and top off w/cement.

19) Erect permanent monument (30" minimum height and 6" minimum diameter pipe) with API # (1/2" height numbering) and reclaim.

UNITED FUEL GAS COMPANY  
COMPANY

Way-667

Deed

806516

LEASE NO. 35723

47-099-0067 MAP SQUARE 20-35

WELL NO. 6516

RECORD OF WELL NO. 6516	on the	CASING AND TUBING				TEST BEFORE SHOT	
G. CO. MIN. WELL #5	farm of 6473 Acres	SIZE	WEIGHT	USED IN DRILLING	LEFT IN WELL	4	/10 of Water in 1 inc
in LINGOLN	District	10"	32.75#	219#	219#		/10 of Merc. in inc
WAYNE	County	8-1/4"	24#	300#6"	300#6"	Volume	2046 Cu. f
State of: WEST VIRGINIA		6-5/8"	20#	1551#10"	1551#10"	TEST AFTER SHOT	
Field: BRANCLAND						19	/10 of Water in 2 inc
Rig Commenced BY CONTRACTOR	194						/10 of Merc. in inc
Rig Completed BY CONTRACTOR	194					Volume	184 MCF Cu. f
Drilling Commenced MARCH 25	1949					48	Hours After Sh
Drilling Completed JULY 16	1949					Rock Pressure	417#
Drilling to cost \$2.75	per foot					Date Shot	July 19, 1949
Contractor is: R. J. PETRIE						Size of Torpedo	3600# Gelat
Address: HUNTINGTON, W. VA.		SHUT IN				Oil Flowed	bbis. 1st 24 hr
		Date July 20, 1949				Oil Pumped	bbis. 1st 24 hr
Driller's Name: BENNIE SHEPHERD		6-5/8" in.					
FRED MEABON						Size of Packer	6-5/8" X 8-1/4"
						Kind of Packer	Bottom Hole
						1st. Perf. Set	None from
Elevation: 1111.02						2nd Perf. Set	from

DRILLER'S RECORD

FORMATION	TOP	BOTTOM	THICKNESS
Surface	0	12	12
Sand	12	160	148
Slate	160	180	20
Sand	180	205	25
Slate	205	250	45
Sand	250	440	190
Slate	440	490	50
Sand	490	600	110
Slate	600	815	215
Sand	815	860	45
Slate	860	910	50
Gas Sand	910	1030	120
Slate	1030	1090	60
Salt Sand	1090	1295	205
Slate & Shells	1295	1400	105
Maxon Sand	1400	1427	27
Slate	1427	1435	8

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Environmental Protection

Water at 350' - 6 bailers per hour

APPROVED  
*[Signature]*



1) Date: February 21, 2019  
2) Operator's Well Number 806516 **04/12/2019**

3) API Well No.: 47 - 47-099 - 00667

STATE OF WEST VIRGINIA  
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:	5) (a) Coal Operator
(a) Name Roger Ferguson	Name None
Address 942 Ferguson Branch Road	Address
Dunlow, WV 25511	
(b) Name	(b) Coal Owner(s) with Declaration
Address	Name Pocahontas Land Corporation
	Address P.O. Box 1517
	Bluefield, WV 24701
(c) Name	Name Southern Region Industrial, Inc.
Address	Address Three Commercial Place
	Norfolk, VA 23510
6) Inspector Allen Flowers	(c) Coal Lessee with Declaration
Address 165 Grassy Lick Lane	Name Argus Energy, LLC
Liberty, WV 25124	Address 81 Enterprise Drive
Telephone 304-552-8308	Debord, KY 41214

**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 this 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 this 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	Core Appalachia Operating, LLC
	By:	<i>JG</i> Jessica Greathouse
	Its:	Manager - EHS & Administration Services
	Address	P.O. Box 6070 Charleston, WV 25362
	Telephone	304-353-5240

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FEB 25 2019  
West Virginia Department of Environmental Protection

Subscribed and sworn before me this 22nd day of February 2019  
Phyllis A. Copley Notary Public  
My Commission Expires September 16, 2023

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).



STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Core Appalachia Operating, LLC OP Code 494518671

Watershed (HUC 10) West Fork of Twelvepole Creek Quadrangle Radnor

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: Plugging returns/Cement - Will utilize above ground tanks

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? 20

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Any fluid recovered will be hauled to a Core tank battery and disposed of properly)

Will closed loop system be used? If so, describe: \_\_\_\_\_

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. \_\_\_\_\_

-If oil based, what type? Synthetic, petroleum, etc. \_\_\_\_\_

Additives to be used in drilling medium? \_\_\_\_\_

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. \_\_\_\_\_

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

-Landfill or offsite name/permit number? \_\_\_\_\_

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Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, 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 [Signature]  
Company Official (Typed Name) Jessica Greathouse  
Company Official Title Manager - EHS and Administrative Services



Subscribed and sworn before me this 22nd day of February, 2019

Phyllis A. Copley Notary Public

My commission expires September 16, 2023

Proposed Revegetation Treatment: Acres Disturbed 1 +/- Prevegetation pH \_\_\_\_\_

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 or equivalent

Fertilizer amount \_\_\_\_\_ lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Red Fescue	40	Red Fescue	15
Alsike	5	Alsike Clover	5
Annual Rye	15		

Attach:  
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Allen Flowers

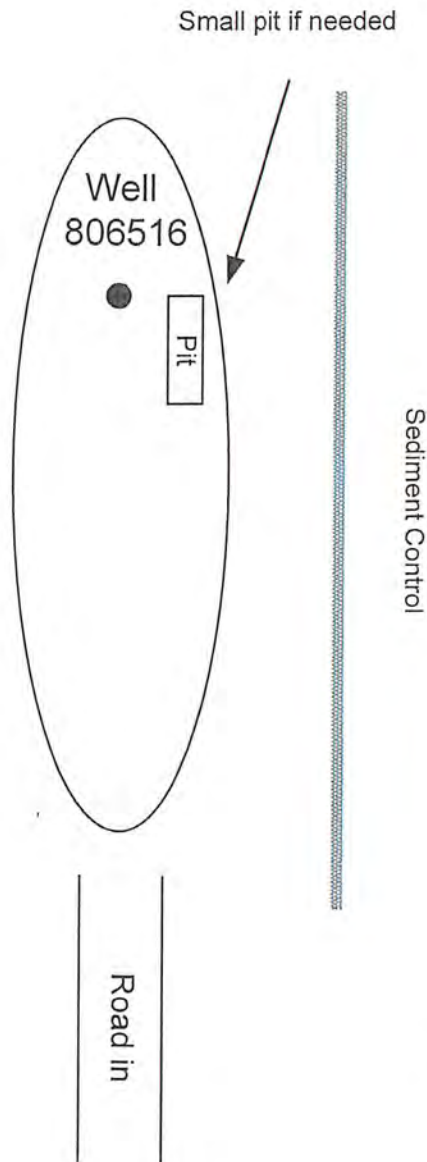
Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: 006 Inspection Date: 3-5-2019

Field Reviewed?  Yes  No

Diagram of Well 806516  
API 47-099-00667  
Field Office - Kermit  
County - Wayne

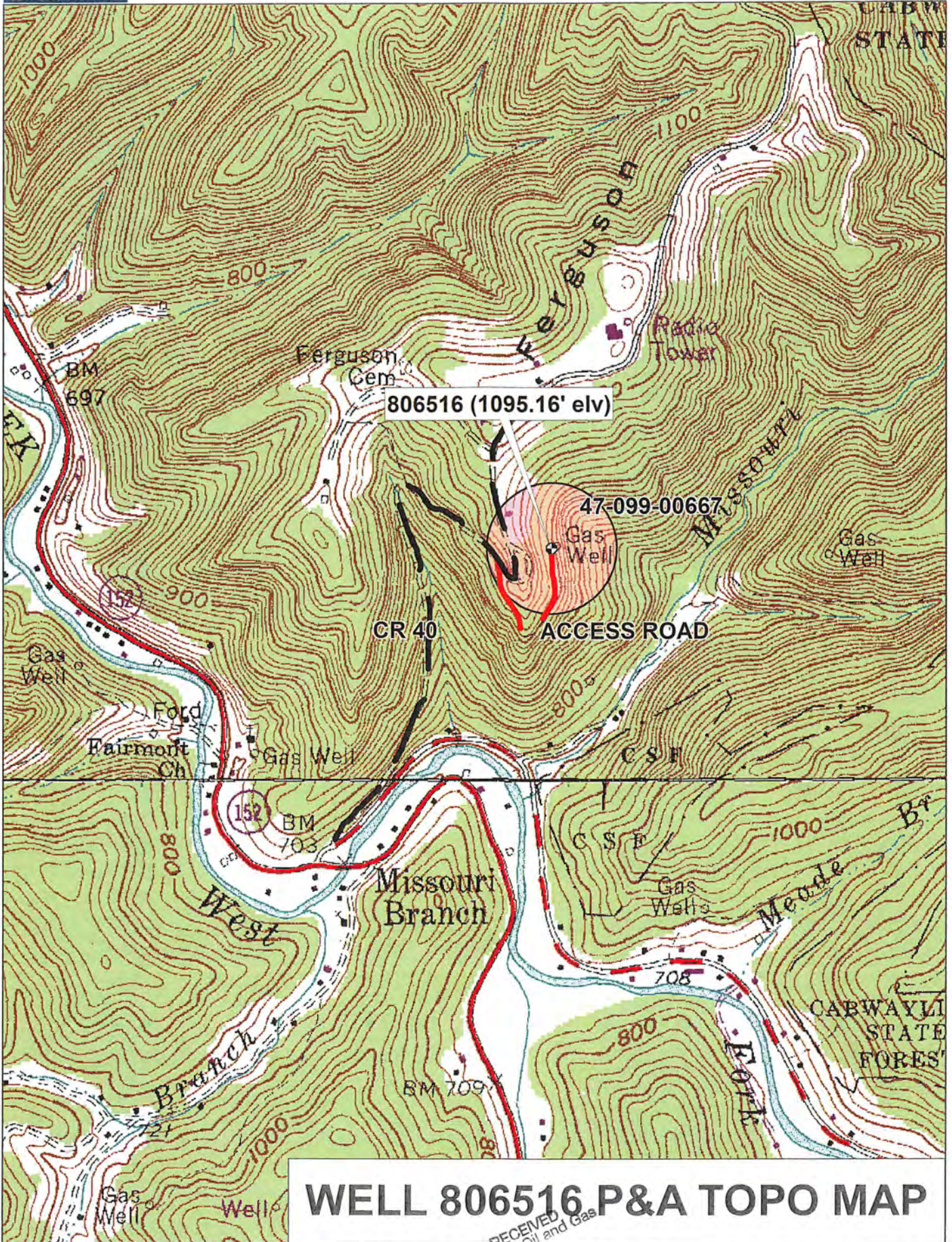
Surface Owner:  
Roger Ferguson



Note: No Land Application if pit is used

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# Site Plan

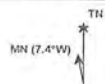


# WELL 806516 P&A TOPO MAP

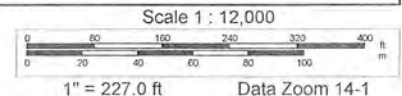
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WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas  
**WELL LOCATION FORM: GPS**

API: 47-099-00667 WELL NO.: 806516

FARM NAME: TCO MIN TR 5

RESPONSIBLE PARTY NAME: Core Appalachia Operating, LLC

COUNTY: Wayne DISTRICT: Lincoln

QUADRANGLE: Radnor

SURFACE OWNER: Roger Ferguson

ROYALTY OWNER: Core Appalachia Production, LLC

UTM GPS NORTHING: 4207294.83m

UTM GPS EASTING: 376983.70m GPS ELEVATION: 333.81m (1095.16' elv)

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS  : Post Processed Differential

Real-Time Differential

Mapping Grade GPS  : Post Processed Differential

Real-Time Differential

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data 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 Office of Oil and Gas.

*Tim Alford*  
Signature

EHS Specialist  
Title

2/21/19  
Date

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