



 west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Friday, April 19, 2019

WELL WORK PLUGGING PERMIT
 Vertical Plugging

CORE APPALACHIA OPERATING LLC
 414 SUMMERS STREET

CHARLESTON, WV 25301

Re: Permit approval for 806403
 47-043-00868-00-00

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: 806403
 Farm Name: WAPITI WOODS, LLC
 U.S. WELL NUMBER: 47-043-00868-00-00
 Vertical Plugging
 Date Issued: 4/19/2019

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

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 20, 2019
2) Operator's 04/19/2019
Well No. 806403
3) API Well No. 47-043-00868

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 1361.27' Watershed Big Ugly Creek
District Harts Creek County Lincoln Quadrangle Big Creek

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 Jeffery L. Smith Name R & R Well Service
Address 5369 Big Tyler Road Address 42 Lynch Ridge
Cross Lane, WV 25313 Walton, WV 25286

10) Work Order: The work order for the manner of plugging this well is as follows:

OK gnm
4/17/19

SEE ATTACHED SHEET

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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector OK Date 4/17/19

PLUGGING PROCEDURE
806403
LINCOLN COUNTY, WEST VIRGINIA
API# 47-043-00868

BY: DMC
DATE: 1/14/19

04/19/2019

Current Status

8 5/8" @ 546'
7" @ 1991'
Shale: Shot 2875-4000'
TD @ 4000'
Fresh water @ 790'
Salt Water @ 1310'
Coal @ 125-129', 215-219'
Gas Shows @ 2028', 2878', 3780', 3810', 3940'
Elevation 1374.78'
2/13/2009 Swab Rig FL @ 800', TD @ 2475'

Objective: Plug and abandon

- 1) Prepare road and location.
- 2) MIRU service rig and support equipment.
- 3) Blow well down. Check TD.
- 3a) GAS SHOWS IN SHOT HOLE, FILL SHOT HOLE W/ GEL.
- 4) Spot 100' cement plug @ TD, ~ 2475 - 2375'.
- 4a) WOC, TAG PLUG, ADD CEMENT IF NECESSARY.
- 5) Spot 6% gel from 2375 - 2080'.
- 6) Spot 150' cement plug from 2080 - 1930'.
- 7) Spot 6% gel from 1930- 1425'.
- 8) Cut 7" csg at free point and pull. —
- 8a) 100' CEMENT PLUG ACROSS CASING CUT.
- 9) Spot 175' cement plug @ 1425 - 1250'.
- 10) Spot 6% gel from 1250 - 840'.
- 11) Spot 100' cement plug from 840 - 740'.
- 12) Spot 6% gel from 740 - 600'.
- 13) Attempt to pull 8 5/8" csg. If unsuccessful, shoot or rip holes @ 215', 125'.
- 14) Spot 100' cement plug from 600 - 500'.
- 15) Spot 6% gel from 500 - 250'.
- 16) Spot 250' cement plug from 250' - Surface.
- 17) Pull work string and top off w/cement.
- 18) Erect permanent monument (30" minimum height and 6" minimum diameter pipe) with API # (1/2" height numbering) and reclaim.

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47-043-00868P



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Well 806403
47-043-00868

WELL RECORD

Oil or Gas Well Gas

(KIND)
04/19/2019

Permit No. LIN-868

Company United Fuel Gas Company
 Address P. O. Box 1273, Charleston 25, W. Va.
 Farm U.F.G. Co. Min. Tr. #23 Acres 388.26
 Location (waters) Laurel Fk. of Big Ugly Cr.
 Well No. 6403 Elev. 1374.78
 District Harts Creek County Lincoln
 The surface of tract is owned in fee by _____
 Address _____
 Mineral rights are owned by United Fuel Gas Co.
P. O. Box 1273, Address Chas. 25, W. Va.
 Drilling commenced 4-18-49
 Drilling completed 7-9-49
 Date Shot 7-12-49 From 2875 To 4000
 With 7950# Gel.
 Open Flow 12/10ths Water in 2 Inch
 /10ths Merc. in _____ Inch
 Volume 146 M - B.L. & Shale Cu. Ft.
 Rock Pressure 415 lbs. 72 hrs.
 Oil _____ bbls., 1st 24 hrs.
 Fresh water 790 feet _____ feet
 Salt water 1310 feet _____ feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
18			
10			Size of
8 8-5/8"	546	546	
7 7"	1991	1991	Depth set
5 3/16			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____

COAL WAS ENCOUNTERED AT 125 FEET 48 INCHES
215 FEET 48 INCHES FEET INCHES
 FEET INCHES FEET INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Surface			0	10			
Slate			10	125			
Coal			125	129			
Sand			129	215			
Coal			215	219			
Sand			219	275			
Slate			275	395			
Sand			395	430			
Slate			430	470			
Sand			470	540			
Slate			540	605			
Sand			605	640			
Slate			640	710			
Sand			710	740			
Slate			740	785	Water	790'	2 B.P.H.
Sand			785	835			
Slate & Shells			835	945			
Sand			945	975			
Slate & Shells			975	1240	Water	1310'	Hole full
Salt Sand			1240	1360			
Slate & Shells			1360	1400			
Sand			1400	1475			
Slate			1475	1600			
Slate & Shells			1600	1710			
Sand			1710	1790			
Slate			1790	1795			
Red Rock			1795	1805			
Slate & Shells			1805	1860			
Red Rock			1860	1865			
Slate & Shells			1865	1925			
Black Lime			1925	1945			
Little Lime			1945	1970			
Pencil Cave			1970	1975	B.Lime Gas	2028'	10/10 W 1" 3'
Big Lime			1975	2160			
Injun			2160	2220			
Slate & Shells			2220	2675			
Brown Shale			2675	2690			
Berea Sand			2690	2714			

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 4/19/2019

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Slate & Shells			2714	3670	Shale Gas	2878	
Brown Shale			3670	3995		3780	
White Slate			3995	4000		3810	
						3940	
Total Depth			4000'				
					Gas test before shot 30/10 W 1" 58 M		
					Shot 7-12-49 with 7950# Gel 2725 4000'		
					Test 16 Hrs. after shot 12/10 W 2" 146M		
					OPEN FLOW - 146 M - B.Lime & Shale		
					72 Hr. R.P. 415#		
					Shut in 7-13-49 in 6-5/8" Casing		

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Date July 26, 1949

APPROVED United Fuel Gas Co., Owner

By [Signature]
 Chief Engineer (Title) R.

1) Date: February 20, 2019
2) Operator's Well Number 806403 **04/19/2019**

3) API Well No.: 47 - 47-043 - 00868

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

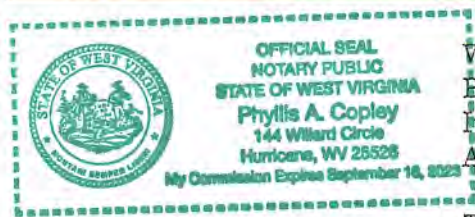
<p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Wapiti Woods, LLC</u> Address <u>1655 N. Fort Myer Drive, Suite 1300</u> <u>St. Louis, MO 63141</u></p> <p>(b) Name _____ Address _____</p> <p>(c) Name _____ Address _____</p>	<p>5) (a) Coal Operator</p> <p>Name <u>None</u> Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name <u>Southern Region Industrial, Inc.</u> Address <u>Three Commercial Place</u> <u>Norfolk, VA 23510</u></p> <p>Name _____ Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name <u>None</u> Address _____</p>
<p>6) Inspector <u>Jeffery L. Smith</u> Address <u>5369 Big Tyler Road</u> <u>Cross Lanes, WV 25313</u> Telephone <u>681-313-6743</u></p>	

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: Jessica Greathouse
 Title: Manager - EHS & Administration Services
 Address P.O. Box 6070
Charleston, WV 25362
 Telephone 304-353-5240

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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 depprivacyofficer@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) Big Ugly Creek Quadrangle Big Creek

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? _____

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.

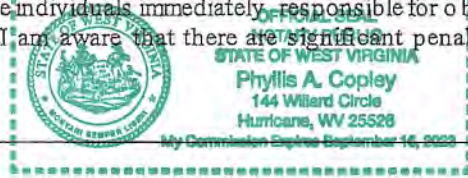
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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, 20 19

Phyllis A. Copley Notary Public

My commission expires September 16, 2023

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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
Red Fescue	40
Alsike	5
Annual Rye	15

Seed Type	lbs/acre
Red Fescue	15
Alsike Clover	5

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: _____

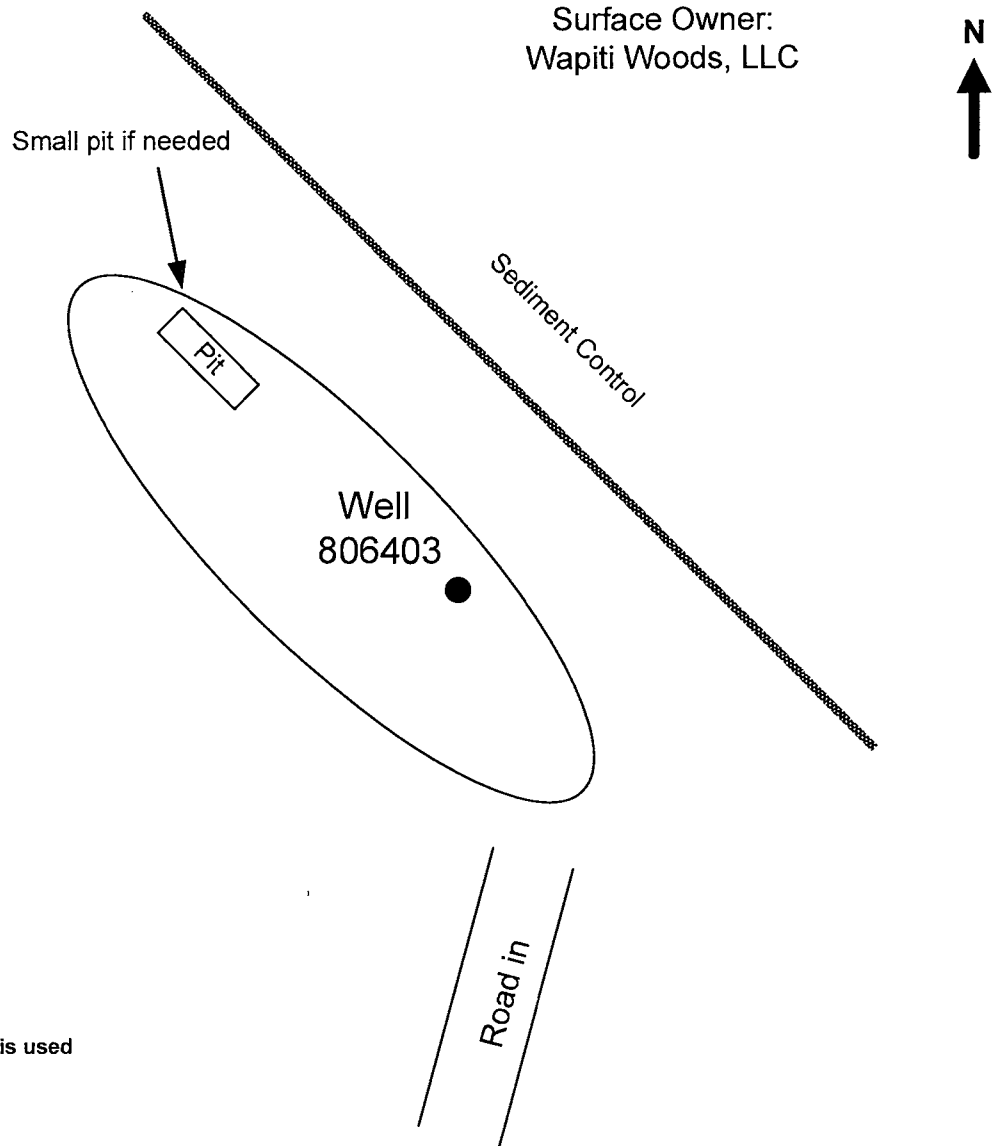
Comments: _____

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Title: _____ Date: _____

Field Reviewed? () Yes () No

Diagram of Well 806403
API 47-043-00868
Field Office - Hamlin
County - Lincoln

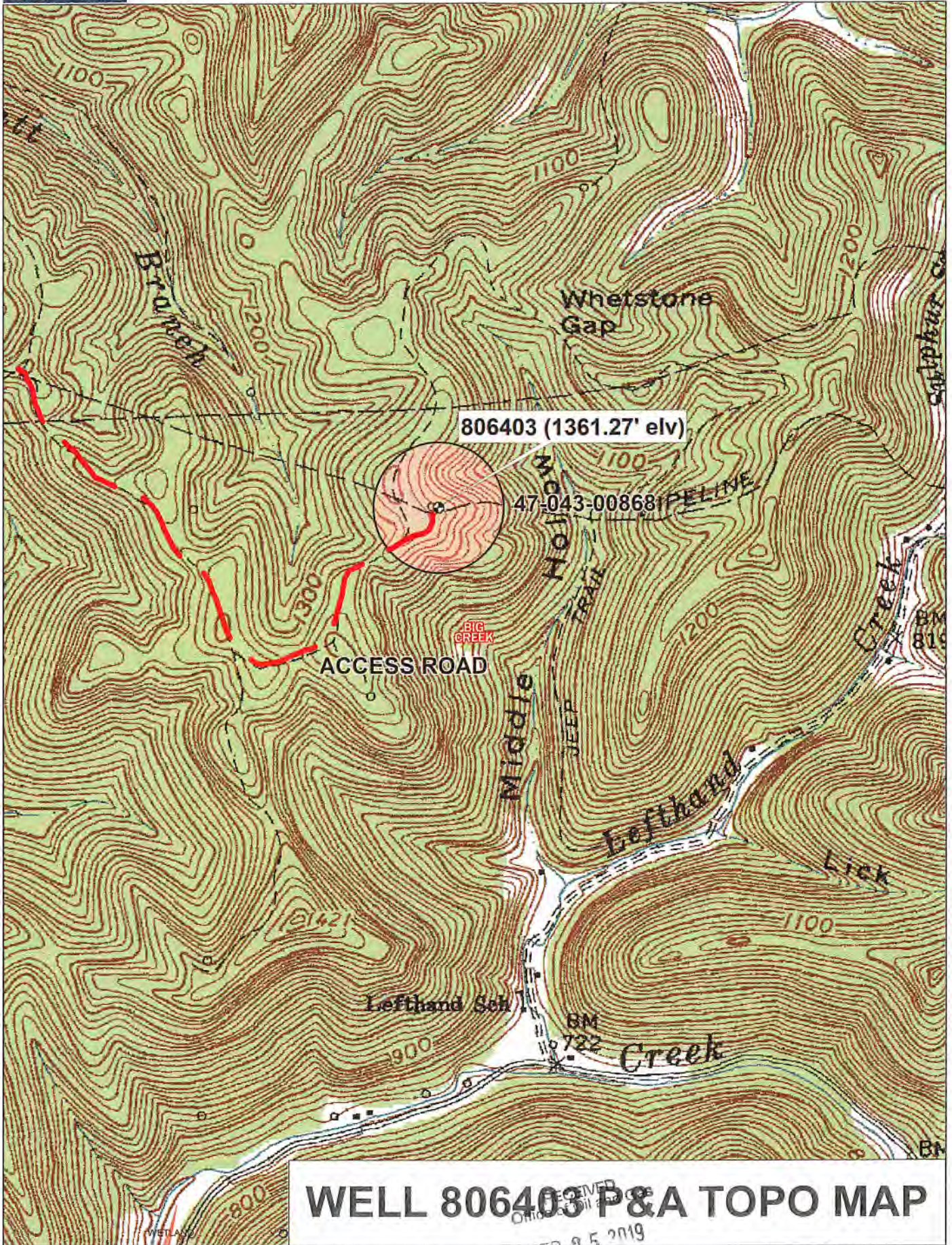


Surface Owner:
Wapiti Woods, LLC

Note: No Land Application if pit is used

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Site Plan

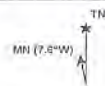


WELL 806403 P&A TOPO MAP

Data use subject to license.

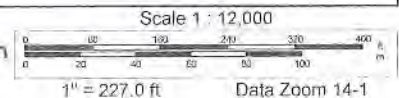
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WW-7
8-30-06



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

API: 47-043-00868 WELL NO.: 806403
 FARM NAME: TCO MIN
 RESPONSIBLE PARTY NAME: Core Appalachia Operating, LLC
 COUNTY: Lincoln DISTRICT: Harts Creek
 QUADRANGLE: Big Creek
 SURFACE OWNER: Wapiti Woods, LLC
 ROYALTY OWNER: Core Appalachia Production, LLC
 UTM GPS NORTHING: 4213078.00m
 UTM GPS EASTING: 410527.66m GPS ELEVATION: 414.92m [1361.27']

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:

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

Survey grade GPS ____: Post Processed Differential ____

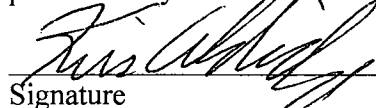
Real-Time Differential ____

Mapping Grade GPS : Post Processed Differential ____

Real-Time Differential

- 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.


Signature

EHS Specialist

Title

2/19/19

Date

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