



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

Tuesday, April 21, 2020
WELL WORK PLUGGING PERMIT
Vertical Plugging

CORE APPALACHIA OPERATING LLC
101 MCQUISTON DRIVE

JACKSON CENTER, PA 16133

Re: Permit approval for 8714
47-099-01116-00-00

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: 8714
Farm Name: TCO FEE
U.S. WELL NUMBER: 47-099-01116-00-00
Vertical Plugging
Date Issued: 4/21/2020

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.

WW-4B
Rev. 2/01

1) Date February 10, 2020
2) Operator's
Well No. 808714
3) API Well No. 47-099-01116

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 250.01 m Watershed Left Fork of Hurricane Creek (0507020404)
District Butler County Wayne Quadrangle Prichard
- 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 & J Well Services, Inc.
Address 5349 Karen Circle, Apartment 2101 Address P.O. Box 40
Cross Lanes, WV 25313 Hueysville, KY 41640-0040

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

Jeffery Smith

Date

3-13-00

PLUGGING PROGNOSIS

808714

West Virginia, Wayne County

API# 47-099-01116

Completed by S.T.

Updated 11/18/2019

Casing Schedule

10" csg @ 27'

8 5/8" csg @ 334'

7" csg @ 1219'

TD 2035'

7" Fluid Level 10/28/19 @ 242'

Completion: Shot

1976-1991

Fresh Water: 125'**Gas Shows:** Big Lime 1328', Injun 1460'-1490', Berea 1976'-1991'

: No shows

Coal: 326'**Elevation:** 805'

1. Notify Inspector, Jeffery Smith @ 681-313-6743, 48 hours prior to commencing operations.
2. Check and record pressures on csg.
3. Check TD w/ wireline
4. TIH w/ tbg to 1976'. Load well as needed with 6% bentonite gel. Pump 100' C1A cement plug from **1976'-1876' (Berea gas show)**. *WOC, TAG PLUG ADD CEMENT IF NEEDED.*
5. TOOH w/ tbg to 1876'. Pump 6% bentonite gel from **1876'-1460'**.
6. TOOH w/ tbg to 1460'. Pump 291' C1A cement plug from **1460'-1169' (Injun, Lime gas shows, & 7" csg seat)**.
7. TOOH w/ tbg to 1169'. Pump 6% bentonite gel from **1169'-805'**. TOOH LD tbg
8. Free Point 7" csg. Cut and Pull. Set 100' C1A cement plug across csg Cut. 50' in/out of cut. Do not omit any plugs listed below. Perforate as needed.
9. TIH w/ tbg to 805'. Pump 100' C1A plug from **805'-705' (Elevation)**.
10. TOOH w/ tbg to 705'. Pump 6% bentonite gel from **705'-384'**.
11. TOOH w/ tbg to 384'. Pump 108' C1A cement plug from **384'-276' (8 5/8" csg st & coal)**.
12. TOOH w/ tbg to 276'. Pump 6% bentonite gel **276'-175'**. TOOH LD Tbg
13. Free Point 8 5/8" csg. Cut and Pull. Set 100' C1A cement plug across csg Cut. 50' in/out of cut. Do not omit any plugs listed below. Perforate as needed
14. TIH w/ tbg to 175'. Pump 175' C1A cement plug from **175'-0' (Fresh water and Surface)**.
15. Erect monument with API#, date plugged, and company name.
16. Reclaim location and road to WV-DEP specifications.

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Office of Oil and Gas

FEB 25 2020

Department of
Action

47-099-0116P



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Quadrangle Louisa
Permit No. WAY-1116
WELL RECORD
Oil or Gas Well Gas
(KIND)

Company United Fuel Gas Co.
Address P.O. Box 1273; Charleston 25, W. Va.
Farm United Fuel Gas Co. Fee Acres 10,500
Location (waters) Left Fl. of Hurricane Creek
Well No. 8714 Elev. 804.74
District Butler County Wayne
The surface of tract is owned in fee by _____
Mineral rights are owned by United Fuel Gas Co.
Address Charleston, W. Va.
Drilling commenced 8-16-58
Drilling completed 9-12-58
Date Shot 9-15-58 From 1976 To 1991
With 90 qts SNG
Open Flow 7 /10ths Water in 2 Inch
24 /10ths in 2 Inch
Volume 319,000 Injun - 112 M - Berea 207 Cu. Ft.
Rock Pressure 540 lbs. 48 hrs.
Oil 610 bbls., 1st 24 hrs.
WELL ACIDIZED _____
WELL FRACTURED _____
RESULT AFTER TREATMENT _____
ROCK PRESSURE AFTER TREATMENT _____
Fresh Water 125 Feet Salt Water 460 876 Feet 880

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
10			Anchor
10 3/4		27	Size of
8 x 5/8		334	3 1/2" x 7" x 16"
7 5/8		1219	Depth set
5 3/16			1 5/8' 1945'
3 1/2		2033	Perf. top
			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED	SIZE	No. Ft.	Date
COAL WAS ENCOUNTERED AT 326 FEET 36 INCHES			
FEET	INCHES	FEET	INCHES
FEET	INCHES	FEET	INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Sand			0	168			
Gray Shale			168	202			
Sand			202	260			
Slate			260	290			Very small show gas 1328'
Sand			290	315			
Slate			315	326			Show gas 1550'
Coal			326	329			
Slate			329	460			Gas 1460' 80/10 W 1" 58 M
Sand			460	540			
Slate & Shells			540	820			Gas 1490' 80/10 W 1" 94 M
Salt Sand			820	1150			Gas 1981' 100/10 W 1" 105 M
Slate			1150	1160			Gas 1986' 88/10 W 2" 260 M
Lime Shells			1160	1169			
Sand			1169	1198			Gas 1986'
Pencil Cave			1198	1201			
Big Lime			1201	1362			Test before shot 24/10 W 2" 207 M
Injun Sand			1362	1500			Shot 9-15-58 with 90 qts. SNG from
Slate & Shells			1500	1960			1976-1991' tamp shot
Coffee Shale			1960	1975			Test after tubed (7 days) 7/10 W 2" 112
Berea			1975	2003			M - Injun - 24/10 W 2" 207 M - Berea
Slate & Shells			2003	2035			
Total Depth			2035'				

Shut in 9-22-58 in 3 1/2" tubing.

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Well Header		
Well Name TCO FEE 87	API/UWI 4709901116	Property Number 808714

Original Hole, 10/21/2019 8:17:03 AM
Vertical schematic (actual)

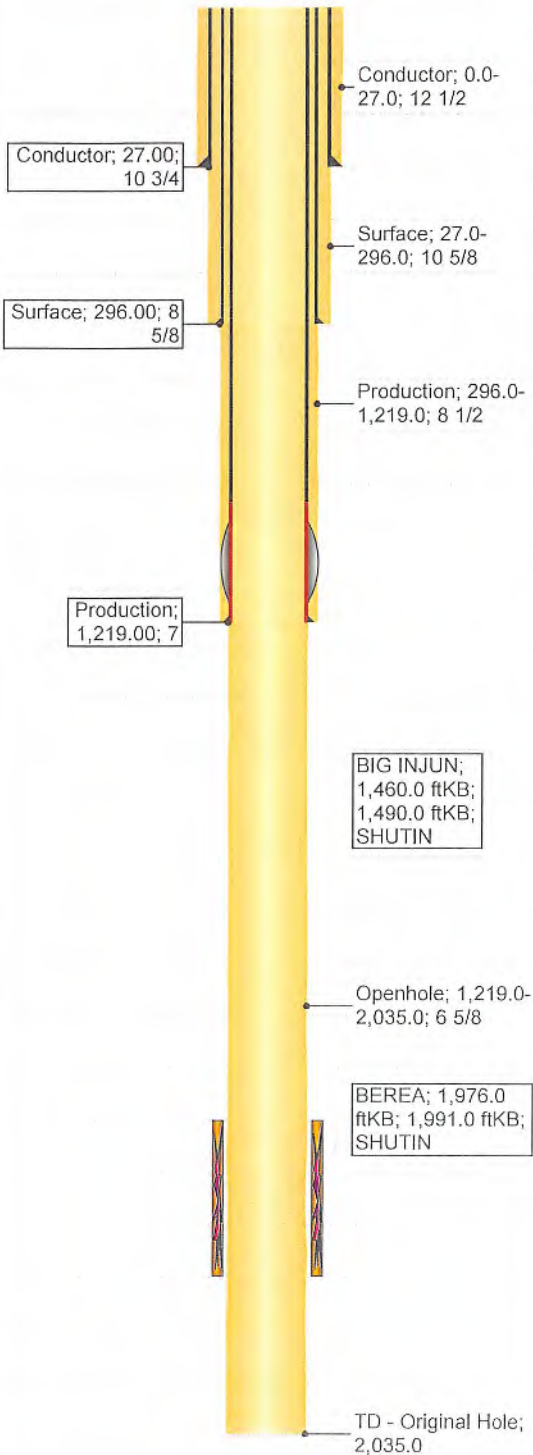
Casing Strings					
Csg Des	OD (in)	WVLen (lb/ft)	Grade	Top Thread	Set Depth (ftKB)
Conductor	10 3/4	32.00			27.0
Surface	8 5/8	24.00			296.0
Production	7	20.00			1,219.0

Cement Stages				
Description	Type	String	Top (ftKB)	Pump Start Date

Zones				
Zone Name	Top (ftKB)	Btm (ftKB)	First Production Date	Abandon Date
BIG INJUN	1,460.0	1,490.0	11/3/1958	
BEREA	1,976.0	1,991.0	11/3/1958	

Perforations				
Date	Top Depth (ftKB)	Bottom Depth (ftKB)	Linked Zone	Current Status

Stimulation Intervals					
Zone Name	Current Status	Type	Start Date	Top (ftKB)	Btm (ftKB)
BEREA	SHUTIN	Nitro / Gelatin	9/15/1958	1,976.0	1,991.0



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FEB 25 2020
WV Department of
Environmental Protection

47-099-0116P

WW-4A
Revised 6-07

1) Date: February 10, 2020
2) Operator's Well Number 808714

3) API Well No.: 47 - 099 - 01116

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

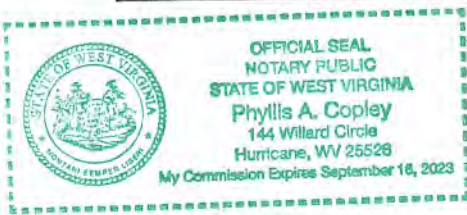
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Donald and Connle Ross</u>	Name <u>None</u>
Address <u>171 Blg Sandy River Road</u>	Address _____
<u>Fort Gay, WV 25514</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Southern Regional Industrial, Inc.</u>
_____	Address <u>Three Commercial Place</u>
_____	<u>Norfolk, Virginia 25310</u>
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Jeffery L. Smith</u>	(c) Coal Lessee with Declaration
Address <u>5349 Karen Circle, Apartment #2101</u>	Name <u>None</u>
<u>Cross Lanes, WV 25313</u>	Address _____
Telephone <u>681-313-6743</u>	_____

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
 Its: Manager - Environmental, Health, Safety
 Address: P.O. Box 6070
Charleston, WV 25362
 Telephone: 304-353-5240

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FEB 25 2020

Subscribed and sworn before me this 21st day of February 2020
Phyllis A. Copley Notary Public
My Commission Expires September 16, 2023

WV Department of Environmental Protection

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.

WW-9
(5/16)

API Number 47 - 099-01116
Operator's Well No. 808714

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) Left Fork of Hurricane Creek (0507020404) Quadrangle Prichard

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 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 _____)

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 - Environmental, Health, Safety



Subscribed and sworn before me this 21st day of February, 2020

Phyllis A. Copley Notary Public

My commission expires September 16, 2023

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↑ +/-

Proposed Revegetation Treatment: Acres Disturbed _____ 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: Jeffrey Smith

Comments: All sediment control to be removed prior to release.

Title: O.I. + Gas Inspector Date: 3-13-20

Field Reviewed? () Yes () No

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
GROUNDWATER PROTECTION PLANOperator Name: Core Appalachia Operating LLCWatershed (HUC 10): Left Fk of Hurricane Creek (0507020404) Quad: PrichardFarm Name: United Fuel Gas Co. (TCO Fee #87)

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

Treatment of the fluid will include adjusting pH and precipitating out solids as needed. Fluid will be discharged in a manor to eliminate sediment runoff.

The potential contaminates are class A cement, bentonite gel, and produced fluids. These contaminates are circulated to surface during plugging operations.

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

The contaminants are circulated to surface and drainage controlled into a line pit. The cement and gel are allowed to settle out in the pit. The produced fluids will then be tested and if treatable treated and ground applied. Otherwise the produced fluids will be hauled to a commercial injection well.

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

Closest body of water is Left Fork Hurricane Creek (790'). ~~The discharge area is within 50' of the wellhead protection area.~~

NEAREST WELL HEAD PROTECTION AREA IS 10 MILES TO EAST,
IT IS EAST LYNN LAKE.

4. Summarize all activities at your facility that are already regulated for groundwater protection.

There are no activities at this facility regulated for groundwater protection. The facility is a non producing gas well without a tank.

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5 2020

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

There is no existing ground water quality data at this site or adjacent properties

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

No waste material will be used for deicing or fill material on this property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

DGOC supervision will manage testing and contract employees on site. DGOC supervision will ensure testing is within all required parameters prior to discharging and utilize silt fencing as needed to eliminate erosion.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

A job safety analysis will be completed each day on site to discuss the procedures, safety, and inspect all GPP elements and equipment.

Signature: *[Signature]*

Date: 2-10-2020

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WV Department of
Environmental Protection

47-099-01116P








Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

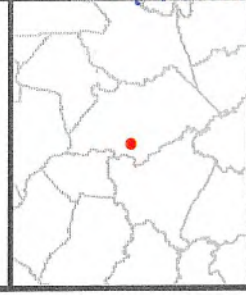
808714

Plugging Map

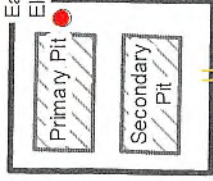
Legend

-  Well
-  Access Road
-  Pits
-  Pad
-  Public Roads

PITS LESS
THAN 8' DEEP



Well No.: 808714
UTM83-17 Meters
North: 364689.24
East: 4226935.29
Elev.: 250.01










Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

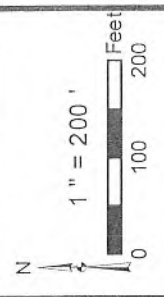
808714

Plugging Map

Legend

-  Well
-  Access Road
-  Pits
-  Pad
-  Public Roads

47-099-01116P
PITS LESS
THAN 8' DEEP



Well No.: 808714
UTM83-17 Meters
North: 364689.24
East: 4226935.29
Elev.: 250.01



BIG HURRICANE CREEK

LEFT FROM BIG HURRICANE RD

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

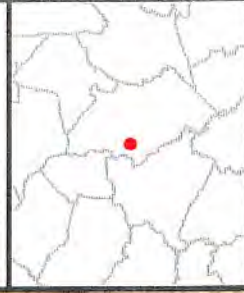
808714

Plugging Map

Legend

- Well
- Access Road
- Pits
- Pad
- Public Roads

47-099-01116P
Pits < 8'
DEEP



1" = 200'
0 100 200 Feet

Well No.: 808714
UTM83-17 Meters
North: 364689.24
East: 4226935.29
Elev.: 250.01



BIG HURRICANE CREEK



Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

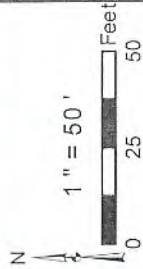
808714

Plugging Map

Legend

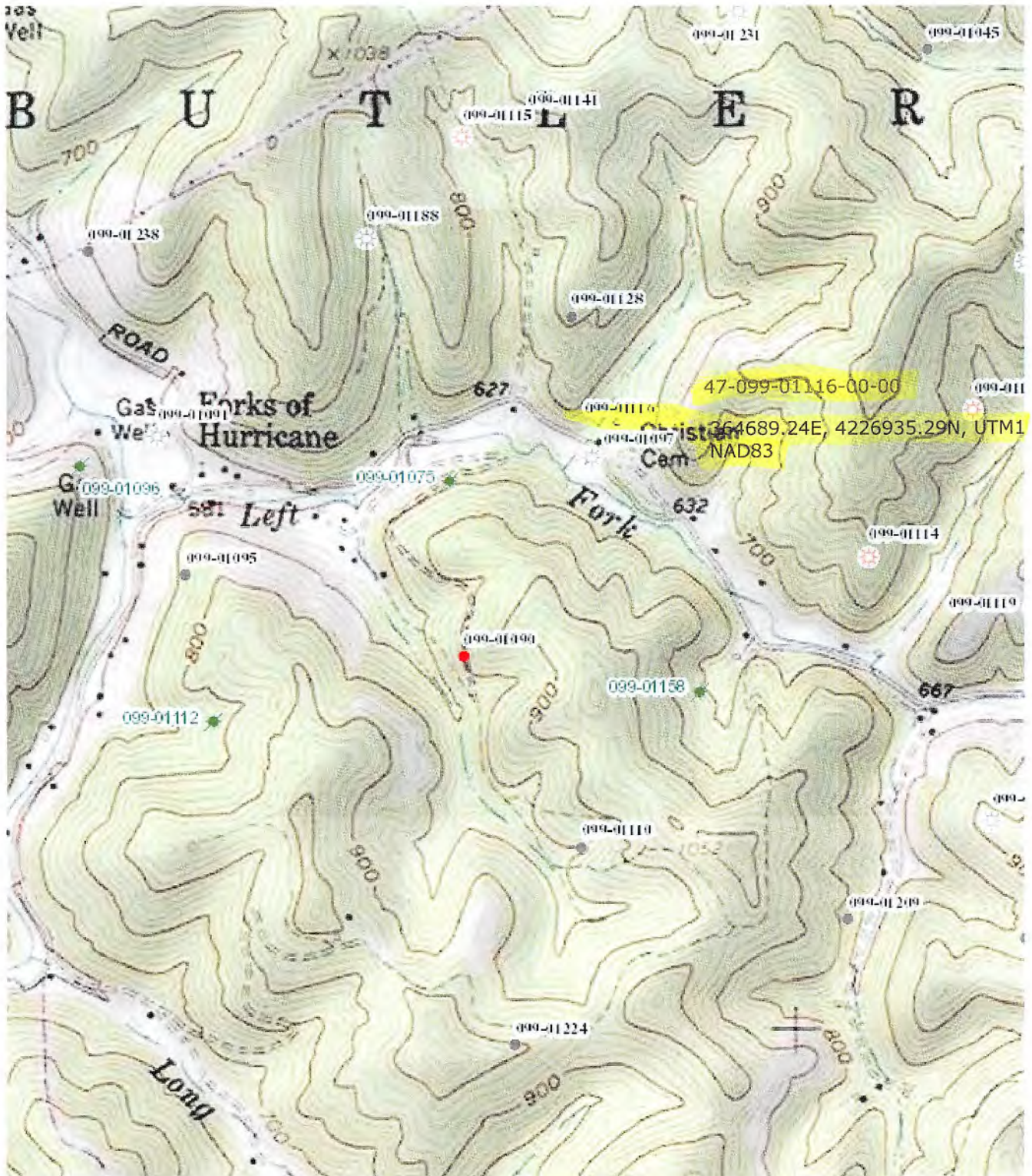
- Well
- Access Road
- Pits
- Pad
- Public Roads

47-099-01116P
Pits < 8'
DEEP



Well No.: 808714
UTM83-17, Meters
North: 364689.24
East: 4226935.29
Elev.: 250.01





47-099-01116P

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-099-01116 WELL NO.: 808714

FARM NAME: United Fuel Gas Company

RESPONSIBLE PARTY NAME: Core Appalachia Operating LLC

COUNTY: Wayne DISTRICT: Butler

QUADRANGLE: Prichard

SURFACE OWNER: Donald and Connie Ross

ROYALTY OWNER: Core Appalachia

UTM GPS NORTHING: 364,689.24 (820')

UTM GPS EASTING: 4,226,935.29 GPS ELEVATION: 250.01 m

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

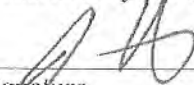
Real-Time Differential

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.


Signature

Engineer III

Title

2/7/2020

Date

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