



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

Thursday, April 23, 2020
WELL WORK PLUGGING PERMIT
Vertical Plugging

CORE APPALACHIA OPERATING LLC
101 MCQUISTON DRIVE

JACKSON CENTER, PA 16133

Re: Permit approval for 806575
47-043-00944-00-00

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

A blue ink signature of James A. Martin, Chief, is written over the text of his name and title.

Operator's Well Number: 806575
Farm Name: JOHNATHAN & CANDICE G
U.S. WELL NUMBER: 47-043-00944-00-00
Vertical Plugging
Date Issued: 4/22/2020

Promoting a healthy environment.

I

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.

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WW-4B
Rev. 2/01

1) Date February 25, 2020
2) Operator's Well No. 806575
3) API Well No. 47-043 - 00944 P

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 188.57 m Watershed Sand Creek (Guyandotte River)
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 & 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

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Office of Oil and Gas
MAR 11 2020
WV Department of
Environmental Protection

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

Work order approved by inspector JEFF SMITH Date _____
by phone
JWm

PLUGGING PROGNOSIS

806575

West Virginia, Lincoln County

API# 47-043-00944

Completed by S.T.

Updated 11/12/2019

Casing Schedule

10" csg @ 28'

8 5/8" csg @ 275'

7" csg @ 1417'

3 1/2" csg @ 3255' Hookwall Packer @ 1564'

- **Camera verified hole in 3 1/2" @ 823' in 2010. Suspect bad pipe.**

1 1/2" tbg 3230' Packer set in tension @ 1609'

1 1/2" Fluid Level 8/31/19 @ 1176'

Completion: Natural**Fresh Water:** 105'**Gas Shows:** Big Lime 1558, Big Injun 1648', Brown Shale 2413'-3255'**Coal:** 65'-69'**Elevation:** 799'

1. Notify Inspector, Jeffery Smith @ 618-313-6743, 48 hours prior to commencing operations.
2. Check and record pressures on csg.
3. Check TD w/ wireline
4. Unseat 1 1/2" packer (tension) and TOOHD LD 1 1/2" tbg
5. RIH w/ wireline and perforate 3 1/2" @ 2408', 2363', 2313', 1640', 1590', and 1555'
6. TIH w/ tbg to 2413'. Load well as needed with 6% bentonite gel. Pump 100' C1A cement plug from **2413'-2313' (Gas Show Brown Shale)**.
7. TOOHD w/ tbg to 2313'. Pump 6% bentonite **2313'-1648'**.
8. TIH w/ tbg to 1648'. Pump 100' C1A cement plug from **1648'-1548' (Injun Gas Show)**.
9. Free Point 3 1/2" csg. Cut and Pull. Set 100' C1A cement plug across csg Cut. 50' in/out of cut.
10. TIH w/ tbg to 1548'. Pump 181' C1A cement plug from **1548'- 1367' (Big Lime Gas Show and 7" csg st.)**
11. TOOHD w/ tbg to 1367'. Pump 6% bentonite gel from **1367'-799'**. TOOHD LD tbg
12. 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
13. TIH w/ tbg to 799'. Pump 100' C1A cement plug from **799'-699' (Elevation)**.
14. TOOHD w/ tbg to 699'. Pump 6% bentonite gel from **699'-325'**.
15. TOOHD w/ tbg to 325'. Pump 100' C1A cement plug from **325'-225' (8 5/8" csg st)**.
16. TOOHD w/ tbg to 225'. Pump 6% bentonite gel from **225'-155'**. TOOHD LD tbg
17. Free Point 8 5/8" csg. Cut and TOOHD. Set 100' C1A cement plug across csg Cut. 50' in/out of cut. Do not omit any plugs listed below. Perforate as needed.
18. TIH w/ tbg to 155'. Pump 125' C1A cement plug from **155'-surface (Coal and Fresh Water)**.
19. Erect monument with API#, date plugged, and company name.
20. Reclaim location and road to WV-DEP specifications.

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STATE OF WEST VIRGINIA DEPARTMENT OF MINES OIL AND GAS DIVISION

Well 806575 API 47-043-00944P page 1 of 2

Midkiff

WELL RECORD

Permit No. LTM-944 Company United Fuel Gas Co. Address P. O. Box 1273, Charleston 25, W. Va. Farm Gracie Shelton Acres 105 Location (waters) Sand Creek Well No. P.I. 6575 Elev. 798.98' District Harts Creek County Lincoln

Table with 8 columns: Formation, Color, Hard or Soft, Top, Bottom, Oil, Gas or Water, Depth Found, Remarks. Rows include Soil, Sand, Coal, Slate, Sand, etc., down to Total Depth 3255'.



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Well 806575
 API 47-043-00944 P
 page 2 of 2

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
					Gas	2545'	24/10 W 2" 207'
					Gas	2766'	26/10 W 2" 215'
					Gas	2840'	28/10 W 2" 223'
					Gas	2962'	30/10 W 2" 231'
					Gas	2990'	33/10 W 2" 242'
					Gas	3040'	35/10 W 2" 249'
					Gas	3162'	41/10 W 2" 270'
					Gas	3179'	43/10 W 2" 277'
					Gas	3240'	55/10 W 2" 313'
					Gas	3255'	170/10W 3", 4,563 M
					NOT SHOT		
					FINAL OPEN FLOW - 4,563 M - Injun, Sl. & Shs. & Br. Shale		
					48 Hrs. R.P. 410#		

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Date December 7, 19 50

APPROVED United Fuel Gas Co. Owner

By *[Signature]*
 Chief Engineer (Title) R.

WW-4A
Revised 6-07

1) Date: February 25, 2020

2) Operator's Well Number
806575

3) API Well No.: 47 - 043 - 00944

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

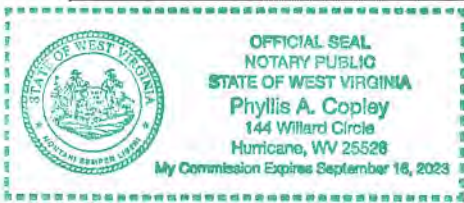
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Jonathan and Candice Gore</u>	Name _____
Address <u>153 Ridgeview Way</u>	Address _____
<u>Alum Creek, West Virginia 25003</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Southern Region Industrial, Inc.</u>
	Address <u>Three Commercial Drive</u>
	<u>Norfolk, Virginia 23510</u>
(c) Name _____	Name <u>Pocahontas Land Corporation</u>
Address _____	Address <u>P.O. Box 1517</u>
	<u>Bluefield, WV 24701</u>
6) Inspector <u>Jeffery L. Smith</u>	(c) Coal Lessee with Declaration
Address <u>5349 Karen Circle, Apartment #2101</u>	Name _____
<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: JG Jessica Greathouse
 Its: Manager - Environmental, Health, Safety
 Address P.O. Box 6070
Charleston, WV 25362
 Telephone 304-353-5240

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WV Department of
Environmental Protection

Subscribed and sworn before me this 9th day of March 2020
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.

WW-9
(5/16)

API Number 47 - 043-00944
Operator's Well No. 806575

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) Sand Creek (050701020105) Guyandotte River 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 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) _____

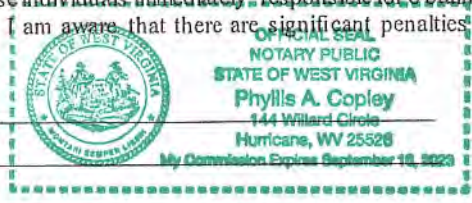
-Landfill or offsite name/permit number? _____

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 9th day of March, 20 20

Phyllis A. Copley Notary Public

My commission expires September 16, 2023

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1 +/-

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: _____

Comments: _____

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 Environmental Protection

Title: _____ Date: _____

Field Reviewed? () Yes () No

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
GROUNDWATER PROTECTION PLAN

Operator Name: Core Appalachia Operating LLC

Watershed (HUC 10): Sand Creek HUC ID # 050701020105 (Guyandotte River) Quad: Big Creek

Farm Name: Gracie Shelton

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 Sand Creek (470'). The discharge area is within 5.9 miles of the wellhead protection area.

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.

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.

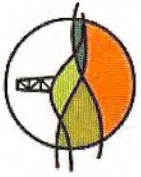
DGOC supervision will manage testing and contract employees on site. DGOC supervision will ensure testing is within all required parameters prior to discharging and utilize silt fencing as needed to eliminate erosion.

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: DA

Date: 4-13-2020



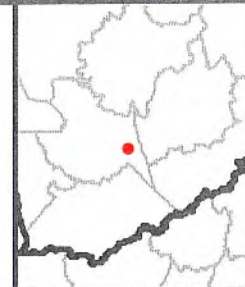
Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

806575

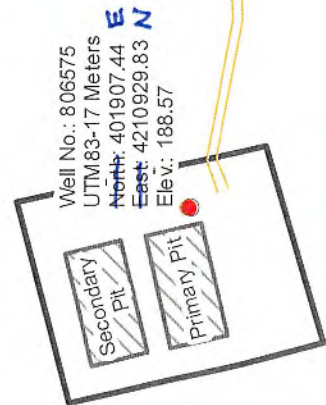
Plugging Map

Legend

- Well
- ⊗ Sediment Control
- Access Road
- ▨ Pits
- ▭ Pad



1" = 50'



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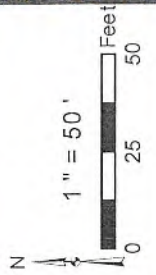
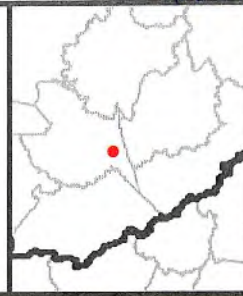
Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

806575

Plugging Map

Legend

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



Well No.: 806575
 UTM83-17, Meters
 North: 401907.44
 East: 4210929.83
 Elev.: 188.57

Secondary Pit
 Primary Pit

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



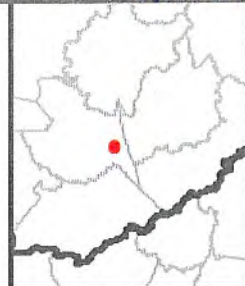
Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

806575

Plugging Map

Legend

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



1" = 100'



SAND CRK
SAND CRK

SAND CRK



Well No.: 806575
UTM83-17 Meters
North: 401907.44
East: 4210929.83
Elev: 188.57

EN

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

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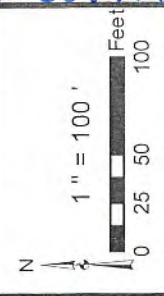
Diversified Gas & Oil Corporation
100 Diversified Way
Pheville KY, 41051

806575

Plugging Map

Legend

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



SAND CRK

SAND CRK

Secondary Pit
Primary Pit

Well No.: 806575
 UTM83: 17, Meters
 North: 401907.44
 East: 4210929.83
 Elev.: 188.57

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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

806575

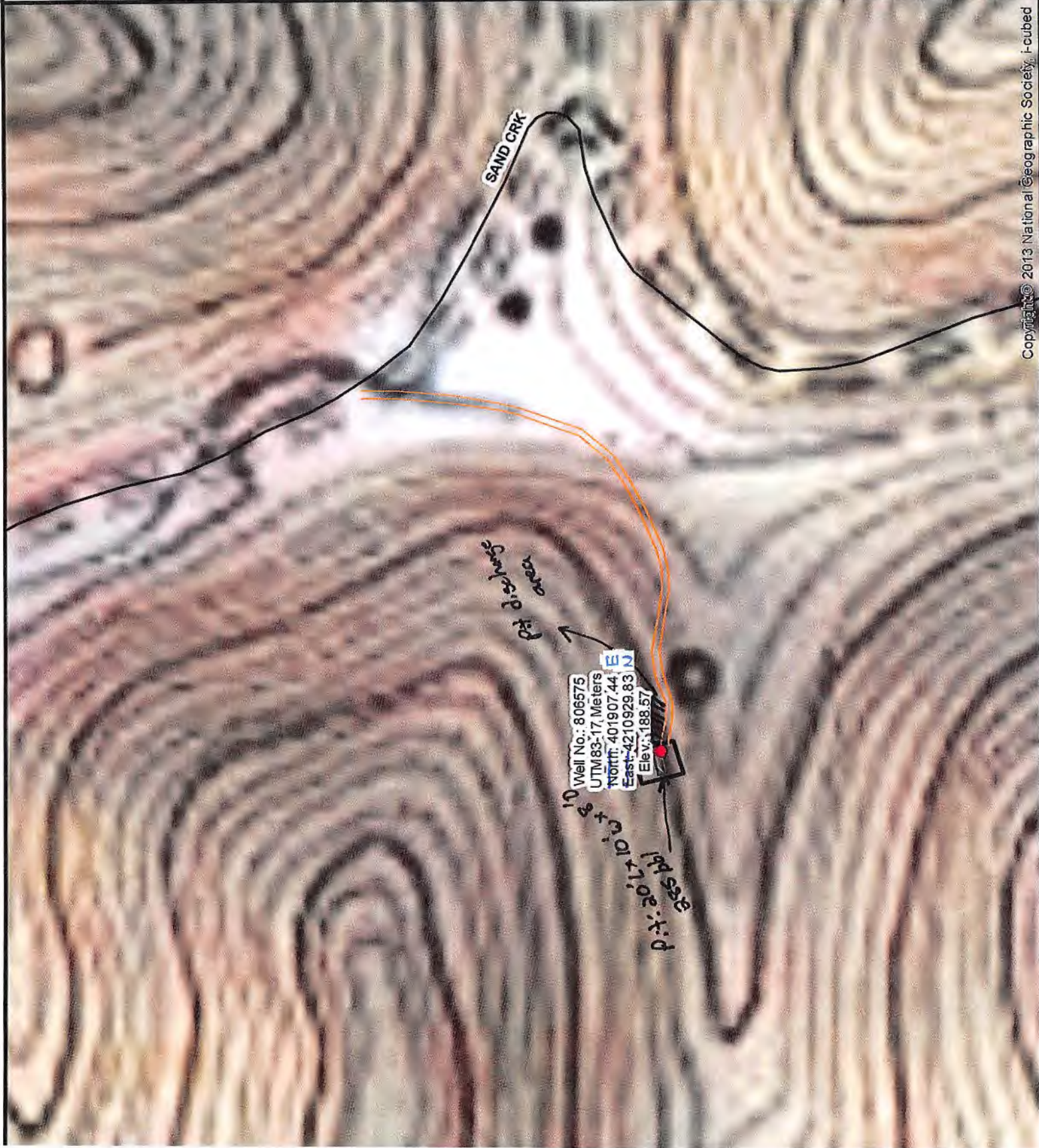
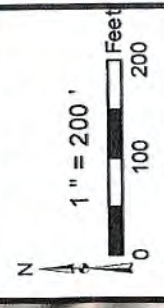
Plugging Map

API # 47-043-00944

Legend

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

Nearest wellhead
protection area
5.91 miles



WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-043-00944 WELL NO.: 806575

FARM NAME: Gracie Shelton

RESPONSIBLE PARTY NAME: Core Appalachia Operating LLC

COUNTY: Lincoln DISTRICT: Harts Creek

QUADRANGLE: Big Creek

SURFACE OWNER: Johnathan & Candice Gore

ROYALTY OWNER: Core Appalachia Operating LLC & Amcox Oil & Gas LLC

UTM GPS ^{EASTING} ~~NORTHING~~: 401,907.44

UTM GPS ^{NORTH} ~~EASTING~~: 4,210,929.83 GPS ELEVATION: 188.57 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 [Handwritten Signature]

Engineer III
Title

2-24-2020
Date

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