



 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

Monday, May 20, 2019

WELL WORK PLUGGING PERMIT
 Vertical Plugging

CORE APPALACHIA OPERATING LLC
 414 SUMMERS STREET

CHARLESTON, WV 25301

Re: Permit approval for 2
 47-099-00526-00-00

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: 2
 Farm Name: STARK, H. J.
 U.S. WELL NUMBER: 47-099-00526-00-00
 Vertical Plugging
 Date Issued: 5/20/2019

I

47-099-00526P

05/24/2019

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.

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 1154.05' Watershed Jennies Creek
District Lincoln County Wayne Quadrangle Webb

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

RECEIVED
Office of Oil and Gas

MAR 27 2019

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  Date 3-26-2019

PLUGGING PROCEDURE
806274
WAYNE COUNTY, WEST VIRGINIA
API# 47-099-00526

BY: DMC
DATE: 2/25/19

05/24/2019

Current Status

10" @ 171'
8 1/4" @ 1274'
6 5/8" @ 1580'
Shale: Shot 2820-3250'
TD @ 3250'
Salt Water @ 1055', 1390'
Gas Shows @ 1369', 1020', 1795', 2200', 3240'
Coal @ 163-166'
Elevation 1164.70'
9/18/2018 Echometer FL @ 772'

Objective: Plug and abandon

- 1) Prepare road and location.
- 2) PISA. MIRU service rig and support equipment.
- 3) Blow well down. Check TD.
- 4) Spot 100' cement plug @ TD, ~ 2800 - 2700'.
SPOT GEL TO ABOVE SHOT HOLE ≈ 2800'
- 5) TIH and tag cement plug. *ADD CEMENT IF NECESSARY.*
- 6) Spot 6% gel from 2700 - 2250'.
- 7) Spot 100' cement plug from 2250 - 2150'.
- 8) Spot 6% gel from 2150 - 1845'.
- 9) Spot 100' cement plug from 1845-1745'. *TOP OFF GEL TO ABOVE 8 1/4" CASING SEAT.*
- 10) Attempt to pull 6 5/8" csg. If unsuccessful, cut 6 5/8" at free point and pull. *100' CEMENT PLUG ACROSS CASING CUT.*
- 11) :
- 12) Spot 100' cement plug from 1630 - 1530'. *TOP OFF GEL TO ABOVE 10" CASING SEAT.*
- 13) Attempt to pull 8 1/4" csg. If unsuccessful, cut 8 1/4" at free point and pull.
- 14) :
- 15) Spot 100' cement plug from 1410 - 1310'.
SPOT 100' CEMENT PLUG FROM 1070' - 970'
- 16) :
- 17) Spot 100' cement plug *ACROSS 8 1/4" CASING CUT ≈ 850' - 750'*
TOP OFF HOLE TO SURFACE WITH GEL IF NEEDED.
- 18) :
- 19) :
- 20) Attempt to pull 10" csg. If unsuccessful, shoot or rip holes @ 160', 100'.
- ~~21) Spot 6% gel from 970 - 220'.~~
- 22) Spot 220' cement plug from 220' - Surface.
- 23) Pull work string and top off w/cement.
- 24) Erect permanent monument (30" minimum height and 6" minimum diameter pipe) with API # (1/2" height numbering) and reclaim.

RECEIVED
Office of Oil and Gas

MAR 27 2019

WV Department of
Environmental Protection

AF. 3-26-2019.

WEST VIRGINIA DEPARTMENT OF MINES
OIL & GAS DIVISION
WELL RECORD

47-099-00526P

806274

47-099-00526

Permit No. Way 526

Naugatuck Quad.

Company

Address

Farm

Location

Well No.

District

Surface

Mineral

Commenced

Completed

Date shot

Open flow

Volume

Rock Pressure

Salt Water

United Fuel Gas Co.

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

H.J. Stark Acres 156

Jimmie's Cr.

6274 Elev. 1164.70

Lincoln Wayne County

Gas Well
CASING & TUBING

10 171 171

8 1/2 1274 1274

6 5/8 1580 1580

05/24/2019

H.J. Stark, 259 B Street, Ceredo, W.Va.

4-11-48

Coal at 163' 36"

5-31-48

5-2-48 Depth 2820 to 3250

11/10ths W in 2"

140 M Shale

375 lbs. 48 hrs.

1055 H.F.W.; 1390' HFV

Surface	0	8
Sand	8	65
Slate	65	87
Sand	87	163
Coal	163	166
Slate	166	255
Sand	255	350
Slate & Shells	350	425
Sand	425	520
Slate & Shells	520	735
Sand	735	775
Slate & Shells	775	965
Salt Sand	965	1225
Slate & Shells	1225	1365
Maxon Sand	1365	1420
Slate & Shells	1420	1430
Red Rock	1430	1450
Slate & Shells	1450	1490
Red Rock	1490	1495
Slate	1495	1508
Maxon Sand	1508	1536
Little Lime	1536	1567
Pencil Cave	1567	1568
Big Lime	1568	1778
Injun Sand	1778	1805
Slate & Shells	1805	2280
Coffee Shale	2280	2300
Berea Grt	2300	2395
Brown Shale	2395	2470
Gray Shale	2470	2730
Brown Shale	2730	2820
Gray Shale	2820	2960
Brown Shale	2960	3241
White Slate	3241	3250
Total Depth	3250	SLM

Show gas 1369'

Show gas 1020'

Show gas in Injun 1795'

Show gas 2200'

Shale gas 3240 3/10 W 1" 18 M

Test B.S. 3/10 W 1" 18 M

Show 6-2-48 with 4400# EL 407-A from 2820 to 3250

Test 18 hrs. A.S. 11/10 W 2" 140

Open flow 140 M Shale

48 hr. R.P. 375#

Shut in 6-3-48 in 6 5/8" casing.

RECEIVED
Office of Oil and Gas

MAR 27 2019

WV Department of
Environmental Protection

WW-4A
Revised 6-07

1) Date: March 21, 2019
2) Operator's Well Number
806274

3) API Well No.: 47 - 47-099 - 00526

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

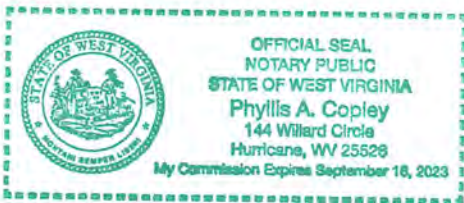
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>H. J. Stark Heirs, C/O Stephen Stark</u>	Name <u>None</u>
Address <u>966 Pinehill Estates</u> ✓	Address _____
<u>Kenova, WV 25530</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration ✓
Address _____	Name <u>H. J. Stark Heirs, C/O Stephen Stark</u>
_____	Address <u>966 Pinehill Estates</u>
_____	<u>Kenova, WV 25530</u>
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Allen Flowers</u>	(c) Coal Lessee with Declaration
Address <u>165 Grassy Lick Lane</u>	Name <u>None</u>
<u>Liberty, WV 25124</u>	Address _____
Telephone <u>304-552-8308</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: [Signature] Jessica Greathouse
 Its: Manager - EHS & Administration Services
 Address P.O. Box 6070
Charleston, WV 25362
 Telephone 304-353-5240

Subscribed and sworn before me this 22nd day of March 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.

WW-9
(5/16)

API Number 47 - 099 - 00526
Operator's Well No. 806274

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) Jennies Creek Quadrangle Webb

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.

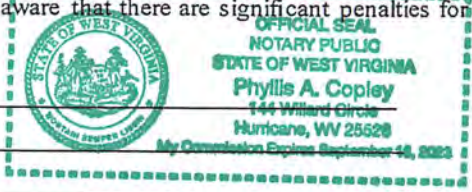
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations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

S d M r

T r r

P r

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: _____

Title: Inspector

Date: 3-26-2019

Field Reviewed? Yes

No

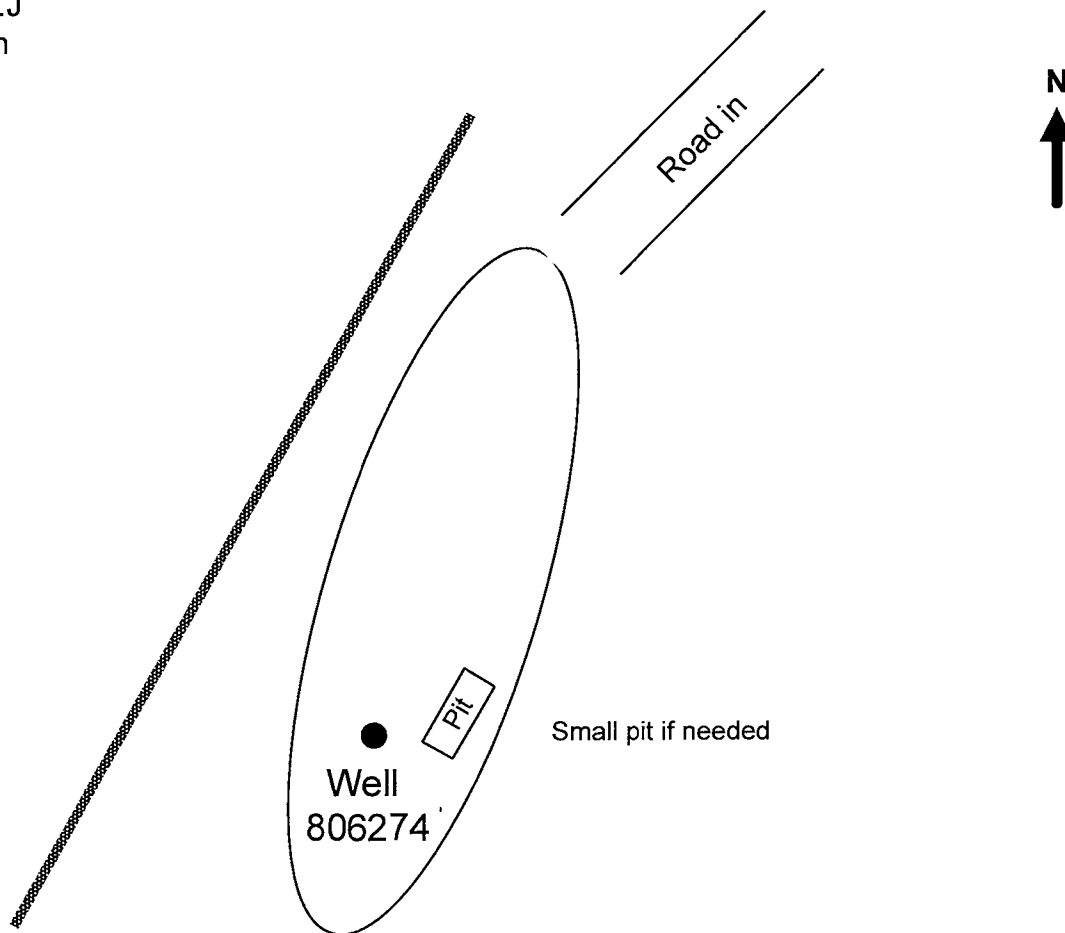
Diagram of Well 806274

API 47-099-00526

Field Office – Kermit

County - Wayne

Surface Owner: H.J
Stark c/o Stephen
Stark



Note: No Land Application if pit is used

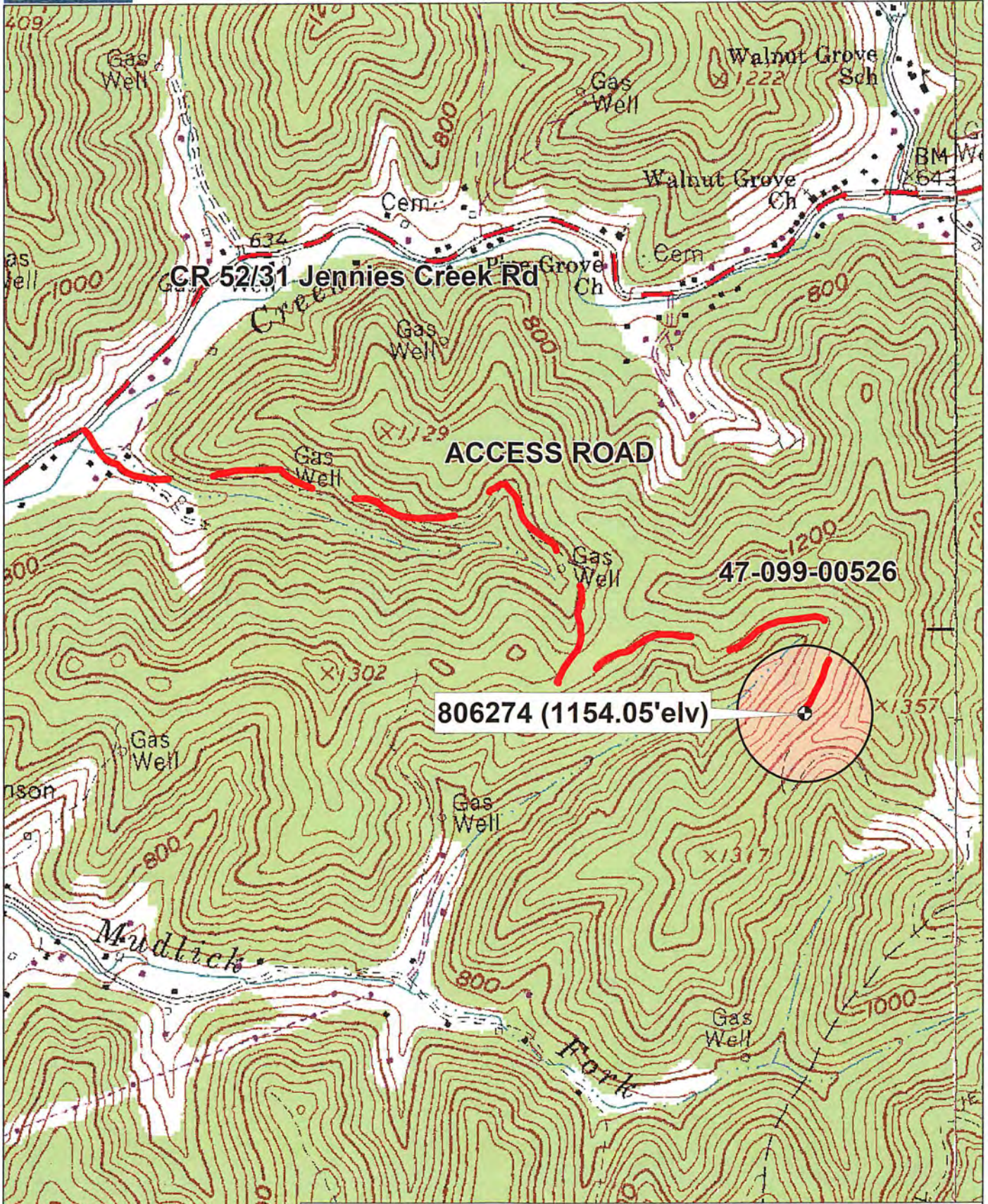
RECEIVED
Office of Oil and Gas

MAR 26 2019

WV Department of
Environmental Protection

Site Plan

DELORME



806274 (1154.05'elv)

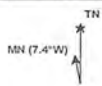
47-099-00526

WELL 806274 P&A TOPO MAP

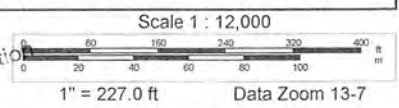
Data use subject to license.

© DeLorme. XMap® 8.

www.delorme.com



REVENUE
Office of Oil and Gas
MAR 26 2019
Tennessee Department of
Environment and Protection



WW-7
8-30-06



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

API: 47-099-00526 WELL NO.: 806274

FARM NAME: H.J Stark 2

RESPONSIBLE PARTY NAME: Core Appalachia Operating, LLC

COUNTY: Wayne DISTRICT: Lincoln

QUADRANGLE: Webb

SURFACE OWNER: H.J Stark c/o Stephen Stark

ROYALTY OWNER: H.James Stark

UTM GPS NORTHING: 4195433.22m

UTM GPS EASTING: 378782.68m GPS ELEVATION: 351.76m [1154.05' 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.

Chris Alford
Signature

EHS Specialist
Title

3/21/19
Date