



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, August 07, 2018
WELL WORK PLUGGING PERMIT
Vertical Plugging

HG ENERGY, LLC
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for 3
47-043-01736-00-00

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: 3
Farm Name: HORSE CREEK TRACT C
U.S. WELL NUMBER: 47-043-01736-00-00
Vertical Plugging
Date Issued: 8/7/2018

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 June 11, 2018
2) Operator's
Well No. Horse Creek Tract "C" # 3
3) API Well No. 47-043 - 01736

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 / Liquid injection ___ / Waste disposal ___ /
(If "Gas, Production ___ or Underground storage ___) Deep ___ / Shallow

5) Location: Elevation 956' Watershed Laurel Fork
District Duval County Lincoln Quadrangle Garrett's Bend 7.5'

6) Well Operator HG Energy, LLC 7) Designated Agent Diane White
Address 5260 Dupont Road Address 5260 Dupont Road
Parkersburg, WV 26101 Parkersburg, WV 26101

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Jeffery L. Smith Name To Be Determined Upon Approval of Permit
Address 5369 Big Tyler Road Address _____
Cross Lanes, WV 25313

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

** 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.

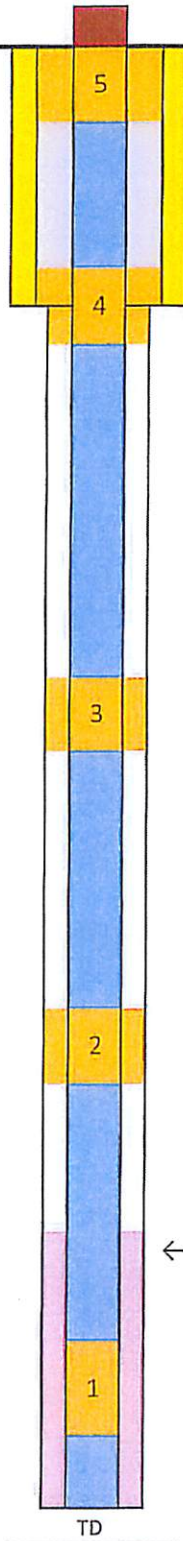
Work order approved by inspector  Date 6-21-18

Well: Horse Creek Tract C #3

Monument to extend 30" above surface. 10' into well. 6" min metal pipe, sealed with cement. API i.D.

Elevation: 956'

Casing Information		
Size	Depth	Weight
8 5/8"	346'	20#/ft.
4 1/2"	2500'	10.5#/ft.



← 255 sacks cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2"	1850

Hole Size 6.75" →

Cement Plugs		
NO.	Bottom	Top
1	2300 2400	2200 2300
2	1900	1800
3	1000	900
4	400	300
5	100	0

Bottom Hole Cement Level Calculations

Sacks Used Cement Depth
 50 2200.079

Hole Size Casing Size Depth
 6.75 4.5 2507

diameter delta Conv. Factor bbls / ft.
 25.3125 1029.4 0.02459

cubic ft. per vertical ft. depth
 0.138058122

Sacks per vertical ft. depth
 0.162908584

Yield options

- 50/50 posmix 6% gel = 1.64
- Neat w/ salt flakes = 1.19
- 50/50 w/ 2% gel = 1.27

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← 50 Sacks Cement T.O.C. 2200'

← Highest Perforation 2453'

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43-01736P

1) Date: June 11, 2018
2) Operator's Well Number
Horse Creek Tract "C" # 3
3) API Well No: 47 - 043 - 1736
State County Permit

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) WELL TYPE: A Oil Gas Liquid Injection _____ Waste Disposal _____
B (If "Gas", Production _____ Underground Storage _____ Deep _____ Shallow)

5) LOCATION: Elevation: 948' Watershed: Laurel Fork
District: Duval County: Lincoln Quadrangle: Garrett's Bend 7.5"

6) WELL OPERATOR: HG Energy LLC 308122 Address 5260 Dupont Road
Parkersburg, WV 26101
7) DESIGNATED AGENT Diane White
Address 5260 Dupont Road
Parkersburg, WV 26101

8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Jeffery L. Smith
Address 5369 Big Tyler Road
Cross Lanes, WV 25313
9) PLUGGING CONTRACTOR Name To Be Determined Upon Approval of Permit
Address _____

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

TD - 2,507'
Manners of Plugging:
Plug #1 - 2400' - 2300'
Located above the highest perforation
Free-point, part and pull 4 1/2" casing at approx 1850'
Plug #2 - Approx 1900' - 1800'
Located at 4 1/2" casing stub
Plug #3 - 1000' - 900'
Located at elevation
Plug #4 - 400' - 300'
Located at 8 5/8" casing shoe, fresh water
Plug #5 - 100' - 0'
Surface

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Erect Monument with API #, 1/2" height numbering
Cement Plugs are Class A, Regular Neat Cement
Cement tops will be tagged
6% Gel between all cement plugs.
Recover all possible casing. If casing can not be recovered, perforate for plug placement
Monument - 6" minimum diameter metal pipe, 30" above surface

OFFICE USE ONLY
PLUGGING PERMIT

Permit Number _____ Date 19 _____

This permit covering the well operator and the well location shown below is evidence of permission granted to plug in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector 24 hours before actual work has commenced.

The permitted work is as described in the Notice and Application, plat, subject to any modifications and conditions on the reverse hereof.

Permit expires _____ unless plugging is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing:	WPCP	Other
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Chief, Office of Oil & Gas

NOTE: Keep one copy of this permit posted at the plugging location.

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Office of Oil and Gas
WV Dept. of Environmental Protection

PENNZOIL COMPANY
Well Completion Report

Lease: HORSE CREEK TRACT "C" Well No. 3 New Well X Old Well

District: Duval County: Lincoln State: West Virginia

Pool Name: Griffithsville Northeast Pool No. 57 Elevation 956.82' KB: XX

Producing Formation: Berea Depth: From 2444' to 2466'

Date Drilled In: November 1, 1976 Pays: Oil: From 2444' to 2466'
From to

Original Total Depth: 2507'

Plug Back Depth: 2484' Gas: From 2444' to 2466'
From to

Production	Initial	Present	After Fracture
Oil	<u> </u>	<u> </u>	<u> </u>
Gas	<u> </u>	<u> </u>	<u> </u>

Surface Csg. set @ 8-5/8" 354' KB: XX Gr. H-40 New:Used Wt. 20# Collars ST&C

Cement Req. Heat Amount 255 Sacks Plug Down @ 5:45 AM: XX Date 10/29/76

Production Csg. set @ 4-1/2" 2507' KB: XX Gr. ERW New:Used Wt. 10.50# Collars ST&C

Cement 50/50 Posmix Amount 50 Sacks Plug Down @ 2:15 AM: XX Date 11/2/76

Logged by: Basin Surveys Date: November 1, 1976

Logs Used: Gamma Ray-Comp. Density-Caliper

Perforated by: McCullough Date: November 20, 1976

Perforations: 2453'-2485' - 4 holes/ft. - 20 holes

Treatment Data

Fluid Lease	Sand	Acid	Solvent	Gel	Breaking Agent	Fluid Loss	F.R. Agent	N.E. Agent
Type <u>Crude</u>	<u>20/40</u>	<u>15% HCl</u>	<u>Parathin</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>15-M</u>
Amount <u>574</u>	<u>26,000</u>	<u>500</u>	<u>55</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>2</u>
Breakdown Pressure: <u>2500</u>	Treating Pressure: Max. <u>3000</u> Min. <u>2400</u>		Avg. <u>2600</u>					
Avg. Inj. Rate <u>31.0</u> BPM	ISIP <u>1300</u>		@ <u>12:25</u> XX PM		5 min. SIP <u>1125</u>			
10 min. SIP <u>1000</u>	15 min. SIP <u>900</u>		Other <u> </u>					

EQUIPMENT USED

Service Company: Halliburton HHP 1975

By: Jeffrey M. Beardmore Date Fractured: 11/20/76

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WW-4A
Revised 6-07

1) Date: June 11, 2018
2) Operator's Well Number
Horse Creek Tract "C" # 3
3) API Well No.: 47 - 043 - 01736

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>Keith E. Tyler, Sr.</u>	Name <u>NA</u>
Address <u>P. O. Box 172</u>	Address _____
<u>Culloden, WV 25510</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>NA</u>
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Jeffery L. Smith</u>	(c) Coal Lessee with Declaration
Address <u>5369 Big Tyler Road</u>	Name <u>NA</u>
<u>Cross Lanes, WV 25313</u>	Address _____
Telephone <u>681-313-6743</u>	_____

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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	<u>HG Energy, LLC</u>
By	<u>Diane White</u> <i>Diane White</i>
Agent	_____
Address	<u>5260 Dupont Road</u>
	<u>Parkersburg, WV 26101</u>
Telephone	<u>304-420-1119</u>

Subscribed and sworn before me this 11th day of June 2018
Jeanine M. Gauthier Notary Public
My Commission Expires Aug 30 2022

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.

WW-9
(5/16)

API Number 47 - 043 - 01736
Operator's Well No. _____

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

Operator Name HG Energy, LLC OP Code 49449748

Watershed (HUC 10) Laurel Fork Quadrangle Garrett's Bend 7.5'

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: No fluids are anticipated with plugging the well, if there are any, they'll be disposed of off site

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

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 well effluent will be contained and taken to off site disposal)

Will closed loop system be used? If so, describe: No

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

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

Additives to be used in drilling medium? NA

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

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

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-Landfill or offsite name/permit number? NA

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.

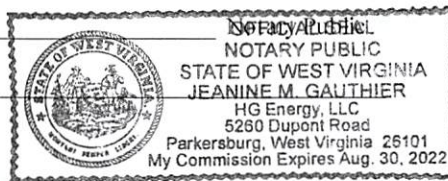
Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 11th day of June, 20 18

Jeanine M Gauthier
My commission expires Aug 30 2022



Proposed Revegetation Treatment: Acres Disturbed 1.1 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Straw 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

****Sediment Control Will Be In Place At All Times****

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.

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Title: Oil & Gas Inspector Date: 6-21-18

Field Reviewed? Yes No

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

Operator Name: HG Energy, LLC
Watershed (HUC 10): Laurel Fork Quad: Garrett's Bend 7.5'
Farm Name: _____

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

NA

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

NA

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

NA

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

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NA

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

NA

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

NA

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.

NA

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

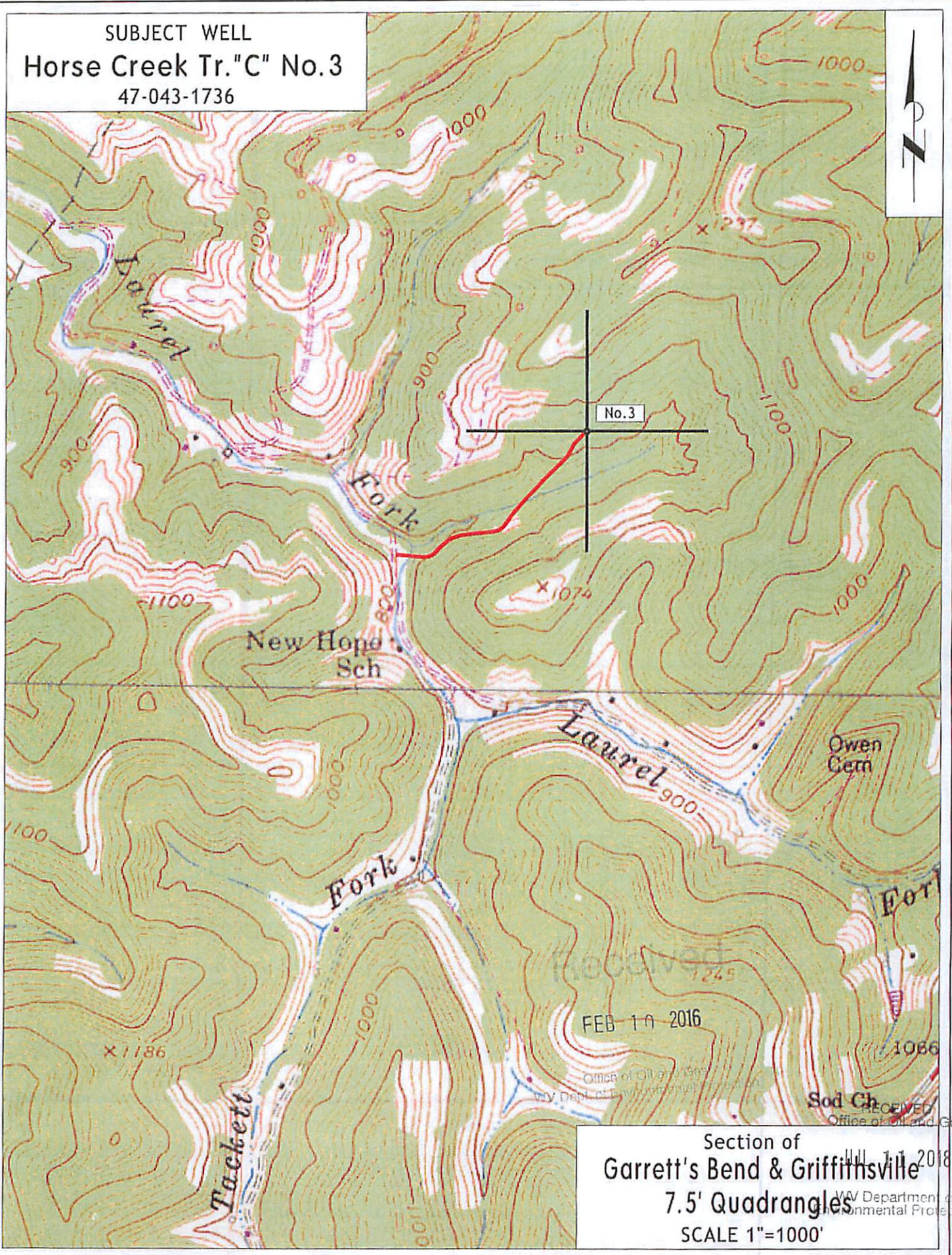
NA

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Signature: Diane White

Date: 6-11-18

SUBJECT WELL
Horse Creek Tr. "C" No.3
47-043-1736



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WV Dept. of Environmental Protection

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Section of
Garrett's Bend & Griffithsville
7.5' Quadrangles
SCALE 1"=1000'

JUL 11 2018

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Environmental Protection

WW-7
8-30-06



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

API: 47-043-01736 WELL NO.: 3

FARM NAME: Horse Creek Tr. "C" No. 3

RESPONSIBLE PARTY NAME: HG Energy, LLC

COUNTY: Lincoln DISTRICT: DUVAL

QUADRANGLE: GARRETT'S BENA

SURFACE OWNER: Keith E. Tyler Sr.

ROYALTY OWNER: HG Energy, LLC et al

UTM GPS NORTHING: 4234602 (NAD 83)

UTM GPS EASTING: 421373 GPS ELEVATION: 289 m (948')

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.

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WV Department of
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Diane White
Signature

Agent
Title

6/11/18
Date