



west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

May 09, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4301690, issued to HG ENERGY, LLC, 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 all 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. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.


James Martin
Chief

Operator's Well No: 2
Farm Name: WOODRUM-DANIELS UNIT
API Well Number: 47-4301690
Permit Type: Plugging
Date Issued: 05/09/2016

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.

WW-4B
Rev. 2/01

1) Date February 12, 2016
2) Operator's
Well No. Woodrum Daniels 2
3) API Well No. 47-043 - 1690

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

5) Location: Elevation 858' Watershed Hayzlett 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 Jeremy James Name To Be Determined Upon Approval of Permit
Address PO Box 36 Address _____
Clendenin, WV 25045

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

APR 18 2016

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 [Signature] Date 3-1-16

CK#
3262
9/10/09

43016907

- 1) Date: February 12, 2016
- 2) Operator's Well Number Woodrum Daniels 2
- 3) API Well No: 47 - 043 - 1690
State County Permit

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 x Gas x Liquid Injection _____ Waste Disposal _____
(If "Gas", Production _____ Underground Storage _____) Deep _____ Shallow x
- 5) LOCATION: Elevation: 858' Watershed: Hayzlett Fork
District: Duval County: Lincoln Quadrangle Garrett's Bend 7.5' -358
- 6) WELL OPERATOR: HG Energy, LLC 494497948 7) DESIGNATED AGENT Diane White
Address 5260 Dupont Road Address 5260 Dupont Road
Parkersburg, WV 26101 Parkersburg, WV 26101
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) PLUGGING CONTRACTOR
Name Jeremy James Name To Be Determined Upon Approval of Permit
Address P. O. Box 36 Address _____
Clendenin, WV 25045

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

TD- 2,427'

Manners of plugging;

Plug #1 - 2300' - 2200'

Located above the highest perforation

Check for free-point at top of Big Lime (1681'), If pipe is free, part and pull. If pipe is not free, perforate for placement of plug #2.

Plug # 2 - Approx. 1730' - 1630'

Located at top of Big Lime - 4 1/2" casing stub

Plug #3 - 900' - 800'

Located at elevation, if pipe was not free at 1681', part and pull at elevation (858') below 858'

If pipe isn't free at elevation, perforate for placement of plug #3, find first available free-point above elevation to part and pull. Set additional plug at 4 1/2" casing stub.

Plug #4 - 300' - 0'

Located at freshwater, 8 5/8" casing stub - to surface

Recover all possible casing. If casing can not be recovered, perforate for plug placement.

Monument -

6" minimum diameter metal pipe

30" above surface

10' in well below surface

Sealed with cement

API identification (1/2") height numbering

6% Gel between all plugs

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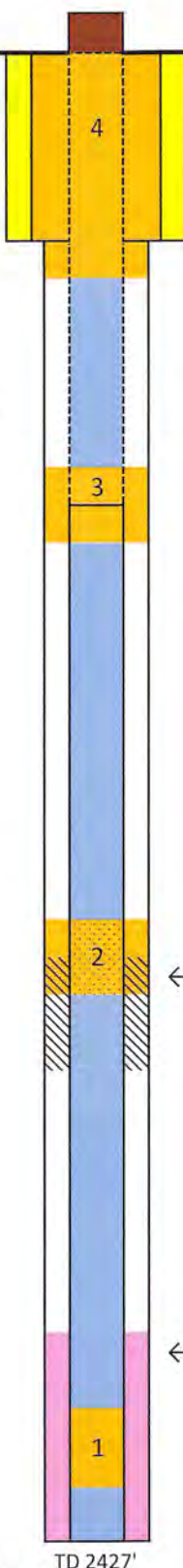
APR 28 2016

WV Department of
Environmental Protection

Well: Woodrum Daniels #2
 API: 47-43-1690
 Elevation: 858'

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

Casing Information		
Size	Depth	Weight
8 5/8"	260'	20#/ft.
4 1/2"	2428'	10.5#/ft.



← 170 sacks cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2"	1681' or 852'

Hole Size 6.75" →

Cement Plugs		
NO.	Bottom	Top
1	2300	2200
2	1730	1630
3	900	800
4	300	0

Bottom Hole Cement Level Calculations

Sacks Used Cement Depth
 50 2206.167

Hole Size Casing Size Depth
 6.75 4.5 2427

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
 0.226415321

Yield options

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

← Big Lime 1681' - 1847'

← 50 Sacks Cement T.O.C. 2206'

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APR 18 2016

← Highest Perforation 2374'

Department of
 Environmental Protection

TD 2427'

PENNZOIL COMPANY

NEW WELL REPORT

LEASE No. 46482-00 ACRES _____ WORKING DISTRICT Southern Area
Woodrum-Daniels FARM Map 124-W
Duval DISTRICT OR TOWNSHIP Lincoln COUNTY St. Albans QUAD. _____
 LOCATION MADE July 21, 19 76 DRILLING COMMENCED August 3, 19 76
 DRILLING EQUIPMENT USED SPUDDER ROTARY DRILLING COMPLETED August 8, 19 76
 DRILLING EQUIPMENT FURNISHED BY FWA Drilling Company TOTAL DEPTH 2427 SAND Berea
 ELEVATION: FLOOR 866.26 DRILLING CONTRACTOR FWA Drilling Company
 ELEVATION: GROUND 858.26 WORK ORDER No. 70-26815

FORMATION RECORD

KIND	TOP	BOTTOM	STEEL LINE MEAS.	TEST	KIND	TOP	BOTTOM	STEEL LINE MEAS.	TEST
Substructure	0	8							
Rock	8	260							
Shale	260	1015							
Salt Sand	1015	1560							
Shale	1560	1606							
Salt Sand	1606	1640							
Little Lime	1640	1676							
Pencil Cave	1676	1681							
Big Lime	1681	1847							
McCrary Shale	1847	1887							
Big Injun	1887	1942							
Shale	1942	2016							
Sand	2016	2075							
Shale	2075	2346							
Coffee Shale	2346	2364							
Berea	2364	2386							
Shale	2386	2427							
Total Depth		2427							
Logged by Basin Surveys		8-8-76 to 2431							
P.B.D.		2402							

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NEW WELL REPORT - CONTINUED

INITIAL TORPEDO RECORD		CASING AND TUBING RECORD					
Date of Shot	SIZE	PUT IN WELL			PULLED OUT		
		TRANSFER NO.	FEET	INCH	TRANSFER NO.	FEET	INCH
Name of Torpedo Co.	8-5/8"		254	97			
No. of Quarts	4-1/2"		2426	90			
Length of Shell							
Diameter of Shell							
Length of Anchor							
Top of Shot							
Bottom of Shot							
Feet of Fluid in Hole When Shot							
Results:							

INITIAL PRODUCTION FIRST 24 HOURS		PACKER RECORD			
		KIND	SIZE	DEPTH SET	DATE SET
Open Flow /10ths Water in.....Inch		Steel Shoe	8-5/8"	260 RKB	8-4-76
..... /10ths Merc. in.....Inch		Guide Shoe	4-1/2"	2428 RKB	8-8-76
Volume.....Cu. Ft.					
Rock Pressure.....lbs.hrs.					
Oil.....bbls., First 24 hrs.					

ACIDIZATION OR FRACTURING RECORD

DATE WELL ACIDIZED _____

DATE WELL FRACTURED _____

NAME OF COMPANY _____

(List below materials used in Acidizing or Fracturing, i.e., Sand, Crude Oil, Gasoline, Water, Kerosene, Mothballs, Acid, etc., giving gallons, barrels and pounds.)

563 Bbls. Crude Oil

24,139 Lbs. 20/40 Sand

750 Gal. 15% HCl

BREAKDOWN PRESSURE 2200

PUMPING PRESSURE Max. 3200 Min. 2600

AVERAGE PUMPING RATE/MINUTE 36.5 BPM

PUMPING TIME _____

RESULT AFTER TREATMENT } GAS _____ CU. FT.

 } OIL _____ BBLS.

ROCK PRESSURE AFTER TREATMENT _____ LBS.

CASING CEMENTED

8-5/8" 260 RKB 8-4-76 DATE

SIZE FT.

BAGS USED 170 sks. Neat Cement 2% CC

4-1/2" 2428 RKB 8-8-76 DATE

SIZE FT.

BAGS USED 50 sks 50/50 Pozmix 2% CC

1/8 Floseal, 500 Gal Mud Flush

SIZE FT. DATE

BAGS USED _____

SIZE FT. DATE

BAGS USED _____

TOP DEPTH OF CEMENT SHOWN BY TEMPERATURE LOG _____

REMARKS:

APPROVED _____

SUPERINTENDENT

WW-4A
Revised 6-07

1) Date: February 12, 2016
2) Operator's Well Number
Woodrum Daniels 2

3) API Well No.: 47 - 043 - 1690

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 Roger & Doris Escue	Name NA
Address 2154 Garrett's Bend Road	Address
Sod, WV 25564	
(b) Name	(b) Coal Owner(s) with Declaration
Address	Name NA
	Address
(c) Name	Name
Address	Address
6) Inspector Jeremy James	(c) Coal Lessee with Declaration
Address P. O. Box 36	Name NA
Clendenin, WV 25045	Address
Telephone 304-951-2596	

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 HG Energy, LLC
 By: Diane White *Diane White* RECEIVED
 Its: Agent Office of Oil and Gas
 Address 5260 Dupont Road
 Parkersburg, WV 26101
 Telephone 304-420-1119 APR - 8 2016

Subscribed and sworn before me this 12th day of February, 2016

Diane White

My Commission Expires July 11, 2022

Notary Public



WV Department of Environmental Protection

OFFICIAL SEAL
 NOTARY PUBLIC
 STATE OF WEST VIRGINIA
 DIANE WHITE
 96 Turning Leaf Lane
 Williamstown, West Virginia 26187
 My Commission Expires July 11, 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.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
DIANE WHITE
26 Turney Lane
Williamstown, West Virginia 26157
My Commission Expires July 17, 2021



05/13/2016

WW-9
(2/15)

API Number 47 - 043 - 1690
Operator's Well No. Woodrum Daniels 2

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 494497948

Watershed (HUC 10) Hayzlett 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: Fluids encountered while plugging subject well

Will a synthetic liner be used in the pit? Yes No If so, what ml.? 30 mil

Proposed Disposal Method For Treated Pit Wastes:

- Land Application *No Land Application*
- 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: NA

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

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

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

-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 August 1, 2005, 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

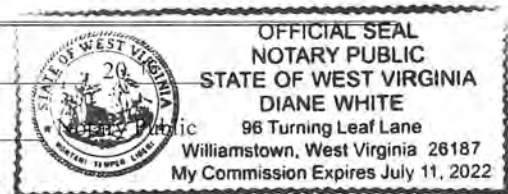
Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 12th day of February, 2016

Diane White

My commission expires July 11, 2022



Form WW-9

Operator's Well No. Woodrum Daniels 2

HG Energy, LLC

Proposed Revegetation Treatment: Acres Disturbed 0.8 acres Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 500 lbs/acre

Mulch Straw 2 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type	lbs/acre
Tall Fescue	40
Ladino Clover	5

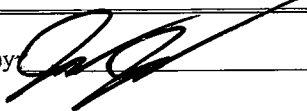
Seed Type	lbs/acre
Tall Fescue	40
Ladino Clover	5

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

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

Plan Approved by 

Comments: _____

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Office of Oil and Gas

Title: inspector OOG

Date: 3-1-16

APR 18 2016

Field Reviewed? () Yes () No

WV Department of Environmental Protection

Westbrook, Joshua P

From: Diane White <dwhite@hgenergyllc.com>
Sent: Friday, May 06, 2016 9:49 AM
To: Westbrook, Joshua P
Subject: Pit Fluids

Josh,
As per our discussion, HG does not intend to treat pit fluids for the following new well drill sites and plugging sites. HG will contract hauling the pit fluids to an authorized disposal site.

New Drill Sites:
CB Ferrell 218
Jackson Long 220
Jackson Long 129
Jackson Long 130
AW Edgell 127
IB Butcher 128

Wells to be plugged:
Stowers Heirs 6
Samuel Bowman 2
AA Woodrum 5
Woodrum Daniels 2
SW Nunn 1
SW Nunn 2

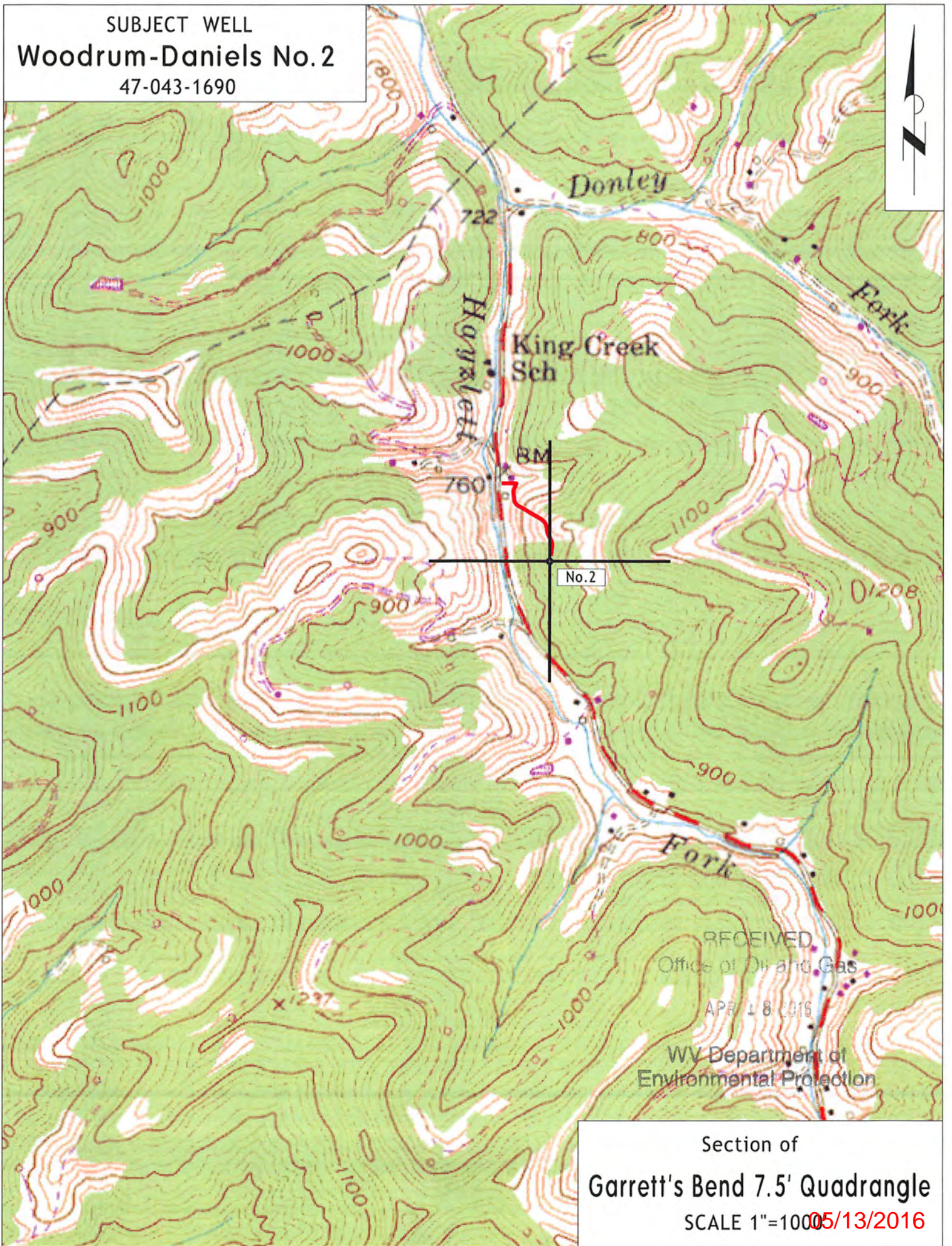
Please let me know if I should provide more information.
Thanks,
Diane

Diane C. White



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
304-420-1119 (O)
304-482-0108 (C)
304-863-3172 (F)
dwhite@hgenergyllc.com

SUBJECT WELL
Woodrum-Daniels No. 2
47-043-1690



Section of
Garrett's Bend 7.5' Quadrangle
SCALE 1"=1000' 05/13/2016

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Office of Oil and Gas
APR 18 2016
WV Department of
Environmental Protection

WW-7
5-02

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

API: 47- 043 - 1690 WELL NO: 2

FARM NAME: Woodrum-Daniels No.2

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Roger & Doris Escue

ROYALTY OWNER: H.G. Energy, LLC et al.

UTM GPS NORTHING: 4,236,229 (NAD 83)

UTM GPS EASTING: 422,344 (NAD 83) GPS ELEVATION: 269 m. (882.3')

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

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.

Diane White Diane C. White
Signature

November 24, 2015
Date

RECEIVED
Office of Oil and Gas
APR 18 2016
WV Department of
Environmental Protection
Designated Agent

Title