



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

July 22, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-9501419, 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: A. D. LEMASTERS 20
Farm Name: WADSWORTH, C.I. & FRANCES
API Well Number: 47-9501419
Permit Type: Plugging
Date Issued: 07/22/2015

Promoting a healthy environment.

07/24/2015

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.

9501419P

WW-4B
Rev. 2/01

1) Date: June 4, 2015
2) Operator's Well Number AD Lemasters 20
3) API Well No: 47 - 095 - 1419
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 _____ Gas _____ Liquid Injection x Waste Disposal _____
(If "Gas", Production _____ Underground Storage _____) Deep _____ Shallow x
5) LOCATION: Elevation: 1197' Watershed: Left Hand Fork
District: McElroy County: Tyler Quadrangle Centerpoint 7.5'
6) WELL OPERATOR: HG Energy, LLC 4.94E+08 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 Mike Goff Name To Be Determined Upon Approval of Permit
Address P. O. Box 134 Address _____
Pullman, WV 26421

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

TD- 3,193'

Manners of plugging:

- Plug #1 3050' - 2950'
- Free point, part and pull 4 1/2" casing - est 2100'
- Plug #2 - located at casing cut (est 2150' - 2050')
- Plug #3 - Elevator plug 1250' - 1150'
- Plug #4 - Through Coal - 1075' - 975'
- Plug #5 - Casing shoe - 465' - 365'
- Plug #6 - Surface plug - 100' - 0'

6% Gel between all plugs

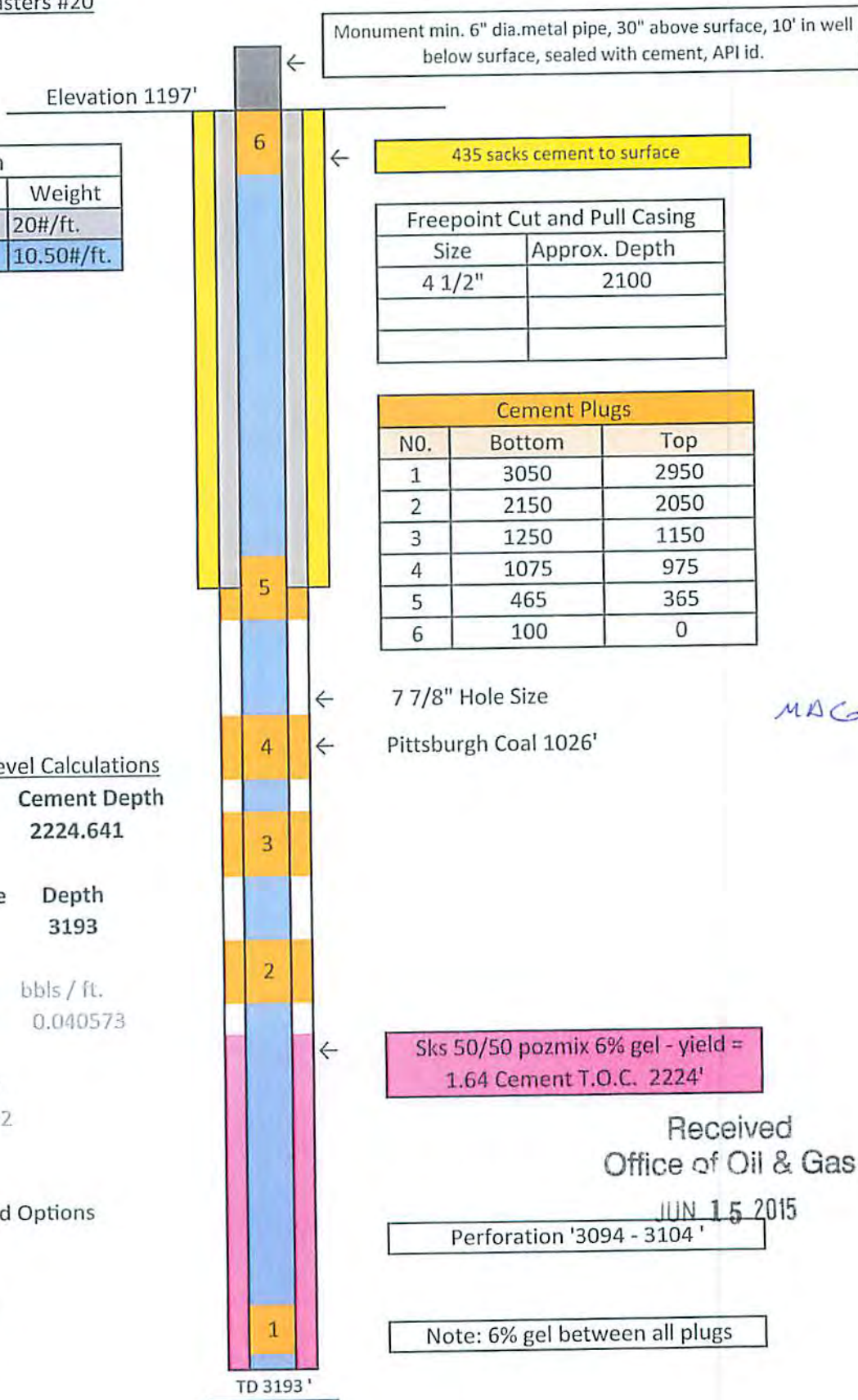
Monument min. 6" metal pipe, 30" above surface, 10' in well below surface, sealed w/cement & API ID

Received
Office of Oil & Gas
MDG JUN 15 2015
6-8-2015

07/24/2015

Well: A.D. Lemasters #20

Casing Information		
Size	Depth	Weight
8 5/8"	415'	20#/ft.
4 1/2"	3183'	10.50#/ft.



MAG

Bottom Hole Cement Level Calculations

Sacks Used Cement Depth
 300 2224.641

Hole Size Casing Size Depth
 7.875 4.5 3193

diameter delta Conv. Factor bbls / ft.
 41.765625 1029.4 0.040573

cubic ft. per vertical ft. depth
 0.227795902

Sacks per vertical ft. depth
 0.309802427 ← Edit Yield Options

Yield options

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

Sks 50/50 pozmix 6% gel - yield =
 1.64 Cement T.O.C. 2224'

Received
 Office of Oil & Gas

JUN 15 2015

Perforation '3094 - 3104'

Note: 6% gel between all plugs

950149P

WW-4B
Rev. 2/01

1) Date June 4, 2015
2) Operator's
Well No. AD Lemasters 20
3) API Well No. 47-055 - 1419

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

5) Location: Elevation 1197' Watershed Left Hand Fork
District McElroy County Tyler Quadrangle Centerpoint 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 Mike Goff Name To be Determined Upon Approval of Permit
Address P. O. Box 134 Address _____
Pullman, WV 26421

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

"See Attached Sheet"

Received
Office of Oil & Gas
JUN 15 2015

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

Work order approved by inspector Michael Doff Date 6/8/2015
07/24/2015

WR-35

30-Jul-90
API # 47- 95-01419

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: WADSWORTH, C.I. & FRANCES Operator Well No.: A.D.LEMASTERS20

LOCATION: Elevation: 1197.00 Quadrangle: CENTER POINT

District: MCELROY County: TYLER
Latitude: 14600 Feet South of 39 Deg. 30Min. 0 Sec.
Longitude 5050 Feet West of 80 Deg. 40 Min. 0 Sec.

Company: PENNZOIL PRODUCTS COMPANY
P. O. BOX 5519
VIENNA, WV 26105-5519

Agent: JAMES A. CREWS

Inspector: GLEN P. ROBINSON
Permit Issued: 07/30/90
Well work Commenced: 11-4-90
Well work Completed: 11-29-90
Verbal Plugging
Permission granted on:
Rotary X Cable _____ Rig
Total Depth (feet) 3225
Fresh water depths (ft) _____
Salt water depths (ft) _____

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			To surface
8-5/8	415	415	435 Sks.
4-1/2	3183.50	3183.50	300 Sks.

Is coal being mined in area (Y/N)? N
Coal Depths (ft): N/A

OPEN FLOW DATA

Producing formation Gordon Pay zone depth (ft) 3086-3121
Gas: Initial open flow * _____ MCF/d Oil: Initial open flow _____ Bbl/
Final open flow * _____ MCF/d Final open flow Received _____ Bbl/
Time of open flow between initial and final tests _____ Hour
Static rock Pressure _____ psig (surface pressure) after _____ Hour
Second producing formation N/A Pay zone depth (ft) JUN 15 2015
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/
Final open flow _____ MCF/d Final open flow _____ Bbl/
Time of open flow between initial and final tests _____ Hour
Static rock Pressure _____ psig (surface pressure) after _____ Hour
* Liquid injection well, not tested.

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATE INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS INCLUDING COAL ENCOUNTERED BY THE WELLBORE. 07/24/2019

For: PENNZOIL PRODUCTS COMPANY

By: Timothy P. Roush Timothy P. Roush
Date: April 11, 1991

Stimulation

Perforated: Gordon 3094-3104 - 10 holes

Treated w/300 gal. reg. HF acid, 292 Bbls. gelled water and 1500# 80/100 and 3500# 20/40 sand.

Well Log

Sand & Shale	00-515
Shale	515-648
Sand	648-663
Sand & Shale	663-836
Sand	836-896
Shale	896-1022
Sand	1022-1042
Shale	1042-1074
Sand	1074-1100
Sand & Shale	1100-1229
Shale	1229-1458
Sand	1458-1494
Shale	1494-1628
Sand	1628-1676
Sand & Shale	1676-1828
Sand	1828-1854
Shale	1854-1934
Sand	1934-1960
Shale	1960-2042
Sand	2042-2065
Shale	2065-2122
Sand	2122-2154
Shale	2154-2240
Little Lime	2240-2256
Shale	2256-2286
820 Big Lime	2286-2364
722 Big Injun	2364-2514
522 Shale	2514-3086
Gordon	3086-3128
Shale	3128-3225
T.D.	3225'

07/24/2015

WW-4A
Revised 6-07

1) Date: June 4, 2015
2) Operator's Well Number
AD Lemasters 20
3) API Well No.: 47 - 095 - 1419

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

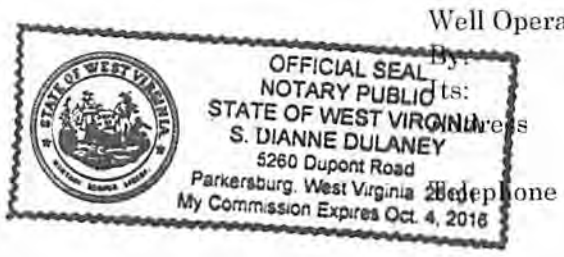
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>WV Department of Natural Resources</u>	Name <u>NA</u>
Address <u>Capital Complex, Bldg 3, Room 643</u> ✓ <u>Charleston, WV 25305</u>	Address _____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>NA</u>
(c) Name _____	Address _____
Address _____	Name _____
Address _____	Address _____
6) Inspector <u>Mike Goff</u>	(c) Coal Lessee with Declaration
Address <u>P. O. Box 134</u>	Name <u>NA</u>
<u>Pullman, WV 26421</u>	Address _____
Telephone <u>304-549-9823</u>	Address _____

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
 Agent
5260 Dupont Road
Parkersburg, WV 26101
304-420-1119

Received
 Office of Oil & Gas
 JUN 15 2015

Subscribed and sworn before me this 4th day of June
S. Dianne Dulaney Notary Public
 My Commission Expires Oct 4, 2016

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.

07/24/2015

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name HG Energy, LLC OP Code 494497948

Watershed Left Hand Fork Quadrangle Centerpoint 7.5'

Elevation 1197' County Tyler District McElroy

Description of anticipated Pit Waste: Fluids encountered while plugging subject well

Will a synthetic liner be used in the pit? Yes - 20 mil

MAG
6-8-2015

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain _____)
- Swabbing
- Plugging

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

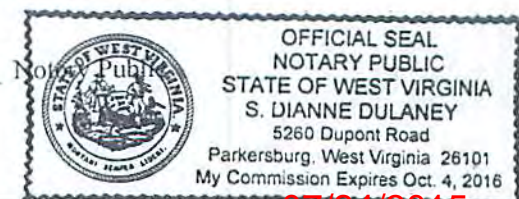
Company Official Title Agent

Received
Office of Oil & Gas

JUN 15 2015

Subscribed and sworn before me this 4th day of June, 2015

S. Dianne Dulaney



My commission expires Oct 4 2016

07/24/2015

LEGEND

- Property Boundary
- Road
- Existing Fence
- Planned Fence
- Stream
- Open Ditch
- Rock
- North
- Buildings
- Water wells
- Drill site

- Diversion
- Spring
- Wet Spot
- Drain Pipe with size in inches
- Waterway
- Cross Drain
- Artificial Filter Strip
- Pit: cut walls
- Pit: compacted fill walls
- Area for Land Application of Pit Waste

Proposed Revegetation Treatment: Acres Disturbed 0.7 Prevegetation pH _____
 Lime 3 Tons/acre or to correct to pH 6.5
 Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)
 Mulch Straw 2 Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre	Seed Type	Area II	lbs/acre
Tall Fescue		40	Tall Fescue		40
Ladino Clover		5	Ladino Clover		5

Attach: Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

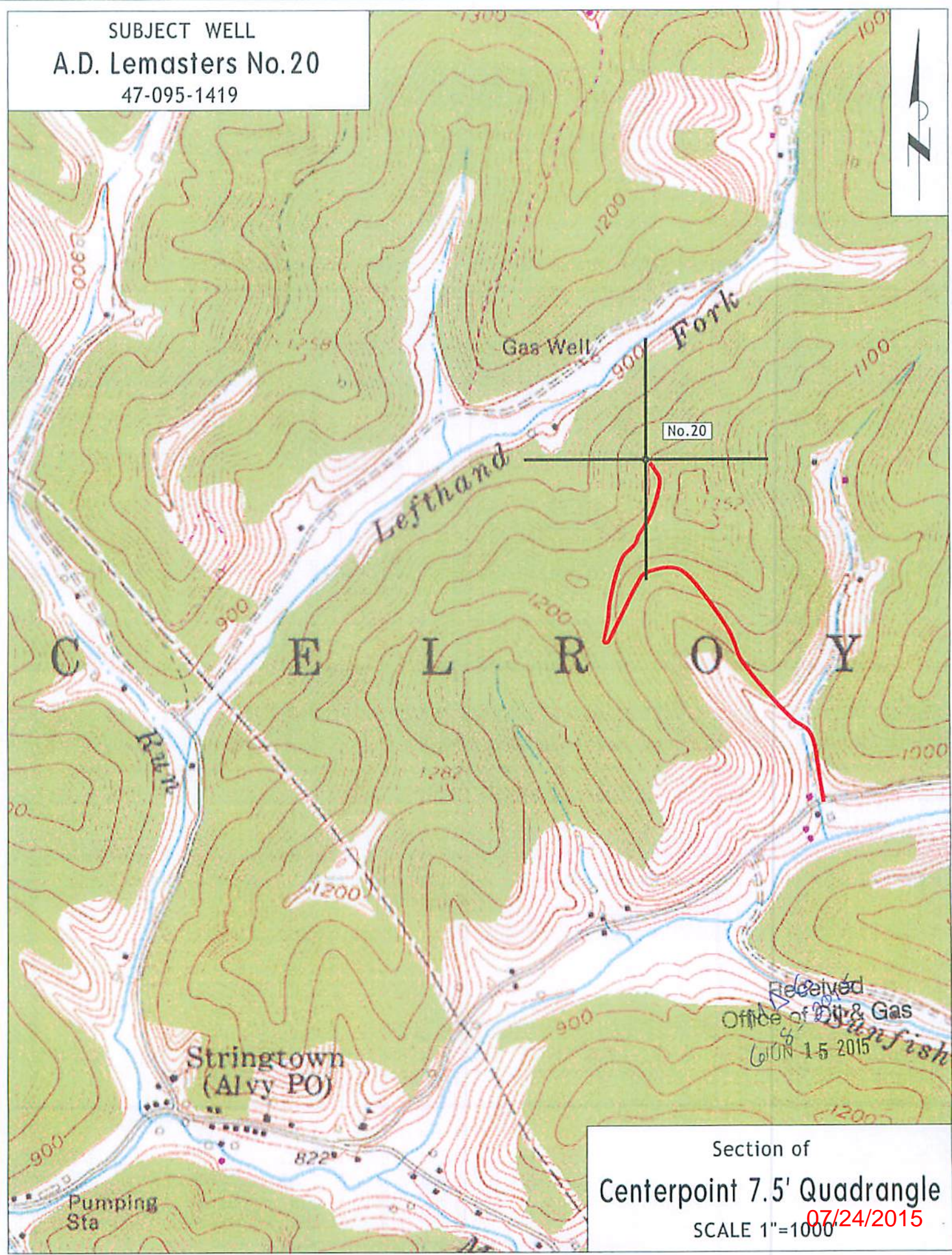
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 Office of Oil & Gas
 JUN 15 2015

Plan Approved by: Michael Haff
 Comments: Preseed & mulch any disturbed areas, clean up any associated trash off site

Title: Oil & Gas Inspector Date: 6/8/2015

Field Reviewed? Yes No

SUBJECT WELL
A.D. Lemasters No.20
47-095-1419



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Office of Oil & Gas
JUN 15 2015

Section of
Centerpoint 7.5' Quadrangle
SCALE 1"=1000'
07/24/2015

9501419P

WW-7
5-02

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

API: 47- 095 - 1419 WELL NO: 20

FARM NAME: A.D. Lemasters No.20

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Tyler DISTRICT: McElroy

QUADRANGLE: Centerpoint 7.5'

SURFACE OWNER: W.Va. Dept. of Natural Resources

ROYALTY OWNER: American Energy Partners, LLC et al.

UTM GPS NORTHING: 4,367,888 (NAD 83)

UTM GPS EASTING: 527,151 (NAD 83) GPS ELEVATION: 365 m. (1197')

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"/>

Received
Office of Oil & Gas

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. JUN 15 2015

Diane C White Diane C. White
Signature

Designated Agent
Title

June 3, 2015
Date

07/24/2015