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**west virginia** department of environmental protection

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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

December 04, 2013

**WELL WORK PERMIT**  
**Secondary Recovery Well**

This permit, API Well Number: 47-10302648, 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin  
Chief

Operator's Well No: T. J. HIGGINBOTHAM 305  
Farm Name: HG ENERGY, LLC

**API Well Number: 47-10302648**

**Permit Type: Secondary Recovery Well**

Date Issued: 12/04/2013

**Promoting a healthy environment.**

## 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

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1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR § 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR § 4-19.1.c, if the operator is unable to sample and analyze any water well or spring within one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. 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.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.
8. If well work related activities require the use of water obtained by withdrawals from waters of this state in amounts that exceed two hundred ten thousand gallons during any thirty day period, the operator is required to consult, and adhere to, the guidance provided by DEP's Water Withdrawal Guidance Tool prior to any water withdrawals.

WW-3B  
10/07



1) Date October 21, 2013  
 2) Operator's Well No. T. J. Higginbotham No. 305  
 3) API Well No. 47 - 103 - 2648  
 State County Permit  
 4) UIC Permit No. UIC2R10304AP

STATE OF WEST VIRGINIA  
 NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION  
 FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

- 5) WELL TYPE: Liquid Injection X Gas Injection (not storage) \_\_\_\_\_ Waste Disposal \_\_\_\_\_
- 6) LOCATION: Elevation 977' Watershed Little Fishing Creek  
 District \_\_\_\_\_ Center 01 County Wetzel 103 Quadrangle Big Run 7.5' 254
- 7) WELL OPERATOR: HG Energy, LLC 494497948  
5260 Dupont Road  
Parkersburg, WV 26101
- 8) DESIGNATED AGENT: Mike Kirsch  
5260 Dupont Road  
Parkersburg, WV 26101
- 9) OIL & GAS INSPECTOR TO BE NOTIFIED:  
 Name Derek Haught  
 Address PO Box 85  
Smithville, WV 26178
- 10) DRILLING CONTRACTOR:  
 Name To Be Determined Upon Permit Approval  
 Address \_\_\_\_\_
- 11) PROPOSED WELL WORK: Drill \_\_\_\_\_ Drill Deeper \_\_\_\_\_ Redrill \_\_\_\_\_ Stimulate \_\_\_\_\_  
 Plug Off Old Formation \_\_\_\_\_ Perforate New Formation \_\_\_\_\_ Convert X  
 Other Physical Change in Well (specify) \_\_\_\_\_
- 12) Geological target formation Gordon Depth 2,908 Ft. (Top) to 2,926 Ft. (Bottom)
- 13) Estimated depth of completed well (or actual depth of existing well) 3110' Ft.
- 14) Approximate water strata depths: Fresh 125 Ft. Salt 1,700 Ft.
- 15) Approximate coal seam depths: 780 Ft.
- 16) Is coal being mined in the area? Yes \_\_\_\_\_ X No \_\_\_\_\_
- 17) Virgin reservoir pressure in target formation: 60 psig. Source Estimated
- 18) Estimated reservoir fracture pressure: 1200 psig.
- 19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 bbl/hr Bottom Hole Pressure 2400 psi
- 20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES  
 and other chemicals as needed to maintain water quality and improve oil recovery. Fresh water, produced water, bactericides
- 21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters
- 22) SPECIFICATION FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL \_\_\_\_\_
- 23) CASING AND TUBING PROGRAM

DMH  
10-25-13

Received

NOV 12 2013

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILLUP OR SACKS (CMT)	
	Size	Grade	Weight	New	Used	For Drilling	Left in Well	OR SACKS (CMT)	
Conductor									Kinds
Fresh Water	9 5/8"	LS	32#	X		275'	275'	Use Existing Casing	Tension
Coal									Sizes
Intermediate	7	LS	17#	X		1500'	1500'	Use Existing Casing	2.375" X 4.5"
Production	4 1/2"	J-55	10.5#	X		3050'	3050'	Use Existing Casing	Depths Set
Tubing	2 3/8"	J-55	4.6#	X		2810'	2810'		2710'
Liners									Perforations
									Top Bottom

WV Dept. of Environmental Protection  
Office of Oil and Gas

24) APPLICANTS OPERATING RIGHTS were acquired from Joe B. Joliffe et al  
 by Deed \_\_\_\_\_ Lease X Other Contract \_\_\_\_\_ Dated January 17, 2010 of record in the  
Wetzel County Clerk's Office in Lease Book 92A at Page 392

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work

Farm name: HG ENERGY LLC Operator Well No.: T.J. HIGGINBOTHAM 305  
LOCATION: Elevation: 977' Quadrangle: BIG RUN 7.5'  
District: CENTER County: WETZEL  
Latitude: 1,835 Feet south of 39 Deg 37 Min 30 Sec.  
Longitude: 11,060 Feet west of 80 Deg 35 Min 0 Sec.

Company Address:	HG Energy PO Box 5519 Vienna, WV 26105	Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector:	Derek Haught				
Date Permit Issued:	06/28/2011				
Date Well Work Commenced:	06/02/2011				
Date Well Work Completed:	07/21/2011				
Verbal Plugging:					
Date Permission Granted On:					
Rotary X Cable Rig		9 5/8"	289'	289'	125 sks
Total vertical Depth (ft):	3110'				
Total Measured Depth (ft):	3110'				
Fresh Water Depth (ft):	150'	7"	1507'	1507'	280 sks
Salt Water Depth (ft):	None				
Is Coal being mined in ares (Y/N)?	No				
Coal Depths (ft): x	850'-860'	4 1/2"	3052.05'	3052.05'	150 sks
Void(s) encountered (Y/N) depth(s):	NONE				

OPEN FLOW DATA \* Waterflood Producer

Producing formation Gordon Pay zone depth (ft) 2912'-2926'  
 Gas: Initial open flow \* MCF/d Oil: Initial open flow \* Bbl/d  
 Final open flow \* MCF/d Final open flow \* Bbl/d  
 Time of open flow between initial and final tests \* Hours  
 Static rock pressure \* psig (surface pressure) after \* Hours

Second producing formation Pay zone depth (ft) \_\_\_\_\_  
 Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments 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.

[Signature] Signature 8/20/12 Date

Stamp: DIVISION OF ENVIRONMENTAL PROTECTION, STATE OF WEST VIRGINIA, with date 8/20/12 and other illegible markings.

Were core samples taken? No

Were cuttings caught during drilling? No

Were Y Electrical, N Mechanical, N or Geophysical logs recorded on this well?  
Y/N Y/N Y/N

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

**Treatment :** Treated perfs 2912'-2926' w/ 250 gals. 15% HCL, 340 bbls cross linked gel, and 16,600# 20/40 sand.

**Well Log :** All depths are measured relative to KB (8' AGL ).

Shale w/ sand streaks	0	-	850
Coal	850	-	860
Sand/Shale	860	-	1333
sand	1333	-	1366
shale	1366	-	1376
sand	1376	-	1392
shale	1392	-	1446
sand	1446	-	1470
shale	1470	-	1503
sand	1503	-	1566
shale	1566	-	1606
sand	1606	-	1642
shale	1642	-	1672
sand	1672	-	1699
shale	1699	-	1720
sand	1720	-	1766
shale	1766	-	1804
sand	1804	-	1910
shale	1910	-	1995
sand	1995	-	2008
shale	2008	-	2021
sand	2021	-	2032
Big Lime	2032	-	2098
Big Injun	2098	-	2312
shale	2312	-	2879
Gordon Stray	2879	-	2902
shale	2902	-	2908
Gordon	2908	-	2928
shale	2928	-	2940
sand	2940	-	2946
shale	2946	-	3110
TD	3110	-	

T.D. -Logger 3109 KB  
T.D. -Driller 3110 KB

Received

NOV 13 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

WW-3A  
10/07



1) Date: October 21, 2013  
2) Operator's Well No. T. J. Higginbotham No. 305  
3) API Well No. 47     103     -     2648  
  State     County     Permit  
4) UIC Permit No. UIC2R10304AP

STATE OF WEST VIRGINIA  
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION  
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

5) Surface Owner(s) To Be Served  
(a) Name HG Energy, LLC ✓  
    Address 5260 Dupont Road  
        Parkersburg, WV 26101  
(b) Name \_\_\_\_\_  
    Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
    Address \_\_\_\_\_  
6) Inspector Derek Haught  
    Address PO Box 85  
        Smithville, WV 26178  
    Telephone 206-7613

7 (a) Coal Operator  
    Name NA  
    Address \_\_\_\_\_  
7 (b) Coal Owner(s) With Declaration Of Record  
    Name NA  
    Address \_\_\_\_\_  
    Name NA  
    Address \_\_\_\_\_  
7(c) Coal Lessee With Declaration Of Record  
    NA

**TO THE PERSON(S) NAMED ABOVE: You should have received this form and the following documents:**

- (1) The Application for a Liquid Injection or Waste Disposal Well Work Permit on Form WW-3(B), which sets out the parties involved in the drilling or other work;
- (2) The plat (surveyor's map) showing the well location on Form WW-6; and
- (3) The Construction and Reclamation Plan on Form WW-9 (unless the well work is only to plug a well), which sets out the plan for erosion and sediment control and for reclamation for the site and access road.

The date proposed for the first injection or waste disposal is NA

THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON FORM WW-3(A) DESIGNATED TO YOU. 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 Well Work Permit with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to a well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, the plat, and the Construction and Reclamation Plan 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 the mailing or delivery to the Chief.

The person signing this document shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments 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 and imprisonment."

Well Operator HG Energy, LLC  
Address 5260 Dupont Road  
          Parkersburg, WV 26101  
By: Diane C. White  
Its: Accountant

Signature Diane C White

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 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](mailto:depprivacyofficer@wv.gov)

WW-2B1

Well No. T. J. Higginbotham No. 305

West Virginia Department of Environmental Protection  
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing, The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

Contractor Name Sturm Environmental Services  
 Well operator's private laboratory

Well Operator HG Energy, LLC  
Address 5260 Dupont Road  
Parkersburg, WV 26101  
Telephone 304-420-1119

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

**No known Water Supply Sources are located within 2000' of proposed well.**

RECEIVED  
Office of Oil and Gas  
NOV 13 2013  
T. J. Higginbotham  
Chief, Office of Oil and Gas

103026485

Form WW-9  
Rev. 10/94

Page 3 of 8  
API Number 47- 103 - 2648

Operator's Well No. T. J. Higginbotham No. 305

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 HG Energy, LLC OP Code 494497948  
Watershed Little Fishing Creek Quadrangle Big Run 7.5'  
Elevation 977' County Wetzel District Center

Description of anticipated Pit Waste: A pit will not be used

Do you anticipate more than 5,000 bbls of water to complete the proposed well work Yes        No X

Will a synthetic liner be used in pit? NA If so, what mil?       

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       ) )

Drilling medium anticipated for this well? Air, fresh water, oil based, etc. NA  
- If oilbased, what type? Synthetic, petroleum, etc.       

Additives to be used? NA

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 NA  
- Landfill or offsite name/permit number?       

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.

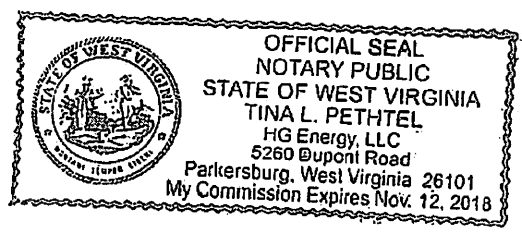
Company Official Signature Diane C. White  
Company Official (Typed Name) Diane C. White  
Company Official Title Accountant

Subscribed and sworn before me this 21 day of October 2013

Tina L. Pethel  
Notary Public

My commission expires Nov. 12, 2018

Form WW-9



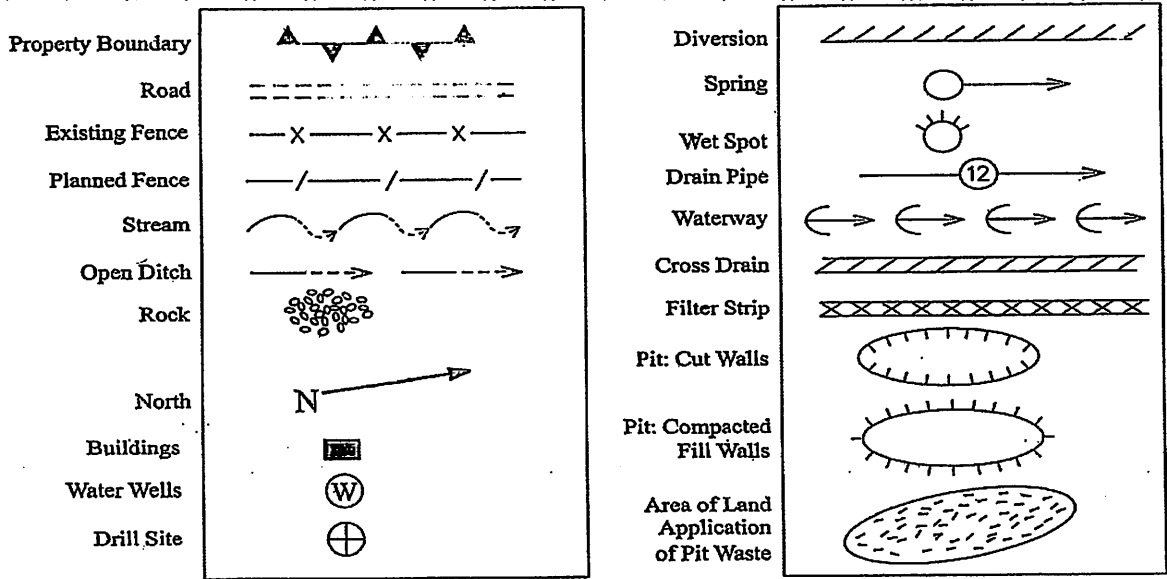
DMH  
10-28-13

RECEIVED  
NOV 12 2013



WW9-Rack

Legend



Proposed Revegetation Treatment: Acres Disturbed Area I Approx. 0.2 Ac. Prevegetation pH \_\_\_\_\_

Area II  
Approx. 0.1 Ac.

Lime 2 Tons/Acre or Correct to pH 6.5  
Fertilizer (10-20-20 or Equivalent) 500 Lbs./Acre (500 lbs. Minimum)  
Mulch Straw 2 Tons/Acre

**SEED MIXTURES**

<u>Area I (Location)</u>		<u>Area II (Road)</u>	
Seed Type	Lbs./Ac.	Seed Type	Lbs./Ac.
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

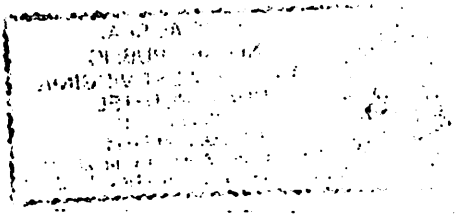
Attach:  
Drawing(s) of road, location, pit and proposed area for land application  
Photocopied section of involved 7.5' topographic sheet.

Plan approved by: \_\_\_\_\_  
Comments: \_\_\_\_\_

Title: Oil + Gas Inspector Date: 10-28-17

Field Reviewed?  Yes  No

**Received**  
NOV 13 2017  
Office of Oil and Gas  
WV Dept. of Environmental Protection



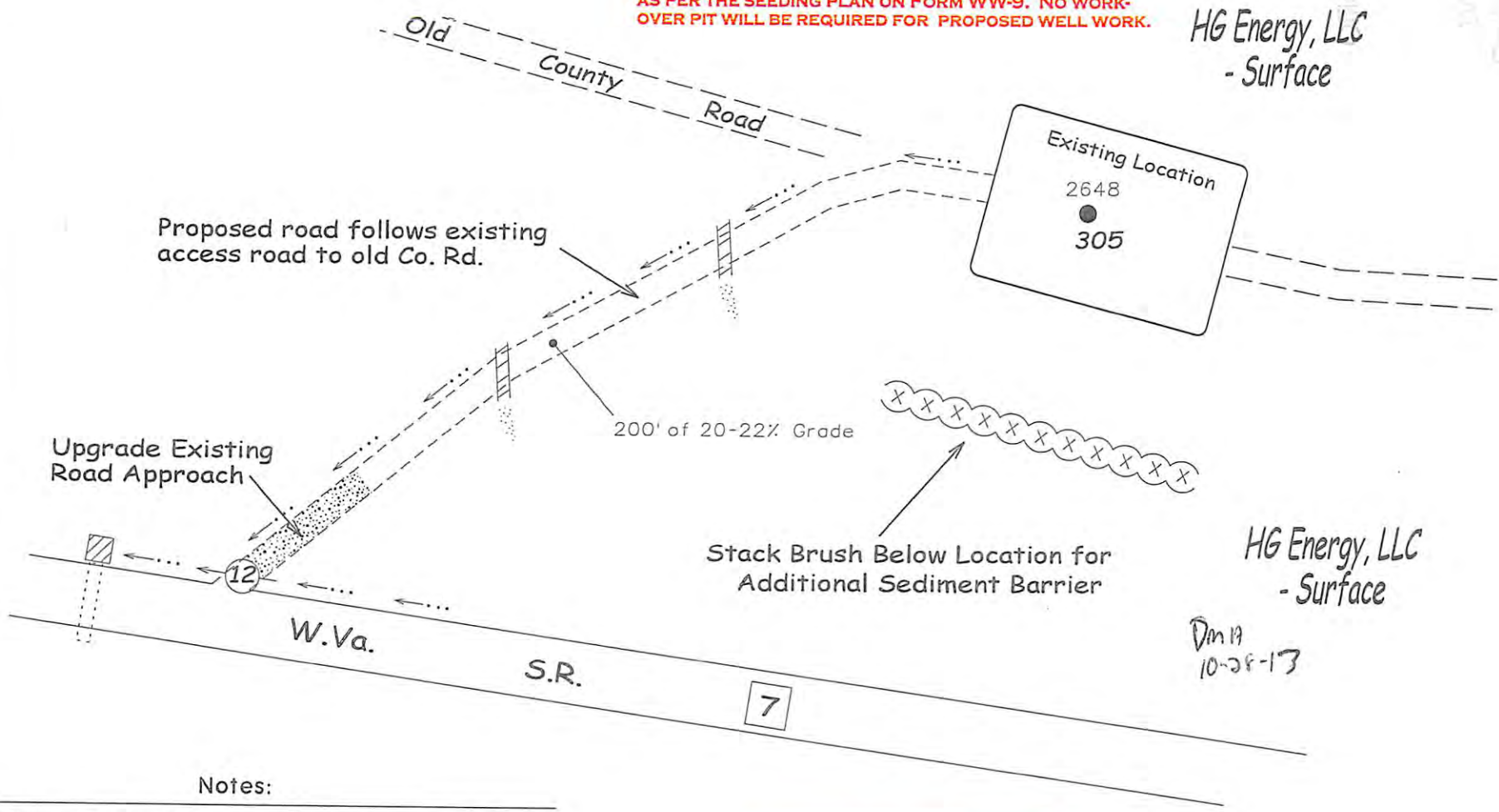
103026485

# Reclamation Plan For: T.J. Higginbotham No. 305

47-103-2648

**NOTE:**  
WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT No.47-103-2648. ONLY MINIMAL EARTHWORK WILL BE REQUIRED FOR PROPOSED WELL WORK. ALL DISTURBED AREAS WILL BE RE-VEGETATED AS PER THE SEEDING PLAN ON FORM WW-9. NO WORK-OVER PIT WILL BE REQUIRED FOR PROPOSED WELL WORK.

RECEIVED  
Office of Oil and Gas  
NOV 1 8 2013  
WV Department  
Environmental Protection



**Notes:**

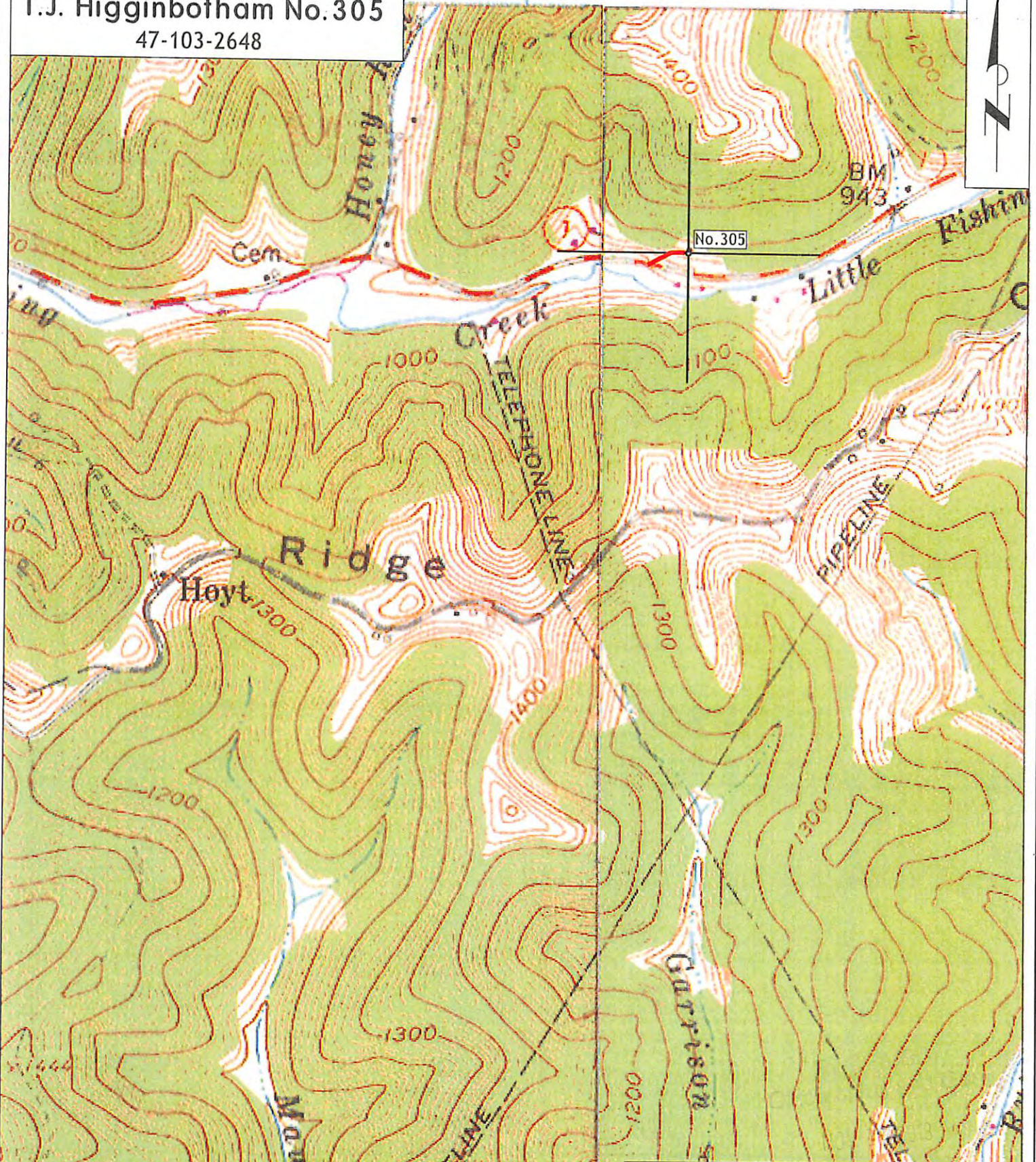
- Requested permit is for conversion of existing well.
- Access from State Route 7 to well location is existing. Structures will be maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Maintain sediment barriers and drainage structures.
- All road grades <5% except as noted.

**NOTE**  
REFER TO THE WVDEP  
EROSION AND SEDIMENT CONTROL  
FIELD MANUAL VER. MAY 2012 FOR  
BMPs CONTROLLING EROSION AND  
SEDIMENT FROM SOIL-DISTURBING  
OPERATIONS.

Note: Drawing not to Scale

SUBJECT WELL  
T.J. Higginbotham No.305  
47-103-2648

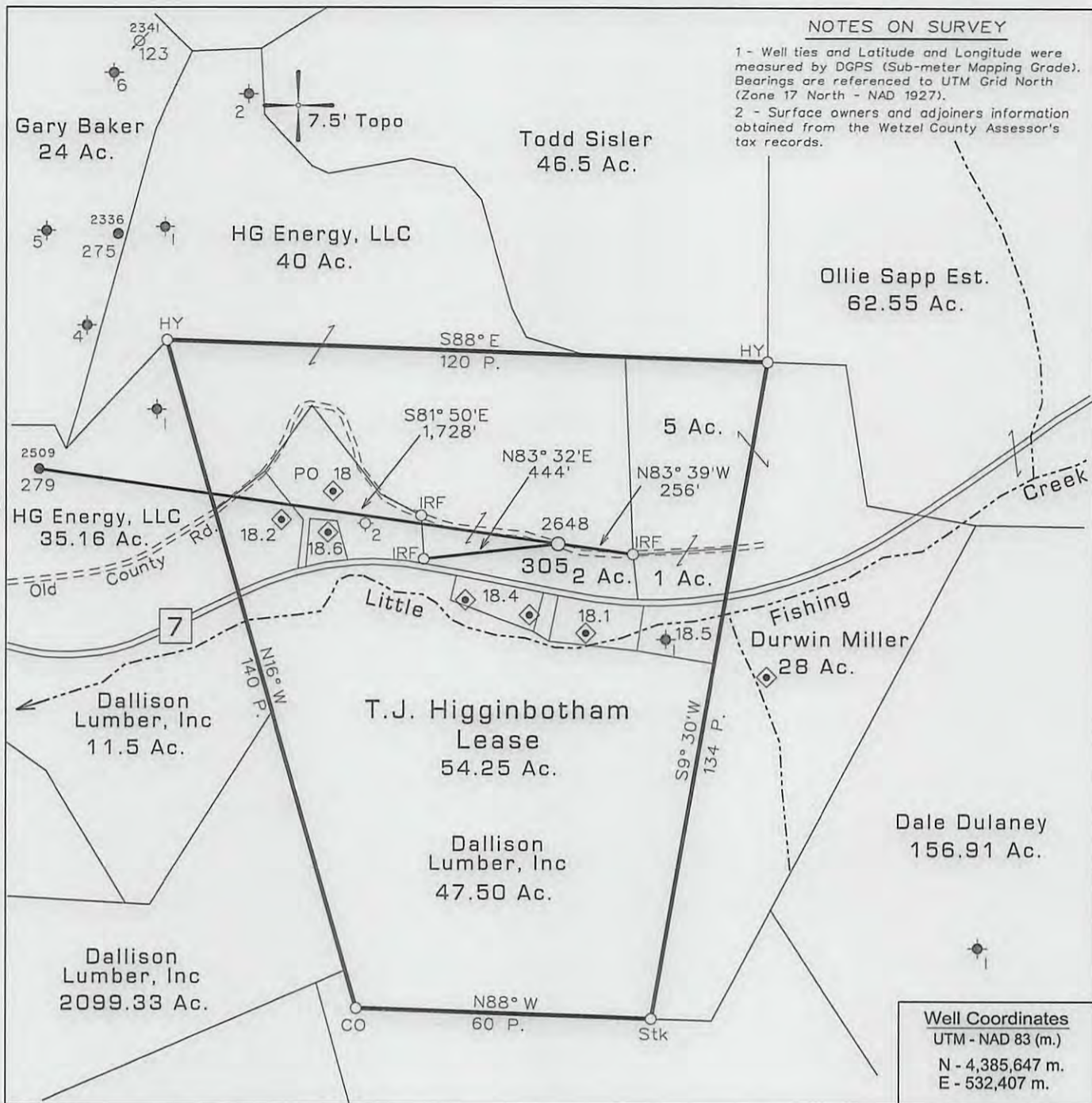
32 80° 37' 30"



DH 10-28-13 Section of Pine Grove & Big Run  
7.5' Quadrangles  
SCALE 1"=1000'

NOTES ON SURVEY

1 - Well ties and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1927).  
2 - Surface owners and adjoiners information obtained from the Wetzel County Assessor's tax records.



Well Coordinates  
UTM - NAD 83 (m.)  
N - 4,385,647 m.  
E - 532,407 m.

✚ DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS. ◆ DENOTES A POSSIBLE WATER SUPPLY SOURCE LOCATED FROM CIRCA 2003 AERIAL PHOTOGRAPHY - NOT BY SURVEY. OTHER SOURCES MAY BE PRESENT.

FILE NO. 1047-03  
MAP NO. N S E W  
SCALE 1" = 500'  
MINIMUM DEGREE OF ACCURACY Sub-Meter  
PROVEN SOURCE OF ELEVATION DGPS Survey (Sub-Meter Mapping Grade)

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT 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 DEPARTMENT OF MINES.

(SIGNED) *[Signature]*  
TIMOTHY P. ROUSH PS 793



WEST VIRGINIA  
Division of Environmental Protection  
Office of Oil and Gas  
601 57th Street  
Charleston, West Virginia 25304



DATE October 21, 2013  
FARM T.J. Higginbotham No.305  
API WELL NO. 47-103-02648 S

WELL TYPE: OIL GAS LIQUID INJECTION X WASTE DISPOSAL HORIZONTAL  
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW CBM  
LOCATION: ELEVATION 977' WATERSHED Little Fishing Creek  
DISTRICT Center COUNTY Wetzel  
QUADRANGLE Big Run 7.5'

SURFACE OWNER HG Energy, LLC ACREAGE 20 Ac.  
OIL & GAS ROYALTY OWNER Joe Jolliffe et al. LEASE ACREAGE 54.25 Ac.  
LEASE NO. 107605-00

PROPOSED WORK: DRILL CONVERT X DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Convert to Liquid Injection

PLUG AND ABANDON CLEAN OUT AND REPLUG  
TARGET FORMATION Gordon ESTIMATED DEPTH 3,110'  
WELL OPERATOR HG Energy, LLC DESIGNATED AGENT Mike Kirsch  
ADDRESS 5260 Dupont Road Parkersburg, WV 26101 ADDRESS 5260 Dupont Road Parkersburg, WV 26101