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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, August 21, 2018  
WELL WORK PERMIT  
Vertical / New Drill - Secondary Recovery

HG ENERGY, LLC  
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for EJ MAY 149  
47-043-03584-00-00

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.

Please be advised that form WR-35, Well Operators Report of Well Work 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

A blue ink signature of James A. Martin, written in a cursive style.

Operator's Well Number: EJ MAY 149  
Farm Name: JOHN & TAMMIE COOPER ET  
U.S. WELL NUMBER: 47-043-03584-00-00  
Vertical New Drill - Secondary Recovery  
Date Issued: 8/21/2018

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.

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### 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 with 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. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

CK NO. 3800  
\$ 650.00

FORM WW-3 (B)  
1/12



- 1) Date: 07/19/2018
- 2) Operator's Well No. E. J. May No. 149
- 3) API Well No.: 47 - - s  
State County Permit
- 4) UIC Permit No. UIC2R04302AP

**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  / Gas Injection (not storage)  / Waste Disposal
- 6) LOCATION: Elevation: 804' Watershed: Straight Fork  
District: Duval County Lincoln Quadrangle Griffithsville 7.5'
- 7) WELL OPERATOR: HG Energy, LLC 8) DESIGNATED AGENT Diane White  
Address 5260 Dupont Road Address 5260 Dupont Road  
Parkersburg, WV 26101 Parkersburg, WV 26101
- 9) OIL & GAS INSPECTOR TO BE NOTIFIED 10) DRILLING CONTRACTOR  
Name Jeffery L. Smith Name To Be Determined Upon Approval of Permit  
Address 5369 Big Tyler Road Address  
Cross Lanes, WV 25313
- 11) PROPOSED WELL WORK Drill  / Drill deeper  / Redrill  / Stimulate   
Plug off old formation  / Perforate new formation  / Convert   
Other physical change in well (specify)
- 12) GEOLOGIC TARGET FORMATION Berea Depth 2695 Feet (top) to 2725 Feet (bottom)
- 13) Estimated Depth of Completed Well, (or actual depth of existing well): 2790' TMD Feet
- 14) Approximate water strata depths: Fresh 180 Feet Salt 1000 Feet
- 15) Approximate coal seam depths: 380'
- 16) Is coal being mined in the area? Yes No
- 17) Virgin reservoir pressure in target formation 1250 psig Source Estimated
- 18) Estimated reservoir fracture pressure 2650 psig (BHFP)
- 19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 BBL Bottom hole pressure 2400 psi
- 20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES Fresh water, produced water,  
bactericides and other chemicals as needed to maintain water quality and improve oil recovery.
- 21) FILTERS (IF ANY) Cartridge filters and charcoal bed filters
- 22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL

23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (CU. FT.)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For Drilling	Left In Well		
Conductor									RECEIVED Office of Oil and Gas
Fresh Water	7"	LS	17#	x		430'	430'		
Coal									SIZES AUG 10 2018 Depths set
Intermediate									
Production	4 1/2"	J-55	10.5#	x		2790'	2790'	150 sks	2440' Perforations WV Department of Environmental Protection
Tubing	2 3/8"	J-55	4.6#	x		2540'	2540'		
Liners									

- 24) APPLICANT'S OPERATING RIGHTS were acquired from EJ May  
by deed / lease x / other contract / dated 02/07/1983 of record in the  
Lincoln County Clerk's office in Lease Book 35 Page 154

JS

FORM WW-3 (A)  
1/12



1) Date: July 19, 2018  
2) Operator's Well No. E. J. May No. 149  
3) API Well No.: 47 - 43 - 03584  
State County Permit  
4) UIC Permit No. UIC2R04302AP

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

5) Surface Owner(S) To Be Served	7) (a) Coal Operator
(a) Name <u>Michael &amp; Pam Cooper</u>	Name <u>NA</u>
Address <u>46 Torque Drive</u>	Address _____
<u>Yawkey, WV 25573</u>	_____
(b) Name <u>Johnny &amp; Tammie Cooper</u>	7) (b) Coal Owner(S) With Declaration Of Record
Address <u>P. O. Box 175</u>	Name <u>NA</u>
<u>Griffithsville, WV 25521</u>	Address _____
(c) Name <u>David Adkins</u>	Name _____
Address <u>5115 Straight Fork</u>	Address _____
<u>Griffithsville, WV 25521</u>	_____
6) Inspector <u>Jeffery L. Smith</u>	7) (c) Coal Lessee with Declaration Of Record
Address <u>5369 Big Tyler Road</u>	Name <u>NA</u>
<u>Cross Lanes, WV 25313</u>	Address _____
Telephone <u>681-313-6743</u>	_____

**TO THE PERSONS 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 \_\_\_\_\_ 20 18 .

THE REASON YOU HAVE RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION [(FORM WW-3(B))] DESIGNATED TO YOU. HOWEVER YOU ARE NOT REQUIRED TO TAKE ACTION AT ALL.

RECEIVED

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 persons named above or by publication in certain circumstances) on or before the day of the mailing or delivery to the Chief of Environmental Protection

Office of Oil and Gas  
Aug 10 2018  
WV Department of Environmental Protection

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 White  
Its: Agent  
Signature: Diane White

WW-2A / 3A Surface Waiver

SURFACE OWNER WAIVER

County Lincoln

Operator HG Energy, LLC

Operator well number EJ May 149

**INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A / 3A**

The well operator named on page WW-2A / 3A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:**

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

**Time Limits and methods for filing comments.** The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

**Comments must be in writing.** Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

**List of Water Testing Laboratories.** The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A / 3A, and attachments consisting of pages 1 through 4 including a work order on Form WW-2B / 3A, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

*Pamela Cooper*  
*Michael Cooper*  
Signature

Date 7-26-18

Company Name  
By  
Its

Michael & Pamela Cooper

Print Name

Michael Cooper

FOR EXECUTION BY A DEPARTMENT, ETC.

Office of Oil and Gas  
Department of Environmental Protection

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

RECEIVED  
Office of Oil and Gas  
AUG 10 2018

WW-2A / 3A Surface Waiver

SURFACE OWNER WAIVER

County Lincoln

Operator HG Energy, LLC

Operator well number EJ May 149

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I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

*Johnny K Cooper*  
Signature

Date 7-26-18

Company Name \_\_\_\_\_  
By \_\_\_\_\_  
Its \_\_\_\_\_

Johnny & Tammie Cooper

Print Name

\_\_\_\_\_ Date

Signature

Date

RECEIVED  
Office of Oil and Gas  
AUG 10 2018

WV Department of  
Environmental Protection

WW-2A / 3A Surface Waiver

SURFACE OWNER WAIVER

County Lincoln

Operator  
Operator well number

HG Energy, LLC  
E.J. May 149

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Department of Environmental Protection  
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Charleston, WV 25304  
(304) 926-0450

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Office of Oil and Gas  
AUG 10 2018

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION

WV Department of  
Environmental Protection

David Adkins  
Signature

Date 7-26-18 Company Name  
By Its

David Adkins  
Print Name

\_\_\_\_\_  
\_\_\_\_\_  
Signature Date

WW-2B1  
(5-12)

Well No. Austin Griffith No. 164

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.

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

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name Sturm Environmental  
Sampling Contractor Sturm Environmental

Well Operator HG Energy, LLC  
Address 5260 Dupont Road  
Parkersburg, WV  
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 underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

\* All water sources shown on the topo map have been recently tested.

RECEIVED  
Office of Oil and Gas

AUG 10 2018

WV Department of  
Environmental Protection



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.

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.

**Surface Owners Identified With Water Sources to be Sampled and Tested:**

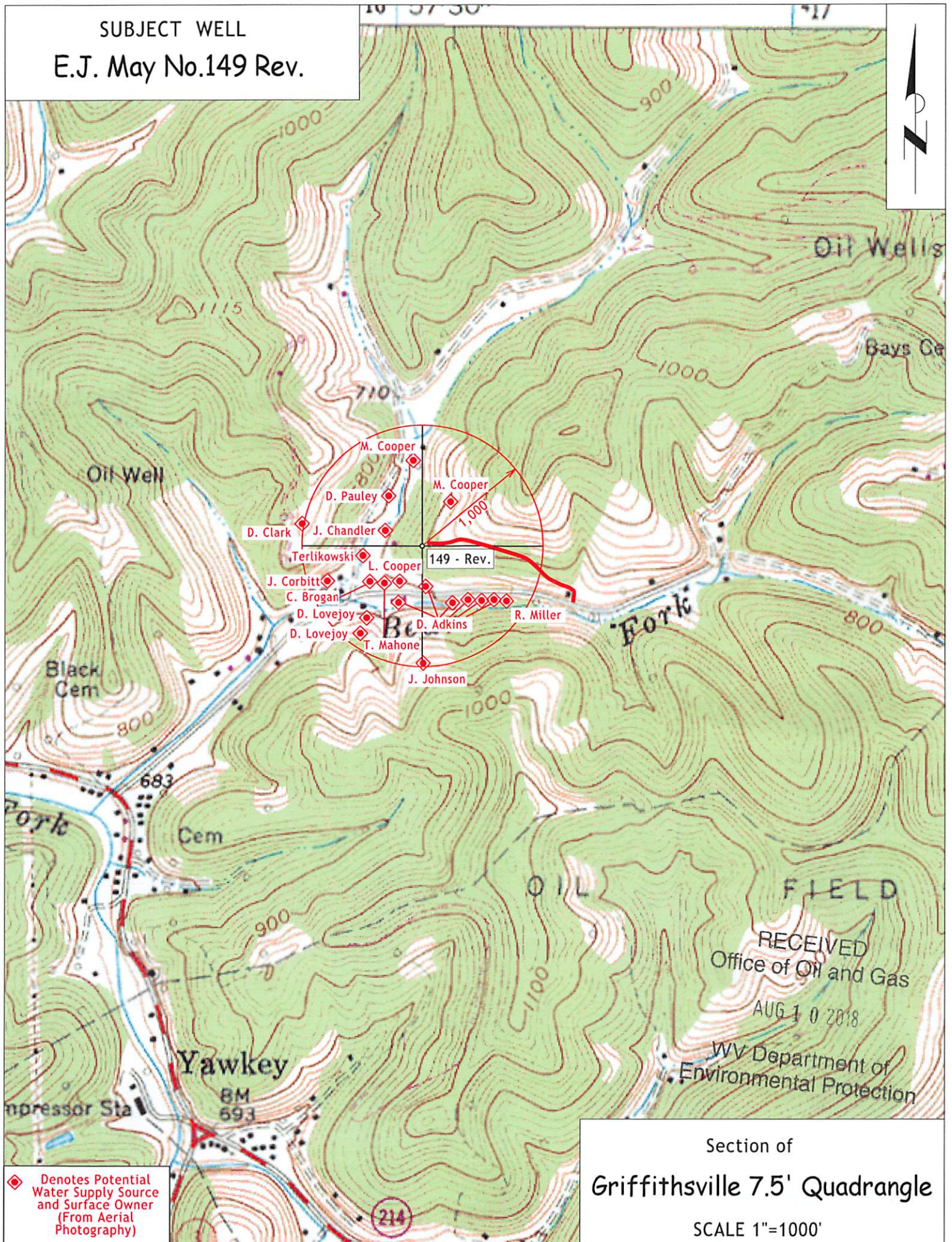
- |   |   |   |
|---|---|---|
| * Michael Cooper<br>P. O. Box 32<br>Yawkey, WV 25573                          | * Tammy Mahone<br>6 Anchor Drive<br>Yawkey, WV 25573                              | * David Pauley<br>P. O. Box 198<br>Griffithsville, WV 25521 |
| * Robert & Beth Miller<br>142 Bear Fork Road<br>Yawkey, WV 25673              | * James & Rebecca Corbitt<br>5710 MacCorckle Ave, SE<br>Charleston, WV 25304      |   |
| * David & Vicky Adkins<br>5115 Straight Fork Road<br>Griffithsville, WV 25521 | * David Terlikowski<br>P. O. Box 173<br>Griffithsville, WV 25521                  |   |
| * Jonathan Johnson<br>5 Bethel Drive<br>Yawkey, WV 25573                      | * David Clark<br>PO Box 149<br>Griffithsville, WV 25521                           |   |
| * Dwight Lovejoy<br>5 Bethel Drive<br>Yawkey, WV 25573                        | * John Chandler<br>62 Bear Fork Road<br>Yawkey, WV 25573                          |   |
| * Carolyn Brogan<br>4553 Midway Road<br>Yawkey, WV 25573                      | * Lorene Cooper, Est, c/o Johnny Cooper<br>PO Box 175<br>Griffithsville, WV 25573 |   |

RECEIVED  
Office of Oil and Gas

AUG 17 2018

WV Department of  
Environmental Protection

SUBJECT WELL  
E.J. May No.149 Rev.



◆ Denotes Potential Water Supply Source and Surface Owner (From Aerial Photography)

Section of  
Griffithsville 7.5' Quadrangle

SCALE 1"=1000'

43-03584S

WW-9  
(2/15)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. E. J. May No. 149

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 UIC2R04302AP

Watershed (HUC 10) Straight Fork Quadrangle Griffithsville 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 drilling & WATER, FOAMER, KCl

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? 20 ML

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 \_\_\_\_\_ )

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

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

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

Additives to be used in drilling medium? Water, Soap, KCl

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

-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.

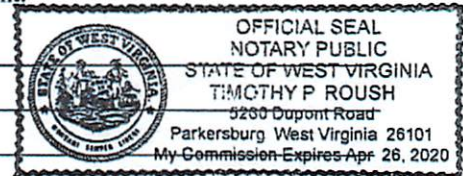
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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 19th day of July, 2018

[Signature] Notary Public

My commission expires 4/26/2020

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Office of Oil and Gas

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WV Department of  
Environmental Protection

HG Energy, LLC

Proposed Revegetation Treatment: Acres Disturbed 1.12 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 Maintained At All Times\*\***

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.

Plan Approved by: Jeffrey Smith

Comments: All sediment control to be removed prior to release.

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WV Department of  
Environmental Protection

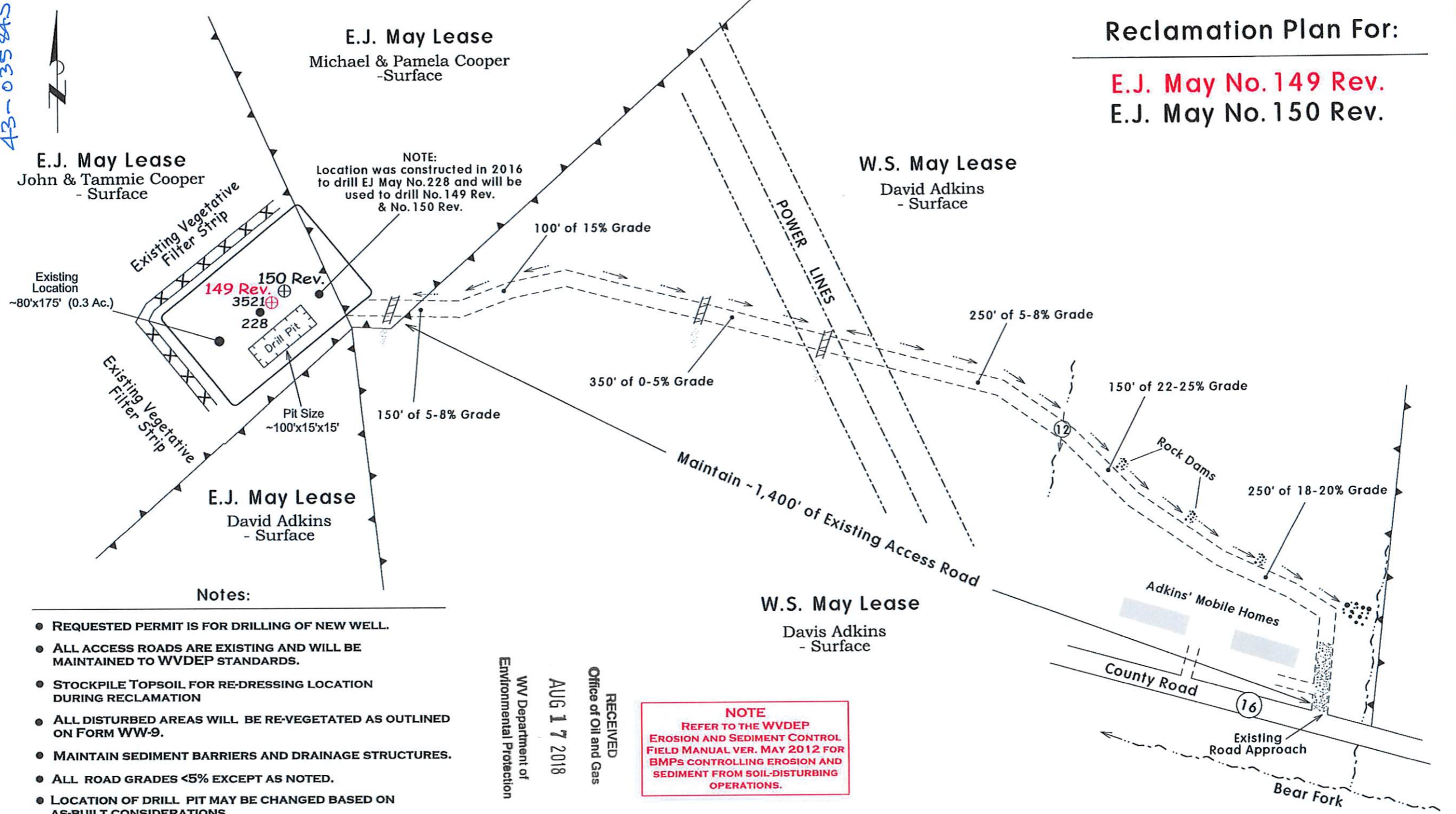
Title: Oil & Gas Inspector

Date: 7-24-18

Field Reviewed?  Yes  No

Reclamation Plan For:

**E.J. May No. 149 Rev.**  
**E.J. May No. 150 Rev.**



43-035845

**E.J. May Lease**  
 Michael & Pamela Cooper  
 - Surface

**E.J. May Lease**  
 John & Tammie Cooper  
 - Surface

**W.S. May Lease**  
 David Adkins  
 - Surface

**E.J. May Lease**  
 David Adkins  
 - Surface

**W.S. May Lease**  
 Davis Adkins  
 - Surface

NOTE:  
 Location was constructed in 2016  
 to drill EJ May No. 228 and will be  
 used to drill No. 149 Rev.  
 & No. 150 Rev.

Existing Location  
 ~80'x175' (0.3 Ac.)

149 Rev.  
 150 Rev.  
 3521  
 228  
 Drill Pit

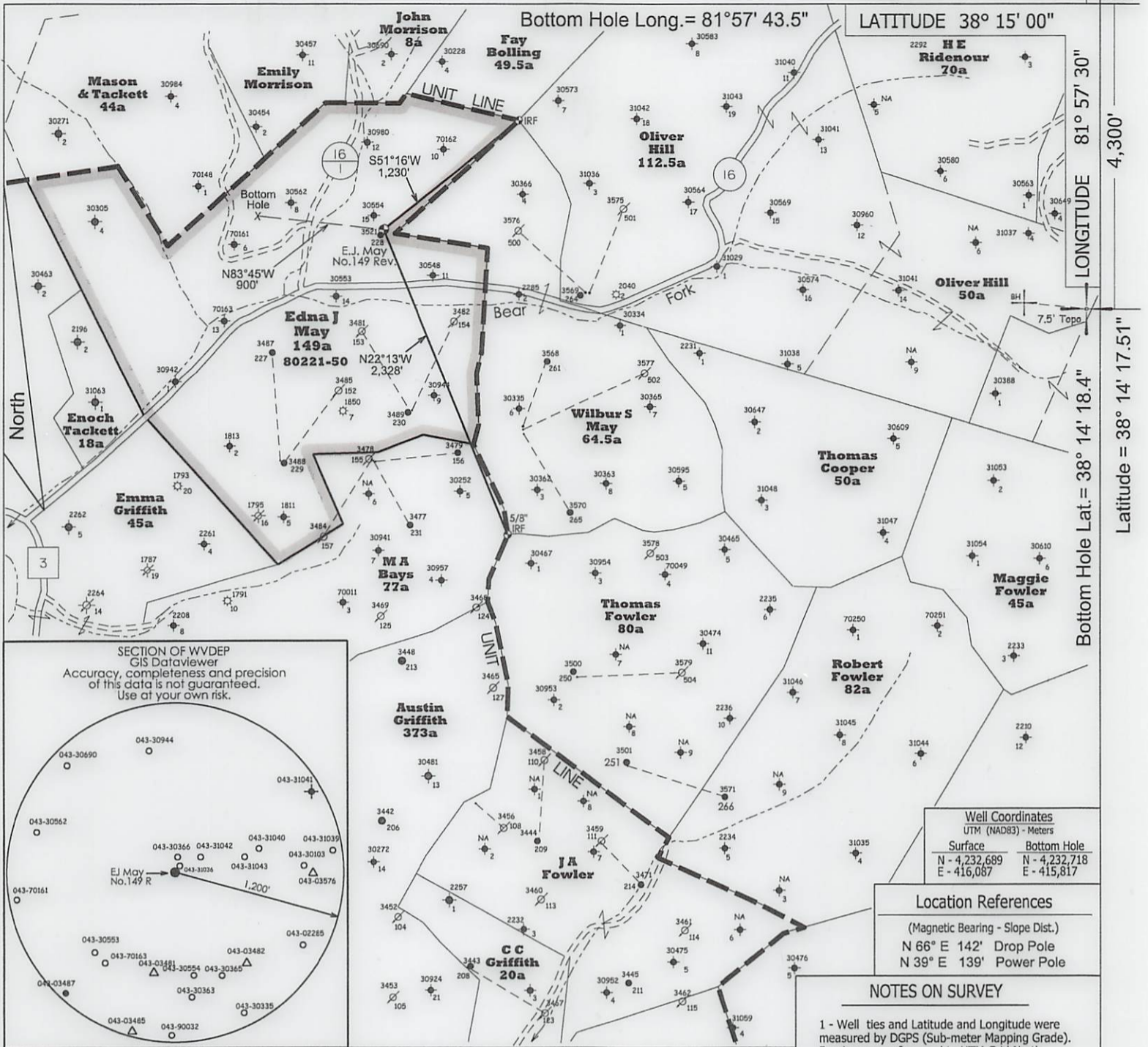
Pit Size  
 ~100'x15'x15'

Notes:

- REQUESTED PERMIT IS FOR DRILLING OF NEW WELL.
- ALL ACCESS ROADS ARE EXISTING AND WILL BE MAINTAINED TO WVDEP STANDARDS.
- STOCKPILE TOPSOIL FOR RE-DRESSING LOCATION DURING RECLAMATION
- 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.
- LOCATION OF DRILL PIT MAY BE CHANGED BASED ON AS-BUILT CONSIDERATIONS.
- DRAWING NOT TO SCALE.

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 AUG 17 2018  
 WV Department of  
 Environmental Protection

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

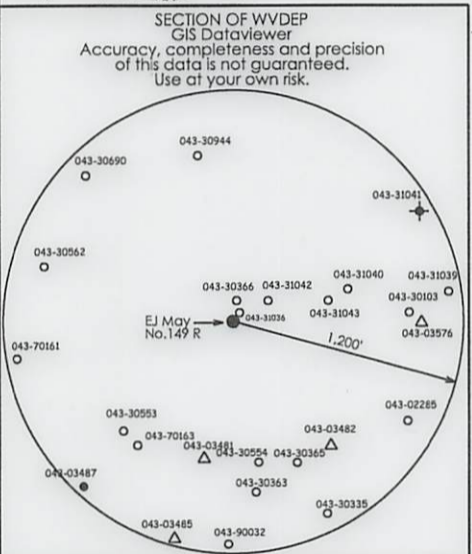


Bottom Hole Long. = 81°57' 43.5" LATITUDE 38° 15' 00"

LONGITUDE 81° 57' 30"

Bottom Hole Lat. = 38° 14' 18.4" LONGITUDE 81° 57' 30"

Latitude = 38° 14' 17.51"



Well Coordinates	
UTM (NAD83) - Meters	
Surface	Bottom Hole
N - 4,232,689	N - 4,232,718
E - 416,087	E - 415,817

**Location References**  
(Magnetic Bearing - Slope Dist.)  
N 66° E 142' Drop Pole  
N 39° E 139' Power Pole

**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 owner information obtained from the Lincoln County Assessor's tax records.

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

FILE NO. \_\_\_\_\_  
SCALE 1" = 1000'  
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 ENVIRONMENTAL PROTECTION.  
(SIGNED) *[Signature]*  
TIMOTHY P. ROUSH PS 793



WEST VIRGINIA  
Division of Environmental Protection  
Office of Oil and Gas  
601 57th Street  
Charleston, West Virginia 25301



DATE July 12, 2018  
FARM E.J. May No.149 Rev.  
API WELL NO. 47 - 043 - 035845

WELL TYPE: OIL \_\_\_ GAS \_\_\_ LIQUID INJECTION  WASTE DISPOSAL \_\_\_  
(IF "GAS") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW \_\_\_  
LOCATION: ELEVATION 804' WATERSHED Bear Fork  
DISTRICT Duval COUNTY Lincoln  
QUADRANGLE Griffithsville 7.5'  
SURFACE OWNER John & Tammie Cooper et al. ACREAGE 6 Ac. / 2.14 Ac.  
OIL & GAS ROYALTY OWNER HG Energy, LLC et al. LEASE ACREAGE 149 Ac.  
LEASE NO. 80221-50  
PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR  
STIMULATE  PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW  
FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) NOTE: This well will be drilled  
directionally as shown on the plat above.  
PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION Berea ESTIMATED DEPTH TMD - 2,790'  
WELL OPERATOR HG Energy LLC. DESIGNATED AGENT Diane White  
ADDRESS 5260 DuPont Road ADDRESS 5260 DuPont Road  
Parkersburg, WV 26101 Parkersburg, WV 26101