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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

August 29, 2013

**WELL WORK PERMIT**

**Vertical Well**

This permit, API Well Number: 47-3305782, 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: SARAH E. ADAMS NO. 243

Farm Name: MYERS, EDGAR LEE JR.

**API Well Number: 47-3305782**

**Permit Type: Vertical Well**

Date Issued: 08/29/2013

**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.

3305782

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

- 1) Well Operator: HG Energy, LLC
- 2) Operator's Well Number: Sarah E. Adams No. 243      3) Elevation 1347'
- 4) Well Type: (a) Oil X or Gas \_\_\_\_\_  
 (b) If Gas: Production \_\_\_\_\_ Underground Storage \_\_\_\_\_
- 5) Proposed Target Formation(s): Fifth Sand
- 6) Proposed Total Depth: 3125' TVD 3400' TMD ft.
- 7) Approximate fresh water strata depths: 225'
- 8) Approximate salt water depths: 1446'
- 9) Approximate coal seam depths: 700'
- 10) Does land contain coal seams tributary to active mine? Yes \_\_\_\_\_ No X
- 11) Proposed Well Work: Drill and stimulate production well in Fifth Sand, well to be drilled directionally N 27° W 510'

CASING AND TUBING PROGRAM

| TYPE         | SPECIFICATIONS |       | FOOTAGE INTERVALS |              | CEMENT       |                   |
|--------------|----------------|-------|-------------------|--------------|--------------|-------------------|
|              | Size           | Grade | Weight Per Ft.    | For Drilling | Left in Well | Fill-up (Cu. Ft.) |
| Conductor    |                |       |                   |              |              |                   |
| Fresh Water  | 7"             | LS    | 17#               | 775'         | 775'         | Cement to surface |
| Coal         |                |       |                   |              |              |                   |
| Intermediate |                |       |                   |              |              |                   |
| Production   | 4 1/2"         | J-55  | 10.5#             | 3400'        | 3400'        | 150 Sacks, CTS    |
| Tubing       |                |       |                   |              |              |                   |
| Liners       |                |       |                   |              |              |                   |

*SDW  
6/27/2013*

Packers: Kind \_\_\_\_\_  
 Sizes \_\_\_\_\_  
 Depths set \_\_\_\_\_

For Office of Oil and Gas Use Only

Fee(s) Paid     
  Well Work Permit     
  Reclamation Fund     
  WPCP  
 Plat     
  WW-9     
  WW-2B     
  Bond \_\_\_\_\_  
Office of Oil & Gas Agent  
(Type)

JUL 1 2013

3305782

1) Date: June 21, 2013  
2) Operator's Well Number Sarah E. Adams No. 243  
3) API Well No: 47 - 033 -  
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

CK# 2274  
\$650.00

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
- (a) Name Earl & Belva Junkins ✓  
Address RR 5, Box 1226  
Salem, WV 26426
  - (b) Name Edgar Lee Myers ✓  
Address RR 4, Box 532  
Salem, WV 26426
  - (c) Name Brian Huffman ✓  
Address RR 4, Box 530  
Salem, WV 26426
- 5) (a) Coal Operator:  
Name NA  
Address \_\_\_\_\_
- (b) Coal Owner(s) with Declaration  
Name NA  
Address \_\_\_\_\_
- (c) Coal Lessee with Declaration ✓  
Name Wolf Run Mining  
Address 2708 Cranberry Square  
Morgantown, WV 26505
- 6) Inspector Sam Ward  
Address P. O. Box 2327  
Buckhannon, WV 26201  
Telephone (304) - 389-7583

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

- Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR
- Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

Received  
Office of Oil & Gas

I certify that as required under Chapter 22 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 4 on the above-named parties, by:

JUL 1 2013

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

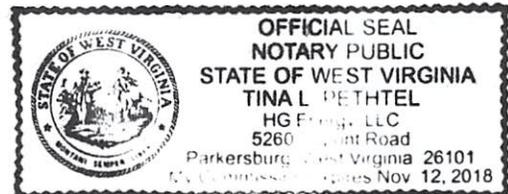
I have read and understand Chapter 22-6 and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

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, 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  
By: Diane C White *Diane C White*  
Its: Accountant  
Address 5260 Dupont Road  
Parkersburg, WV 26101  
Telephone (304) 420-1119

Subscribed and sworn before me this 21 day of August 2013  
*Tina L Bethel*  
My commission expires Nov 12, 2013 Notary Public



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 Branch of Lick Run Quadrangle Salem 7.5' 596  
Elevation 1347' County Harrison 33 District Ten Mile 0A

Description of anticipated Pit Waste: Fluids encountered in drilling shallow well.  
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? Yes          If so, what mil.? 20 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                                 )

*SDW*  
*6/27/2013*

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

Additives to be used? Water, soap, KCl

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in Pit  
- If left in pit and plan to solidify, what medium will be used? Cement, lime, sawdust Native soil, cement, lime  
- 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.

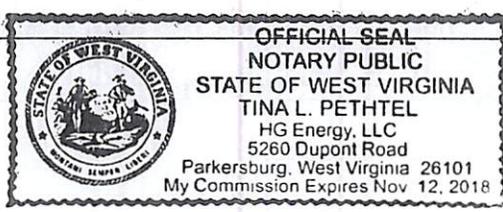
Received  
Office of Oil & Gas

JUL 1 2013

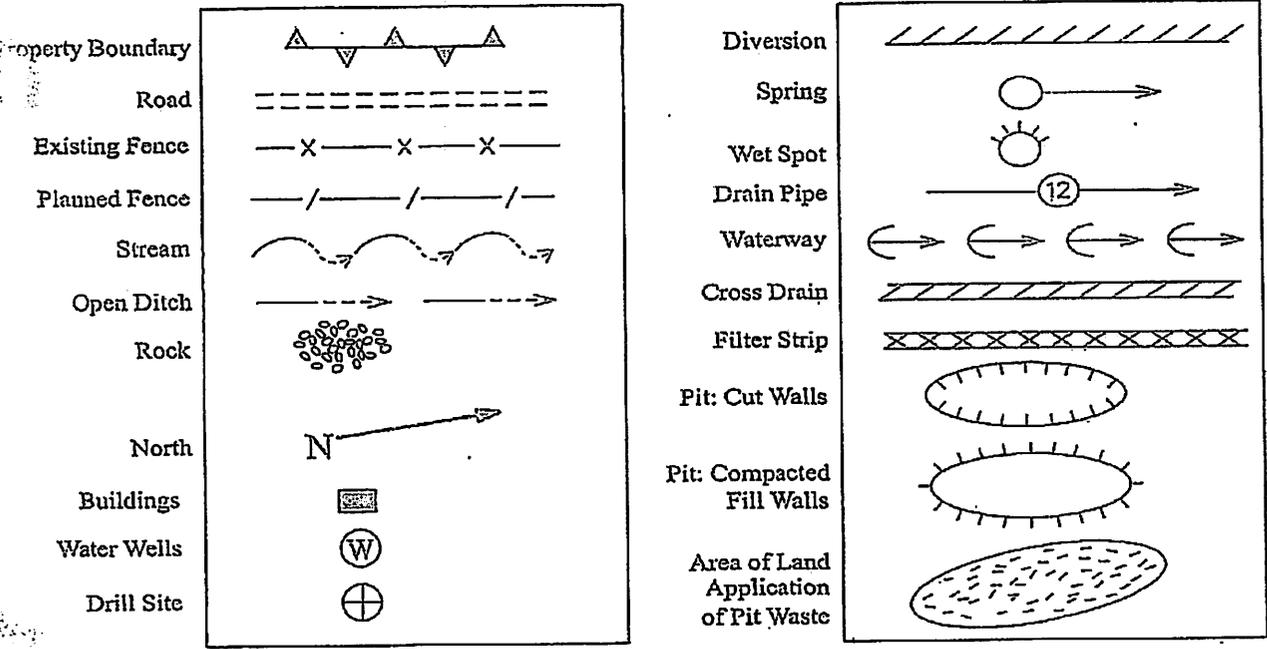
Company Official Signature Diane C White  
Company Official (Typed Name) Diane C. White  
Company Official Title Accountant

Subscribed and sworn before me this 21 day of June 2013  
Tina L. Pethtel Notary Public

My commission expires Nov 12, 2018  
Form WW-9



Legend



Proposed Revegetation Treatment: Acres Disturbed Area I Approx. 1.0 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         |          |
|                          |          |                       |          |
|                          |          |                       |          |

**Received**  
 JUL - 1 2013

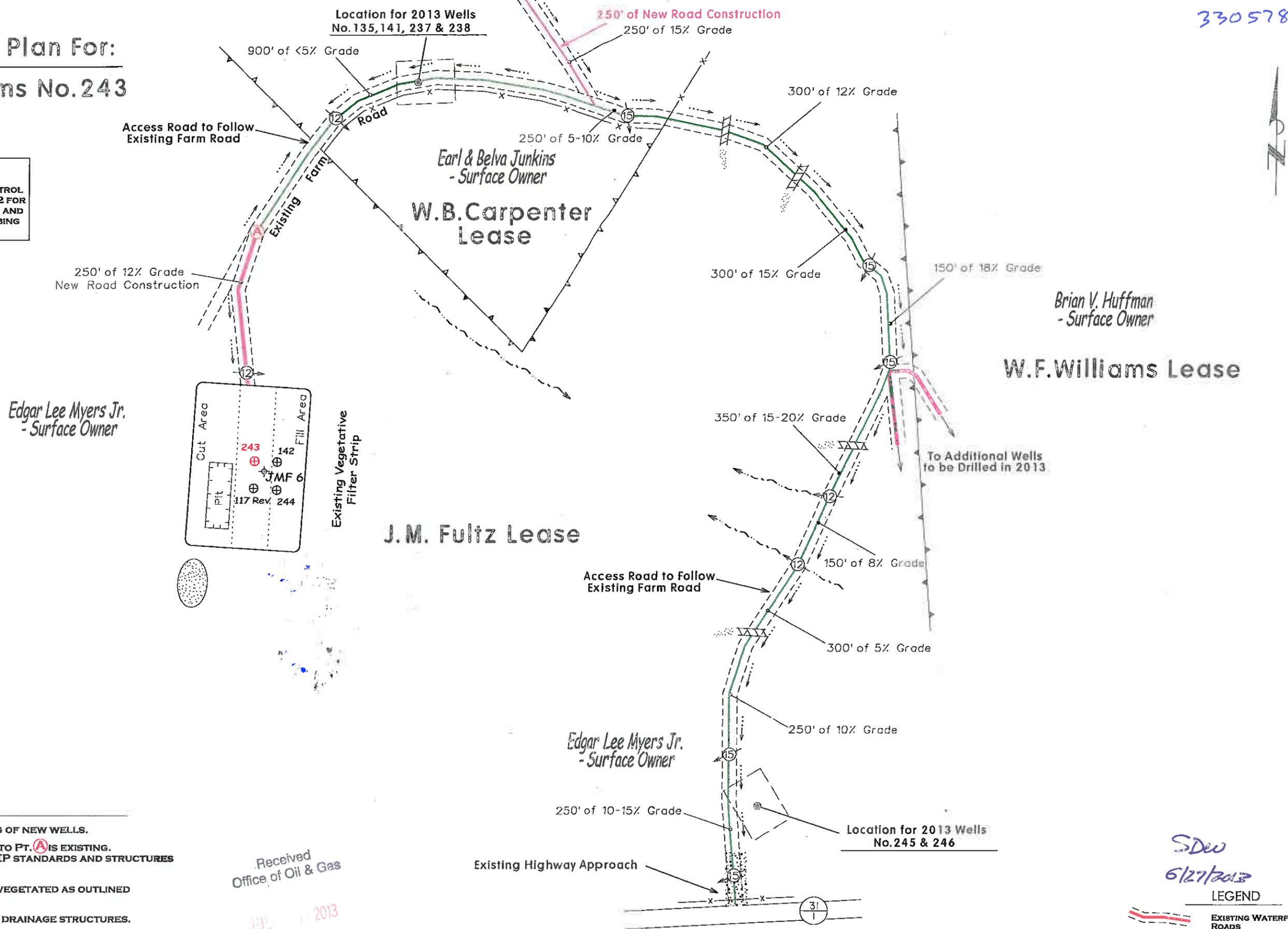
Attach:  
 Drawing(s) of road, location, pit and proposed area for land application  
 Photocopied section of involved 7.5' topographic sheet.

Office of Oil and Gas  
 Environmental Protection

Plan approved by: [Signature]  
 Title: Oil & Gas Inspector Date: 6/27/2013  
 Field Reviewed? X Yes          No

# Reclamation Plan For: Sarah E. Adams No. 243

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



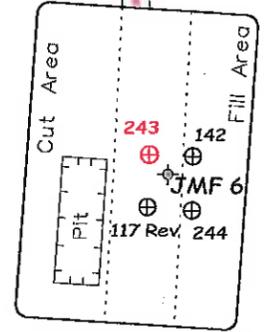
Edgar Lee Myers Jr.  
- Surface Owner

Earl & Belva Jenkins  
- Surface Owner  
W.B. Carpenter  
Lease

Brian V. Huffman  
- Surface Owner  
W.F. Williams Lease

J.M. Fultz Lease

Edgar Lee Myers Jr.  
- Surface Owner



**Notes:**

- REQUESTED PERMIT IS FOR DRILLING OF NEW WELLS.
- ACCESS ROAD FROM Co. Rd. 31/1 TO PT. A IS EXISTING. ROAD WILL BE UPGRADED TO WVDEP STANDARDS AND STRUCTURES INSTALLED AS SHOWN.
- 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.

Received  
Office of Oil & Gas

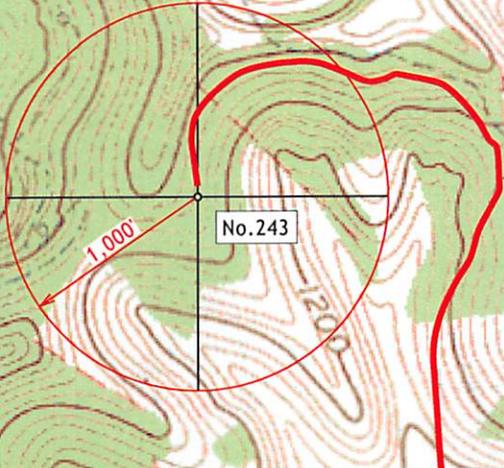
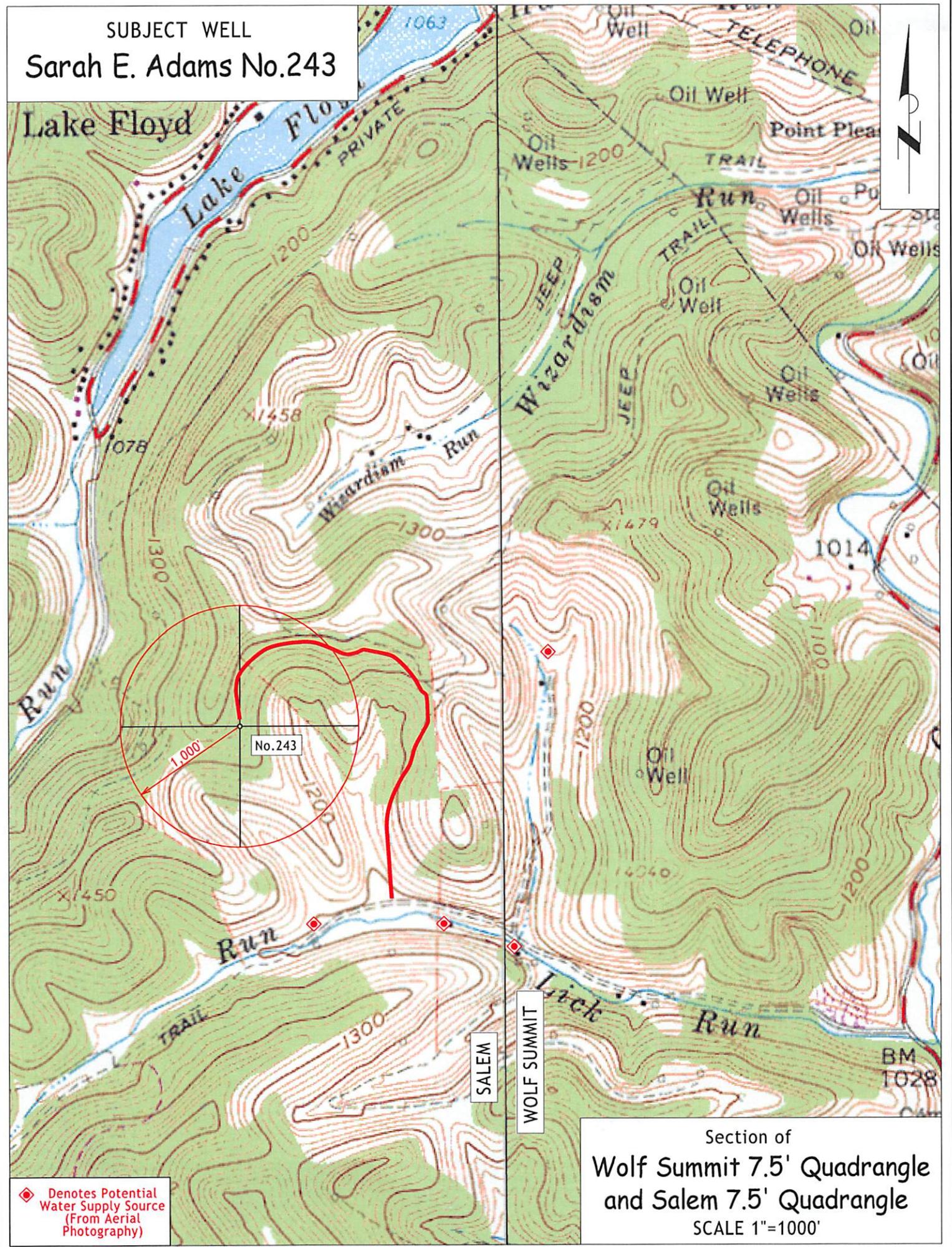
JUL 2013

SDew  
6/27/2013

**LEGEND**

- EXISTING WATERFLOOD ROADS
- EXISTING LEASE OR FARM ROADS TO BE UPGRADED.
- NEW ROADS TO BE CONSTRUCTED

SUBJECT WELL  
Sarah E. Adams No.243



◆ Denotes Potential Water Supply Source (From Aerial Photography)

Section of  
 Wolf Summit 7.5' Quadrangle  
 and Salem 7.5' Quadrangle  
 SCALE 1"=1000'

(BOTTOM HOLE: LON:-80°30'30.7")

LON:-80°30'27.8"

2185

1 - Well ties and Latitude and Longitude were measured by Topcon HiPer 6A survey grade GPS. Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1927).

2 - Surface owners, adjoining information, Lease names, & line mapping obtained from HGE GIS system. No survey was performed to determine lines within the Waterflood Unit-reference: HGE GIS system.

3 - No Title Opinion was provided to the Surveyor during this survey. This survey is subject to a complete title Opinion.

SURVEY NOTES

| UTM Coordinates<br>(Zone 17N-NAD 1983) |                              |
|--|------------------------------|
| Surface                                | N-4,347,110m.<br>E-542,479m. |
| Bottom Hole                            | N-4,347,248m.<br>E-542,409m. |

| LOCATION REFERENCES                      |                                 |
|--|---------------------------------|
| UTM 27                                   | S 38°07' E 14.0' EX: WELL JMF#6 |
|  | S 5°05' E 134.0' 6" MAPLE       |
| Brg. Direction is prop. well to the ref. |                                 |

LAT: 39°17'30"  
**MAP OF**  
**H.G. ENERGY, LLC**  
**-WATERFLOOD UNIT-**  
**SARAH E. ADAMS 243**

LON: 80°30'00"  
 7090  
 LAT:39°16'19.9"  
 (BOTTOM HOLE: LAT:39°16'24.4")



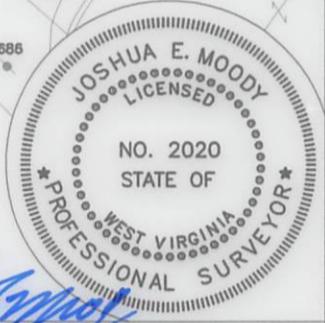
CROSS DENOTES LOCATION OF WELL ON U.S. TOPO MAPS.

JOB # 13-014  
 DRAWING # 13LAKEFLOYD FOLDER  
 SCALE 1" = 1500'  
 MINIMUM DEGREE OF ACCURACY 1/2500  
 PROVEN SOURCE OF ELEV. BENCH MARK H-80

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 PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
**MOODY LAND SURVEYING, LLC**  
 ST. MARYS, WV 26170



*Joshua E. Moody*  
 JOSHUA E. MOODY, P.S. 2020  
 DATE 4/19/13  
 OPERATOR'S WELL SARAH E. ADAMS #243

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  HORIZONTAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1347' WATERSHED BRANCH OF LICK RUN API WELL # 47-033-05782  
 DISTRICT TEN MILE COUNTY HARRISON STATE 47 COUNTY 033 PERMIT 05782  
 QUADRANGLE SALEM 7.5'

SURFACE OWNER EDGAR LEE MYERS JR. ACREAGE 25 ACRES +/-  
 OIL & GAS ROYALTY OWNER HILARY HEIGHTS, LTD ET AL LEASE ACREAGE 100 ACRES +/-  
 PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION   
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WILL BE DRILLED DIRECTIONALLY (N 27° W 510')  
 PLUG & ABANDON  CLEAN OUT & REPLUG   
 TARGET FORMATION 5TH SAND ESTIMATED DEPTH MD= 3,400'  
 WELL OPERATOR H.G. ENERGY, LLC DESIGNATED AGENT MIKE KIRSCH  
 ADDRESS 5260 DuPONT ROAD ADDRESS 5260 DuPONT ROAD  
PARKERSBURG, WV 26101 PARKERSBURG, WV 26101

COUNTY NAME PERMIT