



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

August 27, 2013

WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-3305759, 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: J.M. FULTZ #117R
Farm Name: MYERS, EDGAR LEE , JR.
API Well Number: 47-3305759
Permit Type: Secondary Recovery Well
Date Issued: 08/27/2013

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

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.

3305759 S

WW-3B
10/07



1) Date May 20, 2013
2) Operator's Well No. J.M Fultz No.117 Revised
3) API Well No. 47 - 033 -
State County Permit
4) UIC Permit No. UIC2R03301AP

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 1,347' Watershed Branch of Lick Run
District Tenmile 09 County Harrison 33 Quadrangle Salem 7.5' 596
- 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 Sam Ward
Address P. O. Box 2327
Buckhannon, WV 26201
- 10) DRILLING CONTRACTOR: Name
Address
- 11) PROPOSED WELL WORK: Drill X Drill Deeper Redrill Stimulate X
Plug Off Old Formation Perforate New Formation Convert
Other Physical Change in Well (specify)
- 12) Geological target formation Fifth Sand Depth 3,208 MD Ft. (Top) to 3,215 MD Ft. (Bottom)
- 13) Estimated depth of completed well (or actual depth of existing well) 3,350 MD Ft.
- 14) Approximate water strata depths: Fresh 225 Ft. Salt 1,446 Ft.
- 15) Approximate coal seam depths: 700 Ft.
- 16) Is coal being mined in the area? Yes X No
- 17) Virgin reservoir pressure in target formation: 1,250 psig. Source Estimated
- 18) Estimated reservoir fracture pressure: 2,650 psig.
- 19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 62 BBL Bottom Hole Pressure 2,400 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

| CASING OR TUBING TYPE | SPECIFICATIONS | | | | | FOOTAGE INTERVALS | | CEMENT FILLUP OR SACKS (CU. FT.) | PACKERS |
|-----------------------|----------------|-------|--------|-----|------|-------------------|--------------|----------------------------------|---------------------|
| | Size | Grade | Weight | New | Used | For Drilling | Left in Well | | |
| Conductor | | | | | | | | | Kinds |
| Fresh Water | 7" | L.S. | 17# | X | | 775' | 775' | Cement To | Tension |
| Coal | | | | | | | | Surface | Sizes |
| Intermediate | | | | | | | | | 2" X 4" |
| Production | 4 1/2" | J-55 | 10.5# | X | | 3350' | 3350' | 150 Sacks <u>CTS</u> | Depths Set |
| Tubing | 2 3/8" | J-55 | 4.6# | X | | 3050' | 3050' | | 2950' |
| Liners | | | | | | | | | Perforations |
| | | | | | | | | | Top Bottom |
| | | | | | | | | | Office of Oil & Gas |

SDW
5/23/2013

24) APPLICANTS OPERATING RIGHTS were acquired from John M. Fultz
by Deed Lease X Other Contract Dated August 15, 1896 of record in the 2013
Harrison County Clerk's Office in Book 92 at Page 47

33057595

Form WW-9
Rev. 10/94

Page 3 of 3
API Number 47- 033 -
Operator's Well No. J.M Fultz No.117 Revised

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'
Elevation 1,347' County Harrison District Tenmile
Description of anticipated Pit Waste: Fluids encountered in drilling and stimulating new 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.? 10 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
5/23/2013

Drilling medium anticipated for this well? Air, fresh water, oil based, etc. Air
- 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.

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

Subscribed and sworn before me this 20 day of MAY 2013

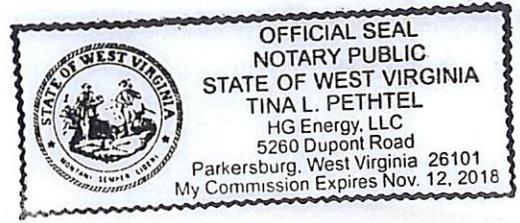
Tina L. Pethtel Notary Public

My commission expires NOV 12 2018

Received
Office of Oil & Gas

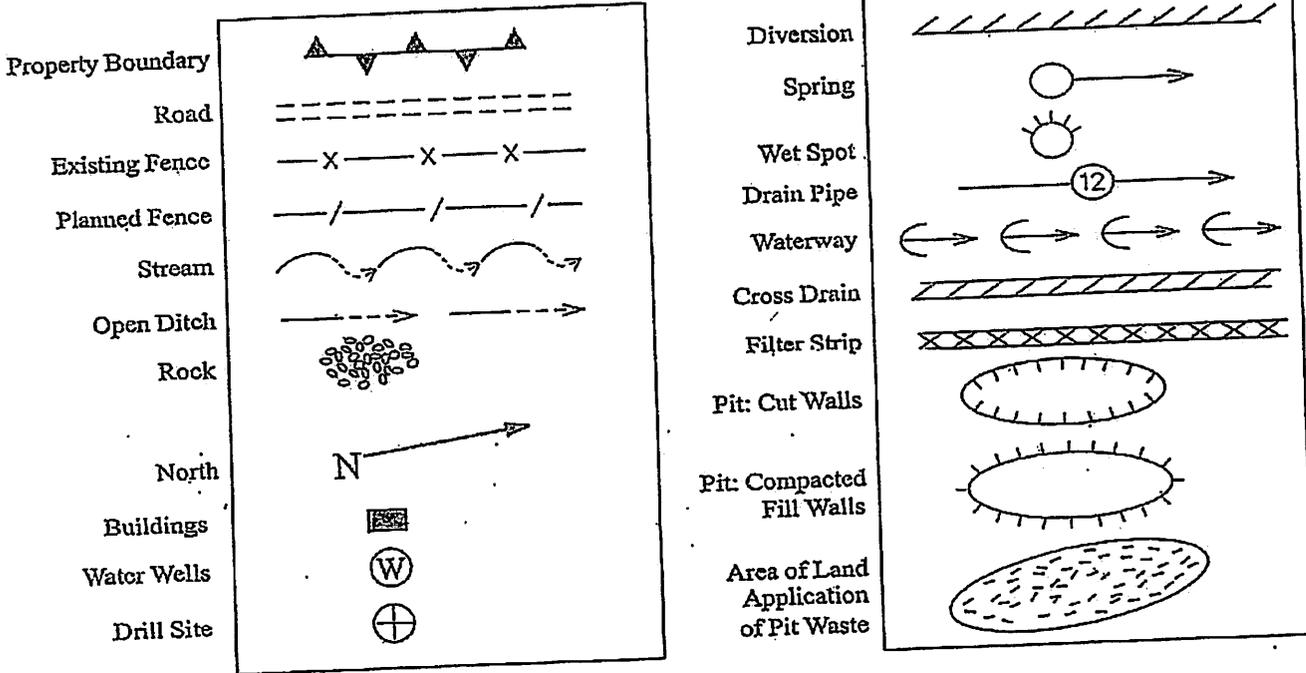
MAY 27 2013

Form WW-9



WVMD Rev

Legend



Proposed Revegetation Treatment: Acres Disturbed Area I
 Approx. 1.0 Ac. Prevegetation pH _____

Area II
 Approx. 0.5 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> | |
|--------------------------|----------|
| Seed Type | Lbs./Ac. |
| Hall's Deer Forage Mix | 50 |
| | |
| | |

| <u>Area II (Road)</u> | |
|------------------------|----------|
| Seed Type | Lbs./Ac. |
| Hall's Deer Forage Mix | 50 |
| | |
| | |

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

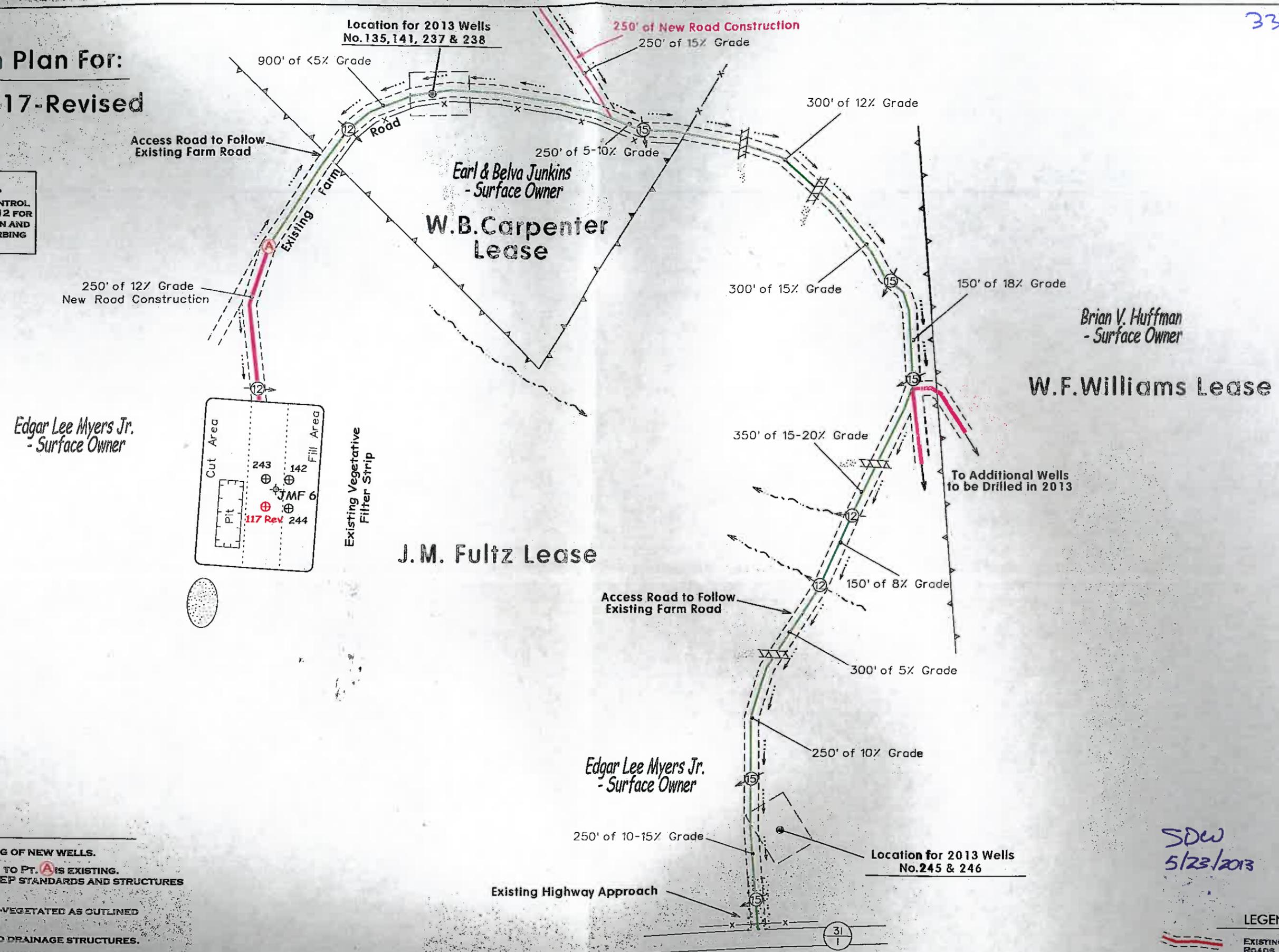
Plan approved by: S. D. Ward III
 Comments: Pre-seed & mulch, Upgrade EIS as necessary per WKDEP EIS manual

Title: Oil & Gas Inspector Date: 5/23/2013

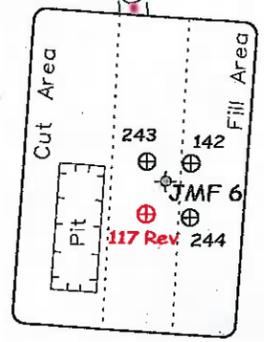
Field Reviewed? Yes No

Reclamation Plan For: J.M. Fultz No. 117- Revised

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



Existing Vegetative
Filter Strip

J.M. Fultz Lease

Edgar Lee Myers Jr.
- Surface Owner

Location for 2013 Wells
No. 245 & 246

Brian V. Huffman
- Surface Owner

W.F. Williams Lease

To Additional Wells
to be Drilled in 2013

Notes:

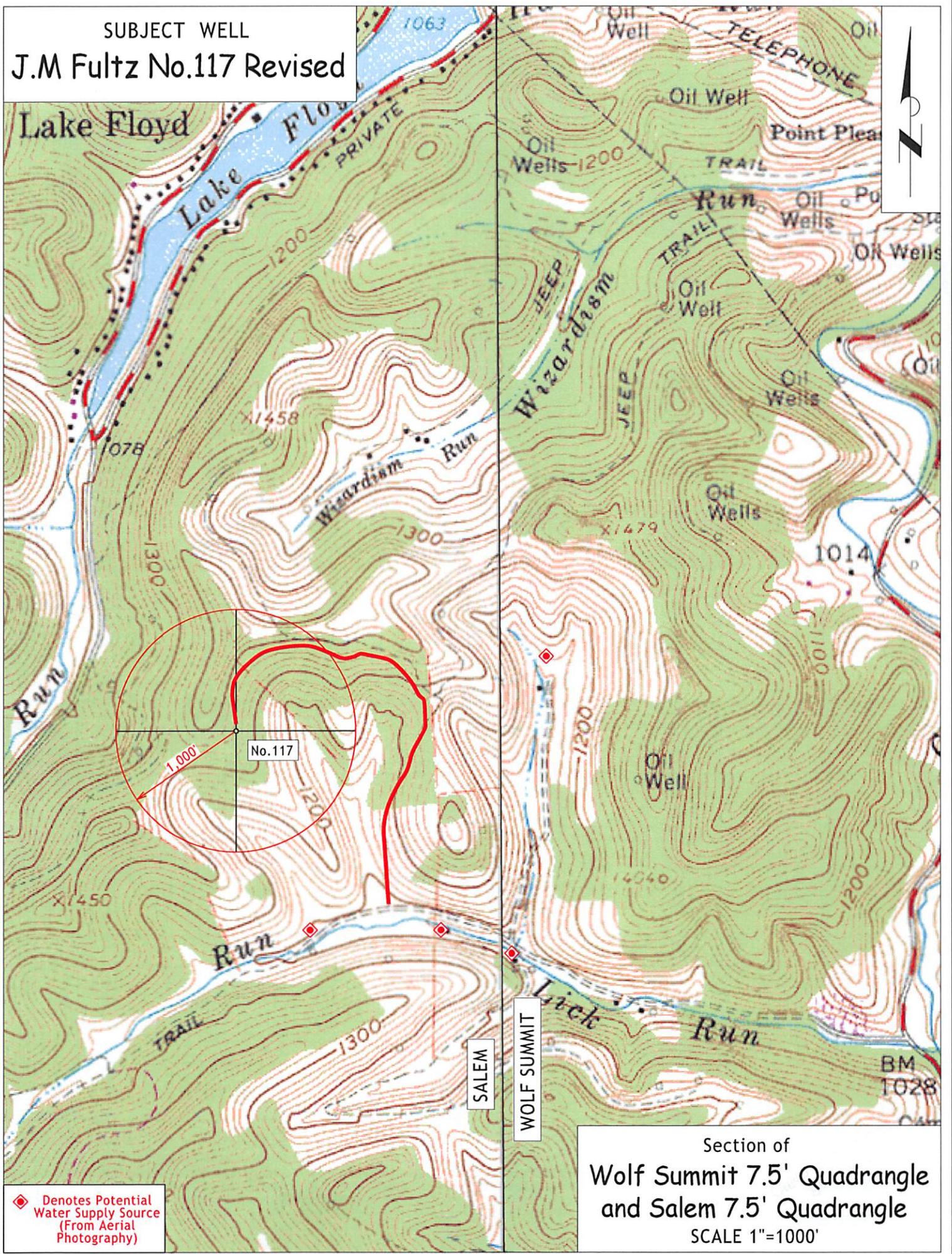
- REQUESTED PERMIT IS FOR DRILLING OF NEW WELLS.
- ACCESS ROAD FROM Co. Rd. 31/1 TO Pt. A IS EXISTING. ROAD WILL BE UPGRADED TO WVDEP STANDARDS AND STRUCTURES INSTALLED AS SHOWN.
- ALL DISTURBED AREAS WILL BE RE-VEGETATED AS OUTLINED ON FORM WW-9.
- MAINTAIN SEDIMENT BARRIERS AND DRAINAGE STRUCTURES.
- ALL ROAD GRADES <math><5\%</math> EXCEPT AS NOTED.
- LOCATION OF DRILL PIT MAY BE CHANGED BASED ON AS-BUILT CONSIDERATIONS.
- DRAWING NOT TO SCALE.

SDW
5/23/2013

LEGEND

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

SUBJECT WELL
J.M Fultz No.117 Revised



◆ 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°30'30.9")

LON:-80°30'27.8"

2185

1 - Well ties and Latitude and Longitude were measured by Topcon Hiper GA survey grade GPS. Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1983).

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.

| UTM Coordinates (Zone 17N-NAD 1983) | |
|--|------------------------------|
| Surface | N-4,347,103m. E-542,479m. |
| Bottom Hole | N-4,347,044m. E-542,406m. |

| LOCATION REFERENCES | |
|---------------------|--|
| UTM 27 | N 39°38' E 15.0' EX: WELL JMF#6 |
| | S 6°36' E 111.6' 6" MAPLE |
| | Brg. Direction is prop. well to the ref. |

LAT: 39°17'30"
MAP OF
H.G. ENERGY, LLC
-WATERFLOOD UNIT-
J.M. FULTZ 117R



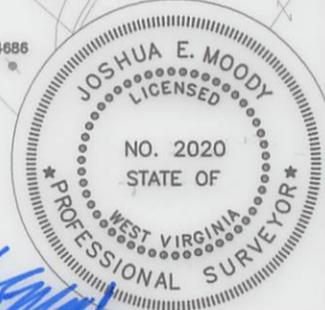
⊕ DENOTES LOCATION OF WELL ON U.S. TOPO MAPS.

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, P.S. 2020

DATE 4/19/13
 OPERATOR'S WELL
 J.M. FULTZ #117R

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

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 # 47-033-057599
 DISTRICT TEN MILE COUNTY HARRISON STATE 47 COUNTY 033 PERMIT 057599
 QUADRANGLE SALEM 7.5'

SURFACE OWNER EDGAR LEE MYERS JR. ACREAGE 25 ACRES +/-
 OIL & GAS ROYALTY OWNER W.V.A. BAPTIST EDUC. SOC. ET AL LEASE ACREAGE 146 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 (S 51° W 307')
 PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION 5TH SAND ESTIMATED DEPTH MD= 3,350'
 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