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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

July 03, 2013

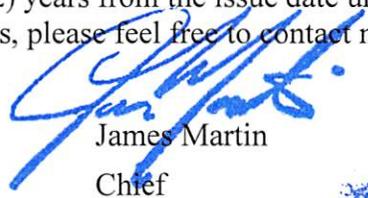
**WELL WORK PERMIT**  
**Secondary Recovery Well**

This permit, API Well Number: 47-3305749, 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: W.F. WILLIAMS #130  
Farm Name: HUFFMAN, BRIAN V.

**API Well Number: 47-3305749**

**Permit Type: Secondary Recovery Well**

Date Issued: 07/03/2013

**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 20 mil thickness synthetic liner.

WW-3B  
10/07



1) Date April 17, 2013  
2) Operator's Well No. W. F. Williams No. 130  
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 1306' Watershed            Branch of Lick Run             
District Tenmile County            Harrison            Quadrangle Wolf Summit 7.5'
- 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 Tristan Jenkins  
Address P. O. Box 4274  
Clarksburg, WV 26302
- 10) DRILLING CONTRACTOR: Name To be determined  
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 3,128 Ft. (Top) to 3,135 Ft. (Bottom)
- 13) Estimated depth of completed well (or actual depth of existing well) 3175' TVD 3250' TMD Ft.
- 14) Approximate water strata depths: Fresh 200 Ft.  Salt 1,400 Ft.
- 15) Approximate coal seam depths: 690 Ft.
- 16) Is coal being mined in the area? Yes  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 25 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		750'	750'	Cement to Surface	Tension
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	X		3250'	3250'	150 sacks	Depths Set
Tubing	2 3/8"	J-55	4.6 #	X		2950'	2950'		2850'
Liners									Perforations
									Top Bottom

24) APPLICANTS OPERATING RIGHTS were acquired from W F Williams et ux  
by Deed            Lease X Other Contract            Dated August 15, 1896 of record in the  
Harrison County Clerk's Office in            Book 92 at Page 49

RECEIVED  
Office of Oil & Gas

TAV  
25 APR 13

Department of  
Environmental Protection



WW-2B1

Well No. W. F. Williams No. 130

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.

Brian Huffman  
RR 4, Box 530  
Salem, WV 26426

33057495

Form WW-9  
Rev. 10/94

Page 3 of 3  
API Number 47- 033

Operator's Well No. W. F. Williams No. 130

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 Wolf Summit 7.5' 692  
Elevation 1306' County Harrison 33 District Tenmile 09  
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.? 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     )

Drilling medium anticipated for this well? Air, fresh water, oil based, etc. Air, Fresh Water  
- If oilbased, what type? Synthetic, petroleum, etc. NA  
Additives to be used? Water, Soap, KCI  
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 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

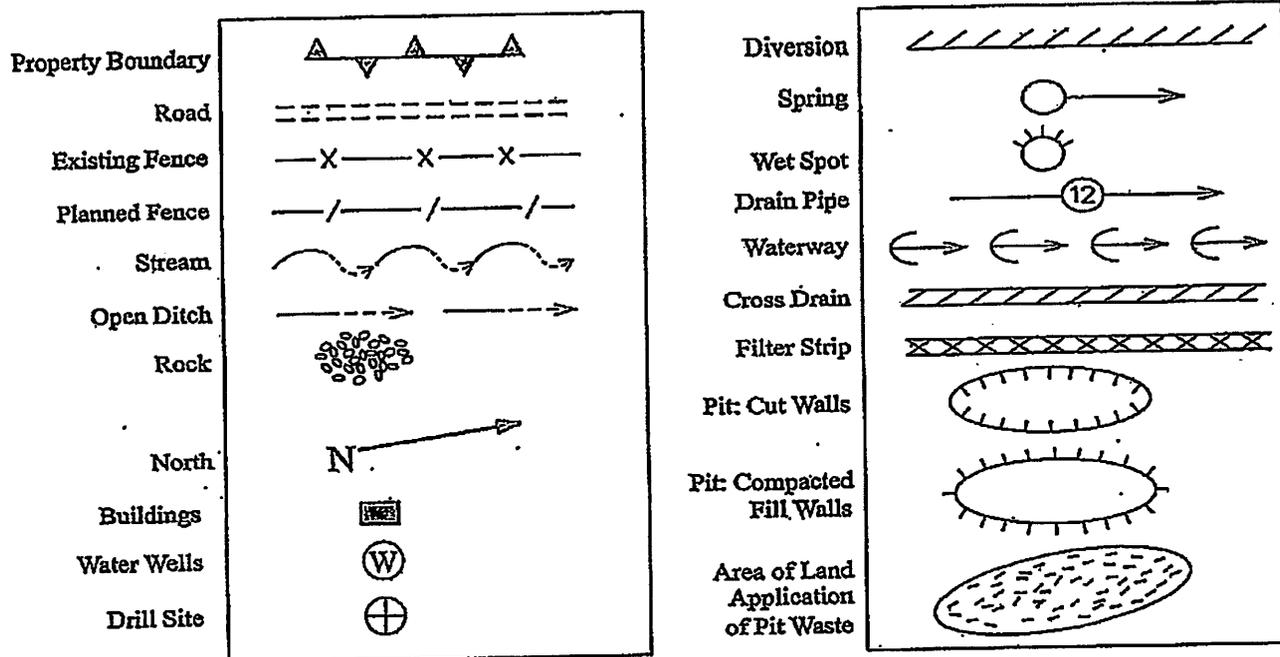
Subscribed and sworn before me this 17 day of April 2013  
Tina L. Pethtel Notary Public  
My commission expires Nov 12, 2018

Form WW-9



WWW-Rank

Legend



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

Area II Approx. 1.0 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.
Tall Fescue	40
Ladino Clover	5

<u>Area II (Road)</u>	
Seed Type	Lbs./Ac.
Tall Fescue	40
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: [Signature]

Comments: \_\_\_\_\_

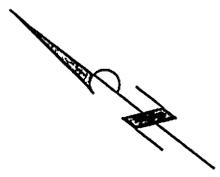
Title: 21/9 GAS

RECEIVED  
 Office of Oil & Gas Date: 25 APR 13

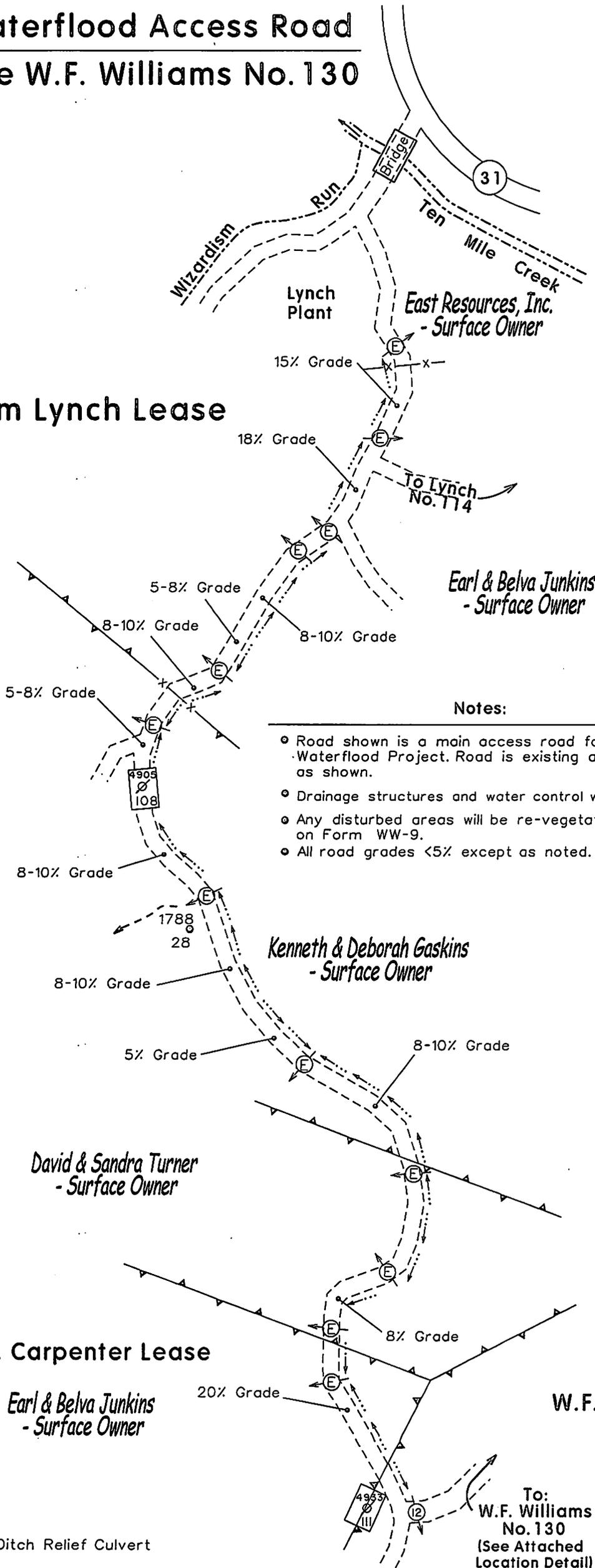
Field Reviewed?  Yes

APR 30 2013 ( ) No

# Detail of: Main Waterflood Access Road To Serve W.F. Williams No. 130



## Hiram Lynch Lease



### Notes:

- Road shown is a main access road for the Wolf Summit Waterflood Project. Road is existing and has been upgraded as shown.
- Drainage structures and water control will be maintained.
- Any disturbed areas will be re-vegetated as outlined on Form WW-9.
- All road grades <5% except as noted.

THW @JAPPA13

ⓔ - Existing Ditch Relief Culvert

To:  
W.F. Williams  
No. 130  
(See Attached  
Location Detail)

33057495

APR 30 2013

WV Department of  
Environmental Protection

# Reclamation Plan For: W.F. Williams No. 130



1.2 Mi. to  
SLS (31)

(See Attached Detail  
for Access Road to  
County Road)

## W.B. Carpenter Lease

*Earl & Belva Junkins  
- Surface Owner*

## W.F. Williams Lease

Use Existing Access Road  
for WF Williams No. 215

To W.F. Williams  
No. 8

350' of <5% Grade

125' of 25% Grade

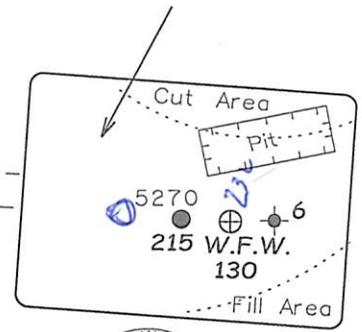
*Brian V. Huffman  
- Surface Owner*

*TAV 25 APR 13*

- Notes:**
- Requested permit is for drilling of new wells.
  - Access road from Co. Rd. 31 to 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.
  - Location of drill pit may be changed based on as-built considerations.

**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:**  
Existing location for WF Williams  
No. 215 will be enlarged to drill  
new well WF Williams No. 130.



Note: Drawing not to Scale



(BOT. HL: LON:-80°29'55.1")

LON:-80°29'54.0"

11325

LON: 80°27'30"

5845'

LAT:39°16'32.3"

(BOTTOM HOLE: LAT:39°16'27.7")

**SURVEY NOTES**

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 1927).

2 - Surface owners, adjoining information, Lease names, & line mapping obtained from 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-4,347,494m. E-543,287m.
Bottom Hole	N-4,347,353m. E-543,262m.

LOCATION REFERENCES	
UTM 27	
S 88°51' E 73.0'	EX: WELL 72735
S 77°14' E 18.4'	EX: WELL 5270
S 11°30' W 35.4'	UTILITY POLE
Brg. Direction is prop. well to the ref.	

LAT: 39°17'30"

**MAP OF  
H.G. ENERGY, LLC  
-WATERFLOOD UNIT-  
W.F. WILLIAMS 130 REV**



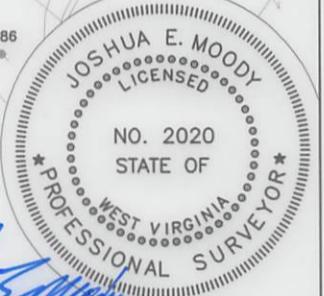
✚ DENOTES LOCATION OF WELL ON U.S. TOPO MAPS.

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, P.S. 2020  
DATE 5/15/13  
OPERATOR'S WELL  
W.F. WILLIAMS #130 REVISED

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 1306' WATERSHED BRANCH OF LICK RUN API WELL # 47-033-057495  
 DISTRICT TEN MILE COUNTY HARRISON STATE COUNTY PERMIT  
 QUADRANGLE WOLF SUMMIT 7.5'  
 SURFACE OWNER BRIAN V. HUFFMAN ACREAGE 102.35 ACRES +/-  
 OIL & GAS ROYALTY OWNER CLYDE WILLIAMS ET AL LEASE ACREAGE 102 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 10° W 470')  
 PLUG & ABANDON  CLEAN OUT & REPLUG   
 TARGET FORMATION 5TH SAND ESTIMATED DEPTH MD= 3,250'  
 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

(BOT. HL: LON:-80°29'54.4") LON:-80°29'53.3" 11270

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 1927).  
 2 - Surface owners, adjoining information, lease names, & line mapping obtained from 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 (Zone 17N-NAD 1983)		LOCATION REFERENCES	
	Surface	N-4,347,493m. E-543,303m.	NAD 1983 N 89°41' E 35.2' EX: WELL 5270 S 85°42' W 20.0' EX: WELL 72735	
Bottom Hole	N-4,347,352m. E-543,278m.			

LAT: 39°17'30"  
**MAP OF**  
**H.G. ENERGY, LLC**  
**-WATERFLOOD UNIT-**  
**W.F. WILLIAMS 130**

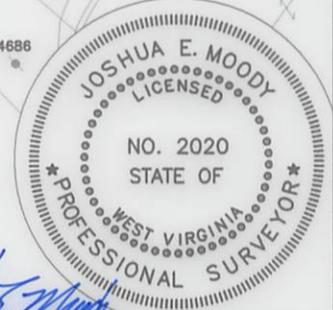


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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
**MOODY LAND SURVEYING, LLC**  
 ST. MARYS, WV 26170



*Joshua E. Moody*  
 JOSHUA E. MOODY, P.S. 2020

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

DATE 4/08/13  
 OPERATOR'S WELL W.F. WILLIAMS #130

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  HORIZONTAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1306' WATERSHED BRANCH OF LICK RUN API WELL # 47-033-057495  
 DISTRICT TEN MILE COUNTY HARRISON STATE 47 COUNTY 033 PERMIT 057495  
 QUADRANGLE WOLF SUMMIT 7.5'

SURFACE OWNER BRIAN V. HUFFMAN ACREAGE 102.35 ACRES +/-  
 OIL & GAS ROYALTY OWNER CLYDE WILLIAMS ET AL LEASE ACREAGE 102 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 10° W 470')  
 PLUG & ABANDON  CLEAN OUT & REPLUG   
 TARGET FORMATION 5TH SAND  
 WELL OPERATOR H.G. ENERGY, LLC ESTIMATED DEPTH MD= 3,250'  
 ADDRESS 5260 DuPONT ROAD DESIGNATED AGENT MIKE KIRSCH  
PARKERSBURG, WV 26101 ADDRESS 5260 DuPONT ROAD  
PARKERSBURG, WV 26101

LON: 80°27'30" LAT: 39°16'32.2" (BOTTOM HOLE: LAT: 39°16'27.6")

33057495

ITEM 3 MR HUFFMAN LETTER

# Reclamation Plan For: W.F. Williams No. 130

Office of Oil & Gas

APR 8 0 2013

WV Department of  
Environmental Protection

- Notes:
- Requested permit is for drilling of new wells.
  - Access road from Co. Rd. 31 to location is existing. Structures will be maintained.
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  - Location of drill pit may be changed based on as-built considerations.

(See Attached Detail for Access Road to County Road)

## W.B. Carpenter Lease

Earl & Belva Junkins  
- Surface Owner

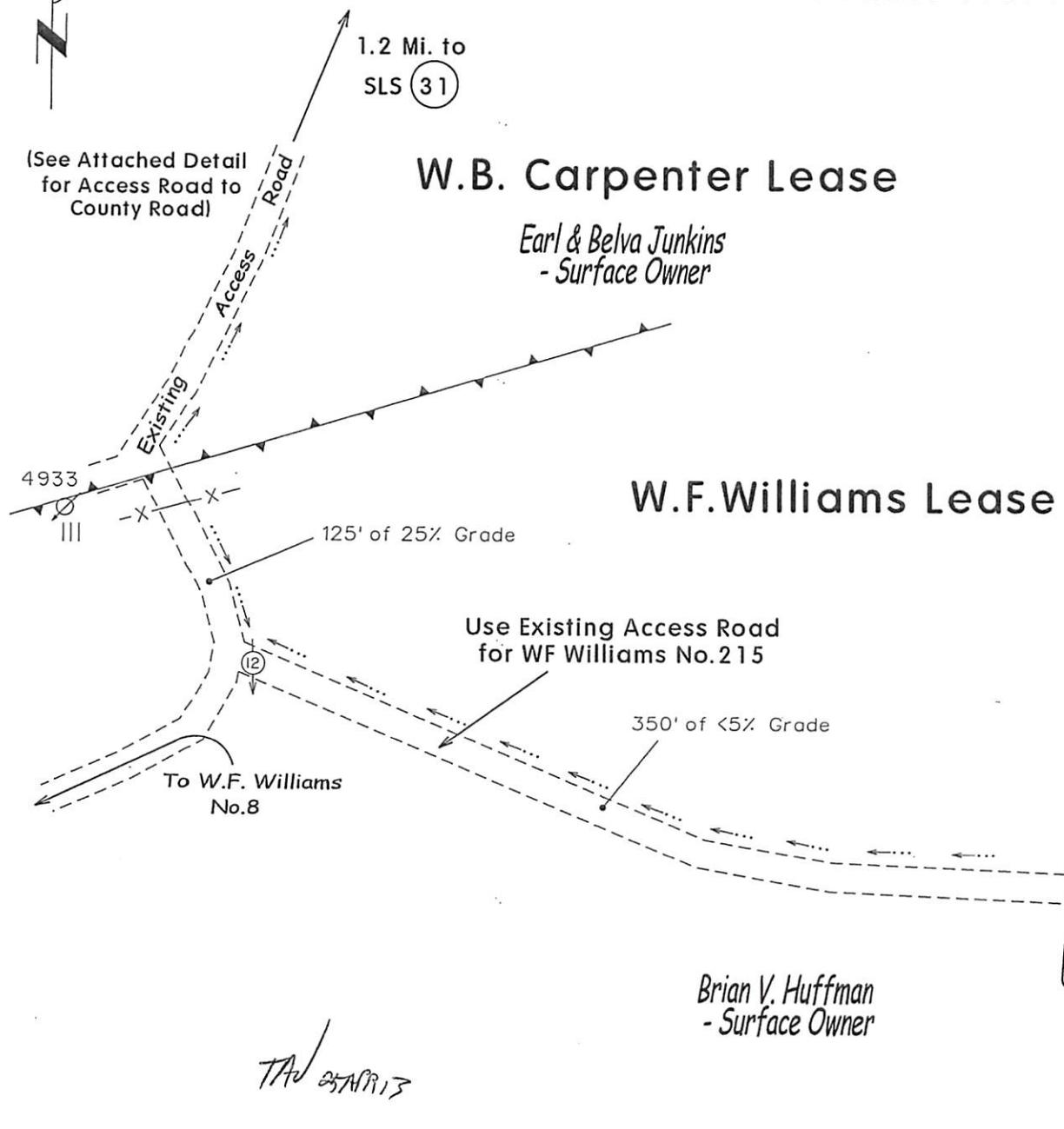
## W.F. Williams Lease

Brian V. Huffman  
- Surface Owner

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

**NOTE:**  
Existing location for WF Williams  
No. 215 will be enlarged to drill  
new well WF Williams No. 130.

REFER TO  
PLUGGING CERTIFICATE  
ATTACHED FOR  
LEASE NO. 23876



TAV 25 APR 13

Note: Drawing not to Scale