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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 10, 2013

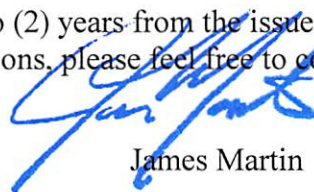
**WELL WORK PERMIT**  
**Secondary Recovery Well**

This permit, API Well Number: 47-3305775, 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. CHAPLAIN NO. 143

Farm Name: MYERS, EDITH JEAN

**API Well Number: 47-3305775**

**Permit Type: Secondary Recovery Well**

Date Issued: 07/10/2013

**Promoting a healthy environment.**

**07/12/2013**

# 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 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.

33057755

WW-3B  
10/07



1) Date May 15, 2013  
2) Operator's Well No. T. J. Chaplain No. 143  
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 1286' Watershed Branch of Lick Run  
District Tenmile 09 County Harrison 33 Quadrangle Salem 7.5' 596  
7) WELL OPERATOR: HG Energy, LLC 494497948 8) DESIGNATED AGENT: Mike Kirsch  
5260 Dupont Road 5260 Dupont Road  
Parkersburg, WV 26101 Parkersburg, WV 26101  
9) OIL & GAS INSPECTOR TO BE NOTIFIED: 10) DRILLING CONTRACTOR:  
Name Sam Ward Name \_\_\_\_\_  
Address P. O. Box 2327 Address \_\_\_\_\_  
Buckhannon, WV 26201  
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 3,079 Ft. (Top) to 3,087 Ft. (Bottom)  
13) Estimated depth of completed well (or actual depth of existing well) 3000' TVD 3225' TMD Ft.  
14) Approximate water strata depths: Fresh 200 Ft. Salt 1,390 Ft.  
15) Approximate coal seam depths: 564' 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 25 BBL Bottom Hole Pressure 2,400 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/or coal bed filters  
22) SPECIFICATION FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL \_\_\_\_\_

SBW  
5/23/2013

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		639'	639'	Cement to Surface	Tension
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	X		3225'	3225'	150 sacks	Depths Set
Tubing	2 3/8"	J-55	4.6 #	X		2925'	2925'	Received Office of Oil & Gas	2825'
Liners									Perforations
									Top Bottom

JUN 19 2013

24) APPLICANTS OPERATING RIGHTS were acquired from Myers, Josephine K.  
by Deed \_\_\_\_\_ Lease X Other Contract \_\_\_\_\_ Dated January 01, 1900 of record in the  
Harrison County Clerk's Office in \_\_\_\_\_ Book 1248 at Page 07712/2013



WW-2B1

Well No. T. J. Chaplain No. 143

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.

Requests for Water Sampling were initiated 4/19/13 with the first permit applications of this group of 30 applications. Water testing/analysis was requested for:

Earl & Belva Junkins RR 5, Box 1226 Salem, WV 26426	Brian Huffman RR 4, Box 530 Salem, WV 26426	Susan Junkins RR 2, Box 119A Bristol, WV 26426	Gary Winters & Ruth Kennedy RR 2, Box 119 Bristol, WV 26426	Claude & Jean Tetrick RR 2, Box 40 Bristol, WV 26426
John & Brenda Scotchie RR 2, Box 42 Salem, WV 26426	Linda Smith 9046 Westville Drive Camden Wyoming, DE 19934	Dennis McAvey RR 2, Box 41 Bristol, WV 26332	Mazza Donna Devericks RR 2, Box 80 Bristol, WV 26332	Received Office of Oil & Gas

Additional testing authorized for the TJ Chaplain leases on 5/13/2013:

Oville Myers RR 4, Box 531 Salem, WV 26426	Daniel Southern RR 4, Box 540 Salem, WV 26426	Edgar Lee Myers RR 4, Box 532 Salem, WV 26426	Edith Jean Myers RR 4, Box 534 Salem, WV 26426
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JUN 19 2013

07/12/2013

33057755

Form WW-9  
Rev. 10/94

Page 3 of 3  
API Number 47- 033 -         

Operator's Well No. T. J. Chaplain No. 143

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 1286' County Harrison District Tennmile

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.

SDW  
5/23/2013

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

Received  
Office of Oil & Gas

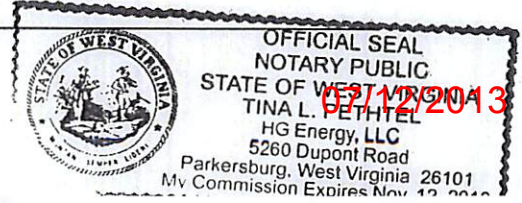
JUN 19 2013

Subscribed and sworn before me this 16 day of MAY 2013

Tina L. Pethel Notary Public

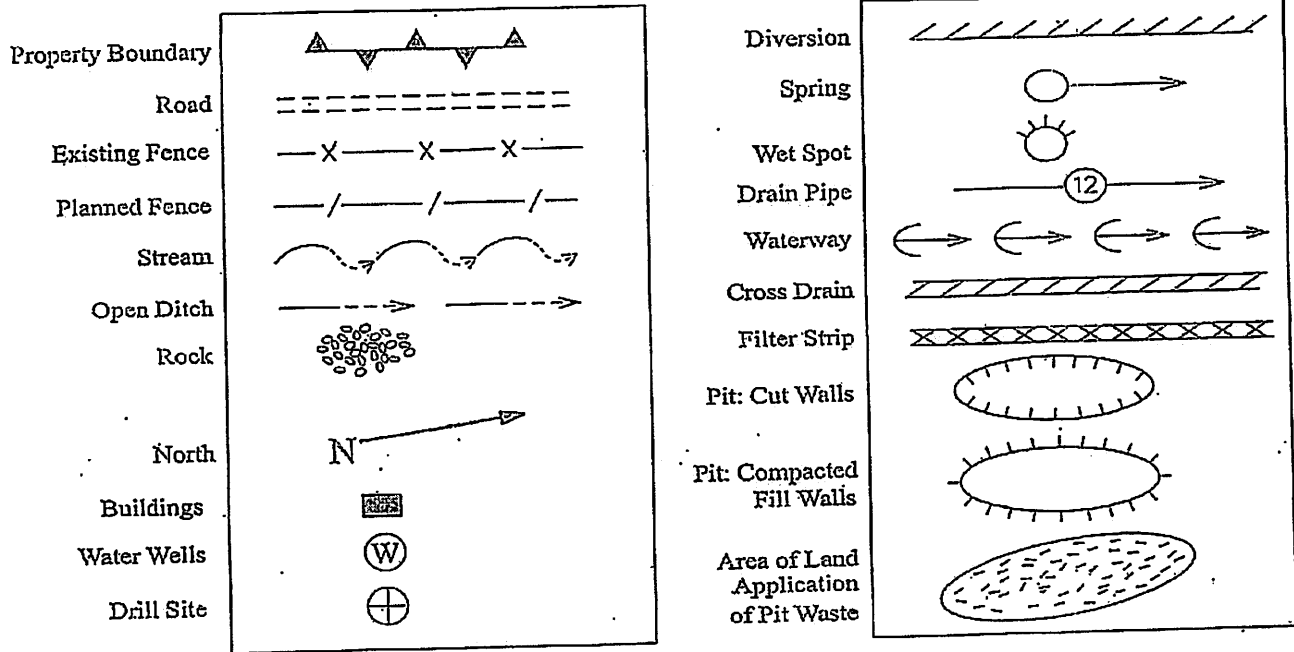
My commission expires Nov. 12, 2018

Form WW-9



WVQA 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: S. P. Oldwardt

Comments: Pre-Seed + mulch. Upgrade E+S as necessary per WV DEP E+S manual.

Title: Oil & Gas Inspector

Date: 5/23/2013

Field Reviewed?  Yes

No

# Reclamation Plan For:

## T.J. Chaplain No. 143

**W.B. Carpenter Lease**

*Earl & Belva Junkins - Surface Owner*

**W.F. Williams Lease**

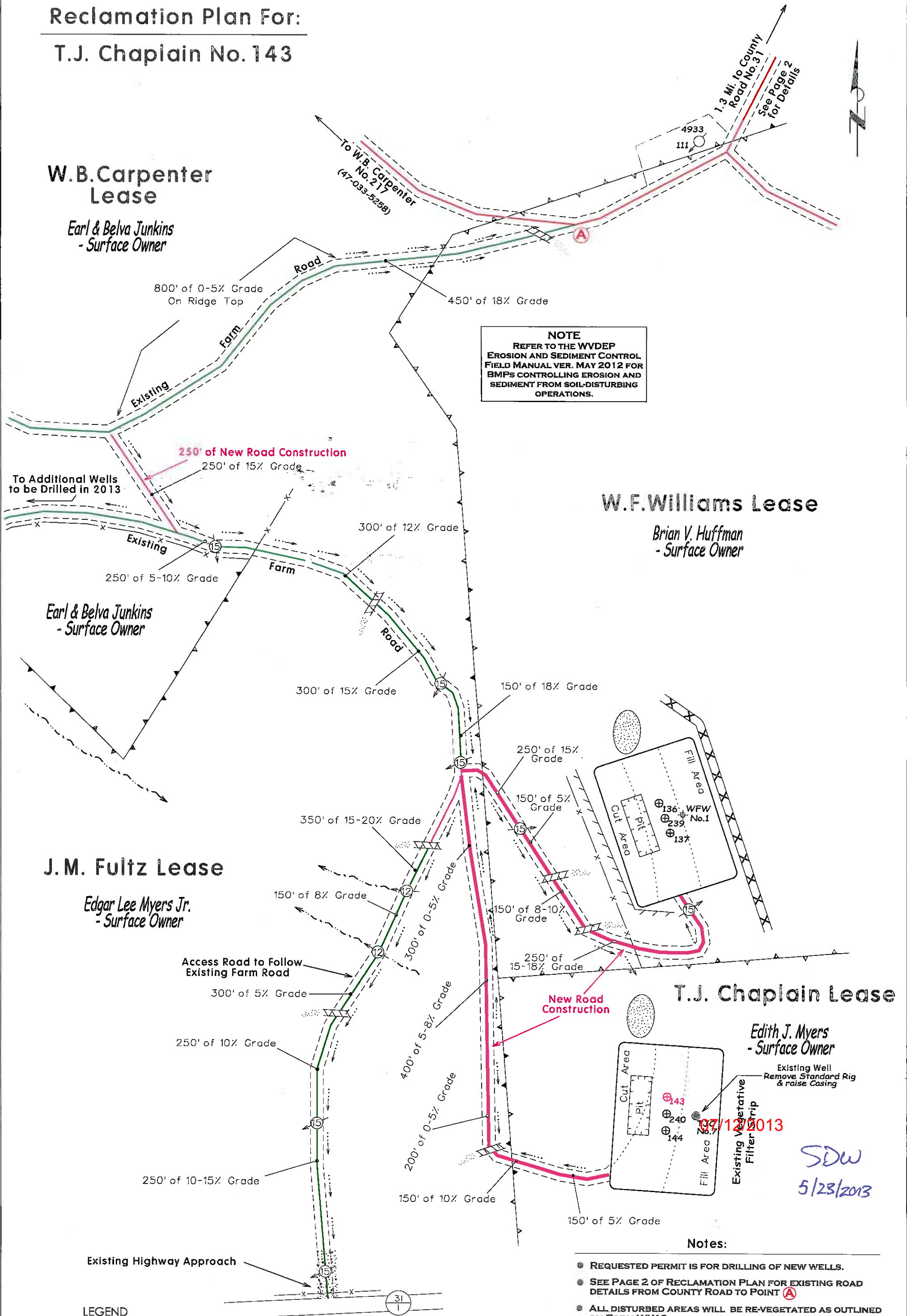
*Brian V. Huffman - Surface Owner*

**J.M. Fultz Lease**

*Edgar Lee Myers Jr. - Surface Owner*

**T.J. Chaplain Lease**

*Edith J. Myers - Surface Owner*



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

To Additional Wells  
to be Drilled in 2013

07/12/2013

SDW  
5/23/2013

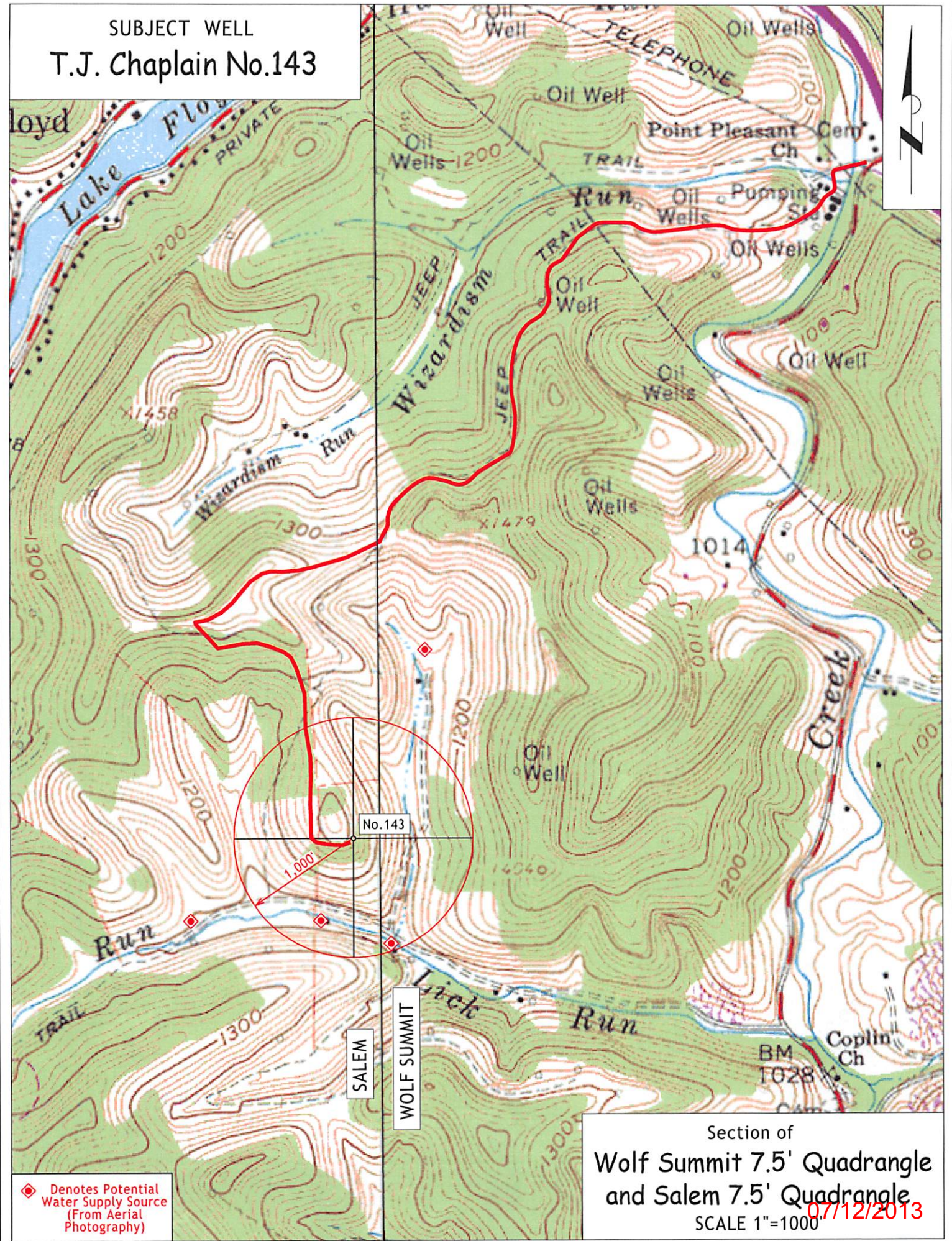
- LEGEND**
- EXISTING WATERFLOOD ROADS
  - EXISTING LEASE OR FARM ROADS TO BE UPGRADED.
  - NEW ROADS TO BE CONSTRUCTED

- Notes:**
- REQUESTED PERMIT IS FOR DRILLING OF NEW WELLS.
  - SEE PAGE 2 OF RECLAMATION PLAN FOR EXISTING ROAD DETAILS FROM COUNTY ROAD TO POINT **A**
  - 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.

33057755



SUBJECT WELL  
T.J. Chaplain No.143



◆ Denotes Potential Water Supply Source (From Aerial Photography)

Section of  
Wolf Summit 7.5' Quadrangle  
and Salem 7.5' Quadrangle  
SCALE 1"=1000  
07/12/2013

(BOTTOM HOLE: LON:-80°30'07.0")

LON:-80°30'02.7" 210

LAT: 39°17'30"

# MAP OF H.G. ENERGY, LLC -WATERFLOOD UNIT- T.J. CHAPLAIN 143

**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. 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 (Zone 17N-NAD 1983)	
Surface	N-4,346,817m. E-543,083m.
Bottom Hole	N-4,346,768m. E-542,979m.

LOCATION REFERENCES	
UTM 27	
S 71°50' E 39.7' EX: WELL	
S 16°40' W 139.2' 6" MAPLE	
Brg. Direction is prop. well to the ref.	



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

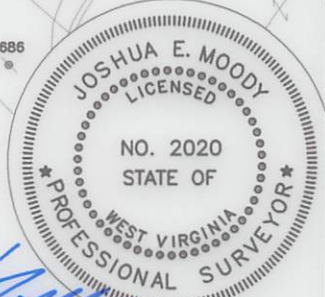
JOB # 13-014  
 DRAWING # 13LAKEFLOYD FOLDER  
 SCALE 1" = 1500'  
 MINIMUM DEGREE OF ACCURACY 1/2500  
 PROVEN SOURCE OF ELEV. BENCH MARK H-80

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



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 1286' WATERSHED BRANCH OF LICK RUN API WELL # 47-033-05775 S  
 DISTRICT TEN MILE COUNTY HARRISON STATE WV COUNTY PERMIT  
 QUADRANGLE SALEM 7.5'

SURFACE OWNER EDITH JEAN MYERS ACREAGE 25.00 ACRES +/-  
 OIL & GAS ROYALTY OWNER ORVILLE MYERS JR. ET AL LEASE ACREAGE 131 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 65° W 375')  
 PLUG & ABANDON  CLEAN OUT & REPLUG   
 TARGET FORMATION 5TH SAND  
 WELL OPERATOR H.G. ENERGY, LLC ESTIMATED DEPTH MD= 3,225'  
 ADDRESS 5260 DuPONT ROAD DESIGNATED AGENT MIKE KIRSCH  
PARKERSBURG, WV 26101 ADDRESS 5260 DuPONT ROAD  
PARKERSBURG, WV 26101

07/12/2013

COUNTY NAME PERMIT

3305775

(BOTTOM HOLE: LON:-80°30'07.0")

LON:-80°30'02.7" 210

**SURVEY NOTES**

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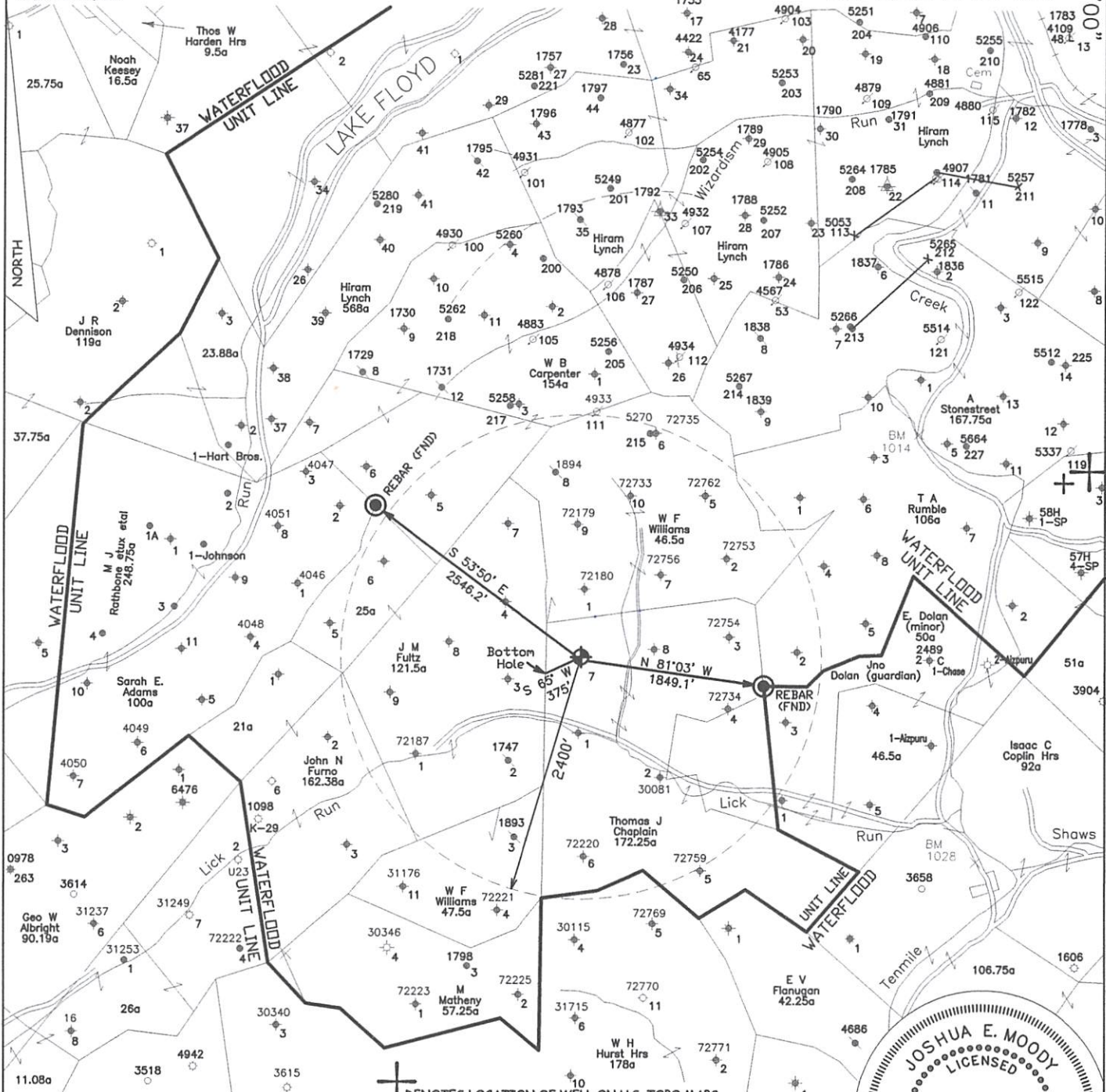
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**MAP OF  
 H.G. ENERGY, LLC  
 -WATERFLOOD UNIT-  
 T.J. CHAPLAIN 143**



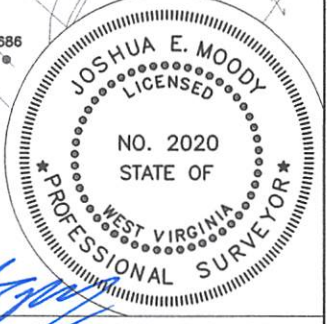
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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
**MOODY LAND SURVEYING, LLC**  
 ST. MARYS, WV 26170



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

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 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
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 ADDRESS 5260 DuPONT ROAD DESIGNATED AGENT MIKE KIRSCH  
PARKERSBURG, WV 26101 ADDRESS 5260 DuPONT ROAD  
PARKERSBURG, WV 26101

07/12/2013

LON: 80°30'00" 8060  
LAT: 39°16'10.3" (BOTTOM HOLE: LAT:39°16'08.8")