



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

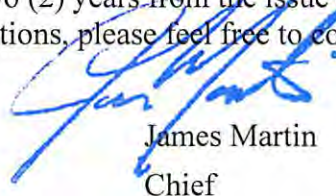
WELL WORK PERMIT
Secondary Recovery Well

This permit, API Well Number: 47-3305760, 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.B. CARPENTER #141
Farm Name: JUNKINS, EARL & BELVA
API Well Number: 47-3305760
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.

33057605

WW-3B
10/07



1) Date May 21, 2013
2) Operator's Well No. W. B. Carpenter No. 141
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 1390' 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 3,285 Ft. (Top) to 3,292 Ft. (Bottom)
- 13) Estimated depth of completed well (or actual depth of existing well) 3225' TVD 3425' TMD Ft.
- 14) Approximate water strata depths: Fresh 100 Ft. Salt 1,498 Ft.
- 15) Approximate coal seam depths: 780 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 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

SDW
5/23/20

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		855'	855'	Cement to Surface	Tension
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	X		3425'	3425'	150 sacks <u>CTS</u>	Depths Set
Tubing	2 3/8"	J-55	4.6 #	X		3125'	3125'		3025'
Liners									Perforations
									Top Bottom

24) APPLICANTS OPERATING RIGHTS were acquired from W. B. Carpenter, et ux
by Deed Lease X Other Contract Dated August 17, 1896 of record in the
Harrison County Clerk's Office in Book 92 at Page 40

33057605

WW-3A
10/07



1) Date: May 21, 2013
2) Operator's Well No. W. B. Carpenter No. 141
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) 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 V. Huffman ✓
Address RR 4, Box 530
Salem, WV 26426
Salem, WV 26426
6) Inspector Sam Ward
Address P. O. Box 2327
Buckhannon, WV 26201
Telephone 389-7583

7 (a) Coal Operator
Name NA
Address _____
7 (b) Coal Owner(s) With Declaration Of Record
Name NA
Address _____
Name _____
Address _____
7(c) Coal Lessee With Declaration Of Record
Wolf Run Mining Co. ✓
2708 Cranberry Square
Morgantown, WV 26505

TO THE PERSON(S) 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 To be determined

THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON FORM WW-3(A) DESIGNATED TO YOU. HOWEVER YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

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 person(s) named above (or by publication in certain circumstances) on or before the day of the mailing or delivery to the Chief.

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 Received
Office of Oil & Gas
By: Diane C. White
Its: Accountant
Signature Diane C White MAY 2 2013

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at: depprivacyofficer@wv.gov

33057609

Form WW-9
Rev. 10/94

Page 3 of 3

API Number 47- 033 -

Operator's Well No. W. B. Carpenter No. 141

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 1390' County Harrison District Tennile

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:
X Land Application
 Underground Injection (UIC Permit Number)
 Reuse (at API Number)
 Off Site Disposal (Supply Form WW-9 for disposal location)
 Other (Explain)

SPW
5/23/2013

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

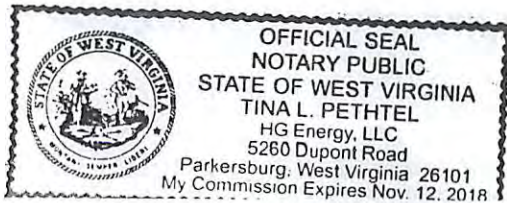
Company Official Title Accountant

Subscribed and sworn before me this 21 day of MAY 2013

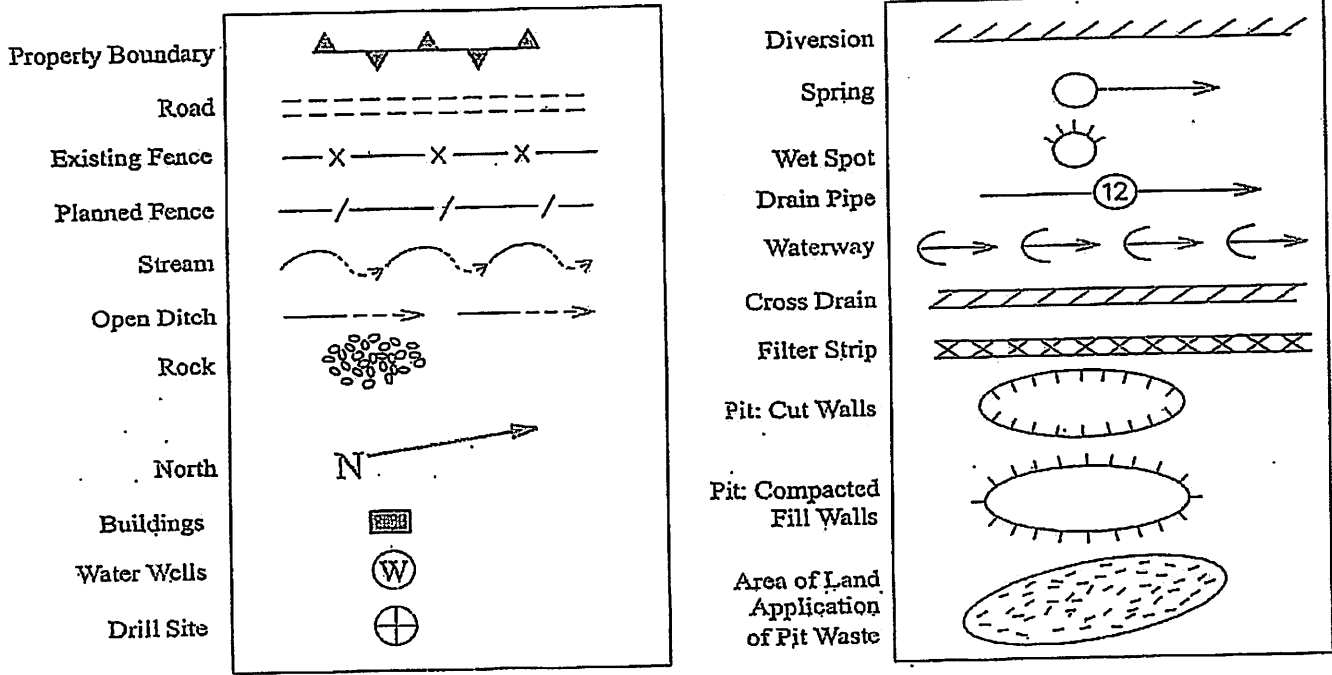
Tina L. Pettel Notary Public

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. 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

Received
Office of Oil & Gas

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

MAY 21 2013

Plan approved by: S. D. Ward #

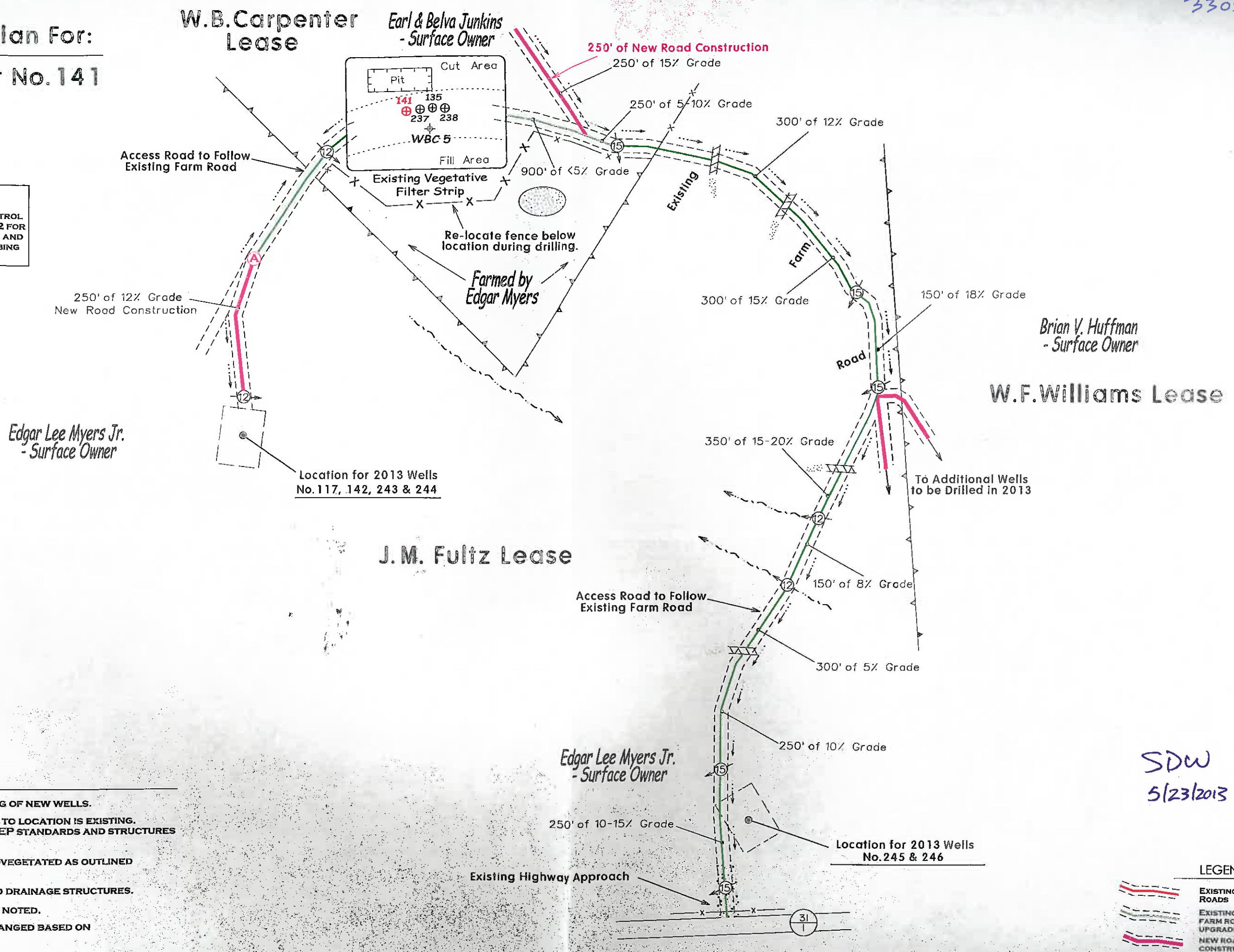
Comments: Pre-seed mulch. Upgrade F&S as necessary per WV DEP ETS manual.

Title: Pit/Gas Inspector Date: 5/23/2013

Field Reviewed? Yes () No

Reclamation Plan For: W.B. Carpenter No. 141

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



Notes:

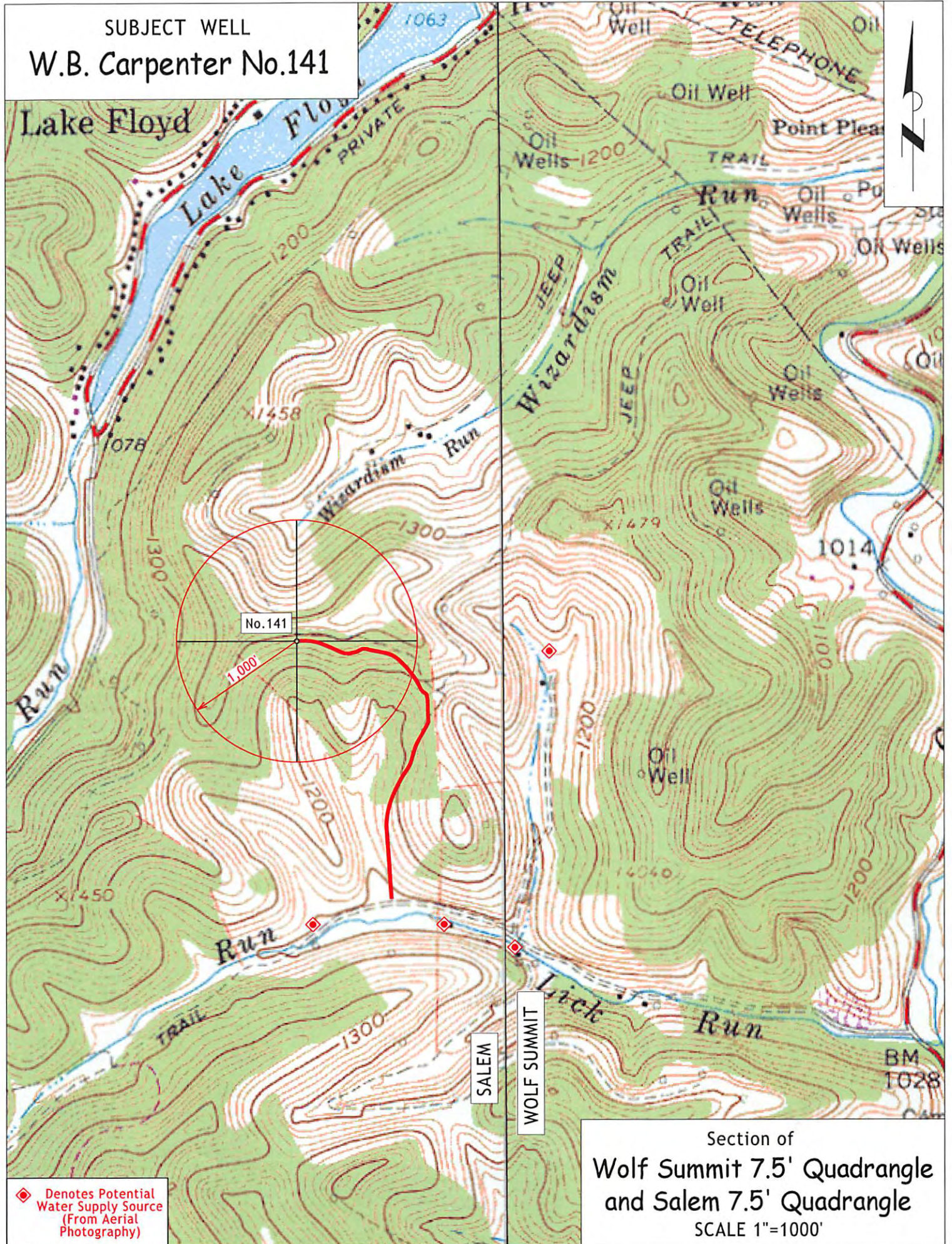
- REQUESTED PERMIT IS FOR DRILLING OF NEW WELLS.
- ACCESS ROAD FROM CO. RD. 31/1 TO LOCATION IS EXISTING. ROAD WILL BE UPGRADED TO WVDEP STANDARDS AND STRUCTURES INSTALLED AS SHOWN.
- ALL DISTURBED AREAS WILL BE RE-VEGETATED AS OUTLINED ON FORM WW-9.
- MAINTAIN SEDIMENT BARRIERS AND DRAINAGE STRUCTURES.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

SDW
5/23/2013

LEGEND

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

SUBJECT WELL
W.B. Carpenter No.141



No.141

1,000'

SALEM

WOLF SUMMIT

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

◆ Denotes Potential
Water Supply Source
(From Aerial
Photography)

(BOTTOM HOLE: LON:-80°30'21.5")

LON:-80°30'22.0"

1730

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, adjoiners 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-4,347,315m. E-542,617m.
Bottom Hole	N-4,347,233m. E-542,630m.

LOCATION REFERENCES	
UTM 27	
S 45°34' E 42.4' EX: WELL	
N 63°54' E 155.9' 12" WO	
Brg. Direction is prop. well to the ref.	

LAT: 39°17'30"

**MAP OF
H.G. ENERGY, LLC
-WATERFLOOD UNIT-
W.B. CARPENTER 141**

LON: 80°30'00"

6420

LAT:39°16'26.6" (BOTTOM HOLE: LAT:39°16'23.9")



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

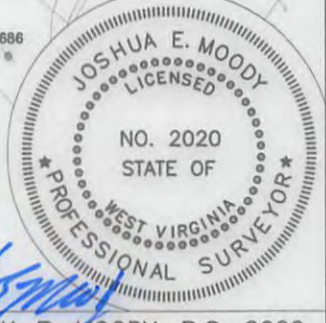
JOB # 13-014
 DRAWING # 13LAKEFLOYD FOLDER
 SCALE 1" = 1500'
 MINIMUM DEGREE OF ACCURACY 1/2500
 PROVEN SOURCE OF ELEV. BENCH MARK H-80

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

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

DATE 4/19/13
 OPERATOR'S WELL W.B. CARPENTER #141

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL HORIZONTAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1390' WATERSHED BRANCH OF LICK RUN API WELL # 057603
 DISTRICT TEN MILE COUNTY HARRISON 47 - 033 - 057603
 QUADRANGLE SALEM 7.5' STATE COUNTY PERMIT

SURFACE OWNER EARL & BELVA JUNKINS ACREAGE 152.14 ACRES +/-
 OIL & GAS ROYALTY OWNER CHARLES A. SADDLER ET AL LEASE ACREAGE 154 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 9° E 270')
 PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION 5TH SAND ESTIMATED DEPTH MD= 3,425'
 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